DRAFT ENVIRONMENTAL IMPACT REPORT

FOR THE

PRODUCERS DAIRY PROJECT

SCH # 2020010298

JULY 2020

Prepared for:

City of Fresno
Planning and Development Department
2600 Fresno Street, Room 3043
Fresno, CA 93721

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 949-3231

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A Land Use Planning, Design, and Environmental Firm

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DRAFT EIR

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INTRODUCTION

The City of Fresno has determined that the Producers Dairy Project is a "project" within the definition of the California Environmental Quality Act (CEQA). CEQA requires the preparation of an environmental impact report (EIR) prior to approving any project, which may have a significant impact on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

The EIR contains a description of the project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This EIR identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the Notice of Preparation (NOP) were considered in preparing the analysis in this EIR.

PROJECT DESCRIPTION

The Producers Dairy project site (project site) is located at 250 E. Belmont Avenue in Fresno, California (Figures 2.0-1 and 2.0-2 in Chapter 2.0, Project Description). There are two aspects of the project location that are addressed in this environmental document:

1. The Truck Movement Project Area; and
2. The Demolition and Grading Project Area.

TRUCK MOVEMENT PROJECT AREA

The Truck Movement Project Area includes the Demolition and Grading Project Area (discussed below), the Producers Dairy Main Plant, the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks.

DEMOLITION AND GRADING PROJECT AREA

The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks, as shown in Figure 2.0-3.

PROJECT CHARACTERISTICS

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- grading and new paved parking lot for diesel milk trucks; and
- closure and relinquishment of H Street from Belmont Avenue to Palm Avenue, which would result in rerouting of traffic onto other routes including Palm Avenue. The primary reroutes include rerouted traffic from:
    - Northbound H Street north of Palm Avenue;
    - Southbound H Street south of Belmont Avenue; and
    - Southbound Weber Street south of Thomas Avenue.

Approximately 3.55 acres (or 154,638 square feet) of land currently developed with a range of old, abandoned feed mill and silos within the Demolition and Grading Project Area would be paved. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years because of extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut in prior attempts to keep out trespassers and control the vandalism of the buildings.

Some portions of H Street between the railroad tracks would be used for truck parking and represents new pavement. At the H Street closure, a private gate would be constructed. A remote would be provided on the gate in order for H Street to be used to head north towards the State Route 99 freeway access. No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The cheese plant property (located at 450 E. Belmont Avenue) would not be used for truck or trailer parking once the proposed parking lot is constructed.

ALTERNATIVES TO THE PROPOSED PROJECT

The CEQA Guidelines require an EIR to describe a reasonable range of alternatives to the project or to the location of the Project which would reduce or avoid significant impacts, and which could feasibly accomplish the basic objectives of the proposed project. Two alternatives to the proposed project were developed based on input from City staff, the public during the NOP review period, and the technical analysis performed to identify the environmental effects of the proposed project. The alternatives analyzed in this EIR include the following two alternatives in addition to the proposed project.

- **No Project (No Build) Alternative**: Under this alternative, development of the Demolition and Grading Project Area with a parking lot would not occur, the associated circulation changes would not occur (i.e., closure of H Street would not occur), and the Demolition and Grading Project Area would remain in its current existing condition.

- **No H Street Closure Alternative:** Under this alternative, development of the Demolition and Grading Project Area with a parking lot would occur, but the associated circulation changes would not occur (i.e., closure of H Street would not occur).

Alternatives are described in detail in Chapter 5. Table ES-1 provides a comparison of the alternatives using a qualitative matrix that compares each alternative relative to the other Project alternatives. As shown in the table, the No Project (No Build) Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. The No H Street Closure Alternative would result in less impact than the proposed project for the following environmental issues: air quality; GHG, climate change, and energy; noise; and transportation and circulation. However, neither the No Project (No Build) Alternative nor the No H Street Closure Alternative fully meet all of the project objectives.

TABLE ES-1: COMPARISON SUMMARY OF ALTERNATIVES TO THE PROPOSED PROJECT

ENVIRONMENTAL ISSUE	*NO PROJECT (NO BUILD) ALTERNATIVE*	*NO H STREET CLOSURE ALTERNATIVE*
Aesthetics and Visual Resources	Less (Best)	Equal (2nd Best)
Air Quality	Less (Best)	Less (2nd Best)
Cultural and Tribal Resources	Less (Best)	Equal (2nd Best)
Geology and Soils	Less (Best)	Equal (2nd Best)
Greenhouse Gases, Climate Change, and Energy	Less (Best)	Less (2nd Best)
Hazards and Hazardous Materials	Less (Best)	Equal (2nd Best)
Noise	Less (Best)	Less (2nd Best)
Transportation and Circulation	Less (Best)	Less (2nd Best)

GREATER = GREATER IMPACT THAN THAT OF THE PROPOSED PROJECT
LESS = LESS IMPACT THAN THAT OF THE PROPOSED PROJECT
EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE PROPOSED PROJECT

SUMMARY OF IMPACTS AND MITIGATION MEASURES

In accordance with the CEQA Guidelines, this EIR focuses on the significant effects on the environment. The CEQA Guidelines defines a significant effect as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project. A less than significant effect is one in which there is no long or short-term significant adverse change in environmental conditions. Some impacts are reduced to a less than significant level with the implementation of mitigation measures and/or compliance with regulations.

The environmental impacts of the proposed project, the impact level of significance prior to mitigation, the proposed mitigation measures and/or adopted policies and standard measures that are already in place to mitigate an impact, and the impact level of significance after mitigation are summarized in Table ES-2.

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
AESTHETICS AND VISUAL RESOURCES			
Impact 3.1-1: Project implementation would not result in substantial adverse effects on scenic vistas and resources	LS		--
Impact 3.1-2: Project implementation would not conflict with an applicable zoning or other regulation governing scenic quality within an urbanized area	LS		--
Impact 3.1-3: Project implementation may result in light and glare impacts	PS	***Mitigation Measure 3.1-1:*** *A lighting plan for the proposed project shall be prepared prior to the approval of the Site Plan review. The lighting plan shall demonstrate that the lighting systems and other exterior lighting throughout the project site has been designed to minimize light spillage onto adjacent properties to the greatest extent feasible. Use of LED lighting or other proven energy efficient lighting shall be required for facilities to be dedicated to the City of Fresno for maintenance. These requirements shall be included in future project improvement plans, subject to review and approval by the City of Fresno.*	LS
AIR QUALITY			
Impact 3.2-1: Project operation has the potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment, or conflict or obstruct implementation of the District's air quality plan	LS		--
Impact 3.2-2: Proposed project construction activities have the potential to result in a	PS	***Mitigation Measure 3.2-1:*** *Prior to the commencement of construction activities for each phase of the project, the project proponent shall prepare and submit a Dust Control Plan*	LS

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PS – potentially significant	*B – beneficial impact*	*SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment, or conflict or obstruct implementation of the District's air quality plan		*that meets all of the applicable requirements of APCD Rule 8021, Section 6.3, for the review and approval of the APCD Air Pollution Control Officer.* ***Mitigation Measure 3.2-1:*** *During all construction activities, the project proponent shall implement dust control measures, as required by APCD Rules 8011-8081, to limit Visible Dust Emissions to 20% opacity or less. Dust control measures shall include application of water or chemical dust suppressants to unpaved roads and graded areas, covering or stabilization of transported bulk materials, prevention of carryout or trackout of soil materials to public roads, limiting the area subject to soil disturbance, construction of wind barriers, access restrictions to inactive sites as required by the applicable rules.* ***Mitigation Measure 3.2-3:*** *During all construction activities, the project proponent shall implement the following dust control practices identified in Tables 6-2 and 6-3 of the GAMAQI (2002).* *a. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover.* *b. All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.* *c. All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall control fugitive dust emissions by application of water or by presoaking.* *d. When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained.* *e. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.*	

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		f. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant. *g. Limit traffic speeds on unpaved roads to 5 mph; and* *h. Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.* ***Mitigation Measure 3.2-4:*** *Asphalt paving shall be applied in accordance with APCD Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.*	
Impact 3.2-3: The proposed project would not generate carbon monoxide hotspot impacts	LS		--
Impact 3.2-4: The proposed project has the potential for public exposure to toxic air contaminants	LS		--
Impact 3.2-5: The proposed project would not cause exposure to other emissions (such as those leading to odors) adversely affecting a substantial number of people	LS		--
CULTURAL AND TRIBAL RESOURCES			
Impact 3.3-1: Project implementation has the potential to cause a substantial adverse change to a significant historical resource, as defined in CEQA Guidelines §15064.5	PS	***Mitigation Measure 3.3-1:*** *Prior to any site disturbance, Resource P-10-003930, the historical railroad with a NR status code of 7J, shall be further examined within an archaeological survey. The project applicant shall hire a qualified archeological consultant (consultant list can be found at: http://chrisinfo.org/) to complete the archaeological survey. The archaeological survey shall be submitted to the City Planning and Development*	SU

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		Department for review and approval. *As part of the archaeological survey, the South Southern San Joaquin Valley Information Center (SSJVIC) located at California State University, Bakersfield shall be contacted to determine the exact location and description of Resource P-10-003930. Once the exact location/extant is received, the applicant's qualified archeological consultant shall map the resource and use the exact location to determine whether or not the proposed project would require demolition, destruction, relocation, or alteration of Resource P-10-003930. The results of this mapping and further examination shall be included in the survey.* *If the qualified archeological consultant determines that the proposed project would not require demolition, destruction, relocation, or alteration of Resource P-10-003930, then the results of the mapping and analysis shall be noted in the archaeological survey. The archaeological survey shall include measures to ensure the resources is avoided during all construction activities, including demolition. These measures shall be noted on the demolition and improvement plans to ensure that construction personnel or other project activities do not disturb the resource.* *If the qualified archeological consultant determines that the proposed project would require demolition, destruction, relocation, or alteration of Resource P-10-003930, then the following steps shall be followed:* *1. The resource shall be fully documented within the archaeological survey. Documentation shall include the results of the mapping and analysis, any known historical context and/or importance, and large scale photography of the resource.* *2. The archaeological survey shall evaluate the resource and update the National Register status code for the resource.* ***Mitigation Measure 3.3-2:*** *To identify and ensure the significant physical characteristics of Resource P-10-004285, Zacky Farms/J.B. Hill Feed Company are documented and retained for public benefit, and to provide an appropriate basis and foundation for the interpretive*	

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		materials required by Mitigation Measure 3.3-4, the applicant shall, at least 90 days prior to the start of any construction activity, document and record the existing building and property within a "Historic Documentation Report." This documentation and recordation shall: • *Be performed by a qualified historian or architectural historian (a person that meets the U.S. Secretary of the Interior's minimum education and experience qualifications for these disciplines).* • *Follow the standards of the National Park Service's (NPS) Historical American Building Survey (HABS) Historical Report Guidelines (to ensure the appropriate level of written and photographic recordation of the property's significant historic context and character-defining features occurs).* *The report shall include current photographs of each building displaying each elevation, architectural details or features, and overview of the buildings, together with a textual description of the building along with additional history of the building, its principal architect or architects, and its original occupants to the extent that information about those occupants can be obtained. The photo-documentation shall be done prior to demolition of the elevator and feed mill. The photo-documentation shall also be done in according to Historic American Building Survey/Historic Engineering Record (HABS/HAER) guidelines, which shall include archival quality negatives and prints. The final Report shall be deposited with the City Planning and Building Department, Fresno Chamber of Commerce, Fresno/Clovis Convention and Visitor's bureau, City of Fresno Library, Fresno City and County Historical Society.* ***Mitigation Measure 3.3-3:*** *Prior to issuance of a demolition permit, the applicant shall engage a historic architect to identify salvageable materials. A salvage plan with materials planned for salvage shall be provided for review and approval to the City's Planning and Building Department and included in demolition plans submitted to the Building Department. Salvaged materials shall be donated to the Fresno City and County Historical*	

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		Society or other appropriate entity. ***Mitigation Measure 3.3-4:** A publicly accessible plaque shall be erected at the property frontage of 315 N. H Street that details the former location of the elevator and feed mill, history of the Zacky Farms/J.B. Hill Feed Company, and its individual historic significance. Plaque type and language shall be subject to review and approval by the City prior to issuance of demolition permit. The plaque shall be installed within 6 months following issuance of a demolition permit.*	
Impact 3.3-2: Project implementation has the potential to cause a substantial adverse change to a significant cultural or tribal cultural resource, as defined in Public Resources Code §21074	PS	***Mitigation Measure 3.3-5:** If any cultural resources, including prehistoric or historic artifacts, or other indications of archaeological resources, are found during grading and construction activities during any phase of the project, all work shall be halted immediately within a 200-foot radius of the discovery until an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, has evaluated the find(s).* *Work shall not continue at the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR; or 3) not a significant Public Trust Resource.* *If Native American resources are identified, a Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission, may also be required and, if required, shall be retained at the project applicant’s expense.* ***Mitigation Measure 3.3-6**: If human remains are found during construction within the Demolition and Grading Project Area, there shall be no further excavation or disturbance within 50 feet of the discovery and a qualified archeological monitor and the Fresno County Coroner are contacted as stated in Health and Safety Code Section 7050.5. If it is determined that the remains are Native American, the coroner shall contact the Native American Heritage Commission within 24 hours. The Native American Heritage*	LS

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		Commission shall identify the person or persons it believes to be the most likely descendent (MLD) from the deceased Native American. The MLD may then make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and associated grave goods as provided in Public Resources Code section 5097.98. The landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further disturbance if: • *the Native American Heritage Commission is unable to identify a MLD or the MLD failed to make a recommendation within 24 hours after being notified by the commission;* • *the descendent identified fails to make a recommendation; or* • *the landowner or his authorized representative rejects the recommendation of the descendent, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.*	
Impact 3.3-3: Project implementation has the potential to cause a substantial adverse change to a significant archaeological resource, as defined in CEQA Guidelines §15064.5	PS	*Implement* ***Mitigation Measures 3.3-5.***	LS
Impact 3.3-4: Project implementation has the potential to disturb human remains, including those interred outside of formal cemeteries	PS	*Implement* ***Mitigation Measure 3.3-6****.*	LS
GEOLOGY AND SOILS			
Impact 3.4-1: The proposed project would not directly or indirectly cause potential substantial adverse effects involving strong seismic ground	LS		--

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shaking or seismic related ground failure			
Impact 3.4-2: The proposed project has the potential to result in substantial soil erosion or the loss of topsoil	PS	***Mitigation Measure 3.4-1:*** *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation for each phase of the project, the project proponent shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ). The SWPPP shall be designed with Best Management Practices (BMPs) that the RWQCB has deemed as effective at reducing erosion, controlling sediment, and managing runoff. These include: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Sediment control BMPs, installing silt fences or placing straw wattles below slopes, installing berms and other temporary run-on and runoff diversions. These BMPs are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Final selection of BMPs will be subject to approval by City of Fresno and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*	LS
Impact 3.4-3: The proposed project has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of project implementation, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse	PS	***Mitigation Measure 3.4-2:*** *Prior to earthmoving activities, a certified geotechnical engineer, or equivalent, shall be retained to perform a final geotechnical evaluation of the soils at a design-level as required by the requirements of the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils and other soil conditions. The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures, including threats from liquefaction or lateral spreading. The grading and improvement plans, as well as the storm drainage plans for the Project shall be designed in accordance with the recommendations provided in the final geotechnical*	LS

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		evaluation.	
Impact 3.4-4: The proposed project has the potential to be located on expansive soils, creating substantial risks to life or property	PS	*Implement* ***Mitigation Measure 3.4-2.***	LS
Impact 3.4-5: The proposed project has the potential to directly or indirectly destroy a unique paleontological resource	PS	***Mitigation Measure 3.4-3:*** *If any paleontological resources are found during grading and construction activities, all work shall be halted immediately within a 200-foot radius of the discovery until a qualified paleontologist has evaluated the find.* *Work shall not continue at the discovery site until the paleontologist evaluates the find and makes a determination regarding the significance of the resource and identifies recommendations for conservation of the resource, including preserving in place or relocating within the Demolition and Grading Project Area, if feasible, or collecting the resource to the extent feasible and documenting the find with the University of California Museum of Paleontology.*	LS
GREENHOUSE GASES, CLIMATE CHANGE, AND ENERGY			
Impact 3.5-1: Potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases	LS		--
Impact 3.5-2: Project implementation may result in the inefficient, wasteful, or unnecessary use of energy resources	LS		--

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HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.6-1: Potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	PS	***Mitigation Measure 3.6-1:*** *Prior to asbestos abatement, the applicant shall hire a qualified abatement contractor in order to verify the quantities of materials Asbestos Survey Report completed for the project (Leon Environmental Services, July 2019). Once the quantities of materials are verified, the qualified abatement contractor shall remove all materials containing greater than one percent asbestos by weight prior to demolition. Materials that contain less than one percent asbestos by weight shall also be removed or can be demolished with the structure if the demolition contractor is registered with CAL OSHA to work with asbestos. It is noted that demolition debris/waste with any detectable amounts of asbestos cannot be recycled.* *In accordance with the SJVAPCD Asbestos Program, the asbestos survey, Asbestos Notification, Demolition Permit Release, and the proper fees shall be submitted to the SJVAPCD 10 working days prior to the removal of Regulated Asbestos Containing Material (RACM) and the demolition when no asbestos is present.* ***Mitigation Measure 3.6-2:*** *During any disturbance of ACM on the project site, the CAL OSHA worker health and safety regulations shall apply. These regulations shall apply regardless of friability or quantity disturbed. If there is greater than 100 square feet of ACM which will be affected by the demolition, a California Licensed Contractor who is registered with CAL OSHA for asbestos shall be hired. The regulations regarding asbestos are found in Title 8 CCR Section 1529, and also include formal notification requirements to CAL OSHA at least 24 hours prior to removal. Removal shall be conducted with the material(s) kept in a wetted state in order to contain dust and hazardous emissions.* *Further, if required by the demolition contractor, the building owner/operator shall accept responsibility for removal of all ACM found during the building inspection prior to start of demolition activities. Removal, demolition, and disposal of any ACM shall comply with California environmental regulations and policies.*	LS

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		Mitigation Measure 3.6-3: *The applicant shall hire a qualified consultant to perform additional testing prior to the issuance of grading permits or demolition permits for construction activities for each phase of the project in the following areas that have been deemed to have potential lead-containing materials present:* • *two-story office building with a retail feed store,* • *warehouse buildings with loading docks for rail cars and trucks,* • *concrete storage silos for feed and grain, and* • *an iron structure with metal loading silos.* *The intent of the additional testing is to investigate whether any of the buildings, facilities, or soils contain lead-containing materials. If lead is found in the buildings, a CAL OSHA certified lead based paint contractor shall be retained to remove the lead in accordance with EPA and CAL OSHA standards.* *In addition, all activities (construction or demolition) in the vicinity of asbestos-containing materials (ACBM) and/or lead shall comply with CAL OSHA asbestos and lead worker construction standards. The ACBM and lead shall be disposed of properly at an appropriate offsite disposal facility. If surface staining is found on the project site, a hazardous waste specialist shall be engaged to further assess the stained area.* ***Mitigation Measure 3.6-4:*** *Following demolition of the structures in the Demolition and Grading Project Area, soil sampling shall be completed in order to determine if soil contamination that could result in hazardous dust during site grading, or other hazardous soil conditions, are present. Should the sampling determine that the on-site soils are contaminated, the soils shall be properly removed, transported, and disposed of in compliance with California environmental regulations and policies.* ***Mitigation Measure 3.6-5:*** *Prior to initiation of any ground disturbance activities within 50 feet of a well, the applicant shall hire a licensed well contractor to obtain a well abandonment permit from the Fresno County Environmental Health Division, and properly*	

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		abandon the on-site wells, pursuant to review and approval of the City Engineer and the Fresno County Environmental Health Division.	
NOISE			
Impact 3.7-1: The proposed project would increase traffic noise levels at existing receptors	PS	*None feasible.*	SU
Impact 3.7-2: The proposed project would not substantially increase noise levels associated with construction and demolition activities	LS		--
Impact 3.7-3: The proposed project would not substantially increase noise vibration association with construction activities	LS		--
Impact 3.7-4: The proposed project would not substantially increase stationary noise at sensitive receptors	LS		--
TRANSPORTATION AND CIRCULATION			
Impact 3.8-1: The proposed project would not conflict or be inconsistent with CEQA Guideline section 15064.3, subdivision (b)	PS	*None feasible.*	SU
Impact 3.8-2: The proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities	PS	***Mitigation Measure 3.8-1:*** *A southbound approach to the intersection of Belmont Avenue and N H Street shall be constructed to allow southbound trucks from Weber Avenue to be rerouted onto eastbound Belmont Avenue and southbound Palm Avenue (both designated truck routes) in order to rejoin their original truck route on H Street south of Palm Avenue. This improvement shall be noted on the project improvements, subject to review and*	PS

CC – cumulatively considerable	*LCC – less than cumulatively considerable*	*LS – less than significant*
PS – potentially significant	*B – beneficial impact*	*SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		approval by the City's Planning and Development Department. ***Mitigation Measure 3.8-2:*** *Implement operational improvements at the intersections along Belmont Avenue and Palm Avenue affected by the rerouting of traffic due to the project. Implementing these improvements would allow transit vehicles to maintain their route schedules. These improvements shall be noted on the project improvements, subject to review and approval by the City's Planning and Development Department.* ***Mitigation Measure 3.8-3:*** *Provide an alternative route for bicycles by constructing the proposed bicycle facilities on Palm Avenue and Belmont Avenue. Additionally, northbound left-turning bicycles at the intersection of Belmont Avenue and Palm Avenue should be provided with markings and right-of-way allocation to allow for a two-stage left-turn movement. This left-turn movement would allow bicycles rerouted by the project to rejoin the existing bicycle lanes located on Weber Street north of Belmont Avenue. These improvements shall be noted on the project improvements, subject to review and approval by the City's Planning and Development Department.* ***Mitigation Measure 3.8-4:*** *Install pedestrian signage directing pedestrian around the closure of H Street using Palm Avenue and Belmont Avenue. Both Palm Avenue and Belmont Avenue have existing sidewalks to facilitate pedestrian movements within the study area. This improvement shall be noted on the project improvements, subject to review and approval by the City's Planning and Development Department.*	
Impact 3.8-3: The proposed project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses	PS	***Mitigation Measure 3.8-5:*** *Restrict the H Street gate from being used by large trucks that would be making a southbound left turn from H Street onto northbound Palm Avenue. Instead, revise the site plan to align a new gate with the intersection of Palm Avenue and H Street. This new gate would create a fourth leg to the intersection and allow truck movements to and from both Palm Avenue north of H Street and H Street south of Palm Avenue. These restrictions and revisions shall be noted on the project improvements, subject to review and approval by the City's Planning and Development Department.*	LS

CC – cumulatively considerable	*LCC – less than cumulatively considerable*	*LS – less than significant*
PS – potentially significant	*B – beneficial impact*	*SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.8-4: The proposed project would not result in inadequate emergency access	PS	***Mitigation Measure 3.8-6:*** *Implement operational improvements at the intersections along Belmont Avenue and Palm Avenue affected by the increased traffic volume. Implementing these improvements would reduce the increased delay on Belmont Avenue and Palm Avenue allowing emergency vehicles to maintain a similar response time to what they have today. These improvements shall be noted on the project improvements, subject to review and approval by the City's Planning and Development Department.*	LS
CUMULATIVE IMPACTS			
Impact 4.1: Cumulative Impact on a Scenic Vista, Scenic Quality, and Light or Glare	LS and LCC		--
Impact 4.2: Cumulative Impact on the Region's Air Quality	LS and LCC		--
Impact 4.3: Cumulative Impacts on Known and Undiscovered Cultural and Tribal Resources	LS and LCC		--
Impact 4.4: Cumulative Impact on Geologic and Soils Resources	LS and LCC		--
Impact 4.5: Cumulative Impact on Climate Change from Increased Project-Related Greenhouse Gas Emissions	LS and LCC		--
Impact 4.6: Cumulative Impact Related to Hazards and Hazardous Materials	LS and LCC		--
Impact 4.7: Cumulative Exposure of Existing and Future Noise-Sensitive Land Uses to Increased Noise Resulting from Cumulative Development	PS		SU and CC

CC – cumulatively considerable	*LCC – less than cumulatively considerable*	*LS – less than significant*
PS – potentially significant	*B – beneficial impact*	*SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
Impact 4.8: Cumulative Impacts Related to CEQA Guideline Section 15064.3, Subdivision (b)	PS		SU and CC
Impact 4.9: Cumulative Impacts Related to Trucks, Transit, Pedestrian, Bicycle, and Roadway Facilities	LS and LCC		--

CC – cumulatively considerable

PS – potentially significant

LCC – less than cumulatively considerable

B – beneficial impact

LS – less than significant

SU – significant and unavoidable

1.1 PURPOSE AND INTENDED USES OF THE EIR

The City of Fresno, as the lead agency, determined that the proposed Producers Dairy Project is a "project" within the definition of CEQA. CEQA requires the preparation of an environmental impact report (EIR) prior to approving any project, which may have a significant impact on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

An EIR must disclose the expected environmental impacts, including impacts that cannot be avoided, growth-inducing effects, impacts found not to be significant, and significant cumulative impacts, as well as identify mitigation measures and alternatives to the proposed project that could reduce or avoid its adverse environmental impacts. CEQA requires government agencies to consider and, where feasible, minimize environmental impacts of proposed development, and an obligation to balance a variety of public objectives, including economic, environmental, and social factors.

The City of Fresno, as the lead agency, has prepared this Draft EIR to provide the public and responsible and trustee agencies with an objective analysis of the potential environmental impacts resulting from implementation of the proposed project. The environmental review process enables interested parties to evaluate the proposed project in terms of its environmental consequences, to examine and recommend methods to eliminate or reduce potential adverse impacts, and to consider a reasonable range of alternatives to the proposed project. This EIR will be used by the City of Fresno to determine whether to approve, modify, or deny the proposed project and associated approvals in light of the project's environmental effects. The EIR will be used as the primary environmental document to evaluate full development, all associated infrastructure improvements, and permitting actions associated with the proposed project. All of the actions and components of the proposed project are described in detail in Chapter 2.0, Project Description.

1.2 TYPE OF EIR

The State CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a project-level EIR is described in State CEQA Guidelines § 15161 as: “The most common type of EIR (which) examines the environmental impacts of a specific development project. This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project including planning, construction, and operation. The project-level analysis considers the broad environmental effects of the proposed project.

1.3 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

The term “Responsible Agency” includes all public agencies other than the Lead Agency that have discretionary approval power over the proposed project or an aspect of the proposed project (CEQA Guidelines Section 15381). For the purpose of CEQA, a “Trustee” agency has jurisdiction by law over natural resources that are held in trust for the people of the State of California (CEQA Guidelines Section 15386).

The following agencies are considered “Responsible Agencies” or “Trustee Agencies” for the proposed project, and may be required to issue permits or approve certain aspects of the proposed project:

- Central Valley Regional Water Quality Control Board (CVRWQCB) – Construction activities would be required to be covered un the National Pollution Discharge Elimination System (NPDES);
- Central Valley Regional Water Quality Control Board (CVRWQCB) - Storm Water Pollution Prevention Plan (SWPPP) approval prior to construction activities pursuant to the Clean Water Act;
- San Joaquin Valley Air Pollution Control District (SJVAPCD) - Approval of construction-related air quality permits;
- San Joaquin Valley Air Pollution Control District (SJVAPCD) - Authority to Construct, Permit to Operate for stationary sources of air pollution (auxiliary power, storm drainage pump station); and
- SJCOG, Inc. (SJCOG) - Issuance of incidental take permit under the San Joaquin Multi-Species Habitat Conservation and Open Space Plan (SJMSCP).

1.4 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR has involved, or will involve, the following general procedural steps:

NOTICE OF PREPARATION AND INITIAL STUDY

The City of Fresno circulated an Initial Study (IS) and Notice of Preparation (NOP) of an EIR for the proposed project on January 22, 2020 to the State Clearinghouse, State Responsible Agencies, State Trustee Agencies, other public agencies, organizations, and interested persons. A public scoping meeting was held on February 3, 2020 to present the project description to the public and interested agencies, and to receive comments from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR. Concerns raised in response to the NOP were considered during preparation of the Draft EIR. The IS, NOP, and comments received on the NOP by interested parties are presented in Appendix A.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the proposed project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This Draft EIR identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP were considered in preparing the analysis in this EIR.

Upon completion of the Draft EIR, the City of Fresno will file the Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the public review period. Additionally, the City of Fresno will file the Notice of Availability with the County Clerk and have it published in a newspaper of regional circulation to begin the local public review period.

PUBLIC NOTICE/PUBLIC REVIEW

The City of Fresno will provide a public notice of availability for the Draft EIR, and invite comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA, the review period for this Draft EIR is forty-five (45) days. Public comment on the Draft EIR will be accepted in written form. All comments or questions regarding the Draft EIR should be addressed to:

Attn: Phillip Siegrist, Planner III
City of Fresno, Community Development Department
2600 Fresno Street, Room 3043
Fresno, CA 93721
Phillip.Siegrist@fresno.gov

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to written comments received during the public review period and to oral comments received at a public hearing during such review period.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The City of Fresno will review and consider the Final EIR. If the City of Fresno finds that the Final EIR is "adequate and complete", the City of Fresno will certify the Final EIR in accordance with CEQA. The rule of adequacy generally holds that an EIR can be certified if:

1) The EIR shows a good faith effort at full disclosure of environmental information; and

2) The EIR provides sufficient analysis to allow decisions to be made regarding the proposed project in contemplation of environmental considerations.

Following review and consideration of the Final EIR, the City of Fresno may take action to approve, modify, or reject the proposed project. A Mitigation Monitoring Program, as described below, would also be adopted in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097 for mitigation measures that have been incorporated into or imposed upon the proposed project to reduce or avoid significant effects on the environment. This Mitigation Monitoring Program will be designed to ensure that these measures are carried out during project implementation, in a manner that is consistent with the EIR.

1.5 ORGANIZATION AND SCOPE

Sections 15122 through 15132 of the State CEQA Guidelines identify the content requirements for Draft and Final EIRs. An EIR must include a description of the environmental setting, an environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. Discussion of the environmental issues addressed in the Draft EIR was established through review of environmental and planning documentation developed for the proposed project, environmental and planning documentation prepared for recent projects located within the City of Fresno, applicable local and regional planning documents, and responses to the NOP.

This Draft EIR is organized in the following manner:

EXECUTIVE SUMMARY

This Executive Summary summarizes the characteristics of the proposed project, known areas of controversy and issues to be resolved, and provides a concise summary matrix of the proposed project's environmental impacts and possible mitigation measures. This chapter identifies alternatives that reduce or avoid at least one significant environmental effect of the proposed project.

CHAPTER 1.0 – INTRODUCTION

Chapter 1.0 briefly describes the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, and identifies the scope and organization of the Draft EIR.

CHAPTER 2.0 – PROJECT DESCRIPTION

Chapter 2.0 provides a detailed description of the proposed project, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA, related improvements, and a list of related agency action requirements.

CHAPTER 3.0 – ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Chapter 3.0 contains an analysis of environmental topic areas as identified below. Each subchapter addressing a topical area is organized as follows:

Environmental Setting. A description of the existing environment as it pertains to the topical area.

Regulatory Setting. A description of the regulatory environment that may be applicable to the proposed project.

Impacts and Mitigation Measures. Identification of the thresholds of significance by which impacts are determined, a description of project-related impacts associated with the environmental topic, identification of appropriate mitigation measures, and a conclusion as to the significance of each impact.

The following environmental topics are addressed in this section:

- Aesthetics and Visual Resources
- Air Quality
- Cultural and Tribal Resources
- Geology and Soils
- Greenhouse Gases, Climate Change and Energy
- Hazards and Hazardous Materials
- Noise
- Transportation and Circulation

CHAPTER 4.0 – OTHER CEQA-REQUIRED TOPICS

Chapter 4.0 evaluates and describes the following CEQA required topics: impacts considered less-than-significant, significant and irreversible impacts, growth-inducing effects, cumulative, and significant and unavoidable environmental effects.

CHAPTER 5.0 – ALTERNATIVES TO THE PROJECT

State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the proposed project, which could feasibly attain the basic objectives of the proposed project and avoid and/or lessen any significant environmental effects of the proposed project. Chapter 5.0 provides a comparative analysis between the environmental impacts of the proposed project and the selected alternatives.

CHAPTER 6 – REPORT PREPARERS

This section lists all authors and agencies that assisted in the preparation of the EIR, by name, title, and company or agency affiliation.

APPENDICES

This section includes all notices and other procedural documents pertinent to the EIR, as well as technical material prepared to support the analysis.

1.6 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The City of Fresno received 12 written comment letters on the NOP for the proposed project. A copy of the letters is provided in Appendix A of this Draft EIR. The commenting agency/citizen is provided below, with a summary of the comment. The City also held a public scoping meeting on February 3, 2020 where one written comment was received from Lisa Flores.

- Bruce A. Owdom:
    - concerns regarding truck parking at the cheese plant property, and compliance with the Statement of Covenants Affecting Land Development;
    - questions regarding the size of the H Street abandonment area, and whether the cheese plant property would be used for truck parking under the proposed project;
    - concerns regarding whether or not the project would result in a reduction in total truck movements;
    - concerns regarding toxic air pollutants and other air quality concerns at the old cheese plant, particularly near John Muir Elementary School which is located 0.26 miles north of the cheese plant;
    - concerns regarding potential impacts to historical resources, including but not limited to the silos and cheese plant property;
    - questions regarding the total energy expended, including the total value of the creative energy of the built resources that will be demolished;
    - questions regarding whether the project would divide an established community, particularly concerning whether trucks accessing and departing the old cheese plant would be considered a division of the community;
    - suggestion that the project include on-site housing;
    - concerns regarding impacts related to access, particularly to downtown and northwest Fresno, as a result of the H Street closure, and public service revenues;
    - questions regarding access, emergency response, and other transportation-related impacts associated with the H Street closure.
- Department of Toxic Substances Control:
    - potential for the project to result in release of hazardous wastes and substances;
    - potential for aerially deposited lead contaminated soils on the roadsides and medians;
    - suggested surveys for the presence of lead-based products, mercury, asbestos, and polychlorinated biphenyl caulk;
    - potential for other soil contamination;
    - potential presence of organochlorinated pesticides.
- Gene Richards:
    - concerns regarding closure of H Street, particularly related to bicycle access to downtown;
    - general concerns regarding air quality, noise, and neighborhood issues.
- Kiel Lopez-Schmidt:
    - difficulty understanding the traffic engineering proposed, especially as the project relates to the High Speed Rail Project;
    - concerns regarding a potential truck volume increase from the proposed project and prior projects in 2015;
    - concerns regarding the deed covenant obligations at the cheese plant property;
    - potential for decay of the streets, gutters, curb cuts, sidewalks, street light, and street trees;

  - potential impacts related to bicycle and pedestrian traffic associated with the H Street closure, including safety and amenities.
- La Tapatia Tortilleria, Inc.:
  - request to study traffic patterns coming in and out of their facility, future expansion projects that will utilize H Street, air quality, labor and efficiency, parking (for employees and customers), and public safety.
- Lisa Flores:
  - questions regarding the need for a truck route study, City compensation for relinquishment of H Street, air quality attainment and mitigation, housing value impacts, fire and police services and access, fuel demand, and pedestrian traffic and safety issues;
  - concerns regarding access to Roading Park / the Chaffee Zoo and downtown Fresno, truck idling, light and glare, and biological resources.
- Malyn Rose:
  - concerns regarding increased toxicity of more truck travel and parking, increase noise levels, and Producers' compliance with the 1993 Deed Covenant.
- Natalie Clark:
  - suggestions regarding the noticing for this project;
  - question regarding what the City and residents will receive from the applicant as a result of the H Street closure;
  - question regarding the details of the project, including timeline, and how the High Speed Rail plans fit into this project;
  - concerns regarding the 1993 Deed Covenant and Producers' code violations.
- Native American Heritage Commission:
  - explanation of statutory requirements of Assembly Bill 32 and Senate Bill 18;
  - recommendations for tribal and agency consultation and discussion of impacts to tribal cultural resources.
- Norma Pinedo Davis:
  - concerns regarding increases in traffic levels and traffic safety issues near Palm Avenue and Belmont Avenue and along Stafford Avenue as a result of the H Street closure.
- Robynn Smith:
  - concerns regarding existing traffic, odors, air quality, noise, hazardous materials, and sewer issues in the project vicinity;
  - concerns regarding asthma and cancer risk as a result of PM10 and PM2.5;
  - concerns regarding increased traffic and the associated emissions and noise;
  - concerns regarding roadway maintenance, capacity, and funding;
  - concerns regarding environmental justice and community outreach for the project;
  - questions regarding traffic impacts on routes to and from Roeding Park and along the Belmont corridor;
  - concerns regarding hazards, sewer, and emergency response.

- Sadler’s Office Supply & Printing:
    - agrees with the closure of H Street under certain conditions, including: mitigation for dust and debris during construction; concerns regarding property values; and specific questions regarding access to the business along H Street once the street is closed.

1.7 POTENTIAL AREAS OF CONCERN

Aspects of the proposed project that could be of public concern include the following:

- The enforcement of the 1993 Deed Covenant affecting the development of the historic cheese plant property.
- The public health and safety impacts related to the diesel truck trips and idling diesel trucks on residential streets and near Muir Elementary School.
- The projects heavy use of local streets accelerating the decay of public infrastructure.
- The increased traffic congestion and potential overflow of traffic into the residential neighborhoods due to the relinquishment of H Street to the Producers Dairy.
- Effects to emergency service access, including police and fire services, due to increased traffic congestion and closure of H Street.
- The demolition of the potentially historic structures and the potentially hazardous materials associated with the historic structures (i.e., lead-based paint, mercury, asbestos contaminated materials, etc.).
- The biological resources-related impacts, specifically related to special-status birds and bats and rodent infestations due to the demolition of existing structures.
- The effects of the increased air pollutants, noise, traffic, smells, and light-glare on the quality of life of neighboring residents.
- The impacts to pedestrian and bicycle facilities due to increases in traffic congestion and changes in the transportation pattern resulting from the relinquishment of H Street.
- How the high-speed rail plans fit into the proposed project.
- The proposed mitigation measure related to tribal cultural resources.
- Environmental justice issues related to placing a truck parking lot near low income communities.

2.1 PROJECT LOCATION

The Producers Dairy project site (project site) is located at 250 E. Belmont Avenue in Fresno, California (Figures 2.0-1 and 2.0-2). There are two aspects of the project location that are addressed in this environmental document:

1. The Truck Movement Project Area; and
2. The Demolition and Grading Project Area.

TRUCK MOVEMENT PROJECT AREA

The Truck Movement Project Area includes the Demolition and Grading Project Area (discussed below), the Producers Dairy Main Plant (discussed further below), the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks.

DEMOLITION AND GRADING PROJECT AREA

The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks, as shown in Figure 2.0-3.

2.2 PROJECT BACKGROUND

Producers Dairy is a third-generation family-owned and operated dairy processor. Founded in Fresno, California in 1932, Producers Dairy has grown to be one of the largest independent dairy businesses in the Western United States. Raw milk from surrounding dairies is delivered to the Producers Dairy facilities in Fresno. Once the raw milk arrives to the Fresno facility, the milk is processed and used for various products. Products are loaded onto refrigerated trucks and delivered to various retail locations and distribution centers throughout the State. Based on the size of the existing onsite facilities, and the volume of goods that are shipped from the Fresno facilities on a daily basis, Producers Dairy has more trucks in use than they can park at the Producers Dairy Main Plant. In 1988, the Producer Dairy purchased the cheese plant property (located at 450 E. Belmont Avenue), which is located in the Tower District Specific Plan Area. In 1993, consistent with the City's adoption of the Tower District Specific Plan, an agreement between the City and Shehadey and Shehadey, partners and owners of the cheese plant parcel, was formalized in the Statement of Covenants Affecting the Land Development. The Covenant incudes specific development conditions and requirements, including retention of historic buildings in the Specific Plan Area. Over time, Producers Dairy has utilized a variety of nearby, off-site locations to park and store their trucks, such as the cheese plant property (located at 450 E. Belmont Avenue). Today, Producers Dairy also must move these trucks on local roadways to and from the Main Plant in order to complete various product loading and transport operations.

In order to help accommodate their demand for truck and trailer parking space around their facility, in 2014, Producers Dairy Foods leased property at 302 N. Thorne Avenue (the Producers Dairy ice cream warehouse and associated parking area), which also stores fluid milk and/or dairy products (such as eggs, cottage cheese, yogurt, and ice cream). Subsequently, as part of the ongoing work to complete the California High Speed Rail Project, the California High Speed Rail Authority (CHSRA) initiated eminent domain proceedings on a large portion of the 302 N. Thorne Avenue property that was being leased and used by Producers Dairy Foods to park trailers. Because Producers Dairy Foods wasn't the property owner, the eminent domain process went directly with the property owner, and Producers was forced to identify alternative locations nearby to utilize for trailer and truck parking. After the eminent domain process was complete, the CHSRA initially helped to try to accommodate Producers Dairy Foods' needs by finding or providing temporary lots where its trailers could be parked. Temporary lots were then made available at 1762 G Street (located approximately 0.8 miles southeast of the ice cream warehouse) and at 1399 H Street (a Boxcar Lot, located approximately 1.1 miles southeast of the ice cream warehouse) for Producers Dairy Foods to park its trailers.

Security and cost issues arose along with the new temporary lots. As a result, Producers Dairy Foods consolidated its operations around the remaining available space among its properties at 250 E. Belmont Avenue, 450 E. Belmont Avenue (the cheese plant property), and 302 N. Thorne Avenue. On occasion, CHSRA has continued to make the Boxcar Lot available due to temporary needs (i.e., resurfacing the cheese plant property which was damaged due to heavy winter rains).

In search for a more permanent solution to the lost truck and trailer parking that resulted from the California High Speed Rail Project taking via eminent domain, Producers Dairy Foods pursued a project to tear down abandoned buildings at the cheese plant property to expand available trailer parking in 2016. However, the project was tabled in 2018 and sent to the Fresno Mayor's office for further discussions in order to explore other alternatives to Producers' trailer parking and storage needs.

Since 2018, some alternative sites have been explored and Producers Dairy Foods made an offer on a potential property (295 Fruit Avenue). However, no deal was made. Subsequently, the owners of the mill property site (located at 315 N. H Street) were contacted, and expressed interest in a potential sale to Producers Dairy Foods. The property at 315 N. H Street is the Demolition and Grading project area, which is the subject of analysis in this EIR.

Currently, the property at 315 N. H Street is in escrow and a sale is pending. The potential sale of the 315 N. H Street property to Producers Dairy Foods is contingent upon City approval of Producers Dairy Food's proposal to the City of Fresno to close and relinquish portions of H Street (i.e., if H Street can be closed, Producers Dairy Foods can essentially consolidate and improve the efficiency of its operations). The potential closure and relinquishment of H Street, and the corresponding changes to traffic flows in the immediate area, are also the subject of analysis in this EIR.

2.3 PROJECT SETTING

EXISTING SITE CONDITIONS

Producers Dairy Foods currently operates at multiple locations within the greater Truck Movement Parking Area (Figure 2.0-3). The existing operations include the Main Plant, which includes processing facilities, blow mold and storage areas, executive offices, product loading, dry storage, bottling and processing, order processing, and truck maintenance. Existing operations also occur at the ice cream warehouse, which is located southwest of the Main Plant, as shown on Figure 2.0-3. Producers also operates at the old cheese plant property, which is no longer operational as a cheese production facility, but is currently used for trailer storage as part of daily operations.

The vast majority of the existing operations and facilities are located in the area southwest of the Palm Avenue and Belmont Avenue intersection (the Main Plant); however, the ice cream warehouse is located west of H Street and north and west of the Southern Pacific Railroad, and the cheese plant property is located at the southwest corner of the N. Roosevelt Avenue and Belmont Avenue intersection. Existing circulation patterns currently connect the ice cream warehouse and cheese plant property to the other buildings listed previously (located southwest of the Palm Avenue and Belmont Avenue intersection).

North Weber Avenue/North H Street is a two to four-lane, northwest-southeast roadway with a posted speed limit of 40 to 45 miles per hour near the project site. The portion of H Street which would be closed as part of the project is four lanes. The facility extends to Ashlan Avenue to the north and extends to State Route 41 to the south. The roadway becomes a collector street south of State Route 180. Sidewalks are intermittent near the project site. There is an existing Class II bike lane north of Belmont and proposed Class I and II bike lanes to the south. On-street parking is mostly restricted but allowed on parts of the east side.

SITE TOPOGRAPHY

The project site is relatively flat. The elevation of the site ranges from approximately 288 feet to 300 feet above mean sea level (MSL).

EXISTING SURROUNDING USES

Surrounding land uses generally include existing warehouse distribution and other industrial uses to the east, west, and south, and residential land uses to the east. In the project area, residential uses are located north of W. Belmont Avenue, east of N. Palm Avenue, and west of N. Wesley Avenue. Nearby industrial uses include American Paving, Central Freight Lines, La Tapatia Tortilleria, Duarte's Tire Service and other various auto repair businesses.

GENERAL PLAN LAND USE AND ZONING DESIGNATIONS

As shown in Figure 2.0-4, the Demolition and Grading Project Area is designated as Employment – Light Industrial by the City's General Plan Land Use Map and is zoned as Light Industrial (IL). The Truck Movement Project Area includes various land use and zoning designations on-site and in the immediate vicinity. The land use designations in and adjacent to the Truck Movement Project Area include: Open

Space – Park; Residential – Medium Density; Neighborhood Mixed Use; Employment – Heavy Industrial; Employment – Light Industrial; Commercial – Main Street; and Commercial – General. The zoning designations in and adjacent to the Truck Movement Project Area include: Park and Recreation (PR); Residential Single-Family, Medium Density (RS-5); Neighborhood Mixed Use (NMX); Heavy Industrial (IH); IL; Commercial Main Street (CMS); and Commercial General (CG).

The existing and proposed project uses are permitted within the existing General Plan land use and Zoning districts. As such, a General Plan Amendment and/or rezone would not be required for the project.

2.4 PROJECT GOALS AND OBJECTIVES

Consistent with the California Environmental Quality Act (CEQA) Guidelines Section 15124(b), a clear statement of objectives and the underlying purpose of the proposed project shall be discussed. The principal objective of the proposed project is the approval and subsequent construction and operation of the proposed parking lot area.

The project identifies the following objectives:

- Reduce vehicle-miles-traveled and fuel usage associated with onsite and near-vicinity truck movements.
- Reduce number of trailer movements in and around main plant.
- Provide/secure additional trailer parking in close proximity to main operating plant facility.
- Consolidate truck/trailer parking for efficiency and security improvements associated with truck/trailer storage.
- Reduce public safety impacts associated with damaged and dilapidated buildings that currently pose a nuisance.
- Improve air quality and carbon footprint/greenhouse gas emissions via reduced truck movements and idling times.
- Remove truck/trailer parking and truck/trailer movements at cheese plant property and its immediate vicinity of the surrounding residential neighborhood.

2.5 PROJECT CHARACTERISTICS AND DESCRIPTION

PROJECT CHARACTERISTICS

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- grading and new paved parking lot for diesel milk trucks; and
- closure and relinquishment of H Street from Belmont Avenue to Palm Avenue, which would result in rerouting of traffic onto other routes including Palm Avenue. The primary reroutes include rerouted traffic from:
    - Northbound H Street north of Palm Avenue;

- Southbound H Street south of Belmont Avenue; and
- Southbound Weber Street south of Thomas Avenue.

Demolition and Grading Project Area

Approximately 3.55 acres (or 154,638 square feet) of land currently developed with a range of old, abandoned feed mill and silos within the Demolition and Grading Project Area would be paved. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years because of extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut in prior attempts to keep out trespassers and control the vandalism of the buildings.

Some portions of H Street between the railroad tracks would be used for truck parking and represents new pavement. At the H Street closure, a private gate would be constructed. A remote would be provided on the gate in order for H Street to be used to head north towards the State Route 99 freeway access. See Figure 2.0-5 for the site plan, including the proposed truck and trailer parking area.

Truck Movement Project Area

Vehicle traffic through H Street between Belmont Avenue and Palm Avenue present several unsafe conditions that compel its closure and relinquishment. H Street flow-through vehicular traffic occurs at a high rate of speed, which can create unsafe conditions in light of the concentrated exit and entry points for commercial traffic that exist along H Street. These high rates of speed can lead to unsafe conditions when factoring in the road’s reduction from a four-lane road (as H Street) to a two-lane road (as Weber) past the intersection of H Street and Belmont Avenue, and the ability to maneuver around constant incoming and outgoing commercial traffic both during the day and at night. Furthermore, closure and relinquishment of H Street is necessary to fully meet the project’s objectives, as outlined above.

The proposed closure and relinquishment of H Street, along with the proposed parking lot, would result in changes to vehicular movement and circulation within the Truck Movement Project Area.

OPERATIONS

No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The proposed project includes the demolition of existing structures between H Street and the UPRR tracks, which would be replaced with a new consolidated truck and trailer parking area, as described above. This new parking area would allow the project applicant to change their existing truck movement patterns in and around their facilities (within the Truck Movement Project Area), as described in greater detail below.

CIRCULATION, TRANSPORTATION, AND PARKING

The existing routes and turning movements are shown in Figure 2.0-6, and the proposed routes and movements are shown in Figure 2.0-7. Generally, existing routes connect the cheese plant property and ice cream warehouse to the main operations (located in the area southwest of the Palm Avenue and Belmont Avenue intersection). Trucks currently travel along Belmont Avenue, over the railroad tracks, through the roundabout at Belmont Avenue / Wesley Avenue / Motel Drive, and along Wesley Avenue, Franklin Avenue, and Thorn Avenue. The proposed project would consolidate the routes and turning movements, as shown in Figure 2.0-7.

Producers Dairy Circulation, Transportation, and Parking

Ample truck parking would be provided in the newly paved area along H Street once the structures in this area are demolished. As noted above, portions of H Street between Belmont Avenue and Palm Avenue would be closed and relinquished. A gate would be constructed at the southern portion of H Street, northwest of the Palm Avenue and H Street intersection. The cheese plant property (located at 450 E. Belmont Avenue) would not be used for truck or trailer parking once the proposed parking lot is constructed.

These proposed changes to the existing truck parking and movement patterns as a result of the proposed parking lot as well as the H Street closure would allow the applicant to reduce the total number of truck movements in the Truck Movement Project Area, reduce the number of minutes spent daily on truck movements, and reduce the daily vehicle miles traveled associated with truck movements. The existing trailer movements are shown in Table 2.0-1. The proposed trailer movements with the proposed new parking lot area are shown in Table 2.0-2.

As shown in Tables 2.0-1 and 2.0-2, the number of trailers moved per day would not change from the existing condition to the proposed condition. On Sundays, Mondays, Wednesdays, Thursdays, and Fridays, the number of trailers moved would remain the same (307 trailers), and the number of trailers moved per day on Tuesdays and Saturdays would also remain the same (199 trailers). However, as shown, the travel times and travel distances during all days would decrease as a result of the project.

TABLE 2.0-1: EXISTING TRAILER MOVEMENTS PER DAY

MOVEMENT	*TRAILERS MOVED (NUMBER)*	*TRAVEL TIME (MINUTES)*	*TRAVEL DISTANCE (MILES)*
SUNDAY/MONDAY/WEDNESDAY/THURSDAY/FRIDAY			
Main Lot to Ice Cream Warehouse	43	324	47
Main Lot to Cheese Plant Property	64	340	44
Around or Within Main Lot	200	856	55
Totals	*307*	*1,520*	*146*
TUESDAY/SATURDAY			
Main Lot to Ice Cream Warehouse	22	166	24
Main Lot to Cheese Plant Property	43	229	30
Around or Within Main Lot	134	548	31
Totals	*199*	*943*	*85*

NOTE: THIS AUDIT WAS COMPLETED BY THE PROJECT APPLICANT IN JUNE 2019. THE AUDIT IS BASED ON THE MOVEMENTS OF 388 LOADED TRAILERS.
SOURCE: PRODUCERS DAIRY FOODS, JUNE 2019.

TABLE 2.0-2: PROPOSED TRAILER MOVEMENTS PER DAY WITH NEW PARKING LOT

MOVEMENT	*TRAILERS MOVED (NUMBER)*	*TRAVEL TIME (MINUTES)*	*TRAVEL DISTANCE (MILES)*
SUNDAY/MONDAY/WEDNESDAY/THURSDAY/FRIDAY			
Main Lot to Ice Cream Warehouse	8	61	9
Main Lot to Cheese Plant Property	0	0	0
Around or Within Main Lot with New Consolidated Parking Lot	299	1,137	70
Totals	*307*	*1,198*	*79*
TUESDAY/SATURDAY			
Main Lot to Ice Cream Warehouse	8	61	9
Main Lot to Cheese Plant Property	0	0	0
Around or Within Main Lot with New Consolidated Parking Lot	191	665	44
Totals	*199*	*726*	*53*

SOURCE: PRODUCERS DAIRY FOODS, JUNE 2019.

As shown in Table 2.0-1, the existing operations result in 1,520 total minutes of travel time associated with trailer movements around and between the various facilities and parking areas on Sundays, Mondays, Wednesdays, Thursdays, and Fridays. As shown in Table 2.0-2, the travel time associated with trailer movements during these days would decrease to 1,198 total minutes. The project would result in a decrease of travel time during these days by 322 minutes (or five hours and 22 minutes). Similarly, the travel time on Tuesdays and Saturdays would also decrease by 217 minutes (or three hours and 37 minutes).

As shown in Table 2.0-1, the existing operations result in 146 total miles of travel on Sundays, Mondays, Wednesdays, Thursdays, and Fridays. As shown in Table 2.0-2, the travel distances during these days would decrease to 79 total miles. The project would result in a decrease of travel distance during these days by 67 miles. Similarly, the travel distance on Tuesdays and Saturdays would also decrease by 32 miles.

These travel times and distances represent minutes and miles traveled in and around the Main Plant, the ice cream warehouse, and the old cheese plant property, all of which are located within the area demarcated as the Truck Movement Project Area, as shown on Figure 2.0-3. These numbers do not represent total miles or minutes of travel associated with deliveries throughout the region, once the trucks and trailers leave the Truck Movement Project Area.

As noted previously, the proposed project would not result in any operational increases nor expansions that would lead to increased production or deliveries above existing conditions.

Non-Project Circulation

As a result of the closure of H Street, circulation in the project area will also be altered for residents and other travelers in the area. Upon completion of the proposed project, travelers who previously used H Street will be routed to various local streets, including but not limited to Palm Avenue, Franklin Avenue, Belmont Avenue, and Thomas Avenue. See Section 3.8, Transportation and Circulation, for the proposed re-routing for project and non-project trips.

UTILITIES

The proposed project is currently served by existing City infrastructure. Upon development of the project site, the project would continue to be served by the City.

The project would be served by the following existing service providers:

- City of Fresno for water;
- City of Fresno for wastewater collection and treatment;
- City of Fresno for stormwater collection;
- Pacific Gas and Electric Company for gas and electricity.

2.6 USES OF THE EIR AND REQUIRED AGENCY APPROVALS

This EIR may be used for the following direct and indirect approvals and permits associated with adoption and implementation of the proposed project.

CITY OF FRESNO

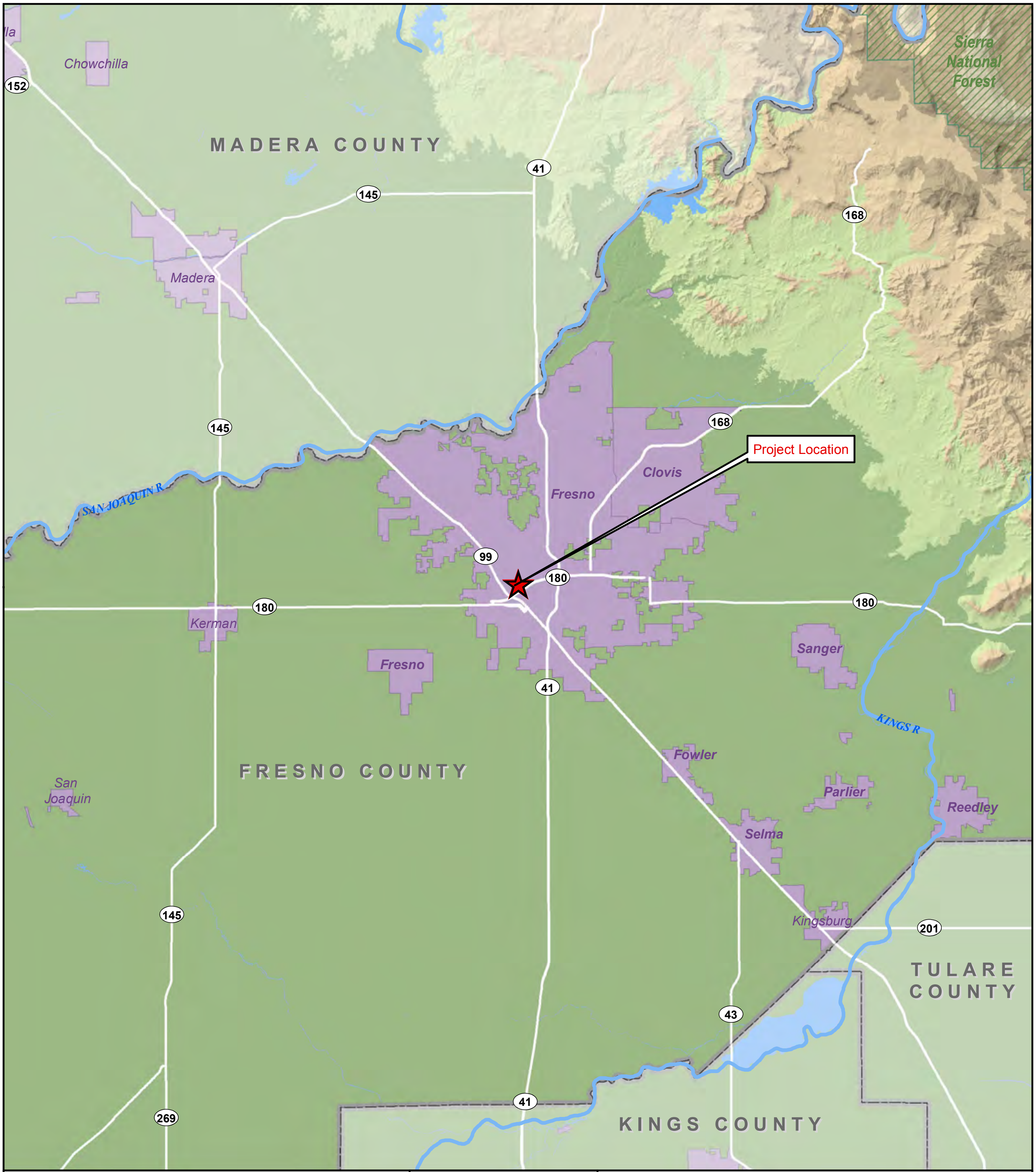
The City of Fresno will be the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050. Actions that would be required from the City include, but are not limited to, the following:

- Demolition, grading, and other permits as necessary for project construction;
- Approval of a Development Permit Application with the City's Planning and Development Department;
- Approval of a Street Vacation Application with the City's Public Works Department;
- Abandonment and relinquishment of H Street and the associated right-of-way;
- Adoption of the Environmental Impact Report (EIR); and
- Adoption of the Mitigation Monitoring and Reporting Program (MMRP).

OTHER GOVERNMENTAL AGENCY APPROVALS

The following agencies may be required to issue permits or approve certain aspects of the proposed project. Other governmental agencies that may require approval include, but are not limited to, the following:

- Regional Water Quality Control Board (RWQCB) – Construction activities would be required to be covered under the National Pollution Discharge Elimination System (NPDES);
- RWQCB – The Storm Water Pollution Prevention Plan (SWPPP) would be required to be approved prior to construction activities pursuant to the Clean Water Act;
- San Joaquin Valley Air Pollution Control District (SJVAPCD) – Construction (grading) activities would be subject to the SJVAPCD permits, codes, and requirements. Demolition activities would also be subject to the SJVAPCD Asbestos Program requirements (including, but not limited to, compliance with SJVAPCD Rule 4002).



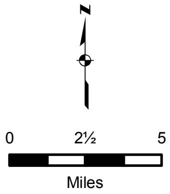
Legend

★ Project Location

╌╌ County Boundary

▨ City Area

Sources: CalAtlas; San Joaquin, Stanislaus, Sacramento, Solano, Contra Costa, and Alameda Counties. Map date: November 13, 2019.



PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 2.0-1. Regional Location Map

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Legend

The Demolition and Grading Project Area

The Truck Movement Project Area

🟦 School 🟩 Park ⬛ Airport 🟫 Cemetery

Sources: Fresno County GIS; City of Fresno GIS; CalTrans; Google Maps.
Map date: February 4, 2020.

N

0 500 1,000

Feet

1:12,000

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 2.0-2. Vicinity Map

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Legend

🟥 The Demolition and Grading Project Area

▨ The Truck Movement Project Area

Sources: Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: February 4, 2020.

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PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 2.0-3. Aerial View

De Novo Planning Group

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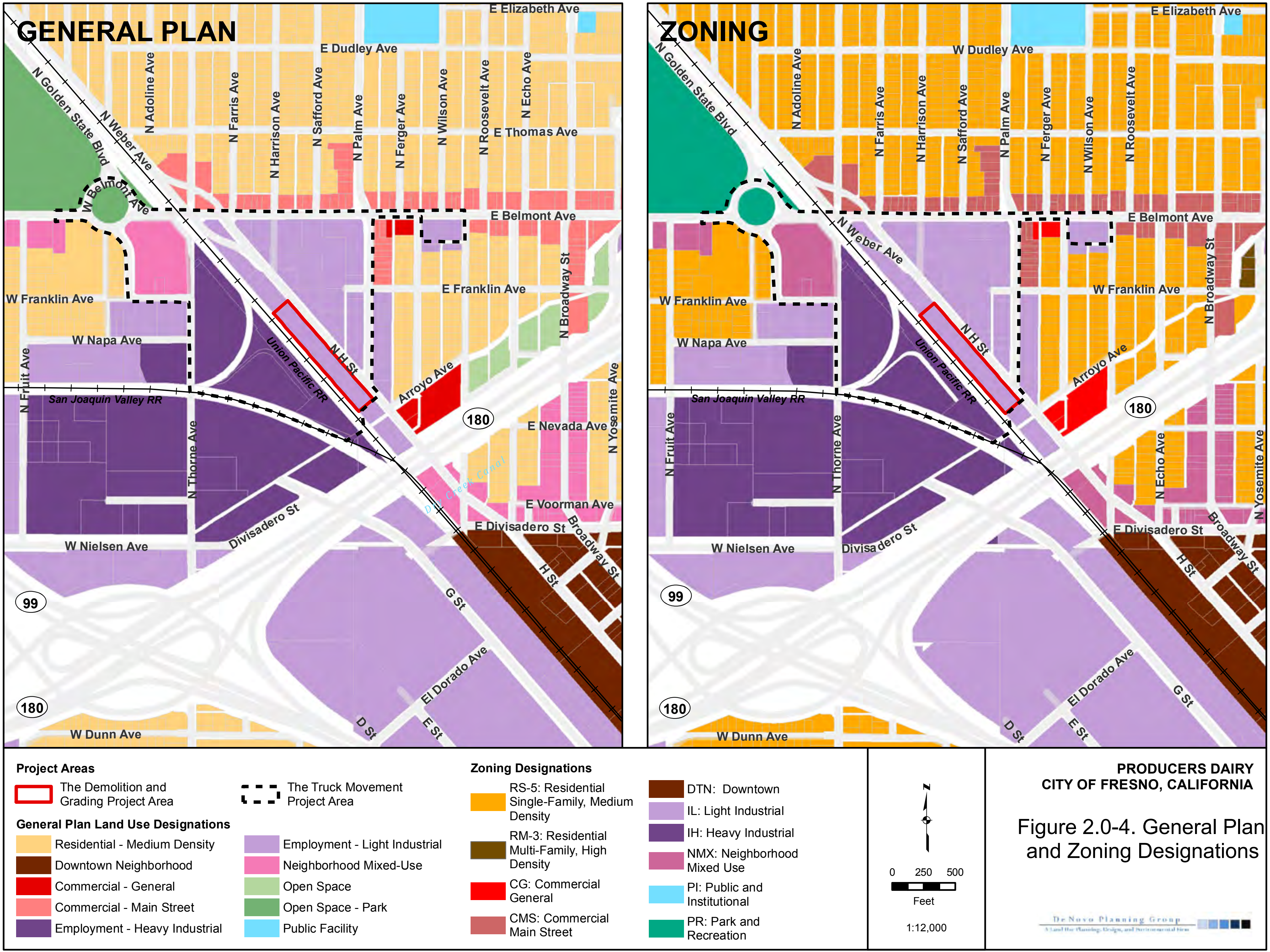

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 2.0-4. General Plan and Zoning Designations

Sources: Cityof Fresno GIS; Fresno County GIS; CalTrans. Map date: February 4, 2020.

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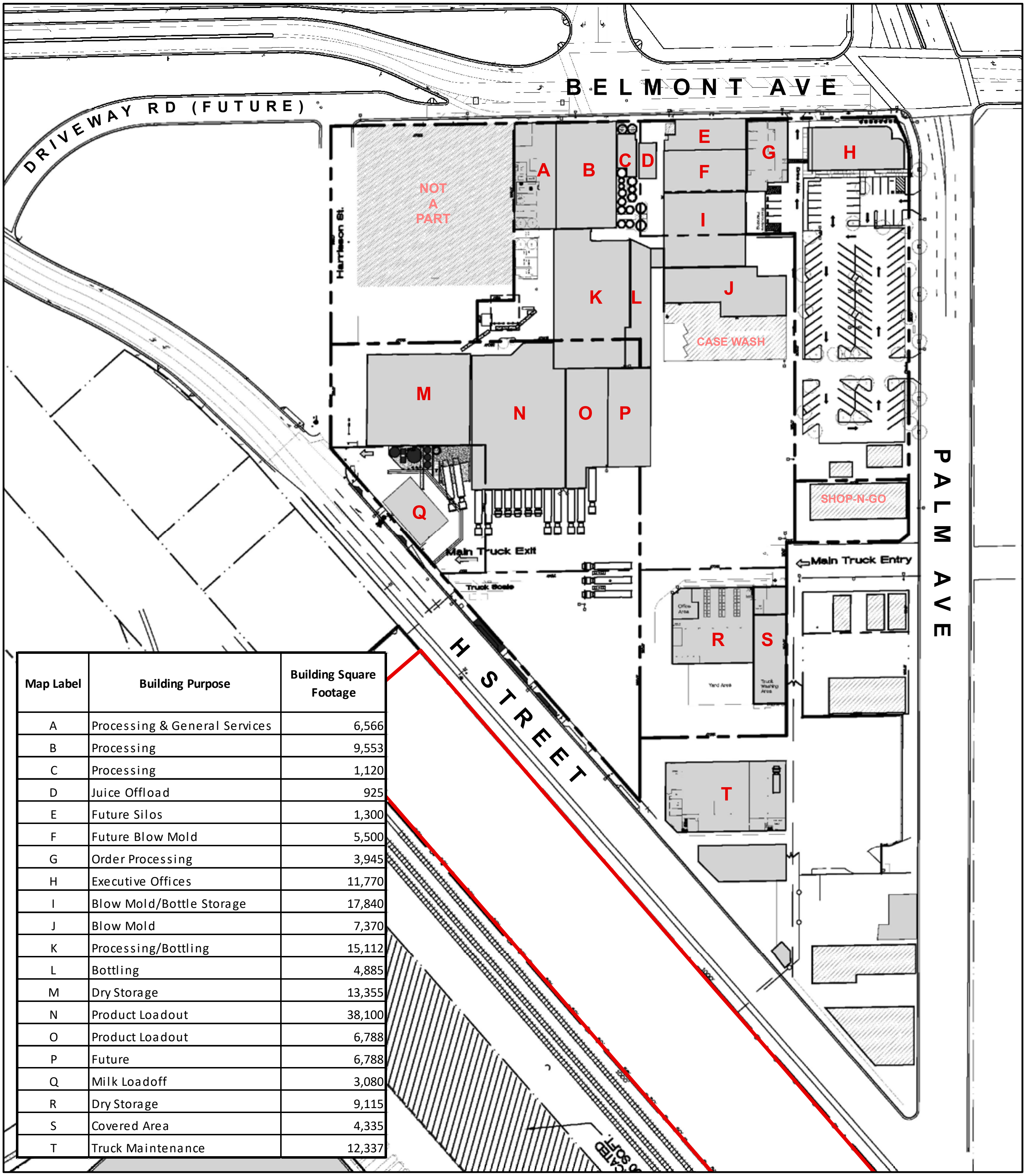

Map Label	Building Purpose	Building Square Footage
A	Processing & General Services	6,566
B	Processing	9,553
C	Processing	1,120
D	Juice Offload	925
E	Future Silos	1,300
F	Future Blow Mold	5,500
G	Order Processing	3,945
H	Executive Offices	11,770
I	Blow Mold/Bottle Storage	17,840
J	Blow Mold	7,370
K	Processing/Bottling	15,112
L	Bottling	4,885
M	Dry Storage	13,355
N	Product Loadout	38,100
O	Product Loadout	6,788
P	Future	6,788
Q	Milk Loadoff	3,080
R	Dry Storage	9,115
S	Covered Area	4,335
T	Truck Maintenance	12,337

Legend

☐ The Demolition and Grading Project Area

Sources: Jeff Cazaly Architect; Fresno County GIS. Map date: July 27, 2020.

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0 50 100

Feet

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 2.0-5 Street Site

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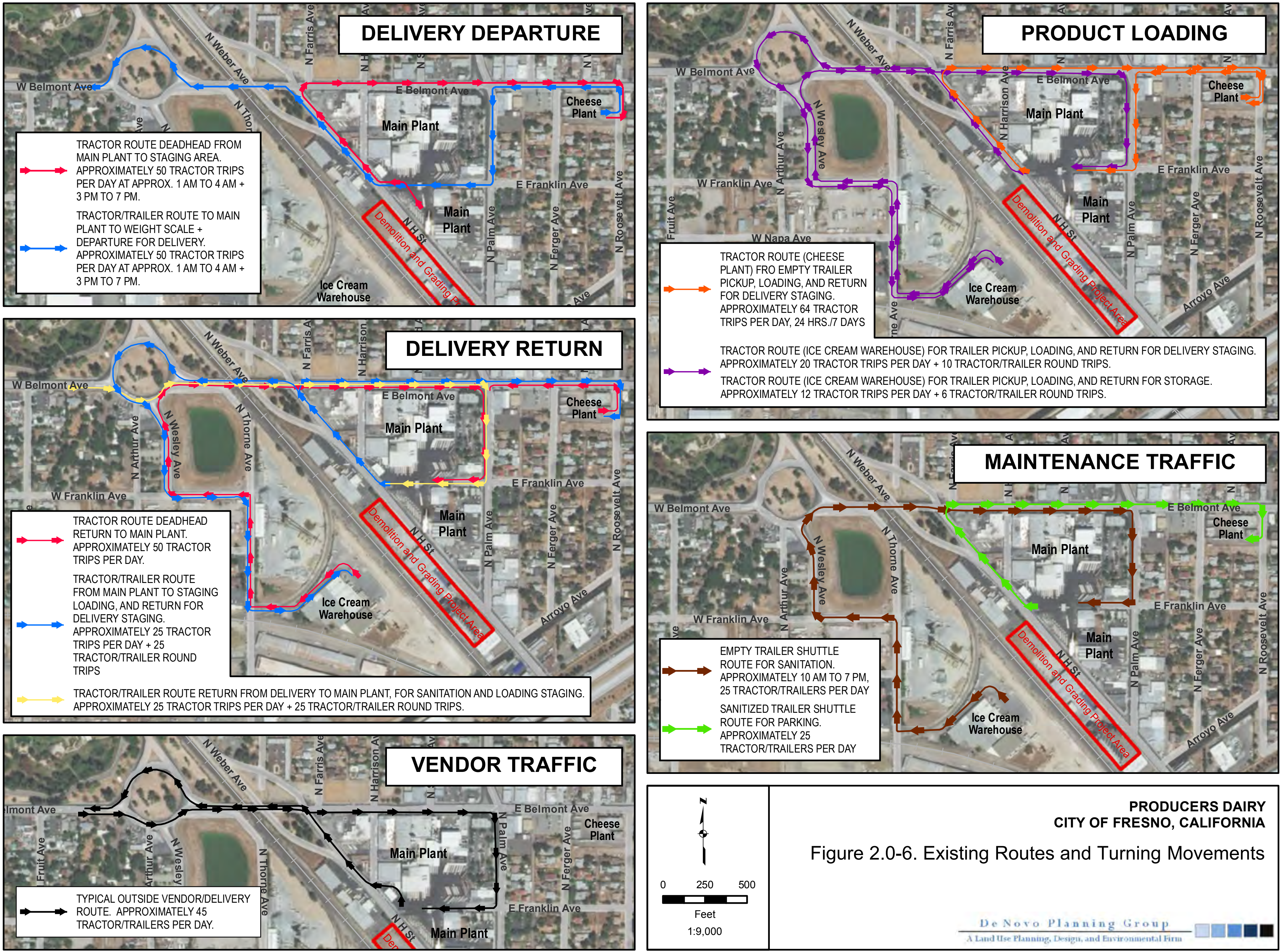
DELIVERY DEPARTURE

→ TRACTOR ROUTE DEADHEAD FROM MAIN PLANT TO STAGING AREA. APPROXIMATELY 50 TRACTOR TRIPS PER DAY AT APPROX. 1 AM TO 4 AM + 3 PM TO 7 PM.

→ TRACTOR/TRAILER ROUTE TO MAIN PLANT TO WEIGHT SCALE + DEPARTURE FOR DELIVERY. APPROXIMATELY 50 TRACTOR TRIPS PER DAY AT APPROX. 1 AM TO 4 AM + 3 PM TO 7 PM.

PRODUCT LOADING

→ TRACTOR ROUTE (CHEESE PLANT) FRO EMPTY TRAILER PICKUP, LOADING, AND RETURN FOR DELIVERY STAGING. APPROXIMATELY 64 TRACTOR TRIPS PER DAY, 24 HRS./7 DAYS

→ TRACTOR ROUTE (ICE CREAM WAREHOUSE) FOR TRAILER PICKUP, LOADING, AND RETURN FOR DELIVERY STAGING. APPROXIMATELY 20 TRACTOR TRIPS PER DAY + 10 TRACTOR/TRAILER ROUND TRIPS.
TRACTOR ROUTE (ICE CREAM WAREHOUSE) FOR TRAILER PICKUP, LOADING, AND RETURN FOR STORAGE. APPROXIMATELY 12 TRACTOR TRIPS PER DAY + 6 TRACTOR/TRAILER ROUND TRIPS.

DELIVERY RETURN

→ TRACTOR ROUTE DEADHEAD RETURN TO MAIN PLANT. APPROXIMATELY 50 TRACTOR TRIPS PER DAY.

→ TRACTOR/TRAILER ROUTE FROM MAIN PLANT TO STAGING LOADING, AND RETURN FOR DELIVERY STAGING. APPROXIMATELY 25 TRACTOR TRIPS PER DAY + 25 TRACTOR/TRAILER ROUND TRIPS

→ TRACTOR/TRAILER ROUTE RETURN FROM DELIVERY TO MAIN PLANT, FOR SANITATION AND LOADING STAGING. APPROXIMATELY 25 TRACTOR TRIPS PER DAY + 25 TRACTOR/TRAILER ROUND TRIPS.

MAINTENANCE TRAFFIC

→ EMPTY TRAILER SHUTTLE ROUTE FOR SANITATION. APPROXIMATELY 10 AM TO 7 PM, 25 TRACTOR/TRAILERS PER DAY

→ SANITIZED TRAILER SHUTTLE ROUTE FOR PARKING. APPROXIMATELY 25 TRACTOR/TRAILERS PER DAY

VENDOR TRAFFIC

→ TYPICAL OUTSIDE VENDOR/DELIVERY ROUTE. APPROXIMATELY 45 TRACTOR/TRAILERS PER DAY.

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 2.0-6. Existing Routes and Turning Movements

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Sources: Fresno County GIS; Jeff Cazaly, Architect. Map date: February 4, 2020.

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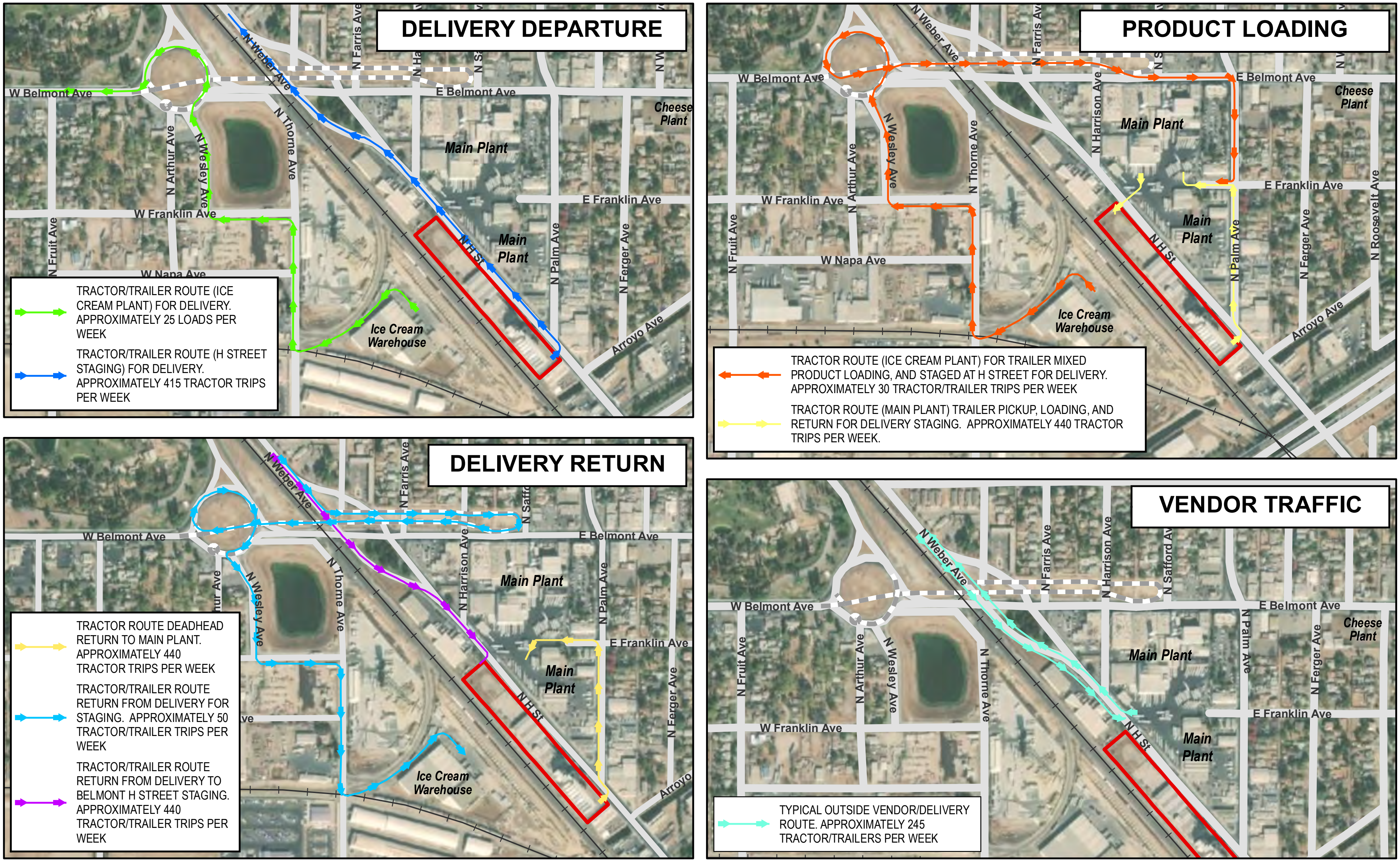

DELIVERY DEPARTURE

- TRACTOR/TRAILER ROUTE (ICE CREAM PLANT) FOR DELIVERY. APPROXIMATELY 25 LOADS PER WEEK
- TRACTOR/TRAILER ROUTE (H STREET STAGING) FOR DELIVERY. APPROXIMATELY 415 TRACTOR TRIPS PER WEEK

PRODUCT LOADING

- TRACTOR ROUTE (ICE CREAM PLANT) FOR TRAILER MIXED PRODUCT LOADING, AND STAGED AT H STREET FOR DELIVERY. APPROXIMATELY 30 TRACTOR/TRAILER TRIPS PER WEEK
- TRACTOR ROUTE (MAIN PLANT) TRAILER PICKUP, LOADING, AND RETURN FOR DELIVERY STAGING. APPROXIMATELY 440 TRACTOR TRIPS PER WEEK.

DELIVERY RETURN

- TRACTOR ROUTE DEADHEAD RETURN TO MAIN PLANT. APPROXIMATELY 440 TRACTOR TRIPS PER WEEK
- TRACTOR/TRAILER ROUTE RETURN FROM DELIVERY FOR STAGING. APPROXIMATELY 50 TRACTOR/TRAILER TRIPS PER WEEK
- TRACTOR/TRAILER ROUTE RETURN FROM DELIVERY TO BELMONT H STREET STAGING. APPROXIMATELY 440 TRACTOR/TRAILER TRIPS PER WEEK

VENDOR TRAFFIC

- TYPICAL OUTSIDE VENDOR/DELIVERY ROUTE. APPROXIMATELY 245 TRACTOR/TRAILERS PER WEEK

Legend

- 🟥 The Demolition and Grading Project Area
- Railroad
- Existing Road Alignment
- Future Road Alignment

Sources: Fresno County GIS; Jeff Cazaly, Architect. Map date: July 27, 2020.

N

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Feet

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 2.0-7. Proposed Routes and Turning Movements

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This section provides an overview of the visual character, scenic resources, views, scenic highways, and sources of light and glare that are encountered on the project site and the vicinity. This section concludes with an evaluation of the impacts and recommendations for mitigating impacts. Information in this section is derived primarily from the California Department of Transportation (Caltrans) Scenic Highways Program website (2019), City of Fresno General Plan (2014), and the City of Fresno Municipal Code (January 31, 2020).

One comment was received during the public review period for the Notice of Preparation regarding this topic from Lisa Flores (February 20, 2020). The portion of the comment letter relating to this topic notes concerns regarding increased light and glare. The comment related to this topic is addressed within this section; see Impact 3.1-3. Full comments received are included in Appendix A.

As discussed in in the Initial Study prepared for the proposed project, there are no scenic highways in the County of Fresno, and the site is not visible from a designated or eligible scenic highway. Therefore, the proposed project would have no impact related to scenic highways. As such, this CEQA topic will not be further discussed.

3.1.1 ENVIRONMENTAL SETTING

REGIONAL SCENIC RESOURCES

Visual resources are generally classified into two categories: scenic views and scenic resources. Scenic views are elements of the broader viewshed such as mountain ranges, valleys, and ridgelines. They are usually mid-ground or background elements of a viewshed that can be seen from a range of viewpoints, often along a roadway or other corridor. Scenic resources are specific features of a viewing area (or viewshed) such as trees, rock outcroppings, and historic buildings. They are specific features that act as the focal point of a viewshed and are usually foreground elements.

Aesthetically significant features occur in a diverse array of environments within the region, ranging in character from urban centers to rural agricultural lands to natural water bodies. Features of the built environment that may also have visual significance include individual or groups of structures that are distinctive due to their aesthetic, historical, social, or cultural significance or characteristics. Examples of the visually significant built environment may include bridges or overpasses, architecturally appealing buildings or groups of buildings, landscaped freeways, and a location where a historic event occurred.

PROJECT SITE

The Producers Dairy Project site (project site) is located in the center of the City of Fresno's Planning Area, north of State Route (SR) 180 and east of SR 99. Figures 2.0-1 and 2.0-2 in Chapter 2.0, Project Description, illustrate the regional location and project vicinity.

The project site includes the Demolition and Grading Project Area, which encompasses approximately 3.55 acres of land currently developed with a range of old, abandoned feed mill and silos. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years with extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut to keep out trespassers and control the vandalism of the buildings. The project site is relatively flat and ranges in elevation from approximately 283 to 295 feet above sea level. As a result of site disturbance associated with the previous industrial operations, limited natural scenic areas can be found within the project site. There is little native vegetation or naturalized habitat located on the site, and the flat topography of the site renders the site essentially void of prominent natural visual features.

DEMOLITION AND GRADING PROJECT AREA: EXISTING CONDITIONS

The project site is surrounded by a variety of currently developed and existing industrial land uses. The project site is bordered on the north by North H Street and railroad tracks to the south. The parcels to the north and east of the project site (along North H St) are designated light Industrial in the Fresno General Plan and parcels located to the south and west (along the railroad tracks) are designated heavy Industrial in the Fresno General Plan. The main plant of Producers Dairy is located directly north of the project site. An existing industrial warehouse, used for the production of ice cream, is located to the southwest of the project site, across the railroad tracks.

The project area, which includes both the Demolition and Grading Area and the Truck Movement Area, is developed and currently contains a variety of existing light sources, including street lights, security lighting, light from vehicles, and light from existing buildings. The structures within the vicinity of the project site consist of industrial warehouses and parking lots and generally include minimal outdoor lighting. The structures in the Demolition and Grading Project Area would be demolished and paved to allow for a truck parking facility.

3.1.2 REGULATORY SETTING

LOCAL

Fresno General Plan

The Fresno General Plan includes several policies that are relevant to an evaluation of the visual quality of the project site. General Plan policies and objectives applicable to the project are identified below:

URBAN FORM ELEMENT

Objective D-1: Provide and maintain an urban image that creates a "sense of place" throughout Fresno.

Policy D-1-h: Consider requiring all new development with parking in Activity Centers and along corridors to be screened or concealed. Locate principal pedestrian entrances to new nonresidential buildings on the sidewalk; any entrances from parking areas should be incidental or emergency use only.

Policy D-1-j: Update lighting standards to reflect best practices and protect adjoining uses from glare and spillover light.

Policy D-4-f: Strive to ensure that all new non-residential land uses are developed and maintained in a manner complementary to and compatible with adjacent residential land uses, to minimize interface problems with the surrounding environment and to be compatible with public facilities and service.

Policy D-4-g: Ensure that standards in the Development Code implement General Plan design concepts for each land use type. The following will be considered in the new Development Code:

- Appropriate space is provided for activities proposed (e.g., indoor area for display of merchandise, as opposed to sidewalk/parking lot display);
- Sufficient space and access are provided for support functions, (e.g., storage, loading, parking, waste disposal/recycling);
- Location of customer parking areas does not discourage pedestrian and bicycle access;
- Access for the disabled is incorporated into project designs as required;
- Buildings in shopping centers are linked by pedestrian walkways;
- Business and industrial parks have campus - like settings, with uniformity of improvements and shared facilities for parking, loading, mass transit, and with internal and external bicycle and pedestrian access; and
- Structural conversions and changes of occupancy demonstrate compliance with building and zoning codes.

MOBILITY AND TRANSPORTATION ELEMENT

Objective MT-3: Identify, promote and preserve scenic or aesthetically unique corridors by application of appropriate policies and regulations.

Fresno Outdoor Lighting and Illumination Ordinance

Article 20, *General Site Regulations*, of the City's Development Code provides standards for outdoor lighting in an effort to minimize light pollution, glare, and light trespass caused by inappropriate or misaligned light fixtures, while improving nighttime public safety, utility, security, and preserving the night sky as a natural resource and thus facilitating people's enjoyment of stargazing.

Fresno Parking and Loading Ordinance

Article 24, *Parking and Loading,* of the City's Development Code contains standards and provisions related to additional parking lot and visual requirements that would apply to the proposed project. The primary intent of Article 24 is to minimize design impacts that can result from parking lots, driveways, and drive aisles within parking lots.

3.1.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on aesthetics if it will:

- Have a substantial adverse effect on a scenic vista;
- In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage point). In an urbanized area, conflict with applicable zoning and other regulations governing scenic quality;
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

IMPACTS AND MITIGATION MEASURES

Impact 3.1-1: Project implementation would not result in substantial adverse effects on scenic vistas and resources (No Impact)

There are no designated scenic vistas within the City of Fresno. No part of project site is designated as a scenic vista by the City of Fresno General Plan or Municipal Code, nor does the project site contain any unique or distinguishing features that would qualify it for designation as a scenic vista.

The project site is highly visible from SR 99 and SR 180. Implementation of the proposed project would change the existing visual character of the project site from a developed area consisting of aging and dilapidated buildings and silos to a truck parking lot. The project would also alter existing truck movements and routes in and out of the area. Impacts related to a change in visual character are largely subjective and very difficult to quantify. People have different reactions to the visual quality of a project or a project feature, and what is considered "attractive" to one viewer may be considered "unattractive" to other viewers. Overall, the existing industrial structures and silos have been out of use for many years with extensive scavenging, vandalism and deteriorating conditions, resulting in dilapidated and unsafe conditions. In addition, the project site is not designated as a scenic vista and there are no designated scenic vistas within the City of Fresno. Alteration of the developed area of the project site through demolition of existing structures and the addition of pavement for a truck parking facility may change the visual quality of the project site and surrounding area. However, since there are no designated scenic vistas, **no impact** would occur to scenic vistas.

Impact 3.1-2: Project implementation would not conflict with an applicable zoning or other regulation governing scenic quality within an urbanized area (Less than Significant)

The Census definition of an urban area includes urbanized areas of 50,000 or more population and urban clusters of at least 2,500 and less than 50,000 population. The project site is located within the City of Fresno, which has a population over 50,000 people, meaning it is within an urbanized area and subjecting it to applicable zoning or other regulation governing scenic quality. Future development of the project site would convert the Demolition and Grading Project Area from its existing state to truck a parking facility and alter truck movement routes within the vicinity of the project area. The proposed project is located in an urbanized area of the City of the Fresno. Because the site is currently developed with aging and dilapidated buildings, potential future development of the proposed project would not have the potential to degrade the visual quality of any scenic resources, as scenic resources do not exist within the project area.

While the proposed project would result in alterations to the existing urban form and character of the project area, the introduction of new surface parking areas would not conflict with any zoning or other regulations governing scenic quality within the area. The project site and the surrounding areas are designated for industrial uses. The proposed use is consistent with the existing Zoning and is visually compatible with the surrounding uses.

The proposed project would be subject to Article 24, *Parking and Loading,* of the City's Municipal Code which contains standards and provisions related to additional parking lot and visual requirements. The primary intent of Article 24 is to minimize design impacts that can result from parking lots, driveways, and drive aisles within parking lots. The specific purposes of the parking and loading regulations are to establish standards of any specific use to provide well-designed, on-site parking areas through parking area lighting, landscaping, shading and other design-related requirements.

Nevertheless, the loss of the visual appearance of the existing developed land within the project site will change the visual character of the are in perpetuity. However, compliance with the City's General Plan and Municipal Code would reduce visual impacts to the greatest extent feasible. Design in accordance with these standards would reduce any potential impact to a **less than significant** level.

Impact 3.1-3: Project implementation may result in light and glare impacts (Less than Significant with Mitigation)

Implementation of the proposed project would introduce new sources of light and glare into the project site. New sources of glare would occur primarily from the windshields of vehicles traveling within the Truck Movement Project Area and from vehicles parked at the Demolition and Grading Project Area.

A detailed lighting plan has not been prepared for the proposed project, but for the purposes of this analysis, it has been conservatively assumed that nighttime street lighting, and safety lighting will be installed at the Demolition and Grading Project Area. This includes, but is not necessarily limited to: street lighting; exterior lighting; security lighting; and parking lot lighting.

LIGHT IMPACTS

Many areas within the project site are currently exposed to a nominal amount of light due to the industrial setting. Development of the parking facility may include lighting systems onsite to provide safety and security and could result in an increase in lighting adjacent to the project site. Overall, implementation of the proposed project will increase the amount of light that could cause light spillover onto adjacent properties within and adjacent to the project site and increase the illumination of the sky at night. This increase in light is considered a **potentially significant** impact.

GLARE IMPACTS

Development in accordance with the proposed project will concentrate the amount of vehicles in a single area that could create new sources of glare within the project site and directly adjacent to the project site. These new sources of glare could be from materials used on the proposed parking facility, roadway surfaces, motor vehicles, and vehicle structures such as poles and signs. Within the City limits, there are currently many sources of glare, and future development will add to the existing sources. Therefore, due to the substantial of new parking lot square footage planned for the project site, the project could significantly result in a substantial increase in glare. This increase could result in a **potentially significant** glare impact.

CONCLUSION

Implementation of the proposed project would introduce new sources of light and glare within the project site. However, there are no specific features within the proposed project that would create unusual light and glare. Implementation of the City of Fresno's Outdoor Lighting and Illumination Ordinance (Article 20 of the Fresno Development Code) and the City's Parking and Loading Ordinance (Article 24 of the Fresno Development Code) would further ensure that no unusual daytime glare or nighttime lighting is produced.

Light sources from the proposed parking lot may have a significant adverse impact on the surrounding areas, by introducing nuisance light into the area and decreasing the visibility of nighttime skies. Additionally, on-site light sources may create light spillover impacts on surrounding land uses in the absence of mitigation. However, the proposed project will be required to comply with the all City of Fresno outdoor lighting and illumination standards and specifications, and would be required to incorporate design features to minimize the effects of light and glare. However, without a detailed lighting plan, increase of nighttime lighting is a potentially significant impact. Implementation of Mitigation Measures 3.1-1 would reduce potential impacts associated with nighttime lighting and light spillage onto adjacent properties to a **less than significant** level.

MITIGATION MEASURE(S)

Mitigation Measure 3.1-1*: A lighting plan for the proposed project shall be prepared prior to the approval of the Site Plan review. The lighting plan shall demonstrate that the lighting systems and other exterior lighting throughout the project site has been designed to minimize light spillage onto adjacent properties to the greatest extent feasible. Use of LED lighting or other proven energy efficient lighting shall be required for facilities to be dedicated to the City of Fresno for maintenance. These requirements shall be included in future project improvement plans, subject to review and approval by the City of Fresno.*

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The purpose of this section is to disclose and analyze the potential impacts associated with air quality related to the project site and general vicinity, and to analyze the potential for exposure of people to air quality impacts as the project is built and operated in the future. This section describes regional air quality, the current attainment status of the air basin, local sensitive receptors, emission sources, and the impacts that are likely to result from project implementation. Following this discussion is an assessment of consistency of the project with applicable policies and local plans. The Greenhouse Gases and Climate Change analysis is located in Section 3.5. This section is based in part on the following documents, reports, and studies:

- *Air Quality and Land Use Handbook: A Community Health Perspective* (California Air Resources Board, 2005);
- *Guidance for Assessing and Mitigating Air Quality Impact* (SJVAPCD, 2015);
- 2016 Plan for the 2008 8-Hour Ozone Standard (SJVAPCD, 2016);
- *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards* (SJVAPCD, 2018);
- CalEEMod (*v.2016.3.2*) (CAPCOA, 2020); and
- *Final Producer's Dairy Transportation Impact Study* (Kittelson & Associates, 2020).

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from Lisa Flores and Robynn Smith. The portions of the comment letters relating to this topic note concerns regarding air quality attainment, odors, and health risks associated with particulate matter. Air quality attainment is discussed further below (see Table 3.2-2) and in Impacts 3.2-2 and 3.2-3, odors are discussed in Impact 3.2-5, and health risks are discussed in Impact 3.2-4. Each of the comments related to this topic are addressed within this section. Full comments received are included in Appendix A.

3.2.1 ENVIRONMENTAL SETTING

SAN JOAQUIN VALLEY AIR BASIN

The City of Fresno (City) is in the central portion of the San Joaquin Air Basin (SJVAB). The SJVAB consists of eight counties: Fresno, Kern (western and central), Kings, Tulare, Madera, Merced, San Joaquin, and Stanislaus. Air pollution from significant activities in the SJVAB includes a variety of industrial-based sources as well as on- and off-road mobile sources. These sources, coupled with geographical and meteorological conditions unique to the area, stimulate the formation of unhealthy air.

The SJVAB is approximately 250 miles long and an average of 35 miles wide. It is bordered by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south. There is a slight downward elevation gradient from Bakersfield in the southeast end (elevation 408 feet) to sea level at the northwest end where the valley opens to the San Francisco Bay at the Carquinez Straits. At its northern end is the Sacramento Valley, which comprises the northern half of California's Central Valley. The bowl-shaped topography inhibits movement of pollutants out of the valley (SJVAPCD, 2015).

Climate

The SJVAB is in a Mediterranean climate zone and is influenced by a subtropical high-pressure cell most of the year. Mediterranean climates are characterized by sparse rainfall, which occurs mainly in winter. Summers are hot and dry. Summertime maximum temperatures often exceed 100°F in the valley.

The subtropical high-pressure cell is strongest during spring, summer, and fall and produces subsiding air, which can result in temperature inversions in the valley. A temperature inversion can act like a lid, inhibiting vertical mixing of the air mass at the surface. Any emissions of pollutants can be trapped below the inversion. Most of the surrounding mountains are above the normal height of summer inversions (1,500 to 3,000 feet).

Winter-time high pressure events can often last many weeks, with surface temperatures often lowering into the 30°F. During these events, fog can be present and inversions are extremely strong. These wintertime inversions can inhibit vertical mixing of pollutants to a few hundred feet (SJVAPCD, 2015).

Wind Patterns

Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing and transporting it to other locations.

Especially in summer, winds in the San Joaquin Valley most frequently blow from the northwest. The region’s topographic features restrict air movement and channel the air mass towards the southeastern end of the valley. Marine air can flow into the basin from the San Joaquin River Delta and over Altamont Pass and Pacheco Pass, where it can flow along the axis of the valley, over the Tehachapi pass, into the Southeast Desert Air Basin. This wind pattern contributes to transporting pollutants from the Sacramento Valley and the Bay Area into the SJVAB. Approximately 27 percent of the total emissions in the northern portion, 11 percent of total emissions in the central region, and 7 percent of total emission in the south valley of the SJVAB are attributed to air pollution transported from these two areas.[1] The Coastal Range is a barrier to air movement to the west and the high Sierra Nevada range is a significant barrier to the east (the highest peaks in the southern Sierra Nevada reach almost halfway through the Earth’s atmosphere). Many days in the winter are marked by stagnation events where winds are very weak. Transport of pollutants during winter can be very limited. A secondary but significant summer wind pattern is from the southeast and can be associated with nighttime drainage winds, prefrontal conditions, and summer monsoons.

Two significant diurnal wind cycles that occur frequently in the valley are the sea breeze and mountain-valley upslope and drainage flows. The sea breeze can accentuate the northwest wind

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[1] SJVAPCD. Frequently Asked Questions, http://www.valleyair.org/general_info/frequently_asked_questions.htm#What%20is%20being%20done%20 to%20improve%20ai r%20quality%20in%20the%20San%20Joaquin%20Valley, accessed March 3, 2020.

flow, especially on summer afternoons. Nighttime drainage flows can accentuate the southeast movement of air down the valley. In the mountains during periods of weak synoptic scale winds, winds tend to be upslope during the day and downslope at night. Nighttime and drainage flows are especially pronounced during the winter when flow from the easterly direction is enhanced by nighttime cooling in the Sierra Nevada. Eddies can form in the valley wind flow and can recirculate a polluted air mass for an extended period. Such an eddy occurs in the Fresno area during both winter and summer (SJVAPCD, 2015).

Temperature

Solar radiation and temperature are particularly important in the chemistry of ozone formation. The SJVAB averages over 260 sunny days per year. Photochemical air pollution (primarily ozone) is produced by the atmospheric reaction of organic substances (such as volatile organic compounds) and nitrogen dioxide under the influence of sunlight. Ozone concentrations are very dependent on the amount of solar radiation, especially during late spring, summer, and early fall. Ozone levels typically peak in the afternoon. After the sun goes down, the chemical reaction between nitrous oxide and ozone begins to dominate. This reaction tends to scavenge and remove the ozone in the metropolitan areas through the early morning hours, resulting in the lowest ozone levels, possibly reaching zero at sunrise in areas with high nitrogen oxides emissions. At sunrise, nitrogen oxides tend to peak, partly due to low levels of ozone at this time and also due to the morning commuter vehicle emissions of nitrogen oxides.

Generally, the higher the temperature, the more ozone formed, since reaction rates increase with temperature. However, extremely hot temperatures can “lift” or “break” the inversion layer. Typically, if the inversion layer does not lift to allow the buildup of contaminants to be dispersed, the ozone levels will peak in the late afternoon. If the inversion layer breaks and the resultant afternoon winds occur, the ozone will peak in the early afternoon and decrease in the late afternoon as the contaminants are dispersed or transported out of the SJVAB.

Ozone levels are low during winter periods when there is much less sunlight to drive the photochemical reaction (SJVAPCD, 2015).

Precipitation, Humidity, and Fog

Precipitation and fog may reduce or limit some pollutant concentrations. Ozone needs sunlight for its formation, and clouds and fog can block the required solar radiation. Wet fogs can cleanse the air during winter as moisture collects on particles and deposits them on the ground. Atmospheric moisture can also increase pollution levels. In fogs with less water content, the moisture acts to form secondary ammonium nitrate particulate matter. This ammonium nitrate is part of the valley’s $PM_{2.5}$ and PM_{10} problem. The winds and unstable air conditions experienced during the passage of winter storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the SJVAB floor. This creates strong low-level temperature inversions and very stable air conditions, which can lead to tule fog. Wintertime conditions favorable to fog formation are also conditions favorable to high concentrations of $PM_{2.5}$ and PM_{10} (SJVAPCD, 2015).

Inversions

The vertical dispersion of air pollutants in the San Joaquin Valley can be limited by persistent temperature inversions. Air temperature in the lowest layer of the atmosphere typically decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. The height of the base of the inversion is known as the “mixing height.” This is the level to which pollutants can mix vertically. Mixing of air is minimized above and below the inversion base. The inversion base represents an abrupt density change where little air movement occurs.

Inversion layers are significant in determining pollutant concentrations. Concentration levels can be related to the amount of mixing space below the inversion. Temperature inversions that occur on the summer days are usually 2,000 to 2,500 feet above the valley floor. In winter months, overnight inversions occur 500 to 1,500 feet above the valley floor (SJVAPCD, 2015).

CRITERIA POLLUTANTS

All criteria pollutants can have human health and environmental effects at certain concentrations. The United States Environmental Protection Agency (U.S. EPA) uses six "criteria pollutants" as indicators of air quality, and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). In addition, California establishes ambient air quality standards, called California Ambient Air Quality Standards (CAAQS). California law does not require that the CAAQS be met by a specified date as is the case with NAAQS.

The ambient air quality standards for the six criteria pollutants (as shown in Table 3.2-1) are set to public health and the environment within an adequate margin of safety (as provided under Section 109 of the Federal Clean Air Act). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants, and form the scientific basis for new and revised ambient air quality standards. Principal characteristics and possible health and environmental effects from exposure to the six primary criteria pollutants generated by the project are discussed below.

Ozone (O_3) is a photochemical oxidant and the major component of smog. While O_3 in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O_3 at ground level are a major health and environmental concern. O_3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO_x) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak O_3 levels occur typically during the warmer times of the year. Both VOCs and NO_x are emitted by transportation and industrial sources. VOCs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops and other sources using solvents. Relatedly, reactive organic compounds (ROG) are defined as the subset of VOCs that are reactive enough to contribute substantially to atmospheric photochemistry.

The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. Environmental Protection Agency 2019a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggest that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 parts per billion (U.S. Environmental Protection Agency 2019b). The average background level of ozone in the California and Nevada is approximately 48.3 parts per billion, which represents approximately 77 percent of the total ozone in the western region of the U.S. (NASA, 2015).

In addition to human health effect, ozone has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. O_3 can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials.

Carbon monoxide (CO) is a colorless, odorless and poisonous gas produced by incomplete burning of carbon in fuels. Carbon monoxide is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects to ambient CO (California Air Resources Board, 2019a).

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (U.S. EPA, 2016). Such acute effects may occur under current ambient conditions for some sensitive individuals, while increases in ambient CO levels increases the risk of such incidences.

Nitrogen oxides (NO_x) is a brownish, highly reactive gas that is present in all urban atmospheres. The main effect of increased NO_2 is the increased likelihood of respiratory problems. Under ambient conditions, NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone (O_3) and acid rain, and may affect both terrestrial and aquatic ecosystems. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of NO_2.

The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO_x). NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O_3. NO_x forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

Sulfur dioxide (SO_2) is one of the multiple gaseous oxidized sulfur species and is formed during the combustion of fuels containing sulfur, primarily coal and oil. The largest anthropogenic source of SO_2 emissions in the U.S. is fossil fuel combustion at electric utilities and other industrial facilities. SO_2 is also emitted from certain manufacturing processes and mobile sources, including locomotives, large ships, and construction equipment.

SO_2 affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children and the elderly. SO_2 is also a primary contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. This is especially noticeable in national parks. Ambient SO_2 results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills and from nonferrous smelters.

Short-term exposure to ambient SO_2 has been associated with various adverse health effects. Multiple human clinical studies, epidemiological studies, and toxicological studies support a causal relationship between short-term exposure to ambient SO_2 and respiratory morbidity. The observed health effects include decreased lung function, respiratory symptoms, and increased emergency department visits and hospitalizations for all respiratory causes. These studies further suggest that people with asthma are potentially susceptible or vulnerable to these health effects. In addition, SO_2 reacts with other air pollutants to form sulfate particles, which are constituents of fine particulate matter ($PM_{2.5}$). Inhalation exposure to $PM_{2.5}$ has been associated with various cardiovascular and respiratory health effects (U.S. EPA, 2017). Increased ambient SO_2 levels would lead to increased risk of such effects.

SO_2 emissions that lead to high concentrations of SO_2 in the air generally also lead to the formation of other sulfur oxides (SO_x). SO_x can react with other compounds in the atmosphere to form small particles. These particles contribute to particulate matter (PM) pollution. Small particles may penetrate deeply into the lungs and in sufficient quantity can contribute to health problems.

Particulate matter (PM) includes dust, dirt, soot, smoke and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO_2 and VOCs are also considered particulate matter. PM is generally categorized based on the diameter of the particulate matter: PM_{10} is particulate matter 10 micrometers or less in diameter (known as respirable particulate matte*r*), and $PM_{2.5}$ is particulate matter 2.5 micrometers or less in diameter (known as fine particulate matter).

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO_2) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis and premature death. Small particulate pollution causes health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed.

Respirable particulate matter (PM_{10}) consists of small particles, less than 10 microns in diameter, of dust, smoke, or droplets of liquid which penetrate the human respiratory system and cause irritation by themselves, or in combination with other gases. Particulate matter is caused primarily by dust from grading and excavation activities, from agricultural activities (as created by soil preparation activities, fertilizer and pesticide spraying, weed burning and animal husbandry), and from motor vehicles, particularly diesel-powered vehicles. PM_{10} causes a greater health risk than larger particles, since these fine particles can more easily penetrate the defenses of the human respiratory system.

$PM_{2.5}$ consists of fine particles, which are less than 2.5 microns in size. Similar to PM_{10}, these particles are primarily the result of combustion in motor vehicles, particularly diesel engines, as well as from industrial sources and residential/agricultural activities such as burning. It is also formed through the reaction of other pollutants. As with PM_{10}, these particulates can increase the chance of respiratory disease, and cause lung damage and cancer. In 1997, the U.S. EPA created new Federal air quality standards for $PM_{2.5}$.

The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly and children. Particulate matter also impacts soils and damages materials, and is a major cause of visibility impairment.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lunch function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in $PM_{2.5}$ results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017). Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. Environmental Protection Agency 2019c).

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil or dust. Once taken into the body, lead distributes throughout the body in the blood and is accumulated in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system. Lead exposure also affects the oxygen carrying capacity of the blood. Excessive Pb exposure can cause seizures, mental retardation and/or behavioral disorders. Low doses of Pb can lead to central nervous system damage. Recent studies have also shown that Pb may be a factor in high blood pressure and subsequent heart disease.

Lead is persistent in the environment and can be added to soils and sediments through deposition from sources of lead air pollution. Other sources of lead to ecosystems include direct discharge of waste streams to water bodies and mining. Elevated lead in the environment can result in decreased growth and reproductive rates in plants and animals, and neurological effects in vertebrates.

Lead exposure is typically associated with industrial sources; major sources of lead in the air are ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. The highest air concentrations of lead are usually found near lead smelters. As a result of the U.S. EPA's regulatory efforts, including the removal of lead from motor vehicle gasoline, levels of lead in the air decreased by 98 percent between 1980 and 2014 (U.S. EPA, 2019d). Based on this reduction of lead in the air over this period, and since most new developments to not generate an increase in lead exposure, the health impacts of ambient lead levels are not typically monitored by the California Air Resources Board.

AMBIENT AIR QUALITY STANDARDS

Both the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant.

The federal and State ambient air quality standards are summarized in Table 3.2-1 for important pollutants. The federal and State ambient standards were developed independently, although both processes attempted to avoid health-related effects. As a result, the federal and State standards differ in some cases. In general, the California standards are more stringent. This is particularly true for ozone, $PM_{2.5}$, and PM_{10}. The U.S. EPA signed a final rule for the federal ozone eight-hour standard of 0.070 ppm on October 1, 2015, and was effective as of December 28, 2015 (equivalent to the California state ambient air quality eight-hour standard for ozone).

TABLE 3.2-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

POLLUTANT	*AVERAGING TIME*	*FEDERAL PRIMARY STANDARD*	*STATE STANDARD*
Ozone	1-Hour 8-Hour	-- 0.070 ppm	0.09 ppm 0.070 ppm
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm 35.0 ppm	9.0 ppm 20.0 ppm
Nitrogen Dioxide	Annual 1-Hour	0.053 ppm 0.100 ppm	0.03 ppm 0.18 ppm
Sulfur Dioxide	Annual 24-Hour 1-Hour	0.03 ppm 0.14 ppm 0.075 ppm	-- 0.04 ppm 0.25 ppm
PM_{10}	Annual 24-Hour	-- 150 ug/m^3	20 ug/m^3 50 ug/m^3
$PM_{2.5}$	Annual 24-Hour	12 ug/m^3 35 ug/m^3	12 ug/m^3 --
Lead	30-Day Avg. 3-Month Avg.	-- 0.15 ug/m^3	1.5 ug/m^3 --

Notes: ppm = parts per million, ug/m3 = Micrograms per Cubic Meter

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2019A.

In 1997, new national standards for fine particulate matter diameter 2.5 microns or less ($PM_{2.5}$) were adopted for 24-hour and annual averaging periods. The existing PM_{10} standards were retained, but the method and form for determining compliance with the standards were revised.

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated despite the absence of criteria documents. The identification, regulation and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated on the basis of risk rather than specification of safe levels of contamination.

Existing air quality concerns within Fresno County and the entire air basin are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles which account for 70 percent of the ozone in the region. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke which is emitted from fireplaces, wood-burning stoves, and agricultural burning.

Attainment Status

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria.

Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An “unclassified” designation signifies that the data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone, carbon monoxide, and nitrogen dioxide as “does not meet the primary standards,” “cannot be classified,” or “better than national standards.” For sulfur dioxide, areas are designated as “does not meet the primary standards,” “does not meet the secondary standards,” “cannot be classified,” or “better than national standards.” However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used.

Fresno County has a State designation Attainment or Unclassified for all criteria pollutants except for PM_{10} and $PM_{2.5}$. Fresno County has a national designation of either Unclassified or Attainment for all criteria pollutants except for Ozone and $PM_{2.5}$. Table 3.2-2 presents the state and nation attainment status for Fresno County.

TABLE 3.2-2: STATE AND NATIONAL ATTAINMENT STATUS IN FRESNO COUNTY

CRITERIA POLLUTANTS	*STATE DESIGNATIONS*	*NATIONAL DESIGNATIONS*
Ozone (O_3)	Unclassified	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Unclassified/Attainment
Nitrogen Dioxide (NO_2)	Attainment	Unclassified/Attainment
Sulfur Dioxide (SO_2)	Attainment	Unclassified/Attainment
Sulfates	Attainment	
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	
Visibility Reducing Particles	Unclassified	

SOURCES: CALIFORNIA AIR RESOURCES BOARD, 2020.

Fresno County Air Quality Monitoring

The SJVAPCD and the CARB maintain air quality monitoring sites throughout Fresno County that collect data for ozone, $PM_{2.5}$, and PM_{10}. Active air quality monitoring sites near to the project site includes the Fresno-Sierra Skypark #2. Fresno-Sierra Skypark #2 does not actively monitor for $PM_{2.5}$ and PM_{10}; therefore, data for Fresno County overall was used for $PM_{2.5}$ and PM_{10}. It is important to note that while the State retains the one-hour standard, the federal ozone 1-hour standard was revoked by the U.S. EPA and is no longer applicable for federal standards. Data obtained from the monitoring sites between 2015 and 2018 (latest year of data available) is shown in Table 3.2-3, Table 3.2-4, and Table 3.2-5.

TABLE 3.2-3 AMBIENT AIR QUALITY MONITORING DATA SUMMARY (FRESNO-SIERRA SKYPARK #2) - OZONE

Year	*Days > Standard*				*1-Hour Observations*			*8-Hour Averages*				*Year Coverage*	
	State		*National*			*State*	*Nat'l*	*State*		*National*			
	1-Hr	*8-Hr*	*1-Hr*	*8-Hr*	*Max.*	*D.V.*^{1}	*D.V.*^{2}	*Max.*	*D.V.*^{1}	*Max.*	*D.V.*^{2}	*Min*	*Max*
2018	4	30	0	27	0.100	0.10	0.106	0.087	0.092	0.087	0.083	98	98
2017	6	46	1	44	0.128	0.11	0.109	0.107	0.096	0.106	0.084	100	100
2016	6	45	0	43	0.108	0.11	0.108	0.089	0.096	0.089	0.086	98	98
2015	5	40	0	37	0.115	0.11	0.109	0.096	0.096	0.096	0.086	96	96

Notes: All concentrations expressed in parts per million. The national 1-hour ozone standard was revoked in June 2005 and is no longer in effect. Statistics related to the revoked standard are shown in italics. D.V. ^{1} *= State Designation Value . D.V.* ^{2}*= National Design Value.*

Sources: California Air Resources Board (Aerometric Data Analysis and Management System or iADAM) Air Pollution Summaries

TABLE 3.2-4: AMBIENT AIR QUALITY MONITORING DATA SUMMARY (FRESNO COUNTY) – PM$_{10}$

Year	*Est. Days > Std.*		*Annual Average*		*High 24-Hr Average*		*Year Coverage*
	Nat'l	*State*	*Nat'l*	*State*	*Nat'l*	*State*	
2018	36.0	ND*	17.1	16.6	95.7	96.9	96 – 100
2017	31.1	ND*	15.0	15.0	88.3	88.3	94 – 100
2016	16.0	ND*	13.0	13.6	52.7	53.8	88 – 100
2015	20.0	ND*	15.0	14.5	80.7	80.7	87 - 100

Notes: The national annual average PM$_{10}$ standard was revoked in December 2006 and is no longer in effect. An exceedance is not necessarily a violation. Statistics may include data that are related to an exceptional event. State and national statistics may differ for the following reasons: State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers. National statistics are based on standard conditions. State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria. ND=There was insufficient (or no) data available to determine the value.

Sources: California Air Resources Board (Aerometric Data Analysis and Management System or iADAM) Air Pollution Summaries

TABLE 3.2-5 AMBIENT AIR QUALITY MONITORING DATA SUMMARY (FRESNO COUNTY) - PM$_{2.5}$

Year	*Est. Days > Nat'l '06 Std.*	*Annual Average*		*Nat'l Ann. Std. D.V.*^{1}	*State Annual D.V.*^{2}	*Nat'l '06 Std. 98th Percentile*	*Nat'l '06 24-Hr Std. D.V.*^{1}	*High 24-Hour Average*		*Year Coverage*	
		Nat'l	*State*					*Nat'l*	*State*	*Min*	*Max*
2018	36.0	17.1	16.6	15.0	17	65.5	60	95.7	96.9	96	100
2017	31.1	15.0	15.0	14.0	15	73.2	54	88.3	47.3	94	100
2016	16.0	13.0	13.6	14.7	16	42.7	54	52.7	53.8	88	99
2015	20.0	15.0	14.5	15.8	17	52.0	61	80.7	80.7	87	100

Notes: All concentrations expressed in parts per million. State and national statistics may differ for the following reasons: State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers. State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria. D.V. ^{1} *= State Designation Value. D.V.* ^{2}*= National Design Value*

Sources: California Air Resources Board (Aerometric Data Analysis and Management System or iADAM) Air Pollution Summaries

ODORS

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another.

It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

SENSITIVE RECEPTORS

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. A sensitive receptor is a location where human populations, especially children, seniors, and sick persons, are present and where there is a reasonable expectation of continuous human exposure to pollutants. Examples of sensitive receptors include residences, hospitals and schools. The closest sensitive receptors to the project site are located adjacent to the project site and include residences, among other sensitive receptors. For example, residences are located along N. Palm Avenue and E. Belmont Avenue, located near to the project site.

3.2.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The U.S. EPA is responsible for administering the FCAA. The FCAA requires the U.S. EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health (with an adequate margin of safety, including for sensitive populations such as children, the elderly, and individuals suffering from respiratory diseases), and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

NAAQS standards define clean air and represent the maximum amount of pollution that can be present in outdoor air without any harmful effects on people and the environment. Existing violations of the ozone and $PM_{2.5}$ ambient air quality standards indicate that certain individuals exposed to these pollutants may experience certain health effects, including increased incidence of cardiovascular and respiratory ailments.

NAAQS standards have been designed to accurately reflect the latest scientific knowledge and are reviewed every five years by a Clean Air Scientific Advisory Committee (CASAC), consisting of seven members appointed by the U.S. EPA administrator. Reviewing NAAQS is a lengthy undertaking and includes the following major phases: Planning, Integrated Science Assessment (ISA), Risk/Exposure Assessment (REA), Policy Assessment (PA), and Rulemaking. The process starts with a comprehensive review of the relevant scientific literature. The literature is summarized and conclusions are presented in the ISA. Based on the ISA, U.S. EPA staff perform a risk and exposure assessment, which is summarized in the REA document. The third document, the PA, integrates the findings and conclusions of the ISA and REA into a policy context, and provides lines of reasoning that could be used to support retention or revision of the existing NAAQS, as well as several alternative standards that could be supported by the review findings. Each of these three documents is released for public comment and public peer review by the CASAC. Members of CASAC are appointed by the U.S. EPA Administrator for their expertise in one or more of the subject areas covered in the ISA. The committee's role is to peer review the NAAQS documents, ensure that they reflect the thinking of the scientific community, and advise the Administrator on the technical and scientific aspects of standard setting. Each document goes through two to three drafts before CASAC deems it to be final.

Although there is some variability among the health effects of the NAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. NAAQS standards were last revised for each of the six criteria pollutant as listed below, with detail on what aspects of NAAQS changed during the most recent update:

- Ozone: On October 1, 2015, the U.S. EPA lowered the national eight-hour standard from 0.075 ppm to 0.070 ppm, providing for a more stringent standards consistent with the current California state standard.
- CO: In 2011, the primary standards were retained from the original 1971 level, without revision. The secondary standards were revoked in 1985.
- NO_2: The national NO_2 standard was most recently revised in 2010 following an exhaustive review of new literature pointed to evidence for adverse effects in asthmatics at lower NO_2 concentrations than the existing national standard.
- SO_2: On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb.
- PM: the national annual average $PM_{2.5}$ standard was most recently revised in 2012 following an exhaustive review of new literature pointed to evidence for increased risk of premature mortality at lower $PM_{2.5}$ concentrations than the existing standard.
- Lead: The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. In 2016, the primary and secondary standards were retained.

The law recognizes the importance for each state to locally carry out the requirements of the FCAA, as special consideration of local industries, geography, housing patterns, etc. are needed to have full comprehension of the local pollution control problems. As a result, the U.S. EPA requires each state to develop a State Implementation Plan (SIP) that explains how each state will implement the FCAA within their jurisdiction. A SIP is a collection of rules and regulations that a particular state will implement to control air quality within their jurisdiction. The CARB is the state agency that is responsible for preparing the California SIP.

Transportation Conformity

Transportation conformity requirements were added to the FCAA in the 1990 amendments, and the U.S. EPA adopted implementing regulations in 1997. See §176 of the FCAA (42 U.S.C. §7506) and 40 CFR Part 93, Subpart A. Transportation conformity serves much the same purpose as general conformity: it ensures that transportation plans, transportation improvement programs, and projects that are developed, funded, or approved by the United States Department of

Transportation or that are recipients of funds under the Federal Transit Act or from the Federal Highway Administration (FHWA), conform to the SIP as approved or promulgated by U.S. EPA.

Currently, transportation conformity applies in nonattainment areas and maintenance areas. Under transportation conformity, a determination of conformity with the applicable SIP must be made by the agency responsible for the project, such as the Metropolitan Planning Organization, the Council of Governments, or a federal agency. The agency making the determination is also responsible for all the requirements relating to public participation. Generally, a project will be considered in conformance if it is in the transportation improvement plan and the transportation improvement plan is incorporated in the SIP. If an action is covered under transportation conformity, it does not need to be separately evaluated under general conformity.

Transportation Control Measures

One particular aspect of the SIP development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically also created to address mobile or transportation sources. These are known as transportation control measures (TCMs). TCM strategies are designed to reduce vehicle miles traveled and trips, or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

STATE

CARB Mobile-Source Regulation

The State of California is responsible for controlling emissions from the operation of motor vehicles in the State. Rather than mandating the use of specific technology or the reliance on a specific fuel, the CARB motor vehicle standards specify the allowable grams of pollution per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner in which they are achieved. Towards this end, the CARB has adopted regulations which require auto manufacturers to phase in less polluting vehicles.

California Clean Air Act

The California Clean Air Act (CCAA) was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state’s air quality goals, planning and regulatory strategies, and performance. The CARB is the agency responsible for administering the CCAA. The CARB established ambient air quality standards pursuant to the California Health and Safety Code (CH&SC) [§39606(b)], which are similar to the federal standards.

California Air Quality Standards

Although NAAQS are determined by the U.S. EPA, states have the ability to set standards that are more stringent than the federal standards. As such, California established more stringent ambient air quality standards. Federal and state ambient air quality standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates and lead. In addition, California has created standards for pollutants that are not covered by federal standards. Although there is some variability among the health effects of the CAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. The existing state and federal primary standards for major pollutants are shown in Table 3.2-1.

Air quality standard setting in California commences with a critical review of all relevant peer reviewed scientific literature. The Office of Environmental Health Hazard Assessment (OEHHA) uses the review of health literature to develop a recommendation for the standard. The recommendation can be for no change, or can recommend a new standard. The review, including the OEHHA recommendation, is summarized in a document called the draft Initial Statement of Reasons (ISOR), which is released for comment by the public, and also for public peer review by the Air Quality Advisory Committee (AQAC). AQAC members are appointed by the President of the University of California for their expertise in the range of subjects covered in the ISOR, including health, exposure, air quality monitoring, atmospheric chemistry and physics, and effects on plants, trees, materials, and ecosystems. The Committee provides written comments on the draft ISOR. The ARB staff next revises the ISOR based on comments from AQAC and the public. The revised ISOR is then released for a 45-day public comment period prior to consideration by the Board at a regularly scheduled Board hearing.

In June of 2002, the CARB adopted revisions to the PM_{10} standard and established a new $PM_{2.5}$ annual standard. The new standards became effective in June 2003. Subsequently, staff reviewed the published scientific literature on ground-level ozone and nitrogen dioxide and the CARB adopted revisions to the standards for these two pollutants. Revised standards for ozone and nitrogen dioxide went into effect on May 17, 2006 and March 20, 2008, respectively. These revisions reflect the most recent changes to the CAAQS.

Tanner Air Toxics Act (TACs)

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and has adopted U.S. EPA’s list of HAPs as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technologies (BACT) to minimize emissions.

AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In February 2000, CARB adopted a new public-transit bus-fleet rule and emission standards for new urban buses. These rules and standards provide for (1) more stringent emission standards for some new urban bus engines, beginning with 2002 model year engines; (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies; and (3) reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule.

Assembly Bill 170

Assembly Bill 170, Reyes (AB 170), was adopted by state lawmakers in 2003, creating Government Code Section 65302.1, which requires cities and counties in the San Joaquin Valley to amend their general plans to include data and analysis, comprehensive goals, policies, and feasible implementation strategies designed to improve air quality. The elements to be amended include, but are not limited to, those elements dealing with land use, circulation, housing, conservation, and open space. Section 65302.1.c identifies four areas of air quality discussion required in these amendments:

- A report describing local air quality conditions, attainment status, and state and federal air quality and transportation plans;
- A summary of local, district, state, and federal policies, programs, and regulations to improve air quality;
- A comprehensive set of goals, policies, and objectives to improve air quality;
- Feasible implementation measures designed to achieve these goals.

LOCAL

Fresno General Plan

The Fresno General Plan includes objectives and policies within its Resource Conservation and Resilience Element that pertain directly to air quality. However, various objectives and policies included in the other General Plan Elements related to land use development patterns (e.g., infill and mixed-use development), transportation and transit, and urban form would also contribute in improving air quality within the proposed project site and SJVAB. Table 4.3-2 includes examples of General Plan objectives and policies that pertain to improving air quality.

URBAN FORM, LAND USE AND DESIGN ELEMENT

Policy UF-1-c: Identifiable City Structure. Focus integrated and ongoing planning efforts to achieve an identifiable city structure, comprised of a concentration of buildings, people, and pedestrian-oriented activity in Downtown; along a small number of prominent east-west and north-south transit-oriented, mixed-use corridors with distinctive and strategically located Activity Centers; and in existing and new neighborhoods augmented with parks and connected by multi-purpose trails and tree lined bike lanes and streets.

Policy UF-1-e: Identifiable City Structure. Unique Neighborhoods. Promote and protect unique neighborhoods and mixed use areas throughout Fresno that respect and support various ethnic, cultural and historic enclaves; provide a range of housing options, including furthering affordable housing opportunities; and convey a unique character and lifestyle attractive to Fresnans. Support unique areas through more specific planning processes that directly engage community members in creative and innovative design efforts.

Objective UF-12: Locate roughly one-half of future residential development in infill areas – defined as being within the City on December 31, 2012 – including the Downtown core area and surrounding neighborhoods, mixed-use centers and transit-oriented development along major BRT corridors, and other non-corridor infill areas, and vacant land.

Policy UF-12-a: BRT Corridors. Design land uses and integrate development site plans along BRT corridors, with transit-oriented development that supports transit ridership and convenient pedestrian access to bus stops and BRT station stops.

Policy UF-12-b: Activity Centers. Mixed-use designated areas along BRT and/or transit corridors are appropriate for more intensive concentrations of urban uses. Typical uses could include commercial areas; employment centers; schools; compact residential development; religious institutions; parks; and other gathering points where residents may interact, work, and obtain goods and services in the same place.

Policy UF-12-d: Appropriate Mixed-Use. Facilitate the development of vertical and horizontal mixed-uses to blend residential, commercial, and public land uses on one site or adjacent sites. Ensure land use compatibility between mixed-use districts in Activity Centers and the surrounding residential neighborhoods.

Policy UF-12-e: Access to Activity Centers. Promote adoptions and implementation of standards supporting pedestrian activities and bicycle linkages from surrounding land uses and neighborhoods into Activity Centers and to transit stops. Provide for priority transit routes and facilities to serve the Activity Centers.

Policy UF-12-f: Mixed-Use in Activity Centers. Update the Development Code to include use regulations and standards to allow for mixed-uses and shared parking facilities, including multi-story and underground parking facilities, within Activity Centers.

Objective UF-14: Create an urban form that facilitates multi-modal connectivity.

Policy UF-14-a: Design Guidelines for Walkability. Develop and use design guidelines and standards for a walkable and pedestrian-scaled environment with a network of streets and connections for pedestrians and bicyclists, as well as transit and autos.

Policy UF-14-b: Local Street Connectivity. Design local roadways to connect throughout neighborhoods and large private developments with adjacent major streets and pathways of existing adjacent development. Create access for pedestrians and bicycles where a local street must dead end or be designed as a cul-de-sac to adjoining uses that provide services, shopping, and connecting pathways for access to the greater community area.

Objective LU-2: Plan for infill development that includes a range of housing types, building forms, and land uses to meet the needs of both current and future residents.

Policy LU-2-a: Infill Development and Redevelopment. Promote development of vacant, underdeveloped, and redevelopable land uses within the City Limit where urban services are available considering the establishment and implementation of supportive regulations and programs.

Policy LU-2-b: Infill Development for Affordable Housing. Consider a priority infill incentive program for residential infill development of existing vacant lots and underutilized sites within the City as a strategy to help to meet the affordable housing needs of the community.

Policy LU-3-c: Zoning for High Density on Major BRT Corridors. Consider the adoption of supportive zoning regulations for compact development along BRT corridors leading to the Downtown Core that will not diminish the long-term growth and development potential for Downtown.

Policy LU-5-f: High Density Residential Uses. Promote high-density residential uses to support Activity Centers and BRT Corridors, affordable housing and walkable access to transit stops.

Policy LU-6-d: Neighborhood and Community Commercial Center Design. Plan for neighborhood mixed use and community commercial uses to implement the Urban Form concepts of the General Plan, promote the stability and identity of neighborhood and community shopping areas, and allow efficient access without compromising the operational effectiveness of the street system.

- Neighborhoods will be anchored by community commercial centers with a mix of uses that meet the area’s needs and create a sense of place.
- Community commercial centers will be located within Activity Centers.

Policy LU-6-f: Auto-Oriented Commercial Uses. Direct highway-oriented and auto-serving commercial uses to locations that are compatible with the Urban Form policies of the General Plan. Ensure adequate buffering measures for adjacent residential uses noise, glare, odors, and dust.

Policy LU-8-b: Access to Public Facilities. Ensure that major public facilities and institutions have adequate multi-modal access and can be easily reached by public transit.

RESOURCE CONSERVATION AND RESILIENCY ELEMENT

Objective RC-4: In cooperation with other jurisdictions and agencies in the San Joaquin Valley Air Basin, take necessary actions to achieve and maintain compliance with State and federal air quality standards for criteria pollutants.

Policy RC-4-a: Support Regional Efforts. Support and lead, where appropriate, regional, State and federal programs and actions for the improvement of air quality, especially the SJVAPCD' efforts to monitor and control air pollutants from both stationary and mobile sources and implement Reasonably Available Control Measures in the Ozone Attainment Plan.

Policy RC-4-b: Conditions of Approval. Develop and incorporate air quality maintenance requirements, compatible with Air Quality Attainment and Maintenance Plans, as conditions of approval for General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals.

Policy RC-4-c: Evaluate Impacts with Models. Continue to require the use of computer models used by SJVAPCD to evaluate the air quality impacts of plans and projects that require such environmental review by the City.

Policy RC-4-d: Forward Information. Forward information regarding proposed General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals that require air quality evaluation, and amendments to development regulations to the SJVAPCD for their review of potential air quality and health impacts.

Policy RC-4-e: Support Employer-Based Efforts. Support and promote employer implementation of staggered work hours and employee incentives to use carpools, public transit and other measures to reduce vehicular use and traffic congestion.

Policy RC-4-f: Municipal Operations and Fleet Actions. Continue to control and reduce air pollution emissions from vehicles owned by the City operations and municipal operations and facilities by undertaking the following:

- Expand the use of alternative fuel, electric, and hybrid vehicles in City fleets.
- Create preventive maintenance schedules that will ensure efficient engine operation.
- Include air conditioning recycling and charging stations in the City vehicle maintenance facilities, to reduce freon gases being released into the atmosphere and electrostatic filtering systems in City maintenance shops, when feasible or when required by health regulations.
- Use satellite corporation yards for decentralized storage and vehicle maintenance.

- Convert City-owned emergency backup generators to natural gas fuels whenever possible, and
- Create an advanced energy storage system.

Policy RC-4-g: FAX Actions. Continue efforts to improve Fresno Area Express (FAX) bus transit system technical performance, reduce emission levels, streamline system operations, and implement BRT where supportive land uses are proposed by Figure LU-1: Land Use Diagram.

Policy RC-4-h: Airport Actions. Support Airport efforts to develop and maintain programs and policies to support City, State and Federal efforts to achieve and maintain air quality standards.

Policy RC-4-j: All Departments. Continue to develop and implement in all City departments, operational policies to reduce air pollution.

Policy RC-4-k: Electric Charging. Develop standards to facilitate electric charging infrastructure in both new and existing public and private buildings, in order to accommodate these vehicles as the technology becomes widespread.

Policy RC-8-j: Alternative Fuel Network. Support the development of a network of integrated charging and alternate fuel station for both public and private vehicles, and if feasible, open up municipal stations to the public as part of network development.

HEALTHY COMMUNITIES ELEMENT

Policy HC-3-d: Green Standards for Affordable Housing. Provide appropriate incentives for affordable housing providers, agencies, non-profit and market rate developers to use LEED and CalGreen Tier 1 or Tier 2 standards or third party equivalents.

Policy HC-3-f: New Drive-Through Facilities. Include in the Development Code design review to reduce vehicle emissions resulting from queued idling vehicles at drive-through facilities in proximity to residential neighborhoods.

MOBILITY AND TRANSPORTATION ELEMENT

Objective MT-3: Identify, promote and preserve scenic or aesthetically unique corridors by application of appropriate policies and regulations.

Policy MT-1-f: Match Travel Demand with Transportation Facilities. Designate the types and intensities of land uses at locations such that related travel demands can be accommodated by a variety of viable transportation modes and support Complete Neighborhoods while avoiding the rerouting of excessive or incompatible traffic through local residential streets.

Policy MT-1-g: Complete Streets Concept Implementation. Provide transportation facilities based upon a Complete Streets concept that facilitates the balanced use of all viable travel modes (pedestrians, bicyclists, motor vehicle and transit users), meeting the transportation needs of all ages, income groups, and abilities and providing mobility for a variety of trip purposes, while also supporting other City goals.

Policy MT-1-m: Standards for Planned Bus Rapid Transit Corridors and Activity Centers. Independent of the Traffic Impact Zones identified in MT-2-I and Figure MT-4, strive to maintain the following vehicle LOS standards on major roadway segments and intersections along Bus Rapid Transit Corridors and in Activity Centers:

- LOS E or better at all times, including peak travel times, unless the City Traffic Engineer determines that mitigation to maintain this LOS would be infeasible and/or conflict with the achievement of other General Plan policies.
- Accept LOS F conditions in Activity Centers and Bus Rapid Transit Corridors only if provisions are made to improve the overall system and/or promote non-vehicular transportation and transit as part of a development project or a City-initiated project. In accepting LOS F conditions, the City Traffic Engineer may request limited analyses of operational issues at locations near Activity Centers and along Bus Rapid Transit Corridors, such as queuing or left-turn movements.
- Give priority to maintaining pedestrian service first, followed by transit service and then by vehicle LOS, where conflicts between objectives for service capacity between different transportation modes occur.
- Identify pedestrian-priority and transit-priority streets where these modes would have priority in order to apply a multi-modal priority system, as part of the General Plan implementation.

Policy MT-2-b: Reduce Vehicle Miles Traveled and Trips. Partner with major employers and other responsible agencies, such the San Joaquin Valley Air Pollution Control District and the Fresno Council of Governments, to implement trip reduction strategies, such as eTRIP, to reduce total vehicle miles traveled and the total number of daily and peak hour vehicle trips, thereby making better use of the existing transportation system.

Policy MT-2-c: Reduce VMT through Infill Development. Provide incentives for infill development that would provide jobs and services closer to housing and multi-modal transportations corridors in order to reduce citywide vehicle miles travelled (VMT).

Policy MT-2-g: Transportation Demand Management and Transportation System Management. Pursue implementation of Transportation Demand Management and Transportation System Management strategies to reduce peak hour vehicle traffic and supplement the capacity of the transportation system.

Objective MT-4: To establish and maintain a continuous, safe, and easily accessible bikeways system throughout the metropolitan area to reduce vehicle use, improve air quality and the quality of life, and provide public health benefits.

Policy MT-4-b: Bikeway Improvements. Establish and implement property development standards to assure that projects adjacent to designated bikeways provide adequate right-of-way and that necessary improvements are constructed to implement the planned bikeway system shown on Figure MT-2 to provide for bikeways, to the extent feasible, when existing roadways are reconstructed; and alternative bikeway alignments or routes where inadequate right-of-way is available.

Policy MT-4-d: Prioritization of Bikeway Improvements. Prioritize bikeway components that link existing separated sections of the system, or that are likely to serve the highest concentration of existing or potential cyclists, particularly in those neighborhoods with low vehicle ownership rates, or that are likely to serve destination areas with the highest demand such as schools, shopping areas, recreational and park areas, and employment centers.

Policy MT-5-a: Sidewalk Development. Pursue funding and implement standards for development of sidewalks on public streets, with priority given to meeting the needs of persons with physical and vision limitations; providing safe routes to school; completing pedestrian improvements in established neighborhoods with lower vehicle ownership rates; or providing pedestrian access to public transportation routes.

Policy MT-5-b: Sidewalk Requirements. Assure adequate access for pedestrians and people with disabilities in new residential developments per adopted City policies, consistent with the California Building Code and the Americans with Disabilities Act.

Policy MT-8-c: New Development Facilitating Transit. Continue to review development proposals in transportation corridors to ensure they are designed to facilitate transit. Coordinate all projects that have residential or employment densities suitable for transit services, so they are located along existing or planned transit corridors or that otherwise have the potential for transit orientation to FAX, and consider FAX's comments in decision-making.

City of Fresno Municipal Code

Chapter 10, Article 13 of the City of Fresno Municipal Code addresses healthy air and smog prevention. For example, Section 10-1305 of this chapter provides an assessment and recommendations for natural gas fueling and electric vehicle charging stations. Section 10-1306 of this chapter identifies that the Director of General Services of the city, in consultation with the Advisory Committee, the CARB, the SJVAPCD, and interested city departments, shall develop and adopt fuel-efficiency specifications governing the purchase of motor vehicles. Section 10-1308 of this chapter describes the implementation of a pilot program to evaluate the efficacy of using Alternative Fuel and/or Hybrid Electric Buses, and the phase-out of older diesel buses. Additionally, strategies to reduce air emissions from the regional public sector and private sector fleets is addressed in Section 10-1309 of the Municipal Code. In addition, Section 15-2510 of the Municipal Code identifies limitations on odors during a project's operational phase (i.e. "No use, process, or activity shall produce objectionable odors that are perceptible without instruments by a reasonable person at the lot lines of a site"), although odors from temporary construction, demolition, and vehicles that enter and leave the subject parcel (e.g., construction equipment, trains, vehicle emissions, trucks, etc.) are exempt from this standard.

San Joaquin Valley Air Pollution Control District

The primary role of SJVAPCD is to develop plans and implement control measures in the SJVAB to control air pollution. These controls primarily affect stationary sources such as industry and power plants. Rules and regulations have been developed by SJVAPCD to control air pollution from a wide range of air pollution sources. SJVAPCD also provides uniform procedures for assessing potential air quality impacts of proposed projects and for preparing the air quality section of environmental documents.

AIR QUALITY PLANNING

The U.S. EPA requires states that have areas that do not meet the National AAQS to prepare and submit air quality plans showing how the National AAQS will be met. If the states cannot show how the National AAQS will be met, then the states must show progress toward meeting the National AAQS. These plans are referred to as the State Implementation Plans (SIP). California's adopted 2007 State Strategy was submitted to the U.S. EPA as a revision to its SIP in November 2007.[2] More recently, in October 2018, the CARB adopted the 2018 Updates to the California State Implementation Plan.

In addition, the CARB requires regions that do not meet California AAQS for ozone to submit clean air plans (CAPs) that describe measures to attain the standard or show progress toward attainment. To ensure federal CAA compliance, SJVAPCD is currently developing plans for meeting new National AAQS for ozone and $PM_{2.5}$ and the California AAQS for PM_{10} in the SJVAB (for California CAA compliance)[3] The following describes the air plans prepared by the SJVAPCD, which are incorporated by reference per CEQA Guidelines Section 15150.

1-HOUR OZONE PLAN

Although U.S. EPA revoked its 1979 1-hour ozone standard in June 2005, many planning requirements remain in place, and SJVAPCD must still attain this standard before it can rescind CAA Section 185 fees. The SJVAPCD's most recent 1-hour ozone plan, the 2013 Plan for the Revoked 1-hour Ozone Standard, demonstrated attainment of the 1-hour ozone standard by 2017. However, on July 18, 2016, the U.S. EPA published in the Federal Register a final action determining that SJVAB has attained the 1-hour ozone NAAQS based on the 2012 to 2014 three-year period allowing nonattainment penalties to be lifted under federal Clean Air Act section 179b (SJVAPCD, 2015).

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[2] Note that the plan was adopted by CARB on September 27, 2007; California Air Resources Board. 2007. California Air Resources Board's Proposed State Strategy for California's 2007 State Implementation Plan.

[3] SJVAPCD, 2012. 2012 $PM_{2.5}$ Plan, December 20.

8-HOUR OZONE PLAN

The SJVAPCD's Governing Board adopted the 2007 Ozone Plan on April 30, 2007. This far-reaching plan, with innovative measures and a "dual path" strategy, assures expeditious attainment of the federal 8-hour ozone standard as set by U.S. EPA in 1997. The plan projects that the valley will achieve the 8-hour ozone standard for all areas of the SJVAB no later than 2023. The CARB approved the plan on June 14, 2007. The U.S. EPA approved the 2007 Ozone Plan effective April 30, 2012. SJVAPCD adopted the 2016 Ozone Plan to address the federal 2008 8-hour ozone standard, which must be attained by end of 2031.[4,5]

PM_{10} PLAN

Based on PM_{10} measurements from 2003 to 2006, the U.S. EPA found that the SJVAB has reached federal PM_{10} standards. On September 21, 2007, the SJVAPCD's Governing Board adopted the 2007 PM_{10} Maintenance Plan and Request for Redesignation. This plan demonstrates that the valley will continue to meet the PM_{10} standard. U.S. EPA approved the document and on September 25, 2008, the SJVAB was redesignated to attainment/maintenance (SJVAPCD, 2015).

PM2.5 PLAN

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards on November 15, 2018.[6] This plan addresses the U.S. EPA federal 1997 annual $PM_{2.5}$ standard of 15 µg/m³ and 24-hour $PM_{2.5}$ standard of 65 µg/m³; the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m³; and the 2012 annual $PM_{2.5}$ standard of 12 µg/m³. This plan demonstrates attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable (SJVAPCD, 2020).

All of the above-referenced plans include measures (i.e., federal, state, and local) that would be implemented through rule making or program funding to reduce air pollutant emissions in the SJVAB. Transportation control measures are part of these plans.

FUGITIVE PM_{10} PROHIBITIONS

SJVAPCD controls fugitive PM_{10} through Regulation VIII, Fugitive PM_{10} Prohibitions. The purpose of this regulation is to reduce ambient concentrations of PM_{10} and $PM_{2.5}$ by requiring actions to prevent, reduce, or mitigate anthropogenic (human caused) fugitive dust emissions.

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[4] SJVAPCD. Ozone Plans. http://www.valleyair.org/ Air_Quality_Plans/Ozone_Plans.htm, accessed March 3, 2020.

[5] SJVAPCD. 2016 Plan for the 2008 8-Hour Ozone Standard, http://www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016.htm, accessed March 3, 2020.

[6] SJVAPCD. Particulate Matter Plans. http://valleyair.org/Air_Quality_Plans/PM_Plans.htm, accessed March 9, 2020.

- Regulation VIII, Rule 8021 applies to any construction, demolition, excavation, extraction, and other earthmoving activities, including, but not limited to, land clearing, grubbing, scraping, travel on-site, and travel on access roads to and from the site.
- Regulation VIII, Rule 8031 applies to the outdoor handling, storage, and transport of any bulk material.
- Regulation VIII, Rule 8041 applies to sites where carryout or trackout has occurred or may occur on paved roads or the paved shoulders of public roads.
- Regulation VIII, Rule 8051 applies to any open area having 0.5 acre or more within urban areas or 3.0 acres or more within rural areas, and contains at least 1,000 square feet of disturbed surface area.
- Regulation VIII, Rule 8061 applies to any new or existing public or private paved or unpaved road, road construction project, or road modification project.
- Regulation VIII, Rule 8071 applies to any unpaved vehicle/equipment traffic area.
- Regulation VIII, Rule 8081 applies to off-field agricultural sources.

Sources regulated are required to provide Dust Control Plans that meet the regulation requirements. Under Rule 8021, a Dust Control Plan is required for any residential project that will include 10 or more acres of disturbed surface area, a nonresidential project with 5 or more acres of disturbed surface area, or a project that relocates 2,500 cubic yards per day of bulk materials for at least three days. The Dust Control Plan is required to be submitted to SJVAPCD prior to the start of any construction activity. The Dust Control Plan must also describe fugitive dust control measure to be implemented before, during, and after any dust-generating activity. For sites smaller than those listed above, the project is still required to notify SJVAPCD a minimum of 48 hours prior to commencing earthmoving activities.

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

Rule 4002 applies in the event an existing building will be renovated, partially demolished or removed (National Emission Standards for Hazardous Air Pollutants); this rule applies to all sources of Hazardous Air Pollutants.

CUTBACK, SLOW CURE, AND EMULSIFIED ASPHALT, PAVING AND MAINTENANCE OPERATIONS

If asphalt paving will be used, then paving operations of the proposed project will be subject to Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.

NUISANCE ODORS

SJVAPCD controls nuisance odors through implementation of Rule 4102, Nuisance. Pursuant to this rule, “a person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property.”

EMPLOYER BASED TRIP REDUCTION PROGRAM

SJVAPCD has implemented Rule 9410, Employer Based Trip Reduction. The purpose of this rule is to reduce VMT from private vehicles used by employees to commute to and from their worksites to reduce emissions of NO_x, VOC, and particulate matter (PM_{10} and $PM_{2.5}$). The rule applies to employers with at least 100 employees. Employers are required to implement an Employer Trip Reduction Implementation Plan (ETRIP) for each worksite with 100 or more eligible employees to meet applicable targets specified in the rule. Employers are required to facilitate the participation of the development of ETRIPs by providing information to its employees explaining the requirements and applicability of this rule. Employers are required to prepare and submit an ETRIP for each worksite to the District. The ETRIP must be updated annually. Under this rule, employers shall collect information on the modes of transportation used for each eligible employee's commutes both to and from work for every day of the commute verification period, as defined in using either the mandatory commute verification method or a representative survey method. Annual reporting includes the results of the commute verification for the previous calendar year along with the measures implemented as outlined in the ETRIP and, if necessary, any updates to the ETRIP.

3.2.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on the environment associated with air quality if it will:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

CRITERIA POLLUTANT EMISSIONS MODELING

California Emission Estimator Model (CalEEMod)^{TM} (v.2016.3.2), developed for the California Air Pollution Officers Association (CAPCOA) in collaboration with California air districts, was used to estimate emissions for the proposed project. Project construction was assumed to be completed in 2020. This may prove to be a conservative estimate, because criteria pollutant emission rates are reduced over time (due to state and federal mandates) and would be expected to be even lower than reported in this analysis, should project construction be completed after 2020.

The assumptions for the modeling include (consistent with the traffic modeling conducted by Kittelson): Parking Lot – 3.55 acres. Vehicle Miles Traveled (VMT) estimated in the modeling is consistent with the increase in VMT that would occur as part of implementation of the proposed project under the Traffic Impact Assessment's Existing Plus Project scenario (1,205 daily VMT, which is equivalent to 439,825 annual VMT). The construction phasing includes a demolition phase that accounts for demolition of all of the existing buildings on-site. Construction also includes site preparation, grading, and paving phases. Grading and paving were assumed to occur over the entirety of the approximately 3.55-acre project site. See Appendix B.2 for further detail.

IMPACTS RELATED TO PROJECT-GENERATED POLLUTANTS OF HUMAN HEALTH CONCERN

In December 2018, the California Supreme Court issued its decision in *Sierra Club v. County of Fresno* (226 Cal.App.4th 704) (hereafter referred to as the Friant Ranch Decision). The case reviewed the long-term, regional air quality analysis contained in the EIR for the proposed Friant Ranch development. The Friant Ranch project is a 942-acre master-plan development in unincorporated Fresno County within the San Joaquin Valley Air Basin. The Court found that the air quality analysis was inadequate because it failed to provide enough detail "for the public to translate the bare [criteria pollutant emissions] numbers provided into adverse health impacts or to understand why such a translation is not possible at this time." The Court's decision clarifies that the agencies authoring environmental documents must make reasonable efforts to connect a project's air quality impacts to specific health effects or explain why it is not technically feasible to perform such an analysis.

All criteria pollutants that would be generated by the project are associated with some form of health risk (e.g., asthma). Criteria pollutants can be classified as either regional or localized pollutants. Regional pollutants can be transported over long distances and affect ambient air quality far from the emissions source. Localized pollutants affect ambient air quality near the emissions source. Ozone is considered a regional criteria pollutant, whereas CO, NO_2, SO_2, and lead (Pb) are localized pollutants. PM can be both a local and a regional pollutant, depending on its composition. As discussed above, the primary criteria pollutants of concern generated by the project are ozone precursors (ROG and NO_x) and PM (including Diesel PM). The SJVAPCD does not currently have a methodology that would correlate the expected air quality emissions of projects to the likely health consequences of the increased emissions.

Regional Project-Generated Criteria Pollutants (Ozone Precursors and Regional PM)

Adverse health effects induced by regional criteria pollutant emissions generated by the project (ozone precursors and PM) are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). For these reasons, ozone precursors (ROG and NO_x) contribute to the formation of ground-borne ozone on a regional scale, where emissions of ROG and NO_x generated in one area may not equate to a specific ozone concentration in that same area. Similarly, some types of particulate pollutants may be transported over long-distances or formed through atmospheric reactions. As such, the magnitude and locations of specific health effects from exposure to increased ozone or regional PM concentrations are the product of emissions generated by numerous sources throughout a region, as opposed to a single individual project.

Models and tools have been developed to correlate regional criteria pollutant emissions to potential community health impacts. Appendix B.1 contains a table that summarizes many of these tools, identifies the analyzed pollutants, describes their intended application and resolution, and analyzes whether they could be used to reasonably correlate project-level emissions to specific health consequences. As provided in Appendix B.1, while there are models capable of quantifying ozone and secondary PM formation and associated health effects, these tools were developed to support regional planning and policy analysis and have limited sensitivity to small changes in criteria pollutant concentrations induced by individual projects. Therefore, translating project generated criteria pollutants to the locations where specific health effects could occur or the resultant number of additional days of nonattainment cannot be estimated with a high degree of accuracy.

Technical limitations of existing models to correlate project-level regional emissions to specific health consequences are recognized by air quality management districts throughout the state, including the SJVAPCD and South Coast Air Quality Management District (SCAQMD), who provided amici curiae briefs for the Friant Ranch legal proceedings. In its brief, SJVAPCD (2015) acknowledges that while health risk assessments for localized air toxics, such as DPM, are commonly prepared, "it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task." The air district further notes that emissions solely from the Friant Ranch project (which equate to less than one-tenth of one percent of the total NO_x and VOC in the Valley) is not likely to yield valid information," and that any such information should not be "accurate when applied at the local level." SCAQMD presents similar information in their brief, stating that "it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels"[7].

As discussed above, air districts develop region-specific CEQA thresholds of significance in consideration of existing air quality concentrations and attainment or nonattainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence that demonstrates there are known safe concentrations of criteria pollutants. While recognizing that air quality is cumulative problem, air districts typically consider projects that generate criteria pollutant and ozone precursor emissions below these thresholds to be minor in nature and would not adversely affect air quality such that the NAAQS or CAAQS would be exceeded. Emissions generated by the project could increase photochemical reactions and the formation of tropospheric ozone and secondary PM, which at certain concentrations, could lead to increased incidence of specific health consequences. Although these health effects are associated with ozone and particulate pollution, the effects are a result of cumulative and regional emissions. As such, a project's incremental contribution cannot be traced to specific health outcomes on a

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[7] For example, SCAQMD's analysis of their 2012 Air Quality Attainment Plan showed that modeled NO_x and ROG reductions of 432 and 187 tons per day, respectively, only reduced ozone levels by 9 parts per billion. Analysis of SCAQMD's Rule 1315 showed that emissions of NO_x and ROG of 6,620 and 89,180 pounds per day, respectively, contributed to 20 premature deaths per year and 89,947 school absence (South Coast Air Quality Management District, 2015).

regional scale, and a quantitative correlation of project-generated regional criteria pollutant emissions to specific human health impacts is not included in this analysis.

Models and Tools to Correlate Project-generated Criteria Pollutant Emissions to Health Impacts

Several models and tools capable of translating mass emissions of criteria pollutants to various health endpoints have been developed. The table provided in Appendix B.1 summarizes key tools, identifies the analyzed pollutants, describes their intended application and resolution, and analyzes whether they could be used to reasonably correlate project-level emissions to specific health consequences. As shown in the table provided in Appendix B.1, almost all tools were designed to be used at the national, state, regional, and/or city-levels. Several of the methods have additional problems related to their applicability for translating mass emissions of criteria pollutants to various health endpoints. These tools are not well suited to analyze small or localized changes in pollutant concentrations associated with individual projects. Accordingly, they are generally not recommended for CEQA analyses.

The impact analysis does not directly evaluate airborne lead. Neither construction nor future operations would generate quantifiable lead emissions because of regulations that require unleaded fuel and that prohibit lead in new building materials.

TAC emissions associated with project construction that could affect surrounding areas are evaluated qualitatively. The potential for the project operations to expose residents to TAC emissions that would exceed applicable health standards is discussed quantitatively, and provided in detail in Appendix B.5 (see the Health Risk Assessment).

Lastly, the SJVPACD recommends that odor impacts be addressed in a qualitative manner. Such an analysis must determine if the project would result in excessive nuisance odors, as defined under the SJVAPCD's Rule 4102 and California Code of Regulations, Health and Safety Code Section 41700, Air Quality Public Nuisance.

IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: Project operation has the potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment, or conflict or obstruct implementation of the District's air quality plan (Less than Significant)

The SJVAPCD is tasked with implementing programs and regulations required by the Federal Clean Air Act and the California Clean Air Act. In that capacity, the SJVAPCD has prepared plans to attain Federal and State ambient air quality standards. To achieve attainment with the standards, the SJVAPCD has established thresholds of significance for criteria pollutant emissions in their *SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts* (2015). Projects with emissions below the thresholds of significance for criteria pollutants would be determined to "Not conflict or obstruct implementation of the District's air quality plan".

The proposed project would be an indirect source of air pollution, in that it would redirect vehicle traffic, due to the closure of H Street, such that the proposed project would increase VMT of some nearby automobiles. As provided in the Traffic Impact Assessment for the proposed project, the proposed project would increase daily VMT by approximately 1,205 VMT, which is approximately equivalent to 439,825 VMT per year. Nearly all of the operational emissions associated with the proposed project would be associated with this increase in (mobile) automobile emissions.

CalEEMod^{TM} (v.2016.3.2) was used to model operational emissions of the proposed project to reflect the increase in VMT that would occur due to implementation of the proposed project. Table 3.2-6 shows proposed project emissions as provided by CalEEMod. The SJVAPCD provides a list of applicable air quality emissions thresholds.

TABLE 3.2-6: OPERATIONAL PROJECT GENERATED EMISSIONS (TONS PER YEAR)

POLLUTANT	*CO*	*NOX*	*ROG*	*SOX*	*PM_{10}*	*$PM_{2.5}$*
THRESHOLD	100	10	10	27	15	15
EMISSIONS	1.7	3.5	0.3	<0.1	0.2	0.1
EXCEEDS THRESHOLD?	**N**	**N**	**N**	**N**	**N**	**N**

SOURCES: CALEEMOD (V.2016.3.2)

The SJVAPCD has established their thresholds of significance by which the project emissions are compared against to determine the level of significance. The SJVAPCD has established operations related emissions thresholds of significance as follows: 100 tons per year of carbon monoxide (CO, 10 tons per year of oxides of nitrogen (NO_x), 10 tons per year of reactive organic gases (ROG), 27 tons per year of sulfur oxides (SO_x), 15 tons per year particulate matter of 10 microns or less in size (PM_{10}), and 15 tons per year particulate matter of 2.5 microns or less in size ($PM_{2.5}$). If the proposed project's emissions will exceed the SJVAPCD's threshold of significance for operational-generated emissions, the proposed project will have a significant impact on air quality and all feasible mitigation are required to be implemented to reduce emissions to the extent feasible.

As shown in Table 3.2-6 above, operational emissions would not exceed the SJVACPD thresholds of significance. It should be noted that the emissions of ozone precursors such as ROG and NO_x attributable to the proposed project would not be substantial enough on a regional basis for the City to be able, with currently available technical tools, to predict how the emissions of such pollutants would translate into either physical environmental changes, such as measurable effects on ambient ozone concentrations within the air basin, or health effects, such as increased respiratory problems, within any discrete population within the City or the region. Such an analysis is not reasonably feasible within the meaning of CEQA.

PROJECT EFFECTS ON PUBLIC HEALTH

Fresno County has a state designation of Nonattainment for PM_{10} and $PM_{2.5}$. The SJVAPCD developed these project-level thresholds based on the emissions that would exceed a CAAQS or contribute substantially to an existing or projected violation of a CAAQS. Ambient levels of these criteria pollutants are likely to decrease in the future, based on current and future implementation of federal and/or state regulatory requirements, such as improvements to the statewide vehicle fleet over time (including the long-term replacement of internal combustion engine vehicles with electric vehicles in coming decades).

As shown in the table provided in Appendix B.1 of this EIR, almost all tools available to measure criteria pollutant emissions were designed to be used at the national, state, regional, and/or city-levels. These tools are not well suited to analyze small or localized changes in pollutant concentrations associated with individual projects. Accordingly, they are not recommended by the SJVAPCD for CEQA analyses. Instead, the following analysis of health effects is presented qualitatively.

Ozone

O_3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC) (also known as ROG) and oxides of nitrogen (NO_x) in the presence of sunlight. The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. Environmental Protection Agency 2019a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggest that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 parts per billion (U.S. Environmental Protection Agency 2019b).

The project would generate emissions of ROG and NO_x during project operational activities, as shown in Table 3.2-6. Although the exact effects of project-level emissions on local health are not precisely known, it is likely that the increases in ROG and NO_x generated by the proposed project would especially affect people with impaired respiratory systems, but also healthy adults and children located in the immediate vicinity of the project site. However, the increases of these pollutants generated by the proposed project are not on their own likely to generate an increase in the number of days exceeding the NAAQS or CAAQS standards, based on the size of the proposed project in comparison to Fresno County as a whole. Instead, the increases in ROG and NO_x generated by the proposed project when combined with the existing ROG and NO_x emitted regionally, would affect people, especially those with impaired respiratory systems located in the immediate vicinity of the project site.

Particulate Matter

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO_2) and laboratory studies of animals and humans, PM can cause major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis and premature death. Small particulate pollution has health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed. The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly and children.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in $PM_{2.5}$ results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017). Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. Environmental Protection Agency 2019c).

The project would generate emissions of PM during project operational activities, as shown in Table 3.2-6. Although the exact effects of such emissions on local health are not known, it is likely that the increases in PM generated by the proposed project would especially affect people with impaired respiratory systems, but also healthy adults and children located in the immediate vicinity of the project site. However, the increases of these pollutants generated by the proposed project are not on their own likely to generate an increase in the number of days exceeding the NAAQS or CAAQS standards, based on the size of the project in comparison the Fresno County as a whole. Instead, the increases in PM generated by the proposed project when combined with the existing PM emitted regionally, would affect people, especially those with impaired respiratory systems located in the immediate vicinity of the project site.

Discussion

The magnitude and locations of any potential changes in ambient air quality, and thus health consequences, from these additional emissions cannot be quantified with a high level of certainty due to the dynamic and complex nature of pollutant formation and distribution (e.g., meteorology, emissions sources, sunlight exposure), as well as the variabilities in the receptors that reside in a particular area. Additionally, SJVAPCD has not established any methodology or thresholds (quantitative or qualitative) for assessing the health effects from criteria pollutants. From a qualitative perspective, it is well documented from scientific studies that criteria pollutants can have adverse health effects. The federal and state governments have established the NAAQS or

CAAQS as an attempt to regionally, and cumulatively, assess and control the health effects that criteria pollutants have within Air Basins. It is anticipated that public health will continue to be affected by the emission of criteria pollutants, especially by those with impaired respiratory systems in the City of Fresno and the surrounding region so long as the region does not attain the CAAQS or NAAQS. However, the increases of these pollutants generated by the proposed project are not on their own likely to generate an increase in the number of days exceeding the NAAQS or CAAQS standards, based on the size of the project in comparison to the Fresno County as a whole. Instead, the increases in criteria pollutants generated by the proposed project when combined with the existing criteria pollutants emitted regionally, would affect people, especially those with impaired respiratory systems located in the immediate vicinity of the project site.

CONCLUSION

As shown in Table 3.2-6, implementation of the proposed project would not exceed some any of the SJVAPCD operational criteria pollutant emissions thresholds, as modelled. Therefore, implementation of the proposed project would have a ***less than significant*** impact related to causing a violation of an air quality standard or contributing to an existing or projected air quality violation.

Impact 3.2-2: Proposed project construction activities have the potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment, or conflict or obstruct implementation of the District's air quality plan (Less than Significant with Mitigation)

Emissions from construction activities represent temporary impacts that are typically short in duration, depending on the size, phasing, and type of project. Air quality impacts can nevertheless be acute during construction periods, resulting in significant localized impacts to air quality. The proposed project would demolish the existing buildings located within the Demolition and Grading Project Area, and convert it to a new parking area. Construction-related activities would result in project-generated emissions from demolition, site preparation, grading, and paving. CalEEMod^{TM} (v.2016.3.2) was used to estimate construction emissions for the proposed project. Table 3.2-11, below, provides the construction PM_{10} emissions associated with implementation of the proposed project.

TABLE 3.2-7: CONSTRUCTION PROJECT GENERATED EMISSIONS (TONS PER YEAR)

POLLUTANT	*CO*	*NO_X*	*ROG*	*SO_X*	*PM_{10}*	*$PM_{2.5}$*
THRESHOLD	100	10	10	27	15	15
EMISSIONS	0.7	1	0.1	<0.1	0.1	0.1
EXCEEDS THRESHOLD?	**N**	**N**	**N**	**N**	**N**	**N**

SOURCES: CALEEMOD (V.2016.3.2)

If the proposed project's emissions will exceed the SJVAPCD's threshold of significance for construction-generated emissions, the proposed project will have a significant impact on air quality and all feasible mitigation are required to be implemented to reduce emissions. As shown in Table 3.2-7 above, project annual construction emissions would not exceed the SJVAPCD thresholds of significance. Nevertheless, regardless of emission quantities, the SJVAPCD requires construction related mitigation in accordance with their rules and regulations. Implementation of the following mitigation measures will ensure that the proposed project would reduce construction related emissions to the extent possible. With implementation of the following mitigation measures, the proposed project would have a **less than significant** impact related to construction emissions.

CONCLUSION

Compliance with pre-existing requisite federal, State, SJVAPCD, and other local regulations and requirements, and with implementation of the mitigation measures provided by the SJVAPCD for construction-related PM_{10} emissions, the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment, or conflict or obstruct implementation of the District's air quality plan. As such, implementation of the following mitigation measures will ensure that these potential construction impacts are reduced to a **less than significant** level.

MITIGATION MEASURE(S)

Mitigation Measure 3.2-1: *Prior to the commencement of construction activities for each phase of the project, the project proponent shall prepare and submit a Dust Control Plan that meets all of the applicable requirements of APCD Rule 8021, Section 6.3, for the review and approval of the APCD Air Pollution Control Officer.*

Mitigation Measure 3.2-1: *During all construction activities, the project proponent shall implement dust control measures, as required by APCD Rules 8011-8081, to limit Visible Dust Emissions to 20% opacity or less. Dust control measures shall include application of water or chemical dust suppressants to unpaved roads and graded areas, covering or stabilization of transported bulk materials, prevention of carryout or trackout of soil materials to public roads, limiting the area subject to soil disturbance, construction of wind barriers, access restrictions to inactive sites as required by the applicable rules.*

Mitigation Measure 3.2-3: *During all construction activities, the project proponent shall implement the following dust control practices identified in Tables 6-2 and 6-3 of the GAMAQI (2002).*

- *a. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover.*
- *b. All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.*
- *c. All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall control fugitive dust emissions by application of water or by presoaking.*

d. *When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained.*
e. *All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.*
f. *Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.*
g. *Limit traffic speeds on unpaved roads to 5 mph; and*
h. *Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.*

Mitigation Measure 3.2-4: *Asphalt paving shall be applied in accordance with APCD Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.*

Impact 3.2-3: The proposed project would not generate carbon monoxide hotspot impacts (Less than Significant)

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (U.S. EPA, 2016). Such acute effects may occur under current ambient conditions for some sensitive individuals, while increases in ambient CO levels could increase the risk of such incidences.

The project site is located in a State attainment area and a federal attainment-unclassified area for carbon monoxide. In addition, CO emissions under project operation are below the applicable significance threshold promulgated by the SJVAPCD. Therefore, no project-level conformity analysis is necessary for CO. Increases in proposed project VMT would increase concentrations of carbon monoxide (CO) along streets and intersections that provide access to the project site. Carbon monoxide is a local pollutant (i.e., high concentrations are normally only found very near sources), and can form local elevated concentrations under specific conditions. The major source of carbon monoxide, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations (i.e., hotspots), therefore, are usually only found near areas of very high traffic volume and congestion.

Several factors combine to make substantial concentrations of carbon monoxide unlikely. Existing physical constraints such as high-density, high-profile buildings or other obstructions that could prevent dispersion of carbon monoxide are largely absent. Predominant weather conditions in the area include air movement that would help facilitate carbon monoxide dispersion. Congested traffic conditions that otherwise could result in concentration of carbon monoxide would be of short duration. Further, under existing regulatory and legislative mandates, emissions volumes from all vehicle classes will continue to decline. Given these factors, substantial concentrations of carbon monoxide are not expected at or along any affected roadways or intersections.

CONCLUSION

This project is located in an area that is designated attainment and attainment-unclassified for carbon monoxide. No project-level conformity analysis is necessary for CO. Substantial concentrations of carbon monoxide are not expected at or along any streets or intersections affected by the development of the project site. Impacts associated with carbon monoxide hotspots would be ***less than significant,*** and no additional mitigation is required.

Impact 3.2-4: The proposed project has the potential for public exposure to toxic air contaminants (Less than Significant)

A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air. However, their high toxicity or health risk may pose a threat to public health even at very low concentrations. In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and for which the state and federal governments have set ambient air quality standards.

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. EPA regulate 188 air toxics, also known as hazardous air pollutants. The U.S. EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources. In addition, the U.S. EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment. These are acrolein, benzene, 1,3-butidiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter.

The 2007 U.S. EPA rule requires controls that will dramatically decrease Mobile Source Air Toxics (MSAT) emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA’s MOBILE6.2 model, even if vehicle activity (VMT) increases by 145 percent, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050. California maintains stricter standards for clean fuels and emissions compared to the national standards, therefore it is expected that MSAT trends in California will decrease consistent with or more than the U.S. EPA's national projections.

The California Air Resources Board (CARB) published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB, 2005) to provide information to local planners and decision-makers about land use compatibility issues associated with emissions from industrial, commercial and mobile sources of air pollution. The CARB Handbook indicates that mobile sources continue to be the largest overall contributors to the State's air pollution problems, representing the greatest air pollution health risk to most Californians. The most serious pollutants on a statewide basis include diesel exhaust particulate matter (diesel PM), benzene, and 1,3-butadiene, all of which are emitted by motor vehicles. These mobile source air toxics are largely associated with freeways and high traffic roads. Non-mobile source air toxics are largely associated with industrial and commercial uses. Table 3.2-8 provides the California Air Resources Board minimum separation recommendations on siting sensitive land uses.

TABLE 3.2-8: CARB MINIMUM SEPARATION RECOMMENDATIONS ON SITING SENSITIVE LAND USES

SOURCE CATEGORY	*ADVISORY RECOMMENDATIONS*
Freeways and High-Traffic Roads	• Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.[1]
Distribution Centers	• Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	• Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	• Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the CARB on the status of pending analyses of health risks.
Refineries	• Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	• Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloro-ethylene	• Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perc dry cleaning operations.
Gasoline Dispensing Facilities	• Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

SOURCE: AIR QUALITY AND LAND USE HANDBOOK: A COMMUNITY HEALTH PERSPECTIVE (CARB 2005)

There are no traditional sensitive receptors such as residences, hospitals, or schools that are proposed as part of the proposed project. However, the project is located in a community that is identified as having a CalEnviroScreen 3.0 score in the 91-100% percentile. CalEnviroScreen is a mapping tool that helps identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution's effects. Such a score identifies the general area in and around the project site is generating a high pollution burden on nearby receptors.

Heavy-duty trucks are a common source of Diesel Particulate Matter (DPM), in contrast to passenger vehicles (such as light-duty cars and trucks). The inhalation of DPM generates cancer and non-cancer health risks, especially where concentrations are chronically elevated for long periods of time, and for younger sensitive receptors. However, the proposed project includes changes to the existing truck parking and movement patterns that would allow the applicant to reduce the total number of truck movements, reduce the number of minutes spent daily on truck movements, and reduce the daily vehicle miles traveled associated with truck movements. As provided in detail in Section 2.0: Project Description, the proposed project would reduce the travel time and travel distance associated with truck movements within the project site.

The SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD, 2015) includes procedures for evaluating hazardous air pollutants. The GAMAQI states that projects where significant numbers of diesel powered vehicles will be operating such as truck stops, transit centers, and warehousing may create risks from toxic diesel particulate emissions. These facilities and vehicles are not subject to District permit and so may need mitigation measures adopted by the Lead Agency to reduce this impact. Measures such as limiting idling, electrifying truck stops to power truck auxiliary equipment, use of diesel particulate filters, and use of alternative fuel heavy-duty trucks have been required by some jurisdictions.

The GAMAQI states that Lead Agencies should consider both of the following situations when evaluating hazardous air pollutants:

1) a new or modified source of hazardous air pollutants is proposed for a location near an existing residential area or other sensitive receptor, and

2) a residential development or other sensitive receptor is proposed for a site near an existing source of hazardous air pollutants.

For the first scenario, the GAMAQI indicates that the Lead Agency should consult with the SJVAPCD regarding anticipated hazardous air pollutant emissions, potential health impacts, and control measures. The GAMAQI states that ”preparation of the environmental document should be closely coordinated with the SJVAPCD review of the facility's permit application when timing allows.” The SJVAPCD's policies and regulations for implementing AB 2588 designate facilities as significant when they have a carcinogenic risk in excess of 20 in one million or a non-cancer risk Hazard Index of greater than one (if prescribed so by California's Office of Environmental Health Hazard Assessment). The second scenario is not applicable to the proposed project because the proposed Project does not include the construction of a residential development or other sensitive receptor.

Therefore, although the proposed project would reduce the overall truck travel distance and travel time, out an abundance of caution, a health impact analysis has been prepared for the proposed project to analyze the project changes to truck routes. The source of TACs for this type of project can be attributed to diesel exhaust from the trucks.

A health risk analysis was conducted utilizing Lakes Environmental Software AERMOD and the ARB's Hotspots Analysis Reporting Program Version 2 (HARP 2) Air Dispersion, Modelling, and Risk Tool (ADMRT). Truck idling, truck on-site mobile, and TRU diesel particulate matter (DPM) emissions were calculated. The residential (70-year exposure) cancer, workplace (30-year exposure) cancer, chronic (non-cancer), and acute (non-cancer) risks were assessed and compared to SVJAPCD thresholds. See Appendix B.5 for full model inputs. Table 3.2-9 summarizes the results of the analysis.

TABLE 3.2-9: SUMMARY OF MAXIMUM HEALTH RISKS

RISK METRIC	*MAXIMUM RISK*	*SIGNIFICANCE THRESHOLD*	*IS THRESHOLD EXCEEDED?*
Residential Cancer Risk (70-year exposure)[1]	17.1	20 per million	No
Workplace Cancer Risk (30-year exposure)	1.90	20 per million	No
Chronic (non-cancer)	0.23	Hazard Index ≥1	No
Acute (non-cancer)[2]	N/A	Hazard Index ≥1	No

SOURCES: AERMOD (LAKES ENVIRONMENTAL SOFTWARE, 2020); AND HARP-2 AIR DISPERSION AND RISK TOOL.

NOTES: [1]THE MAXIMUM RESIDENTIAL CANCER RISK WOULD BE FOR A RESIDENCE LOCATED AT 417 WEST BELMONT AVENUE, JUST SOUTH OF BELMONT AVENUE. THE RESIDENTIAL CANCER RISK (70-YEAR EXPOSURE, STARTING AT THE THIRD TRIMESTER) AT THIS LOCATION IS 17.1 PER MILLION PERSONS, AS PROVIDED WITHIN THIS TABLE. IT SHOULD BE NOTED, HOWEVER, THAT THE ACTUAL VALUE IS MUCH LOWER THAN THIS VALUE, SINCE THIS VALUE DOES NOT DISCOUNT THE EXISTING PRODUCER'S DAIRY TRUCKS THAT ALREADY TRAVERSE THE TRUCK MOVEMENT PROJECT AREA. [2]DPM DOES NOT GENERATE ACUTE EXPOSURE, BASED TO THE GUIDANCE PROVIDED BY THE OEHHA. THEREFORE, IT IS ASSUMED THAT ACUTE RISK IS NOT ASSOCIATED WITH THE PROPOSED PROJECT. FOR FURTHER INFORMATION, SEE: HTTPS://OEHHA.CA.GOV/AIR/GENERAL-INFO/OEHHA-ACUTE-8-HOUR-AND-CHRONIC-REFERENCE-EXPOSURE-LEVEL-REL-SUMMARY

As shown in Table 3.2-9 above, the proposed project, in and of itself, would not result in a significant increased exposure of receptors to localized concentrations of TACs. Risk of residential cancer risk, workplace cancer risk, and chronic and acute non-cancer risks are below the applicable SJVAPCD thresholds. Therefore, implementation of the proposed Project would cause a **less than significant** impact relative to this topic.

Impact 3.2-5: The proposed project would not cause exposure to other emissions (such as those leading to odors) adversely affecting a substantial number of people (Less than Significant)

The following text addresses odors. Other emissions (including criteria pollutants and TACs) are addressed in Impacts 3.2-1 through 3.2-4.

While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the SJVAPCD. The general nuisance rule (Heath and Safety Code §41700) is the basis for the threshold.

Examples of facilities that are known producers of odors include: Wastewater Treatment Facilities, Chemical Manufacturing, Sanitary Landfill, Fiberglass Manufacturing, Transfer Station, Painting/Coating Operations (e.g. auto body shops), Composting Facility, Food Processing Facility, Petroleum Refinery, Feed Lot/Dairy, Asphalt Batch Plant, and Rendering Plant.

If a project proposes to locate receptors and known odor sources in proximity to each other, further analysis may be warranted. However, if a project would not locate receptors and known odor sources in proximity to each other, then further analysis is not warranted. The proposed project does not include new industrial uses that are not already present in the vicinity of the project site. Air district Rule 402 prohibits any mobile or stationary source generating an objectionable odor, with the exception of odors emanating from certain agricultural operations. The California Health and Safety Code §41700 and Air District Rule 402 prohibit emissions of air contaminants from any source that cause nuisance or annoyance to a considerable number of people or that present a threat to public health or cause property damage. Compliance with these rules would preclude land uses proposed under the proposed project from emitting objectionable odors.

CONCLUSION

The proposed project does not propose sensitive receptors that could be exposed to odors in the vicinity; nor does it propose uses that would create new odors that would expose substantial numbers of people. Therefore, operation of the proposed project would not result in significant objectionable odors. Impacts associated with exposure to odors would be ***less than significant.***

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CULTURAL AND TRIBAL RESOURCES 3.3

This section provides a discussion of the prehistoric period background, ethnographic background, historic period background, known cultural resources in the region, the regulatory setting, an impact analysis, and mitigation measures. This section is based in part on the following:

- *City of Fresno General Plan* (City of Fresno, Adopted December 2014);
- *City of Fresno Draft Master Environmental Impact Report* (City of Fresno, December 2014);
- *California Historical Records Information System's Search* (Southern San Joaquin Valley Information Center, January 22, 2020); and
- *DPR 523A Form: Evaluation of 315 N H Street* (City of Fresno, February 28, 2019).

The Notice of Preparation (NOP) for the proposed project was sent to the Native American Heritage Commission (NAHC) for review and comment on January 22, 2020. The NAHC responded with an explanation of the statutory requirements of Assembly Bill 32 and Senate Bill 18 and recommendations for tribal and agency consultation and discussion of impacts to tribal cultural resources. An additional comment was received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from Bruce Owdom (February 16, 2020). The portion of Bruce Owdom's comment letter relating to this topic notes concerns regarding historic resources impacts associated with H Street, the silos, and other buildings in the project area. Each of the comments related to this topic are addressed within this section; see the Native American consultation section below, and Impacts 3.3-1 and 3.3-2. Full comments received are included in Appendix A.

KEY TERMS

Cultural and Historic Resources are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. Preservation of the city's cultural heritage should be considered when planning for the future.

Archaeology. The study of historic or prehistoric peoples and their cultures by analysis of their artifacts and monuments.

Complex. A patterned grouping of similar artifact assemblages from two or more sites, presumed to represent an archaeological culture.

Ethnography. The study of contemporary human cultures.

Midden. A deposit marking a former habitation site and containing such materials as discarded artifacts, bone and shell fragments, food refuse, charcoal, ash, rock, human remains, structural remnants, and other cultural leavings.

3.3.1 ENVIRONMENTAL SETTING

PROJECT SETTING

Producers Dairy Foods currently operates at multiple locations within the greater Truck Movement Parking Area (see Figure 2.0-3 in Chapter 2.0, Project Description). The existing operations include the Main Plant, which includes processing facilities, blow mold and storage areas, executive offices, product loading, dry storage, bottling and processing, order processing, and truck maintenance. Existing operations also occur at the ice cream warehouse, which is located southwest of the Main Plant, as shown on Figure 2.0-3. Producers also operates at the old cheese plant property, which is no longer operational as a cheese production facility, but is currently used for trailer storage as part of daily operations.

The vast majority of the existing operations and facilities are located in the area southwest of the Palm Avenue and Belmont Avenue intersection (the Main Plant); however, the ice cream warehouse is located west of H Street and north and west of the Southern Pacific Railroad, and the cheese plant property is located at the southwest corner of the N. Roosevelt Avenue and Belmont Avenue intersection. Existing circulation patterns currently connect the ice cream warehouse and cheese plant property to the other buildings listed previously (located southwest of the Palm Avenue and Belmont Avenue intersection).

There are two aspects of the project location that are addressed in this environmental document:

1. The Truck Movement Project Area; and
2. The Demolition and Grading Project Area.

The Truck Movement Project Area includes the Demolition and Grading Project Area, the Producers Dairy Main Plant, the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. It should be noted that the only ground disturbing activities will occur on the Demolition and Grading Project Area. The other areas included in the Truck Movement Project Area are existing and will not include any renovations or construction resulting in ground disturbance.

The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks. The project will utilize the existing roads; thus, no ground disturbing activities are proposed as part of the proposed truck movements.

Approximately 3.55 acres (154,638 square feet) of land along H Street, north of Arroyo Avenue and South of Harrison Avenue, is currently developed with a range of old, abandoned feed mill and silos. The project consists of the demolition of all of these structures to grade and pave the land for a new parking lot for diesel milk trucks. The structures proposed for demolition include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years with extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut to keep out trespassers and control the vandalism of the buildings. The Demolition and Grading Project Area is the only portion of the project site that would be disturbed as part of the proposed project.

The project site is relatively flat. The elevation of the site ranges from approximately 288 feet to 300 feet above mean sea level (MSL). The project site is shown on the Fresno North and Fresno South, California, 7.5-minute series quadrangle maps. Surrounding land uses include existing warehouse distribution and other industrial uses to the east, west, and south, and residential land uses to the east. The Demolition and Grading Project Area is located adjacent south of La Tapatia Tortilleria.

PREHISTORY

Humans are believed to have resided in Fresno County for at least the past 5,000 years. Archeologists who have studied these past cultures have uncovered evidence of widespread activities that allowed them to divide these previous 13,000 years into periods or phases based on the kinds of subsistence behaviors practiced.

Three periods have been identified with locally defined phases and regional cultures as identified below:

- Paleoindian and Lower Archaic Period, 11,500 – 5,550 B.C
- Upper Archaic Period, 550 cal B.C.– cal 1100 A.D.
- Emergent/Late Prehistoric Period, cal 1100 A.D. – Historic Contact.

Paleoindian and Lower Archaic Periods (11,500 – 5,550 B.C.)

Few archaeological sites that predate 5,000 years ago have been discovered in the region. Near the end of the Pleistocene (approximately 9,050 cal B.C.) and during the early Middle Holocene (approximately 5,550 cal B.C.), there were periods of climate change and associated alluvial deposition throughout the central California lowlands (Rosenthal et al. 2007:151). Recent geoarchaeological studies (e.g., Meyer and Rosenthal 2008; Rosenthal and Meyer 2004a, 2004b; White 2003) have verified that large segments of the Late Pleistocene landscape were removed or buried by periodic episodes of deposition or erosion during the Middle Holocene. This confirms hypotheses that Paleoindian and Lower Archaic sites were buried during the last 5,000 to 6,000 years by deposits of Holocene alluvium up to 10 meters thick along the lower stretches of the Sacramento River and San Joaquin River drainage systems. Archaeological evidence for the Paleoindian Period is scant, comprised primarily by fluted projectile points. The Lower Archaic Period is also mainly represented by isolated finds, such as at the Tulare Lake basin in the southern San Joaquin Valley (Rosenthal et al. 2007:151-152). As a consequence of the natural alluvial deposition processes, only one site on the valley floor has produced cultural material dating to this period, and featured stone tools, remains of birds, fish and shellfish but no plant remains or milling tools. At two Lower Archaic Period sites in the foothills of Calaveras County, abundant handstones and milling slabs have been recovered.

Spears, angling hooks, composite bone hooks, and baked clay artifacts that may have been used as net or line sinkers represent the variety of fishing implements found at sites dating to this period. Other baked clay items include pipes and discoids, as well as cooking "stones." Impressions of twined basketry, bone tools, shell beads, and ground and polished charmstones have also been recovered. A variety of grave goods accompanied burials in cemetery areas, which were separate from habitation areas. The presence during the Middle Archaic of an established trade network is indicated by a variety of exotic cultural materials, including obsidian tools, quartz crystals, and Olivella shell beads.

Upper Archaic Period (550 cal B.C – cal 1100 A.D)

The Upper Archaic Period features more specialized technology, with innovations and new types of bone tools, Olivella shell beads, Haliotis ornaments, charmstones, and ceremonial blades. An abundance of grinding tools (mortars and pestles) and plant remains, accompanied by a decrease in slab milling stones and handstones, indicates a shift to a greater reliance on acorns as a dietary staple during the Upper Archaic Period (Fredrickson 1974:125; Moratto 1984:209; Wohlgemuth 2004; Rosenthal et al. 2007:156). A wide variety of natural resources were exploited during this period. Subsistence strategies varied regionally, focusing on seasonally available resources suited for harvesting in bulk, such as salmon, shellfish, deer, rabbits, and acorns (Rosenthal et al. 2007:156). Numerous large shell mounds dating to this period are located near fresh or salt water and indicate exploitation of aquatic resources was relatively intensive. The accumulations of cultural debris and habitation features, such as rock-lined ovens, house floors, burials, hearths, and fire-cracked rock, reflect long-term residential occupation (Bouey 1995:348-349).

In the western margins of the San Joaquin Valley, discrete cemeteries date to the Upper Archaic Period (Meyer and Rosenthal 1998; Olsen and Payen 1969; Pritchard 1970). In the southern San Joaquin Valley, villages on the shores of Buena Vista Lake were occupied year-round (Rosenthal et al. 2007:157). Trade in marine shell beads and obsidian, among other items, continued to be important.

Emergent/Late Prehistoric Period (cal A.D. 1100 – Historic Contact)

The archaeological record in the Central Valley for the Emergent/Late Prehistoric Period documents an increase in the diversity and number of artifacts and in the number of archaeological sites (Rosenthal et al. 2007:157-159). Along with an increase in sedentism and population that led to the development of social stratification, with an elaborate ceremonial and social organization, a number of cultural innovations shaped the Emergent Period. These include the introduction of the bow and arrow and more diverse fishing equipment (bone fish hooks, harpoons, and gorge hooks). Fishing, hunting, and gathering plant foods continue as the foci of subsistence practices, including intensive harvesting of acorns and an increased emphasis on fishing (Rosenthal et al. 2007:158-159). Hopper mortars and shaped mortars and pestles, as well as bone awls used for producing coiled baskets, are common. Locally made Cosumnes Brownware has been recovered from some sites in the lower Sacramento Valley, while pottery in the Tulare basin was obtained through trade. Baked clay balls, probably used for cooking in the absence of stone, remain common.

Ceremonial and ritual items include flanged tubular pipes and baked clay effigies representing humans and animals. Clamshell disk beads were used as currency and accompanied the development of extensive exchange networks. Mortuary practices included flexed burials, the cremation of high-status individuals, and pre-interment burning of offerings in grave pits (Fredrickson 1973:127-129; Moratto 1984:211). Overall, the cultural patterns known from historic period Native American groups inhabiting the Central Valley are reflected in the subsistence and land use patterns practiced during the Emergent Period (Rosenthal et al. 2007:157-158).

ETHNOGRAPHY

The Plan Area is located within the traditional territory of the Yokuts. Historically, the Yokuts people collectively inhabited the San Joaquin Valley as well as the eastern foothills of the Sierra Nevada from the Calaveras River southward to the Kern River (Kroeber 1925). Ethnographers and linguists have traditionally divided Yokuts into three geographic groups, based on linguistic similarities and differences: Northern Valley, Southern Valley, and Foothill. The SP is located in the area historically occupied by the Northern Valley Yokuts according to Kroeber (1925: 462), who suggested that they lived along the San Joaquin River. The Northern Valley Yokuts tribes' territory extended southward from the Calaveras River to the upper San Joaquin River and from the crest of the Coast (Diablo) Range east to the Sierra Nevada foothills.

Information on the Yokuts lifeways has been compiled by Kroeber (1925:474-543), Wallace (1978:462-470), and Latta (1977) and is summarized here. The Northern Valley Yokuts grouping consisted of 11 or more tribes, each containing 300 or so people (Wallace 1978:462-466). Most members lived within a single settlement that often had the same name as the political unit. These were generally established on low rises along the major watercourses. The eastern side of the San Joaquin River was more heavily populated than the land to the west of the river, due to greater water availability. A village generally contained at least three types of structures – oval single-family dwellings made of tule, ceremonial chambers, and sweathouses (Wallace 1978:465). According to Kroeber's informants, a tribe of Yokuts known as the Hewchi lived close to the SP, near Fresno River (1925: 470).

The fundamental economy of the Yokuts was subsistence fishing, hunting, and collecting plant foods. Acorns, collected in the fall and then stored in granaries, were a staple food (Wallace 1978:464). During the fall and spring runs, salmon was a dietary mainstay. Wildfowl, such as geese and ducks, were also an important staple. Additional dietary plant parts included seeds, berries and tule roots. Large game included deer, elk, antelope, and black bears.

A wide variety of tools, implements, and enclosures were used by the Northern Valley Yokuts to gather, collect, and process food resources (Kroeber 1925:527; Latta 1977; Wallace

1978:464465). These included bow and arrows, nets, traps, slings, and blinds for hunting land mammals and birds; and harpoons, hooks, and nets, as well as tule rafts. Sharpened digging sticks and woven tools (seed beaters, burden baskets, and carrying nets) would have been used to collect plant resources and a variety of implements (stone mortars and pestles, bedrock and portable mortars, stone knives, and bone tools) used for processing resources. The Northern Valley Yokuts traded with neighboring groups for bows and arrows, baskets, shell ornaments and beads, obsidian, and mussels and abalone (Wallace 1978:465).

The San Joaquin Valley was never settled during the Spanish and Mexican periods, but influences from the coastal missions and presidios were felt inland by the late 1700s. By 1805, Northern Valley Yokuts were transported to the San José, Santa Clara, Soledad, San Juan Bautista, and San Antonio missions that were established during the Spanish era (Wallace 1978:468-469). Later, disease and military raids claimed many lives during the Mexican period, followed by displacement during the early American Period by gold seekers and farmers.

Pre-contact population density for Northern Valley Yokuts has been estimated at 25,000 to 31,000 (Wallace 1978:463). In 1852, representatives of only three Northern Valley Yokuts tribes (including the Heuchi) remained to sign one of a series of statewide treaties (Wallace 1978:469). Today, people of Yokuts descent live on the Tule River Reservation in Tulare County and on three rancherias: Picayune in Madera County at Coarsegold, Santa Rosa in Kings County, and Table Mountain in Fresno County near Friant. Some Foothill Yokuts also live with Central Sierran Miwok on the Tuolumne Rancheria in Tuolumne County.

HISTORICAL BACKGROUND

The general history of the exploration and settlement of Fresno County has been documented in a number of sources. This section focuses on the specific history of Fresno.

Spanish Exploration

Juan Cabrillo was the first European to sail along the coast of California in 1542 and was followed in 1602 by Sebastian Vizcaino (Bean and Rawls 1993). The Spanish colonization of what was then known as Alta California began with the 1769 overland expedition, led by Gaspar de Portolá, with a crew of 63 men, in order to explore the land between San Diego and Monterey. Between 1769 and 1822, the Spanish had colonized California and established missions, presidios, and pueblos and documented the people and landscape along the way (McCawley 1996).

Following the Portolá Expedition, vast tracts of land were granted to the missions. The goals of the missions were tri-fold: they establish a Spanish presence on the west coast, proselytize Christianity to the native peoples, and serve to exploit the native population as laborers. The Spanish also hoped each mission would become a town center, whereas, “the pueblo would receive a ground of four square leagues of land… and other property would be parceled out among the Indians”. The missionaries, or padres, would essentially serve as a mayor, or head of the town (Bean 1968).

Mexican Period

In 1821, Mexico won its independence from Spain and worked to lessen the wealth and power held by the missions. The Secularization Act was passed in 1833, appropriating the vast mission lands to the Mexican governor and downgrading the missions' status to that of parish churches. The governor then redistributed the former mission lands, in the form of land grants, to private owners (Bean and Rawls 1993). The lands were typically granted to soldiers who proved their loyalty to the Mexican government once liberated from the Spanish crown.

Fresno History

The County of Fresno was founded in 1856 from portions of Tulare, Merced, and Mariposa Counties. In 1872, Central Pacific Railroad, predecessor to the Southern Pacific Railroad Company, arrived in the San Joaquin Valley. The local train station, "Fresno Station," represented the epicenter of Fresno (Planning Resource Associates, Inc. 2008).

Fresno's original land plan was organized on a grid system which extended eastward from the Central Pacific Railroad tracks along what is currently H Street. In 1872, the Railroad began selling lots to entrepreneurs and by the end of the year Fresno consisted of a few residential homes, multiple livery stables, four restaurants and hotels, and two stores (Planning Resource Associates, Inc. 2008).

In 1874, the Fresno County seat was transferred from Millerton, which had experienced years of floods and a catastrophic fire, to the City of Fresno (Hoover & Kyle 2002). Fresno's new position as the County seat resulted in a boost of prosperity and by 1885 Fresno was incorporated with a population of approximately 2,000 (Victor Gruen Associates 1968).

Early industrial buildings in Fresno were often serviced by railroad lines – typically constructed of brick and reinforced with wood framing. They represent the City's oldest industrial endeavors. Feed companies are specifically associated with the region's prosperous agricultural sector and are distinctive in that they commonly have silos or storage bins, which allow companies to stockpile when prices are low. Grain silos became standardized during the 20th century, usually constructed of reinforced concrete – 100 feet in height and 6 to 30 feet in diameter.

Fresno's economic success came from its agricultural production in conjunction with the railroad. Fresno County became the number one agricultural producer in California in addition to one of the nation's best producers of cotton, figs, grapes, and raisins (Hoover & Kyle 2002). In 1911, the Sun-Maid Raison Cooperative was founded in the City of Fresno as the principle packing center and hosted multiple packinghouses throughout the City (Hattersley-Drayton 2013). To this day, Fresno County is ranked as the nation's highest agricultural producer with annual sales totaling over $3 billion per annum.

By the late 1890s and early 1900s, Fresno's population and economy continued to grow with the U.S. Census showing the City's population doubling from 12,470 in 1900 to 24,892 in 1910 (U.S. Census 1910). The Fresno City Board of Trustees approved the establishment of the City's first planning commission in 1916, in anticipation of further growth. By 1923, the plans were adopted and included parks and recreation centers, streets to accommodate the increased population (Planning Resource Associates, Inc. 2008).

Fresno's early 20th century residential development located north of the downtown area caused the expansion of the electric Fresno Street Railway established in 1888. The Railway was later taken over by the Fresno City Railway Company in 1901 and built northward to connect the suburban areas to the City's center. The electric streetcar would remain the primary form of mass transit in Fresno City until its replacement by the bus by 1939 (Planning Resource Associates, Inc. 2008).

During the Post-War Economic Boom (1945-1973), the population shifted from Fresno's center to the newly developed suburbs as a result of increased population and increase in personal car ownership. This shift in population caused the decline of the City's urban center and in the 1960s, Fresno began an urban revitalization project for downtown resulting in the construction of the Fulton Mall in 1964. This six-block pedestrian mall was considered an innovative model and effective response to what was considered at the time to be America's "Urban Crisis" (Victor Gruen Associates 1968).

During the 1970s to 1990s, development continued to expand outwards from Fresno's City center.

CULTURAL RESOURCES IN THE PROJECT AREA

California Historic Resources Information System

The purpose of the cultural records search is to identify all previously recorded cultural resources (prehistoric and historic archaeological sites, historic buildings, structures, objects, or districts) within the Demolition and Grading Project Area. A search of the California Historic Resources Information System (CHRIS) was requested from the Southern San Joaquin Valley Information Center (SSJVIC) located at California State University, Bakersfield on January 22, 2020, which included the project area and a one-half mile radius (SSJVIC File # 20-007). The SSJVIC results are shown in Appendix C.1.

The results of the records search are shown below in Table 3.3-1 (project area) and Table 3.3-2 (one-half mile radius).

TABLE 3.3-1: CHRIS SEARCH (SSJVIC FILE #20-007) RESULTS – DEMOLITION AND GRADING PROJECT AREA

REPORTS IN DEMOLITION AND GRADING PROJECT AREA
FR-00135
FR-02076
RECORDED RESOURCES IN DEMOLITION AND GRADING PROJECT AREA
P-10-003930
P-10-004285

SOURCE: CHRIS SEARCH PREPARED BY SSJVIC, 2020.

TABLE 3.3-2: CHRIS SEARCH (SSJVIC FILE #20-007) RESULTS – 0.5 MILE RADIUS

REPORTS WITHIN A 0.5 MILE RADIUS
FR-00249
FR-00250
FR-01005
FR-01231
FR-01694
FR-02002
FR-02287
FR-02722
FR-02763
FR-02844
FR-02896
FR-02957
RECORDED RESOURCES WITHIN A 0.5 MILE RADIUS
P-10-004244
P-10-004245
P-10-004246
P-10-004271
P-10-004315
P-10-004362
P-10-004382
P-10-004383
P-10-004384
P-10-004385
P-10-004386
P-10-004387
P-10-004388
P-10-004513
P-10-004896
P-10-004897
P-10-004898
P-10-004914
P-10-005208
P-10-005209
P-10-005210
P-10-005211
P-10-005212
P-10-005215
P-10-005216
P-10-006032
P-10-006072
P-10-006073
P-10-006654
P-10-007097

SOURCE: CHRIS SEARCH PREPARED BY SSJVIC, 2020.

The results of the record search indicate that two previous studies have been completed within the Demolition and Grading Project Area and 12 additional studies have previously been conducted within the one-half mile radius of the project site. The record search also indicates that there are two recorded resources within the Demolition and Grading Project Area and 30 recorded resources within the one-half mile radius. These resources consist primarily of historic era buildings. They also include an historic era canal, railroad, bridge, underpass, and trash scatter.

As shown in Table 3.3-1, Resource P-10-003930 and Resource P-10-004285 are both located in the project area. Based on conversations with SSJVIC Staff, Resource P-10-003930 is a historical railroad with a National Register of Historic Places (NR) status code of 7J, meaning it has been received by the California State Office of Historic Places for evaluation/action, but has not yet been evaluated. According to the records search, Resource P-10-004285, Zacky Farms/J.B. Hill Feed Company, is located at 315 N. H Street within the Demolition and Grading Area and is the site of the old J.B. Hill Company property. The J.B. Hill Company property consists of two attached warehouse buildings with a commercial bump-out and a tower silo structure. According to the original building permit record, the two attached warehouse buildings were constructed in 1937, and according to available Sanborn Fire Insurance Maps and historic aerial maps, the tower silo structure was constructed by 1948. This resource has been given a National Register of Historic Places (NR) status of code of 7N, indicating the building needs to be reevaluated for historical significance.

The results of the search also indicated that 12 of the 30 resources located within one-half mile of the project area have been given a NR status code of 2S2, indicating the resources have been determined eligible for listing in the National Register of Historic Places by a consensus through the Section 106 process. These 12 resources are also listed on the California Register of Historical Resources. Six additional resources located within one-half mile of the project area have been given a NR status code of 3S, indicating that a resource appears eligible for listing in National Register of Historic Places as individual properties through survey evaluation. Table 3.3-3 below provides a description of the resources.

TABLE 3.3-3: RECORDED RESOURCES ON THE NATIONAL REGISTER OF HISTORIC PLACES

PRIMARY NUMBER	*ADDRESS*	*NAME*	*NR STATUS CODE*
P-10-004244	187 N. Broadway Street	Bethel Lutheran Church	2S2
P-10-004245	405 N. Broadway Street	Hayhurst Residence	3S
P-10-004246	475 N. Broadway Street	Tinkler Funeral Home	2S2
P-10-004271	415 N. Ferger Avenue	Solorio Residence	3S
P-10-004315	890 W. Belmont Avenue	Roeding Park Historic District	2S2
P-10-004382	325 N. Fulton Street	The Alexander Home	3S
P-10-004384	340 N. Fulton Street	Wishon Residence	2S2
P-10-004385	375 N. Fulton Street	n/a	3S
P-10-004386	437 N. Fulton Street	Cobb Home	2S2
P-10-004387	408 N. Fulton Street	Stone Residence	3S
P-10-004388	405 N. Fulton Street	Proffitt Home	3S
P-10-004513	Belmont Avenue	Belmont Avenue Subway	2S2
P-10-005208	420 N. Van Ness Avenue	John G. Porter House	2S2
P-10-005209	136 N. Roosevelt Avenue	n/a	2S2
P-10-005210	101 N. Roosevelt Avenue	Standard Oil	2S2

PRIMARY NUMBER	*ADDRESS*	*NAME*	*NR STATUS CODE*
P-10-005211	254 N. Roosevelt Avenue	n/a	2S2
P-10-005216	350 N. Fulton Street	Ira H. Brooks House	2S2
P-10-006032	N. Weber Avenue	Bridge 42C0071	2S2

SOURCE: CHRIS SEARCH PREPARED BY SSJVIC 2020

In addition to the SSJVIC records search, a variety of sources were consulted to obtain information regarding the cultural context of the Project Area. Sources included the National Register of Historic Places (NRHP), the California Register of Historic Resources (CRHR), California Historical Resources Inventory (CHRI), California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI).

NATIVE AMERICAN CONSULTATION

De Novo Planning Group sent a letter to the NAHC requesting a check of the Sacred Lands files. The check failed to reveal any properties listed as Sacred Lands on the Demolition and Grading Project Area or Truck Movement Project Area. The NAHC did provide a list of individuals and groups to contact regarding the site. The NAHC response is included in Appendix C.2.

Pursuant to Assembly Bill (AB) 52, Consultation letters were sent via certified mail on February 12, 2020 requesting information related to cultural resources or heritage sites within the Project Area. The letters were sent to: the Native American Heritage Commission; Ms. Elizabeth D. Kipp, Chairperson, Big Sandy Rancheria of Western Mono Indians; Carol Bill, Chairperson, Cold Springs Rancheria; Mr. Robert Ledger Sr, Chairperson, Dumna Wo-Wah Tribal Government; Mr. Benjamin Charley Jr., Tribal Chair, Dunlap Band of Mono Indians; Mr. Dirk Charley, Tribal Liaison, Dunlap Band of Mono Indians; Mr. Stan Alec, Kings River Choinumni Farm Tribe; Mr. Ron Goode, Chairperson, North Fork Mono Tribe; Leo Sisco, Chairperson, Santa Rosa Rancheria Tachi Yokut Tribe; Ms. Leanne Walker-Grant, Chairperson, and Mr. Bob Pennell, Cultural Resources Director, Table Mountain Rancheria; Mr. David Alvarez, Chairperson, and Mr. Rick Osborne, Cultural Resources, Traditional Choinumni Tribe; and Mr. Kenneth Woodrow, Chairperson, Wuksache Indian Tribe/Eshom Valley Band. All consultation correspondence and a contact log are provided in Appendix C.3.

To date, one response has been received. On February 19, 2020 Mr. Charley, Tribal Liaison for the Dunlap Band of Mono Indians, responded via phone that the Plan Area is outside the Tribe's interest and that they would not be commenting or requesting consultation. Instead, Mr. Charley stated the Dunlap Band of Mono Indians would defer to the Bid Sandy Rancheria of Western Mono Indians, Table Mountain Rancheria, or Santa Rosa Rancheria Tachi Yokut Tribe.

3.3.2 REGULATORY SETTING

FEDERAL

National Historic Preservation Act

The National Historic Preservation Act was enacted in 1966 as a means to protect cultural resources that are eligible to be listed on the National Register of Historic Places (NRHP). The law sets forth criterion that is used to evaluate the eligibility of cultural resources. The NRHP is composed of districts, sites, buildings, structures, objects, architecture, archaeology, engineering, and culture that are significant to American History.

Virtually any physical evidence of past human activity can be considered a cultural resource. Although not all such resources are considered to be significant and eligible for listing, they often provide the only means of reconstructing the human history of a given site or region, particularly where there is no written history of that area or that period. Consequently, their significance is judged largely in terms of their historical or archaeological interpretive values. Along with research values, cultural resources can be significant, in part, for their aesthetic, educational, cultural and religious values.

National Register of Historic Places

The eligibility criteria for the NRHP are as follows (36 CFR 60.4):

> *The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess aspects of integrity of location, design, setting, materials, workmanship, feeling, association, and*
>
> *(A) that are associated with events that have made a significant contribution to the broad patterns of our history and cultural heritage; or*
> *(B) that are associated with the lives of persons significant in our past; or*
> *(C) that embody the distinctive characteristics of a type, period, region, or method of construction, or that represent the work of a master, or that possess high artistic values or that represent a significant and distinguishable entity whose components may lack individual distinction; or*
> *(D) that have yielded, or may be likely to yield, information important in prehistory or history.*

American Indian Religious Freedom Act and Native American Graves and Repatriation Act

The American Indian Religious Freedom Act recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. It establishes as national policy that traditional practices and beliefs, sites (including right of access), and the use of sacred objects shall be protected and preserved. Additionally, Native American remains are protected by the Native American Graves and Repatriation Act of 1990.

Other Federal Legislation

Historic preservation legislation was initiated by the Antiquities Act of 1966, which aimed to protect important historic and archaeological sites. It established a system of permits for conducting archaeological studies on Federal land, as well as setting penalties for noncompliance. This permit process controls the disturbance of archaeological sites on Federal land. New permits are currently issued under the Archeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archaeological resources on public and Native American lands. The Historic Sites Act of 1935 declared that it is national policy to "Preserve for public use historic sites, buildings, and objects of national significance."

STATE

California Register of Historic Resources

The CRHR was established in 1992 and codified in the Public Resource Code §5020, 5024 and 21085. The law creates several categories of properties that may be eligible for the CRHR. Certain properties are included in the program automatically, including: properties listed in the NRHP; properties eligible for listing in the NRHP; and certain classes of State Historical Landmarks. Determining the CRHR eligibility of historic and prehistoric properties is guided by CCR §§15064.5(b) and Public Resources Code (PRC) §§21083.2 and 21084.1.

Cultural resources, under CRHR guidelines, are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. A cultural resource may be eligible for listing on the CRHR if it:

- is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- is associated with the lives of persons important in our past;
- embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual or possesses high artistic values; or
- has yielded, or may be likely to yield, information important in prehistory or history.

California Environmental Quality Act

CEQA Guidelines §15064.5 provides guidance for determining the significance of impacts to archaeological and historical resources. Demolition or material alteration of a historical resource, including archaeological sites, is generally considered a significant impact. Determining the CRHR eligibility of historic and prehistoric properties is guided by CCR §§15064.5(b) and Public Resources Code (PRC) §§21083.2 and 21084.1.

CEQA also provides for the protection of Native American human remains (CCR §15064.5[d]). Native American human remains are also protected under the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001 et seq.), which requires federal agencies and certain recipients of federal funds to document Native American human remains and cultural items within their collections, notify Native American groups of their holdings, and provide an opportunity for repatriation of these materials. This act also requires plans for dealing with potential future collections of Native American human remains and associated funerary objects, sacred objects, and objects of cultural patrimony that might be uncovered as a result of development projects overseen or funded by the federal government.

If a prehistoric or historic period cultural resource does not meet any of the four CRHR criteria, but does meet the definition of a “unique” site as outlined in PRC §21083.2, it may still be treated as a significant resource if it is: an archaeological artifact, object or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- it contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information,
- it has a special and particular quality such as being the oldest of its type or the best available example of its type, or
- it is directly associated with a scientifically recognized important prehistoric or historic event.

State Laws Pertaining to Human Remains

Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission. CEQA Guidelines (Section 15064.5) specify the procedures to be followed in case of the discovery of human remains on non-Federal land. The disposition of Native American burials falls within the jurisdiction of the Native American Heritage Commission.

Assembly Bill 978

In 2001, AB 978 expanded the reach of Native American Graves Protection and Repatriation Act of 1990 and established a state commission with statutory powers to assure that federal and state laws regarding the repatriation of Native American human remains and items of patrimony are fully complied with. In addition, AB 978 also included non-federally recognized tribes for repatriation.

Assembly Bill 52

AB 52, approved in September 2014, creates a formal role for California Native American tribes by creating a formal consultation process and establishing that a substantial adverse change to a tribal cultural resource has a significant effect on the environment. Tribal cultural resources are defined as:

1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

   A) Included or determined to be eligible for inclusion in the CRHR

   B) Included in a local register of historical resources as defined in PRC Section 5020.1(k)

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

A cultural landscape that meets the criteria above is also a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. In addition, a historical resource described in PRC Section 21084.1, a unique archaeological resource as defined in PRC Section 21083.2(g), or a "non-unique archaeological resource" as defined in PRC Section 21083.2(h) may also be a tribal cultural resource if it conforms with above criteria.

AB 52 requires a lead agency, prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation.

LOCAL

Fresno General Plan

The existing Fresno General Plan identifies the following objectives and policies related to cultural and tribal resources:

HISTORIC AND CULTURAL RESOURCES ELEMENT

Objective HCR-1: Maintain a comprehensive, citywide preservation program to identify, protect and assist in the preservation of Fresno's historic and cultural resource.

Policy HCR-1-a: Maintain the City's status as a Certified Local Government (CLG), and use CLG practices as the key components of the City's preservation program.

Policy HCR-1-b: Maintain the Preservation Office, Historic Preservation Commission, and preservation program to administer the City's preservation functions and programs.

Policy HCR-1-c: Maintain the provisions of the City's Historic Preservation Ordinance, as may be amended, and enforce the provisions as appropriate.

Objective HCR-2: Identify and preserve Fresno's historic and cultural resources that reflect important cultural, social, economic, and architectural features so that residents will have a foundation upon which to measure and direct physical change.

Policy HCR-2-a: Work to identify and evaluate potential historic resources and districts and prepare nomination forms for Fresno's Local Register of Historic Resources and California and National registries, as appropriate.

Policy HCR-2-b: Prepare historic surveys according to California Office of Historic Preservation protocols and City priorities as funding is available.

Policy HCR-2-c: Prior to project approval, continue to require a project site and its Area of Potential Effects (APE), without benefit of a prior historic survey, to be evaluated and reviewed for the potential for historic and/or cultural resources by a professional who meets the Secretary of Interior's Qualifications. Survey costs shall be the responsibility of the project developer. Council may, but is not required, to adopt an ordinance to implement this policy.

Policy HCR-2-d: Work with local Native American tribes to protect recorded and unrecorded cultural and sacred sites, as required by State law, and educate developers and the community-at-large about the connections between Native American history and the environmental features that characterize the local landscape.

Policy HCR-2-e: Develop and adopt Alternate Public Improvement Standards for historic landscapes to ensure that new infrastructure is compatible with the landscape; meets the needs of diverse users, including motorists, cyclists, and pedestrians; and provides for proper traffic safety and drainage.

Policy HCR-2-f: Consider State Office of Historic Preservation guidelines when establishing CEQA mitigation measures for archaeological resources.

Policy HCR-2-g: Review all demolition permits to determine if the resource scheduled for demolition is potentially eligible for listing on the Local Register of Historic Resources. Consistent with the Historic Preservation Ordinance, refer potentially eligible resources to the Historic Preservation Commission and as appropriate to the City Council.

Policy HCR-2-h: Continue to support enforcement of the minimum maintenance provisions of the Historic Preservation Ordinance, as may be amended, and enforce the provisions as appropriate.

Policy HCR-2-i: Consider creating a preservation mitigation fund to help support efforts to preserve and maintain historic and cultural resources.

Policy HCR-2-j: City staff will evaluate potential opportunities for identification of window replacements to ensure historic integrity is maintained while encouraging sustainability. In addition, city staff will evaluate window replacements in federally funded housing projects on a project-by-project basis with consideration for health, safety, historic values, sustainability, and financial feasibility.

Policy HCR-2-k: Maintain all City-owned historic and cultural resources in a manner that is consistent with the U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties, as appropriate.

Policy HCR-2-l: Establish an inter-departmental Historic Preservation team to coordinate on matters of importance to history and preservation.

Policy HCR-2-m: Recommend that property owners, who receive funds from the City of Fresno for rehabilitation of a property, consent to listing it on the Local Register of Historic Resources if the property meets the criteria for age, significance, and integrity. Publicly funded rehabilitation properties which may meet Local Register criteria will be presented to the City's Historic Preservation Commission for review.

Policy HCR-2-n: Identify all historic resources within the city designated on the Local, State, or National register, and potential significant resources (building, structure, object or site) in existence for at least 45 years, and provide this information on the City's website.

Objective HCR-3: Promote a "New City Beautiful" ethos by linking historic preservation, public art, and planning principles for Complete Neighborhoods with green building and technology.

Policy HCR-3-a: Promote the adaptive reuse and integration of older buildings into new projects as part of the City's commitment to nurturing a sustainable Fresno.

Policy HCR-3-b: Collaborate with the arts community to promote the integration of public art into historic buildings and established neighborhoods. Link arts activities (such as Art Hop) with preservation activities.

Policy HCR-3-c: Work with architects, developers, business owners, local residents and the historic preservation community to ensure that infill development is context sensitive in its design, massing, setbacks, color, and architectural detailing.

Objective HCR-4: Foster an appreciation of Fresno's history and cultural resources.

Policy HCR-4-a: Foster cooperation with public agencies and non-profit groups to provide activities and educational opportunities that celebrate and promote Fresno's history and heritage.

Policy HCR-4-b: Promote heritage tourism and the public's involvement in preservation through conferences, walking tours, publications, special events, and involvement with the local media.

Policy HCR-4-c: Provide training, consultation, and support in collaboration with Historic Preservation Commissioners to community members regarding Fresno's history, use of the U.S. Secretary of the Interior's Standards, and the California Historical Building Code, as time and resources allow.

Policy HCR-4-d: Maintain public archives that include information on all designated historic properties, as well as historic surveys, preservation bulletins, and general local history reference materials. Post survey reports, Historic Preservation Commission minutes and agendas, and other information of public interest on the historic preservation page of the City's website.

Policy HCR-4-e: Continue to recognize the best work in preservation and neighborhood revitalization as may be appropriate through programs such as the biennial Mayoral Preservation Awards program.

Policy HCR-4-f: Investigate the potential for developing a Mills Act program and possible sources of funding for the Historic Rehabilitation Financing Program.

City of Fresno Historic Preservation Ordinance

The City of Fresno's Historic Preservation Ordinance (Ordinance) was approved by the City Council in 1979 and revised in 1999 (Fresno Municipal Code Sect. 12, Art. 16). The purpose of the Ordinance is "to preserve, promote and improve the historic resources and districts of the City of Fresno for educational, cultural, economic and general welfare of the public...." The Ordinance establishes three categories of designation for properties in Fresno – Historic Resource, Heritage Property, and Local Historic District. The criteria for City of Fresno historic designation correspond closely with criteria established for State and National Register eligibility, and are as follows:

Article 16, Historic Preservation Ordinance, of Chapter 12 of the City's Municipal Code provides standards for historic and cultural resources in an effort to preserve, promote and improve the historic resources and districts of the City of Fresno for educational, cultural, economic and general welfare of the public; protect and review changes to these resources and districts which have a distinctive character or a special historic, architectural, aesthetic or cultural value to this City, state and nation; safeguard the heritage of this city by preserving and regulating its historic buildings, structures, objects, sites and districts which reflect elements of the City's historic, cultural, social, economic, political and architectural history; preserve and enhance the environmental quality and safety of these landmarks and districts; and to establish, stabilize and improve property values and to foster economic development.

HISTORIC RESOURCE DESIGNATION

The City of Fresno Historic Preservation Commission and City Council may designate any building, structure, object or site as a Historic Resource if it is found to meet the following criteria:

> It has been in existence more than 50 years and it possesses integrity of location, design, setting, materials, workmanship, feeling and association, and:

a) It is associated with events that have made a significant contribution to the broad patterns of our history; or
b) It is associated with the lives of persons significant in or past; or
c) It embodies the distinctive characteristics of a type, period or method of construction, or represents the work of a master, or possesses high artistic values; or
d) It has yielded or is likely to yield, information important in prehistory or history.

Additionally, a property may be eligible for designation as an Historic Resource if it is less than 50 years old and meets the above-listed criteria, and is found to have exceptional importance within an appropriate historical context at the local, state, or national level.

HERITAGE PROPERTY DESIGNATION

Any building, structure, object or site may also be eligible for designation as a Heritage Property by the City of Fresno Historic Preservation Commission if it is found by the Commission to be worthy of preservation because of its historical, architectural or aesthetic merit.

LOCAL HISTORIC DISTRICT DESIGNATION

In order for a group of properties to be designated as a Local Historic District (LHD) by the City of Fresno, there must be a finite group of resources related to one another in a clearly distinguishable way; or a geographically definable area that possesses a significant concentration, linkage or continuity of sites, buildings, structures or objects united historically or aesthetically by plan or physical development. Additionally, the proposed LHD must meet one or more of the following criteria:

1. It exemplifies or reflects special elements of the city's cultural, social, economic, political, aesthetic, engineering, or architectural heritage; or
2. It is identified with a person or group that contributed significantly to the culture and development of the city; or
3. It embodies the distinctive characteristics of a style, type, period or method of construction, or is a valuable example of the use of indigenous materials or
4. craftsmanship; or
5. Structures within the area exemplify a particular architectural style or way of life to the city; or
6. The area is related to a designated historic resource or district in such a way that its preservation is essential to the integrity of the designated resource or Local Historic District; or
7. The area has potential for yielding information of archaeological interest.

3.3.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project is considered to have a significant impact on cultural resources if it will:

- Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5;
- Cause a substantial adverse change in the significance of archaeological resource pursuant to CEQA Guidelines §15064.5;
- Disturb any human remains, including those interred outside of dedicated cemeteries.
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
    - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).
    - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision

(c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: Project implementation has the potential to cause a substantial adverse change to a significant historical resource, as defined in CEQA Guidelines §15064.5. (Significant and Unavoidable)

The results of the SSJVIC records search indicates a total of two resources have been previously recorded within the Demolition and Grading Project Area on maps and files maintained by the SSJVIC. Of these cultural resources, one is a potentially historic building (Resource P-10-004285) and the other is a railroad (Resource P-10-003930). There have been two previous cultural resource studies that examined portions of the Demolition and Grading Project Area and historical resources were documented. In addition to the SSJVIC records search, a variety of sources were consulted in February 2020 to obtain information regarding the cultural context of the Demolition and Grading Project Area. Sources included the NRHP, CRHR, CHRI, CHL, and CPHI. No other historical resources were listed in the Demolition and Grading Project Area.

Historical resources include current and former locations of historic buildings, historical archaeological sites (often near historic use areas) and the location of extant historic homes more than 45 years old. The results of the SSJVIC records search states that Resource P-10-003930 and Resource P-10-004285 are both located in the Demolition of Grading Project Area.

RESOURCE P-10-003930

Based on conversations with SSJVIC Staff, Resource P-10-003930 is a historical railroad with a National Register of Historic Places (NR) status code of 7J, meaning that the resource has been received by the Office of Historic Preservation for evaluation or action but has not yet been evaluated. The exact location of this resource is confidential; however, according to the SSJVIC, this resource is located within the Demolition of Grading Project Area.

All structures within the Demolition and Grading Project Area would be demolished under the proposed project, and the area would be graded for a new truck parking lot. Because the historical railroad resource is located in this area, the proposed project may result in impairment or removal of this resource.

RESOURCE P-10-004285

Resource P-10-004285, Zacky Farms/J.B. Hill Feed Company, is located at 315 N. H Street within the Demolition and Grading Project Area. The property was previously known as the J.B. Hill

Company, which was originally constructed in 1937. The J.B. Hill Company was so widely celebrated that 20 local businesses posted their congratulatory wishes in *The Fresno Bee* on December 1937 for the opening. The J.B. Hill Company specifically advertised themselves as a provider of hay, grain, seed, poultry, and stock feed products[1]. In 1945, as a result of World War II and the increasing population, the Company planned an expansion for the site that would quadruple their output in order to keep up with demand – and it would make J.B. Hill "one of the largest grain and feed processors in the State" (*The Fresno Bee)*. The Company owned and operated the site until 1955, when J.B. Hill Company was purchased by Balfour, Guthrie & Company, Ltd. – of San Francisco, and, no later than 1979, Zacky Farms owned and operated the site – and continued to until 2012. The two attached buildings with the commercial bump-out are still in use today. It is estimated that the tower structure has not been in use since 2001. This resource has been given a NR status of code of 7N, indicating the building needs to be reevaluated for historical significance. The proposed project would result in the demolition of the Elevator and Feed Mill and grading of the site to construct a truck parking lot to serve the existing operations of the Fresno Producers Dairy.

The J.B. Hill Company building (Resource P-10-004285) is potentially eligible for listing in the City's Local Register of Historic Resources. According to the State of California Survey Forms for 315 N H Street prepared by William E. Patnaude on June 28 1978, the J.B. Hill Feed Company property appeared to be eligible for individual listing in the Local Register of Historic Resources; however, on December 6, 1979, the City of Fresno Historic Preservation Commission voted to not recommend the property receive designation to the Local Register of Historic Resources. There were two main reasons for this decision: 1) the property did not have an age of 50 years or greater at the time of consideration; and 2) it was argued that the historic designation would be an economic hardship for the property owner.

Additionally, the J.B. Hill Company is potentially eligible for listing in the CRHR. The property is greater than 50 years of age and possesses integrity of location, design, materials, workmanship, feeling, and association (FMC 12-1607). The property is also significant under CRHR Criterion i/1 because it is associated with early 20th century industrial development along the railroad in Fresno. Further, the property is significant under CRHR Criterion iii/3 because it has distinction as an Industrial – Food Processing property type.

CONCLUSION

Pursuant to CEQA Guidelines Section 15064.5(b), a substantial adverse change in the significance of an historical resource because of a project is defined as "the demolition, destruction, relocation, or alteration of a resource or its immediate surroundings such that its significance is materially impaired". In general, a historical resource's significance is materially impaired when it can no longer convey its historical significance and therefore can no longer justify its inclusion in,

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[1] Price and Grain Reporter. (1920, July 2). *The Price Current – Grain Reporter: Exponent of Trade Interests in Grain, Seeds, Hay, Feed, Flour, Provisions, Live Stock, Etc., Volume 84.*

or eligibility for, inclusion in the CRHR, the local register of historical resources pursuant to Public Resources Code Section 5020.1(k), or its identification in an historical resources survey meeting the requirements of Public Resources Code Section 5024.1(g).

All structures within the Demolition and Grading Project Area would be demolished under the proposed project, and the area would be graded for a new truck parking lot. Because Resource P-10-003930, the historical railroad with a NR status code of 7J, is located in this area, the proposed project may result in impairment or removal of this resource. To reduce the potential for the proposed project to result in a substantial adverse effect on the historical railroad resource, the proposed project would implement Mitigation Measure 3.3-1. Mitigation Measure 3.3-1 requires that a qualified archaeological consultant prepare an archaeological survey which will determine whether the proposed project would result in demolition, destruction, relocation, or alteration of Resource P-10-003930 and includes requirements for the documentation and/or protection of the resource, depending on the results of the subsequent analysis. The implementation of Mitigation Measure 3.3-1 would reduce impacts to Resource P-10-003930 to a **less than significant** level.

The proposed demolition of Resource P-10-004285, Zacky Farms/J.B. Hill Feed Company building, would constitute a substantial adverse change because the historical resource would be materially impaired, as defined in CEQA Guidelines Section 15064.5(b)(1)-(2), and the proposed project would destroy the property's ability to convey significance under the CRHR. Therefore, the demolition of the two attached warehouse buildings with a commercial bump-out and the tower silo structure is considered a **significant and unavoidable** impact. Thus, to reduce the potential for the proposed project to result in a substantial adverse effect on the historical J.B. Hill Company buildings, the proposed project would implement Mitigation Measures 3.3-2, 3.3-3, and 3.3-4. Mitigation Measure 3.3-2 will require the applicant to identify and ensure the significant physical characteristics of Resource P-10-004285, Zacky Farms/J.B. Hill Feed Company, are documented and retained for public benefit, and to provide an appropriate basis and foundation for the interpretive materials, as required by Mitigation Measure 3.3-4. Additionally, Mitigation Measure 3.3-3 will require the applicant, prior to the issuance of building/grading permits, to engage a historic architect to identify salvageable materials to donate to the Fresno City and County Historical Society or another appropriate entity. In general, the recommended measures include a baseline treatment for all contributing elements of the property that includes recordation and documentation under the Historic American Building Survey (HABS) Standards. While implementation of these mitigation measures would reduce the severity of this impact to the greatest extent feasible, this impact would remain **significant and unavoidable** following implementation of these mitigation measures.

MITIGATION MEASURE(S)

Mitigation Measure 3.3-1*: Prior to any site disturbance, Resource P-10-003930, the historical railroad with a NR status code of 7J, shall be further examined within an archaeological survey. The project applicant shall hire a qualified archeological consultant (consultant list can be found at: http://chrisinfo.org/) to complete the archaeological survey. The archaeological survey shall be submitted to the City Planning and Development Department for review and approval.*

As part of the archaeological survey, the South Southern San Joaquin Valley Information Center (SSJVIC) located at California State University, Bakersfield shall be contacted to determine the exact location and description of Resource P-10-003930. Once the exact location/extant is received, the applicant's qualified archeological consultant shall map the resource and use the exact location to determine whether or not the proposed project would require demolition, destruction, relocation, or alteration of Resource P-10-003930. The results of this mapping and further examination shall be included in the survey.

If the qualified archeological consultant determines that the proposed project would not require demolition, destruction, relocation, or alteration of Resource P-10-003930, then the results of the mapping and analysis shall be noted in the archaeological survey. The archaeological survey shall include measures to ensure the resource is avoided during all construction activities, including demolition. These measures shall be noted on the demolition and improvement plans to ensure that construction personnel or other project activities do not disturb the resource.

If the qualified archeological consultant determines that the proposed project would require demolition, destruction, relocation, or alteration of Resource P-10-003930, then the following steps shall be followed:

1. *The resource shall be fully documented within the archaeological survey. Documentation shall include the results of the mapping and analysis, any known historical context and/or importance, and large scale photography of the resource.*
2. *The archaeological survey shall evaluate the resource and update the National Register status code for the resource.*

Mitigation Measure 3.3-2*: To identify and ensure the significant physical characteristics of Resource P-10-004285, Zacky Farms/J.B. Hill Feed Company are documented and retained for public benefit, and to provide an appropriate basis and foundation for the interpretive materials required by Mitigation Measure 3.3-4, the applicant shall, at least 90 days prior to the start of any construction activity, document and record the existing building and property within a "Historic Documentation Report." This documentation and recordation shall:*

- *Be performed by a qualified historian or architectural historian (a person that meets the U.S. Secretary of the Interior's minimum education and experience qualifications for these disciplines).*
- *Follow the standards of the National Park Service's (NPS) Historical American Building Survey (HABS) Historical Report Guidelines (to ensure the appropriate level of written and photographic recordation of the property's significant historic context and character-defining features occurs).*

The report shall include current photographs of each building displaying each elevation, architectural details or features, and overview of the buildings, together with a textual description of the building along with additional history of the building, its principal architect or architects, and its original occupants to the extent that information about those occupants can be obtained. The photo-documentation shall be done prior to demolition of the elevator and feed mill. The *photo-documentation shall also be done in according to Historic American Building Survey/Historic Engineering Record (HABS/HAER) guidelines, which shall include archival quality negatives and prints. The final Report shall be deposited with the City Planning and Building Department, Fresno Chamber of Commerce, Fresno/Clovis Convention and Visitor's bureau, City of Fresno Library, Fresno City and County Historical Society.*

Mitigation Measure 3.3-3: *Prior to issuance of a demolition permit, the applicant shall engage a historic architect to identify salvageable materials. A salvage plan with materials planned for salvage shall be provided for review and approval to the City's Planning and Building Department and included in demolition plans submitted to the Building Department. Salvaged materials shall be donated to the Fresno City and County Historical Society or other appropriate entity.*

Mitigation Measure 3.3-4: *A publicly accessible plaque shall be erected at the property frontage of 315 N. H Street that details the former location of the elevator and feed mill, history of the Zacky Farms/J.B. Hill Feed Company, and its individual historic significance. Plaque type and language shall be subject to review and approval by the City prior to issuance of demolition permit. The plaque shall be installed within 6 months following issuance of a demolition permit.*

Impact 3.3-2: Project implementation has the potential to cause a substantial adverse change to a significant cultural or tribal cultural resource, as defined in Public Resources Code §21074. (Less than Significant with Mitigation)

As noted above, the results of the SSJVIC records search indicates a total of two resources have been previously recorded within the Demolition and Grading Project Area on maps and files maintained by the SSJVIC. Of these cultural resources, one is a potentially historic building (Resource P-10-004285) and the other is a potentially historic railroad (Resource P-10-003930). De Novo Planning Group also sent a letter to the NAHC requesting a check of the Sacred Lands files. The Sacred Lands file check failed to reveal any resources on the Demolition and Grading Project Area or Truck Movement Project Area. The NAHC also provided a list of individuals and tribal groups to contact regarding the site, all of which were contacted. As noted previously, 13 tribal representatives were contacted pursuant to AB 52. None of the tribes that were contacted identified any tribal cultural resources on the project site.

However, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural or tribal cultural resources, including prehistoric or historic artifacts. Implementation of Mitigation Measures 3.3-5 and 3.3-6 would ensure that the potential impact to cultural and tribal resources is **less than significant**.

MITIGATION MEASURE(S)

Mitigation Measure 3.3-5: *If any cultural resources, including prehistoric or historic artifacts, or other indications of archaeological resources, are found during grading and construction activities during any phase of the project, all work shall be halted immediately within a 200-foot radius of the discovery until an archaeologist meeting the Secretary of the Interior's Professional*

Qualifications Standards in prehistoric or historical archaeology, as appropriate, has evaluated the find(s).

Work shall not continue at the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR; or 3) not a significant Public Trust Resource.

If Native American resources are identified, a Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission, may also be required and, if required, shall be retained at the project applicant's expense.

Mitigation Measure 3.3-6*: If human remains are found during construction within the Demolition and Grading Project Area, there shall be no further excavation or disturbance within 50 feet of the discovery and a qualified archeological monitor and the Fresno County Coroner are contacted as stated in Health and Safety Code Section 7050.5. If it is determined that the remains are Native American, the coroner shall contact the Native American Heritage Commission within 24 hours. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descendent (MLD) from the deceased Native American. The MLD may then make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and associated grave goods as provided in Public Resources Code section 5097.98. The landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further disturbance if:*

- *the Native American Heritage Commission is unable to identify a MLD or the MLD failed to make a recommendation within 24 hours after being notified by the commission;*
- *the descendent identified fails to make a recommendation; or*
- *the landowner or his authorized representative rejects the recommendation of the descendent, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.*

Impact 3.3-3: Project implementation has the potential to cause a substantial adverse change to a significant archaeological resource, as defined in CEQA Guidelines §15064.5. (Less than Significant with Mitigation)

The project site is located in an area known to have cultural resources. Although the SSJVIC search noted a historic building and a historic railroad have been recorded within the project area, the search did not reveal a significant archeological resource or site on the project area. However, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of previously unknown archaeological resources. Implementation of Mitigation Measure 3.3-5 would ensure that this potential impact is **less than significant**.

MITIGATION MEASURE(S)

Implement ***Mitigation Measures 3.3-5****.*

Impact 3.3-4: Project implementation has the potential to disturb human remains, including those interred outside of formal cemeteries. (Less than Significant with Mitigation)

There are no human remains or known burial sites identified in the project area. Additionally, there are no human remains or known burial sites that have been identified in the project area on maps and files maintained by the SSJVIC. There have been two previous cultural resource studies that examined portions of the project area, which includes one historic building, and no human remains or known burial sites were documented. In addition to the SSJVIC records search, a variety of sources were consulted in February 2020 to obtain information regarding the cultural context of the project area. Sources included the NRHP, the CRHR, CHRI, CHL, and CPHI. No other human remains or known burial sites were listed in the Demolition and Grading Project Area.

It is not anticipated that future ground disturbing activities associated with development of the Demolition and Grading Project Area would result in impacts to human remains or known burial sites given that none are believed to be present. However, as with most projects in California that involve ground disturbing activities, there is the potential for discovery of previously unknown human remains or known burial sites. The implementation of the following mitigation measure would ensure that this potential impact is reduced to a **less than significant** level.

MITIGATION MEASURE(S)

Implement ***Mitigation Measure 3.3-6****.*

The purpose of this section is to disclose and analyze the potential impacts associated with the geology of the project site and regional vicinity, and to analyze issues such as the potential exposure of people and property to geologic hazards, landform alteration, and erosion. This section is based in part on the following: *Fresno General Plan* (City of Fresno, 2014), *Fresno General Plan Draft Environmental Impact Report* (City of Fresno, 2014), Natural History Museum of Los Angeles County (LACM; McLeod 2019), *Web Soil Survey* (NRCS, 2019), Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS, 2019), and Interactive Fault Map provided by the U.S. Geological Survey (USGS, 2019).

One comment was received during the public review period for the Notice of Preparation regarding this topic from the Department Toxic Substance Control (February 3, 2020). The commenter notes that any imported soil should be free of contamination. The comment related to this topic is addressed within this section; see Impact 3.4-3. Full comments received are included in Appendix A.

As discussed in the Initial Study prepared for the proposed project, the proposed project is currently served by existing City infrastructure. Upon development of the demolition and grading area, the project would continue to be served by the City. The proposed project will not require construction of new water or wastewater infrastructure. Septic tanks or septic systems are not proposed as part of the project. Additionally, there are no significant deposits of mineral resources located on the project site, as delineated by the Mineral Resources and Mineral Hazards Mapping Program (MRMHMP). The project site is not designated as a Mineral Resource Zone (MRZ). As such, these CEQA topics will not be further discussed.

3.4.1 ENVIRONMENTAL SETTING

GEOLOGIC SETTING

Regional Geology

The project site lies in the San Joaquin Valley in central California. The San Joaquin Valley is located in the southern portion of the Great Valley Geomorphic Province. The Great Valley, also known as the Central Valley, is a topographically flat, northwest-trending, structural trough (or basin) about 50 miles wide and 450 miles long. It is bordered by the Tehachapi Mountains on the south, the Klamath Mountains on the north, the Sierra Nevada on the east, and the Coast Ranges on the west.

The San Joaquin Valley (Valley) is filled with thick sedimentary rock sequences that were deposited as much as 130 million years ago. Large alluvial fans have developed on each side of the Valley. The larger and more gently sloping fans are on the east side of the Valley, and overlie metamorphic and igneous basement rocks. These basement rocks are exposed in the Sierra Nevada foothills and consist of meta-sedimentary, volcanic, and granitic rocks.

Local Setting

The project site is relatively flat. The elevation of the site ranges from approximately 288 feet to 300 feet above mean sea level (MSL). Producers Dairy Foods currently operates at multiple locations within the greater Truck Movement Parking Area (Figure 2.0-3). The existing operations include the Main Plant, which includes processing facilities, blow mold and storage areas, executive offices, product loading, dry storage, bottling and processing, order processing, and truck maintenance. Existing operations also occur at the ice cream warehouse, which is located southwest of the Main Plant, as shown on Figure 2.0-3. Producers also operates at the old cheese plant property, which is no longer operational as a cheese production facility, but is currently used for trailer storage as part of daily operations.

The vast majority of the existing operations and facilities are located in the area southwest of the Palm Avenue and Belmont Avenue intersection (the Main Plant); however, the ice cream warehouse is located west of H Street and north and west of the Southern Pacific Railroad, and the cheese plant property is located at the southwest corner of the N. Roosevelt Avenue and Belmont Avenue intersection. Existing circulation patterns currently connect the ice cream warehouse and cheese plant property to the other buildings listed previously (located southwest of the Palm Avenue and Belmont Avenue intersection).

A Web Soil Survey was utilized through the Natural Resources Conservation Service (NRCS) Web Soil Survey program. The NRCS Soils Map is provided in Figure 3.4-1. Table 3.4-1 identifies the type and range of soils found in the project site.

TABLE 3.4-1: PROJECT SITE SOILS

UNIT SYMBOL	*NAME*	*ACRES WITHIN THE TRUCK MOVEMENT PROJECT AREA*	*PERCENT WITHIN THE TRUCK MOVEMENT PROJECT AREA*	*ACRES WITHIN THE DEMOLITION AND GRADING PROJECT AREA*	*PERCENT WITHIN THE DEMOLITION AND GRADING PROJECT AREA*
GuA	Greenfield sandy loam, moderately deep, 0-3% slopes	59.27	86.6%	2.37	66.8%
Hc	Hanford sandy loam	6.14	9.0%	1.18	33.2%
ScA	San Joaquin sandy loam, 0-3% slopes, MLRA 17	3.02	4.4%	0.00	0%

SOURCE: NRCS WEB SOIL SURVEY 2019.

Greenfield series. The Greenfield series consists of deep, well drained soils that formed in moderately coarse and coarse textured alluvium derived from granitic and mixed rock sources. Greenfield soils are on alluvial fans and terraces and have slopes of 0 to 30 percent. The mean annual precipitation is about 15 inches and the mean annual air temperature is about 62 degrees F. The Greenfield series includes but is not limited to the ''Greenfield Coarse sandy loam," which is present within the project site.

Hanford series. The Hanford series consists of very deep, well drained soils that formed in moderately coarse textured alluvium dominantly from granite. Hanford soils are on stream bottoms, floodplains and alluvial fans and have slopes of 0 to 15 percent. The mean annual precipitation is about 12 inches and the mean annual air temperature is about 63 degrees F. The Hanford series includes but is not limited to the ''Hanford gravelly sandy loam', and the 'hanford sandy loam, benches' soils, each of which is present within the project site.

San Joaquin series. The San Joaquin series consists of moderately deep to a duripan, well and moderately well drained soils that formed in alluvium derived from mixed but dominantly granitic rock sources. They are on undulating low terraces with slopes of 0 to 9 percent. The mean annual precipitation is about 15 inches and the mean annual temperature is about 61 degrees F. The San Joaquin series includes but is not limited to the 'San Joaquin loam, 0-3% slopes', San Joaquin loam, shallow, 0-3% slopes', 'San Joaquin sandy loam, 0-3% slopes, MRLA 17', and 'San Joaquin sandy loam, shallow, 0-3% slopes' soils, each of which is present within the project site.

FAULTS AND SEISMICITY

Faults and Fault Systems

A fault is a fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side. A fault trace is the line on the earth's surface defining the fault. Displacement of the earth's crust along faults releases energy in the form of earthquakes and in some cases in fault creep. Most faults are the result of repeated displacements over a long period of time.

Surface rupture occurs when movement on a fault deep within the earth breaks through to the surface. Surface ruptures have been known to extend up to 50 miles with displacements of an inch to 20 feet. Fault rupture almost always follows preexisting faults, which are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by shaking.

The State of California designates faults as active, potentially active, and inactive depending on how recent the movement that can be substantiated for a fault. Table 3.4-2 presents the California fault activity rating system.

TABLE 3.4-2: FAULT ACTIVITY RATING

FAULT ACTIVITY RATING	*GEOLOGIC PERIOD OF LAST RUPTURE*	*TIME INTERVAL*
Active (A)	Holocene	Within last 11,700 Years
Potentially Active (PA)	Quaternary	Age Undifferentiated
Inactive (I)	Pre-Quaternary	Greater than 1.6 Million Years

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION, FAULT ACTIVITY MAP OF CALIFORNIA.

No active faults are mapped within the City of Fresno (U.S. Geologic Survey, 2019). Active faults are those showing evidence of surface displacement within the last 11,000 years.[1] The nearest faults to the project site include the Nunez fault, located approximately 50 miles to the southwest, and the San Joaquin fault, located approximately 50 miles to the west of the project site (see

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[1] California Geological Survey, 2019. Alquist-Priolo Earthquake Fault Zoning Act, https://www.conservation.ca.gov/cgs/alquist-priolo, accessed February 14, 2020.

Figure 3.4-2). The San Andreas fault zone is located approximately 60 miles to the southwest of the project site (see Figure 3.4-2).

The nearest Alquist-Priolo Earthquake Fault Zone to the project site is along the Nunez Fault about 50 miles to the southwest (see Figure 3.4-2).

Seismicity

The amount of energy available to a fault is determined by considering the slip-rate of the fault, its area (fault length multiplied by down-dip width), maximum magnitude, and the rigidity of the displaced rocks. These factors are combined to calculate the moment (energy) release on a fault. The total seismic energy release for a fault source is sometimes partitioned between two different recurrence models, the characteristic and truncated Gutenberg-Richter (G-R) magnitude-frequency distributions. These models incorporate our knowledge of the range of magnitudes and relative frequency of different magnitudes for a particular fault. The partition of moment and the weights for multiple models are given in the following summary.

Earthquakes are generally expressed in terms of intensity and magnitude. Intensity is based on the observed effects of ground shaking on people, buildings, and natural features. By comparison, magnitude is based on the amplitude of the earthquake waves recorded on instruments, which have a common calibration. The Richter scale, a logarithmic scale ranging from 0.1 to 9.0, with 9.0 being the strongest, measures the magnitude of an earthquake relative to ground shaking. Table 3.6-3 provides a description and a comparison of intensity and magnitude.

TABLE 3.6-3: MODIFIED MERCALLI INTENSITY SCALE FOR EARTHQUAKES

RICHTER MAGNITUDE	*MODIFIED MERCALLI SCALE*	*EFFECTS OF INTENSITY*
0.1 – 0.9	I	Earthquake shaking not felt
1.0 – 2.9	II	Shaking felt by those at rest.
3.0 – 3.9	III	Felt by most people indoors, some can estimate duration of shaking.
4.0 – 4.5	IV	Felt by most people indoors. Hanging objects rattle, wooden walls and frames creak.
4.6 – 4.9	V	Felt by everyone indoors, the duration of shaking can be estimated by most people. Standing autos rock. Crockery clashes, dishes rattle and glasses clink. Doors open, close and swing.
5.0 – 5.5	VI	Felt by all who estimate duration of shaking. Sleepers awaken, liquids spill, objects are displaced, and weak materials crack.
5.6 – 6.4	VII	People frightened and walls unsteady. Pictures and books thrown, dishes and glass are broken. Weak chimneys break. Plaster, loose bricks and parapets fall.
6.5 – 6.9	VIII	Difficult to stand. Waves on ponds, cohesionless soils slump. Stucco and masonry walls fall. Chimneys, stacks, towers, and elevated tanks twist and fall.
7.0 – 7.4	IX	General fright as people are thrown down, hard to drive. Trees broken, damage to foundations and frames. Reservoirs damaged, underground pipes broken.
7.5 – 7.9	X	General panic. Ground cracks, masonry and frame buildings destroyed. Bridges destroyed, railroads bent slightly. Dams, dikes and embankments damaged.

RICHTER MAGNITUDE	*MODIFIED MERCALLI SCALE*	*EFFECTS OF INTENSITY*
8.0 – 8.4	XI	Large landslides, water thrown, general destruction of buildings. Pipelines destroyed, railroads bent.
8.5 +	XII	Total nearby damage, rock masses displaced. Lines of sight/level distorted. Objects thrown into air.

SOURCE: UNITED STATES GEOLOGICAL SURVEY.

The California Building Standards Code (CBSC) places all of California in the zone of greatest earthquake severity because recent studies indicate high potential for severe ground shaking.

According to the California Geological Survey's Probabilistic Seismic Hazard Assessment Program, Fresno County is considered to be within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of 10 to 20 percent within a 50-year period. This level of ground shaking correlates to a Modified Mercalli intensity of V to VII, light to strong.

Alquist-Priolo Special Study Zone

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. The California Geologic Survey (CGS) evaluates faults with available geologic and seismologic data and determines if a fault should be zoned as active, potentially active, or inactive. If CGS determines a fault to be active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazard Act. Alquist-Priolo Special Study Zones are usually one-quarter mile or less in width and require site-specific evaluation of fault location and require a structure setback if the fault is found traversing a project site. The project site is not within an Alquist-Priolo Special Study Zone.

SEISMIC HAZARDS

Seismic Ground Shaking

The potential for seismic ground shaking in California is expected. As a result of the foreseeable seismicity in California, the State requires special design considerations for all structural improvements in accordance with the seismic design provisions in the California Building Code. These seismic design provisions require enhanced structural integrity based on several risk parameters. Seismic ground shaking in the project site is expected during the life of the proposed project.

Fault Rupture

A fault rupture occurs when the surface of the earth breaks as a result of an earthquake, although this does not happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault. Ruptures can be sudden (i.e. earthquake) or slow (i.e. fault creep). The Alquist-Priolo Fault Zoning Act requires active earthquake fault zones to be mapped and it provides special development considerations within these zones. The project site does not have surface expression of active faults and fault rupture is not anticipated.

Liquefaction

Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet. Liquefaction potential in the City of Fresno is considered low to moderate.[2] No liquefaction has been observed in Fresno from any historic earthquake.[3]

Seismic Ground Settlement

Ground shaking can cause unconsolidated sediments to settle. Due to the nature of the soils underlying the city, and the history of low to moderate ground shaking, seismic settlement is not considered a significant hazard in the region.[4]

Lateral Spreading

Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is directly associated with areas of liquefaction. Lateral spreading is not considered a substantial hazard in the region for the same reasons given for seismic ground settlement.

Landslides

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e. cut and fill). The potential for landslides is considered remote on the project site, as the site has a relatively flat slope.

NON-SEISMIC HAZARDS

Expansive Soils

Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dried and expand and soften when wet. If structures are underlain by

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[2] Krazen and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Accessed on September 3, 2019.

[3] County of Fresno. 2018. Fresno County Multi-Hazard Mitigation Plan. Available at: https://www.co.fresno.ca.us/home/showdocument?id=24743

[4] Krazen and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Accessed on September 3, 2019.

expansive soils, it is important that foundation systems be capable of tolerating or resisting any potentially damaging soil movements. In addition, it is important to limit moisture changes in the surficial soils by using positive drainage away from buildings as well as limiting landscaping watering. Soils underlying the Fresno region consist partly of clays that are considered slightly to moderately expansive.[5] The project site is not mapped as having moderate to high expansion potential.[6]

Erosion

Erosion naturally occurs on the surface of the earth as surface materials (i.e. rock, soil, debris, etc.) is loosened, dissolved, or worn away, and transported from one place to another by gravity. Two common types of soil erosion include wind erosion and water erosion. The steepness of a slope is an important factor that affects soil erosion. Erosion potential in soils is influenced primarily by loose soil texture and steep slopes. Loose soils can be eroded by water or wind forces, whereas soils with high clay content are generally susceptible only to water erosion. The potential for erosion generally increases as a result of human activity, primarily through the development of facilities and impervious surfaces and the removal of vegetative cover.

The *Web Soil Survey program through the NRCS* identified the erosion potential for the soils in the project site. This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. Soil property data for each map unit component includes the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the surface horizon.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Within the project site, the erosion factor Kf varies from 0.24 to 0.32, which is considered a low to moderate potential for erosion. Furthermore, because the project site is essentially flat, the erosion potential is slight.

The Fresno County Multi-Hazard Mitigation Plan identifies two types of areas with moderate to high erosion potential: 1) certain soil types in the Sierra Nevada and foothills (both Sierra Nevada and Coast Ranges) on slopes generally over 30 percent, and 2) certain soil types in the western San Joaquin Valley and the Coast Ranges, both in western Fresno County. The project site is not mapped in an area of moderate to high erosion potential.[7]

Construction projects 1 acre or larger in area are required to employ construction Best Management Practices (BMPs) — including erosion control BMPs—to minimize pollution of stormwater by construction activity, including pollution with sediment.

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[5] Krazen and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Accessed on September 3, 2019.

[6] County of Fresno. 2018. Fresno County Multi-Hazard Mitigation Plan. Available at: https://www.co.fresno.ca.us/home/showdocument?id=24743

[7] County of Fresno. 2018. Fresno County Multi-Hazard Mitigation Plan. Available at: https://www.co.fresno.ca.us/home/showdocument?id=24743

Collapsible Soils

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Soils prone to collapse are commonly associated with manmade fill, wind-laid sands and silts, and alluvial fan and mudflow sediments deposited during flash floods. During an earthquake, even slight settlement of fill materials can lead to a differentially settled structure and significant repair costs. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors.

Collapsible soils have not been identified in the Fresno General Plan as an issue in the Fresno area or on the project site.

Subsidence

Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground. It is a natural process, although it can also occur (and is greatly accelerated) as a result of human activities. Common causes of land subsidence from human activity include: pumping water, oil, and gas from underground reservoirs; dissolution of limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils. The Fresno region is not known to be subject to subsidence hazards. Areas of subsidence in Fresno County mapped in the Multi-Hazard Mitigation Plan are in western Fresno County over 20 miles west and southwest from the project site.[8]

PALEONTOLOGICAL RESOURCES

No fossils are known within the Fresno area. However, fossils have been found in the same geologic formations that occur within the City.

3.4.2 REGULATORY SETTING

FEDERAL

Uniform Building Code (UBC)

The purpose of the Uniform Building Code (UBC) is to provide minimum standards to preserve the public peace, health, and safety by regulating the design, construction, quality of materials, certain equipment, location, grading, use, occupancy, and maintenance of all buildings and structures. UBC standards address foundation design, shear wall strength, and other structurally related conditions.

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[8] County of Fresno. 2018. Fresno County Multi-Hazard Mitigation Plan. Available at: https://www.co.fresno.ca.us/home/showdocument?id=24743

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act, as amended, is the basic statute regulating hazardous materials transportation in the United States. The purpose of the law is to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in interstate commerce. This law gives the U.S. Department of Transportation (USDOT) and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials (DOE 2002).

STATE

The State of California has established a variety of regulations and requirements related to seismic safety and structural integrity, including the California Building Standards Code, the Alquist-Priolo Earthquake Fault Zoning Act and the Seismic Hazards Mapping Act.

California Building Standards Code

Title 24 of the California Code of Regulations, known as the California Building Standards Code (CBSC) or just "Title 24," contains the regulations that govern the construction of buildings in California. The CBSC includes 12 parts including: California Building Standards Administrative Code, California Building Code, California Residential Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Historical Building Code, California Fire Code, California Existing Building Code, California Green Building Standards Code (CALGreen Code), California Reference Standards Code. Through the CBSC, the state provides a minimum standard for building design and construction. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining walls and site demolition. It also regulates grading activities, including drainage and erosion control.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 sets forth the policies and Criteria of the State Mining and Geology Board, which governs the exercise of governments’ responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface faulting or fault creep within Earthquake Fault Zones, as delineated on maps officially issued by the State Geologist. Working definitions include:

- Fault – a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side;

- Fault Zone – a zone of related faults, which commonly are braided and sub parallel, but may be branching and divergent. A fault zone has a significant width (with respect to the scale at which the fault is being considered, portrayed, or investigated), ranging from a few feet to several miles;

- Sufficiently Active Fault – a fault that has evidence of Holocene surface displacement along one or more of its segments or branches (last 11,000 years); and

- Well-Defined Fault – a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The geologist should be able to locate the fault in the field with sufficient precision and confidence to indicate that the required site-specific investigations would meet with some success.

“Sufficiently Active” and “Well Defined” are the two criteria used by the State to determine if a fault should be zoned under the Alquist-Priolo Act.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. Under the Act, seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act (which addresses only surface fault-rupture hazards) and are outlined below:

The State Geologist is required to delineate the various “seismic hazard zones.”

- Cities and Counties, or other local permitting authority, must regulate certain development “projects” within the zones. They must withhold the development permits for a site within a zone until the geologic and soil conditions of the site are investigated and appropriate mitigation measures, if any, are incorporated into development plans.
- The State Mining and Geology Board provides additional regulations, policies, and criteria, to guide cities and counties in their implementation of the law. The Board also provides guidelines for preparation of the Seismic Hazard Zone Maps and for evaluating and mitigating seismic hazards.
- Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

National Pollutant Discharge Elimination System (NPDES)

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The Regional Water Quality Control Board (RWQCB) issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act’s implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act’s goal of “fishable and swimmable” navigable (surface) waters.

Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the California Water Code.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the RWQCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB issues general permits for stormwater runoff from construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

In accordance with the NPDES General Construction Permit requirements, a Storm Water Pollution Prevention Plan (SWPPP) is required for projects that disturb at least one acre of soil. The SWPPP must be submitted to the RWQCB.

Caltrans Seismic Design Criteria

The California Department of Transportation (Caltrans) has Seismic Design Criteria (SDC), which is an encyclopedia of new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. The SDC has been developed with input from the Caltrans Offices of Structure Design, Earthquake Engineering and Design Support, and Materials and Foundations. Memo 20-1 outlines the bridge category and classification, seismic performance criteria, seismic design philosophy and approach, seismic demands and capacities on structural components and seismic design practices that collectively make up Caltrans' seismic design methodology.

LOCAL

The City of Fresno General Plan identifies geologic resources within the city and recommends measures to protect these resources.

City of Fresno General Plan

The City of Fresno General Plan includes several policies that are relevant to an evaluation of the geological conditions of the project site. General Plan policies and implementation measures applicable to the project are identified below:

NOISE AND SAFETY ELEMENT

Objective NS-2: Minimize risks of property damage and personal injury posed by geologic and seismic risks.

Policy NS-2-a: Seismic Protection. Ensure seismic protection is incorporated into new and existing construction, consistent with the Fresno Municipal Code.

Policy NS-2-b: Soil Analysis Requirement. Identify areas with potential geologic and/or soils hazards, and require development in these areas to conduct a soil analysis and mitigation plan by a registered civil engineer (or engineering geologist specializing in soil geology) prior to allowing on-site drainage or disposal for wastewater, stormwater runoff, or swimming pool/spa water.

3.4.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact on geology and soils if it will:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42; or
    - Strong seismic ground shaking; or
    - Seismic-related ground failure, including liquefaction; or
    - Landslides;
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

IMPACTS AND MITIGATION MEASURES

Impact 3.4-1: The proposed project would not directly or indirectly cause potential substantial adverse effects involving strong seismic ground shaking or seismic related ground failure (Less than Significant)

The CGS evaluates faults and determines if a fault should be zoned as active, potentially active, or inactive. All active faults are incorporated into a Special Studies Zone, also referred to as an Alquist-Priolo Special Study Zone. The project site is not within an Alquist-Priolo Special Study Zone. There are no known faults (active, potentially active, or inactive) that traverse through the City.

According to the California Geological Survey's Probabilistic Seismic Hazard Assessment Program, Fresno is considered to be within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of 10 to 20 percent within a 50-year period. This level of ground shaking correlates to a Modified Mercalli intensity of V to VII, light to strong. As a result of these factors the California Geological Survey has defined the entire county as a seismic hazard zone.

With the exception of the Dunnigan Hills fault, located in the Woodland area, the Sacramento Valley has generally not been seismically active in the last 11,000 years (Holocene time). Faults with known or estimated activity during the Holocene are generally located in the San Francisco Bay Area to the northwest, or in the Lake Tahoe area to the northeast. The CBSC places all of California in the zone of greatest earthquake severity because recent studies indicate high potential for severe ground shaking.

There will always be a potential for groundshaking caused by seismic activity anywhere in California, including the Plan. In order to minimize potential damage to site improvements of the Demolition and Grading Project Area, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. Design in accordance with these standards would reduce any potential impact to a ***less than significant*** level. Refer to Impact 3.4-3 for a discussion of impacts related to landslides, lateral spreading, subsidence, and liquefaction.

Impact 3.4-2: The proposed project has the potential to result in substantial soil erosion or the loss of topsoil (Less than Significant with Mitigation)

According to the United States Environmental Protection Agency, polluted stormwater runoff is a leading cause of impairment to the nearly 40 percent of surveyed U.S. water bodies which do not meet water quality standards. Over land or via storm sewer systems, polluted runoff is discharged, often untreated, directly into local water bodies. Soil erosion and the loss of topsoil is one of the most common sources of polluted stormwater runoff during construction activities. When left uncontrolled, storm water runoff can erode soil and cause sedimentation in waterways, which collectively result in the destruction of fish, wildlife, and aquatic life habitats; a loss in aesthetic value; and threats to public health due to contaminated food, drinking water supplies, and recreational waterways.

Mandated by Congress under the Clean Water Act, the NPDES Stormwater Program is a comprehensive two-phased national program for addressing the non-agricultural sources of stormwater discharges which adversely affect the quality of our nation's waters. The program uses the National Pollutant Discharge Elimination System (NPDES) permitting mechanism to require the implementation of controls designed to prevent harmful pollutants, including soil erosion, from being washed by stormwater runoff into local water bodies. The construction activities for the proposed project would be governed by the General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), which states:

> *"…Particular attention must be paid to large, mass graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great and where there is potential for significant sediment discharge from the site to surface waters. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary soil stabilization can be the single most important factor in reducing erosion at construction sites. The discharger is required to consider measures such as: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. These erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Erosion control BMPs should be the primary means of preventing storm water contamination, and sediment control techniques should be used to capture any soil that becomes eroded…"*

General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ) further states that:

> *"Sediment control BMPs should be the secondary means of preventing storm water contamination. When erosion control techniques are ineffective, sediment control techniques should be used to capture any soil that becomes eroded. The discharger is required to consider perimeter control measures such as: installing silt fences or placing straw wattles below slopes. These sediment control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed…Inappropriate management of run-on and runoff can result in excessive physical impacts to receiving waters from sediment and increased flows. The discharger is required to manage all run-on and runoff from a project site. Examples include: installing berms and other temporary run-on and runoff diversions…All measures must be periodically inspected, maintained and repaired to ensure that receiving water quality is protected. Frequent inspections coupled with thorough documentation and timely repair is necessary to ensure that all measures are functioning as intended…"*

To ensure that construction activities are covered under General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), projects in California must prepare a SWPPP containing BMPs to reduce erosion and sediments to meet water quality standards. Such BMPs may include: temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover. The BMPs and overall SWPPP is reviewed by the Regional Water Quality Control Board as part of the permitting process. The SWPPP, once approved, is kept on site and implemented during construction activities and must be made available upon request to representatives of the RWQCB and/or the lead agency.

The Web Soil Survey program through the NRCS identified the erosion potential for the soils in the project site. This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. Soil property data for each map unit component includes the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the surface horizon.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Within the project site, the erosion factor Kf varies from 0.24 to 0.32, which is considered a low to moderate potential for erosion. Furthermore, because the project site is essentially flat, the erosion potential is considered slight. Regardless of the potential for erosion, there is always the potential for human caused erosion associated with construction activities or through the operational phase of a project. Grading, excavation, removal of vegetation cover, and loading activities associated with construction activities temporarily expose soils and increase the potential for soil erosion and sedimentation during rail events. Construction activities can also result in soil compaction and wind erosion effects that can adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

In accordance with the NPDES Stormwater Program, Mitigation Measure 3.4-1 requires an approved SWPPP designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. The RWQCB has stated that these erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. The specific controls are subject to the review and approval by the RWQCB and are existing regulatory requirements. Implementation of Mitigation Measures 3.4-1 would ensure that the proposed project would have a **less than significant** impact relative to this topic.

MITIGATION MEASURE(S)

Mitigation Measure 3.4-1: *Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation for each phase of the project, the project proponent shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ amended by 2010-0014-DWQ & 2012-0006-DWQ). The SWPPP shall be designed with Best Management Practices (BMPs) that the RWQCB has deemed as effective at reducing erosion, controlling sediment, and managing runoff. These include: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. Sediment control BMPs, installing silt fences or placing straw wattles below slopes, installing berms and other temporary run-on and runoff diversions. These BMPs are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Final selection of BMPs will be subject to approval by City of Fresno and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB.*

Impact 3.4-3: The proposed project has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of project implementation, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse (Less than Significant with Mitigation)

LIQUEFACTION

Soil liquefaction results from loss of strength during cyclic loading, such as imposed by earthquakes. Soils most susceptible to liquefaction are clean, loose, saturated, and uniformly graded, fine-grained sands. Liquefaction potential in the City of Fresno is considered low to moderate.[9] No liquefaction has been observed in Fresno from any historic earthquake.[10]

LATERAL SPREADING

Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is also directly associated with areas of liquefaction. Since the potential for liquefaction is moderate to high, the potential for lateral spreading is present. Lateral spreading is not considered a substantial hazard in the region.

LANDSLIDES

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e. cut and fill). The project site is essentially flat; therefore, the potential for a landslide within the project site is virtually non-existent.

COLLAPSIBLE SOILS

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors. Soils underlying the Fresno region consist partly of clays that are considered slightly to moderately expansive.[11] The project site is not mapped as

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[9] Krazen and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Accessed on September 3, 2019.

[10] County of Fresno. 2018. Fresno County Multi-Hazard Mitigation Plan. Available at: https://www.co.fresno.ca.us/home/showdocument?id=24743

[11] Krazen and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Accessed on September 3, 2019.

having moderate to high expansion potential.[12] However, in areas subject to potential liquefaction, the potential for liquefaction induced settlement is present.

SUBSIDENCE

Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground. It is a natural process, although it can also occur (and is greatly accelerated) as a result of human activities. Common causes of land subsidence from human activity include: pumping water, oil, and gas from underground reservoirs; dissolution of limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils. Areas of subsidence in Fresno County mapped in the Multi-Hazard Mitigation Plan are in western Fresno County over 20 miles west and southwest from the project site.[13]

CONCLUSION

The project site does not have a significant risk of becoming unstable as a result landslide, subsidence, or soil collapse. There is a potential for liquefaction, liquefaction induced settlement, and lateral spreading. However, through the implementation of Mitigation Measure 3.4-2, implementation of the proposed project would have a **less than significant** impact relative to this topic.

MITIGATION MEASURE(S)

Mitigation Measure 3.4-2*: Prior to earthmoving activities, a certified geotechnical engineer, or equivalent, shall be retained to perform a final geotechnical evaluation of the soils at a design-level as required by the requirements of the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils and other soil conditions. The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures, including threats from liquefaction or lateral spreading. The grading and improvement plans, as well as the storm drainage plans for the Project shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.*

Impact 3.4-4: The proposed project has the potential to be located on expansive soils, creating substantial risks to life or property (Less than Significant with Mitigation)

Expansive soils are those that undergo volume changes as moisture content fluctuates; swelling substantially when wet or shrinking when dry. Soil expansion can damage structures by cracking

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[12] County of Fresno. 2018. Fresno County Multi-Hazard Mitigation Plan. Available at: https://www.co.fresno.ca.us/home/showdocument?id=24743

[13] County of Fresno. 2018. Fresno County Multi-Hazard Mitigation Plan. Available at: https://www.co.fresno.ca.us/home/showdocument?id=24743

foundations, causing settlement and distorting structural elements. Expansion is a typical characteristic of certain varieties of clay-type soils. Expansive soils shrink and swell in volume during changes in moisture content, such as a result of seasonal rain events, and can cause damage to foundations, concrete slabs, roadway improvements, and pavement sections.

Soils underlying the Fresno region consist partly of clays that are considered slightly to moderately expansive.[14] The project site is not mapped as having moderate to high expansion potential.[15]

The California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 requires specific geotechnical evaluation when a preliminary geotechnical evaluation determines that expansive or other special soil conditions are present, which, if not corrected, would lead to structural defects. Mitigation Measure 3.4-2, presented above, provides the requirement for a final geotechnical evaluation in accordance with the standards and requirements outlined in the California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation would include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures. The grading and improvement plans, as well as the storm drainage plans, are required to be designed in accordance with the recommendations provided in the final geotechnical evaluation. With the implementation of Mitigation Measure 3.4-2 (which requires a final Geotechnical Evaluation, and site recommendations), implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURE(S)

*Implement **Mitigation Measure 3.4-2**.*

Impact 3.4-5: The proposed project has the potential to directly or indirectly destroy a unique paleontological resource (Less than Significant with Mitigation)

No fossils are known within the Fresno area. The project is not expected to contain subsurface paleontological resources; however, it is possible that undiscovered paleontological resources could be encountered during ground-disturbing activities.

Damage to or destruction of a paleontological resource would be considered a potentially significant impact under local, state, or federal criteria. Implementation of Mitigation Measure 3.4-3 would ensure steps would be taken to reduce impacts to paleontological resources in the event that they are discovered during construction. This mitigation measure would reduce this impact to a ***less than significant*** level.

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[14] Krazen and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Accessed on September 3, 2019.

[15] County of Fresno. 2018. Fresno County Multi-Hazard Mitigation Plan. Available at: https://www.co.fresno.ca.us/home/showdocument?id=24743

MITIGATION MEASURE(S)

Mitigation Measure 3.4-3: *If any paleontological resources are found during grading and construction activities, all work shall be halted immediately within a 200-foot radius of the discovery until a qualified paleontologist has evaluated the find.*

Work shall not continue at the discovery site until the paleontologist evaluates the find and makes a determination regarding the significance of the resource and identifies recommendations for conservation of the resource, including preserving in place or relocating within the Demolition and Grading Project Area, if feasible, or collecting the resource to the extent feasible and documenting the find with the University of California Museum of Paleontology.

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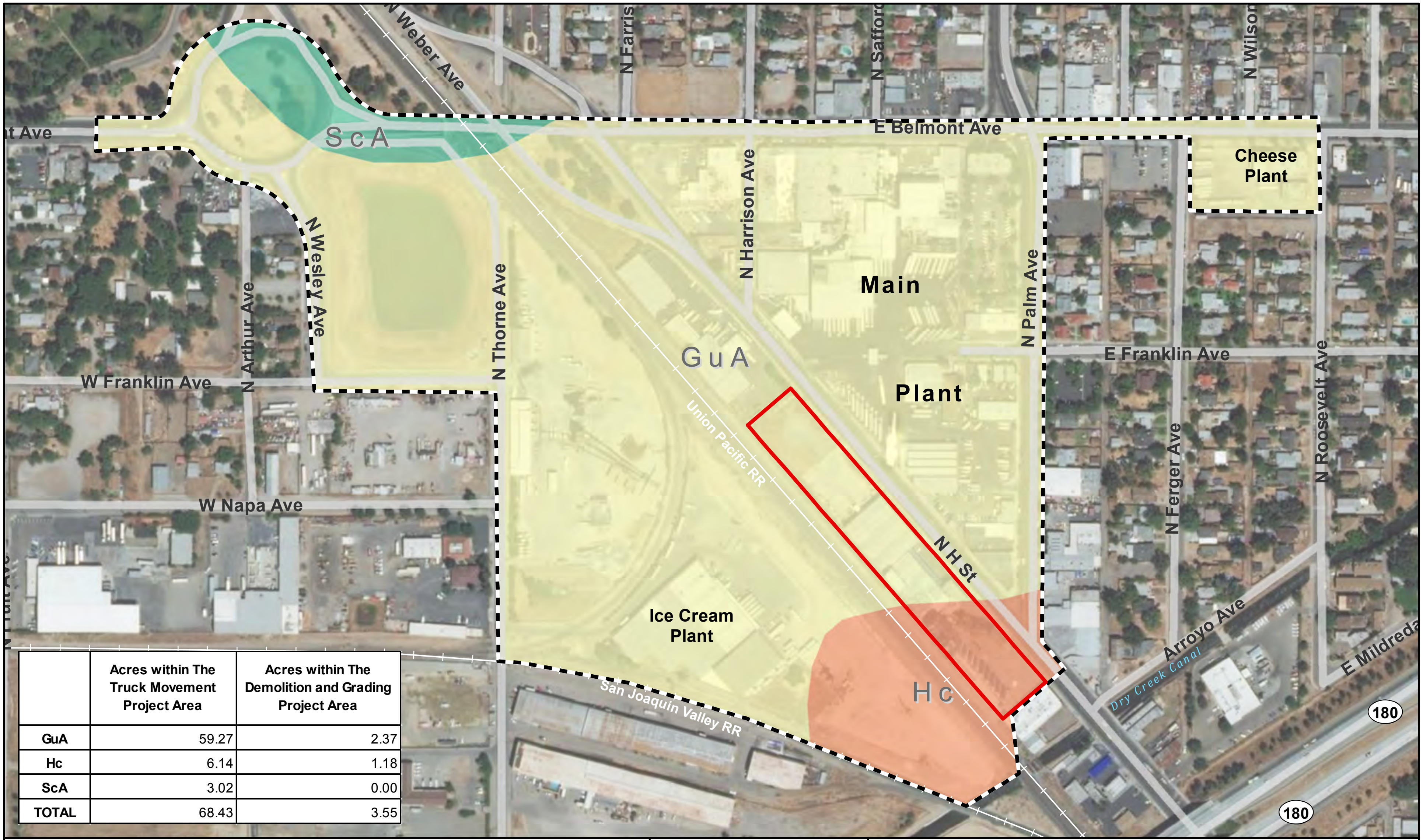

	Acres within The Truck Movement Project Area	Acres within The Demolition and Grading Project Area
GuA	59.27	2.37
Hc	6.14	1.18
ScA	3.02	0.00
TOTAL	68.43	3.55

Legend

🟥 The Demolition and Grading Project Area

▭ The Truck Movement Project Area

NRCS Soil Description

🟨 GuA- Greenfield sandy loam, moderately deep, 0-3% slopes

🟧 Hc- Hanford sandy loam

🟩 ScA- San Joaquin sandy loam, 0-3% slopes, MLRA 17

Sources: NRCS Web Soil Survey, Eastern Fresno Area, California (CA654), 9/16/2019; Fresno County GIS; ArcGIS Online World Imagery Map Service. Map date: February 4, 2020.

N

0 200 400

Feet

1:4,500

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 3.4-1. Soils

De Novo Planning Group

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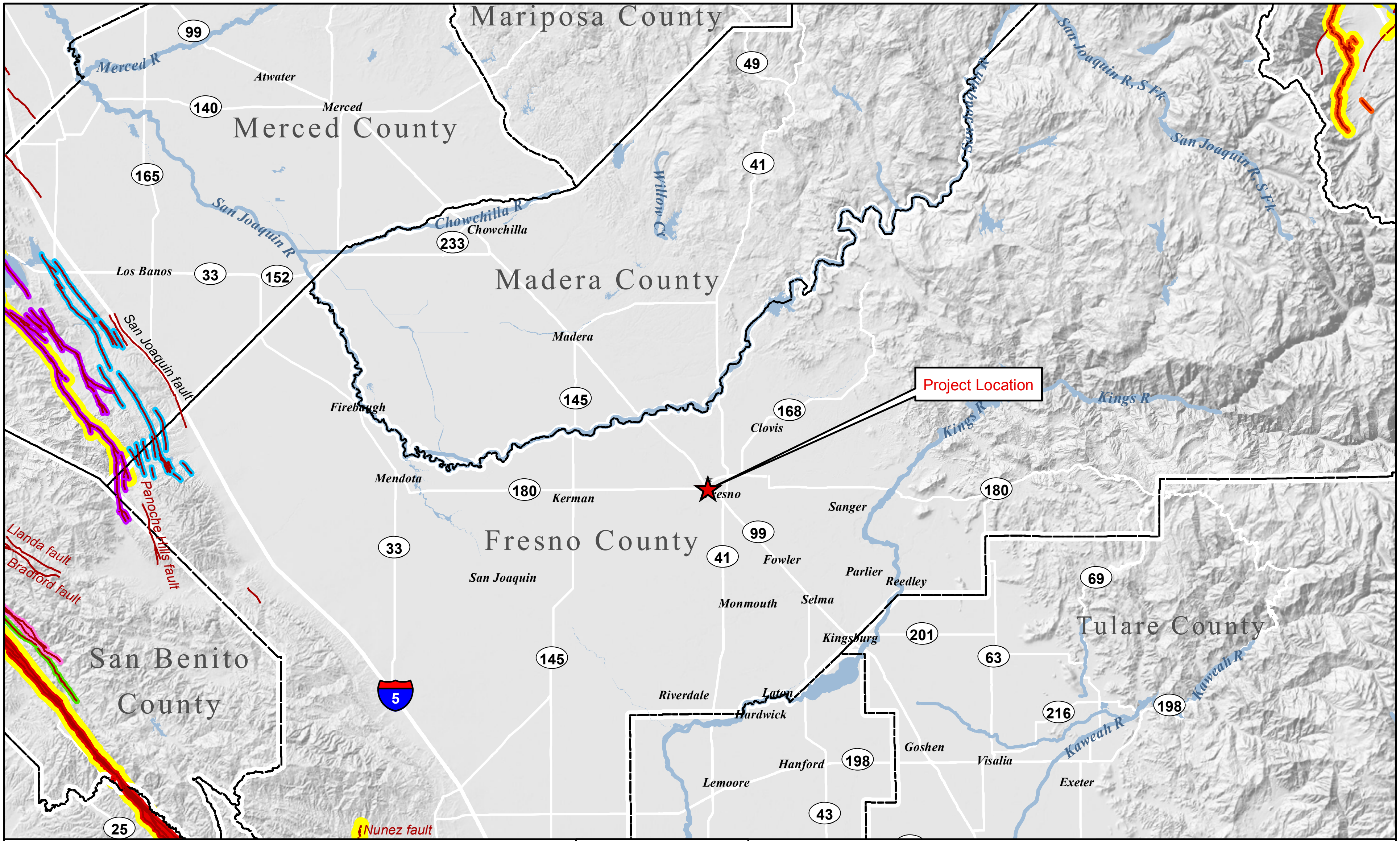

Legend

- QuaternaryFaults
- O'Neill fault system
- Ortigilita fault zone
- Pine Rock fault zone
- Round Valley fault zone
- San Andreas fault zone
- San Benito fault zone
- Alquist-Priolo Zone

Data sources: US Geologic Survey; CalAtlas. Map date: January 21, 2020.

N

0 5 10
Miles

1:900,000

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 3.4-2. Earthquake Faults and Fault Zones

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A Land Use Planning, Design, and Environmental Firm

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The purpose of this section is to disclose and analyze the potential impacts associated with greenhouse gas (GHG) emissions, climate change, and energy. This section provides a background discussion of greenhouse gases and climate change linkages and effects of global climate change. This section is organized with an existing setting, regulatory setting, approach/methodology, and impact analysis. The analysis and discussion of the GHG, climate change, and energy conservation impacts in this section focuses on the proposed project's consistency with local, regional, and statewide climate change planning efforts and discusses the context of these planning efforts as they relate to the proposed project. Disclosure and discussion of the project's estimated energy usage and greenhouse gas emissions are provided.

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from Lisa Flores and Robynn Smith. The commenters note general air quality concerns associated with traffic and the proposed parking lot, and fuel demand for the Producers Dairy trucks. Each of the comments related to this topic are addressed within this section; see Impacts 3.5-1 and 3.5-2. Full comments received are included in Appendix A.

3.5.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Various gases in the Earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring GHGs include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Although the direct GHGs CO_2, CH_4, and N_2O occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2011, concentrations of these three GHGs have increased globally by 40, 150, and 20 percent, respectively (IPCC, 2013).

GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial and electricity generation sectors (California Energy Commission, 2020).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced 440 million gross metric tons of carbon dioxide equivalents (MMTCO$_2$e) in 2016 (California Air Resources Board, 2018a).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO$_2$ were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2017, accounting for 41% of total GHG emissions in the state. This category was followed by the industrial sector (24%), the electricity generation sector (including both in-state and out of-state sources) (15%), the agriculture sector (8%), the residential energy consumption sector (7%), and the commercial energy consumption sector (5%) (California Air Resources Board, 2019b).

EFFECTS OF GLOBAL CLIMATE CHANGE

The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature as a result of increased GHGs are anticipated to result in rising sea levels, which could threaten coastal areas through accelerated coastal erosion, threats to levees and inland water systems and disruption to coastal wetlands and habitat.

If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the State. The snowpack portion of the supply could potentially decline by 50% to 75% by the end of the 21st century (National Resources Defense Council, 2014). This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the State; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century and it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (California Environmental Protection Agency, 2010). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands. As the existing climate throughout California changes over time, mass migration of species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. Under the emissions scenarios of the

Climate Scenarios report (California Environmental Protection Agency, 2010), the impacts of global warming in California are anticipated to include, but are not limited to, the following.

Public Health

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25% to 35% under the lower warming range and to 75% to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the State from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snow pack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snow pack, increasing the risk of summer water shortages.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major State fresh water supply. Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25% of the water supply they need; decrease the potential for hydropower production within the State (although the effects on hydropower are uncertain); and seriously harm winter tourism. Under the lower warming range, the snow dependent winter recreational season at lower elevations could be reduced by as much as one month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing, snowboarding, and other snow dependent recreational activities.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snow pack by as much as 70% to 90%. Under the lower warming scenario, snow pack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. How much snow pack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snow pack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

Agriculture

Increased GHG emissions are expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts, and milk.

Crop growth and development will be affected, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

Global warming is expected to alter the distribution and character of natural vegetation thereby resulting in a possible increased risk of large of wildfires. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the State. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30% toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90%.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the State. For example, alpine and sub-alpine ecosystems are expected to decline by as much as

60% to 80% by the end of the century as a result of increasing temperatures. The productivity of the State's forests is also expected to decrease as a result of global warming.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the State's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

ENERGY CONSUMPTION

Energy in California is consumed from a wide variety of sources. Fossil fuels (including gasoline and diesel fuel, natural gas, and energy used to generate electricity) are the most widely used form of energy in the State. However, renewable sources of energy (such as solar and wind) are growing in proportion to California's overall energy mix. A large driver of renewable sources of energy in California is the State's current Renewable Portfolio Standard (RPS), which requires the State to derive at least 33% of electricity generated from renewable resources by 2020, 60 percent by 2030, and to achieve zero-carbon emissions by 2045 (as passed in September 2018, under AB 100).

Overall, in 2018, California's per capita energy usage was ranked fourth-lowest in the nation (U.S. EIA, 2020). California's per capita rate of energy usage has remained relatively constant since the 1970's. Many State regulations since the 1970's, including new building energy efficiency standards, vehicle fleet efficiency measures, as well as growing public awareness, have helped to keep per capita energy usage in the State in check.

The consumption of non-renewable energy (i.e. fossil fuels) associated with the operation of passenger, public transit, and commercial vehicles, results in GHG emissions that contribute to global climate change. Alternative fuels such as natural gas, ethanol, and electricity (unless derived from solar, wind, nuclear, or other energy sources that do not produce carbon emissions) also result in GHG emissions and contribute to global climate change.

Electricity Consumption

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. In 2016, more than one-fourth of the electricity supply comes from facilities outside of the State. Much of the power delivered to California from states in the Pacific Northwest was generated by wind. States in the Southwest delivered power generated at coal-fired power plants, at natural gas-fired power plants, and from nuclear generating stations (U.S. EIA, 2017a). In 2016, approximately 50 percent of California's utility-scale net electricity generation was fueled by natural gas. In addition, about 25 percent of the State's utility-scale net electricity generation came from non-hydroelectric renewable technologies, such as solar, wind, geothermal, and biomass. Another 14 percent of the State's utility-scale net electricity generation came from hydroelectric generation, and nuclear energy powered an additional 11 percent. The amount of electricity generated from coal negligible (approximately 0.2

percent) (U.S. EIA, 2017a). The percentage of renewable resources as a proportion of California's overall energy portfolio is increasing over time, as directed the State's Renewable Portfolio Standard (RPS).

According to the California Energy Commission (CEC), total statewide electricity consumption increased from 166,979 gigawatt-hours (GWh) in 1980 to 228,038 GWh in 1990, which is an estimated annual growth rate of 3.66 percent. The statewide electricity consumption in 1997 was 246,225 GWh, reflecting an annual growth rate of 1.14 percent between 1990 and 1997 (U.S. EIA, 2017b). Statewide consumption was 274,985 GWh in 2010, an annual growth rate of 0.9 percent between 1997 and 2010. In 2018, electricity consumption in Fresno County was 7,651 GWh (California Energy Commission, 2018).

Oil

The primary energy source for the United States is oil, which is refined to produce fuels like gasoline, diesel, and jet fuel. Oil is a finite, nonrenewable energy source. World consumption of petroleum products has grown steadily in the last several decades. As of 2016, world consumption of oil had reached 96 million barrels per day. The United States, with approximately five percent of the world's population, accounts for approximately 19 percent of world oil consumption, or approximately 18.6 million barrels per day (International Energy Agency, 2018). The transportation sector relies heavily on oil. In California, petroleum-based fuels currently provide approximately 96 percent of the State's transportation energy needs.

Natural Gas/Propane

The State produces approximately 12 percent of its natural gas, while obtaining 22 percent from Canada and 65 percent from the Rockies and the Southwest (California Energy Commission, 2012). In 2006, California produced 325.6 billion cubic feet of natural gas (California Energy Commission, 2012). PG&E is the largest publicly-owned utility in California and provides natural gas for residential, industrial, and agency consumers within the Fresno County area, including the City of Fresno. In 2018, natural gas consumption in Fresno County was 347 million therms (California Energy Commission, 2018).

3.5.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, State attainment plans, motor National Ambient Air Quality Standards (NAAQS) vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The EPA is responsible for administering the FCAA. The FCAA requires the EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

On April 2, 2007, in the court case of *Massachusetts et al. vs. the USEPA et al*. (549 U.S. 497), the U.S. Supreme Court found that GHGs are air pollutants covered by the federal Clean Air Act (42 USC §§ 7401-7671q). The Supreme Court held that the Administrator of the United States Environmental Protection Agency must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the Administrator is required to follow the language of Section 202(a) of the Clean Air Act. On December 7, 2009, the Administrator signed two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.

- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite for implementing GHG emission standards for vehicles. In collaboration with the National Highway Traffic Safety Administration (NHTSA) and CARB, the USEPA developed emission standards for light-duty vehicles (2012-2025 model years), and heavy-duty vehicles (2014-2027 model years).

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards.

Since 1990, the fuel economy standard for new passenger cars has been 27.5 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the EPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992 (EPAct)

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, State, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for a clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Federal Climate Change Policy

According to the EPA, "the United States government has established a comprehensive policy to address climate change" that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, "the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science." The EPA administers multiple programs that encourage voluntary GHG reductions, including "ENERGY STAR", "Climate Leaders", and Methane Voluntary Programs. However, as of this writing, there are no adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO_2 per year. This publicly available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial GHGs along with vehicle and engine manufacturers will report at the corporate level. An estimated 85% of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

STATE

The California Legislature has enacted a series of statutes in recent years addressing the need to reduce GHG emissions all across the State. These statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing CARB to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing the use of renewable energy for the generation of electricity throughout the State; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations by CARB; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives. The discussion below will address each of these key sets of statutes, as well as CARB "Scoping Plans" intended to achieve GHG reductions under the first set of statutes and recent building code requirements intended to reduce energy consumption.

Statutes Setting Statewide GHG Reduction Targets

ASSEMBLY BILL 32 (GLOBAL WARMING SOLUTIONS ACT)

In September 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006 (Health & Saf. Code, § 38500 et seq.), also known as Assembly Bill (AB) 32 (Stats. 2006, ch. 488). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that was phased in starting in 2012. To effectively implement the cap, AB 32 directs the California Air Resources Board (CARB) to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

SENATE BILL 32

Effective January 1, 2017, SB 32 (Stats. 2016, ch. 249) added a new section 38566 to the Health and Safety Code. It provides that "[i]n adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by [Division 25.5 of the Health and Safety Code], [CARB] shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030." In other words, SB 32 requires California, by the year 2030, to reduce its statewide GHG emissions so that they are 40 percent below those that occurred in 1990.

Between AB 32 (2006) and SB 32 (2016), the Legislature has codified some of the ambitious GHG reduction targets included within certain high-profile Executive Orders issued by the last two Governors. The 2020 statewide GHG reduction target in AB 32 was consistent with the second of three statewide emissions reduction targets set forth in former Governor Arnold Schwarzenegger's 2005 Executive Order known as S-3-05, which is expressly mentioned in AB 32. (See Health & Saf. Code, § 38501, subd. (i).) That Executive Branch document included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several State agencies to cooperate in the development of a climate action plan. The Secretary of Cal-EPA leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in the executive order.

In April 2015, Governor Brown issued another Executive Order, B-30-15, which created a "new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 is established in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050." SB 32 codified this target.

In September 2018, the Governor issued Executive Order B-55-18, which established a statewide goal to "achieve carbon neutrality as soon as possible, and no later than 2045, and maintain and achieve negative emissions thereafter." The order directs the CARB to work with other State agencies to identify and recommend measures to achieve those goals.

Notably, the Legislature has not yet set a 2045 or 2050 target in the manner done for 2020 and 2030 through AB 32 and SB 32, though references to a 2050 target can be found in statutes outside the Health and Safety Code. In the 2015 legislative session, the Legislature passed Senate Bill 350 (SB 350) (Stats. 2015, ch. 547) (discussed in more detail below). This legislation added to the Public Utilities Code language that essentially puts into statute the 2050 GHG reduction target already identified in Executive Order S-3-05, albeit in the limited context of new state policies (i) increasing the overall share of electricity that must be produced through renewable energy sources and (ii) directing certain State agencies to begin planning for the widespread electrification of the California vehicle fleet. Section 740.12(a)(1)(D) of the Public Utilities Code now states that "[t]he Legislature finds and declares [that] … [r]educing emissions of [GHGs] to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification." Furthermore, Section 740.12(b) now states that the California Public Utilities Commission (PUC), in consultation with CARB and the California Energy Commission (CEC), must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

Statutes Setting Targets for the Use of Renewable Energy for the Generation of Electricity

CALIFORNIA RENEWABLES PORTFOLIO STANDARD

In September 2002, the Legislature enacted Senate Bill 1078 (Stats. 2002, ch. 516), which established the Renewables Portfolio Standard program, requiring retail sellers of electricity, including electrical corporations, community choice aggregators, and electric service providers, to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources such as wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. (See Pub. Utilities Code, § 399.11 et seq. [subsequently amended].) The legislation set a target by which 20 percent of the State's electricity would be generated by renewable sources.

(Pub. Utility Code, § 399.11, subd (a) [subsequently amended].) As described in the Legislative Counsel’s Digest, Senate Bill 1078 required “[e]ach electrical corporation … to increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales are procured from eligible renewable energy resources. If an electrical corporation fails to procure sufficient eligible renewable energy resources in a given year to meet an annual target, the electrical corporation would be required to procure additional eligible renewable resources in subsequent years to compensate for the shortfall, if funds are made available as described. An electrical corporation with at least 20 percent of retail sales procured from eligible renewable energy resources in any year would not be required to increase its procurement in the following year.”

In September 2006, the Legislature enacted Senate Bill 107 (Stats. 2006, ch. 464), which modified the Renewables Portfolio Standard to require that at least 20 percent of electricity retail sales be served by renewable energy resources by year 2010. (Pub. Utility Code, § 399.11, subd (a) [subsequently amended].)

In April 2011, the Legislature, in a special session, enacted Senate Bill X1-2 (Stats. 2011, 1st Ex. Sess., ch. 1), which set even more aggressive statutory targets for renewable electricity, culminating in the requirement that 33 percent of the State’s electricity come from renewables by 2020. This legislation applies to all electricity retailers in the State, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet renewable energy goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020. (See Pub. Utility Code, § 399.11 et seq. [subsequently amended].)

In 2015, the Legislature enacted Senate Bill 350 (SB 350) (Stats. 2015, ch. 547) (discussed above). It increases the Renewable Portfolio Standard to require 50 percent of electricity generated to be from renewables by 2030. (Pub. Utility Code, § 399.11, subd (a); see also § 399.30, subd. (c)(2).) Of equal significance, Senate Bill 350 also embodies a policy encouraging a substantial increase in the use of electric vehicles. As noted earlier, Section 740.12(b) of the Public Utilities Code now states that the PUC, in consultation with CARB and the CEC, must “direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050.”

In March 2012, Governor Brown had issued an Executive Order, B-16-12, which embodied a similar vision of a future in which zero-emission vehicles (ZEV) will play a big part in helping the State meet its GHG reduction targets. Executive Order B-16-12 directed State government to accelerate the market for in California through fleet replacement and electric vehicle infrastructure. The Executive Order set the following targets:

- By 2015, all major cities in California will have adequate infrastructure and be “ZEV ready”;
- By 2020, the State will have established adequate infrastructure to support 1 million ZEVs in California;

- By 2025, there will be 1.5 million ZEVs on the road in California; and
- By 2050, virtually all personal transportation in the State will be based on ZEVs, and GHG emissions from the transportation sector will be reduced by 80 percent below 1990 levels.

In 2018, the Legislature enacted, and the Governor signed, Senate Bill 100 (Stats. 2018, ch. 312), which revise the above-described deadlines and targets so that the State will have to achieve a 50% renewable resources target by December 31, 2026 (instead of by 2030) and achieve a 60% target by December 31, 2030. The legislation also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% of electricity procured to serve all State agencies by December 31, 2045.

In summary, California has set a statutory goal of requiring that, by the year 2030, 60 percent of the electricity generated in California should be from renewable sources, with increased generation capacity intended to sufficient to allow the mass conversion of the statewide vehicle fleet from petroleum-fueled vehicles to electrical vehicles and/or other ZEVs. By 2045, all electricity must come from renewable resources and other carbon-free resources. Former Governor Brown had an even more ambitious goal for the State of achieving carbon neutrality as soon as possible and by no later than 2045. The Legislature is thus looking to California drivers to buy electric cars, powered by green energy, to help the State meet its aggressive statutory goal, created by SB 32, of reducing statewide GHG emissions by 2030 to 40 percent below 1990 levels. Another key prong to this strategy is to make petroleum-based fuels less carbon-intensive. A number of statutes in recent years have addressed that strategy. These are discussed immediately below.

Statutes and CARB Regulations Addressing the Carbon Intensity of Petroleum-based Transportation Fuels

ASSEMBLY BILL 1493, PAVLEY CLEAN CARS STANDARDS

In July 2002, the Legislature enacted Assembly Bill 1493 (“Pavley Bill”) (Stats. 2002, ch. 200), which directed the CARB to develop and adopt regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks beginning with model year 2009. (See Health & Saf. Code, § 43018.5.) In September 2004, pursuant to this directive, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations created what are commonly known as the “Pavley standards.” In September 2009, CARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created what are commonly known as the “Pavley II standards.” (See California Code of Regulations, Title 13, §§ 1900, 1961, and 1961.1 et seq.)

In January 2012, CARB adopted an Advanced Clean Cars (ACC) program aimed at reducing both smog-causing pollutants and GHG emissions for vehicles model years 2017-2025. This historic program, developed in coordination with the USEPA and NHTSA, combined the control of smog-causing (criteria) pollutants and GHG emissions into a single coordinated set of requirements for model years 2015 through 2025. The regulations focus on substantially increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years. (See California Code of Regulations, Title 13, §§ 1900, 1961, 1961.1, 1961.2, 1961.3, 1965, 1968.2, 1968.5, 1976, 1978, 2037, 2038, 2062, 2112, 2139, 2140, 2145, 2147, 2235, and 2317 et seq.)

It is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, all while improving fuel efficiency and reducing motorists' costs.

Cap and Trade Program

On October 20, 2011, in a related action, CARB adopted the final cap-and-trade program for California. (See California Code of Regulations, Title 17, §§ 95801-96022.) The California cap-and-trade program will create a market-based system with an overall emissions limit for affected sectors. The program is intended to regulate more than 85 percent of California's emissions and staggers compliance requirements according to the following schedule: (1) electricity generation and large industrial sources (2012); (2) fuel combustion and transportation (2015).

According to 2012 guidance published by CARB, "[t]he Cap-and-Trade Program will reduce GHG emissions from major sources (covered entities) by setting a firm cap on statewide GHG emissions while employing market mechanisms to cost-effectively achieve the emission-reduction goals. The statewide cap for GHG emissions from major sources, which is measured in metric tons of carbon dioxide equivalent (MTCO2e), will commence in 2013 and decline over time, achieving GHG emission reductions throughout the program's duration. Each covered entity will be required to surrender one permit to emit (the majority of which will be allowances, entities are also allowed to use a limited number of CARB offset credits) for each ton of GHG emissions they emit. Some covered entities will be allocated some allowances and will be able to buy additional allowances at auction, purchase allowances from others, or purchase offset credits."

The guidance goes on to say that "[s]tarting in 2012, major GHG-emitting sources, such as electricity generation (including imports), and large stationary sources (e.g., refineries, cement production facilities, oil and gas production facilities, glass manufacturing facilities, and food processing plants) that emit more than 25,000 $MTCO_2e$ per year will have to comply with the Cap-and-Trade Program. The program expands in 2015 to include fuel distributors (natural gas and propane fuel providers and transportation fuel providers) to address emissions from transportation fuels, and from combustion of other fossil fuels not directly covered at large sources in the program's initial phase." In early April 2017, the Third District Court of Appeal upheld the lawfulness of the cap-and-trade program as a "fee" rather than a "tax." (See *California Chamber of Commerce et al. v. State Air Resources Board et al.* (2017) 10 Cal.App.5th 604.)

In early 2017, the Legislature enacted, and the Governor signed, AB 398 (Stats. 2017, ch. 135), which extended the life of the existing Cap and Trade Program through December 2030.

Statutes Intended to Facilitate Land Use Planning Consistent with Statewide Climate Objectives

CALIFORNIA SENATE BILL 375 (SUSTAINABLE COMMUNITIES STRATEGY)

This 2008 legislation built on AB 32 by setting forth a mechanism for coordinating land use and transportation on a regional level for the purpose of reducing GHGs. The focus is to reduce miles traveled by passenger vehicles and light trucks. CARB is required to set GHG reduction targets for each metropolitan region for the years 2020 and 2035. Each of California's metropolitan planning organizations then prepares a sustainable communities strategy that demonstrates how the region will meet its GHG reduction target through integrated land use, housing, and transportation planning. Once adopted by the metropolitan planning organizations, the sustainable communities strategy is to be incorporated into that region's federally enforceable regional transportation plan. If a metropolitan planning organization is unable to meet the targets through the sustainable communities strategy, then an alternative planning strategy must be developed which demonstrates how targets could be achieved, even if meeting the targets is deemed to be infeasible.

AMBAG is the metropolitan planning organization responsible for preparing the SCS. The current SCS is embedded in AMBAG's 2040 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) (AMBAG, 2018). The MTP/SCS sets forth a forecasted development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, is intended to reduce GHG emissions from passenger vehicles and light duty trucks to achieve the regional GHG reduction targets set by CARB.

CARB set targets for the AMBAG region as "not to exceed 2005 per capita levels of GHGs" by 2020 and a five percent reduction from 2005 levels by 2035. These targets applied to the AMBAG region as a whole for all on-road light duty trucks and passenger vehicles emissions, and not to individual cities or sub-regions. Therefore, AMBAG, through the 2040 MTP/SCS, must maintain or reduce these levels to meet the 2020 target and reduce these levels to meet the 2035 targets. Updates to the 2010 standards are included in CARB's 2017 Scoping Plan as discussed below under the discussion of that plan.

SB 375 specifically states that local governments retain their autonomy to plan local general plan policies and land uses. The 2040 MTP/SCS provides a regional policy foundation that local governments may build upon, if they so choose. The 2040 MTP/SCS includes and accommodates the quantitative growth projections for the region. In addition, the 2040 MTP/SCS EIR lays the groundwork for the streamlined CEQA review of qualifying development projects. Such projects are defined as Transit Priority Projects that are located within an Opportunity Area that meet specific criteria, including:

- Consistent with the SCS;

- Contains at least 50 percent residential use;
- Proposed to be developed at a minimum 20 dwelling units per acre; and
- Located within one half mile of a major transit stop or high quality transit corridor that is included in the MTP/SCS.

The proposed project does not include residential uses. Therefore, future projects proposed within the project site would not be eligible for streamlined CEQA review.

Climate Change Scoping Plans

AB 32 SCOPING PLAN

In December 2008, CARB adopted the Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 118 million metric tons (MMT) CO_2e, or approximately 22 percent from the State's projected 2020 emission level of 545 MMT of CO_2e under a business-as-usual scenario This is a reduction of 47 MMT CO_2e, or almost 10 percent, from 2008 emissions. CARB's original 2020 projection was 596 MMT CO_2e, but this revised 2020 projection takes into account the economic downturn that occurred in 2008. The Scoping Plan also includes CARB recommended GHG reductions for each emissions sector of the State GHG inventory. CARB estimates the largest reductions in GHG emissions would be by implementing the following measures and standards:

- improved emissions standards for light-duty vehicles (26.1 MMT CO_2e);
- the Low Carbon Fuel Standard (15.0 MMT CO_2e);
- energy efficiency measures in buildings and appliances (11.9 MMT CO_2e); and
- renewable portfolio and electricity standards for electricity production (23.4 MMT CO_2e).

In 2011, CARB adopted a cap-and-trade regulation. The cap-and-trade program covers major sources of GHG emissions in the State such as refineries, power plants, industrial facilities, and transportation fuels. The cap-and-trade program includes an enforceable emissions cap that will decline over time. The State distributes allowances, which are tradable permits, equal to the emissions allowed under the cap. Sources under the cap are required to surrender allowances and offsets equal to their emissions at the end of each compliance period. Enforceable compliance obligations started in 2013. The program applies to facilities that comprise 85 percent of the State's GHG emissions.

With regard to land use planning, the Scoping Plan expects that reductions of approximately 3.0 MMT CO_2e will be achieved through implementation of Senate Bill (SB) 375, which is discussed further below.

2014 SCOPING PLAN UPDATE

In response to comments on the 2008 Scoping Plan, and AB 32's requirement to update the Scoping Plan every five years, CARB revised and reapproved the Scoping Plan, and prepared the First Update to the 2008 Scoping Plan in 2014 (2014 Scoping Plan). The 2014 Scoping Plan contains the main strategies California will implement to achieve a reduction of 80 MMT of CO_2e emissions, or approximately 16 percent, from the State's projected 2020 emission level of 507 MMT of CO_2e under the business-as-usual scenario defined in the 2014 Scoping Plan. The 2014 Scoping Plan also includes a breakdown of the amount of GHG reductions CARB recommends for each emissions sector of the State's GHG inventory. Several strategies to reduce GHG emissions are included: the Low Carbon Fuel Standard, the Pavley Rule, the ACC program, the Renewable Portfolio Standard, and the Sustainable Communities Strategy.

2017 SB 32 SCOPING PLAN

With the passage of SB 32, the Legislature also passed companion legislation AB 197, which provides additional direction for developing the scoping plan. In response to these two pieces of legislation, CARB adopted an updated Scoping Plan in December 2017. The document represents a second update to the scoping plan to reflect the 2030 target of reducing statewide GHG emissions by 40 percent below 1990 levels codified by SB 32. The GHG reduction strategies in the plan that CARB will implement to meet the target include:

- SB 350 - achieve 50 percent Renewables Portfolio Standard (RPS) by 2030 and doubling of energy efficiency savings by 2030;
- Low Carbon Fuel Standard - increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020);
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario) - maintaining existing GHG standards for light- and heavy-duty vehicles, put 4.2 million zero-emission vehicles on the roads, and increase zero-emission buses, delivery and other trucks.
- Sustainable Freight Action Plan - improve freight system efficiency, maximize use of near-zero emission vehicles and equipment powered by renewable energy, and deploy over 100,000 zero-emission trucks and equipment by 2030;
- Short-Lived Climate Pollutant Reduction Strategy - reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030 and reduce emissions of black carbon 50 percent below 2013 levels by 2030;
- SB 375 Sustainable Communities Strategies - increased stringency of 2035 targets;
- Post-2020 Cap-and-Trade Program - declining caps, continued linkage with Québec, and linkage to Ontario, Canada;
- 20 percent reduction in GHG emissions from the refinery sector; and
- By 2018, develop an Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Building Code Requirements Intended to Reduce GHG Emissions

CALIFORNIA ENERGY CODE

The California Energy Code (California Code of Regulations, Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Although these standards were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity and thus less consumption of fossil fuels, which emit GHGs. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The current 2019 Building Energy Efficiency Standards, commonly referred to as the "Title 24" standards, include changes from the previous standards that were adopted, to do the following:

- Provide California with an adequate, reasonably priced, and environmentally sound supply of energy.
- Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its GHG emissions to 1990 levels by 2020.
- Pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.
- Act on the California Energy Commission's Integrated Energy Policy Report, which finds that standards are the most cost effective means to achieve energy efficiency, states an expectation that the Building Energy Efficiency Standards will continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Building Energy Efficiency Standards in reducing energy related to meeting California's water needs and in reducing GHG emissions.
- Meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of State building codes.
- Meet Executive Order S-20-04, the Green Building Initiative, to improve the energy efficiency of non-residential buildings through aggressive standards.

The most recent Title 24 standards are the 2019 Title 24 standards. The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards. The California Energy Commission updates the standards every three years.

Single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards. Once rooftop solar electricity generation is factored in, homes built under the 2019 standards will use about 53 percent less energy than those under the 2016 standards. This will reduce greenhouse gas emissions by 700,000 metric tons over three years, equivalent to taking 115,000 fossil fuel cars off the road. Nonresidential buildings will use about 30 percent less energy due mainly to lighting upgrades.

CALIFORNIA GREEN BUILDING STANDARDS CODE

The purpose of the California Green Building Standards Code (California Code of Regulations Title 24, Part 11) is to improve public health and safety and to promote the general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: 1) planning and design; 2) energy efficiency; 3) water efficiency and conservation; 4) material conservation and resource efficiency; and 5) environmental quality. The California Green Building Standards, which became effective on

January 1, 2011, instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial, low-rise residential uses, and State-owned buildings, as well as schools and hospitals. The mandatory standards require the following:

- 20 percent mandatory reduction in indoor water use relative to baseline levels;
- 50 percent construction/demolition waste must be diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particle boards.

The voluntary standards require the following:

- **Tier I:** 15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof.

- **Tier II:** 30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content, 30 percent permeable paving, 30 percent cement reduction, and cool/solar reflective roof.

CEQA Direction

In 2008, the Schwarzenegger administration, through the Office of Planning and Research (OPR), issued Guidance regarding assessing significance of GHGs in CEQA documents; that Guidance stated that the adoption of appropriate significance thresholds was a matter of discretion for the lead agency. The OPR Guidance states:

> “[T]he global nature of climate change warrants investigation of a statewide threshold of significance for GHG emissions. To this end, OPR has asked the CARB technical staff to recommend a method for setting thresholds which will encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the state. Until such time as state guidance is available on thresholds of significance for GHG emissions, we recommend the following approach to your CEQA analysis.”
>
> **Determine Significance**
>
> - When assessing a project’s GHG emissions, lead agencies must describe the existing environmental conditions or setting, without the project, which normally constitutes the baseline physical conditions for determining whether a project’s impacts are significant.
>
> - As with any environmental impact, lead agencies must determine what constitutes a significant impact. In the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a “significant impact,”

individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice.

- The potential effects of a project may be individually limited but cumulatively considerable. Lead agencies should not dismiss a proposed project's direct and/or indirect climate change impacts without careful consideration, supported by substantial evidence. Documentation of available information and analysis should be provided for any project that may significantly contribute new GHG emissions, either individually or cumulatively, directly or indirectly (e.g., transportation impacts).

- Although climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment. CEQA authorizes reliance on previously approved plans and mitigation programs that have adequately analyzed and mitigated GHG emissions to a less than significant level as a means to avoid or substantially reduce the cumulative impact of a project.

The OPR Guidance did not require Executive Order S-3-05 to be used as a significance threshold under CEQA. Rather, OPR recognized that, until the CARB establishes a statewide standard, selecting an appropriate threshold was within the discretion of the lead agency.

The OPR Guidance did not include a quantitative threshold of significance to use for assessing a project's GHG emissions under CEQA. Moreover, the CARB has not established such a threshold or recommended a method for setting a threshold for project-level analysis. In the absence of a consistent statewide threshold, has provided a threshold of significance for analyzing the proposed project's GHG emissions. The issue of setting a GHG threshold is complex and dynamic, especially in light of the California Supreme Court decision in Center for Biological Diversity v. California Department of Fish and Wildlife (discussed in detail earlier and referred to as the Newhall Ranch decision hereafter). The Supreme Court ruling highlighted the need for the threshold being tailored to the specific project, its location, and the surrounding setting. Therefore, the threshold used to analyze the proposed project is specific to the analysis herein.

In 2010, the California Natural Resources Agency added section 15064.4 to the CEQA Guidelines, providing new legal requirements for how agencies should address GHG-related impacts in their CEQA documents. As amended in early 2019, section 15064.4 provides as follows:

> (a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

> (1) Quantify greenhouse gas emissions resulting from a project; and/or
>
> (2) Rely on a qualitative analysis or performance based standards.
>
> (b) In determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. A lead agency should consider the following factors, among others, when determining the significance of impacts from greenhouse gas emissions on the environment:
>
> (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
>
> (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
>
> (3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b)). Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.
>
> (c) A lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.

Section 15126.4, subdivision (c), provides guidance on how to formulate mitigation measures addressing GHG-related impacts:

> Consistent with section 15126.4(a), lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions. Measures to mitigate the significant effects of greenhouse gas emissions may include, among others:
>
> (1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision;
>
> (2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in Appendix F;
>
> (3) Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions;
>
> (4) Measures that sequester greenhouse gases;
>
> (5) In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of greenhouse gas emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.

California Supreme Court Decisions

THE "NEWHALL RANCH" CASE

On November 30, 2015, the California Supreme Court released its opinion on *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204 (hereafter referred to as the Newhall Ranch Case).

Because of the importance of the Supreme Court as the top body within the California Judiciary, and because of the relative lack of judicial guidance regarding how GHG issues should be addressed in CEQA documents, the opinion provides very important legal guidance to agencies charged with preparing EIRs.

The case involved a challenge to an EIR prepared by the California Department of Fish and Wildlife (CDFW) for the Newhall Ranch development project in Los Angeles County, which consists of approximately 20,000 dwelling units as well as commercial and business uses, schools, golf courses, parks and other community facilities in the City of Santa Clarita.

In relation to GHG analysis, the Newhall Ranch Case illustrates the difficulty of complying with statewide GHG reduction targets at the local level using CEQA to determine whether an individual project's GHG emissions will create a significant environmental impact triggering an EIR, mitigation, and/or statement of overriding consideration. The EIR utilized compliance with AB 32's

GHG reduction goals as a threshold of significance and modelled its analysis on the CARB's business-as-usual (BAU) emissions projections from the 2008 Scoping Plan. The EIR quantified the project's annual emissions at buildout and projected emissions in 2020 under a BAU scenario, in which no additional regulatory actions were taken to reduce emissions. Since the Scoping Plan determined a reduction of 29 percent from BAU was needed to meet AB 32's 2020 reduction goal, the EIR concluded that the project would have a less-than-significant impact because the project's annual GHG emissions were projected to be 31 percent below its BAU estimate.

The Supreme Court concluded that the threshold of significance used by the EIR was permissible; however, the BAU analysis lacked substantial evidence to demonstrate that the required percentage reduction from BAU is the same for an individual project as for the entire State. The court expressed skepticism that a percentage reduction goal applicable to the State as a whole would apply without change to an individual development project, regardless of its size or location. Therefore, the Supreme Court determined that the EIR's GHG analysis was not sufficient to support the conclusion that GHG impacts would be less than significant.

In addition, the Supreme Court provided the following guidance regarding potential alternative approaches to GHG impact assessment at the project level for lead agencies:

1. The lead agency determination of what level of GHG emission reduction from business-as-usual projection that a new land development at the proposed location would need to achieve to comply with statewide goals upon examination of data behind the Scoping Plan's business-as-usual emission projections. The lead agency must provide substantial evidence and account for the disconnect between the Scoping Plan, which dealt with the State as a whole, and an analysis of an individual project's land use emissions (the same issues with CEQA compliance addressed in this case);

2. The lead agency may use a project's compliance with performance based standards – such as high building energy efficiency – adopted to fulfill a statewide plan to reduce or mitigate GHG emissions to assess consistency with AB 32 to the extent that the project features comply with or exceed the regulation (See Guidelines Section 15064.4(a)(2), (b)(3); see also Guidelines Section 15064(h)(3)). A significance analysis would then need to account for the additional GHG emissions – such as transportation emissions – beyond the regulated activity. Transportation emissions are in part a function of the location, size, and density or intensity of a project, and thus can be affected by local governments' land use decision making. Additionally, the lead agency may use a programmatic effort including a general plan, long range development plan, or a separate plan to reduce GHG emissions (such as Climate Action Plan or a SB 375 metropolitan regional transportation impact Sustainable Communities Strategy) that accounts for specific geographical GHG emission reductions to streamline or tier project level CEQA analysis pursuant to Guidelines 15183.5(a)-(b) for land use and Public Resources Code Section 21155.2 and 21159.28 and Guidelines Section 15183.5(c) for transportation.

3. The lead agency may rely on existing numerical thresholds of significance for GHG emissions (such as the Bay Area Air Quality Management District's proposed threshold of

significance of 1,100 MT CO_2E in annual emission for CEQA GHG emission analysis on new land use projects). The use of a numerical value provides what is "normally" considered significant but does not relieve a lead agency from independently determining the significance of the impact for the individual project (See Guidelines Section 15064.7).

THE SANDAG CASE

In *Cleveland National Forest Foundation v. San Diego Association of Governments* (2017) 3 Cal.5th 497 (*SANDAG)*, the Supreme Court addressed the extent to which, if any, an EIR for a Regional Transportation Plan (RTP) with a Sustainable Communities Strategy (SCS) must address the proposed project's consistency with the 2050 target set forth in Executive Order S-03-05 (i.e., 80 percent below 1990 levels). The Court held that SANDAG did not abuse its discretion by failing to treat the 2050 GHG emissions target as a threshold of significance. The Court cautioned, however, that its decision applies narrowly to the facts of the case and that the analysis in the challenged EIR should not be used as an example for other lead agencies to follow going forward. Notably, the RTP itself covered a planning period that extended all the way to 2050.

The Court acknowledged the parties' agreement that "the Executive Order lacks the force of a legal mandate binding on SANDAG[.]" (*Id*. at p. 513.) This conclusion was consistent with the Court's earlier decision in *Professional Engineers in California Government v. Schwarzenegger* (2010) 50 Cal.4th 989, 1015, which held the Governor had acted in excess of his executive authority in ordering the furloughing of State employees as a money-saving strategy. In that earlier case, which is not mentioned in the *SANDAG* decision, the Court held that the decision to furlough employees was legislative in character, and thus could only be ordered by the Legislature, and not the Governor, who, under the State constitution, may only exercise executive authority. In *SANDAG*, the Court thus impliedly recognized that Governors do not have authority to set statewide legislative policy, particularly for decades into the future. Even so, however, the Court noted, and did not question, the parties' agreement that "the Executive Order's 2050 emissions reduction target is grounded in sound science." (3 Cal.5th at p. 513.) Indeed, the Court emphasized that, although "the Executive Order 'is not an adopted GHG reduction plan' and that 'there is no legal requirement to use it as a threshold of significance,'" the 2050 goal nevertheless "expresses the pace and magnitude of reduction efforts that the scientific community believes necessary to stabilize the climate.

This scientific information has important value to policymakers and citizens in considering the emission impacts of a project like SANDAG's regional transportation plan." (*Id*. at p. 515.) Towards the end of the decision, the Court even referred to "the state's 2050 climate goals" as though the 2050 target from E.O. S-03-05 had some sort of standing under California law. (*Id*. at p. 519.) The Court seemed to reason that, because the Legislature had enacted both AB 32 and SB 32, which followed the downward GHG emissions trajectory recommended in the Executive Order, the Legislature, at some point, was also likely to adopt the 2050 target as well: "SB 32 … reaffirms California's commitment to being on the forefront of the dramatic greenhouse gas emission reductions needed to stabilize the global climate." (*Id*. at p. 519.) Finally, the Court explained that "planning agencies like SANDAG must ensure that CEQA analysis stays in step with evolving scientific knowledge and state regulatory schemes." (*Ibid*.)

In sum, the Court recognized that the Executive Order did not carry the force of law, but nevertheless considered it to be part of "state climate policy" because the Legislature, in enacting both AB 32 and SB 32, seems to be following both the IPCC recommendations for reducing GHG emissions worldwide and evolving science. Nothing in the decision, however, suggests that all projects, regardless of their buildout period, must address the 2050 target or treat it as a significance threshold.

LOCAL

Fresno General Plan

The Fresno General Plan includes objectives and policies within its Resource Conservation and Resilience Element that pertain directly to air quality, greenhouse gases, and energy.

URBAN FORM, LAND USE AND DESIGN ELEMENT

Policy UF-1-c: Identifiable City Structure. Focus integrated and ongoing planning efforts to achieve an identifiable city structure, comprised of a concentration of buildings, people, and pedestrian-oriented activity in Downtown; along a small number of prominent east-west and north-south transit-oriented, mixed-use corridors with distinctive and strategically located Activity Centers; and in existing and new neighborhoods augmented with parks and connected by multi-purpose trails and tree lined bike lanes and streets.

Policy UF-1-e: Identifiable City Structure. Unique Neighborhoods. Promote and protect unique neighborhoods and mixed use areas throughout Fresno that respect and support various ethnic, cultural and historic enclaves; provide a range of housing options, including furthering affordable housing opportunities; and convey a unique character and lifestyle attractive to Fresnans. Support unique areas through more specific planning processes that directly engage community members in creative and innovative design efforts.

Objective UF-12: Locate roughly one-half of future residential development in infill areas – defined as being within the City on December 31, 2012 – including the Downtown core area and surrounding neighborhoods, mixed-use centers and transit-oriented development along major BRT corridors, and other non-corridor infill areas, and vacant land.

Policy UF-12-a: BRT Corridors. Design land uses and integrate development site plans along BRT corridors, with transit-oriented development that supports transit ridership and convenient pedestrian access to bus stops and BRT station stops.

Policy UF-12-b: Activity Centers. Mixed-use designated areas along BRT and/or transit corridors are appropriate for more intensive concentrations of urban uses. Typical uses could include commercial areas; employment centers; schools; compact residential development; religious institutions; parks; and other gathering points where residents may interact, work, and obtain goods and services in the same place.

Policy UF-12-d: Appropriate Mixed-Use. Facilitate the development of vertical and horizontal mixed-uses to blend residential, commercial, and public land uses on one site or adjacent sites. Ensure land use compatibility between mixed-use districts in Activity Centers and the surrounding residential neighborhoods.

Policy UF-12-e: Access to Activity Centers. Promote adoptions and implementation of standards supporting pedestrian activities and bicycle linkages from surrounding land uses and neighborhoods into Activity Centers and to transit stops. Provide for priority transit routes and facilities to serve the Activity Centers.

Policy UF-12-f: Mixed-Use in Activity Centers. Update the Development Code to include use regulations and standards to allow for mixed-uses and shared parking facilities, including multi-story and underground parking facilities, within Activity Centers.

Objective UF-14: Create an urban form that facilitates multi-modal connectivity.

Policy UF-14-a: Design Guidelines for Walkability. Develop and use design guidelines and standards for a walkable and pedestrian-scaled environment with a network of streets and connections for pedestrians and bicyclists, as well as transit and autos.

Policy UF-14-b: Local Street Connectivity. Design local roadways to connect throughout neighborhoods and large private developments with adjacent major streets and pathways of existing adjacent development. Create access for pedestrians and bicycles where a local street must dead end or be designed as a cul-de-sac to adjoining uses that provide services, shopping, and connecting pathways for access to the greater community area.

Objective LU-2: Plan for infill development that includes a range of housing types, building forms, and land uses to meet the needs of both current and future residents.

Policy LU-2-a: Infill Development and Redevelopment. Promote development of vacant, underdeveloped, and redevelopable land uses within the City Limit where urban services are available considering the establishment and implementation of supportive regulations and programs.

Policy LU-2-b: Infill Development for Affordable Housing. Consider a priority infill incentive program for residential infill development of existing vacant lots and underutilized sites within the City as a strategy to help to meet the affordable housing needs of the community.

Policy LU-3-c: Zoning for High Density on Major BRT Corridors. Consider the adoption of supportive zoning regulations for compact development along BRT corridors leading to the Downtown Core that will not diminish the long-term growth and development potential for Downtown.

Policy LU-5-f: High Density Residential Uses. Promote high-density residential uses to support Activity Centers and BRT Corridors, affordable housing and walkable access to transit stops.

Policy LU-6-d: Neighborhood and Community Commercial Center Design. Plan for neighborhood mixed use and community commercial uses to implement the Urban Form concepts of the General Plan, promote the stability and identity of neighborhood and community shopping areas, and allow efficient access without compromising the operational effectiveness of the street system.

- Neighborhoods will be anchored by community commercial centers with a mix of uses that meet the area's needs and create a sense of place.
- Community commercial centers will be located within Activity Centers.

Policy LU-6-f: Auto-Oriented Commercial Uses. Direct highway-oriented and auto-serving commercial uses to locations that are compatible with the Urban Form policies of the General Plan. Ensure adequate buffering measures for adjacent residential uses noise, glare, odors, and dust.

Policy LU-8-b: Access to Public Facilities. Ensure that major public facilities and institutions have adequate multi-modal access and can be easily reached by public transit.

RESOURCE CONSERVATION AND RESILIENCY ELEMENT

Objective RC-4: In cooperation with other jurisdictions and agencies in the San Joaquin Valley Air Basin, take necessary actions to achieve and maintain compliance with State and federal air quality standards for criteria pollutants.

Policy RC-4-a: Support Regional Efforts. Support and lead, where appropriate, regional, State and federal programs and actions for the improvement of air quality, especially the SJVAPCD' efforts to monitor and control air pollutants from both stationary and mobile sources and implement Reasonably Available Control Measures in the Ozone Attainment Plan.

Policy RC-4-b: Conditions of Approval. Develop and incorporate air quality maintenance requirements, compatible with Air Quality Attainment and Maintenance Plans, as conditions of approval for General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals.

Policy RC-4-c: Evaluate Impacts with Models. Continue to require the use of computer models used by SJVAPCD to evaluate the air quality impacts of plans and projects that require such environmental review by the City.

Policy RC-4-d: Forward Information. Forward information regarding proposed General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals that require air quality evaluation, and amendments to development regulations to the SJVAPCD for their review of potential air quality and health impacts.

Policy RC-4-e: Support Employer-Based Efforts. Support and promote employer implementation of staggered work hours and employee incentives to use carpools, public transit and other measures to reduce vehicular use and traffic congestion.

Policy RC-4-f: Municipal Operations and Fleet Actions. Continue to control and reduce air pollution emissions from vehicles owned by the City operations and municipal operations and facilities by undertaking the following:

- Expand the use of alternative fuel, electric, and hybrid vehicles in City fleets.
- Create preventive maintenance schedules that will ensure efficient engine operation.
- Include air conditioning recycling and charging stations in the City vehicle maintenance facilities, to reduce freon gases being released into the atmosphere and electrostatic filtering systems in City maintenance shops, when feasible or when required by health regulations.
- Use satellite corporation yards for decentralized storage and vehicle maintenance.
- Convert City-owned emergency backup generators to natural gas fuels whenever possible, and
- Create an advanced energy storage system.

Policy RC-4-g: FAX Actions. Continue efforts to improve Fresno Area Express (FAX) bus transit system technical performance, reduce emission levels, streamline system operations, and implement BRT where supportive land uses are proposed by Figure LU-1: Land Use Diagram.

Policy RC-4-h: Airport Actions. Support Airport efforts to develop and maintain programs and policies to support City, State and Federal efforts to achieve and maintain air quality standards.

Policy RC-4-j: All Departments. Continue to develop and implement in all City departments, operational policies to reduce air pollution.

Policy RC-4-k: Electric Charging. Develop standards to facilitate electric charging infrastructure in both new and existing public and private buildings, in order to accommodate these vehicles as the technology becomes widespread.

Policy RC-8-j: Alternative Fuel Network. Support the development of a network of integrated charging and alternate fuel station for both public and private vehicles, and if feasible, open up municipal stations to the public as part of network development.

HEALTHY COMMUNITIES ELEMENT

Policy HC-3-d: Green Standards for Affordable Housing. Provide appropriate incentives for affordable housing providers, agencies, non-profit and market rate developers to use LEED and CalGreen Tier 1 or Tier 2 standards or third party equivalents.

Policy HC-3-f: New Drive-Through Facilities. Include in the Development Code design review to reduce vehicle emissions resulting from queued idling vehicles at drive-through facilities in proximity to residential neighborhoods.

MOBILITY AND TRANSPORTATION ELEMENT

Objective MT-3: Identify, promote and preserve scenic or aesthetically unique corridors by application of appropriate policies and regulations.

Policy MT-1-f: Match Travel Demand with Transportation Facilities. Designate the types and intensities of land uses at locations such that related travel demands can be accommodated by a variety of viable transportation modes and support Complete Neighborhoods while avoiding the rerouting of excessive or incompatible traffic through local residential streets.

Policy MT-1-g: Complete Streets Concept Implementation. Provide transportation facilities based upon a Complete Streets concept that facilitates the balanced use of all viable travel modes (pedestrians, bicyclists, motor vehicle and transit users), meeting the transportation needs of all ages, income groups, and abilities and providing mobility for a variety of trip purposes, while also supporting other City goals.

Policy MT-1-m: Standards for Planned Bus Rapid Transit Corridors and Activity Centers. Independent of the Traffic Impact Zones identified in MT-2-I and Figure MT-4, strive to maintain the following vehicle LOS standards on major roadway segments and intersections along Bus Rapid Transit Corridors and in Activity Centers:

- LOS E or better at all times, including peak travel times, unless the City Traffic Engineer determines that mitigation to maintain this LOS would be infeasible and/or conflict with the achievement of other General Plan policies.
- Accept LOS F conditions in Activity Centers and Bus Rapid Transit Corridors only if provisions are made to improve the overall system and/or promote non-vehicular transportation and transit as part of a development project or a City-initiated project. In accepting LOS F conditions, the City Traffic Engineer may request limited analyses of operational issues at locations near Activity Centers and along Bus Rapid Transit Corridors, such as queuing or left-turn movements.
- Give priority to maintaining pedestrian service first, followed by transit service and then by vehicle LOS, where conflicts between objectives for service capacity between different transportation modes occur.
- Identify pedestrian-priority and transit-priority streets where these modes would have priority in order to apply a multi-modal priority system, as part of the General Plan implementation.

Policy MT-2-b: Reduce Vehicle Miles Traveled and Trips. Partner with major employers and other responsible agencies, such the San Joaquin Valley Air Pollution Control District and the Fresno Council of Governments, to implement trip reduction strategies, such as eTRIP, to reduce total vehicle miles traveled and the total number of daily and peak hour vehicle trips, thereby making better use of the existing transportation system.

Policy MT-2-c: Reduce VMT through Infill Development. Provide incentives for infill development that would provide jobs and services closer to housing and multi-modal transportations corridors in order to reduce citywide vehicle miles travelled (VMT).

Policy MT-2-g: Transportation Demand Management and Transportation System Management. Pursue implementation of Transportation Demand Management and Transportation System Management strategies to reduce peak hour vehicle traffic and supplement the capacity of the transportation system.

Objective MT-4: To establish and maintain a continuous, safe, and easily accessible bikeways system throughout the metropolitan area to reduce vehicle use, improve air quality and the quality of life, and provide public health benefits.

Policy MT-4-b: Bikeway Improvements. Establish and implement property development standards to assure that projects adjacent to designated bikeways provide adequate right-of-way and that necessary improvements are constructed to implement the planned bikeway system shown on Figure MT-2 to provide for bikeways, to the extent feasible, when existing roadways are reconstructed; and alternative bikeway alignments or routes where inadequate right-of-way is available.

Policy MT-4-d: Prioritization of Bikeway Improvements. Prioritize bikeway components that link existing separated sections of the system, or that are likely to serve the highest concentration of existing or potential cyclists, particularly in those neighborhoods with low vehicle ownership rates, or that are likely to serve destination areas with the highest demand such as schools, shopping areas, recreational and park areas, and employment centers.

Policy MT-5-a: Sidewalk Development. Pursue funding and implement standards for development of sidewalks on public streets, with priority given to meeting the needs of persons with physical and vision limitations; providing safe routes to school; completing pedestrian improvements in established neighborhoods with lower vehicle ownership rates; or providing pedestrian access to public transportation routes.

Policy MT-5-b: Sidewalk Requirements. Assure adequate access for pedestrians and people with disabilities in new residential developments per adopted City policies, consistent with the California Building Code and the Americans with Disabilities Act.

Policy MT-8-c: New Development Facilitating Transit. Continue to review development proposals in transportation corridors to ensure they are designed to facilitate transit. Coordinate all projects that have residential or employment densities suitable for transit services, so they are located along existing or planned transit corridors or that otherwise have the potential for transit orientation to FAX, and consider FAX’s comments in decision-making.

City of Fresno GHG Emissions Inventory

A GHG inventory for the City of Fresno is provided in the City's General Plan and Development Code Update and summarized in Table 3.5-1.

TABLE 3.5-1: CITY OF FRESNO GREENHOUSE GAS EMISSIONS INVENTORY FOR 2010 AND ADJUSTED BUSINESS-AS-USUAL FORECAST YEARS (MTCO$_2$E)

EMISSIONS SECTOR	*2010*	*2020*	*2035*
Motor Vehicles	1,795,666	1,748,773	1,745,843
Electricity – Residential	289,745	209,178	258,766
Electricity – Commercial	319,817	230,591	290,861
Natural Gas – Residential	400,169	468,696	506,670
Natural Gas – Commercial	448,706	497,117	553,452
Solid Waste	123,945	147,628	177,508
Off-Road Equipment	1,051	1,138	1,314
Ozone Depleting Substance Substitutes	273,422	288,392	347,367
Total	**3,652,521**	**3,591,513**	**3,881,781**

SOURCE: CITY OF FRESNO, 2014

NOTES: TOTALS MAY NOT ADD UP DUE TO ROUNDING

3.5.3 IMPACTS AND MITIGATION MEASURES

GREENHOUSE GAS EMISSIONS THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, climate change-related impacts are considered significant if implementation of the proposed project would do any of the following:

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.

The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence to climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

For future projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Plan).

Prior to the Newhall Ranch decision, GHG analysis in CEQA documents often involved comparison of the project emissions to a "no action taken" (NAT) scenario. In the Newhall Ranch decision, the court found that, although comparison of a project to NAT (or "business as usual") may be appropriate in concept, the comparison of a specific local project against a statewide business as usual scenario is not an analogous comparison. Specifically, the Court stated that the business as usual approach would need to be based on a substantial evidence-supported link between data in the Scoping Plan and the project, at its proposed location, to demonstrate consistency of a project's reductions with statewide goals. It should be noted that, based on current data available, it is not possible, within the structure of the Scoping Plan sectors, to develop the evidence to reliably relate a specific land use development project's reductions to the Scoping Plan's statewide goal, as envisioned by the Court. Based on the court's finding, the NAT approach is now considered problematic and is no longer recommended. Therefore, this DEIR analysis replaces a former SJVAPCD threshold with a threshold that is consistent with the Newhall Ranch decision. This newer approach consists of evaluating the consistency of a project's GHG efficiency with California's GHG reduction targets. In light of the Newhall Ranch decision, an efficiency metric was developed to assess the project's consistency with California's adopted GHG reduction targets for 2020 under AB 32, 2030 under SB 32, and for 2050 under Executive Order S-3-05.

In light of the Newhall Ranch decision, an independent efficiency metric was calculated by De Novo Planning Group to assess the project's consistency with California's adopted GHG reduction targets for 2020 AB 32. It was found, based on this independent calculation, that a per capita threshold of 4.84 MT CO_2e/SP/year in 2020 would be the appropriate threshold for projects in California for the Year 2020. De Novo Planning Group developed the 4.84 MT CO_2e/SP/year in 2020 threshold based on emissions for the land use-driven emission sectors in the CARB GHG Inventory. This approach to developing a GHG efficiency metric is only based on sectors that would accommodate projected growth (as indicated by population and employment growth) while allowing for consistency with the goals of AB 32. More specifically, this per service population efficiency target is based on the AB 32 GHG reduction target and GHG emissions inventory prepared for the CARB's AB 32 Scoping Plan. The land-used sector driven inventory for 1990 was divided by the population and employment projections for California in 2020. This efficiency metric allows the threshold to be applied evenly to all project types (residential, commercial/retail and mixed use) and uses an emissions inventory comprised only of sources from land-use related sectors. The efficiency approach allows lead agencies to assess whether any given project or plan would accommodate growth in a way that is consistent with the emissions limit established under AB 32.

Since this independently-generated GHG efficiency threshold for the State of California would be applicable statewide, this approach to establishing efficiency thresholds is utilized for this analysis for operational emissions.

THRESHOLDS OF SIGNIFICANCE (ENERGY CONSERVATION)

Consistent with Appendices F and G of the CEQA Guidelines, energy-related impacts are considered significant if implementation of the Specific Plan would do the following:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation;
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency;

In order to determine whether or not the proposed project would result in a significant impact on energy use, this EIR includes an analysis of proposed project energy use, as provided under *Impacts and Mitigation Measures* below.

IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: Potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (Less than Significant)

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Implementation of the project would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to future development would be primarily associated with increases of CO_2 and other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O), from mobile sources and utility usage.

The project's short-term construction-related and long-term operational GHG emissions were estimated using the California Emission Estimator Model (CalEEMod)^{TM} (v.2016.3.2). CalEEMod is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify GHG emissions from land use projects. The model quantifies direct GHG emissions from construction and operation (including vehicle use), as well as indirect GHG emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Emissions are expressed in annual metric tons of CO_2 equivalent units of measure (i.e., MT CO_2e), based on the global warming potential of the individual pollutants.

SHORT-TERM CONSTRUCTION GHG EMISSIONS

Estimated unmitigated GHG emissions associated with construction of the proposed project are summarized in Table 3.5-2. These emissions include all worker vehicle, vendor vehicle, hauler vehicle, and off-road construction vehicle GHG emissions. For the purposes of this analysis, based on input from the project applicants, the proposed project is assumed to commence construction in 2020 and finish in late 2020. It should be noted that this schedule is an approximation and may change over time. A regularized construction schedule was utilized for modelling purposes for the sake of simplicity.

TABLE 3.5-2: CONSTRUCTION GHG EMISSIONS (UNMITIGATED AVERAGE MT CO_2E/YEAR)

YEAR	BIO- CO_2	NON-BIO- CO_2	TOTAL CO_2	CH_4	N_2O	CO_2E
2020	0	113.3	113.3	<1	0	114.0

SOURCES: CALEEMOD (V.2016.3.2)

As presented in the table, short-term construction emissions of GHGs are estimated at 114.0 MT CO_2e.

OPERATIONAL GHG EMISSIONS

The operational GHG emissions estimate for the proposed project incorporates the mobile automobile vehicle trips that would increase in length due to the closure of H Street, as well as energy associated with the new parking lot street lighting. It should be noted that the reductions in truck VMT were not modeled, for the sake of a highly conservative analysis. Therefore, the operational emissions modelled are likely to be an overestimate of overall project operational GHG emissions.

Estimated GHG emissions associated with the proposed project are summarized in Table 3.5-3, below. As shown in the following table, the annual GHG emissions associated with the proposed project would be approximately 605.7 MT CO_2e.

TABLE 3.5-3: OPERATIONAL GHG EMISSIONS (UNMITIGATED METRIC TONS/YEAR)

	BIO- CO_2	NON-BIO- CO_2	TOTAL CO_2	CH4	N2O	CO2E
Area	0	<1	<1	0	0	<1
Energy	0	15.7	15.7	<1	<1	15.8
Mobile	0	585.4	585.4	0.2	0	589.9
Waste	0	0	0	0	0	0
Water	0	0	0	0	0	0
Total	**0**	**601.2**	**601.2**	**0.2**	**<1**	**605.7**

SOURCES: CALEEMOD (V.2016.3.2)

The significance thresholds for GHG emissions should be related to compliance with AB 32 and SB 32, and the City of Fresno, as lead agency, has chosen to utilize a threshold of significance for GHG emissions as required by the Newhall Ranch decision. This threshold was independently derived by De Novo Planning Group. The rationale for using this threshold is outlined in the previous subsection, entitled “Thresholds of Significance”.

As provided by the Traffic Impact Assessment (Kittelson & Associates, 2020), the proposed project would generate a total increase in daily automobile VMT of 1,205 VMT. The Traffic Impact Assessment also identifies that this increase in daily automobile VMT would affect a total of approximately 7,293 average daily trips.[1] Therefore, the average VMT increase per automobile rerouted due to the proposed project would be approximately 0.16 miles per automobile.

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[1] This value was determined by summing the Existing ADT provided in Table 20 of the Traffic Impact Assessment (Kittelson & Associates, 2020).

There are approximately 2,661,945 automobile trips per year that would be rerouted due to the proposed project (calculated by multiplying the 7,293 average daily trips by 365 days per year). Under the assumption that the same individuals are rerouted each day (a highly conservative estimate), there would only be 7,293 persons rerouted by the project site in a given year. Prorating the operational GHG emissions associated with the project (as provided in Table 3.5-3) amongst these individuals would provide an estimate of approximately 0.08 MT CO_2e/SP/Year.[2] This value is far below the 4.84 MT CO_2e/SP/year in 2020 threshold based on emissions for the land use-driven emission sectors in the CARB GHG Inventory.

CONSISTENCY WITH ADOPTED PLANS

The proposed project would be required to be generally consistent with the goals and strategies of the most recent version of the Fresno Council of Government's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). In addition, the proposed project would not conflict with the City's Greenhouse Gas Reduction Strategy contained in the City's Greenhouse Gas Reduction Plan provided in the City of Fresno General Plan.

CONCLUSION

Short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change. Furthermore, the operational GHG emissions associated the proposed project are well below the derived thresholds, representing a minimal value in the context of the applicable statewide GHG reduction goals. Additionally, the implementation of the mitigation measures presented in Section 3.2: Air Quality of this EIR would reduce the overall annual GHG emissions associated with the proposed project. Lastly, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The project would generate GHG emissions, directly and indirectly, that would not have a significant impact on the environment. Therefore, the proposed project would have a **less than significant** impact on the potential to generate GHG emissions that may have a significant impact on the environment.

Impact 3.5-2: Project implementation may result in the inefficient, wasteful, or unnecessary use of energy resources (Less than Significant)

The CEQA Guidelines requires consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable

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[2] For the purposes of these calculations, it is assumed the individuals in mobile vehicles rerouted by the proposed project represent the project's service population, since it is assumed that there would not be any new employees associated with the proposed project (inclusive of the new proposed parking lot and the closure of H Street).

energy sources. In particular, the proposed project would be considered "wasteful, inefficient, and unnecessary" if it were to violate State and federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- grading and new paved parking lot for diesel milk trucks; and
- closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

The amount of energy used by the proposed project during operation would directly correlate with the amount of lighting at the parking lot, and the changes in VMT associated with the rerouting of vehicles based on the closure of H Street. For the purposes of a conservative analysis, the fuel savings associated with the reduction in heavy-duty truck VMT is not calculated herein. Other project energy uses include fuel used by vehicle trips generated during project construction and operation, fuel used by off-road construction vehicles during construction activities, and fuel used by project maintenance activities during project operation. The following discussion provides a detailed calculation of energy usage expected for the proposed project, as provided by applicable modelling software (i.e. CalEEMod v2016.3.2 and the CARB EMFAC2017). Additional assumptions and calculations are provided within Appendix B.3 of this EIR.

ELECTRICITY AND NATURAL GAS

Electricity and natural gas used by the proposed project would be used primarily to generate energy for outdoor parking lot lighting. As shown in the following tables, "Energy" is one of the categories that was modeled for GHG emissions. The total unmitigated and mitigated GHG emissions generated from the "Energy" category is 15.8 MT CO_2e.

ON-ROAD VEHICLES (OPERATION)

The proposed project would increase the VMT of the many existing nearby vehicle trips during its operational phase, due to the closure of H Street. A description of project operational on-road mobile energy usage is provided below.

According to the Traffic Study prepared for the proposed project (Kittelson & Associates, 2020), and as described in more detail in Section 3.8 of this EIR, the project would increase automobile VMT by approximately 1,205 average daily VMT for the Existing Plus Project scenario. In order to calculate operational on-road vehicle energy usage and emissions, De Novo Planning Group used fleet mix data from the CalEEMod (v2016.3.2) output for the proposed project, Year 2020 gasoline and diesel MPG (miles per gallon) factors for individual vehicle classes as provided by EMFAC2017, weighted average MPG factors for gasoline and diesel were derived. Therefore, upon full buildout, the proposed project would generate operational vehicle trips that would use a total of approximately 37 gallons of gasoline and 30 gallons of diesel per day, or 13,499 gallons of gasoline and 11,060 gallons of diesel per year.

ON-ROAD VEHICLES (CONSTRUCTION)

The proposed project would also generate on-road vehicle trips during project construction (from construction workers and vendors travelling to and from the project site). De Novo Planning Group estimated the vehicle fuel consumed during these trips based the assumed construction schedule, vehicle trip lengths and number of workers per construction phase as provided by CalEEMod, and Year 2020 gasoline and diesel MPG factors provided by EMFAC2017 (year 2020 factors were used to represent the buildout year). For the sake of simplicity, it was assumed that all construction worker light duty passenger cars and truck trips use gasoline as a fuel source, and all medium and heavy-duty vendor trucks use diesel fuel. Table 3.5-4, below, describes gasoline and diesel fuel consumed during each construction phase (in aggregate). As shown, the vast majority of on-road mobile vehicle fuel used during the construction of the proposed project would occur during the demolition phase. There is no feasible mitigation available that would reduce on-road mobile vehicle GHG emissions generated by the project construction activities (requiring the use of electric construction vehicles was deemed infeasible, given price and availability concerns). See Appendix B.3 of this EIR for a detailed accounting of construction on-road vehicle fuel usage estimates.

TABLE 3.5-4: ON-ROAD MOBILE FUEL GENERATED BY PROJECT CONSTRUCTION ACTIVITIES – BY PHASE

CONSTRUCTION PHASE	*# OF DAYS*	*TOTAL DAILY WORKER TRIPS(A)*	*TOTAL DAILY VENDOR TRIPS(A)*	*TOTAL HAULER WORKER TRIPS(A)*	*TOTAL GALLONS OF GASOLINE FUEL(B)*	*TOTAL GALLONS OF DIESEL FUEL(B)*
Demolition	60	15	0	303	260	18,492
Site Preparation	5	18	0	0	26	0
Grading	8	15	0	0	35	0
Paving	18	20	0	0	104	0
Total	**N/A**	**N/A**	**N/A**	**N/A**	**425**	**18,492**

NOTE: (A) PROVIDED BY CALEEMOD OUTPUT. (B)SEE APPENDIX B.3 OF THIS EIR FOR FURTHER DETAIL

SOURCE: CALEEMOD (V.2016.3.2); EMFAC2017.

OFF-ROAD VEHICLES (CONSTRUCTION)

Off-road construction vehicles would use diesel fuel during the construction phase of the proposed project. A non-exhaustive list of off-road constructive vehicles expected to be used during the construction phase of the proposed project includes: forklifts, generator sets, tractors, excavators, and dozers. Based on the total amount of CO_2 emissions expected to be generated by the proposed project (as provided by the CalEEMod output), and standard conversion factors (as provided by the U.S. Energy Information Administration), the proposed project would use a total of approximately 8,610 gallons of diesel fuel for off-road construction vehicles. Detailed calculations are provided in Appendix B.3 of this EIR.

CONCLUSION

The proposed project would use energy resources for the operation of project lighting (electricity), for on-road vehicle trips (e.g. gasoline and diesel fuel) rerouted by the proposed project, and from off-road and on-road construction activities associated with the proposed project (e.g. diesel fuel). Each of these activities would require the use of energy resources. The proposed project would be responsible for conserving energy, to the extent feasible, and relies heavily on reducing per capita energy consumption to achieve this goal, including through statewide and local measures.

The proposed project would be in compliance with all applicable federal, State, and local regulations regulating energy usage. For example, PG&E, the electric and natural gas provider to the proposed project, is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the statewide RPS to increase the proportion of renewable energy (e.g. solar and wind) within its energy portfolio. PG&E is expected to achieve at least a 33% mix of renewable energy resources by 2020, and 60% by 2030. Other statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g. the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time.

The proposed project would comply with all existing energy standards and would not be expected to result in significant adverse impacts on energy resources. For these reasons, the proposed project would not cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the threshold as described by the *CEQA Guidelines*. This is a ***less than significant*** impact.

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HAZARDS AND HAZARDOUS MATERIALS 3.6

The purpose of this section is to disclose and analyze the potential impacts associated with hazards and hazardous materials related to the project site and general vicinity, and to analyze the potential for exposure of people to hazards and hazardous materials as the project is built and operated in the future. This section is based in part on the *Asbestos Survey Report* completed for the project (Leon Environmental Services, July 2019).

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: Department of Toxic Substances Control (DTSC, February 3, 2020), and Robynn Smith (January 28, 2020). The DTSC recommends that impacts associated with hazardous wastes and substances be studied, notes that aerially deposited lead may exist along the project area roadways, provides guidance regarding the presence of lead-based paints, mercury, asbestos, or polychlorinated biphenyl caulk, and recommends that agricultural contamination be evaluated. Robynn Smith expresses general concerns regarding removal of old equipment and associated toxins. Each of the comments related to this topic are addressed within this section; see Impact 3.6-1. Full comments received are included in Appendix A.

As discussed in in the Initial Study prepared for the proposed project, the following environmental checklist questions were determined to be less than significant or have no impact as a result of project implementation:

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; and
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

As such, these checklist questions will not be analyzed further in this Environmental Impact Report (EIR).

3.6.1 ENVIRONMENTAL SETTING

PHYSICAL SETTING

Project Location and Existing Uses

The Producers Dairy project site (project site) is located at 250 E. Belmont Avenue in Fresno, California (see Figures 2.0-1 and 2.0-2 in Chapter 2.0). There are two aspects of the project location that are addressed in this environmental document:

1. The Truck Movement Project Area; and
2. The Demolition and Grading Project Area.

The Truck Movement Project Area includes the Demolition and Grading Project Area (discussed below), the Producers Dairy Main Plant (discussed below), the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks.

The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks.

Producers Dairy Foods currently operates at multiple locations within the greater Truck Movement Parking Area. The existing operations include the Main Plant, which includes processing facilities, blow mold and storage areas, executive offices, product loading, dry storage, bottling and processing, order processing, and truck maintenance. Existing operations also occur at the ice cream warehouse, which is located southwest of the Main Plant. Producers also operates at the old cheese plant property, which is no longer operational as a cheese production facility, but is currently used for trailer storage as part of daily operations.

The vast majority of the existing operations and facilities are located in the area southwest of the Palm Avenue and Belmont Avenue intersection (the Main Plant); however, the ice cream warehouse is located west of H Street and north and west of the Southern Pacific Railroad, and the cheese plant property is located at the southwest corner of the N. Roosevelt Avenue and Belmont Avenue intersection. Existing circulation patterns currently connect the ice cream warehouse and cheese plant property to the other buildings listed previously (located southwest of the Palm Avenue and Belmont Avenue intersection).

Existing Surrounding Uses

Surrounding land uses include existing warehouse distribution and other industrial uses to the east, west, and south, and residential land uses to the east. The Demolition and Grading Project Area is located adjacent south of La Tapatia Tortilleria.

Site Topography

The project site is relatively flat. The elevation of the site ranges from approximately 288 feet to 300 feet above mean sea level.

Site Soils

The NRCS Web Soil Survey indicates the presence of three soil series occurring within the Truck Movement Project Area and two soil series within the Demolition and Grading Project Area. Table 3.6-1 identifies the soils found on the project site. A description of each soil type is included after the table.

TABLE 3.6-1: NRCS SOIL SERIES INFORMATION

SOIL SERIES AND DESCRIPTION	*ACRES*	
	TRUCK MOVEMENT PROJECT AREA	*DEMOLITION AND GRADING PROJECT AREA*
Greenfield sandy loam, moderately deep, 0-3% slopes	59.27	2.37
Hanford sandy loam	6.14	1.18
San Joaquin sandy loam, 0-3% slopes, MLRA 17	3.02	0.00

SOURCE: NRCS WEB SOIL SURVEY 2019.

Greenfield soil series. The Greenfield series consists of deep, well drained soils that formed in moderately coarse and coarse textured alluvium derived from granitic and mixed rock sources. Greenfield soils are on alluvial fans and terraces and have slopes of 0 to 30 percent. They have slow to medium runoff and moderately rapid permeability. Common uses for this series include: production of a wide variety of irrigated field, forage and fruit crops, and growing dryland grain and pasture. Vegetation on uncultivated areas consists of annual grass, forbs, some shrubs and scattered oak trees.

Hanford soil series. The Hanford series consists of very deep, well drained soils that formed in moderately coarse textured alluvium dominantly from granite. Hanford soils are on stream bottoms, floodplains and alluvial fans and have slopes of 0 to 15 percent. They have negligible to low runoff and moderately rapid permeability. Common uses for this series include: growing a wide range of fruits, vegetables, and general farm crops, urban development, and dairies. Vegetation in uncultivated areas is mainly annual grasses and associated herbaceous plants.

San Joaquin soil series. The San Joaquin series consists of moderately deep to a duripan, well and moderately well drained soils that formed in alluvium derived from mixed but dominantly granitic rock sources. San Joaquin soils are on undulating low terraces with slopes of 0 to 9 percent. They have medium to very high runoff and very slow permeability. Common uses for this series include:

cropland and livestock grazing; crops are small grains, irrigated pasture and rice; vineyards, fruit and nut crops.

HAZARDS ASSESSMENT

For the purposes of this EIR, "hazardous material" is defined as provided in California Health & Safety Code, Section 25501:

- Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.

"Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

"Hazardous waste" is a subset of hazardous materials. For the purposes of this EIR, the definition of hazardous waste is essentially the same as that in the California Health & Safety Code, Section 25517, and in the California Code of Regulations (CCR), Title 22, Section 66261.2:

- Hazardous wastes are wastes that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

CCR Title 22 categorizes hazardous waste into hazard classes according to specific characteristics of ignitibility, corrosivity, reactivity, or toxicity. Hazardous waste with any of these characteristics is also known as a Resource Conservation and Recovery Act (RCRA) waste.

Hazardous materials can be categorized as hazardous non-radioactive chemical materials, radioactive materials, toxic materials, and biohazardous materials. The previous definitions are adequate for non-radioactive hazardous chemicals. Radioactive and biohazardous materials are further defined as follows:

- Radioactive materials contain atoms with unstable nuclei that spontaneously emit ionizing radiation to increase their stability.
- Radioactive wastes are radioactive materials that are discarded (including wastes in storage) or abandoned.
- Toxic wastes are harmful or fatal when ingested or absorbed (e.g., containing mercury, lead). When toxic wastes are land disposed, contaminated liquid may leach from the waste and pollute groundwater.
- Biohazardous materials include materials containing certain infectious agents (microorganisms, bacteria, molds, parasites, and viruses) that cause or significantly

contribute to increased human mortality or organisms capable of being communicated by invading and multiplying in body tissues.

- Medical wastes include both biohazardous wastes (byproducts of biohazardous materials) and sharps (devices capable of cutting or piercing, such as hypodermic needles, razor blades, and broken glass) resulting from the diagnosis, treatment, or immunization of human beings, or research pertaining to these activities.

There are countless categories of hazardous materials and hazardous wastes that could be found on any given property based on past uses. Some common examples include agrichemicals (chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides, such as such as Mecoprop (MCPP), Dinoseb, chlordane, dichloro-diphenyltrichloroethane (DDT), and dichloro-diphenyl-dichloroethylene (DDE)), petroleum based products (oil, gasoline, diesel fuel), a variety of chemicals including paints, cleaners, and solvents, and asbestos-containing or lead-containing materials (e.g., paint, sealants, pipe solder).

Site Reconnaissance

On July 1, 2019, an asbestos survey was performed on the old feed mill and silos located on the project site. According to the *Asbestos Survey Report* completed for the project, the structures on-site include a two-story office building with a retail feed store, warehouse buildings with loading docks for both rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. Much of the iron framed structure associated with the concrete storage silos has corrugated transite panel walls and roof. The storage silos and associated structures and equipment have been out of use for many years with extensive scavenging of the copper wiring and most anything of value. Inside the warehouse buildings are abandoned boiler rooms, old feed mill, and in use packaging equipment. The structures are 75 to 90 years old and not in very good condition with most of the roofs unsafe to walk on. Many of the doors and access points into the structures have had to be welded shut to keep out the vagrants and control the vandalism of the buildings. On the north side of the warehouses is a large concrete area where another warehouse was many years ago.

Historical Use Information

Historical information was reviewed to develop a history of the previous uses on the project site and surrounding area, in order to evaluate the project site and adjoining properties for evidence of Recognized Environmental Conditions.

The approximately 3.55-acre Demolition and Grading Project Area is currently developed with a range of old, abandoned feed mill and silos. The property was previously known as the JB Hill Hay and Grain Company, which began operating the 18-tower elevator and feed mill over 100 years ago and produced and sold hay, grain, and mill feed products. A ghost sign on the side of the mill is visible with the JB Hill Hay and Grain name and an advertisement for one of its flour products. In 1994, Integrated Grain and Milling (IGM) purchased the Fresno Feed Mill property and produced various animal feed products in bulk pellet and mash varieties. IGM was created as a spin-off of the JB Hill Hay and Grain Company and the Zacky Farms Company (poultry producers).

Aerial photographs of the project site and general vicinity were also reviewed. In 1998, the Demolition and Grading Project Area contained the feed mill and silos and existing structures that are currently located on-site. From 1998 to present, the Demolition and Grading Project Area has remained in its existing state and no structures have been added or removed.

Transportation of Hazardous Materials

The transportation of hazardous materials within the City of Fresno Planning Area is subject to various federal, state, and local regulations. The following provisions are included in the California Vehicle Code (CVC) and pertain to the transportation of hazardous related materials.

- The Highway Patrol designates the routes in California which are to be used for the transportation of explosives. (Section 31616)
- The CVC applies when the explosives are transported as a delivery service for hire or in quantities in excess of 1,000 pounds. The transportation of explosives in quantities of 1,000 pounds or less, or other than on a public highway, is subject to the California Health and Safety Code. (Section 31601(a))
- It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery of, or the loading of, such materials. (Section 31602(b) and Section 32104(a))
- When transporting explosives through or into a city for which a route has not been designated by the Highway Patrol, drivers must follow routes as may be prescribed or established by local authorities. (Section 31614(a))
- Inhalation hazards and poison gases are subject to additional safeguards. These materials are highly toxic, spread rapidly, and require rapid and widespread evacuation if there is loss of containment or a fire. The Highway Patrol designates through routes to be used for the transportation of inhalation hazards. It may also designate separate through routes for the transportation of inhalation hazards composed of any chemical rocket propellant. (Section 32100 and Section 32102(b))

In addition to area roadways, hazardous materials are routinely transported on the on-site Union Pacific Railroad lines. Hazardous materials are transported on these lines. The risk of accidents, and more specifically accidents involving hazardous materials, is relatively low. The U.S. Department of Transportation Federal Railroad Administration found the UPRR company train accident rate to be 4.18 train accidents per one million train miles traveled, resulting in a less than 0.001% chance of an accident. Risk of a railroad accident containing hazardous materials is considered much lower, as only an average of eight accidents involving hazardous material spills occur annually in California.

The Union Pacific Railroad Company does implement a security plan in compliance with the Department of Transportation Final Rule 49 CFR Part 172 Hazardous Materials (HM 232): Security Requirements for Offerors and Transporters of Hazardous Materials. The plan includes requirements to enhance the security of transported hazardous materials and ensures proper cleanup procedures in the instance of an accidental release.

3.6.2 REGULATORY SETTING

FEDERAL

The primary federal agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the Environmental Protection Agency (EPA), Department of Labor Occupational Safety and Health Administration (OSHA), and the Department of Transportation (DOT). Several laws governing the transport, storage, and use of hazardous materials are governed by these agencies as well as oversight for contaminated sites cleanup. Federal laws and regulations that are applicable to hazards and hazardous materials are presented below.

Resource Conservation and Recovery Act

The 1976 Federal Resource Conservation and Recovery Act (RCRA) and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated that hazardous wastes be tracked from the point of generation to their ultimate fate in the environment. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities.

The 1984 RCRA amendments provided the framework for a regulatory program designed to prevent releases from USTs. The program establishes tank and leak detection standards, including spill and overflow protection devices for new tanks. The tanks must also meet performance standards to ensure that the stored material will not corrode the tanks. Owners and operators of USTs had until December 1998 to meet the new tank standards. As of 2001, an estimated 85 percent of USTs were in compliance with the required standards.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (the Act) introduced active federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. The Act was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous substances releases. The Act deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

Natural Gas Pipeline Safety Act

The Natural Gas Pipeline Safety Act authorizes the U.S. Department of Transportation Office of Pipeline Safety to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas. The Office of Pipeline Safety regulates the design, construction, inspection, testing, operation, and maintenance of pipeline facilities. While the federal government is primarily responsible for developing, issuing, and enforcing pipeline safety regulations, the pipeline safety statutes provide for State assumption of the intrastate regulatory, inspection, and enforcement responsibilities under an annual certification. To qualify for certification, a state must adopt the minimum federal regulations and may adopt additional or more stringent regulations as long as they are not incompatible.

STATE

The primary state agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the California Office of Emergency Services (OES), California Environmental Protection Agency (Cal-EPA), DTSC, California Department of Transportation (Caltrans), California Highway Patrol (CHP), California Water Quality Control Board, and the California Air Resources Board. Several laws governing the generation, transport, and disposal of hazardous materials are administered by these agencies. State laws and regulations that are applicable to hazards and hazardous materials are presented below.

California Health and Safety Code

Cal-EPA has established rules governing the use of hazardous materials and the management of hazardous wastes. Many of these regulations are embodied in the California Health and Safety Code. The code includes regulations that govern safe drinking water, substances control, land reuse and revitalization, remediation, restoration, and methamphetamine contaminated cleanups.

California Code of Regulations Title 22 and Title 26

The California Code of Regulations (CCR) Title 22 provides state regulations for hazardous materials, and CCR Title 26 provides regulation of hazardous materials management. In 1996, Cal/EPA established the "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Unified Program) which consolidated the six administrative components of hazardous waste and materials into one program.

LOCAL

Fresno General Plan

General Plan policies and objectives applicable to the project are identified below:

NOISE AND SAFETY ELEMENT

Objective NS-4. Minimize the risk of loss of life, injury, serious illness, and damage to property resulting from the use, transport, treatment, and disposal of hazardous materials and hazardous wastes.

> **Policy NS-4-a.** Processing and Storage. Require safe processing and storage of hazardous materials, consistent with the California Building Code and the Uniform Fire Code, as adopted by the City.
>
> **Policy NS-4-b.** Coordination. Maintain a close liaison with the Fresno County Environmental Health Department, Cal-EPA Division of Toxics, and the State Office of Emergency Services to assist in developing and maintaining hazardous material business

plans, inventory statements, risk management prevention plans, and contingency/emergency response action plans.

Policy NS-4-c. Soil and Groundwater Contamination Reports. Require an investigation of potential soil or groundwater contamination whenever justified by past site uses. Require appropriate mitigation as a condition of project approval in the event soil or groundwater contamination is identified or could be encountered during site development.

Policy NS-4-d. Site Identification. Continue to aid federal, State, and County agencies in the identification and mapping of waste disposal sites (including abandoned waste sites), and to assist in the survey of the kinds, amounts, and locations of hazardous wastes.

Policy NS-4-e. Compliance with County Program. Require that the production, use, storage, disposal, and transport of hazardous materials conform to the standards and procedures established by the County Division of Environmental Health. Require compliance with the County's Hazardous Waste Generator Program, including the submittal and implementation of a Hazardous Materials Business Plan, when applicable.

Policy NS-4-f. Hazardous Materials Facilities. Require facilities that handle hazardous materials or hazardous wastes to be designed, constructed, and operated in accordance with applicable hazardous materials and waste management laws and regulations.

Policy NS-4-g. Hazmat Response. Include policies and procedures appropriate to hazardous materials in the City's disaster and emergency response preparedness and planning, coordinating with implementation of Fresno County's Hazardous Materials Incident Response Plan.

Policy NS-4-h. Household Collection. Continue to support and assist with Fresno County's special household hazardous waste collection activities, to reduce the amount of this material being improperly discarded.

Policy NS-4-i. Public Information. Continue to assist in providing information to the public on hazardous materials.

Certified Unified Program Agency

The California Environmental Protection Agency designates specific local agencies as Certified Unified Program Agencies (CUPA), typically at the county level. The Fresno County Department of Environmental Health is the CUPA designated for Fresno County. The Fresno County Department of Environmental Health is responsible for the implementation of statewide programs within its jurisdiction, including: Underground storage of hazardous substances (USTs), Hazardous Materials Business Plan (HMP) requirements, California Accidental Release Prevention (Cal-ARP) program, etc. Implementation of these programs involves permitting, inspecting, providing education/guidance, investigations, and enforcement.

San Joaquin Valley Air Pollution Control District Asbestos Program

The purpose of the San Joaquin Valley Air Pollution Control District (SJVAPCD) Asbestos Program is to protect the public from uncontrolled emissions of asbestos through enforcement of the Federal Asbestos Standard. The Program covers most renovations and demolition projects in the San Joaquin Valley air basin. Elements of the Program include Survey and Notification Requirements prior to beginning a project, as well as Work Practice Standards and Disposal Requirements.

The 10 working day waiting period does not begin until the District has received the following: Asbestos Survey, Asbestos Notification, Demolition or Renovation Permit Release, and the proper fees. A Certified Asbestos Consultant (CAC) will need to perform an asbestos survey prior to the demolition of a regulated facility. Following the completion of an asbestos survey, the asbestos survey, Asbestos Notification, Demolition Permit Release, and the proper fees shall be submitted to the SJVAPCD 10 working days prior to the removal of Regulated Asbestos Containing Material (RACM) and the demolition when no asbestos is present.

3.6.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed project will have a significant impact from hazards and hazardous materials if it will:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: Potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (Less than Significant with Mitigation)

CONSTRUCTION PHASE IMPACTS

Construction activities would occur in phases through the development of the proposed project. Construction equipment and materials would likely require the use of petroleum-based products (oil, gasoline, diesel fuel), and a variety of chemicals including paints, cleaners, and solvents. The use of these materials at a construction site will pose a reasonable risk of release into the environment if not properly handled, stored, and transported. A release into the environment could pose significant impacts to the health and welfare of people and/or wildlife, and could result in contamination of water (groundwater or surface water), habitat, and countless important resources.

As noted previously, an asbestos survey was performed on the old feed mill and silos located on the project site. According to the *Asbestos Survey Report* completed for the project, the structures on-site include a two-story office building with a retail feed store, warehouse buildings with loading docks for both rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. Much of the iron framed structure associated with the concrete storage silos has corrugated transite panel walls and roof. The storage silos and associated structures and equipment have been out of use for many years with extensive scavenging of the copper wiring and most anything of value. Inside the warehouse buildings are abandoned boiler rooms, old feed mill, and in use packaging equipment. The structures are 75 to 90 years old and not in very good condition with most of the roofs unsafe to walk on. Many of the doors and access points into the structures have had to be welded shut to keep out the vagrants and control the vandalism of the buildings. On the north side of the warehouses is a large concrete area where another warehouse was many years ago.

As part of the *Asbestos Survey Report*, bulk samples of suspect asbestos containing materials (ACM) were taken in accordance with US EPA Guidelines and accepted industry standards by a state certified asbestos consultant. A total of 181 analyses from 176 samples of suspected ACM collected from the structures on-site were performed. The samples listed in Table 3.6-2 tested positive for asbestos. The sample locations are indicated on the diagram included within the *Asbestos Survey Report*, which is included as Appendix D of this EIR. Quantities listed are estimates and for sampling purposes only. The quantities should be verified prior to asbestos abatement.

As shown in the table, the pipe insulation (sample 83) on the piping of the silo building near the ceiling in the main room on the first floor and up to the second floor in the silo building is positive for asbestos at 20 percent by weight. This type of material is considered friable hazardous ACM and must be handled and disposed of accordingly. A licensed asbestos abatement contractor should remove this material prior to demolition of this structure.

Additionally, the pipe insulation (sample 121) on piping in the first and second floors of the old mill area in the south warehouse is positive for asbestos at 60 percent by weight. This type of material is considered friable ACM and must be handled and disposed of accordingly. A licensed asbestos abatement contractor should remove this material prior to demolition of this structure.

All remaining sampling indicates that the materials covered by the *Asbestos Survey Report* are non-hazardous, non-friable ACM.

TABLE 3.6-2: ASBESTOS-CONTAINING MATERIAL

#	LOCATION	MATERIAL	%	FRIABLE?	SF
TWO-STORY OFFICE BUILDING					
14	Room #5 Floor	12×12 Floor Tile	>1	No	680
24	Room #11 Floor	9×9 Floor Tile	>1	No	2,440
31	Room #10 Floor	Black Floor Tile Mastic	4-5	No	400
34	2nd Floor Men's Restroom Floor	12×12 Floor Tile	>1	No	72
36	2nd Floor Hallway Floor	9×9 Floor Tile	>1	No	2,440
46	Room #18 Wall	Wall Panel Adhesive	4-5	No	7,100
SILO BUILDING					
62	Top of Silo #1 Outside	Caulking/Sealant	2-3	No	50
70	Ground Level Silo #1 Outside	Silver Paint	3	No	40,000
72	Ground Level Silo #2 Outside	Silver Paint	3-4	No	40,000
73	Ground Level Silo #4 Outside	Silver Paint	4-5	No	40,000
74	Top of Silo #4 Outside	Silver Paint	4-5	No	40,000
75	Ground Level Silo #5 Outside	Silver Paint	4-5	No	40,000
76	Ground Level Silo #7 Outside	Silver Paint	4-5	No	40,000
78	Ground Level Silo #10 Outside	Silver Paint	2-3	No	40,000
83	Ground Level Silo Bldg. Main Room	Pipe Insulation	20	Yes	40 LF
87	Top of Silo #17 Outside	Transite	15	No	10,000
92	Silo Bldg. Roof – Northwest Side	Roof Mastic	10	No	50
OFFICE BUILDING ROOF					
102	Roof	Roof Mastic	10	No	100
103	Roof	Roof Mastic	5	No	100
SOUTH WAREHOUSE					
104	Room 8 Walls and Ceiling	Texture	0.25*	No	2,850
105	Room 8 Walls and Ceiling	Texture	0.50*	No	2,850
106	Room 8 Walls and Ceiling	Joint Compound	1-2	No**	2,850
111	Room 4 Floor	12×12 Floor Tile	>1	No	336
115	Room 6 Floor	Floor Tile	>1	No	336
121	Old Mill 2nd Floor Piping	Pipe Insulation	60	Yes	40 LF
122	Room 2 Floor	9×9 Floor Tile	>1	No	144
128	Restroom Walls and Ceiling	Joint Compound	1-2	No**	2,850
133	Room 3 Floor	12×12 Floor Tile	>1	No	192
NORTH WAREHOUSE					
146	Storage Wood Walls	Sealant on Wood	5-6	No	200
SOUTH WAREHOUSE ROOF					
163	Roof	Roof Mastic	5	No	200
164	Roof South End	Roof Mastic	10	No	200
NORTH WAREHOUSE ROOF					
174	Roof	Roof Mastic	10	No	50

*NOTES: SF = SQUARE FEET. LF =LINEAR FEET. * = ASBESTOS PERCENTAGE DETERMINED BY PLM POINT COUNTING METHOD (EPA 600/R-93/116). ** = DETERMINED AFTER COMPOSITE SAMPLING WITH ASSOCIATED SHEETROCK AND POINT COUNTING.*
SOURCE: LEON ENVIRONMENTAL SERVICES, 2019.

The types of ACM identified in the *Asbestos Survey Report* require removal (in most cases) prior to demolition and/or renovation procedures to comply with local, state, and federal agencies. The US EPA requires materials containing greater than one percent asbestos be removed prior to renovation or demolition. If those materials are friable or likely to become friable due to the forces expected to act on them during renovation or demolition, they become a RACM and require a 10-day notification to the local Air Pollution Control District (i.e., the SJVAPCD, pursuant to the Asbestos Program discussed in the Regulatory Setting) prior to abatement. Non-friable and non-regulated ACM, in most cases, may be disposed of as construction debris in a landfill which accepts ordinary construction debris. All friable waste containing more than one percent asbestos (RACM) should be manifested as hazardous waste for disposal purposes. These requirements are included in Mitigation Measures 3.6-1 and 3.6-2.

In addition to the potentially hazardous levels of asbestos in the silo building (sample 83) and south warehouse building (sample 121), lead-based paint may also be present in the site structures, including the office building, retail feed store, warehouse buildings, storage silos, and iron structures, which will require removal prior to construction of the proposed parking lot. The structures will require evaluation for lead containing materials. If lead containing materials are present in the demolition of the structures, special demolition and disposal practices are required in accordance with state regulations to ensure their safe handling (as required by Mitigation Measure 3.6-3). Additionally, sampling of the soils in the Demolition and Grading Project Area should be completed after the structures are demolished in order to verify that there is no soil contamination that could result in hazardous dust during site grading, or other hazardous onsite conditions post-demolition. Should any contaminated soils be found during the sampling, the soil would be transported offsite and disposed of properly (as required by Mitigation Measure 3.6-4).

Further, due to the age of the existing development which would require demolition to construct the parking lot, groundwater wells may be located within the vicinity of the structures in the Demolition and Grading Project Area. Should groundwater wells be present on-site, the proper well abandonment permit would be obtained as required by Mitigation Measure 3.6-5.Implementation of the following mitigation measures will ensure that these potential construction impacts are reduced to a **less than significant** level.

MITIGATION MEASURE(S)

Mitigation Measure 3.6-1*: Prior to asbestos abatement, the applicant shall hire a qualified abatement contractor in order to verify the quantities of materials Asbestos Survey Report completed for the project (Leon Environmental Services, July 2019). Once the quantities of materials are verified, the qualified abatement contractor shall remove all materials containing greater than one percent asbestos by weight prior to demolition. Materials that contain less than one percent asbestos by weight shall also be removed or can be demolished with the structure if the demolition contractor is registered with CAL OSHA to work with asbestos. It is noted that demolition debris/waste with any detectable amounts of asbestos cannot be recycled.*

In accordance with the SJVAPCD Asbestos Program, the asbestos survey, Asbestos Notification, Demolition Permit Release, and the proper fees shall be submitted to the SJVAPCD 10 working days *prior to the removal of Regulated Asbestos Containing Material (RACM) and the demolition when no asbestos is present.*

***Mitigation Measure 3.6-2**: During any disturbance of ACM on the project site, the CAL OSHA worker health and safety regulations shall apply. These regulations shall apply regardless of friability or quantity disturbed. If there is greater than 100 square feet of ACM which will be affected by the demolition, a California Licensed Contractor who is registered with CAL OSHA for asbestos shall be hired. The regulations regarding asbestos are found in Title 8 CCR Section 1529, and also include formal notification requirements to CAL OSHA at least 24 hours prior to removal. Removal shall be conducted with the material(s) kept in a wetted state in order to contain dust and hazardous emissions.*

Further, if required by the demolition contractor, the building owner/operator shall accept responsibility for removal of all ACM found during the building inspection prior to start of demolition activities. Removal, demolition, and disposal of any ACM shall comply with California environmental regulations and policies.

***Mitigation Measure 3.6-3**: The applicant shall hire a qualified consultant to perform additional testing prior to the issuance of grading permits or demolition permits for construction activities for each phase of the project in the following areas that have been deemed to have potential lead-containing materials present:*

- *two-story office building with a retail feed store,*
- *warehouse buildings with loading docks for rail cars and trucks,*
- *concrete storage silos for feed and grain, and*
- *an iron structure with metal loading silos.*

The intent of the additional testing is to investigate whether any of the buildings, facilities, or soils contain lead-containing materials. If lead is found in the buildings, a CAL OSHA certified lead based paint contractor shall be retained to remove the lead in accordance with EPA and CAL OSHA standards.

In addition, all activities (construction or demolition) in the vicinity of asbestos-containing materials (ACBM) and/or lead shall comply with CAL OSHA asbestos and lead worker construction standards. The ACBM and lead shall be disposed of properly at an appropriate offsite disposal facility. If surface staining is found on the project site, a hazardous waste specialist shall be engaged to further assess the stained area.

***Mitigation Measure 3.6-4**: Following demolition of the structures in the Demolition and Grading Project Area, soil sampling shall be completed in order to determine if soil contamination that could result in hazardous dust during site grading, or other hazardous soil conditions, are present. Should the sampling determine that the on-site soils are contaminated, the soils shall be properly removed, transported, and disposed of in compliance with California environmental regulations and policies.*

Mitigation Measure 3.6-5*: Prior to initiation of any ground disturbance activities within 50 feet of a well, the applicant shall hire a licensed well contractor to obtain a well abandonment permit from the Fresno County Environmental Health Division, and properly abandon the on-site wells, pursuant to review and approval of the City Engineer and the Fresno County Environmental Health Division.*

OPERATIONAL PHASE IMPACTS

The operational phase of the project will occur after construction is completed and business operators/employees move about the project area and existing Producers Dairy facilities on a day-to-day basis.

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- grading and new paved parking lot for diesel milk trucks; and
- closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The proposed project includes the demolition of existing structures between H Street and the UPRR tracks, which would be replaced with a new consolidated truck and trailer parking area. This new parking area would allow the project applicant to change their existing truck movement patterns in and around their facilities. The operation of the parking lot area would not require the use of hazardous materials or substances. As such, operation of the proposed project would have a **less than significant** impact relative to this issue.

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This section provides a general description of the existing noise sources in the project vicinity, a discussion of the regulatory setting, and identifies potential noise impacts associated with the proposed project. Project impacts are evaluated relative to applicable noise level criteria and to the existing ambient noise environment. Mitigation measures have been identified for significant noise-related impacts. This section is based on the *Environmental Noise Assessment* completed for the project (j. c. brennan & associates, Inc., April 2020).

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: Robynn Smith (January 28, 2020) and Malyn Rose (February 20, 2020). Robynn Smith expressed general concerns regarding traffic noise, and Malyn Rose expressed concerns regarding increased noise levels, and parking noise at the old cheese factory. Each of the comments related to this topic are addressed within this section; see Impact 3.7-1. Full comments received are included in Appendix A.

As discussed in in the Initial Study prepared for the proposed project, the project is not located within the vicinity of a private airstrip. The closest airport is the Fresno Chandler Executive Airport, located approximately 1.1 miles southwest of the project site. As discussed previously, the project site is in the Traffic Pattern Zone for this Airport. The project does not propose any hazards to flight or objects over 100 feet tall. Additionally, the project does not propose any uses, structures, or other impediments that would conflict with the operation of this Airport. As such, these checklist questions will not be analyzed further in this Environmental Impact Report (EIR).

3.7.1 ENVIRONMENTAL SETTING

KEY TERMS

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.
CNEL	Community noise equivalent level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.

Frequency	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
$L_{(n)}$	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L_{50} is the sound level exceeded 50 percent of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
SEL	Sound exposure levels. A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. CNEL is similar to L_{dn}, but includes a +5 dB penalty for evening noise. Table 3.7-1 lists several examples of the noise levels associated with common situations.

TABLE 3.7-1: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	*NOISE LEVEL (DBA)*	*COMMON INDOOR ACTIVITIES*
--	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	--
Gas Lawn Mower at 1 m (3 ft)	--90--	--
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. NOVEMBER 2009.

EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a 1 dBA change cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING NOISE LEVELS

The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD 77-108) was used to develop L_{dn} (24-hour average) noise contours for the primary project-area roadways. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model predicts hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within 1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical 24-hour period.

Existing traffic volumes were obtained from the traffic study prepared for the project by the project traffic consultant (Kittelson & Associates, March 2020). Day/night traffic distributions were based upon continuous hourly noise measurement data collected and file data for similar roadways. In addition, heavy truck use along each roadway was also provided by the traffic consultant. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated for existing conditions. The locations of the continuous noise monitoring sites are shown on Figure 3.7-1. Table 3.7-2 shows the results of this analysis. Appendix A of Appendix E provides the complete inputs and results for the FHWA traffic noise modeling.

TABLE 3.7-2: PREDICTED EXISTING TRAFFIC NOISE LEVELS AT 100-FEET FROM ROADWAY CENTERLINES

ROADWAY	*SEGMENT*	*NOISE LEVEL AT 100-FEET, (L_{DN}), DB*	*DISTANCES TO TRAFFIC NOISE CONTOURS, L_{DN} (FEET)*	
			70 DB	*65 DB*
Weber Avenue	North of Thomas Ave	63	33	71
Weber Avenue	Thomas Ave to Belmont Ave	63	33	71
Belmont Avenue	West of Weber Avenue	63	35	75
Belmont Avenue	Weber Avenue to Stafford Ave	63	33	71
Belmont Avenue	Stafford Ave to Palm Ave	63	33	71
Belmont Avenue	West of Palm Ave	64	38	82
H Street	South of Belmont Ave	62	32	68
H Street	North of Palm Ave	63	37	79
H Street	South of Palm Ave	65	47	101
Palm Avenue	North of Belmont Ave	61	25	53
Safford	North of Belmont Ave	48	3	7

NOTES: DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS. EXISTING NOISE LEVELS ARE BASED ON PREDICTIONS, NOT FULL MEASUREMENTS.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM KITTELSON & ASSOCIATES, AND J.C. BRENNAN & ASSOCIATES, INC. 2020.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segment. In some locations sensitive receptors may receive shielding from noise barriers and/or buildings, or may be located at distances which vary from the assumed calculation distance. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the project area roadway segments analyzed in this section. Additionally, in some locations, no sensitive receptor locations were specifically identified. In this case, a standard reference distance of 100-feet from the roadway centerlines was used.

The actual distances to noise level contours may vary from the distances predicted by the FHWA model due to roadway curvature, grade, shielding from local topography or structures, elevated roadways, or elevated receivers. The distances reported in Table 3.7-2 are generally considered to be conservative estimates of noise exposure along the project-area roadways.

COMMUNITY NOISE SURVEY

A community noise survey was conducted to document existing ambient noise levels in the project area. The measurements were conducted on January 7 and 8, 2020. Continuous 24-hour noise monitoring was conducted at two sites to record day-night statistical noise level trends. The 24-

hour noise level measurements were supplemented with short-term noise measurements at three additional locations during the daytime period. The data collected included the hourly average (L_{eq}), median (L_{50}), and the maximum level (L_{max}) during the measurement period. Noise monitoring sites and the measured noise levels at each site are summarized in Table 3.7-3. Figure 3.7-1 shows the locations of the noise monitoring sites. The complete noise monitoring results are contained in Appendix B of Appendix E.

TABLE 3.7-3: EXISTING AMBIENT NOISE MONITORING RESULTS

SITE	*LOCATION*	*L_{DN} (DBA)*	*MEASURED AVERAGE HOURLY NOISE LEVELS, DBA*					
			DAYTIME (7:00 AM - 10:00 PM)			*NIGHTTIME (10:00 PM – 7:00 AM)*		
			L_{EQ}	*L_{50}*	*L_{MAX}*	*L_{EQ}*	*L_{50}*	*L_{MAX}*
CONTINUOUS 24-HOUR MEASUREMENTS								
A	North Wesley Avenue	66.4	64.3	58.9	82.0	58.6	48.9	76.1
B	H Street	73.8	71.5	67.2	84.2	66.1	61.0	83.4
SHORT-TERM (10 MINUTES) MEASUREMENTS								
1	Southeast of Ice Cream Plant	NA	57.5	54.3	60.7	@ 9:50 a.m.		
2	North Palm Avenue	NA	63.0	59.5	71.4	@ 10:15 a.m.		
3	N.E. of Round-a-bout (Weber Ave)	NA	75.1	86.3	69.1	@10:45 a.m.		

SOURCE: J.C. BRENNAN & ASSOCIATES, INC., 2020.

Community noise monitoring equipment included Larson Davis Laboratories (LDL) Model 820 and Model 824 precision integrating sound level meters equipped with LDL ½" microphones. The measurement systems were calibrated using a LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

The results of the community noise survey shown in Table 3.7-3 indicate that existing transportation noise sources including roadway traffic and railroad operations were a major contributor of ambient noise in the project vicinity. In addition, industrial noise sources also contributed to the ambient noise environment.

3.7.2 REGULATORY SETTING

FEDERAL

There are no federal regulations related to noise that apply to the proposed project.

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, indicate that a significant noise impact may occur if a project exposes persons to noise or vibration levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels. CEQA standards are discussed more below under the Thresholds of Significance criteria section.

LOCAL

City of Fresno General Plan

For the purposes of evaluating noise impacts due to new projects, the objectives and policies of the City of Fresno General Plan Noise and Safety Element are used. In addition, the Noise Element provides criteria for evaluating land use compatibility.

Tables 9-2 and 9-3 of the General Plan Noise and Safety Element (Tables 3.7-4 and 3.7-5 of this section) provide the noise compatibility guidelines.

TABLE 3.7-4: TRANSPORTATION NOISE LEVEL CRITERIA (NON-AIRCRAFT)

TABLE 9-2 TRANSPORTATION (NON-AIRCRAFT) NOISE SOURCES

Noise-Sensitive Land Use[1]	Outdoor Activity Areas[2]	Interior Spaces	
	L_{dn}/CNEL, dB	L_{dn}/CNEL, dB	L_{eq} dB[2]
Residential	65	45	-
Transient Lodging	65	45	-
Hospitals, Nursing Homes	65	45	-
Theaters, Auditoriums, Music Halls	-	-	35
Churches, Meeting Halls	65	-	45
Office Buildings	-	-	45
Schools, Libraries, Museums	-	-	45

1. Where the location of outdoor activity areas is unknown or is not applicable, the exterior noise level standard shall be applied to the property line of the receiving land use.
2. As determined for a typical worst-case hour during periods of use.

TABLE 3.7-5: STATIONARY NOISE LEVEL CRITERIA

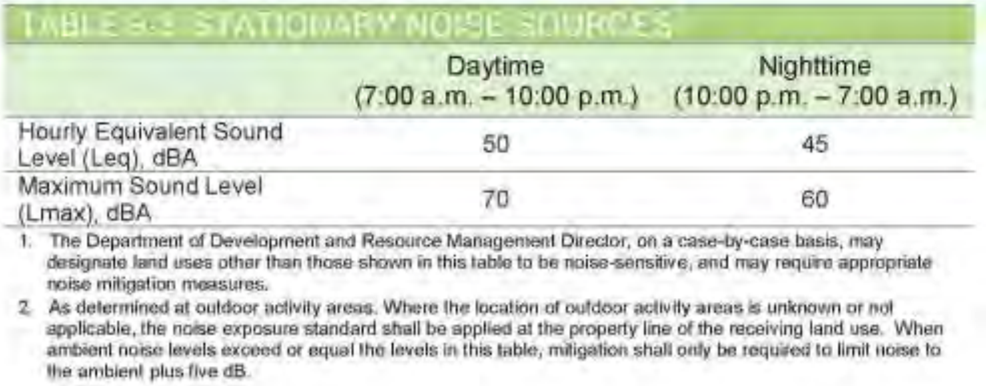

TABLE 9-3 STATIONARY NOISE SOURCES

	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. – 7:00 a.m.)
Hourly Equivalent Sound Level (Leq), dBA	50	45
Maximum Sound Level (Lmax), dBA	70	60

1. The Department of Development and Resource Management Director, on a case-by-case basis, may designate land uses other than those shown in this table to be noise-sensitive, and may require appropriate noise mitigation measures.
2. As determined at outdoor activity areas. Where the location of outdoor activity areas is unknown or not applicable, the noise exposure standard shall be applied at the property line of the receiving land use. When ambient noise levels exceed or equal the levels in this table, mitigation shall only be required to limit noise to the ambient plus five dB.

The Noise Element outlines the following objectives and policies which are pertinent to the project. This list does not include all noise-related policies, but provides policies which are relevant to the project.

NOISE AND SAFETY ELEMENT

Objective NS-1: Protect the citizens of the City from the harmful effects of exposure to excessive noise.

Policy NS-1-a: Desirable and Generally Acceptable Exterior Noise Environment. Establish 65 dB Ldn or CNEL as the standard for the desirable maximum average exterior noise levels for defined usable exterior areas of residential and noise-sensitive uses for noise, but designate 60 dB Ldn or CNEL (measured at the property line) for noise generated by stationary sources impinging upon residential and noise-sensitive uses. Maintain 65 dB Ldn or CNEL as the maximum average exterior noise levels for non-sensitive commercial land uses, and maintain 70 dB Ldn or CNEL as maximum average exterior noise level for industrial land uses, both to be measured at th property line of parcels where noise is generated which may impinge on neighboring properties.

Commentary: The noise ordinance will define usable exterior areas for single family and multiple family residential and noise sensitive uses to include rear yards and other outdoor areas intended to accommodate leisure or active use, excluding front or side yard areas, and front or side porches. Balconies or roof decks facing from and side yards shall be included in designated areas to be protected from noise where these spaces are used to calculate compliance with required outdoor living area as required by adopted development standards.

Policy NS-1b: Conditionally Acceptable Exterior Noise Exposure Range. Establish conditionally acceptable noise exposure level range for residential and other noise sensitive uses to be 65 dB Ldn or require appropriate noise reducing mitigation measures as determined by a site specific acoustical analysis to comply with the desirable and conditionally acceptable exterior noise level and the required interior noise level standards set in Table 9-2.

Policy NS-1c: Generally Unacceptable Exterior Noise Exposure Range. Establish the exterior noise exposure of greater than 65 dB Ldn or CNEL to be generally unacceptable for residential or other noise sensitive uses for noise generated by sources in Policy NS-1-a, and study alternative less noise sensitive uses for these areas if otherwise appropriate. Require appropriate noise reducing mitigation measures as determined by a site specific acoustical analysis to comply with the generally acceptable exterior noise and the required 45 dB interior noise level standards et in Table 9-2 as conditions of permit approval.

Policy NS-1i: Mitigation of New Developments. Require an acoustical analysis where new development of industrial, commercial or other noise generating land uses (including transportation facilities such as roadways, railroads, and airports) may result in noise level that exceed the noise level exposure criteria established in Tables 9-2 and 9-3 to determine impacts, and require developers to mitigate these impacts in conformance with tables 9-2 and 9-3 as a condition of permit approval through appropriate means.

Noise mitigation measures may include:

- The screening of noise sources such as parking and loading facilities, outdoor activities, and mechanical equipment;
- providing increased setbacks for noise sources from adjacent dwellings;
- Installation of walls and landscaping that serve as noise buffers;
- Installation of soundproofing materials and double-glazed windows; and
- Regulating operations, such as hours of operation, including deliveries and trash pickup.

Alternative acoustical designs that achieve the prescribed noise level reduction may be approved by the City, provided a qualified Acoustical Consultant submits information demonstrating that the alternative designs will achieve and maintain the specific targets for outdoor activity areas and interior spaces. As a last resort, developers may propose to construct noise walls along roadways when compatible with aesthetic concerns and neighborhood character.

Policy NS-1j: Significance Threshold. Establish, as a threshold of significance for the City's environmental review process, that a significant increase in ambient noise levels is assumed if the project would increase noise levels in the immediate vicinity by 3 dB Ldn or CNEL, or more above the ambient noise limits established in this General Plan Update.

Commentary: When an increase in noise would result in a "Significant" impact (increase of three dBA or more) to residents or businesses, then noise mitigation would be required to reduce noise exposure. If the increase in noise is less than three dBA, then the noise impact is considered insignificant and no noise mitigation is needed.

Policy NS-1k: Proposal Review. Review all new public and private development proposals that may potentially be affected by or cause a significant increase in noise levels, per Policy NS-1-i, to determine conformance with the policies of this Noise Element. Require developers to reduce the noise impacts of new development on adjacent properties through appropriate means.

Policy NS-1m: Transportation Related Noise Impacts. For projects subject to the City approval, require that the project sponsor mitigate noise created by new transportation and transportation-related stationary noise sources, including roadway improvement projects, so that resulting noise levels do not exceed the City's adopted standards for noise sensitive land uses.

City of Fresno Noise Ordinance

Section 10-101 of the City's Municipal Code contains the City's Noise Ordinance, which establishes excessive noise guidelines and exemptions. The standards for ambient noise for varying land uses are somewhat generic and are assumed to be overridden by actual noise measurements and modeling of noise sources.

Exceptions for construction activities are contained in Section 10-109, which states the following:

Construction, repair or remodeling work accomplished pursuant to a building, electrical, plumbing, mechanical, or other construction permit issued by the City or other governmental agency, or to site preparation and grading, provided such work takes place between the hours of 7:00 a.m. and 10:00 p.m. on any day except Sunday.

City of Fresno Community Plans

The City of Fresno is divided in to nine Community Plan Areas. The project site is located in the Downtown Areas Community Plan Area and the Fresno High-Roeding Community Plan Area. The western portion of the Truck Movement Project Area, west of the railroad tracks, is within the Downtown Neighborhoods Community Plan, and the remaining portion of the Truck Movement Project Area (including the Demo and Grading Project Area) is located in the Fresno High-Roeding Community Plan. These Community Plans follow the City of Fresno General Plan and Noise Ordinance noise level guidelines.

3.7.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact related to noise if it will result in:

- Generation of a temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; and/or
- Generation of excessive groundborne vibration or groundborne noise levels.

Noise Standards

The noise standards applicable to the project include the relevant portions of the City of Fresno General Plan, as described in the Regulatory Setting section above, and the following standards.

Based upon the General Plan Noise and Safety Element, the project will have a significant increase in noise if it exceeds a 3 dB L_{dn}. This is consistent with Table 3.7-6 which is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn}.

TABLE 3.7-6: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

AMBIENT NOISE LEVEL WITHOUT PROJECT, LDN	*INCREASE REQUIRED FOR SIGNIFICANT IMPACT*
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

SOURCE: FEDERAL INTERAGENCY COMMITTEE ON NOISE (FICON)

Vibration Standards

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The City of Fresno does not establish criteria for vibration impacts. However, the Federal Transit Administration establishes vibration impact thresholds for construction/demolition projects. These thresholds are shown below in Table 3.7-7.

TABLE 3.7-7 GROUNDBORNE VIBRATION CRITERIA

ARCHITECTURAL DAMAGE BUILDING CATEGORY	*PPV (IN/SEC)*	*LV (VDB)[A]*
I. Reinforced concrete, steel, or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

NOTE: [A] RMS VELOCITY CALCULATED FROM VIBRATION LEVEL (VDB) USING THE REFERENCE OF ONE MICRO-INCH/SECOND.
SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT, 2006.

Table 3.7-7 indicates that the threshold for damage to structures ranges from 0.2 to 0.5 peak particle velocity in inches per second (in/sec p.p.v). One-half this minimum threshold or 0.1 in/sec p.p.v. is considered a safe criterion that would protect against architectural or structural damage. The general threshold at which human annoyance could also occur is typically noted as 0.1 in/sec p.p.v.

IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: The proposed project would increase traffic noise levels at existing receptors (Significant and Unavoidable)

To describe future noise levels due to traffic, the FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. Direct inputs to the model included traffic volumes contained in the traffic study for the project. The FHWA model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. To predict L_{dn}/CNEL values, it is necessary to determine the day/night distribution of traffic and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Table 3.7-8 shows the noise levels associated with traffic on the local roadway network under the existing and existing plus project traffic conditions. Table 3.7-9 shows the noise levels associated with traffic on the local roadway network under the cumulative and cumulative plus project traffic conditions.

TABLE 3.7-8: EXISTING TRAFFIC NOISE LEVELS VS. EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS (AT 100-FEET FROM ROADWAY CENTERLINES)

ROADWAY	*SEGMENT*	*NOISE LEVELS (L_{DN}, DB)*			*DISTANCE TO EXISTING + PROJECT TRAFFIC NOISE CONTOURS, FEET[1]*	
		EXISTING	*EXISTING + PROJECT*	*CHANGE (DB)*	*70 DB L_{DN}*	*65 DB L_{DN}*
Weber Ave	North of Thomas Ave	63	63	0	34	73
Weber Ave	Thomas Ave to Belmont Ave	63	61	-2	25	55
Belmont Ave	West of Weber Ave	63	63	0	35	75
Belmont Ave	Weber Ave to Stafford Ave	63	66	**+3**	51	109
Belmont Ave	Stafford Ave to Palm Ave	63	66	**+3**	51	109
Belmont Ave	West of Palm Ave	64	64	0	38	82
H Street	South of Belmont Ave	62	---	Abandoned	---	---
H Street	North of Palm Ave	63	50	-13	5	10
H Street	South of Palm Ave	65	65	0	48	103
Palm Ave	North of Belmont Ave	61	65	**+4**	48	104
Safford Ave	North of Belmont Ave	48	48	0	3	7

NOTE: [1] DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS. ACTUAL DISTANCES MAY VARY DUE TO SHIELDING FROM EXISTING NOISE BARRIERS OR INTERVENING STRUCTURES. TRAFFIC NOISE LEVELS MAY VARY DEPENDING ON ACTUAL SETBACK DISTANCES AND LOCALIZED SHIELDING.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM KITTELSON AND J.C. BRENNAN & ASSOCIATES, INC. 2020.

TABLE 3.7-9: CUMULATIVE TRAFFIC NOISE LEVELS VS. CUMULATIVE PLUS PROJECT TRAFFIC NOISE LEVELS (AT 100-FEET FROM ROADWAY CENTERLINES)

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN}, DB)			DISTANCE TO CUMULATIVE + PROJECT TRAFFIC NOISE CONTOURS, FEET[1]	
		CUMULATIVE	CUMULATIVE + PROJECT	CHANGE (DB)	70 DB L_{DN}	65 DB L_{DN}
Weber Ave	North of Thomas Ave	65	65	0	49	105
Weber Ave	Thomas Ave to Belmont Ave	65	65	0	48	103
Belmont Ave	West of Safford Ave	64	64	0	43	92
Belmont Ave	Safford Ave to Palm Ave	65	68	**+3**	72	156
Belmont Ave	West of Palm Ave	66	66	0	53	113
H Street	North of Palm Ave	65	46	-19	2	5
H Street	South of Palm Ave	67	67	0	62	134
Palm Ave	H Street to Belmont Ave	62	67	**+5**	63	136
Palm Ave	North of Belmont Ave	61	65	**+4**	49	105
Safford Ave	Belmont Ave to Connect	61	65	**+4**	49	105
Connect	West of Safford Ave	61	65	**+4**	48	104

NOTE: [1] DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS. ACTUAL DISTANCES MAY VARY DUE TO SHIELDING FROM EXISTING NOISE BARRIERS OR INTERVENING STRUCTURES. TRAFFIC NOISE LEVELS MAY VARY DEPENDING ON ACTUAL SETBACK DISTANCES AND LOCALIZED SHIELDING.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM KITTELSON AND J.C. BRENNAN & ASSOCIATES, INC. 2020.

As indicated by Table 3.7-8 and Table 3.7-9, the related noise level increases under development and operation of the proposed project are predicted to range between 0 and +5 dB L_{dn} in areas where residential uses currently exist, which include Palm Avenue from H Street to north of Belmont Avenue, Safford Avenue between Belmont Avenue to the Connect, Belmont Avenue from Weber to Palm, and the connect west of Stafford Avenue. Traffic levels decrease significantly along H Street between Belmont and Palm where no residential or sensitive receivers currently exist.

Based upon Policy NS-1j, which is used as a threshold of significance for the City's environmental review process, a significant increase in ambient noise levels is assumed if the project would increase noise levels in the immediate vicinity by 3 dB L_{dn} or CNEL above the ambient noise limits established in the General Plan Update (or in this case the modeled increase in traffic noise levels due to the project). Because the proposed project would increase noise levels in the immediate vicinity by 3 dB L_{dn} or CNEL, would be considered a significant impact.

Potential mitigation measures to reduce traffic noise as a result of the proposed truck circulation pattern could include reducing truck traffic speeds, or imposing limits on the use of engine brakes or jake brakes. However, these types of mitigation measures are not expected to result in more than a 1 dB reduction in overall traffic noise levels, which would still result in significant impacts where Table 3.7-9 shows increases in traffic noise levels of +5 dB L_{dn}. The use of barriers would not be practical where entrances to driveways are located, which would leave gaps in the barriers and would result in ineffective noise barriers. Therefore, this is a **significant and unavoidable** impact.

Impact 3.7-2: The proposed project would not substantially increase noise levels associated with construction and demolition activities (Less than Significant)

The demolition and site improvements associated with the proposed truck parking lot would include the use of heavy equipment and impact tools that can generate noise. Table 3.7-10 provides a list of the types of equipment which may be associated with demolition and construction activities and the associated noise levels.

Activities involved in project construction would typically generate maximum noise levels ranging from 78 to 90 dB at a distance of 50 feet. The nearest residential receptor would be located approximately 100-feet or more from Demolition and Grading Project Area. At this distance, construction related activities are predicted to generate maximum noise levels ranging between 72 and 84 dB L_{max}. Based upon the average measured daytime maximum noise level at Site A (see Figure 3.7-1 for the noise measurement locations) which was 82 dB, and the average measured daytime maximum noise level at Site B which was 84 dB, maximum noise levels due to project construction are predicted to be consistent with existing background noise levels. In addition, the project would be required to comply with the City of Fresno Noise Ordinance restrictions on hours of operation. Implementation of the proposed project would have a **less than significant** impact.

TABLE 3.7-10: CONSTRUCTION EQUIPMENT NOISE

Type of Equipment	*Predicted Noise Levels, L_{MAX} dB*					*Distances to Noise Contours (feet)*	
	Noise Level at 50'	*Noise Level at 100'*	*Noise Level at 200'*	*Noise Level at 300'*	*Noise Level at 1,000'*	*70 dB L_{MAX} contour*	*65 dB L_{MAX} contour*
Backhoe	78	72	66	62	52	126	223
Compactor	83	77	71	67	57	223	397
Compressor (air)	78	72	66	62	52	126	223
Concrete Saw	90	84	78	74	64	500	889
Dozer	82	76	70	66	56	199	354
Dump Truck	76	70	64	60	50	100	177
Excavator	81	75	69	65	55	177	315
Generator	81	75	69	65	55	177	315
Jackhammer	89	83	77	73	63	446	792
Pneumatic Tools	85	79	73	69	59	281	500

SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006. J.C. BRENNAN & ASSOCIATES, INC. 2016.

Impact 3.7-3: The proposed project would not substantially increase noise vibration association with construction activities (Less than Significant)

The primary vibration-generating activities associated with the proposed project would occur during demolition of the structures within the Demolition and Grading Project Area. Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located approximately 100-feet or further from the Demolition and Grading Project Area. At this distance construction vibrations are not predicted to exceed acceptable levels. Additionally, demolition activities would be temporary in nature and would occur during normal daytime working hours, as required by the City of Fresno Noise Ordinance.

Vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural. Table 3.7-11 shows the typical vibration levels produced by construction equipment.

The Table 3.7-11 data indicate that construction vibration levels anticipated for the project are less than the 0.2 in/sec p.p.v. threshold of damage to buildings and less than the 0.1 in/sec threshold of annoyance criteria at distances of 100 feet. Therefore, construction vibrations are not predicted to cause damage to existing buildings or cause annoyance to sensitive receptors. Implementation of the proposed project would have a **less than significant** impact.

TABLE 3.7-11: VIBRATION LEVELS FOR VARYING CONSTRUCTION EQUIPMENT

TYPE OF EQUIPMENT	*PEAK PARTICLE VELOCITY @ 25 FEET (INCHES/SECOND)*	*PEAK PARTICLE VELOCITY @ 100 FEET (INCHES/SECOND)*
Large Bulldozer	0.089	0.011
Loaded Trucks	0.076	0.010
Small Bulldozer	0.003	0.000
Auger/drill Rigs	0.089	0.011
Jackhammer	0.035	0.004
Vibratory Hammer	0.070	0.009
Vibratory Compactor/roller	0.210	0.026

SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES, MAY 2006

Impact 3.7-4: The proposed project would not substantially increase stationary noise at sensitive receptors (Less than Significant)

Truck parking at the Demolition and Grading Project Area and trailer movements throughout the Truck Movement Project Area would be the primary on-site noise sources. The truck parking and trailer movements would be provided in the newly paved area along H Street once the structures in this area are demolished.

These proposed changes to the existing truck parking and movement patterns would allow the applicant to reduce the total number of truck movements compared to existing conditions. The existing trailer movements would not change. Since the parking areas would be located in industrial areas and would not be close to any residences or noise-sensitive uses, this is not considered to be a significant noise source. This is **less than significant**.

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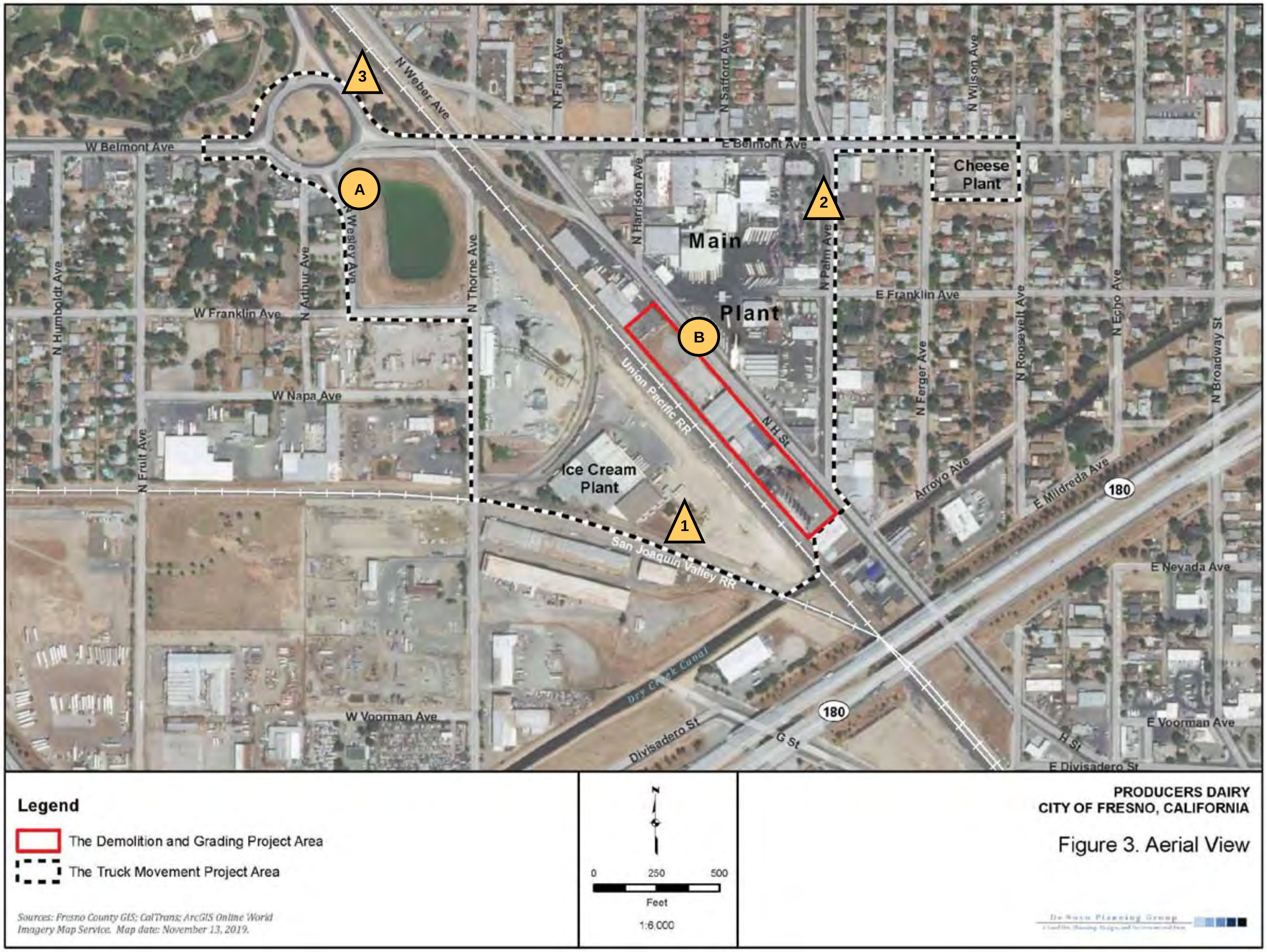

Sources: Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: November 13, 2019.

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 3. Aerial View

● **Continuous 24-hour measurements**

▲ **Short-term (10 minute) measurements**

Figure3.7-1.
Project Location / Noise Monitoring Sites

j.c. brennan & associates
consultants in acoustics

4/10/2020

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This section of the EIR analyzes the potential impacts of the proposed Producers Dairy Project (proposed project) on the surrounding transportation system including roadways, bicycle and pedestrian facilities, rail, and transit services. This section identifies the significant impacts of the proposed project and recommends mitigation measures to lessen their significance. An evaluation of emergency access and design features is also provided. This section is based on the *Transportation Impact Study* and the *CEQA VMT Analysis* completed for the project (Kittelson & Associates, Inc., March 2020 and July 2020).

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: Bruce Owdom (February 16, 2020), Kiel Lopez-Schmidt (February 20, 2020), Justin Rushing, La Tapatia Tortilleria (February 3, 2020), Norma Pinedo Davis (February 3, 2020), Steve Sadler, Sadler's Office Supply & Printing (February 20, 2020), and Robynn Smith (January 28, 2020). Bruce Owdom's concerns regarding truck movements at the cheese plant are addressed in Impact 3.8-1. Kiel Lopez-Schmidt's concerns regarding bicycle and pedestrian traffic are addressed in Impact 3.8-2. La Tapatia Tortilleria's concerns regarding traffic patterns and congestion are addressed in Impacts 3.8-1 and 3.8-3. Norma Pinedo Davis' concerns regarding intersection configurations and safety are discussed in Impacts 3.8-2 through 3.8-4. Sadler's Office Supply & Printing's concerns regarding the configuration of H Street are discussed in Impacts 3.8-2 and 3.8-3. Robynn Smith's concerns regarding increased traffic, including to and from Roading Park, and roadway maintenance funds are discussed in Impacts 3.8-1 through 3.8-4. Each of the comments related to this topic are addressed within this section. Full comments received are included in Appendix A.

3.8.1 ENVIRONMENTAL SETTING

PROJECT LOCATION

The project site is located at 250 E. Belmont Avenue in Fresno, California. There are two aspects of the project location that are addressed in this environmental document:

1. The Truck Movement Project Area; and
2. The Demolition and Grading Project Area.

The Truck Movement Project Area includes the Demolition and Grading Project Area, the Producers Dairy Main Plant, the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks.

The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks.

STUDY AREA ROADWAYS AND INTERSECTIONS

The existing roadway network in the study area is composed of a street system made up of arterial and collector roads. The following describes the key roadways in the study area.

North Weber Avenue/North H Street is a two to four-lane, northwest-southeast roadway with a posted speed limit of 40 to 45 miles per hour near the project site. The facility extends to Ashlan Avenue to the north and extends to State Route 41 to the south. The roadway becomes a collector street south of State Route 180. Sidewalks are intermittent near the project site. There is an existing Class II bike lane north of Belmont and proposed Class I and II bike lanes to the south. On-street parking is mostly restricted but allowed on parts of the east side.

Belmont Avenue is a four-lane, east-west roadway that extends the length of Fresno and turns into East Trimmer Springs Road to the east outside of city limits near Centerville. This roadway has a posted speed limit of 30 miles per hour near the project site. On-street parking is permitted intermittently, and there are existing sidewalks and planned Class II bike lanes along the street.

North Palm Avenue is a four-lane, north-south roadway that extends between West Nees Avenue to the north and North H Street to the south. This roadway has a posted speed limit of 35 miles per hour near the project site. On-street parking is permitted, and there are existing sidewalks and planned Class I bike lanes along the street.

BICYCLE AND PEDESTRIAN FACILITIES

Bicycle and pedestrian facilities are important components of the transportation network in the study area. They not only offer non-vehicular opportunities for both commute and recreational trips, but also provide connections to the region’s transit network.

Existing Bicycle Facilities

Bicycle facilities are defined by the following four classes[1]:

- **Class I** – Provides a completely separated facility designed for the exclusive use of bicyclists and pedestrians with crossing points minimized.

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[1] As detailed in Chapter 1000 of the Highway Design Manual (Caltrans, 2015).

- **Class II** – Provides a restricted right-of-way designated lane for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossflows by pedestrians and motorists permitted.
- **Class III** – Provides a right-of-way designated by signs or permanent markings and shared with pedestrians and motorists.
- **Class IV** – Provides a restricted right-of-way designated lane for the exclusive use of bicyclists that is separated by a vertical element to provide further separation from motor vehicle traffic.

The City of Fresno adopted the Active Transportation Plan (ATP) in March 2017. The ATP identifies existing and future planned bicycle facilities within the City's jurisdiction.

Class II bike lanes currently exist on North H Street, north of Belmont Avenue. They are shown graphically in Figure 3.8-1.

Planned and Proposed Bicycle Facilities

The ATP includes planned and proposed bikeway facilities near the project site. Class I bike paths are planned along the following roadways: North H Street, from Stanislaus Street to Belmont Avenue; and along the Dry Creek Canal. Class II bike lanes are planned along the following roadways: North H Street, from Divisadero Street to Belmont Avenue; Palm Avenue, north of H Street; and Belmont Avenue.

None of the aforementioned bikeways are listed as priority bikeways in the ATP. The planned bicycle facilities are shown in Figure 3.8-1.

Existing and Planned Pedestrian Facilities

Pedestrian facilities are present near the project site. Sidewalks are present along Belmont Avenue, except in the vicinity of the underpass for the railroad tracks, where they are proposed in the ATP. Sidewalks are also present along Palm Avenue on both sides and along the east side of H Street. Sidewalks are proposed in the ATP on the west side of H Street. The signalized intersections near the project site have marked crosswalks across most legs. There is also an unsignalized pedestrian crosswalk across Belmont Avenue at Safford Avenue. Figure 3.8-2 shows the existing and planned sidewalks near the project.

TRANSIT SERVICE

Fresno is primarily served by the Fresno Area Express (FAX) transit system which operates bus service and paratransit operations servicing the city. Regional connections are provided by the Fresno County Rural Transit Agency (FCRTA) and Amtrak for travel outside of the Fresno-Clovis Metropolitan Area. FAX provides the principal bus service in the city of Fresno. It operates seventeen routes and Handy Ride, a paratransit operation, with a fleet of over 100 buses.

FAX operates two routes that directly serve the project site through nearby street-side bus stops. Bus service on these routes is detailed in Table 3.8-1 with the routes near the project site shown in Figure 3.8-3.

TABLE 3.8-1: BUS ROUTES SERVING THE PROJECT

ROUTE	SERVING	DAY	TIMES		FREQUENCY
26	Downtown Transit Center, Fresno Pacific University, and Fresno International Airport	Weekday	6:00 AM	10:00 PM	0.5/hour
		Weekend	7:30 AM	6:30 PM	0.5/hour
33	Between Belmont Avenue/ Pacific Avenue and Butler Avenue/ Maple Avenue	Weekday	6:00 AM	7:30 PM	0.5/hour
		Weekend	7:30 AM	6:30 PM	1.5/hour

SOURCE: FAX WEBSITE, WWW.FRESNO.GOV/FAX, ACCESSED JANUARY 29, 2020, KITTELSON & ASSOCIATES, INC., 2020.

Route 26 provides local commuter and weekend service between Nees Avenue/ Blackstone Avenue and Fresno International Airport. This route passes by the Downtown Transit Center and Fresno Pacific University and has bus stops along N. Palm Avenue near the project. Route 33 provides local commuter and weekend service between Belmont Avenue/ Pacific Avenue and Butler Avenue/ Maple Avenue. It has bus stops along Belmont Avenue near the project.

TRUCK FACILITIES

There are designated truck routes in the project area. North H Street/ Weber Street, Palm Avenue, and Belmont Avenue are all existing truck routes according to the City of Fresno Public Works. Existing and future truck routes are shown in Figure 3.8-4.

RAIL

As noted previously, UPRR tracks are located within the Truck Movement Project Area. The tracks are located adjacent west of the Demolition and Grading Project Area and east of the Ice Cream Plant. The California High Speed Rail Project plans to create an overpass for Belmont Avenue over the railroad tracks located west of the Demolition and Grading Project Area and Weber Avenue/H Street. The High Speed Rail Project would build a connector roadway parallel to Belmont Avenue and east of Weber Avenue/H Street that would connect into Belmont Avenue at Safford Avenue.

3.8.2 METHODOLOGY

An analysis of vehicle miles traveled (VMT) was performed to examine how the project would affect two sources of VMT: Producers Dairy trucks, and automobiles whose routes would be changed by the closure of North H Street. Changes to VMT as a result of Producers Dairy trucks would be consistent for both existing and cumulative conditions. However, changes to automobile VMT were analyzed separately for existing and cumulative conditions due to planned changes to the transportation network resulting from the California High Speed Rail Project. The VMT assessment methodology is outlined further below.

PROJECT DESCRIPTION

The project would redevelop the Demolition and Grading Project Area along the west side of North H Street between Palm Avenue and Harrison Street. As part of the redevelopment, Producers Dairy has requested the City of Fresno vacate North H Street from just north of Palm Avenue to just south of Harrison Street. The goal of the redevelopment and vacating North H Street is not to increase total operations at the project site but rather to make the existing truck movements more efficient. As such, the proposed project would not be creating additional trip generation compared to existing conditions.

Since trip generation will be the same, the transportation analysis focuses on the effects of closing North H Street to public vehicle traffic. The diversion route is anticipated to include North Palm Avenue for vehicles that are currently using North H Street. The other consideration is that southbound Weber Avenue north of Belmont Avenue does not intersect with Belmont Avenue. Instead, southbound traffic uses an overpass to merge with North H Street south of Belmont Avenue. This southbound traffic would need to be rerouted under the project condition to keep traffic from entering a dead-end street once North H Street is vacated.

The closing of North H Street from just north of Palm Avenue to just south of Harrison Street would require the rerouting of traffic onto other routes including Palm Avenue. The primary reroutes are shown in Figure 3.8-5 and include rerouted traffic from:

- Northbound H Street north of Palm Avenue;
- Southbound H Street south of Belmont Avenue; and
- Southbound Weber Street south of Thomas Avenue.

The projected net change in traffic volumes at each intersection is included in Appendix 5 of Appendix F.

PROJECT TRAVEL CHARACTERISTICS

Producers Dairy provided data on existing truck movements which was used to estimate the change in truck VMT anticipated as a result of the proposed project. Data provided included detailed routes and numbers of trucks that the dairy is using currently as well as miles traveled on each route. Producers Dairy also provided site plans showing the future routes that the trucks will take to enter and leave the site. Existing data on truck routes was provided for June 9th, 2019 to June 14th, 2019.

CUMULATIVE CONDITIONS

Cumulative conditions representing the year 2040 were analyzed. The main change to the study area compared to the existing condition is the planned development of the California High Speed Rail. The plans for the High Speed Rail Project in the project area are included in Appendix 8 of Appendix F. As part of the High Speed Rail Project, Belmont Avenue would no longer connect to North Weber Avenue. Instead, Belmont Avenue would be grade-separated from North Weber Avenue, and a new Belmont Avenue overpass would be installed over North Weber Avenue. This overpass would start just west of Safford Avenue.

Since Belmont Avenue would no longer connect to North Weber Avenue in the cumulative condition, a connector road would also be constructed. This connector road would connect North Weber Avenue, just north Belmont Avenue, to Safford Avenue and would run parallel to Belmont Avenue to the north.

Traffic under cumulative conditions would be rerouted due to the project's closure of North H Street as well as the use of the connector road to travel between North Weber Avenue and Belmont Avenue. This rerouting of traffic under cumulative conditions is shown in Figure 3.8-6. The projected net change in traffic volumes at each intersection is included in Appendix 5 of Appendix F.

VMT ASSESSMENT

The proposed project is unique in that it includes both a land use component and a transportation component. The land use component involves developing parcels adjacent to the existing main plant with additional truck parking and storage facilities. The transportation component of the project is closing H Street to allow for a connection between the main plant and the proposed new parking facilities on the adjacent parcels. This VMT assessment looks at both project components separately. The VMT analysis is included in Appendix G.

3.8.3 REGULATORY SETTING

Existing transportation polices, laws, and regulations that would apply to the proposed project are summarized below. This information provides a context for the impact discussion related to the project's consistency with applicable regulatory conditions and development of significance criteria for evaluating project impacts.

FEDERAL

No federal plans, policies, regulations, or laws pertaining to transportation have been determined to be applicable to this project.

STATE

Senate Bill 743

Senate Bill (SB) 743 (Steinberg, 2013) required changes to the California Environmental Quality Act (CEQA) Guidelines regarding the analysis of transportation impacts. Those proposed changes identify VMT as the most appropriate metric to evaluate a project's transportation impacts. Since the bill has gone into effect, automobile delay, as measured by "level of service" and other similar metrics, no longer constitutes a significant environmental effect under CEQA. Auto-mobility (often expressed as "level of service") may continue to be a measure for planning purposes.

In December 2018, the California Governor's Office of Planning and Research (OPR) and the State Natural Resources Agency submitted updated CEQA Guidelines to the Office of Administrative Law for final approval to implement SB 743. The Office of Administrative Law approved the updated CEQA Guidelines, thus implementing SB 743 and making VMT the primary metric used to analyze transportation impacts. However, local agencies have until July 1, 2020 to implement the updated guidelines.

LOCAL

Fresno General Plan

The City of Fresno adopted the Fresno 2035 General Plan in December 2014 as an update to the previous Fresno General Plan approved in 2002. It serves as the City's guide for the continued development, enhancement, and revitalization of the Fresno metropolitan area. The following policy related to transportation and circulation is applicable to the project:

MT-2-i: Transportation Impact Studies. Require a Transportation Impact Study (TIS) to assess the impacts of new development projects on existing and planned streets for projects meeting one or more of the following criteria, unless it is determined by the City Traffic Engineer that the project site and surrounding area already has appropriate multi-modal infrastructure improvements.

- When a project includes a General Plan amendment that changes the General Plan Land Use Designation.
- When the project will substantially change the off-site transportation system (auto, transit, bike or pedestrian) or connection to the system, as determined by the City Traffic Engineer.
- Transportation impact criteria are tiered based on a project's location within the City's Sphere of Influence. This is to assist with areas being incentivized for development. The four zones, as defined on Figure MT-4, are listed below. The following criteria apply:
    - Traffic Impact Zone I (TIZ-I): TIZ-I represents the Downtown Planning Area. Maintain a peak hour LOS standard of F or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.
    - Traffic Impact Zone II (TIZ-II): TIZ-II generally represents areas of the City currently built up and wanting to encourage infill development. Maintain a peak hour LOS standard of E or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.
    - Traffic Impact Zone III (TIZ-III): TIZ-III generally represents areas near or outside the City Limits but within the SOI as of December 31, 2012. Maintain a peak hour LOS standard of D or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 100 or more peak hour new vehicle trips.
    - Traffic Impact Zone IV (TIZ-IV): TIZ-IV represents the southern employment areas within and planned by the City. Maintain a peak hour LOS standard of E or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.

The project is in Zone II; thus, the project would be required to maintain a peak hour LOS standard of E or better. As noted above, the LOS analysis can be found in Appendix F.

City of Fresno Traffic Impact Study Report Guidelines

The City of Fresno's Traffic Impact Study Report Guidelines (updated February 2, 2009) establish general procedures and requirements for traffic impact studies. The Report Guidelines set forth the following criteria for determining whether a project would be required to implement an improvement at a study intersection:

- The project triggers an intersection operating at an acceptable level of service (LOS E or better for locations in Zone II) to operate at an unacceptable LOS.
- The project triggers an intersection operating at an unacceptable LOS to operate at LOS F.
- The project increases the average delay for a study intersection that is already operating at an unacceptable LOS.

City of Fresno Active Transportation Plan

The City of Fresno ATP is a comprehensive guide that creates a vision for active transportation in the City of Fresno. The Plan is an update to the City of Fresno Bicycle, Pedestrian, & Trails, Master Plan that was adopted in 2010.

3.8.4 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

The transportation analysis assesses how the study area's transportation system would operate with the implementation of the proposed project. The analysis includes both effects that would result in significant impacts under the CEQA Guidelines and non-CEQA effects that the Project should improve to maintain an efficient transportation network.

The project's impact is not considered to be significant unless it would:

a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
b) Conflict or be inconsistent with CEQA Guideline section 15064.3, subdivision (b).
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
d) Result in inadequate emergency access.

Significance criteria "b" is related to the implementation of VMT as the primary performance metric. The following criteria are used to assess a significant impact related to VMT consistent with the City of Fresno "CEQA Guidelines for Vehicle Miles Traveled Thresholds" dated June 18, 2020:

- A proposed (residential) project exceeding a level of 13 percent below existing regional average VMT per capita may indicate a significant transportation impact.
- A similar threshold would apply to office projects (13 percent below existing regional average VMT per employee).

- VMT generated by retail projects would indicate a significant impact for any net increase in total VMT.
- For transportation projects, any growth in VMT attributable to the transportation project would result in a significant impact.

IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: The proposed project would not conflict or be inconsistent with CEQA Guideline section 15064.3, subdivision (b) (Significant and Unavoidable)

As noted previously, the proposed project is unique in that it includes both a land use component and a transportation component. The land use component involves developing parcels adjacent to the existing main plant with additional truck parking and storage facilities. The transportation component of the project is closing H Street to allow for a connection between the main plant and the proposed new parking facilities on the adjacent parcels. This VMT assessment looks at both project components separately.

PRODUCERS DAIRY TRUCKS VMT

Producers Dairy currently uses two locations (the cheese plant, located at 450 E. Belmont Avenue, and the ice cream warehouse, located at 302 N. Thorne Avenue) for staging trucks. With implementation of the project, these trucks will instead be staged at the main plant (250 E. Belmont Avenue).

The land use component for the project is to demolish existing structures in the Demolition and Grading Project Area in order to add additional truck parking and storage capacity in the immediate vicinity of the existing main plant, with the goal of improving the efficiency of Producer's Dairy truck movements. There is no proposed increase in production or increase in employment; therefore, VMT for the land use component is based on how truck movements change with the project area and immediate vicinity.

Producer's Dairy provided data on existing truck movements which was used to estimate the change in truck VMT anticipated as a result of the proposed project. Data provided included detailed routes and numbers of trucks that the dairy is using currently, as well as miles traveled on each route. Producer's Dairy also provided site plans showing the future routes that the trucks will take to enter and leave the site. Existing data on truck routes was provided for June 9th, 2019 to June 14th, 2019.

Producer's Dairy currently uses two offsite locations (the cheese plant and the ice cream warehouse) for staging trucks. With the implementation of the project, these trucks will instead be staged across H Street from the main plant (250 E. Belmont Avenue). This will result in a net decrease of VMT for truck trips. Average daily VMT was calculated using a day-weighted average since Producer's Dairy runs different routes on Tuesday and Saturday than on the other five days.

Table 3.8-2 shows the average existing VMT for trucks traveling between the main plant and the cheese plant or ice cream warehouse, based on routes and numbers of trucks provided by the dairy and the associated traffic analysis. Because these trips will all be eliminated if the proposed project is implemented, the project is anticipated to result in a decrease of about 58 truck miles traveled per day. With no increase in employment and a reduction of 58 truck miles traveled per day, the land use component of the project would not cause a significant impact related to VMT.

TABLE 3.8-2: EXISTING DAILY VMT FROM PRODUCERS DAIRY TRUCKS TO BE ELIMINATED

TRUCK ROUTE	*SUN/MON/WED/THURS/FRI*			*TUES/SAT*			*DAY-WEIGHTED AVERAGE VMT*
	AVE. DISTANCE	*AVE. # OF TRUCKS*	*AVE. DAILY VMT*	*AVE. DISTANCE*	*AVE. # OF TRUCKS*	*AVE. DAILY VMT*	
Cheese to Ice Cream	1.1	1.0	1.1	1.1	0.0	0.0	0.8
Cheese to Main	0.4	17.8	7.2	0.4	9.0	3.6	6.2
Ice Cream to Cheese	1.1	0.6	0.7	1.1	0.0	0.0	0.5
Ice Cream to Main	1.2	15.8	18.2	1.2	10.0	11.5	16.3
Main to Cheese	0.6	36.8	21.3	0.6	16.0	9.3	17.9
Main to Ice Cream	1.0	18.8	18.6	1.0	9.0	8.9	15.8
Total	**-**	**-**	**67.1**	**-**	**-**	**33.3**	**57.5**

SOURCE: KITTELSON & ASSOCIATES, INC., 2020.

AUTOMOBILE VMT

The second source of VMT that will be affected by the project is automobile VMT, which would be affected by the closure of North H Street. As discussed previously, the three reroutes include:

- Northbound H Street – Rerouted to Northbound Palm Avenue and Belmont Avenue;
- Southbound H Street – Rerouted to Belmont Avenue and Southbound Palm Avenue;
- Southbound Weber Street – Rerouted to Thomas Avenue and Southbound Palm Avenue.

Table 3.8-3 shows the average increase in automobile VMT as a result of automobile reroutes. As shown in the table, the project would result in an addition of about 1,205 automobile miles traveled on a typical day under existing conditions.

TABLE 3.8-3: CHANGE IN DAILY VMT FROM AUTOMOBILE REROUTES (EXISTING PLUS PROJECT)

ROUTE	*CURRENT DISTANCE (MILES)*	*REROUTED DISTANCE (MILES)*	*EXISTING ADT*	*CHANGE IN DAILY VMT*
Northbound H Street	0.33	0.47	3,571	**500**
Southbound H Street	0.33	0.47	669[1]	**94**
Southbound Weber Street	0.53	0.73	3,053	**611**
			Total	**1,205**

SOURCE: KITTELSON & ASSOCIATES, INC., 2020.

The future addition of the street changes associated with the High Speed Rail Project will change the reroutes of northbound H Street and southbound Weber Street, as shown in Figure 3.8-5. Vehicles will no longer use East Thomas Avenue, and instead will be rerouted onto a future connector road and North Safford Avenue. Furthermore, traffic volumes are projected to increase by 2040, as discussed previously. Therefore, the change in VMT under cumulative conditions is expected to differ from the change in VMT under existing conditions. Table 3.8-4 shows the average increase in automobile VMT as a result of automobile reroutes under cumulative conditions. As shown in the table, the project will result in an additional 2,154 automobile VMT on a typical day under cumulative conditions. Because the transportation component of the project would cause VMT to increase, the project's transportation component has a potentially significant impact related to VMT.

TABLE 3.8-4: CHANGE IN DAILY VMT FROM AUTOMOBILE REROUTES (CUMULATIVE PLUS PROJECT)

ROUTE	*EXISTING DISTANCE (MILES)*	*PROPOSED DISTANCE (MILES)*	*FUTURE ADT*[1]	*CHANGE IN DAILY VMT*
Northbound H Street[2]	0.53	0.68	4,107	**616**
Southbound H Street	0.33	0.47	726	**102**
Southbound Weber Street	0.53	0.68	9,574	**1,436**
			Total	**2,154**

NOTES: [1]FUTURE ADT WAS CALCULATED BASED ON A RATIO OF FUTURE PEAK HOUR PM VOLUMES TO EXISTING PEAK HOUR PM VOLUMES MULTIPLIED BY EXISTING ADT FROM TUBE COUNTS.

[2]DISTANCE FOR NORTHBOUND H STREET MEASURED FROM PALM AVENUE TO THOMAS AVENUE UNDER CUMULATIVE CONDITIONS TO ACCOUNT FOR HIGH-SPEED TRAIN.

SOURCE: KITTELSON & ASSOCIATES, INC., 2020.

CONCLUSION

The closure of H Street would result in an additional 1,205 (existing plus project) VMT and 2,154 (cumulative plus project) VMT as vehicles detour around the closure. Based on the City of Fresno thresholds of significance, this represents a potentially significant impact because any growth in VMT attributable to a transportation project would result in a significant impact. The only mitigation to prevent the closure of H Street from causing an increase in VMT under existing and cumulative conditions to reroute is not to close H Street. If H Street were to remain open, approximately 100 Producers Dairy trucks would cross H Street per day on Sundays, Mondays, Wednesdays, Thursdays, and Fridays, and approximately 57 Producers Dairy trucks would cross H Street per day on Tuesdays and Saturdays. This high volume of truck crossings would result in public safety hazards. Because the high volume of truck crossings would result in public safety hazards, not closing H Street is not a feasible mitigation measure and the impact will remain ***significant and unavoidable***.

Impact 3.8-2: The proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities (Less Than Significant with Mitigation)

The project's potential to conflict with a program, plan, ordinance or policy addressing the circulation system, including truck routes and roadways, transit, bicycle, and pedestrian facilities, is discussed below.

TRUCK ROUTES

A qualitative assessment was conducted to determine the project's potential impacts on designated truck routes. North H Street by the project location is an existing truck route in the city of Fresno. The project's closure of North H Street would cause this portion of North H Street to no longer be available as a truck route, requiring trucks to divert to other available truck routes. This is a potentially significant impact.

TRANSIT

The project site is served by two bus routes operated by the FAX transit service. Bus Route 33 runs along Belmont Avenue, and Route 26 runs along Palm Avenue to North H Street. Based on a qualitative assessment of transit service in the area and a review of the operations impacts, the project is anticipated to decrease the performance of transit buses or safety of transit facilities.

The project is projected to significantly increase the number of vehicles on Belmont Avenue which would increase delay at several of the analysis intersections. These impacted intersections would decrease the performance of the transit lines resulting in a potentially significant impact. Additionally, the project is projected to significantly increase the number of vehicles on Palm Avenue which would increase delay at several of the analysis intersections. These impacted intersections would decrease the performance of the transit lines resulting in a potentially significant impact.

BICYCLE

A qualitative assessment was conducted to determine the project's potential impacts on bicyclists and bicycle facilities. The City of Fresno's ATP includes planned Class I and Class II bikeways along North H Street south of Belmont Avenue. The project's closure of North H Street would cause the planned bikeways along North H Street to no longer be feasible. This is a potentially significant impact.

PEDESTRIAN

A qualitative assessment was conducted to determine the project's potential impacts on pedestrians and pedestrian facilities. The City of Fresno's ATP includes planned sidewalks on North H Street between Harrison Avenue and Palm Avenue. The project's closure of North H Street would cause the existing and planned sidewalks along North H Street to no longer be accessible to pedestrians. This is a potentially significant impact.

CONCLUSION

The project would result in North H Street, which is a designated truck route, to no longer be a public street. This would result in southbound trucks on Weber Avenue north of Belmont Avenue to divert onto Thomas Avenue which is not a designated truck route and located in a residential area. The loss of the truck route on H Street and the diversion of trucks onto Thomas Avenue, which is not part of the truck network and located in a residential neighborhood, would result in a significant impact. Mitigation Measure 3.8-1 would reduce this impact to a ***less-than-significant*** level.

The project is projected to significantly increase the number of vehicles on both Palm Avenue and Belmont Avenue which serve FAX transit service routes 26 and 33, respectively. The increased traffic volume would result in substantial additional delay in the area which would increase transit travel times for these routes and may decrease transit ridership. This effect on the performance of the transit lines results in a significant impact. Mitigation Measure 3.8-2 would reduce this impact to a ***less-than-significant*** level.

The project's closure of North H Street would cause the planned bikeways along North H Street to no longer be feasible and reduce the bicycle network connections in the study area. Mitigation Measure 3.8-3 would reduce this impact to a ***less-than-significant*** level.

The project's closure of North H Street would prohibit pedestrians from using it between Belmont Avenue and Palm Avenue which would conflict with the existing and proposed pedestrian connections in the area. Mitigation Measure 3.8-4 would reduce this impact to a ***less-than-significant*** level.

MITIGATION MEASURE(S)

Mitigation Measure 3.8-1: *A southbound approach to the intersection of Belmont Avenue and N H Street shall be constructed to allow southbound trucks from Weber Avenue to be rerouted onto eastbound Belmont Avenue and southbound Palm Avenue (both designated truck routes) in order to rejoin their original truck route on H Street south of Palm Avenue. This improvement shall be noted on the project improvements, subject to review and approval by the City's Planning and Development Department.*

Mitigation Measure 3.8-2: *Implement operational improvements at the intersections along Belmont Avenue and Palm Avenue affected by the rerouting of traffic due to the project. Implementing these improvements would allow transit vehicles to maintain their route schedules. These improvements shall be noted on the project improvements, subject to review and approval by the City's Planning and Development Department.*

Mitigation Measure 3.8-3: *Provide an alternative route for bicycles by constructing the proposed bicycle facilities on Palm Avenue and Belmont Avenue. Additionally, northbound left-turning bicycles at the intersection of Belmont Avenue and Palm Avenue should be provided with markings and right-of-way allocation to allow for a two-stage left-turn movement. This left-turn movement would allow bicycles rerouted by the project to rejoin the existing bicycle lanes located on Weber Street north of Belmont Avenue. These improvements shall be noted on the project improvements, subject to review and approval by the City's Planning and Development Department.*

Mitigation Measure 3.8-4: *Install pedestrian signage directing pedestrian around the closure of H Street using Palm Avenue and Belmont Avenue. Both Palm Avenue and Belmont Avenue have existing sidewalks to facilitate pedestrian movements within the study area. This improvement shall be noted on the project improvements, subject to review and approval by the City's Planning and Development Department.*

Impact 3.8-3: The proposed project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (Less than Significant with Mitigation)

The truck routing plan for the project was reviewed to assess potential hazards due to geometric design or incompatible uses. The project is not proposing a change in land use since it would continue to operate as a dairy, so the project is not an incompatible use. Therefore, this assessment focuses on potential hazards due to geometric design.

The proposed truck routing plan for the project shows that trucks would exit out of the gate on H Street and make a left-turn onto Palm Avenue in order to access the site entrance on Franklin Avenue. Figure 2.0-7 in Chapter 2.0, Project Description, for the proposed circulation, a portion of which is re-created below:

The left-turn movement onto Palm Avenue is at an intersection with an acute angle for the movement, which would likely result in a tractor-trailer encroaching into the southbound travel lanes on Palm Avenue. This could potentially result in an increased risk of vehicle collisions between those waiting at the light on southbound Palm Avenue and left-turning trucks from southbound H Street onto northbound Palm Avenue. Large trucks that cannot make a left turn from southbound H Street onto northbound Palm Avenue without encroaching into opposing lanes of traffic should be restricted from making this movement.

Mitigation Measure 3.8-5 would ensure that turning movements for large trucks are restricted. With implementation of mitigation, this is considered a ***less than significant*** impact**.**

MITIGATION MEASURE(S)

Mitigation Measure 3.8-5: *Restrict the H Street gate from being used by large trucks that would be making a southbound left turn from H Street onto northbound Palm Avenue. Instead, revise the site plan to align a new gate with the intersection of Palm Avenue and H Street. This new gate would create a fourth leg to the intersection and allow truck movements to and from both Palm Avenue north of H Street and H Street south of Palm Avenue. These restrictions and revisions shall be noted on the project improvements, subject to review and approval by the City's Planning and Development Department.*

Impact 3.8-4: The proposed project would not result in inadequate emergency access (Less than Significant with Mitigation)

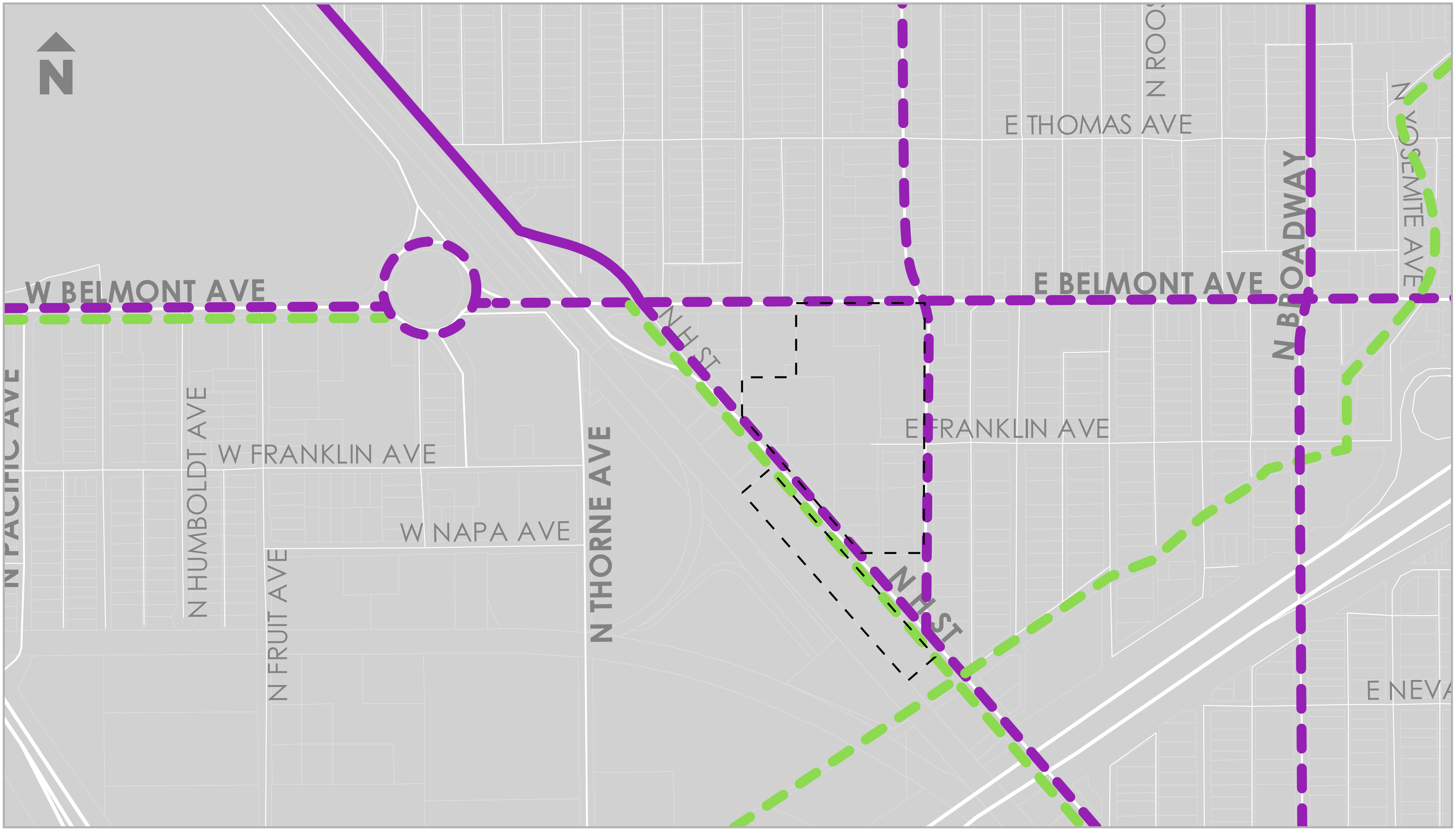
It is anticipated that emergency vehicles would still be able to access the Producers Dairy site using all current access points if the project were implemented. Therefore, emergency access to the site is not anticipated to be affected. However, the project is anticipated to cause emergency vehicles responding in the area to divert from current routes that use H Street. The diversion to other routes and the increased delay on these routes due to other traffic may affect response times in the area.

The project would cause H Street traffic to reroute onto both Palm Avenue and Belmont Avenue. This additional volume would increase the delays at intersections within the study area which would decrease the emergency vehicle response time in the area. This could potentially result in inadequate emergency access.

Mitigation Measure 3.8-6 would ensure that operational improvements at these intersections are implemented in order to reduce the increased delay that could result for emergency vehicles. With implementation of mitigation, this is considered a ***less than significant*** impact.

MITIGATION MEASURE(S)

Mitigation Measure 3.8-6: *Implement operational improvements at the intersections along Belmont Avenue and Palm Avenue affected by the increased traffic volume. Implementing these* *improvements would reduce the increased delay on Belmont Avenue and Palm Avenue allowing emergency vehicles to maintain a similar response time to what they have today. These improvements shall be noted on the project improvements, subject to review and approval by the City's Planning and Development Department.*



Existing Bicycle Facilities

▬ Class II Bike Lane

Planned Bicycle Facilities

▬ ▬ ▬ Class I Bike Path

▬ ▬ ▬ Class II Bike Lane

⬚ Project Boundary

Figure 3.8-1

Bicycle Facilities

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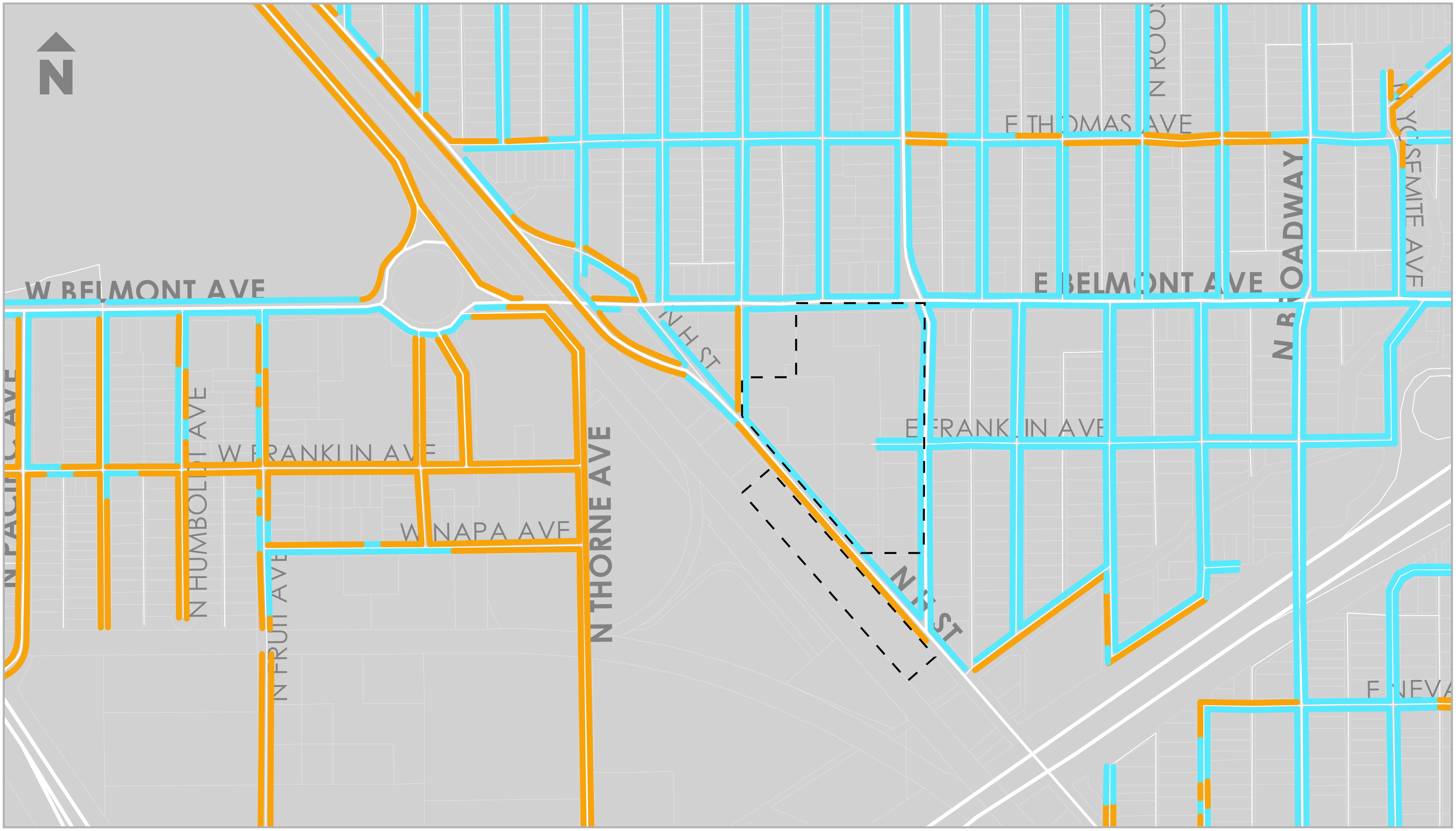

Figure 3.8-2

Pedestrian Facilities

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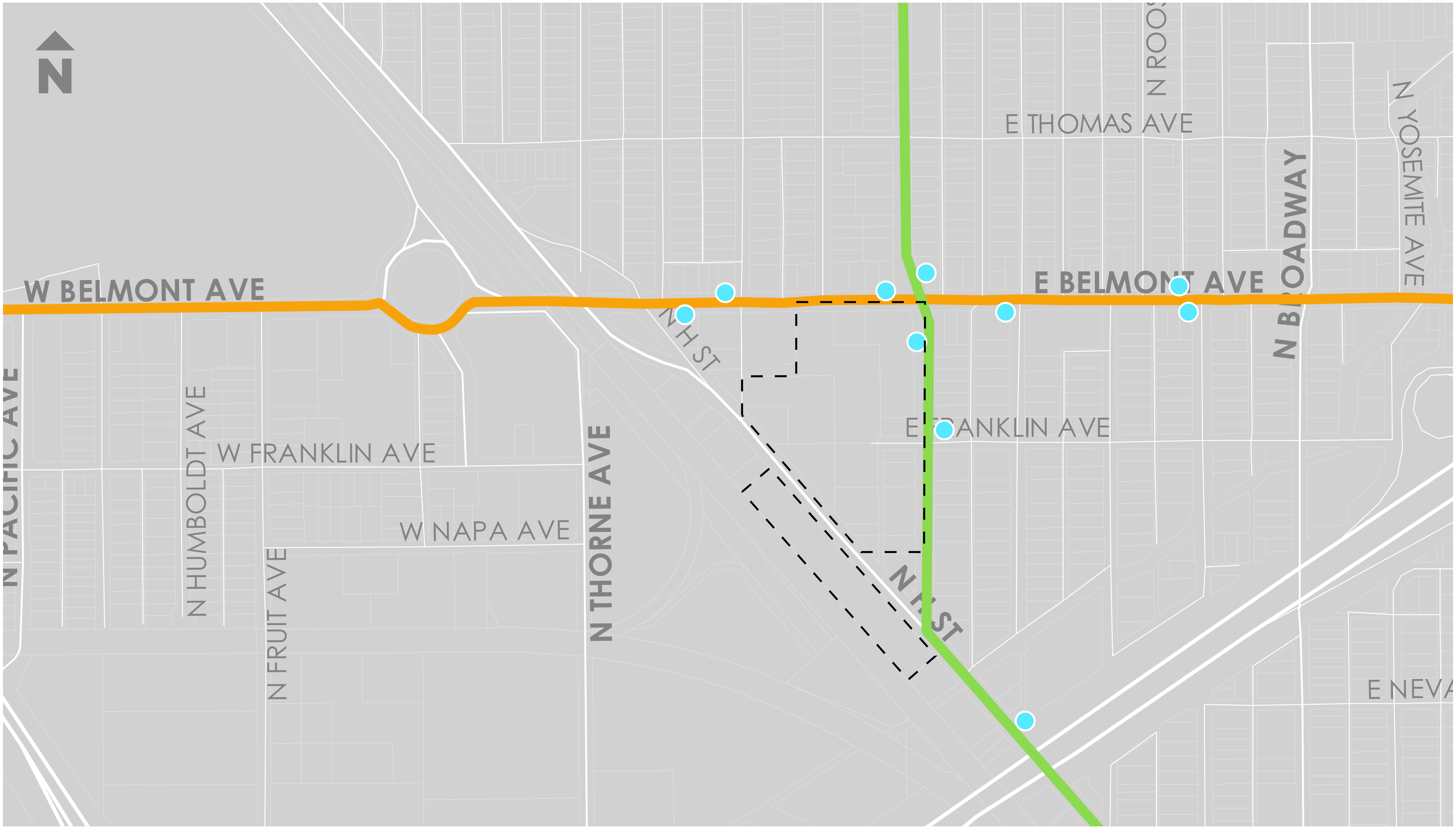

Figure 3.8-3

Existing Transit

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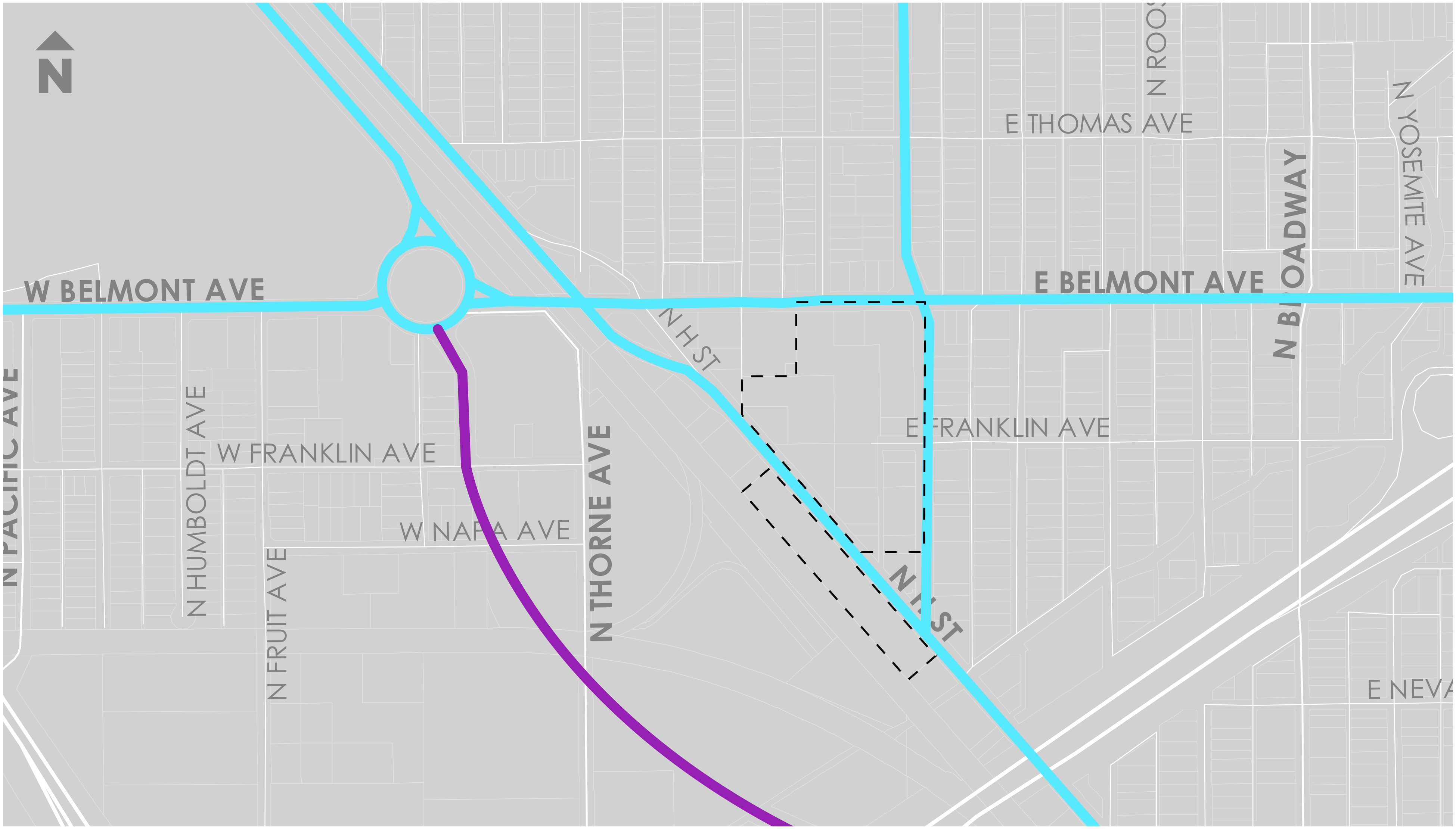

Figure 3.8-4
Truck Routes

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Figure 3.8-5

Existing Plus Project

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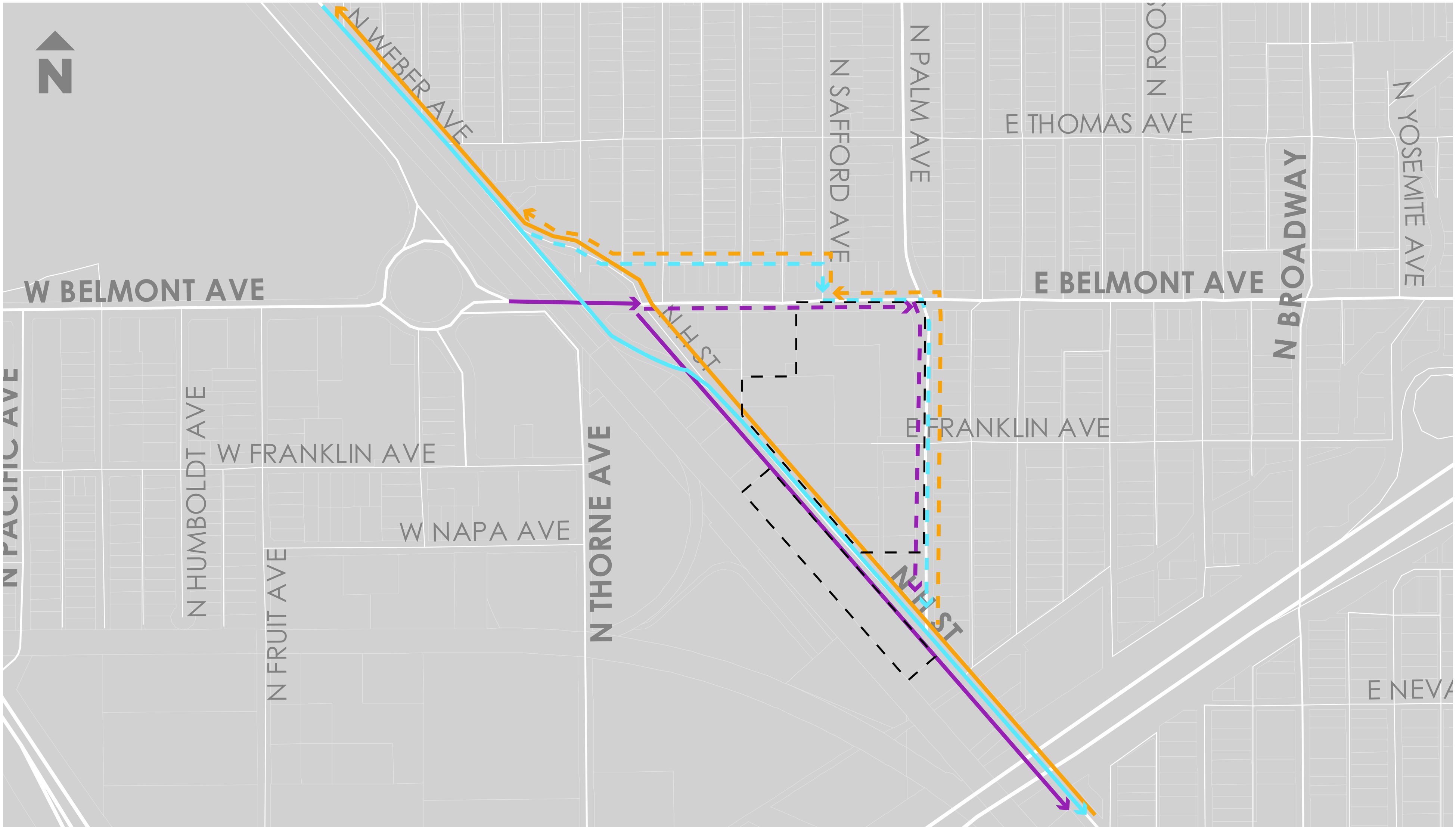

Figure 3.8-6

Cumulative Plus Project

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OTHER CEQA-REQUIRED TOPICS 4.0

The California Environmental Quality Act (CEQA) requires an Environmental Impact Report (EIR) to evaluate a project's effects in relationship to broader changes occurring, or that are foreseeable to occur, in the surrounding environment. Accordingly, this chapter presents a discussion of CEQA-mandated analysis for cumulative impacts, significant irreversible effects, and significant and unavoidable impacts associated with the proposed project.

4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

INTRODUCTION

CEQA requires that an EIR contain an assessment of the cumulative impacts that could be associated with the proposed project. According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

> *…the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

In addition, Section 15130(b) identifies that the following three elements are necessary for an adequate cumulative analysis:

> 1) Either:
>
> > (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,
> >
> > (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.
>
> 2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

> 3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

CUMULATIVE SETTING

The cumulative setting uses growth projections listed in the general plan, municipal services review, other planning documents and Department of Finance statistics. Table 4.0-1 shows growth projections.

TABLE 4.0-1: GROWTH PROJECTIONS

CALENDAR YEAR	*ESTIMATED POPULATION (FRESNO)*	*ESTIMATED POPULATION (FRESNO COUNTY)*	*ESTIMATED POPULATION (CALIFORNIA)*
2020	624,040	1,055,106	40,619,346
2025	676,820	1,130,406	42,373,301
2030	725,120	1,200,666	44,085,600
2035	772,030	1,269,714	45,747,645
2040	816,980	1,332,913	47,233,240

SOURCES: FRESNO COUNCIL OF GOVERNMENTS, FRESNO COUNTY 2050 GROWTH PROJECTIONS (2017); U.S. DEPARTMENT OF FINANCE (2020).

CUMULATIVE EFFECTS OF THE PROJECT

Cumulative settings are identified under each cumulative impact analysis. Cumulative settings vary because the area that the impact may affect is different. For example, noise impacts generally only impact the local surrounding area because noise travels a relatively short distance while air quality impacts affect the whole air basin as wind currents control air flow and are not generally affected by natural or manmade barriers which would affect noise. Cumulative project impacts are addressed and summarized below.

Method of Analysis

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively. State CEQA Guidelines 15130 requires a reasonable analysis of a project's cumulative impacts, which are defined as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts." The cumulative impact that results from several closely related projects is: the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (State CEQA Guidelines 15355[b]). Cumulative impact analysis may be less detailed than the analysis of the project's individual effects (State CEQA Guidelines 15130[b]).

There are two approaches to identifying cumulative projects and the associated impacts. The list approach identifies individual projects known to be occurring or proposed in the surrounding area in order to identify potential cumulative impacts. The projection approach uses a summary of projections in adopted General Plans or related planning documents to identify potential cumulative impacts. This EIR uses a combination of the list approach and the projection approach for the cumulative analysis and considers the development anticipated to occur upon buildout of the various General Plans in the area in addition to the pending and proposed projects in the area.

Project Assumptions

The proposed project's contribution to environmental impacts under cumulative conditions is based on full buildout of the project site. See Chapter 2.0, Project Description, for a complete description of the proposed project.

Cumulative Impacts

Some cumulative impacts for issue areas are not quantifiable and are therefore discussed in general terms as they pertain to development patterns in the surrounding region. Exceptions to this are traffic, noise and air quality (the latter two of which are associated with traffic volumes), which may be quantified by estimating future traffic patterns, pollutant emitters, etc. and determining the combined effects that may result. In consideration of the cumulative scenario described above, the proposed project may result in the following cumulative impacts.

AESTHETICS AND VISUAL RESOURCES

The cumulative setting for aesthetics is the City of Fresno and surrounding areas of Fresno County.

Impact 4.1: Cumulative Impact on a Scenic Vista, Scenic Quality, and Light or Glare (Less than Significant and Less than Cumulatively Considerable)

As noted in Section 3.1, there are no designated scenic vistas within the City of Fresno. No part of project site is designated as a scenic vista by the City of Fresno General Plan or Municipal Code, nor does the project site contain any unique or distinguishing features that would qualify it for designation as a scenic vista.

Future development of the project site would convert the Demolition and Grading Project Area from its existing state to truck a parking facility and alter truck movement routes within the vicinity of the project area. The proposed project is located in an urbanized area of the City of the Fresno. Because the site is currently developed with aging and dilapidated buildings, potential future development of the proposed project would not have the potential to degrade the visual quality of any scenic resources, as scenic resources do not exist within the project area.

Many areas within the project site are currently exposed to a nominal amount of light due to the industrial setting. Development of the parking facility may include lighting systems onsite to provide safety and security and could result in an increase in lighting adjacent to the project site. Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties. The project would not result in any excessively reflective building materials. Future projects within Fresno and Fresno County would be subject to the light and glare standards established by the individual jurisdictions. These regulations are designed to minimize potential light and glare impacts of new development. Implementation of these regulations would ensure that future projects minimize their potential light and glare impacts resulting in a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to nighttime lighting and daytime glare would be a **less than cumulatively considerable contribution**, and no mitigation is required.

AIR QUALITY

The cumulative setting for air quality impacts is the San Joaquin Valley Air Basin (SJVAB), which consists of eight counties, stretching from Kern County in the south to Fresno County in the north. The SJVAB is bounded by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south.

Impact 4.2: Cumulative Impact on the Region's Air Quality (Less than Significant and Less than Cumulatively Considerable)

Under buildout conditions in the Fresno County, the SJVAB would continue to experience increases in criteria pollutants and efforts to improve air quality throughout the basin would be hindered. As described in Section 3.2, Fresno County has a State designation Attainment or Unclassified for all criteria pollutants except for particulate matter of 10 microns or less in size (PM_{10}), and particulate matter of 2.5 microns or less in size ($PM_{2.5}$). Fresno County has a national designation of either Unclassified or Attainment for all criteria pollutants except for Ozone and $PM_{2.5}$. Table 3.2-2 in Section 3.2 presents the State and Federal attainment status for Fresno County.

As discussed under Impact 3.2-1 in Section 3.2, the proposed project would be an indirect source of air pollution, in that it would redirect vehicle traffic, due to the closure of H Street, such that the proposed project would increase vehicle-miles-traveled (VMT) of some nearby automobiles. The San Joaquin Valley Air Pollution Control District (SJVAPCD) has established operations related emissions thresholds of significance and it was determined that operational emissions would not exceed the SJVACPD thresholds of significance.

As discussed under Impact 3.2-2 in Section 3.2, project annual construction emissions would not exceed the SJVAPCD thresholds of significance. Nevertheless, regardless of emission quantities, the SJVAPCD requires construction related mitigation in accordance with their rules and regulations.

As such, implementation of the proposed project would have a **less than cumulatively considerable** and **less than significant** impact from air emissions.

CULTURAL AND TRIBAL RESOURCES

The geography of cultural resources impact can be defined by region, by political subdivision or by the geography of the cultural resources present in an area, where sufficient inventory data is available to define it. The cumulative setting for cultural resources includes all of Fresno County. There are extensive cultural sites located in the region.

Impact 4.3: Cumulative Impacts on Known and Undiscovered Cultural and Tribal Resources (Less than Significant and Less than Cumulatively Considerable)

Cumulative development anticipated in the City of Fresno, including growth projected by adopted future projects, may result in the discovery and removal of cultural resources, including archaeological, paleontological, historical, and Native American resources and human remains. As discussed in Section 3.3, Cultural and Tribal Resources, the results of the Southern San Joaquin Valley Information Center (SSJVIC) records search states that Resource P-10-003930 (a historical railroad with a National Register of Historic Places [NR] status code of 7J, meaning that the resource has been received by the Office of Historic Preservation for evaluation or action but has not yet been evaluated) and Resource P-10-004285 (Zacky Farms/J.B. Hill Feed Company building, which is potentially eligible for listing in the California Register of Historic Resources [CRHR] but is not listed on the City's Local Register of Historic Resources) are both located in the Demolition of Grading Project Area. Additionally, the Sacred Lands file check failed to reveal any resources on the Demolition and Grading Project Area or Truck Movement Project Area.

Section 3.3 includes mitigation measures to reduce the severity of the impact to Resource P-10-004285 to the greatest extent feasible; however, this impact would remain significant and unavoidable following implementation of the mitigation measures. All other impacts would be reduced to a less-than-significant level with implementation of the mitigation measures in Section 3.3.

Any previously unknown cultural resources which may be discovered during development of the proposed project would be required to be preserved, either through excavation, documentation, curation, data recovery, or other appropriate measures. With implementation of the mitigation measures provided in Section 3.3, the proposed project is not anticipated to considerably contribute to a significant reduction in cultural resources in the region.

All future projects in the regional vicinity would be subject to their respective General Plans (i.e. City of Fresno and Fresno County), each of which have policies and measures that are designed to ensure protection of undiscovered cultural and tribal resources. In addition, all discretionary projects in these jurisdictions would require environmental review per regulations established in CEQA.

Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to cultural resources would result in a **less than cumulatively considerable contribution**.

GEOLOGY AND SOILS

Impacts related to geology and soils are not inherently cumulative. Geology and soils concerns are related to risks, hazards or development constraints that are largely site-specific. However, seismic hazards are regional, and management of seismic hazards is vested with the local planning and building authority. For these reasons, the potential for cumulative geology and soils impacts are considered in the context of the City of Fresno and vicinity.

Impact 4.4: Cumulative Impact on Geologic and Soils Resources (Less than Significant and Less than Cumulatively Considerable)

As discussed in Section 3.4, Geology and Soils, the project site does not have a significant risk of becoming unstable as a result landslide, subsidence, soil collapse, or expansive soils. There is a potential for liquefaction, liquefaction induced settlement, and lateral spreading. However, Mitigation Measures 3.4-1 through 3.4-3 would ensure that project-level impacts would be less than significant.

While the City of Fresno is not within an area known for its seismic activity, there remains the potential for groundshaking caused by seismic activity anywhere in California. Seismic activity could come from a known active fault such as the Greenville fault, or any number of other faults in the region. In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. Additionally, the City of Fresno has incorporated numerous policies relative to seismicity to ensure the health and safety of all people. Design in accordance with these standards and policies would reduce any potential impact to a less than significant level.

Geologic and soils impacts tend to be site-specific and project-specific. With Mitigation Measures 3.4-1 through 3.4-3, implementation of the proposed project would not result in increased risks or hazards related to geologic conditions in the cumulative setting area, nor would it result in any off-site or indirect impacts. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to geologic and soil resources would result in a l**ess than cumulatively considerable contribution**.

GREENHOUSE GASES AND CLIMATE CHANGE

As the California Supreme Court has emphasized, all CEQA analyses of the environmental effects of greenhouse gas (GHG) emissions are inherently cumulative in character. “[B]ecause of the global scale of climate change, any one project's contribution is unlikely to be significant by itself. *** ‘With respect to climate change, an individual project's emissions will most likely not have any appreciable impact on the global problem by themselves, but they will contribute to the significant cumulative impact caused by greenhouse gas emissions from other sources around the globe. The question therefore becomes whether the project's incremental addition of greenhouse gases is ‘cumulatively considerable’ in light of the global problem, and thus significant.’” (*Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204, 219, quoting (Crockett, *Addressing the Significance of Greenhouse Gas Emissions Under CEQA: California's Search for Regulatory Certainty in an Uncertain World* (July 2011) 4 Golden Gate U. Envtl. L.J. 203, 207–208.) Thus, the analysis below considers the entire planet as a backdrop while focusing on whether the proposed project’s incremental contribution to worldwide GHG emissions is cumulatively considerable.

Impact 4.5: Cumulative Impact on Climate Change from Increased Project-Related Greenhouse Gas Emissions (Less than Significant and Less than Cumulatively Considerable)

GHG emissions from a single project will not cause global climate change; however, GHG emission from multiple projects throughout a region or state could result in a cumulative impact with respect to global climate change.

In California, there has been extensive legislation passed with the goal of reducing GHG emissions. The legislative goals are as follows: 1) 2000 levels by 2010, 2) 1990 levels by 2020 and 3) 80 percent below the 1990 levels by the year 2050. To achieve these goals, the California Air Resources Board has developed regional GHG emission reduction targets for the automobile and light truck sectors (the largest single source of greenhouse gas emissions) for 2020 and 2035. The regional GHG emission reduction targets for each region in California were established by the California Air Resources Board.

As described in Impact 3.5-2 in Section 3.5, implementation of the proposed project would result in short-term construction GHG emissions and operational GHG emissions. As presented in Table 3.5-1, short-term construction emissions of GHGs are estimated at 114.0 metric tons of carbon dioxide equivalent (MT CO_2e). As shown in Table 3.5-3, the annual operational GHG emissions would be approximately 605.7 MT CO_2e. Short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change. Furthermore, the operational GHG emissions associated the proposed project are well below the derived thresholds, representing a minimal value in the context of the applicable statewide GHG reduction goals. Additionally, the implementation of the mitigation measures presented in Section 3.2: Air Quality of this EIR would reduce the overall annual GHG emissions associated with the proposed project. Lastly, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

The project would generate GHG emissions, directly and indirectly, that would not have a significant impact on the environment. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to the proposed project's incremental contribution to worldwide GHG emissions would be l**ess than cumulatively considerable contribution**.

HAZARDS AND HAZARDOUS MATERIALS

The cumulative context for the analysis of cumulative hazards and human health impacts is Fresno County, including all cumulative growth therein, as represented by full implementation of each respective General Plan (i.e. Fresno and Fresno County). As discussed in Section 3.6, Hazards and Hazardous Materials, implementation of the proposed project would not result in any significant impacts related to this environmental topic with the implementation of the mitigation measures provided in Section 3.6.

Impact 4.6: Cumulative Impact Related to Hazards and Hazardous Materials (Less than Significant and Less than Cumulatively Considerable)

The proposed project, in conjunction with cumulative development in the region, would include areas designated for a variety of urban, agricultural, and open space uses as defined by the applicable General Plan. Cumulative development would include continued operation of, or development of, new facilities as allowed under each land use designation. New development would inevitably increase the use of hazardous materials within the region, resulting in potential health and safety effects related to hazardous materials use. For the most part, potential impacts associated with new and future development would be confined to commercial and industrial areas and would not involve the use of hazardous substances in large quantities or that would be particularly hazardous. Incidents, if any, would typically be site specific and would involve accidental spills or inadvertent releases. Associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials and would not combine with similar effects elsewhere (i.e., construction workers). Hazard-related impacts tend to be site-specific and project-specific.

The project site is not associated with any existing hazardous materials spills; however, due to the ages of the structures in the Demolition and Grading Project Area, mitigation measures included in Section 3.6 would be required to ensure that any hazardous materials (i.e., asbestos-containing materials, lead-based paint, etc.) are further tested, removed, and disposed of in accordance with the Environmental Protection Agency, California Department of Labor Occupational Safety and Health Administration, and other state regulations. It is also noted that there are numerous areas throughout the County where hazardous conditions are present.

Implementation of the proposed project would not result in significant increased risks of hazards in the cumulative setting area, nor would it result in any significant off-site or indirect impacts. Mitigation measures have been included to reduce the risk of on-site hazards associated with the removal of on-site hazardous materials. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to hazards and hazardous materials would result in a **less than cumulatively considerable contribution**.

NOISE

The cumulative setting for noise impacts consists of the existing and future noise sources that could affect the project site or surrounding uses.

Impact 4.7: Cumulative Exposure of Existing and Future Noise-Sensitive Land Uses to Increased Noise Resulting from Cumulative Development (Significant and Unavoidable and Cumulatively Considerable)

The cumulative context for noise impacts associated with the proposed project consists of the existing and future noise sources that could affect the project or surrounding uses. Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. The operational noise impacts of the proposed project are discussed in detail below.

Cumulative noise impacts would occur primarily as a result of truck traffic on local roadways due to the proposed project truck circulation pattern. Table 3.7-9 in Section 3.7, Noise, shows the noise levels associated with traffic on the local roadway network under the cumulative and cumulative plus project traffic conditions. As discussed in Section 3.7, the project would result in significant increases in traffic noise levels at existing sensitive receptors along five roadway segments:

1. Belmont Avenue between Stafford Avenue and Palm Avenue;
2. Palm Avenue between H Street and Belmont Avenue;
3. Palm Avenue between north of Belmont Avenue;
4. Safford Avenue between Belmont Avenue to the connector; and
5. The connector between west of Stafford Avenue.

Potential mitigation measures to reduce traffic noise as a result of the proposed truck circulation pattern could include reducing truck traffic speeds, or imposing limits on the use of engine brakes or jake brakes. However, these types of mitigation measures are not expected to result in more than a 1 dB reduction in overall traffic noise levels, which would still result in significant impacts where Table 3.7-9 shows increases in traffic noise levels of +3 to +5 dB L_{dn}. The use of barriers would not be practical where entrances to driveways are located, which would leave gaps in the barriers and would result in ineffective noise barriers. Consequently, the total noise impact of the proposed project would be a substantial increase to the future noise environment. The proposed project would result in a **significant and unavoidable** and **cumulatively considerable** impact.

TRANSPORTATION AND CIRCULATION

Cumulative conditions representing the year 2040 were analyzed. The main change to the study area compared to the existing condition is the planned development of the California High Speed Rail. The plans for the High Speed Rail Project in the project area are included in Appendix 8 of Appendix F. As part of the High Speed Rail Project, Belmont Avenue would no longer connect to North Weber Avenue. Instead, Belmont Avenue would be grade-separated from North Weber Avenue, and a new Belmont Avenue overpass would be installed over North Weber Avenue. This overpass would start just west of Safford Avenue.

Since Belmont Avenue would no longer connect to North Weber Avenue in the cumulative condition, a connector road would also be constructed. This connector road would connect North Weber Avenue, just north Belmont Avenue, to Safford Avenue and would run parallel to Belmont Avenue to the north.

Traffic under cumulative conditions would be rerouted due to the project’s closure of North H Street as well as the use of the connector road to travel between North Weber Avenue and Belmont Avenue. This rerouting of traffic under cumulative conditions is shown in Figure 3.8-6 in

Section 3.8, Transportation and Circulation. The projected net change in traffic volumes at each intersection is included in Appendix 5 of Appendix F.

Impact 4.8: Cumulative Impacts Related to CEQA Guideline Section 15064.3, Subdivision (b) (Significant and Unavoidable and Cumulatively Considerable)

As discussed in Section 3.9, Producers Dairy trucks vehicle-miles-traveled (VMT) would decrease by about 58 truck miles traveled per day. The addition of the street changes associated with the High Speed Rail Project will change the reroutes of northbound H Street and southbound Weber Street for automobiles in the area. Vehicles will no longer use East Thomas Avenue, and instead will be rerouted onto a future connector road and North Safford Avenue. Furthermore, traffic volumes are projected to increase by 2040. Therefore, the change in VMT under cumulative conditions is expected to differ from the change in VMT under existing conditions. Table 3.8-4 in Section 3.8 shows the average increase in automobile VMT as a result of automobile reroutes under cumulative conditions. As shown in the table, the project will result in an additional 2,154 automobile VMT on a typical day under cumulative conditions.

The closure of H Street would result in an additional 1,205 (existing plus project) VMT and 2,154 (cumulative plus project) VMT as vehicles detour around the closure. Based on the City of Fresno thresholds of significance, this represents a potentially significant impact because any growth in VMT attributable to a transportation project would result in a significant impact. The only mitigation to prevent the closure of H Street from causing an increase in VMT under existing and cumulative conditions to reroute is not to close H Street. If H Street were to remain open, approximately 100 Producers Dairy trucks would cross H Street per day on Sundays, Mondays, Wednesdays, Thursdays, and Fridays, and approximately 57 Producers Dairy trucks would cross H Street per day on Tuesdays and Saturdays. This high volume of truck crossings would result in public safety hazards. Because the high volume of truck crossings would result in public safety hazards, not closing H Street is not a feasible mitigation measure and the impact will remain a **significant and unavoidable** cumulative impact relative to this environmental topic. As such, impacts related to CEQA Guideline section 15064.3 would result in a **cumulatively considerable contribution**.

Impact 4.9: Cumulative Impacts Related to Trucks, Transit, Pedestrian, Bicycle, and Roadway Facilities (Less than Significant and Less than Cumulatively Considerable)

The project would result in North H Street, which is a designated truck route, to no longer be a public street. This would result in southbound trucks on Weber Avenue north of Belmont Avenue to divert onto Thomas Avenue which is not a designated truck route and located in a residential area. The loss of the truck route on H Street and the diversion of trucks onto Thomas Avenue, which is not part of the truck network and located in a residential neighborhood, would result in a significant impact. Mitigation Measure 3.8-1 in Section 3.8 would reduce this impact to a **less-than-significant** level.

The project is projected to significantly increase the number of vehicles on both Palm Avenue and Belmont Avenue which serve Fresno Area Express (FAX) transit service routes 26 and 33, respectively. The increased traffic volume would result in substantial additional delay in the area which would increase transit travel times for these routes and may decrease transit ridership. This effect on the performance of the transit lines results in a significant impact. Mitigation Measure 3.8-2 in Section 3.8 would reduce this impact to a **less-than-significant** level. Additionally, the project's closure of North H Street would cause the planned bikeways along North H Street to no longer be feasible and reduce the bicycle network connections in the study area. Mitigation Measure 3.8-3 in Section 3.8 would reduce this impact to a **less-than-significant** level. Further, the project's closure of North H Street would prohibit pedestrians from using it between Belmont Avenue and Palm Avenue which would conflict with the existing and proposed pedestrian connections in the area. Mitigation Measure 3.8-4 in Section 3.8 would reduce this impact to a **less-than-significant** level.

The truck routing plan for the project was reviewed to assess potential hazards due to geometric design or incompatible uses. The proposed truck routing plan for the project shows that trucks would exit out of the gate on H Street and make a left-turn onto Palm Avenue in order to access the site entrance on Franklin Avenue. The left-turn movement onto Palm Avenue is at an intersection with an acute angle for the movement, which would likely result in a tractor-trailer encroaching into the southbound travel lanes on Palm Avenue. Mitigation Measure 3.8-5 in Section 3.8 would ensure that turning movements for large trucks are restricted in this area. Additionally, the project would cause H Street traffic to reroute onto both Palm Avenue and Belmont Avenue. This additional volume would increase the delays at intersections within the study area which would decrease the emergency vehicle response time in the area. Mitigation Measure 3.8-6 in Section 3.8 would ensure that operational improvements at these intersections are implemented in order to reduce the increased delay that could result for emergency vehicles.

With implementation of mitigation measures included in Section 3.8, cumulative impacts related to transit, roadway, bicycle, and pedestrian facilities would be reduced to a **less than cumulatively considerable** level.

4.2 SIGNIFICANT IRREVERSIBLE EFFECTS

LEGAL CONSIDERATIONS

CEQA Section 15126.2(c) and Public Resources Code Sections 21100(b)(2) and 21100.1(a), require that the EIR include a discussion of significant irreversible environmental changes which would be involved in the proposed action should it be implemented. Irreversible environmental effects are described as:

- The project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g., a highway provides access to previously remote area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or

- The phasing of the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Determining whether the proposed project would result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed such that there would be little possibility of restoring them. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Analysis

Implementation of the proposed project would result in the conversion of 3.55 acres of land currently developed with a range of old, abandoned feed mill and silos for the development of a parking lot. The project would also result in a change in the truck circulation in the Truck Movement Project Area. Development of the proposed project would constitute a long-term commitment to the proposed parking lot use in the Demolition and Grading Project Area. The 3.55 acres of developed land would never return to its original condition.

A variety of resources, including land, energy, water, construction materials, and human resources would be irretrievably committed for the initial construction of the parking lot and its continued maintenance. Construction of the proposed project would require the commitment of a variety of other non-renewable or slowly renewable natural resources such as sand and gravel, asphalt, petrochemicals, and metals. Additionally, a variety of resources would be committed to the ongoing operation and life of the proposed project. Maintenance of the parking lot would require energy for lighting as well as upkeep should the parking lot require repaving in the future. Fossil fuels are the principal source of energy, and construction of the proposed project will increase consumption of available supplies, including gasoline and diesel.

4.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. The following significant and unavoidable impacts of the proposed project are discussed in Sections 3.1 through 3.8 and previously in this chapter (cumulative-level). Refer to those discussions for further details and analysis of the significant and unavoidable impacts identified below:

- Impact 3.3-1: Project implementation has the potential to cause a substantial adverse change to a significant historical resource, as defined in CEQA Guidelines §15064.5;
- Impact 3.7-1: The proposed project would increase traffic noise levels at existing receptors;
- Impact 3.8-1: The proposed project would not conflict or be inconsistent with CEQA Guideline section 15064.3, subdivision (b);
- Impact 4.7: Cumulative Exposure of Existing and Future Noise-Sensitive Land Uses to Increased Noise Resulting from Cumulative Development;

- Impact 4.8: Cumulative Impacts Related to CEQA Guideline Section 15064.3, Subdivision (b).

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5.1 CEQA REQUIREMENTS

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) analyze a reasonable range of feasible alternatives that meet most or all project objectives while reducing or avoiding one or more significant environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

PROJECT OBJECTIVES

The principal objective of the proposed project is the approval and subsequent construction and operation of the proposed truck parking lot area.

The project identifies the following objectives:

- Reduce vehicle-miles-traveled and fuel usage associated with onsite and near-vicinity truck movements.
- Reduce number of trailer movements in and around main plant.
- Provide/secure additional trailer parking in close proximity to main operating plant facility.
- Consolidate truck/trailer parking for efficiency and security improvements associated with truck/trailer storage.
- Reduce public safety impacts associated with damaged and dilapidated buildings that currently pose a nuisance.
- Improve air quality and carbon footprint/greenhouse gas (GHG) emissions via reduced truck movements and idling times.
- Remove truck/trailer parking and truck/trailer movements at cheese plant property and its immediate vicinity of the surrounding residential neighborhood.

ALTERNATIVES NOT SELECTED FOR FURTHER ANALYSIS

A Notice of Preparation (NOP) was circulated to the public to solicit recommendations for a reasonable range of alternatives to the proposed project. Additionally, a public scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the proposed project. No specific alternatives were recommended by commenting agencies or the general public during the NOP public review process.

The City of Fresno considered alternative locations early in the public scoping process. The City's key considerations in identifying an alternative location were as follows:

- Is there an alternative location where significant effects of the project would be avoided or substantially lessened?

- Is there a site available within the City's Sphere of Influence with the appropriate size and characteristics such that it would meet the basic project objectives?

The alternative location analysis focused on finding an available site for the proposed parking lot that would allow Producers Dairy operations in the Fresno area to continue. The alternative locations considered for a parking lot included the 450 E. Belmont Avenue property (the cheese plant property), the 302 N. Thorne Avenue property (the Producers Dairy ice cream warehouse and associated parking area), and other locations (i.e., a City property on H Street, and two other vacant parcels on Fruit Avenue). The alternative locations are shown in Figure 5.0-1.

The cheese plant is currently at maximum parking capacity. To increase capacity, removal of the existing structures would be required. However, the structures are historic structures, and the 1993 Statement of Covenants Affecting Land Development that was formed between the City and applicant prohibits removal of the historic buildings. Additionally, the cheese plant property is surrounded by residential land uses, and one of the main project objectives is to consolidate truck parking in an area further from residential uses. For these reasons, construction of the proposed parking lot would not be favorable at this location.

The ice cream warehouse facility was previously used for overflow truck/trailer parking by Producers Dairy; however, a significant portion of the site was taken via eminent domain by the California High Speed Rail Authority. Due to a lack of available parking space at this location, construction of the proposed parking lot would not be favorable at this location.

Another location that was considered includes a property on H Street (Assessor's Parcel Numbers 465-040-37ST and 467-030-39ST) that is currently being used for City parking and is owned by the California High Speed Rail Authority. The trailer movement distances from this parking location would be much longer than the proposed project. As such, construction of a parking lot here, which is owned by the California High Speed Rail Authority and would increase movement distances, would not reduce any project impacts. This location would also fail to meet some of the project objectives.

Two vacant parcels on Fruit Avenue (294 and 295 N. Fruit Avenue) were also considered. These parcels are located further away from the Producers Dairy Main Plant than the proposed parking lot location on H Street (approximately 1.1 to 1.2 miles southwest); the longer travel distances would occur within the residential area along Fruit Avenue, which is not currently affected by the Producers Dairy operations (existing or proposed). The longer travel distances would result in additional fuel demand, increased air quality emissions, and increased truck traffic noise. For these reasons, construction of the proposed parking lot would not be favorable at these other locations.

The City has found that there are no feasible alternative locations that exist within the City's Sphere of Influence with the appropriate size and characteristics that would meet the basic project objectives and avoid or substantially lessen a significant effect. For these reasons, the City of Fresno determined that there are no feasible alternative locations.

In addition, as discussed in Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553 (Goleta II), where a project is consistent with an approved general plan, no off-site alternative need be analyzed in the EIR. The EIR "is not ordinarily an occasion for the reconsideration or overhaul of fundamental land-use policy." (Goleta II, supra, 52 Cal.3d at p. 573.) In approving a general plan, the local agency has already identified and analyzed suitable alternative sites for particular types of development and has selected a feasible land use plan. "Informed and enlightened regional planning does not demand a project EIR dedicated to defining alternative sites without regard to feasibility. Such ad hoc reconsideration of basic planning policy is not only unnecessary, but would be in contravention of the legislative goal of long-term, comprehensive planning." (Goleta II, supra, 52 Cal.3d at pp. 572-573.) Here, the proposed project is generally consistent with the types of uses considered in the Fresno General Plan and associated EIR, and thus, in addition to the reasons discussed above, an off-site alternative need not be further discussed in this EIR.

5.2 ALTERNATIVES CONSIDERED IN THIS EIR

Two alternatives to the proposed project were developed based on input from City staff, the public during the NOP review period, and the technical analysis performed to identify the environmental effects of the proposed project. The alternatives analyzed in this EIR include the following two alternatives in addition to the proposed project.

- **No Project (No Build) Alternative**: Under this alternative, development of the Demolition and Grading Project Area with a parking lot would not occur, the associated circulation changes would not occur (i.e., closure of H Street would not occur), and the Demolition and Grading Project Area would remain in its current existing condition.
- **No H Street Closure Alternative:** Under this alternative, development of the Demolition and Grading Project Area with a parking lot would occur, but the associated circulation changes would not occur (i.e., closure of H Street would not occur).

NO PROJECT (NO BUILD) ALTERNATIVE

Under the No Project (No Build) Alternative, development of the Demolition and Grading Project Area with a parking lot would not occur, the associated circulation changes would not occur (i.e., closure of H Street would not occur), and the Demolition and Grading Project Area would remain in its current existing condition. Parking and circulation of Producers Dairy trucks and other vehicles would remain in the current condition. It is noted that the No Project (No Build) Alternative would fail to meet the project objectives.

NO H STREET CLOSURE ALTERNATIVE

Under this alternative, development of the Demolition and Grading Project Area with a truck parking lot would occur, but H Street would not be relinquished and/or closed. Because H Street would be fully open to thru traffic, the parking and circulation changes that would result from the proposed H Street closure would also not occur. Additionally, the private gate on H Street would no longer be required, as H Street would not be relinquished and/or closed.

Approximately 3.55 acres (or 154,638 square feet) of land currently developed with a range of old abandoned buildings, including a feed mill and silos within the Demolition and Grading Project Area would be graded and paved under the No H Street Closure Alternative. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. Additionally, similar to the proposed project, the cheese plant property (located at 450 E. Belmont Avenue) would not be used for truck or trailer parking once the parking lot is constructed under this alternative. It is noted that the No H Street Closure Alternative would fail to meet all of the project objectives.

5.3 ENVIRONMENTAL ANALYSIS

The alternatives analysis provides a summary of the relative impact level of significance associated with each alternative for each of the environmental issue areas analyzed in this EIR. Following the analysis of each alternative, Table 5.0-1 summarizes the comparative effects of each alternative.

NO PROJECT (NO BUILD) ALTERNATIVE

Aesthetics and Visual Resources

As described in Section 3.1, while the proposed project would result in alterations to the existing urban form and character of the project area, the introduction of new surface parking areas would not conflict with any zoning or other regulations governing scenic quality within the area. The project site and the surrounding areas are designated for industrial uses. The proposed use is consistent with the existing Zoning and is visually compatible with the surrounding uses. As such, impacts related to degradation of the visual character of the site would be less than significant. Because there are no scenic vistas or resources in the project area, impacts related to adverse effects on scenic vistas or resources would be less than significant.

Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the mitigation measure would ensure that the proposed project would not result in significant impacts related to daytime glare. As such, impacts related to nighttime lighting and daytime glare would be less than significant with mitigation.

The No Project (No Build) Alternative would leave the Demolition and Grading Project Area in its existing state and would not result in increases in daytime glare or nighttime lighting associated with the proposed parking and security lighting. The visual character of the project site would not change under this alternative compared to existing conditions.

The proposed project would result in potentially significant new sources of light and glare. However, the No Project (No Build) Alternative would avoid these impacts altogether. As such, this impact would be reduced when compared to the proposed project.

Air Quality

Fresno County has a State designation Attainment or Unclassified for all criteria pollutants except for PM_{10} and $PM_{2.5}$. Fresno County has a national designation of either Unclassified or Attainment for all criteria pollutants except for Ozone and $PM_{2.5}$. Table 3.2-2 in Section 3.2 presents the state and national attainment status for Fresno County.

As discussed under Impact 3.2-1 in Section 3.2, the proposed project would be an indirect source of air pollution, in that it would redirect vehicle traffic, due to the closure of H Street, such that the proposed project would increase vehicle-miles-traveled (VMT) of some nearby automobiles. As provided in the Traffic Impact Assessment for the proposed project, the proposed project would increase daily VMT by approximately 1,205 VMT, which is approximately equivalent to 439,825 VMT per year. Nearly all of the operational emissions associated with the proposed project would be associated with this increase in (mobile) automobile emissions. As shown in Table 3.2-6 in Section 3.2, operational emissions would not exceed the San Joaquin Valley Air Pollution Control District (SJVACPD) thresholds of significance.

Additionally, the proposed project would demolish the existing buildings located within the Demolition and Grading Project Area, and convert it to a new parking area. Construction-related activities would result in project-generated emissions from demolition, site preparation, grading, and paving. As shown in Table 3.2-7 in Section 3.2, construction emissions would not exceed the SJVAPCD thresholds of significance.

Further, although the proposed project would reduce the overall truck travel distance and travel time, out of an abundance of caution, a health impact analysis has been prepared for the proposed project to analyze the project changes to truck routes. The source of toxic air contaminants (TACs) for this type of project can be attributed to diesel exhaust from the trucks. As shown in Table 3.2-9 in Section 3.2, the proposed project, in and of itself, would not result in a significant increased exposure of receptors to localized concentrations of TACs. Risk of residential cancer risk, workplace cancer risk, and chronic and acute non-cancer risks are below the applicable SJVAPCD thresholds.

Under the No Project (No Build) Alternative, the Demolition and Grading Project Area would not be developed, H Street would not be closed, the resulting parking and circulation changes would not occur, and there would be no net change in emissions; as such, under this alternative, there would be no potential for a conflict with any adopted plans or policies related to air quality. Overall, this impact would be reduced when compared to the proposed project.

Cultural and Tribal Resources

As described in Section 3.3, the results of the Southern San Joaquin Valley Information Center (SSJVIC) records search indicates a total of two resources have been previously recorded within the Demolition and Grading Project Area on maps and files maintained by the SSJVIC. Of these cultural resources, one is a potentially historic building (Resource P-10-004285) and the other is a railroad (Resource P-10-003930). There have been two previous cultural resource studies that examined portions of the Demolition and Grading Project Area and historical resources were documented. No other historical resources were listed in the Demolition and Grading Project Area. To reduce the potential for the proposed project to result in a substantial adverse effect on the historical railroad resource, the proposed project would implement Mitigation Measure 3.3-1. Mitigation Measure 3.3-1 requires that a qualified archaeological consultant prepare an archaeological survey which will determine whether the proposed project would result in demolition, destruction, relocation, or alteration of Resource P-10-003930 and includes requirements for the documentation and/or protection of the resource, depending on the results of the subsequent analysis. The implementation of Mitigation Measure 3.3-1 would reduce impacts to Resource P-10-003930 to a less than significant level.

The proposed demolition of Resource P-10-004285, Zacky Farms/J.B. Hill Feed Company building, would constitute a substantial adverse change because the historical resource would be materially impaired, as defined in CEQA Guidelines Section 15064.5(b)(1)-(2), and the proposed project would destroy the property's ability to convey significance under the CRHR. Therefore, the demolition of the two attached warehouse buildings with a commercial bump-out and the tower silo structure is considered a significant and unavoidable impact. Mitigation Measures 3.3-2, 3.3-3, and 3.3-4 would be required. Mitigation Measure 3.3-2 will require the applicant to identify and ensure the significant physical characteristics of Resource P-10-004285, Zacky Farms/J.B. Hill Feed Company, are documented and retained for public benefit, and to provide an appropriate basis and foundation for the interpretive materials, as required by Mitigation Measure 3.3-4. Additionally, Mitigation Measure 3.3-3 will require the applicant, prior to the issuance of building/grading permits, to engage a historic architect to identify salvageable materials to donate to the Fresno City and County Historical Society or another appropriate entity. In general, the recommended measures include a baseline treatment for all contributing elements of the property that includes recordation and documentation under the Historic American Building Survey (HABS) Standards. While implementation of these mitigation measures would reduce the severity of this impact to the greatest extent feasible, this impact would remain significant and unavoidable following implementation of these mitigation measures.

Additionally, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and/or tribal cultural resource, archaeological resource, or human remains. Implementation of mitigation measures in Section 3.3 would reduce unknown cultural resources impacts to a less than significant level.

The No Project (No Build) Alternative would result in no ground disturbing activities related to the proposed project and would not have the potential to disturb or destroy cultural and/or tribal cultural resource, archaeological resource, or human remains. The No Project (No Build) Alternative would result in less potential for impacts to cultural resources as the Demolition and Grading Project Area would not be disturbed. The significant and unavoidable impact would not occur. As such, this impact would be reduced when compared to the proposed project.

Geology and Soils

The No Project (No Build) Alternative would result in the Demolition and Grading Project Area remaining in its existing condition. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. These structures are subject to seismic or geologic risks, including earthquakes, liquefaction, subsidence, etc. The No Project (No Build) Alternative would not involve new construction that could be subject to seismic, geologic or soils hazards; thus, this alternative would have no potential for impact. As such, this impact would be reduced when compared to the proposed project.

Greenhouse Gases, Climate Change and Energy

Short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change. Additionally, the operational GHG emissions associated with the proposed project are well below the derived thresholds, representing a minimal value in the context of the applicable statewide GHG reduction goals. Implementation of the mitigation measures presented in Section 3.2: Air Quality of this EIR would reduce the overall annual GHG emissions associated with the proposed project. Further, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Lastly, the proposed project would comply with all existing energy standards and would not be expected to result in significant adverse impacts on energy resources. For these reasons, the proposed project would not cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the threshold as described by the CEQA Guidelines.

Under the No Project (No Build) Alternative, the Demolition and Grading Project Area would not be developed, and there would be no net change in emissions and no potential for a conflict with any adopted plans or policies related to GHG reductions. As such, this impact would be reduced when compared to the proposed project.

Hazards and Hazardous Materials

As part of the *Asbestos Survey Report*, bulk samples of suspect asbestos containing materials (ACM) were taken in accordance with US EPA Guidelines and accepted industry standards by a state certified asbestos consultant. As shown in Table 3.6-2 in Section 3.6, the pipe insulation (sample 83) on the piping of the silo building near the ceiling in the main room on the first floor and up to the second floor in the silo building is positive for asbestos at 20 percent by weight. This type of material is considered friable hazardous ACM and must be handled and disposed of accordingly. A licensed asbestos abatement contractor should remove this material prior to demolition of this structure. Additionally, the pipe insulation (sample 121) on piping in the first and second floors of the old mill area in the south warehouse is positive for asbestos at 60 percent by weight. This type of material is considered friable ACM and must be handled and disposed of accordingly. A licensed asbestos abatement contractor should remove this material prior to demolition of this structure. All remaining sampling indicates that the materials covered by the *Asbestos Survey Report* are non-hazardous, non-friable ACM. The mitigation measures included in Section 3.6 would ensure these impacts are less than significant. Operation of the project would not require the use of hazardous materials or substances.

Under the No Project (No Build) Alternative, the structures in the Demolition and Grading Project Area would not be demolished, the parking lot would not be constructed, and the parking and circulation patterns would not change. Therefore, the ACM mitigation measures would not be required, and the potential release of ACM as a result of the demolition activities would not occur. As such, this impact would be reduced when compared to the proposed project.

Noise

The proposed project could increase noise-generating activities associated with construction of the proposed parking lot, as well as from vehicular traffic. As indicated by Table 3.7-8 and Table 3.7-9 in Section 3.7, the related noise level increases under development and operation of the proposed project are predicted to range between 0 and +5 decibels (dB) day-night noise level (L_{dn}) in areas where residential uses currently exist, which include Palm Avenue from H Street to north of Belmont Avenue, Safford Avenue between Belmont Avenue to the Connect, Belmont Avenue from Weber to Palm, and the connect west of Stafford Avenue. Traffic levels decrease significantly along H Street between Belmont and Palm where no residential or sensitive receivers currently exist. Because the proposed project would increase noise levels in the immediate vicinity by 3 dB L_{dn} or CNEL, this would be considered a significant impact. Potential mitigation measures to reduce traffic noise as a result of the proposed truck circulation pattern could include reducing truck traffic speeds, or imposing limits on the use of engine brakes or jake brakes. However, these types of mitigation measures are not expected to result in more than a 1 dB reduction in overall traffic noise levels, which would still result in significant impacts where Table 3.7-9 shows increases in traffic noise levels of +5 dB L_{dn}. The use of barriers would not be practical where entrances to driveways are located, which would leave gaps in the barriers and would result in ineffective noise barriers. As such, impacts associated with increased traffic noise levels at existing receptors would be significant and unavoidable.

As discussed in Impacts 3.7-2 and 3.7-3, construction noise and demolition activities would not result in substantial noise or vibration impacts. Additionally, because the parking areas would be located in industrial areas and would not be close to any residences or noise-sensitive uses, stationary noise associated with the parking lot would not be a significant noise source.

Under the No Project (No Build) Alternative, the Demolition and Grading Project Area would not be developed and there would be no potential for new noise sources. As such, this impact would be reduced when compared to the proposed project.

Transportation and Circulation

As discussed in Impact 3.8-1 in Section 3.8, the proposed project would result in a net decrease of VMT for truck trips as a result of the proposed parking lot, which would consolidate staging and other truck trips. Table 3.8-2 in Section 3.8 shows the average existing VMT for trucks traveling between the main plant and the cheese plant or ice cream warehouse, based on routes and numbers of trucks provided by the dairy and the associated traffic analysis. Because these trips will all be eliminated if the proposed project is implemented, the project is anticipated to result in a decrease of about 58 truck miles traveled per day. Additionally, the second source of VMT that will be affected by the project is automobile VMT, which would be affected by the closure of North H Street. The three reroutes include:

- Northbound H Street – Rerouted to Northbound Palm Avenue and Belmont Avenue;
- Southbound H Street – Rerouted to Belmont Avenue and Southbound Palm Avenue;
- Southbound Weber Street – Rerouted to Thomas Avenue and Southbound Palm Avenue.

Tables 3.8-3 and 3.8-4 in Section 3.8 show the average increase in automobile VMT as a result of automobile reroutes. As shown in Table 3.8-3, the project would result in an addition of about 1,205 automobile miles traveled on a typical day under existing conditions. As shown in Table 3.8-4, the project will result in an additional 2,154 automobile VMT on a typical day under cumulative conditions. Based on the City of Fresno thresholds of significance, this represents a potentially significant impact because any growth in VMT attributable to a transportation project would result in a significant impact. The only mitigation to prevent the closure of H Street from causing an increase in VMT under existing and cumulative conditions to reroute is not to close H Street. If H Street were to remain open, approximately 100 Producers Dairy trucks would cross H Street per day on Sundays, Mondays, Wednesdays, Thursdays, and Fridays, and approximately 57 Producers Dairy trucks would cross H Street per day on Tuesdays and Saturdays. This high volume of truck crossings would result in public safety hazards. Because the high volume of truck crossings would result in public safety hazards, not closing H Street is not a feasible mitigation measure and the impact will remain significant and unavoidable.

With mitigation measures included in Section 3.8, impacts related to the circulation system (including transit, roadway, bicycle, and pedestrian facilities), transportation hazards, and emergency access would be less than significant.

Because H Street would not be closed and the proposed parking lot would not be constructed, the No Project (No Build) Alternative would not result in a decrease of Producers Dairy truck miles traveled per day. This alternative would also not result in an increase in automobile VMT. Additionally, mitigation would not be required in order to ensure impacts related to the circulation system (including transit, roadway, bicycle, and pedestrian facilities), transportation hazards, and emergency access would be less than significant. Under the No Project (No Build) Alternative, these potential impacts would be avoided, and the No Project (No Build) Alternative would have a reduced traffic impact when compared to the proposed project. The significant and unavoidable impact related to VMT under the proposed project would not occur under this alternative.

NO H STREET CLOSURE ALTERNATIVE

Aesthetics and Visual Resources

As described in Section 3.1, while the proposed project would result in alterations to the existing urban form and character of the project area, the introduction of new surface parking areas would not conflict with any zoning or other regulations governing scenic quality within the area. The project site and the surrounding areas are designated for industrial uses. The proposed use is consistent with the existing Zoning and is visually compatible with the surrounding uses. As such, impacts related to degradation of the visual character of the site would be less than significant.

Because there are no scenic vistas or resources in the project area, impacts related to adverse effects on scenic vistas or resources would be less than significant.

Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the mitigation measure would ensure that the proposed project would not result in significant impacts related to daytime glare. As such, impacts related to nighttime lighting and daytime glare would be less than significant with mitigation.

Similar to the proposed project, the No H Street Closure Alternative would result in demolition, grading, and development of the Demolition and Grading Project Area. Although H Street would not be closed under this alternative, the parking lot would be constructed in the Demolition and Grading Project Area. This would also result in increases in daytime glare or nighttime lighting associated with the parking and security lighting. The visual character of the project site would change under this alternative compared to existing conditions. The change in visual character of the parking lot under this alternative would be identical to the proposed project.

Both the proposed project and the No H Street Closure Alternative would result in potentially significant new sources of light and glare. As such, this impact would be similar when compared to the proposed project.

Air Quality

Fresno County has a State designation Attainment or Unclassified for all criteria pollutants except for PM_{10} and $PM_{2.5}$. Fresno County has a national designation of either Unclassified or Attainment for all criteria pollutants except for Ozone and $PM_{2.5}$. Table 3.2-2 in Section 3.2 presents the state and national attainment status for Fresno County.

As discussed under Impact 3.2-1 in Section 3.2, the proposed project would be an indirect source of air pollution, in that it would redirect vehicle traffic, due to the closure of H Street, such that the proposed project would increase VMT of some nearby automobiles. As provided in the Traffic Impact Assessment for the proposed project, the proposed project would increase daily VMT by approximately 1,205 VMT, which is approximately equivalent to 439,825 VMT per year. Nearly all of the operational emissions associated with the proposed project would be associated with this increase in (mobile) automobile emissions. As shown in Table 3.2-6 in Section 3.2, operational emissions would not exceed the SJVACPD thresholds of significance.

Additionally, the proposed project would demolish the existing buildings located within the Demolition and Grading Project Area, and convert it to a new parking area. Construction-related activities would result in project-generated emissions from demolition, site preparation, grading, and paving. As shown in Table 3.2-7 in Section 3.2, construction emissions would not exceed the SJVAPCD thresholds of significance.

Further, although the proposed project would reduce the overall truck travel distance and travel time, out of an abundance of caution, a health impact analysis has been prepared for the proposed project to analyze the project changes to truck routes. The source of TACs for this type of project can be attributed to diesel exhaust from the trucks. As shown in Table 3.2-9 in Section 3.2, the proposed project, in and of itself, would not result in a significant increased exposure of receptors to localized concentrations of TACs. Risk of residential cancer risk, workplace cancer risk, and chronic and acute non-cancer risks are below the applicable SJVAPCD thresholds.

Under the No H Street Closure Alternative, the Demolition and Grading Project Area would be developed, but H Street would not be closed and the resulting parking and circulation changes would not occur. The construction-related emissions of the No H Street Closure Alternative associated with the parking lot construction would be comparable to the proposed project. As discussed further below under the Transportation and Circulation discussion, similar to the project, the No H Street Closure Alternative would result in a decrease of approximately 58 truck miles traveled per day due to the reduction in staging and other trips required for Producers Dairy trucks as a result of the new, more centrally-located parking lot. However, because H Street would not be closed under this alternative, the non-Producer Dairy-related automobile circulation would not change. As a result, the increase in daily automobile VMT by approximately 1,205 VMT, which nearly all of the operational emissions associated with the proposed project would be associated with, would not occur under this alternative. Similarly, the additional 2,154 automobile VMT on a typical day under cumulative conditions for the proposed project would not occur under this alternative. Therefore, the automobile emissions (including criteria pollutants and TACs) under this alternative would be less than the proposed project. Overall, this impact would be reduced when compared to the proposed project.

Cultural and Tribal Resources

As described in Section 3.3, the results of the SSJVIC records search indicates a total of two resources have been previously recorded within the Demolition and Grading Project Area on maps and files maintained by the SSJVIC. Of these cultural resources, one is a potentially historic building (Resource P-10-004285) and the other is a railroad (Resource P-10-003930). There have been two previous cultural resource studies that examined portions of the Demolition and Grading Project Area and historical resources were documented. No other historical resources were listed in the Demolition and Grading Project Area. To reduce the potential for the proposed project to result in a substantial adverse effect on the historical railroad resource, the proposed project would implement Mitigation Measure 3.3-1. Mitigation Measure 3.3-1 requires that a qualified archaeological consultant prepare an archaeological survey which will determine whether the proposed project would result in demolition, destruction, relocation, or alteration of Resource P-10-003930 and includes requirements for the documentation and/or protection of the resource, depending on the results of the subsequent analysis. The implementation of Mitigation Measure 3.3-1 would reduce impacts to Resource P-10-003930 to a less than significant level.

The proposed demolition of Resource P-10-004285, Zacky Farms/J.B. Hill Feed Company building, would constitute a substantial adverse change because the historical resource would be materially impaired, as defined in CEQA Guidelines Section 15064.5(b)(1)-(2), and the proposed project would destroy the property’s ability to convey significance under the CRHR. Therefore, the demolition of the two attached warehouse buildings with a commercial bump-out and the tower silo structure is considered a significant and unavoidable impact. Mitigation Measures 3.3-2, 3.3-3, and 3.3-4 would be required. Mitigation Measure 3.3-2 will require the applicant to identify and ensure the significant physical characteristics of Resource P-10-004285, Zacky Farms/J.B. Hill Feed Company, are documented and retained for public benefit, and to provide an appropriate basis and foundation for the interpretive materials, as required by Mitigation Measure 3.3-4. Additionally, Mitigation Measure 3.3-3 will require the applicant, prior to the issuance of building/grading permits, to engage a historic architect to identify salvageable materials to donate to the Fresno City and County Historical Society or another appropriate entity. In general, the recommended measures include a baseline treatment for all contributing elements of the property that includes recordation and documentation under the Historic American Building Survey (HABS) Standards. While implementation of these mitigation measures would reduce the severity of this impact to the greatest extent feasible, this impact would remain significant and unavoidable following implementation of these mitigation measures.

Additionally, as with most projects in the region that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and/or tribal cultural resource, archaeological resource, or human remains. Implementation of mitigation measures in Section 3.3 would reduce unknown cultural resources impacts to a less than significant level.

Similar to the project, the No H Street Closure Alternative would result in ground disturbing activities and would have the same potential to disturb or destroy cultural and/or tribal cultural resource, archaeological resource, or human remains. The No H Street Closure Alternative would result in a similar potential for impacts to cultural resources as the Demolition and Grading Project Area would be disturbed for construction of the parking lot. The significant and unavoidable impact would still occur under the No H Street Closure Alternative. As such, this impact would be similar when compared to the proposed project.

Geology and Soils

Similar to the project, the No H Street Closure Alternative would result in construction of a parking lot within the Demolition and Grading Project Area. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. These structures would be demolished, the site would be graded, and a parking lot would be constructed. The No H Street Closure Alternative would involve new construction that could be subject to seismic, geologic or soils hazards; thus, this alternative would have a similar potential for impact as the proposed project, and similar mitigation would be required. As such, this impact would be similar when compared to the proposed project.

Greenhouse Gases, Climate Change and Energy

Short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change. Additionally, the operational GHG emissions associated with the proposed project are well below the derived thresholds, representing a minimal value in the context of the applicable statewide GHG reduction goals. Implementation of the mitigation measures presented in Section 3.2: Air Quality of this EIR would reduce the overall annual GHG emissions associated with the proposed project. Further, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Lastly, the proposed project would comply with all existing energy standards and would not be expected to result in significant adverse impacts on energy resources. For these reasons, the proposed project would not cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the threshold as described by the CEQA Guidelines.

Under the No H Street Closure Alternative, the Demolition and Grading Project Area would be developed, but H Street would not be closed. The construction-related GHG emissions would be similar to the project. As discussed in Section 3.5, the operational GHG emissions estimate for the proposed project incorporates the mobile automobile vehicle trips that would increase in length due to the closure of H Street, as well as energy associated with the new parking lot street lighting. Because the No H Street Closure Alternative would not close H Street and would not result in an associated increase in automobile vehicle trips, the mobile GHG emissions would be reduced compared to the project. The operational GHG emissions associated with the new parking lot lighting would be similar. Additionally, because this alternative would not close H Street and would not result in an associated increase in automobile vehicle trips, the associated automobile energy use (i.e., fuel) would be reduced compared to the project. Overall, this impact would be reduced when compared to the proposed project.

Hazards and Hazardous Materials

As part of the *Asbestos Survey Report*, bulk samples of suspect ACM were taken in accordance with US EPA Guidelines and accepted industry standards by a state certified asbestos consultant. As shown in Table 3.6-2 in Section 3.6, the pipe insulation (sample 83) on the piping of the silo building near the ceiling in the main room on the first floor and up to the second floor in the silo building is positive for asbestos at 20 percent by weight. This type of material is considered friable hazardous ACM and must be handled and disposed of accordingly. A licensed asbestos abatement contractor should remove this material prior to demolition of this structure. Additionally, the pipe insulation (sample 121) on piping in the first and second floors of the old mill area in the south warehouse is positive for asbestos at 60 percent by weight. This type of material is considered friable ACM and must be handled and disposed of accordingly. A licensed asbestos abatement contractor should remove this material prior to demolition of this structure. All remaining sampling indicates that the materials covered by the *Asbestos Survey Report* are non-hazardous, non-friable ACM. The mitigation measures included in Section 3.6 would ensure these impacts are less than significant. Operation of the project would not require the use of hazardous materials or substances.

Under the No H Street Closure Alternative, the structures in the Demolition and Grading Project Area would be demolished and the parking lot would be constructed. Therefore, the ACM mitigation measures would be required, and the potential release of ACM as a result of the demolition activities would remain. As such, this impact would be similar when compared to the proposed project.

Noise

The proposed project could increase noise-generating activities associated with construction of the proposed parking lot, as well as from vehicular traffic. As indicated by Table 3.7-8 and Table 3.7-9 in Section 3.7, the related noise level increases under development and operation of the proposed project are predicted to range between 0 and +5 dB L_{dn} in areas where residential uses currently exist, which include Palm Avenue from H Street to north of Belmont Avenue, Safford Avenue between Belmont Avenue to the Connect, Belmont Avenue from Weber to Palm, and the connect west of Stafford Avenue. Traffic levels decrease significantly along H Street between Belmont and Palm where no residential or sensitive receivers currently exist. Because the proposed project would increase noise levels in the immediate vicinity by 3 dB L_{dn} or CNEL, this would be considered a significant impact. Potential mitigation measures to reduce traffic noise as a result of the proposed truck circulation pattern could include reducing truck traffic speeds, or imposing limits on the use of engine brakes or jake brakes. However, these types of mitigation measures are not expected to result in more than a 1 dB reduction in overall traffic noise levels, which would still result in significant impacts where Table 3.7-9 shows increases in traffic noise levels of +5 dB L_{dn}. The use of barriers would not be practical where entrances to driveways are located, which would leave gaps in the barriers and would result in ineffective noise barriers. As such, impacts associated with increased traffic noise levels at existing receptors would be significant and unavoidable.

As discussed in Impacts 3.7-2 and 3.7-3, construction noise and demolition activities would not result in substantial noise or vibration impacts. Additionally, because the parking areas would be located in industrial areas and would not be close to any residences or noise-sensitive uses, stationary noise associated with the parking lot would not be a significant noise source.

Under the No H Street Closure Alternative, the Demolition and Grading Project Area would be developed and H Street would not be closed. The construction noise associated with the demolition activities and parking lot construction under this alternative would be comparable to the project. Because H Street would not be closed under this alternative, the non-Producer Dairy-related automobile circulation would not change. This would result in fewer automobile trips diverted onto area roadways that would result from the H Street closure proposed by the project. This would result in reduced mobile noise compared to the project. Overall, this impact would be reduced when compared to the proposed project.

Transportation and Circulation

As discussed in Impact 3.8-1 in Section 3.8, the proposed project would result in a net decrease of VMT for truck trips as a result of the proposed parking lot, which would consolidate staging and other truck trips. Table 3.8-2 in Section 3.8 shows the average existing VMT for trucks traveling between the main plant and the cheese plant or ice cream warehouse, based on routes and numbers of trucks provided by the dairy and the associated traffic analysis. Because these trips will all be eliminated if the proposed project is implemented, the project is anticipated to result in a decrease of about 58 truck miles traveled per day. Additionally, the second source of VMT that will be affected by the project is automobile VMT, which would be affected by the closure of North H Street. The three reroutes include:

- Northbound H Street – Rerouted to Northbound Palm Avenue and Belmont Avenue;
- Southbound H Street – Rerouted to Belmont Avenue and Southbound Palm Avenue;
- Southbound Weber Street – Rerouted to Thomas Avenue and Southbound Palm Avenue.

Tables 3.8-3 and 3.8-4 in Section 3.8 show the average increase in automobile VMT as a result of automobile reroutes. As shown in Table 3.8-3, the project would result in an addition of about 1,205 automobile miles traveled on a typical day under existing conditions. As shown in Table 3.8-4, the project will result in an additional 2,154 automobile VMT on a typical day under cumulative conditions. Based on the City of Fresno thresholds of significance, this represents a potentially significant impact because any growth in VMT attributable to a transportation project would result in a significant impact. The only mitigation to prevent the closure of H Street from causing an increase in VMT under existing and cumulative conditions to reroute is not to close H Street. If H Street were to remain open, approximately 100 Producers Dairy trucks would cross H Street per day on Sundays, Mondays, Wednesdays, Thursdays, and Fridays, and approximately 57 Producers Dairy trucks would cross H Street per day on Tuesdays and Saturdays. This high volume of truck crossings would result in public safety hazards. Because the high volume of truck crossings would result in public safety hazards, not closing H Street is not a feasible mitigation measure and the impact will remain significant and unavoidable.

With mitigation measures included in Section 3.8, impacts related to the circulation system (including transit, roadway, bicycle, and pedestrian facilities), transportation hazards, and emergency access would be less than significant.

Similar to the project, the No H Street Closure Alternative would result in a decrease of approximately 58 truck miles traveled per day due to the reduction in staging and other trips required for Producers Dairy trucks as a result of the new, more centrally-located parking lot. However, because H Street would not be closed under this alternative, the non-Producer Dairy-related automobile circulation would not change. As a result, the increase in daily automobile VMT by approximately 1,205 VMT, which nearly all of the operational emissions associated with the proposed project would be associated with, would not occur under this alternative. Similarly, the additional 2,154 automobile VMT on a typical day under cumulative conditions for the proposed project would not occur under this alternative. Additionally, because H Street would not be closed under this alternative, additional mitigation may be required in order to ensure impacts related to the circulation system (including transit, roadway, bicycle, and pedestrian facilities), transportation hazards, and emergency access would be less than significant. For example, mitigation to address potential public safety hazards associated with the high volume of Producers Dairy trucks crossing H Street may be warranted. Overall, under the No H Street Closure Alternative, the No H Street Closure Alternative would have a reduced traffic impact when compared to the proposed project. The significant and unavoidable impact related to VMT under the proposed project would not occur under this alternative.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project (No Build) Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts when compared to the proposed Project.

As Table 5.0-1 presents a comparison of the alternative project impacts with those of the proposed project. As shown in the table, the No Project (No Build) Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. The No H Street Closure Alternative would result in less impact than the proposed project for the following environmental issues: air quality; GHG, climate change, and energy; noise; and transportation and circulation. However, neither the No Project (No Build) Alternative nor the No H Street Closure Alternative fully meet all of the project objectives.

TABLE 5.0-1: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED PROJECT

ENVIRONMENTAL ISSUE	*NO PROJECT (NO BUILD) ALTERNATIVE*	*NO H STREET CLOSURE ALTERNATIVE*
Aesthetics and Visual Resources	Less (Best)	Equal (2nd Best)
Air Quality	Less (Best)	Less (2nd Best)
Cultural and Tribal Resources	Less (Best)	Equal (2nd Best)
Geology and Soils	Less (Best)	Equal (2nd Best)
Greenhouse Gases, Climate Change and Energy	Less (Best)	Less (2nd Best)
Hazards and Hazardous Materials	Less (Best)	Equal (2nd Best)
Noise	Less (Best)	Less (2nd Best)
Transportation and Circulation	Less (Best)	Less (2nd Best)

GREATER = GREATER IMPACT THAN THAT OF THE PROPOSED PROJECT
LESS = LESS IMPACT THAN THAT OF THE PROPOSED PROJECT
EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE PROPOSED PROJECT

5.4 COMPARATIVE EVALUATION OF THE PROJECT AND ALTERNATIVES TO SATISFY PROJECT OBJECTIVES

This section examines how each of the alternatives selected for more detailed analysis meets the project objectives.

1. *Reduce vehicle-miles-traveled and fuel usage associated with onsite and near-vicinity truck movements.*

The No Project (No Build) Alternative would not satisfy this project objective because under this alternative, the parking and circulation of Producers Dairy trucks and other automobiles would remain in its existing condition. Because H Street would not be closed and the proposed parking lot would not be constructed, the No Project (No Build) Alternative would not result in a decrease of Producers Dairy truck miles traveled per day. This alternative would also not result in an increase in automobile VMT. Because the Producers Dairy truck miles traveled per day would not decrease under this alternative, the fuel usage would also not decrease.

The No H Street Closure Alternative would meet this objective because this alternative would reduce Producers Dairy truck miles traveled per day, but to a lesser extent than the proposed project as a result of H Street remaining open. Construction of the truck parking lot under this alternative would result in reduced turning movements and miles traveled for Producers Dairy trucks as the trucks would not have to make longer trips to find parking elsewhere, such as the cheese plant property. The reductions in onsite and near-vicinity truck movements would result in a reduction in fuel usage as well. It is noted, however, that if H Street were to remain open, it could result in notable public safety hazards associated with high volumes of trucks crossing H Street from the new parking area to the main plant.

2. *Reduce number of trailer movements in and around main plant.*

The No Project (No Build) Alternative would not satisfy this project objective because under this alternative, the parking and circulation of Producers Dairy trucks and other automobiles would remain in its existing condition. As such, the trailer movements in and around the plant would not change or be reduced.

The No H Street Closure Alternative would meet this objective because this alternative would reduce the number of turning movements in and around the main plant as a result of the truck parking lot construction, but to a lesser extent than the proposed project as a result of H Street remaining open. Additionally, although this alternative would reduce the number of turning movements in an around the main plant, the high volume of trucks crossing H Street under this alternative would result in public safety hazards. As noted above, construction of the truck parking lot under this alternative would result in reduced turning movements and miles traveled for Producers Dairy trucks as the trucks would not have to make longer trips to find parking elsewhere, such as the cheese plant property.

3. *Provide/secure additional trailer parking in close proximity to main operating plant facility.*

The No Project (No Build) Alternative would not satisfy this project objective because under this alternative, an additional trailer parking area in close proximity to the main operating plant facility would not be constructed. Trailer parking would not change from the existing condition.

The No H Street Closure Alternative would meet this objective because the alternative would include construction of a secure additional trailer parking lot identical to the project.

4. *Consolidate truck/trailer parking for efficiency and security improvements associated with truck/trailer storage.*

As noted above, the No Project (No Build) Alternative would not satisfy this project objective because under this alternative, truck and trailer parking would not be consolidated because truck/trailer storage would not be constructed.

The No H Street Closure Alternative would meet this objective because the alternative would include construction of a parking lot identical to the project. The parking lot that would be constructed under this alternative would result in consolidation of parking.

5. *Reduce public safety impacts associated with damaged and dilapidated buildings that currently pose a nuisance.*

The No Project (No Build) Alternative would not satisfy this project objective because under this alternative, no buildings would be demolished. The damaged and dilapidated buildings located in the Demolition and Grading Project Area would remain under this alternative and would continue to pose a nuisance.

The No H Street Closure Alternative would meet this objective because the damaged and dilapidated buildings located in the Demolition and Grading Project Area would be demolished to build the truck parking lot. Through demolition of the structures, the public safety and nuisance impacts would be reduced. However, as noted above, although this alternative would reduce the number of turning movements in an around the main plant, the high volume of trucks crossing H Street under this alternative would result in public safety hazards. While this alternative would remove the public safety hazards associated with the buildings located in the Demolition and Grading Project Area, this alternative would introduce new public safety hazards as a result of H Street remaining open.

6. *Improve air quality and carbon footprint/greenhouse gas (GHG) emissions via reduced truck movements and idling times.*

The No Project (No Build) Alternative would not satisfy this project objective because under this alternative, the parking and circulation of Producers Dairy trucks and other automobiles would remain in its existing condition. Because H Street would not be closed and the proposed parking lot would not be constructed, the No Project (No Build) Alternative would not result in a decrease of Producers Dairy truck miles traveled per day or truck idling times. As such, air quality and carbon footprint/GHG emissions would not be improved.

The No H Street Closure Alternative would meet this objective because this alternative would reduce Producers Dairy truck miles traveled per day and idling times; however, this alternative would meet this objective to a greater extent than the proposed project. The reduction in truck miles traveled and idling times under this alternative would result in improvements to air quality and GHG emissions. As noted previously, construction of the truck parking lot under this alternative would result in reduced turning movements and miles traveled for Producers Dairy trucks as the trucks would not have to make longer trips to find parking elsewhere, such as the cheese plant property. The reductions in onsite and near-vicinity truck movements would result in a reduction in fuel usage, which would in turn reduce air quality and GHG emissions. Because the No H Street Closure Alternative would not close H Street, the automobile VMT increase associated with the proposed project would not occur. The air quality and GHG emissions associated with increased automobile VMT under the proposed project would not occur under this alternative.

7. *Remove truck/trailer parking and truck/trailer movements at cheese plant property and its immediate vicinity of the surrounding residential neighborhood.*

The No Project (No Build) Alternative would not satisfy this project objective because under this alternative, the cheese plant property would continue to be used for Producers Dairy parking, and the truck and trailer movements would remain unchanged. As such, truck/trailer parking and truck/trailer movements at the cheese plant property and the vicinity would not be removed.

The No H Street Closure Alternative would meet this objective because, similar to the proposed project, the cheese plant property (located at 450 E. Belmont Avenue) would not be used for truck or trailer parking once the parking lot is constructed under this alternative. This would result in a reduction in turning movements and parking at the cheese plant property and surrounding residential areas. However, this alternative may meet this objective to a greater extent than the proposed project because the automobile VMT increase under the proposed project, which would occur in the surrounding residential neighborhoods and streets as a result of the H Street closure, would not occur.

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PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

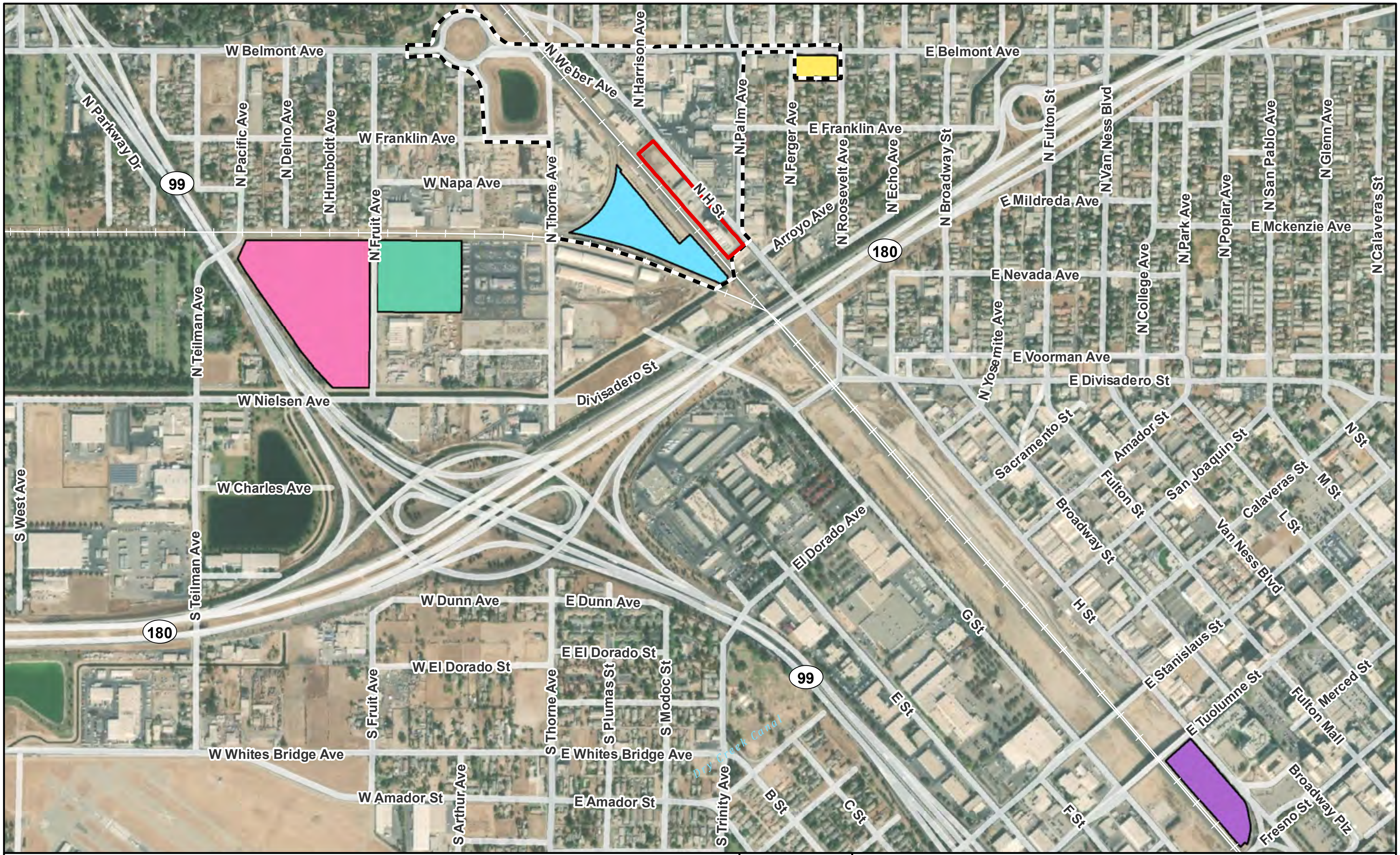

Figure 5.0-1. Alternative Locations Not Selected for Further Analysis

Legend

🟥 The Demolition and Grading Project Area
▨ The Truck Movement Project Area

Alternative Locations

🟩 294 N. Fruit Ave
🟦 302 N. Thorne Ave
🟪 H Street Location
🟥 295 N. Fruit Ave
🟨 450 E. Belmont Ave

Sources: Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: July 23, 2020.

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De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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REPORT PREPARERS AND CONTRIBUTORS 6.0

REPORT PREPARERS

City of Fresno

Phillip Siegrist	Planner III

De Novo Planning Group

Ben Ritchie	Principal
Elise Carroll	Senior Planner
Josh Smith	Associate Planner
Jeff Setterlund	Assistant Planner
Zach Dahla	Associate Planner

Kittelson & Associates – Traffic Consultant

Aaron Elias	Principal Engineer
Mike Aronson	Principal Engineer
Claire Casey	Transportation Analyst

JC Brennan & Associates – Noise Consultant

Jim Brennan, INCE Bd. Cert.	President

Leon Environmental Services – Hazardous Materials Consultant

Richard Leon	Certified Asbestos Consultant

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APPENDIX A

Initial Study, Notice of Preparation, and Comments

INITIAL STUDY / NOTICE OF PREPARATION

FOR THE

PRODUCERS DAIRY PROJECT

JANUARY 2020

Prepared for:

City of Fresno
Planning and Development Department
2600 Fresno Street, Room 3043
Fresno, CA 93721

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 949-3231

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

INITIAL STUDY / NOTICE OF PREPARATION

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El Dorado Hills, CA 95762
(916) 949-3231

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT AND SCOPING MEETING

DATE:	January 22, 2020
TO:	State Clearinghouse State Responsible Agencies State Trustee Agencies Other Public Agencies Organizations and Interested Persons
SUBJECT:	Notice of Preparation of an Environmental Impact Report and Scoping Meeting for the Producers Dairy Project
LEAD AGENCY:	City of Fresno, Planning and Development Department 2600 Fresno Street, Room 3043 Fresno, CA 93721 (559) 621-8181
PROJECT PLANNER:	Rodney Horton rodney.horton@fresno.gov (559) 621-8181

PURPOSE OF NOTICE

This is to notify public agencies and the general public that the City of Fresno, as the Lead Agency, will prepare an Environmental Impact Report (EIR) for the Producers Dairy Project. The City of Fresno is interested in the input and/or comments of public agencies and the public as to the scope and content of the environmental information that is germane to the agencies' statutory responsibilities in connection with the proposed project, and public input. Responsible/trustee agencies will need to use the EIR prepared by the City of Fresno when considering applicable permits, or other approvals for the proposed project.

COMMENT PERIOD

Consistent with the time limits mandated by State law, your input, comments or responses must be received in writing and sent at the earliest possible date, but not later than 5:00 PM, February 20, 2020.

Please send your comments/input (including the name for a contact person in your agency) to: Attn: Rodney Horton at the City of Fresno, 2600 Fresno Street, Room 3043, Fresno, CA 93721; or by e-mail to rodney.horton@fresno.gov.

SCOPING MEETING

On February 3, 2020, the City of Fresno will conduct a public scoping meeting to solicit input and comments from public agencies and the general public on the proposed project and scope of the EIR. This meeting will be held at Fresno City Hall, Council Chambers located at 2600 Fresno Street, Fresno, CA 93721, from 5:00 PM to 6:00 PM.

Representatives from the City of Fresno and the EIR consultant will be available to address questions regarding the EIR process and scope. Members of the public may provide written comments throughout the meeting.

If you have any questions regarding the scoping meeting, contact Rodney Horton, Project Planner, at (559) 621-8181 or Rodney.Horton@fresno.gov.

PROJECT LOCATION

The Producers Dairy project site (project site) is located at 250 E. Belmont Avenue in Fresno, California. There are two aspects of the project location that are addressed in the environmental document:

1. The Truck Movement Project Area; and
2. The Demolition and Grading Project Area.

The Truck Movement Project Area includes the Demolition and Grading Project Area (discussed below), the Producers Dairy Main Plant (discussed below), the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks.

The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks.

Producers Dairy Foods currently operates at multiple locations within the greater Truck Movement Parking Area. The existing operations include the Main Plant, which includes processing facilities, blow mold and storage areas, executive offices, product loading, dry storage, bottling and processing, order processing, and truck maintenance. Existing operations also occur at the ice cream warehouse, which is located southwest of the Main Plant. Producers also operates at the old cheese plant property, which is no longer operational as a cheese production facility, but is currently used for trailer storage as part of daily operations.

The vast majority of the existing operations and facilities are located in the area southwest of the Palm Avenue and Belmont Avenue intersection (the Main Plant); however, the ice cream warehouse is located west of H Street and north and west of the Southern Pacific Railroad, and the cheese plant property is located at the southwest corner of the N. Roosevelt Avenue and Belmont Avenue intersection. Existing circulation patterns currently connect the ice cream warehouse and cheese plant property to the other buildings listed previously (located southwest of the Palm Avenue and Belmont Avenue intersection). The elevation of the site ranges from approximately 288 feet to 300 feet above mean sea level (MSL). Surrounding land uses include existing warehouse distribution and other industrial uses to the east, west, and south, and residential land uses to the east.

PROJECT DESCRIPTION

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- grading and new paved parking lot for diesel milk trucks; and
- closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

Approximately 3.69 acres (or 160,865 square feet) of land currently developed with a range of old, abandoned feed mill and silos would be paved. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years with extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut to keep out trespassers and control the vandalism of the buildings.

Some portions of H Street between the railroad tracks would be used for truck parking and represents new pavement.

No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The proposed project includes the demolition of existing structures between H Street and the UPRR tracks, which would be replaced with a new consolidated truck and trailer parking area, as described above. This new parking area would allow the project applicant to change their existing truck movement patterns in and around their facilities.

PROJECT ENTITLEMENTS AND OTHER APPROVALS

The City of Fresno will be the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050. Actions that would be required from the City include, but are not limited to the following:

- Demolition, grading, and other permits as necessary for project construction;
- Approval of a Development Permit Application with the City's Planning and Development Department;
- Approval of a Street Vacation Application with the City's Public Works Department;
- Abandonment and relinquishment of H Street and the associated right-of-way;

- Adoption of the Environmental Impact Report (EIR); and
- Adoption of the Mitigation Monitoring and Reporting Program (MMRP).

The following agencies may be required to issue permits or approve certain aspects of the proposed project:

- Regional Water Quality Control Board (RWQCB) – Construction activities would be required to be covered under the National Pollution Discharge Elimination System (NPDES);
- RWQCB – The Storm Water Pollution Prevention Plan (SWPPP) would be required to be approved prior to construction activities pursuant to the Clean Water Act;
- San Joaquin Valley Air Pollution Control District (SJVAPCD) – Construction (grading) activities would be subject to the SJVAPCD permits, codes, and requirements. Demolition activities would also be subject to the SJVAPCD Asbestos Program requirements (including, but not limited to, compliance with SJVAPCD Rule 4002).

INITIAL STUDY

An Initial Study has been prepared for this project. The Initial Study identifies environmental areas/issues that would result in No Impact or a Less than Significant Impact, and environmental areas/issues that would result in a Potentially Significant Impact. All Potentially Significant Impact areas/issues will be addressed in greater detail in the Draft EIR. Areas/issues that would result in No Impact or a Less than Significant Impact, as identified in the Initial Study, will not be addressed further in the Draft EIR.

AREAS OF POTENTIAL IMPACTS

The Draft EIR will examine some of the environmental areas contained in Appendix G of the State CEQA Guidelines. The topics to be addressed in the Draft EIR include: Aesthetics, Air Quality, Energy, Cultural and Tribal Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Noise, Transportation, Cumulative Impacts, and Growth Inducing Impacts. The content of the Draft EIR will be subject to input received during the NOP comment period.

Si necesita información en Español, comuníquese con Jose Valenzuela al teléfono (559) 621-8070 o por correo electrónico jose.valenzuela@fresno.gov. *Yog xav paub ntxiv, thov hu rau Kao Vang ntawm (559) 621-8058 los yog xav ntawv rau tws email Kao.Vang@fresno.gov.*

Date: 1-17-2020

Signature:

Name/Title: Rodney Horton, Planner III

Phone/Email: 559-621-8181 rodney.horton@fresno.gov

TABLE OF CONTENTS

INITIAL STUDY CHECKLIST

PROJECT TITLE

Producers Dairy

LEAD AGENCY

City of Fresno
Planning and Development Department
2600 Fresno Street, Room 3043
Fresno, CA 93721

LEAD AGENCY CONTACT

Rodney Horton, Planner III
City of Fresno
Planning and Development Department
2600 Fresno Street, Room 3043
Fresno, CA 93721
Rodney.Horton@fresno.gov
(559) 621-8181

PROJECT SPONSOR

Producers Dairy Foods
250 E. Belmont Avenue
Fresno, CA 93701

PROJECT LOCATION AND SETTING

The Producers Dairy project site (project site) is located at 250 E. Belmont Avenue in Fresno, California (Figures 1 and 2 on pages 9 and 11, respectively). There are two aspects of the project location that are addressed in this environmental document:

1. The Truck Movement Project Area; and
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The Truck Movement Project Area includes the Demolition and Grading Project Area (discussed below), the Producers Dairy Main Plant (discussed below), the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks.

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PROJECT BACKGROUND

In 2014, Producers Dairy Foods leased property at 302 N. Thorne Avenue. The California High Speed Rail Project required taking a large portion of the project site that was being used to park trailers. Because Producers Dairy Foods wasn’t the property owner, the eminent domain process went directly with the property owner. The California High Speed Rail Authority (CHSRA) initially helped to try to accommodate Producers Dairy Foods’ needs by finding or providing temporary lots where its trailers could be parked. Temporary lots were then made available at 1762 G Street and at 1399 H Street (Boxcar Lot) for Producers Dairy Foods to park its trailers.

Security and cost issues arose along with the new temporary lots. As a result, Producers Dairy Foods consolidated its operations around the remaining available space among its properties at 250 E. Belmont Avenue, 450 E. Belmont Avenue (the cheese plant property), and 302 N. Thorne Avenue. On occasion, CHSRA has continued to make the Boxcar Lot available due to temporary needs (i.e., resurfacing the cheese plant property which was damaged due to heavy winter rains).

In search for a more permanent solution to the lost parking that resulted from the California High Speed Rail Project taking via eminent domain, Producers Dairy Foods pursued a project to tear down abandoned buildings at the cheese plant property to expand available trailer parking in 2016. However, the project was tabled in 2018 and sent to the Fresno Mayor’s office for further discussions in order to explore other alternatives.

Since 2018, some alternative sites have been explored and Producers Dairy Foods made an offer on a potential property (295 Fruit Avenue). However, no deal was made. The owners of the mill property site (located at 315 N. H Street) were contacted and expressed interest in a potential sale to the applicant. Currently, the property is in escrow and a sale is pending to close and relinquish portions of H Street (i.e., if H Street cannot be closed such that Producers Dairy Foods can essentially consolidate and improve the efficiency of its operations, then the pending sale can be canceled; however, if this effort is ultimately successful, then the deal can close).

PROJECT DESCRIPTION

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- grading and new paved parking lot for diesel milk trucks; and
- closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

Approximately 3.69 acres (or 160,865 square feet) of land currently developed with a range of old, abandoned feed mill and silos would be paved. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years with extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut to keep out trespassers and control the vandalism of the buildings.

Some portions of H Street between the railroad tracks would be used for truck parking and represents new pavement.

OPERATIONS

No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The proposed project includes the demolition of existing structures between H Street and the UPRR tracks, which would be replaced with a new consolidated truck and trailer parking area, as described above. This new parking area would allow the project applicant to change their existing truck movement patterns in and around their facilities, as described in greater detail below.

CIRCULATION, TRANSPORTATION, AND PARKING

The existing routes and turning movements are shown in Figure 4 on page 15, and the proposed routes and movements are shown in Figure 5 on page 17. Generally, existing routes connect the cheese plant property and ice cream warehouse to the main operations (located in the area southwest of the Palm Avenue and Belmont Avenue intersection). Trucks currently travel along Belmont Avenue, over the railroad tracks, through the roundabout at Belmont Avenue / Wesley Avenue / Motel Drive, and along Wesley Avenue, Franklin Avenue, and Thorn Avenue. The proposed project would consolidate the routes and turning movements, as shown in Figure 5 on page 17.

Ample truck parking would be provided in the newly paved area along H Street once the structures in this area are demolished. As noted above, portions of H Street between Belmont Avenue and Palm Avenue would be closed and relinquished. A gate would be constructed at the southern portion of H Street, northwest of the Palm Avenue and H Street intersection.

These proposed changes to the existing truck parking and movement patterns would allow the applicant to reduce the total number of truck movements, reduce the number of minutes spent daily on truck movements, and reduce the daily vehicle miles traveled associated with truck movements. The existing trailer movements are shown in Table 1. The proposed trailer movements with the proposed new parking lot area are shown in Table 2.

Table 1: Existing Trailer Movements Per Day

Movement	***Trailers Moved (Number)***	***Travel Time (Minutes)***	***Travel Distance (Miles)***
Sunday/Monday/Wednesday/Thursday/Friday			
Main Lot to Ice Cream Warehouse	43	324	47
Main Lot to Cheese Plant Property	64	340	44
Main Lot to Other Facilities	200	856	55
Totals	*307*	*1,520*	*146*
Tuesday/Saturday			
Main Lot to Ice Cream Warehouse	22	166	24
Main Lot to Cheese Plant Property	43	229	30
Main Lot to Other Facilities	134	548	31
Totals	*199*	*943*	*85*

NOTE: THIS AUDIT WAS COMPLETED BY THE PROJECT APPLICANT IN JUNE 2019. THE AUDIT IS BASED ON THE MOVEMENTS OF 388 LOADED TRAILERS.
SOURCE: PRODUCERS DAIRY FOODS, JUNE 2019.

Table 2: Proposed Trailer Movements Per Day With New Parking Lot

Movement	***Trailers Moved (Number)***	***Travel Time (Minutes)***	***Travel Distance (Miles)***
Sunday/Monday/Wednesday/Thursday/Friday			
Main Lot to Ice Cream Warehouse	8	60	9
Main Lot to Cheese Plant Property	99	297	11
Main Lot to Other Facilities	200	841	59
Totals	*307*	*1,198*	*79*
Tuesday/Saturday			
Main Lot to Ice Cream Warehouse	8	60	9
Main Lot to Cheese Plant Property	57	171	6
Main Lot to Other Facilities	134	45	38
Totals	*199*	*726*	*53*

SOURCE: PRODUCERS DAIRY FOODS, JUNE 2019.

As shown in Tables 1 and 2, the number of trailers moved per day would not change from the existing condition to the proposed condition. On Sundays, Mondays, Wednesdays, Thursdays, and Fridays, the number of trailers moved would remain the same (307 trailers), and the number of trailers moved per day on Tuesdays and Saturdays would also remain the same (199 trailers). However, as shown, the travel times and travel distances during all days would decrease as a result of the project.

As shown in Table 1, the existing operations result in 1,520 total minutes of travel time associated with trailer movements around and between the various facilities and parking areas on Sundays, Mondays, Wednesdays, Thursdays, and Fridays. As shown in Table 2, the travel time associated with trailer movements during these days would decrease to 1,198 total minutes. The project would result in a decrease of travel time during these days by 322 minutes (or five hours and 22 minutes). Similarly, the travel time on Tuesdays and Saturdays would also decrease by 217 minutes (or three hours and 37 minutes).

As shown in Table 1, the existing operations result in 146 total miles of travel on Sundays, Mondays, Wednesdays, Thursdays, and Fridays. As shown in Table 2, the travel distances during these days would decrease to 79 total miles. The project would result in a decrease of travel distance during these days by 67 miles. Similarly, the travel distance on Tuesdays and Saturdays would also decrease by 32 miles.

These travel times and distances represent minutes and miles traveled in and around the Main Plant, the ice cream warehouse, and the old cheese plant property, all of which are located within the area demarcated as the Truck Movement Project Area, as shown on Figure 3 on page 13. These numbers do not represent total miles or minutes of travels associated with deliveries throughout the region, once the trucks and trailers leave the Truck Movement Project Area.

As noted previously, the proposed project would not result in any operational increases nor expansions that would lead to increased production or deliveries above existing conditions.

UTILITIES

The proposed project is currently served by existing City infrastructure. Upon development of the project site, the project would continue to be served by the City.

The project would be served by the following existing service providers:

- City of Fresno for water;
- City of Fresno for wastewater collection and treatment;
- City of Fresno for stormwater collection;
- Pacific Gas and Electric Company for gas and electricity.

GENERAL PLAN AND ZONING

As shown in Figure 6 on page 19, the Demolition and Grading Project Area is designated as Employment – Light Industrial by the City's General Plan Land Use Map and is zoned as Light Industrial (IL). The Truck Movement Project Area includes various land use and zoning designations on-site and in the immediate vicinity. The land use designations in and adjacent to the Truck Movement Project Area include: Open Space – Park; Residential – Medium Density; Neighborhood Mixed Use; Employment – Heavy Industrial; Employment – Light Industrial; Commercial – Main Street; and Commercial – General. The zoning designations in and adjacent to the Truck Movement Project Area include: Park and Recreation (PR); Residential Single-Family, Medium Density (RS-5); Neighborhood Mixed Use (NMX); Heavy Industrial (IH); IL; Commercial Main Street (CMS); and Commercial General (CG).

The existing and proposed project uses are permitted within the existing General Plan land use and Zoning districts. As such, a General Plan Amendment and/or rezone would not be required for the project.

REQUESTED ENTITLEMENTS AND OTHER APPROVALS

The City of Fresno is the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050.

This document will be used by the City of Fresno to take the following actions:

- Demolition, grading, and other permits as necessary for project construction;
- Approval of a Development Permit Application with the City's Planning and Development Department;
- Approval of a Street Vacation Application with the City's Public Works Department;
- Abandonment and relinquishment of H Street and the associated right-of-way;
- Adoption of the Environmental Impact Report (EIR); and
- Adoption of the Mitigation Monitoring and Reporting Program (MMRP).

The following agencies may be required to issue permits or approve certain aspects of the proposed project:

- Regional Water Quality Control Board (RWQCB) – Construction activities would be required to be covered under the National Pollution Discharge Elimination System (NPDES);
- RWQCB – The Storm Water Pollution Prevention Plan (SWPPP) would be required to be approved prior to construction activities pursuant to the Clean Water Act;
- San Joaquin Valley Air Pollution Control District (SJVAPCD) – Construction (grading) activities would be subject to the SJVAPCD permits, codes, and requirements. Demolition activities would also be subject to the SJVAPCD Asbestos Program requirements (including, but not limited to, compliance with SJVAPCD Rule 4002).

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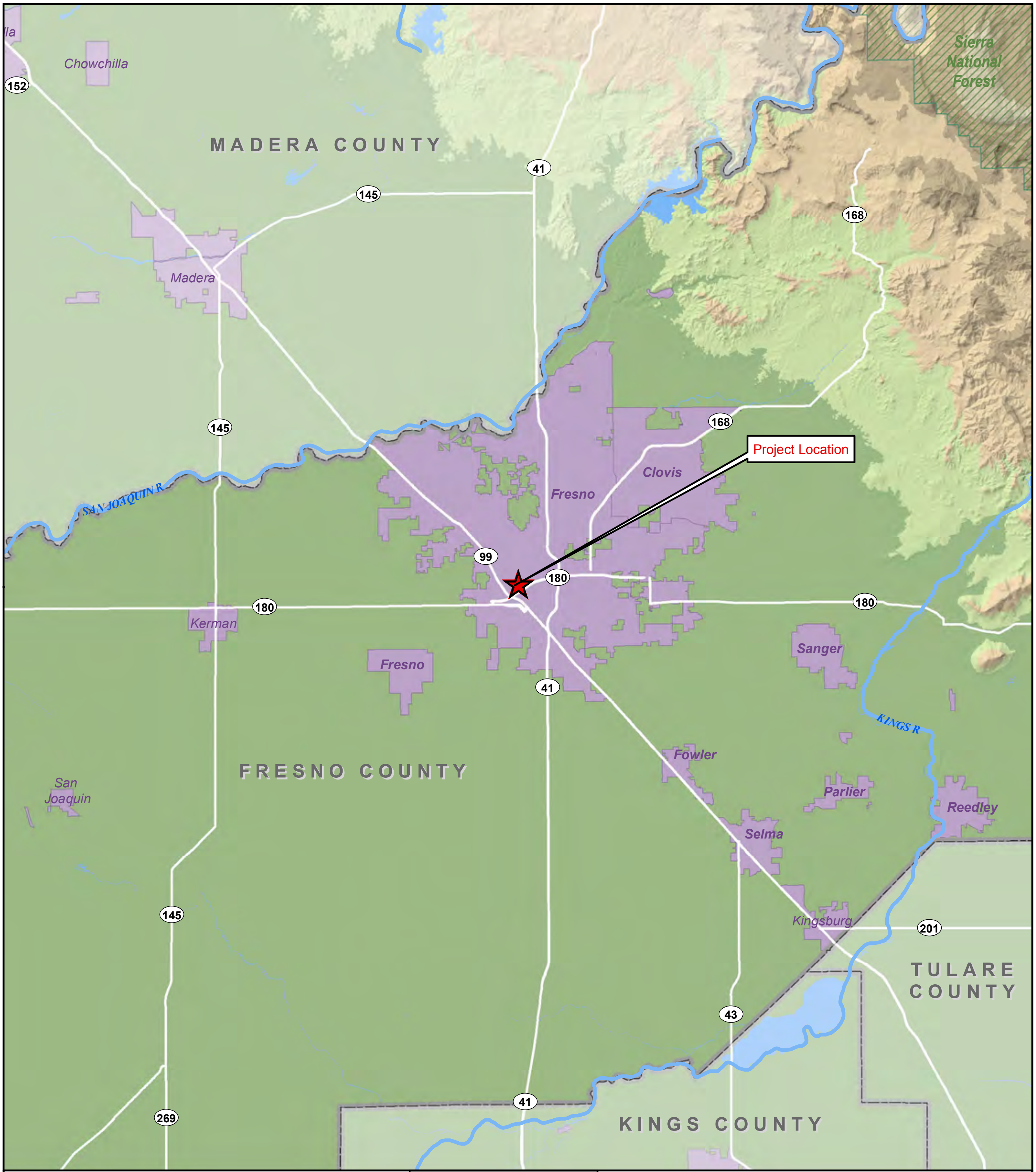


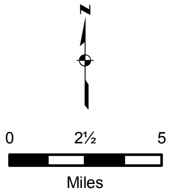
Legend

★ Project Location

▬ ▬ County Boundary

▨ City Area

Sources: CalAtlas; San Joaquin, Stanislaus, Sacramento, Solano, Contra Costa, and Alameda Counties. Map date: November 13, 2019.



PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 1. Regional Location Map

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Legend

- ▭ The Demolition and Grading Project Area
- ⬚ The Truck Movement Project Area
- 🟦 School
- 🟩 Park
- ⬛ Airport
- 🟫 Cemetery

Sources: Fresno County GIS; City of Fresno GIS; CalTrans; Google Maps.
Map date: November 13, 2019.

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PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 2. Vicinity Map

De Novo Planning Group

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Legend

🟥 The Demolition and Grading Project Area

▨ The Truck Movement Project Area

Sources: Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: November 13, 2019.

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PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 3. Aerial View

De Novo Planning Group

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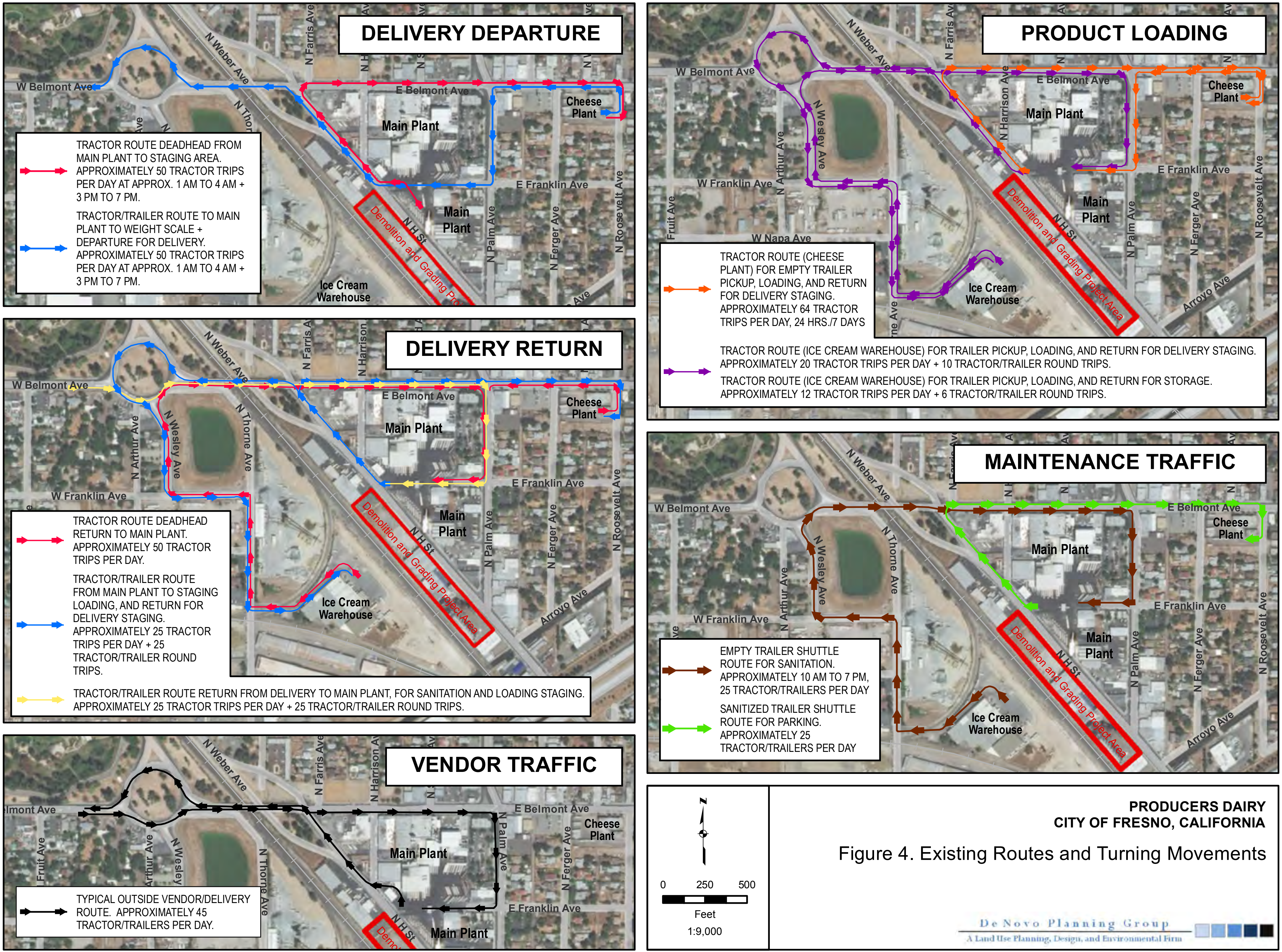

DELIVERY DEPARTURE

TRACTOR ROUTE DEADHEAD FROM MAIN PLANT TO STAGING AREA. APPROXIMATELY 50 TRACTOR TRIPS PER DAY AT APPROX. 1 AM TO 4 AM + 3 PM TO 7 PM.

TRACTOR/TRAILER ROUTE TO MAIN PLANT TO WEIGHT SCALE + DEPARTURE FOR DELIVERY. APPROXIMATELY 50 TRACTOR TRIPS PER DAY AT APPROX. 1 AM TO 4 AM + 3 PM TO 7 PM.

PRODUCT LOADING

TRACTOR ROUTE (CHEESE PLANT) FOR EMPTY TRAILER PICKUP, LOADING, AND RETURN FOR DELIVERY STAGING. APPROXIMATELY 64 TRACTOR TRIPS PER DAY, 24 HRS./7 DAYS

TRACTOR ROUTE (ICE CREAM WAREHOUSE) FOR TRAILER PICKUP, LOADING, AND RETURN FOR DELIVERY STAGING. APPROXIMATELY 20 TRACTOR TRIPS PER DAY + 10 TRACTOR/TRAILER ROUND TRIPS.

TRACTOR ROUTE (ICE CREAM WAREHOUSE) FOR TRAILER PICKUP, LOADING, AND RETURN FOR STORAGE. APPROXIMATELY 12 TRACTOR TRIPS PER DAY + 6 TRACTOR/TRAILER ROUND TRIPS.

DELIVERY RETURN

TRACTOR ROUTE DEADHEAD RETURN TO MAIN PLANT. APPROXIMATELY 50 TRACTOR TRIPS PER DAY.

TRACTOR/TRAILER ROUTE FROM MAIN PLANT TO STAGING LOADING, AND RETURN FOR DELIVERY STAGING. APPROXIMATELY 25 TRACTOR TRIPS PER DAY + 25 TRACTOR/TRAILER ROUND TRIPS.

TRACTOR/TRAILER ROUTE RETURN FROM DELIVERY TO MAIN PLANT, FOR SANITATION AND LOADING STAGING. APPROXIMATELY 25 TRACTOR TRIPS PER DAY + 25 TRACTOR/TRAILER ROUND TRIPS.

MAINTENANCE TRAFFIC

EMPTY TRAILER SHUTTLE ROUTE FOR SANITATION. APPROXIMATELY 10 AM TO 7 PM, 25 TRACTOR/TRAILERS PER DAY

SANITIZED TRAILER SHUTTLE ROUTE FOR PARKING. APPROXIMATELY 25 TRACTOR/TRAILERS PER DAY

VENDOR TRAFFIC

TYPICAL OUTSIDE VENDOR/DELIVERY ROUTE. APPROXIMATELY 45 TRACTOR/TRAILERS PER DAY.

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 4. Existing Routes and Turning Movements

Sources: Fresno County GIS; Jeff Cazaly, Architect. Map date: November 27, 2019.

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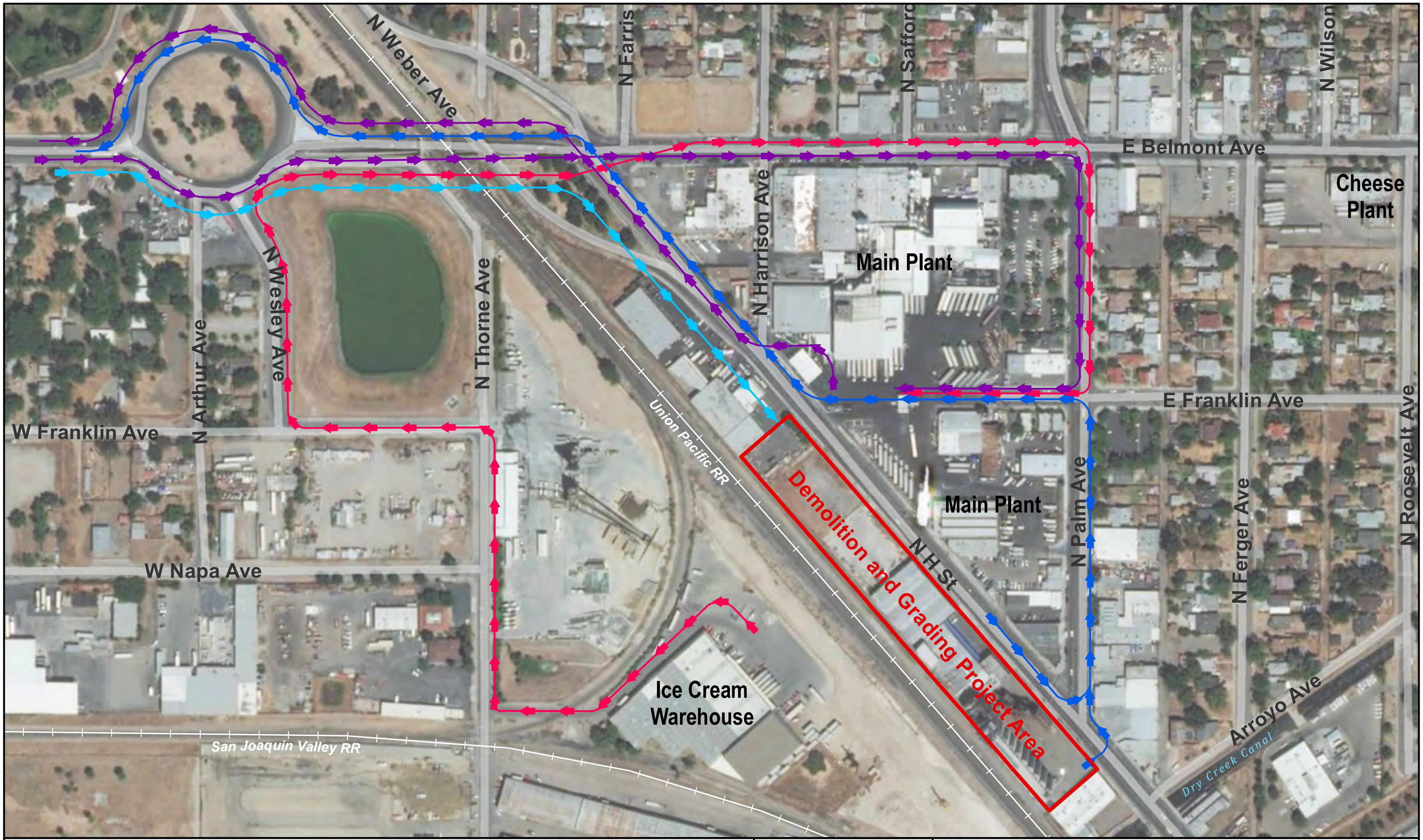

Legend

- 🟥 TRACTOR ROUTE (ICE CREAM WAREHOUSE) FOR TRAILER PICKUP, LOADING, AND RETURN FOR STORAGE. APPROXIMATELY 12 TRACTOR TRIPS PER DAY + 6 TRACTOR/TRAILER ROUND TRIPS.
- 🟦 TRACTOR/TRAILER ROUTE TO MAIN PLANT TO WEIGHT SCALE + DEPARTURE FOR DELIVERY. BELMONT TO HWY 99 NORTH + SOUTH BOUND. APPROXIMATELY 50 TRACTOR TRIPS PER DAY AT APPROX. 1 AM TO 4 AM + 3 PM TO 7 PM.
- 🟦 TRACTOR/TRAILER ROUTE RETURN FROM DELIVERY HWY. 99 TO BELMONT MAIN PLANT, FOR LOADING + STAGING. APPROXIMATELY 50 TRACTOR TRIPS PER DAY.
- 🟪 TYPICAL OUTSIDE VENDER/DELIVERY ROUTE. APPROXIMATELY 45 TRACTOR/TRAILERS PER DAY.

Sources: Jeff Cazaly, Architect; Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: November 27, 2019.

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PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 5. Proposed Routes and Turning Movements

De Novo Planning Group

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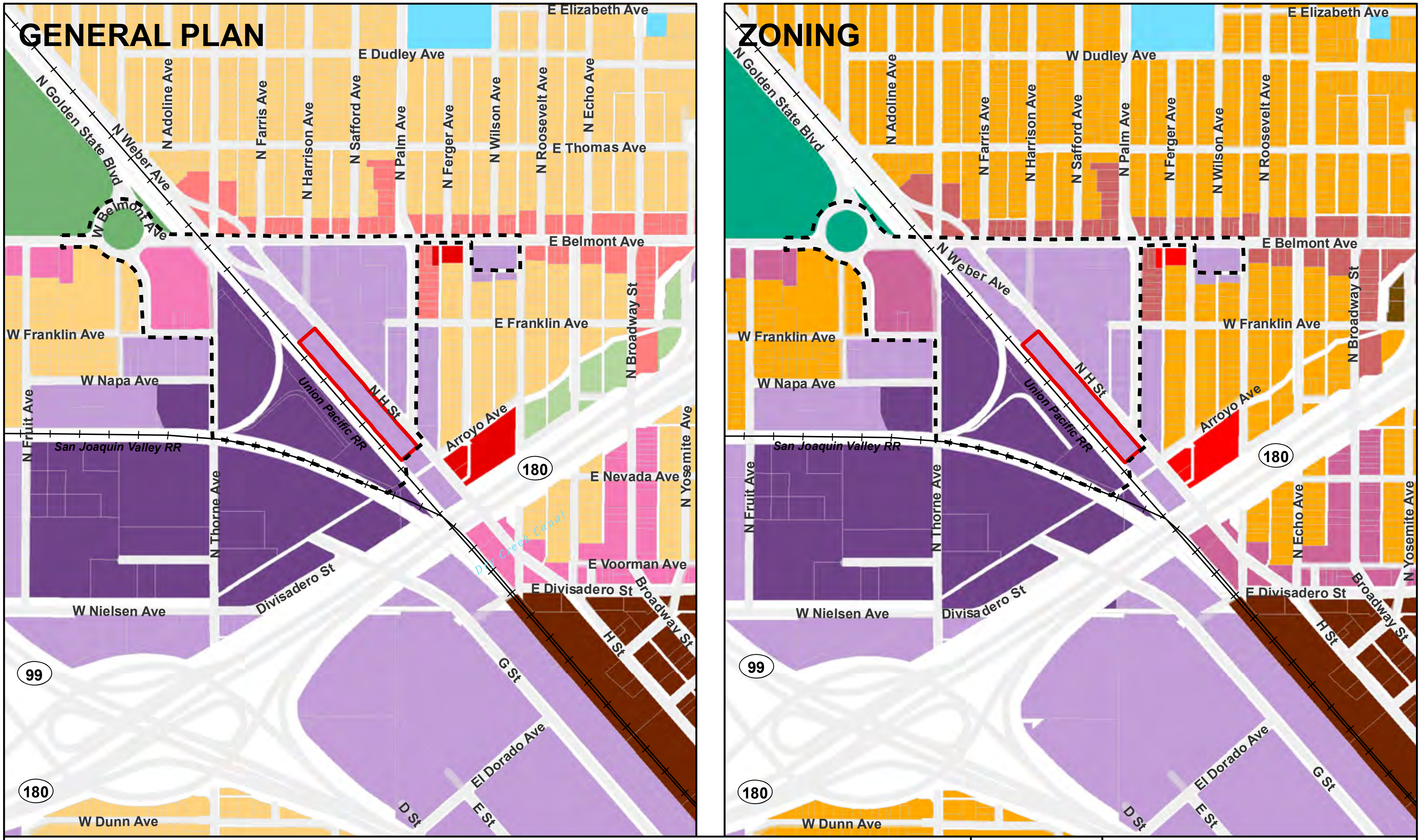

Project Areas

- 🟥 The Demolition and Grading Project Area
- ⬚ The Truck Movement Project Area

General Plan Land Use Designations

- 🟨 Residential - Medium Density
- 🟫 Downtown Neighborhood
- 🟥 Commercial - General
- 🟥 Commercial - Main Street
- 🟪 Employment - Heavy Industrial
- 🟪 Employment - Light Industrial
- 🟪 Neighborhood Mixed-Use
- 🟩 Open Space
- 🟩 Open Space - Park
- 🟦 Public Facility

Zoning Designations

- 🟧 RS-5: Residential Single-Family, Medium Density
- 🟫 RM-3: Residential Multi-Family, High Density
- 🟥 CG: Commercial General
- 🟥 CMS: Commercial Main Street
- 🟫 DTN: Downtown
- 🟪 IL: Light Industrial
- 🟪 IH: Heavy Industrial
- 🟪 NMX: Neighborhood Mixed Use
- 🟦 PI: Public and Institutional
- 🟩 PR: Park and Recreation

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PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 6. General Plan and Zoning Designations

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Sources: Cityof Fresno GIS; Fresno County GIS; CalTrans. Map date: November 13, 2019.

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ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

DETERMINATION

On the basis of this initial evaluation:

	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
X	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

EVALUATION INSTRUCTIONS

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

EVALUATION OF ENVIRONMENTAL IMPACTS

In each area of potential impact listed in this section, there are one or more questions which assess the degree of potential environmental effect. A response is provided to each question using one of the four impact evaluation criteria described below. A discussion of the response is also included.

- Potentially Significant Impact. This response is appropriate when there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries, upon completion of the Initial Study, an EIR is required.
- Less than Significant With Mitigation Incorporated. This response applies when the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact". The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.
- Less than Significant Impact. A less than significant impact is one which is deemed to have little or no adverse effect on the environment. Mitigation measures are, therefore, not necessary, although they may be recommended to further reduce a minor impact.
- No Impact. These issues were either identified as having no impact on the environment, or they are not relevant to the project.

ENVIRONMENTAL CHECKLIST

This section of the Initial Study incorporates the most current Appendix "G" Environmental Checklist Form contained in the CEQA Guidelines. Impact questions and responses are included in both tabular and narrative formats for each of the 21 environmental topic areas.

I. AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Have a substantial adverse effect on a scenic vista?	X			
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with the applicable zoning and other regulations governing scenic quality?	X			
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	X			

Responses to Checklist Questions

Responses a, c, d) The project would include the following components and characteristics:

- demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- grading and new paved parking lot for diesel milk trucks; and
- closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

The project would alter the existing condition of the area that is currently used for operations of the Producers Dairy and introduce new sources of light to the site as a result of the new parking area. A scenic vista is generally described as a clear, expansive public view of significant regional features possessing visual and aesthetic qualities of value to the community. The City's General Plan EIR lists the City's scenic resources and vistas that are considered to be local assets.

It has been determined that the potential impacts on aesthetics caused by the proposed project will require a detailed analysis in the EIR. Consequently, the lead agency will examine the environmental issues listed in the checklist above (a, c, and d) in the EIR and will decide whether the proposed project has the potential to have a significant impact on aesthetics. At this point, a definitive impact conclusion for each of these environmental topics will not be made. Rather, all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will include a visual analysis that presents the methodology, thresholds of significance, a consistency analysis, a cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce any potential impacts on aesthetics. The analysis will look at foreground, middleground, and background views from public vantage points in the project area. The EIR will also compare the proposed project to applicable zoning and other regulations related to scenic qualities.

Response b): There are no scenic highways in the County of Fresno, and the site is not visible from a designated or eligible scenic highway. Therefore, the project would have ***no impact*** related to scenic highways.

II. AGRICULTURE AND FORESTRY RESOURCES

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1222(g)) or timberland (as defined in Public Resources Code section 4526)?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

Responses to Checklist Questions

Response a): The project site and surrounding are designated as Urban and Built-Up Land as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. Therefore, implementation of the proposed project would have a ***no impact*** relative to Important Farmland.

Response b): The project site is not zoned for agricultural use nor is it under a Williamson Act contract. The proposed project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. Implementation of the proposed project would have ***no impact*** relative Williamson Act contracts.

Responses c), d): There are no forest resources or zoning for forest lands located on the project site. This CEQA topic is not relevant to the proposed project and does not require further analysis. Therefore, there would be ***no impact*** regarding the loss of forest or timber resources.

Response e): The project site is currently developed with industrial uses. The lands adjacent to the site contain industrial uses and residential uses. The area surrounding the site is designated as Urban and Built-Up Land as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program. There are no existing agricultural operations in the vicinity of the site.

The proposed project does not involve changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use, or conversion of forest land to non-forest use. Implementation of the proposed project would have a ***no impact*** relative to this issue.

III. AIR QUALITY

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Conflict with or obstruct implementation of the applicable air quality plan?	X			
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	X			
c) Expose sensitive receptors to substantial pollutant concentrations?	X			
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	X			

Existing Setting

The project site is located within the SJVAPCD. This agency is responsible for monitoring air pollution levels and ensuring compliance with federal and state air quality regulations within the San Joaquin Valley Air Basin (SJVAB) and has jurisdiction over most air quality matters within its borders.

The SJVAPCD has primary responsibility for compliance with both the federal and state standards and for ensuring that air quality conditions are maintained. They do this through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues.

Activities of the SJVAPCD include the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, issuance of permits for stationary sources of air pollution, inspection of stationary sources of air pollution and response to citizen complaints, monitoring of ambient air quality and meteorological conditions, and implementation of programs and regulations required by the Federal Clean Air Act and California Clean Air Act.

The SJVAPCD has prepared the *2007 Ozone Plan* to achieve Federal and State standards for improved air quality in the SJVAB regarding ozone. The *2007 Ozone Plan* provides a comprehensive list of regulatory and incentive-based measures to reduce emissions of ozone and particulate matter precursors throughout the SJVAB. The 2007 Ozone Plan calls for major advancements in pollution control technologies for mobile and stationary sources of air pollution. The *2007 Ozone Plan* calls for a 75-percent reduction in ozone-forming oxides of nitrogen emissions.

The SJVAPCD has also prepared the *2007 PM_{10} Maintenance Plan and Request for Redesignation* (2007 PM_{10} Plan). On April 24, 2006, the SJVAPCD submitted a Request for Determination of PM_{10} Attainment for the Basin to the California Air Resources Board (CARB). CARB concurred with the request and submitted the request to the U.S. EPA on May 8, 2006. On October 30, 2006, the EPA issued a Final Rule determining that the Basin had attained the National Ambient Air Quality Standards (NAAQS) for PM_{10}. However, the EPA noted that the Final Rule did not constitute a redesignation to attainment until all of the Federal Clean Air Act requirements under Section 107(d)(3) were met.

The SJVAPCD has prepared the *2008 PM.2.5 Plan* to achieve Federal and State standards for improved air quality in the San Joaquin Valley Air Basin. The *2008 PM.2.5 Plan* provides a comprehensive list of regulatory and incentive-based measures to reduce PM2.5.

In addition to the *2007 Ozone Plan, the 2008 $PM_{2.5}$ Plan,* and the *2007 PM_{10} Plan*, the SJVAPCD prepared the *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI). The GAMAQI is an advisory document that provides Lead Agencies, consultants, and project applicants with analysis guidance and uniform procedures for addressing air quality impacts in environmental documents. Local jurisdictions are not required to utilize the methodology outlined therein. This document describes the criteria that SJVAPCD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for determining whether or not projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. An update of the GAMAQI was approved on March 19, 2015.

Responses to Checklist Questions

Responses a-d): Based on the current air quality conditions in the SJVAB, as well as the proposed circulation modifications and parking lot construction, it has been determined that the potential impacts on air quality caused by the proposed project will require a detailed analysis in the EIR. As such, the lead agency will examine each of the environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact on air quality. At this point, a definitive impact conclusion for each of these environmental topics will not be made. Rather, all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will include an air quality analysis that presents the methodology, thresholds of significance, a consistency analysis, a cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce any potential impacts on air quality. The project may result in toxic air contaminants, short-term construction-related emissions, and long-term operational emissions, primarily attributable to emissions from vehicle trips and from energy consumption by the industrial uses. The air quality analysis will include the following:

- A description of regional and local air quality as well meteorological conditions that could affect air pollutant dispersal or transport in the vicinity of the project site. Applicable air quality regulatory framework, standards, and significance thresholds will be discussed.
- An analysis of the proposed project's potential to conflict with or obstruct implementation of SJVAPCD's 2015 GAMAQI, and any other applicable air quality plans.
- An analysis of the SJVAPCD Rules and Regulations that are applicable to the proposed project.
- Short-term (i.e., construction) increases in regional criteria air pollutants will be quantitatively assessed. The latest version of the CARB-approved California Emissions Estimator Model (CalEEMod) computer model will be used to estimate regional mobile source and particulate matter emissions associated with the construction of the proposed project.
- Long-term (i.e., operational) increases in regional criteria air pollutants will be quantitatively assessed for area source, mobile sources, and stationary sources. The CARB-approved CalEEMod computer model will be used to estimate emissions associated

with the proposed project. Modeling will be provided for the worst-case proposed project land use scenario.

- Exposure to odorous or toxic air contaminants during the project's operational phase will be assessed through an air toxics health risk assessment, utilizing AERMOD and HARP-2 risk modeling software, following guidance as provided by the SJVAPCD and the CARB. Incremental cancer risk for residents and workers, and chronic and acute hazards will be assessed.
- Local mobile-source (carbon monoxide) (CO) concentrations will be assessed through a CO screening method as recommended by the SJVAPCD. If the screening method indicates that modeling is necessary, upon review of the traffic analysis, CO concentrations will be modeled using the California Department of Transportation (Caltrans)-approved CALINE4 computer model.
- The potential for the proposed project to generate objectionable odors on neighboring sensitive receptors will be assessed qualitatively following CARB recommendations.

IV. BIOLOGICAL RESOURCES

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?			X	
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			X	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?			X	

Responses to Checklist Questions

Response a): As discussed previously, there are two aspects of the project location that are addressed in this environmental document:

1. The Truck Movement Project Area; and
2. The Demolition and Grading Project Area.

The Truck Movement Project Area includes the Demolition and Grading Project Area, the Producers Dairy Main Plant, the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. No improvements or site disturbance would occur within the Truck Movement Project Area.

The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks, as shown in Figure 3 on page 13. As part of the project, the structures within the Demolition and Grading Project Area would be demolished and a new paved parking lot would be developed. The proposed project site disturbance is limited to the Demolition and Grading Project Area and some portion of H Street between the railroad tracks. Approximately 3.69 acres (or 160,865 square feet) of land currently developed with a range of old, abandoned feed mill and silos would be paved. Some portions of H Street between the railroad tracks would be used for truck parking and represents new pavement. These portions of H Street to be paved are currently developed and do not provide any habitat for special-status species.

The Demolition and Grading Project Area contains limited habitat for special-status species. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The warehouse buildings are 75 to 90 years old and could provide limited habitat for some special-status bat species. Additionally, the five on-site trees along H Street in the Demolition and Grading Project Area may provide limited habitat for bird species. A complete discussion is included below.

Special Status Bird Species

Special-status birds that are documented in the CNDDB within the 9-quadrangle search radius of the project site include: black-crowned night heron (*Nycticorax nycticorax*), burrowing owl (*Athene cunicularia*), California horned lark (*Eremophila alpestris actia*), double-crested cormorant (*Phalacrocorax auratus*), great egret (*Ardea alba*), Least Bell's vireo (*Vireo bellii pusillus*), snowy egret (*Egretta thula*), Swainson's hawk (*Buteo swainsoni*), tricolored blackbird (*Agelaius tricolor),* and western yellow-billed cuckoo (*Coccyzus americanus occidentalis)*. The project site may provide very limited habitat opportunities for some of these special-status birds, including some of those listed above. Potential nesting habitat is present in the five trees located in the Demolition and Grading Project Area near the corner of H Street and E. Franklin Avenue. In general, most nesting occurs from late February and early March through late July and early August, depending on various environmental conditions. There is no foraging habitat on the project site.

New sources of noise and light during the construction and operational phases of the project could adversely affect nesters if they located adjacent to the project site. Measure BIO-1 requires avoidance of the nesting season if possible. If construction cannot avoid the nesting season, a pre-construction survey would be conducted. Mitigation Measure BIO-1 is consistent with Measure BIO-4 of the City's General Plan Master EIR. Implementation of the proposed project, with Mitigation Measure BIO-1, would ensure that potential impacts to special status birds are reduced.

Special Status Bat Species

Special-status bats that are documented within the 9-quadrangle search radius of the project site include: hoary bat (*Lasiurus cinereus*), pallid bat (*Antrozous pallidus*), and western mastiff bat (*Eumops perotis californicus*). Hoary bats prefer open habitats or habitat mosaics with access to trees for cover and open areas or habitat edges for feeding. This bat species roosts in dense foliage of medium to large trees, feeds primarily on moths, and requires water. The project site, including the structures within the Demolition and Grading Project Area which would be demolished as part of the project, is not suitable for this species. Pallid bats require deserts, grasslands, shrublands, woodlands and forests for habitat. This bat species is most common in open, dry habitats with rocky areas for roosting. Pallid bats are very sensitive to disturbance of roosting sites. The project site, including the structures within the Demolition and Grading Project Area which would be demolished as part of the project, is not suitable for this species. Western mastiff bats require day roosts in crevices of cliffs and rocky canyons as well as trees. Roost areas for this bat species need to be elevated and have a two meter drop off for take off area. This bat species can live in chaparral, costal and desert shrubs, and forests and wetland habitats. The project site, including the structures within the Demolition and Grading Project Area which would be demolished as part of the project, is not suitable for this species.

Conclusion

No special-status bat species would be affected by the proposed project as the on-site buildings which would be demolished as part of the project are not considered suitable habitat. There is limited nesting habitat located in the on-site trees along H Street in the Demolition and Grading Project Area. In order to ensure that impacts to special-status birds are minimized, Mitigation Measure BIO-1 requires the project proponent to avoid the nesting season, or complete pre-construction surveys to determine if nesting birds or activities are observed. If an active nest is observed during the survey, a biological monitor would be on site to ensure that no proposed project activities would impact the active nest. A suitable buffer would be established around the active nest until the nestlings have fledged and the nest is no longer active. Therefore, with implementation of Mitigation Measure BIO-1, the proposed project would have a ***less than significant*** impact relative to this topic.

Mitigation Measure(s)

Mitigation Measure BIO-1*: Construction within the vicinity of the on-site trees within the Demolition and Grading Project Area shall avoid, if possible, construction within the general nesting season of February through August for avian species protected under Fish and Game Code 3500 and the Migratory Bird Treaty Act (MBTA), if it is determined that suitable nesting habitat occurs on a project site. If construction cannot avoid the nesting season, a pre-construction clearance survey shall be conducted to determine if any nesting birds or nesting activity is observed on or within 500-feet of a project site. If an active nest is observed during the survey, a biological monitor shall be on site to ensure that no proposed project activities would impact the active nest. A suitable buffer shall be established around the active nest until the nestlings have fledged and the nest is no longer active. Project activities may continue in the vicinity of the nest only at the discretion of the biological monitor.*

Response b): There is no riparian habitat or sensitive natural communities found on the project site. The project site is currently developed with urban uses. Implementation of the proposed project would have a ***less than significant*** impact on riparian habitats or natural communities.

Response c): The project site does not contain protected wetlands or other jurisdictional areas and there is no need for permitting associated with the federal or state Clean Water Acts. The Dry Creek Canal located south of the project area is not located on-site, and development near the canal is not proposed. Absent any wetlands or jurisdictional waters, implementation of the proposed project would have ***less than significant*** impact relative to this topic.

Response d): The CNDDB does not contain any documented wildlife corridors or wildlife nursery sites on or adjacent to the project site. The project site and surrounding area are built out with urban uses, including industrial, residential, and commercial uses. Therefore, the project would have a ***less than significant*** impact to wildlife corridors or wildlife nursery sites.

Response e): No habitat conservation plans or natural community conservation plans apply to the proposed project. Therefore, the proposed project would have a ***less than significant*** impact relative to this topic.

Responses f): There are five trees located in the Demolition and Grading Project Area near the corner of H Street and E. Franklin Avenue. Grading and paving of the Demolition and Grading Project Area may result in the removal or alteration of these five trees. The development would be required to comply with Article 3 of Section 13 of the City of Fresno Municipal Code.

According to Section 13-305 of the Code, a permit to remove a street tree may be issued if all of the following apply:

(1) Tree removal or maintenance will occur under the direction of a certified arborist and completed by a City licensed contractor. Tree removal or maintenance must adhere to standards issued by the International Society of Arboriculture:
(2) All removal or maintenance costs are borne by the applicant. Voluntary removal or replacement of trees, which do not meet the removal criteria set forth in Section 13-305(f)(6), shall not utilize any City funding appropriated by the Council for the Street Tree Program in the Public Works Department; however this section shall not preclude the City's ability to use discretionary infrastructure funds, if desired by the Council.
(3) An applicant shall pay a refundable permit fee for tree planting to the City in an amount established by City Council resolution and set forth in the master fee schedule. A city arborist shall inspect and verify applicant has completed planting of the replacement tree(s) at which time applicant's permit fee shall be refunded. Applicant's failure to plant replacement tree(s) as set forth in this section shall result in forfeiture of the permit fee, which shall be deposited into the city's Tree Trust Fund.
(4) The City, through the use of door hangers, shall notify homeowners of any proposed tree removals within fifty feet of the front or side of their property line. These persons have fourteen days to protest the removal to the Director.
(5) The applicant must comply with all other permit conditions listed in this chapter including, without limitation, entering into a hold harmless agreement with the City;
(6) Trees shall be replaced by a replacement tree approved by the Director as set forth in the City's Approved Tree List. Alternatively, the applicant may pay a fee in lieu of replacement as set forth in Section 13-305(f).
(7) Trees on the Special Tree List in Section 13-306 or otherwise determined to be protected by the City are not eligible for removal or replacement under this Section.

Trees that cannot remain in the final design must be replaced in accordance with Section 13-305 of the Code. As the project would be required to comply with the requirements of Article 3 of Section 13 of the City of Fresno Municipal Code, the proposed project would have a ***less than significant*** impact relative to this topic.

V. CULTURAL RESOURCES

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

Responses to Checklist Questions

Responses a-d): Based on known historical and archaeological resources in the region, and the potential for undocumented underground cultural resources in the region, it has been determined that the potential impacts on cultural resources caused by the proposed project will require a detailed analysis in the EIR. As such, the lead agency will examine each of the environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact on cultural resources. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will include an overview of the prehistory and history of the area, the potential for surface and subsurface cultural resources to be found in the area, the types of cultural resources that may be expected to be found, a review of existing regulations and policies that protect cultural resources, an impact analysis, and mitigation that should be implemented in order to reduce potential impacts to cultural resources. The CEQA process will also include consultation with any Native American groups that have requested consultation with the City of Fresno.

VI. ENERGY

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

Responses to Checklist Questions

Responses a-b): Appendix F of the State CEQA Guidelines requires consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to Appendix F of the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, the proposed project would be considered "wasteful, inefficient, and unnecessary" if it were to violate state and federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The project would include the following components and characteristics:

- demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- grading and new paved parking lot for diesel milk trucks; and
- closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

The amount of energy used at the project site would directly correlate to the energy consumption required for construction, as well as outdoor lighting during operation. Other major sources of proposed project energy consumption include fuel used by vehicle trips generated during project construction and operation, and fuel used by off-road construction vehicles during construction.

The potential impacts on energy caused by the proposed project will require a detailed analysis in the EIR. Consequently, the lead agency will examine each of the environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact on energy resources. The EIR will include a discussion and analysis that provides calculated levels of energy use expected for the proposed project, based on commonly used modelling software (i.e. CalEEMod v.2016.3.2 and the CARB's EMFAC2014). At this point, a definitive impact conclusion for each of these environmental topics will not be made. Rather, all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

VII. GEOLOGY AND SOILS

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation***	***Less Than Significant Impact***	***No Impact***
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	X			
ii) Strong seismic ground shaking?	X			
iii) Seismic-related ground failure, including liquefaction?	X			
iv) Landslides?	X			
b) Result in substantial soil erosion or the loss of topsoil?	X			
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	X			
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	X			
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	X			

Responses to Checklist Questions

Responses a.i-a.iv, b, c, d, f): It has been determined that the potential impacts from geology and soils will require a detailed analysis in the EIR. As such, the lead agency will examine each of the potentially significant environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact from geology and soils. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will include a review of existing geotechnical reports, published documents, aerial photos, geologic maps, and other geological and geotechnical literature pertaining to the site and surrounding area to aid in evaluating geologic resources and geologic hazards that may be present. The EIR will include a description of the applicable regulatory setting, a description of the existing geologic and soils conditions on and around the project site, an evaluation of geologic hazards, a description of the nature and general engineering characteristics of the subsurface conditions within the project site, and the provision of findings and potential mitigation strategies to address any geotechnical concerns or potential hazards.

This section will provide an analysis including thresholds of significance, a consistency analysis, cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce impacts associated with geology and soils.

Response e): The proposed project would not generate wastewater. The project is currently connected to the municipal sewer system for wastewater disposal. Septic tanks or septic systems are not proposed as part of the project. As such, this CEQA topic is not relevant to the proposed project and does not require further analysis. Therefore, there would be ***no impact*** regarding septic tanks or alternative waste water disposal systems.

VIII. GREENHOUSE GAS EMISSIONS

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

Responses to Checklist Questions

Responses a), b): Implementation of the proposed project could generate greenhouse gases (GHGs) from a variety of sources, including but not limited to vehicle trips, electricity consumption, and solid waste generation. There could also be additional GHGs generated from stationary sources, such as diesel generators should they be required during construction. It has been determined that the potential impacts from GHG emissions by the proposed project will require a detailed analysis in the EIR. As such, the lead agency will examine each of the environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact from GHG emissions. At this point, a definitive impact conclusion for each of these environmental topics will not be made. Rather, all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will include a GHG emissions analysis pursuant to the requirements of the California Governor's Executive Order S-3-05 and The Global Warming Solutions Act of 2006 (AB 32), Senate Bill 375 (SB 375), and Senate Bill 32 (SB 32). The analysis will follow the California Air Pollution Control Officers Association (CAPCOA) white paper methodology and recommendations presented in "Climate Change and CEQA", which was prepared in coordination with the CARB and the Governor's Office of Planning and Research (OPR) as a common platform for public agencies to ensure that GHG emissions are appropriately considered and addressed under CEQA. Also, a GHG emissions analysis using the SJVAPCD's approach in assessing significance of the project specific GHG emissions increases will be performed. These analyses will consider a regional approach toward determining whether GHG emissions are significant, and will present mitigation measures to reduce any potential impacts. The discussion and analysis will include quantification of GHGs generated by the project using the CalEEMod computer model as well as a qualitative discussion of the project's consistency with any applicable state and local plans to reduce the impacts of climate change.

IX. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	X			
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	X			
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?			X	
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	

Responses to Checklist Questions

Responses a-b): It has been determined that the potential impacts related to the routine transport, use, disposal, or release of hazardous materials caused by the proposed project will require a detailed analysis in the EIR. Consequently, the lead agency will examine each of the two potentially significant environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact on these two topics. At this point, a definitive impact conclusion for each of these potentially significant environmental topics will not be made. Rather, both are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will include a hazards and hazardous materials analysis that presents the methodology, thresholds of significance, a consistency analysis, cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce impacts related to the routine transport, use, disposal, or release of hazardous materials. The hazards and hazardous materials analysis will include the following:

- A description of the applicable hazards-related federal, state, and local statutes, regulations, and programs that the proposed project would be required to comply with (during project construction and operation).
- An assessment of the existing Recognized Environmental Conditions (RECs) identified for the project site.
- A summary of the past uses of the site.
- The potential for soil contamination or unknown underground facilities (i.e., underground wells, septic systems, etc.) in the project site.
- An analysis of the uses that are proposed on the project site, and what hazardous materials could be used by the proposed project.

Response c): The project site is not located within ¼ mile of an existing school. Muir Elementary School is located approximately 0.26 miles north of the nearest on-site project feature, the cheese plant, and approximately 0.4 miles north of the Demolition and Grading Project Area. Therefore, ***no impact*** would occur as a result of the proposed project.

Response d): According the California Department of Toxic Substances Control (DTSC) there are no Federal Superfund Sites, State Response Sites, or Voluntary Cleanup Sites on, or in the near vicinity of the project site. The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5. The nearest investigation site includes:

PG&E, MGP, Fresno) (site #10490094). The site (located on the block of N. Thorne Avenue and W. Voorman Avenue) is a State Response site and has a cleanup status of "Active" as of October 26, 1995. The cleanup oversight agency is the DTSC. PG&E purchased this site in 1917 and began operations as a Manufactured Gas Plant (MGP) in 1918. The site operated from 1918 to 1929 producing gas from oil. Chemicals of potential concern (COPC) are polynuclear aromatic hydrocarbons (PNAs), total petroleum hydrocarbon (TPH) motor oil, Lead, and Arsenic in the soil. The COPCs are found primarily in the northern and middle areas, but also to a lesser degree in the southern area. Some wastes are exposed at the surface. The site is fenced and posted. A Preliminary Assessment was completed by PGE in 1986. PG&E is now in the process of completing a Site Investigation Report for the project.

Therefore, implementation of the proposed project would result in a ***less than significant*** impact relative to this environmental topic.

Response e): The Federal Aviation Administration (FAA) establishes distances of ground clearance for take-off and landing safety based on such items as the type of aircraft using the airport. The closest airport is the Fresno Chandler Executive Airport, located approximately 1.1 miles southwest of the project site. The project does not propose any uses, structures, or other impediments that would result in a safety hazard or excessive noise for people residing or working in the project area. The project site is in the Traffic Pattern Zone for this Airport. The project does not propose any hazards to flight or objects over 100 feet tall. Therefore, safety hazards related to the project's proximity to the Fresno Chandler Executive Airport are ***less than significant***, and no mitigation is required.

Response f): The proposed project does not include any actions that would impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. The project involves the development of a parking lot and closure of two area roadway segments, and would not interfere with any emergency response or evacuation plans. The two roadway segments are not identified as emergency evacuation routes, and the roadways would be available for emergency personnel, if needed during an emergency. Implementation of the proposed project would result in a ***less than significant*** impact on this environmental topic.

Response h): The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents) and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point, while fuels such as trees have a lower surface area to mass ratio and require more heat to reach the ignition point.

The City has areas with an abundance of flashy fuels (i.e. grassland) in the outlying residential parcels and open lands that, when combined with warm and dry summers with temperatures often exceeding 100 degrees Fahrenheit, create a situation that results in higher risk of wildland fires. Most wildland fires are human caused, so areas with easy human access to land with the appropriate fire parameters generally result in an increased risk of fire.

The project site is located in an area that is predominately urban, which is not considered at a significant risk of wildfire. The California Department of Forestry and Fire Protection (CalFire) designates State Responsibility Areas (SRAs) and Fire Hazard Severity Zone (FHSZs) throughout California. The proposed project is not located within an SRA or a Very High FHSZ. Therefore, this is a ***less than significant*** impact and no mitigation is required.

X. HYDROLOGY AND WATER QUALITY

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation on- or off-site;			X	
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;			X	
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems to provide substantial additional sources of polluted runoff; or			X	
(iv) impede or redirect flood flows?			X	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

Responses to Checklist Questions

Response a): Implementation of the proposed project would not violate any water quality or waste discharge requirements. Construction activities including grading could temporarily increase soil erosion rates during and shortly after project construction. Construction-related erosion could result in the loss of soil and could adversely affect water quality in nearby surface waters. The RWQCB requires a project specific SWPPP to be prepared for each project that disturbs an area one acre or larger. The SWPPP is required to include project specific best management measures that are designed to control drainage and erosion. Preparation of a SWPPP would ensure that the proposed project prepares and implements a SWPPP throughout the construction phase of the project. Furthermore, the proposed project would include a grading and drainage plan that has a specific drainage plan designed to control storm water runoff and erosion, both during and after construction. The SWPPP and the grading and drainage plan would ensure that the proposed project does not violate water quality standards during construction or operation. Implementation of the proposed project would result in a ***less-than-significant*** impact relative to this topic.

Response b): The proposed project is currently served by the City of Fresno for water services. No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The project does not include project features (i.e., ample landscaping areas, bathrooms, etc.) which would increase water demand from the existing condition.

The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

Project construction would add additional impervious surfaces to the project site within the Demolition and Grading Project Area; however, the majority of the Demolition and Grading Project Area is currently built out with a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. Upon demolition of these structures, the Demolition and Grading Project Area would be graded and paved with a new parking lot. The parking lot would maintain and improve the roadside landscaping areas, which would allow infiltration to underlying groundwater. Additionally, the project is not anticipated to significantly affect groundwater quality because sufficient stormwater infrastructure would be constructed as part of project to detain and filter stormwater runoff from the proposed parking area and prevent long-term water quality degradation. Therefore, project construction and operation would not substantially deplete or interfere with groundwater supply or quality. This impact would be ***less than significant***.

Responses c), e): When land is in a natural or undeveloped condition, precipitation will infiltrate/percolate the soils and mulch. Much of the rainwater that falls on natural or undeveloped land slowly infiltrates the soil and is stored either temporarily or permanently in underground layers of soil. When the soil becomes completely soaked or saturated with water or the rate of rainfall exceeds the infiltration capacity of the soil, the rainwater begins to flow on the surface of land to low lying areas, ditches, channels, streams, and rivers. Rainwater that flows off of a site is defined as storm water runoff. When a site is in a natural condition or is undeveloped, a larger percentage of rainwater infiltrates into the soil and a smaller percentage flows off the site as storm water runoff.

The infiltration and runoff process is altered when a site is developed with urban uses. Houses, buildings, roads, and parking lots introduce asphalt, concrete, and roofing materials to the landscape. These materials are relatively impervious, which means that they absorb less rainwater. As impervious surfaces are added to the ground conditions, the natural infiltration process is reduced. As a result, the volume and rate of storm water runoff increases. The increased volumes and rates of storm water runoff can result in flooding in some areas if adequate storm drainage facilities are not provided.

There are no rivers, streams, or water courses located on or immediately adjacent to the project site. As such, there is no potential for the project to alter a water course, which could lead to on or offsite flooding. Drainage improvements associated with the project site would be located on the project site, and the project would not alter or adversely impact offsite drainage facilities.

The proposed project would require the installation of storm drainage infrastructure to ensure that storm waters properly drain from the proposed parking lot in the Demolition and Grading Project Area. The storm drainage plan would include an engineered network of storm drain lines to collect the storm drainage from the proposed parking lot. The storm drainage plan would be designed engineered to ensure proper construction of storm drainage infrastructure to control runoff and prevent flooding, erosion, and sedimentation.

The ongoing operational phase of the proposed project requires the final discharge of stormwater from the parking area into the existing H Street storm drains. The applicant will be required to comply with all requirements of the City of Fresno Storm Drainage Master Plan to reduce the project's storm drainage impacts to less than significant.

The storm drainage plan will require the construction of new storm water drainage facilities in the Demolition and Grading Project Area; however, the construction of these facilities would not substantially alter the existing drainage pattern of the area, or alter the course of a stream or river. Implementation of the proposed project would have a ***less-than-significant*** impact relative to this environmental topic.

Response d): The majority of the project site is located within Flood Zone X, which is not within the 100-year flood zone as shown on the Flood Insurance Rate Map (FIRM). A portion of the project site along the Dry Creek Canal is located within Flood Zone AE. Zone AE 100-year flood zone is located to the south, outside of the project site. Development in the portion of the project site within Zone AE is not proposed.

Sources of flooding due to the failure of a dam or levee within the City's Planning Area include the San Joaquin River floodplain as a result of the failure of Friant Dam, the Redbank Creek floodplain as a result of the failure of Redbank Creek Detention Basin Dam and levee, and the Fancher Creek floodplain as a result of the failure of Fancher Creek Detention Basin Dam and levee. The project site is located within a dam inundation area. Dam failure is generally a result of structural instability caused by improper design or construction, instability resulting from seismic shaking, or overtopping and erosion of the dam. Larger dams that are higher than 25 feet or with storage capacities over 50 acre-feet of water are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury as a result of dam failure. The County Office of Emergency Services is responsible for developing and implementing a Dam Failure Plan that designates evacuation plans, the direction of floodwaters, and provides emergency information.

Regular inspection by DSD and maintenance by the dam owners ensure that the dams are kept in safe operating condition. As such, failure of these dams is considered to have an extremely low probability of occurring and is not considered to be a reasonably foreseeable event.

The proposed project would not expose people or structures to a significant risk of loss, injury or death involving flooding as a result of the failure of a levee or dam.

The project site is not anticipated to be inundated by a tsunami because it is located at an elevation of 288 feet to 300 feet above sea level and is approximately 113 miles away from the Pacific Ocean which is the closest ocean waterbody.

The project site is not anticipated to be inundated by a seiche because it is not located in close proximity to a water body capable of creating a seiche.

Implementation of the proposed project would have a ***less than significant*** impact relative to flood hazards, seiches, and tsunamis.

XI. LAND USE AND PLANNING

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Physically divide an established community?			X	
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			X	

Responses to Checklist Questions

Response a): The project site is located within the Fresno city limits and is adjacent primarily to industrial and residential uses. The proposed dairy operation improvements (i.e., demolition of all structures along H Street [north of Arroyo Avenue and south of N. Harrison Avenue], grading and new paved parking lot, and closure and relinquishment of H Street [from Belmont Avenue to Palm Avenue]) are consistent with the surrounding existing uses and would not physically divide an established community. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

Response b): The key planning documents that are directly related to, or that establish a framework within which the proposed project must be consistent, include:

- City of Fresno General Plan; and
- City of Fresno Development Code.

The Demolition and Grading Project Area is designated as Employment – Light Industrial by the City's General Plan Land Use Map and is zoned as IL. The Truck Movement Project Area includes various land use and zoning designations on-site and in the immediate vicinity. The existing and proposed project uses are permitted within the existing General Plan land use and Zoning districts. As such, a General Plan Amendment and/or rezone would not be required for the project. Therefore, impacts to land use compatibility would be ***less than significant***.

XII. MINERAL RESOURCES

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

Responses to Checklist Questions

Responses a-b): The project site is currently developed with industrial uses and is surrounded by existing industrial and residential development. The project site is not located in an area designated for mineral resource preservation or recovery; therefore, the project would not 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.

The subject site is not delineated on a local general plan, specific plan or other land use plan as a locally-important mineral resource recovery site; therefore, the project would not result in the loss of availability of a locally-important mineral resource. As such, there is ***no impact*** related to mineral resources.

XIII. NOISE

Would the project result in:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Generation of a temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	X			
b) Generation of excessive groundborne vibration or groundborne noise levels?	X			
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X

Responses to Checklist Questions

Responses a-b): Based on existing and projected noise levels along roadways, and the potential for noise generated during project construction and operational activities, it has been determined that the potential impacts from noise caused by the proposed project will require a detailed analysis in the EIR. As such, the lead agency will examine each of the two potentially significant environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact from noise. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather both are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will identify sensitive receptors, land use compatibility, noise impacts, and attenuation of noise related impacts. The noise study will also include an assessment of construction noise and vibration impacts. The noise analysis will identify the noise level standards contained in the City of Fresno General Plan Noise and Safety Element and Municipal Code, as well as any germane state, and federal standards. Continuous (24-hour) and short-term noise measurements will be performed in the project site and in the project vicinity in order to quantify existing ambient noise levels from existing community noise sources.

The EIR will provide an estimate of existing traffic noise levels adjacent to the project site roadways through application of accepted traffic noise prediction methodologies. Noise sources from the project will be quantified through noise level measurements. Proposed on-site noise sources will be evaluated. This will include mainly mobile noise sources such as truck loading/docking/idling. The EIR will include thresholds of significance, a consistency analysis, cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce any potential impacts associated with noise.

Response c) The project is not located within the vicinity of a private airstrip. The closest airport is the Fresno Chandler Executive Airport, located approximately 1.1 miles southwest of the project site. As discussed previously, the project site is in the Traffic Pattern Zone for this Airport. The project does not propose any hazards to flight or objects over 100 feet tall. Additionally, the project does not propose any uses, structures, or other impediments that would conflict with the operation of this Airport. As such, there is ***no impact*** related to this topic and it will not be addressed further in the EIR.

XIV. POPULATION AND HOUSING

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

Responses to Checklist Questions

Response a): According to the 2019 Department of Finance population estimates, the population in Fresno is 536,683 people. The project would not directly introduce new residents to the City as no housing is proposed as part of the project. Additionally, no changes or expansions of existing operations and shipment volumes is proposed as part of this project. As such, the project would not introduce new employees to the area.

The proposed project would not include upsizing of offsite infrastructure or roadways. The proposed project would not induce substantial population growth in an area, either directly or indirectly. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic. This topic does not warrant additional analysis and will not be addressed further in the EIR.

Response b): The project site does not contain housing. The proposed project would not displace housing or people. Implementation of the proposed project would have ***no impact*** relative to this topic. This topic does not warrant additional analysis and will not be addressed further in the EIR.

XV. PUBLIC SERVICES

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?			X	
Police protection?			X	
Schools?			X	
Parks?			X	
Other public facilities?				X

Responses to Checklist Questions

Response a):

Fire Protection

The project site is currently under the jurisdiction of the Fresno Fire Department. The project site is located approximately 1.2 miles northwest of Fire Station 3, 1.6 miles from Fire Station 9, and 2.1 miles northwest of Fire Station 4.

The City of Fresno Fire Department operates its facilities under the guidance set by the National Fire Protection Association in NFPA 1710, the Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operation to the Public by Career Fire Departments. NFPA 1710 sets standards for turnout time, travel time, and total response time for fire and emergency medical incidents, as well as other standards for operation and fire service. The Fire Department has established the objectives set forth in NFPA 1710 as department objectives to ensure the public health, safety, and welfare.

The site is currently used for industrial operations and would continue to be used for industrial operations after development of the proposed parking lot and relinquishment of H Street. No changes or expansions of existing operations and shipment volumes is proposed as part of this project. Any demand for fire service generated by the project is within planned services levels of the Fire Department.

Ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed project (existing and proposed), would fund capital and labor costs associated with fire protection services. Therefore, the impact of the proposed project on the need for additional fire services facilities is ***less than significant***.

Police Protection

The project site is currently under the jurisdiction of the Fresno Police Department. The project site is 1.4 miles northwest of the Fresno Police Department.

Similar to the above, City police protection services are also available to serve the proposed project. The project would not increase of expand operations at the site; as such, the project would not increase demand for police protection and no new facilities would be required for police protection.

The ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed project would fund capital and labor costs associated with police services. Based on the type of project proposed, as well as the ability of the Fresno Police Department to serve the City, it is anticipated that the existing police department facilities are sufficient to serve the proposed project. Consequently, any impacts would be ***less than significant***.

Schools

The project site is currently served by the Fresno Unified School District. The proposed project includes demolition and construction of a parking lot, and closure and relinquishment of H Street. As noted above, no changes or expansions of existing operations and shipment volumes is proposed as part of this project. As such, no additional employees would be generated by the project. Therefore, this type of project would not directly increase the student population in the area. Therefore, this impact would be ***less than significant***.

Parks

The proposed project would not directly or indirectly increase the number of persons in the area as a result of employment potential. The proposed project does not include uses that would significantly increase the use of park and recreation facilities in the area. Demand for parks generated by the project is within planned services levels of the City of Fresno Parks and Community Services Department. Therefore, the proposed project will result in a ***less-than-significant*** impact.

Other Public Facilities

The proposed project would not result in a need for other public facilities, such as library or other civic services. The project would not increase employment in the area. Implementation of the proposed project would have ***no impact*** relative to this issue.

XVI. RECREATION

	Potentially Significant Impact	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			X	

Responses to Checklist Questions

Response a): The project would result in the construction of a parking lot and closure of two project area roadway segments. Employment would not increase as a result of the project. The proposed project would not increase the use of existing parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic. This topic does not warrant additional analysis and will not be addressed further in the EIR.

Response b): Development of the project would not require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic. This topic does not warrant additional analysis and will not be addressed further in the EIR.

XVII. TRANSPORTATION

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

Responses to Checklist Questions

Response a-d): The existing circulation and parking would be altered as a result of the proposed project. Due to the nature of the proposed project, it has been determined that traffic impacts will require a detailed analysis in the EIR. As such, the lead agency will examine each of the environmental issues listed in the checklist above in the EIR and will determine whether the proposed project has the potential to have a significant impact from traffic. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is conducted in the EIR.

The EIR will include a Traffic Impact Analysis (TIA) to address the impacts of the proposed project on the surrounding transportation system including the roadways, transit service, pedestrian facilities, and bicycle facilities. The TIA will be conducted to address compliance with the City's General Plan and other requirements under CEQA. It will be prepared following applicable guidelines of the City of Fresno and Caltrans, as applicable. The EIR will analyze total passenger vehicle and heavy-duty truck trips that are modeled to be generated by the proposed project. Potential impacts associated with site access, on-site circulation, and consistency with CEQA Guidelines section 15064.3, subdivision (b) will also be addressed in the EIR. Significant impacts will be identified in accordance with the established criteria, and mitigation measures will be identified to lessen the significance of any potential impacts.

The EIR will provide an analysis including the thresholds of significance, a consistency analysis, cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce impacts associated with transportation.

XVIII. TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) 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)?	X			
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resources to a California Native American tribe.	X			

Responses to Checklist Questions

Responses a-b): Based on known historical, cultural, tribal, and archaeological resources in the region, and the potential for undocumented underground cultural resources in the region, it has been determined that the potential impacts on tribal cultural resources caused by the proposed project will require a detailed analysis in the EIR. As such, the lead agency will examine the environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact on tribal cultural resources. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

The EIR will include an overview of the prehistory and history of the area, the potential for surface and subsurface tribal cultural resources to be found in the area, the types of tribal cultural resources that may be expected to be found, a review of existing regulations and policies that protect tribal cultural resources, an impact analysis, and mitigation that should be implemented in order to reduce potential impacts to tribal cultural resources.

XIX. UTILITIES AND SERVICE SYSTEMS

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			X	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments?			X	
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reductions goals?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

Responses to Checklist Questions

Responses a-e): The proposed project is currently served by existing City infrastructure. Upon development of the project site, the project would continue to be served by the City. The proposed project will not require construction of new water or wastewater infrastructure. As discussed in the Hydrology and Water Quality section, the ongoing operational phase of the proposed project requires the final discharge of stormwater from the parking area into the existing H Street storm drains. The applicant will be required to comply with all requirements of the City of Fresno Storm Drainage Master Plan.

The project would not include any uses that would generate wastewater, increase demand for water distribution, increase runoff in the project area, or generate solid waste. Construction waste would be generated as a result of demolition of the structures in the Demolition and Grading Project Area. Construction of the project would be subject to the City of Fresno Construction and Demolition Guide and the California Green Building Standards Code (CALGreen). CALGreen requires the diversion of at least 65 percent of the construction and demolition waste generated during new construction. These requirements must be met in order to obtain a building permit. Compliance with the City of Fresno Construction and Demolition Guide and CALGreen would ensure that the project does not generate solid waste in excess of local standards.

XX. WILDFIRE

	Potentially Significant Impact	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
If located in or near state 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?			X	
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?			X	
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?			X	
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?			X	

Existing Setting

As noted previously, CalFire designates SRAs and FHSZs throughout California. The proposed project is not located within an SRA or a Very High FHSZ. Although this CEQA topic only applies to areas within an SRA or Very High FHSZ, out of an abundance of caution, these checklist questions are analyzed below.

Responses to Checklist Questions

Response a): The proposed improvements include demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue), grading and new paved parking lot, and closure and relinquishment of H Street (from Belmont Avenue to Palm Avenue),. The proposed project would consolidate the existing routes and turning movements.

The project site is currently under the jurisdiction of the Fresno Fire Department. The project site is located approximately 1.2 miles northwest of Fire Station 3, 1.6 miles from Fire Station 9, and 2.1 miles northwest of Fire Station 4. The appropriate turning radiuses have been planned to accommodate fire trucks on-site. Although portions of one project area roadway would be relinquished, the roadway would be available during an emergency. Therefore, impacts from project implementation would be considered ***less than significant*** relative to adopted emergency response plans or evacuation plans. This topic does not warrant additional analysis and will not be addressed further in the EIR.

Response b): The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents) and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point. The project site is located in an area that is predominately urban, which is not considered at a significant risk of wildfire. There are no steep slopes on or near the project site. The project also would not introduce new occupants to the site. Therefore, impacts from project implementation would be considered ***less than significant*** relative to the spread of wildfire. This topic does not warrant additional analysis and will not be addressed further in the EIR.

Response c): The project includes development of storm drainage infrastructure to serve the proposed parking lot. The project does not include the construction of fuel breaks, emergency water sources, or power lines. Therefore, impacts from project implementation would be considered ***less than significant*** relative to infrastructure that may exacerbate fire risk. This topic does not warrant additional analysis and will not be addressed further in the EIR.

Response d): As noted above, the project would not introduce new occupants to the site. As such, the proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Overall, impacts from project implementation would be considered ***less than significant*** relative to risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. This topic does not warrant additional analysis and will not be addressed further in the EIR.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	X			
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	X			
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	X			

Responses to Checklist Questions

Responses a-c): It has been determined that the proposed project will not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal. However, further analysis pertaining to Cultural Resources and Tribal Cultural Resources will be included in the Draft EIR for the project. The Draft EIR will determine whether the project would eliminate important examples of the periods of California history or prehistory.

It has been determined that the potential for the proposed project to: degrade the quality of the environment; create cumulatively considerable impacts; or adversely affect human beings will require more detailed analysis in an EIR. As such, the City of Fresno will examine each of these environmental issues in the EIR and will decide whether the proposed project has the potential to have significant impacts on these environmental issues. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered ***potentially significant*** until a detailed analysis is prepared in the EIR.

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NOP COMMENTS

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

PRODUCERS DAIRY
SCOPING MEETING SIGN-IN SHEET
MONDAY, FEBRUARY 3, 2020 – 5:00 P.M.

NAME/ASSOCIATION	ADDRESS	PHONE	EMAIL
Helen Hansen	1011 E. Belmont	(559)441-1030	helen@latapatiaca.com
Justin Rushing	1011 E. Belmont	(559) 441-1030	justin@latapatiaca.com
LISA FLORES	1611 N. Wishon Fresno	(559) 779-3436	lisayflores@aol.com
Robynn Smith	546 N. Fergen	209-752-0869	robynn73@AOL.Com
Steve Sadler	320 N. H St.	559-405-4400	stevesad@sbcglobal.net
Trish Herogian-Sadler	1275 N. Wishon	559-259-3754	thproperties@sbcglobal.net

NAME/ASSOCIATION	ADDRESS	PHONE	EMAIL
Kiel Lopez-Schmidt	815 E. Dudley Ave. Fresno, CA 93728	(559) 492-7249	kielts@gmail.com
Norma Pinedo Davis	402 N Safford Ave Fresno CA 93728	559-486.0407	NormaPined.Davis@gmail.com
MALYN ROSE	308 N. Ferger 93701	559- 287 6419	

Bruce A. Owdom
Attorney at Law
Post Office Box 4111
Fresno, California 93744
Telephone (559) 259-0062; email: bruceaowdom@gmail.com

February 16, 2020 VIA EMAILONLY

Mr. Rodney Horton
City of Fresno
Planning and Development Department
2600 Fresno Street, Room 3043
Fresno, California 93721

RE: Producers Proposed H Street Abandonment Project

Dear Mr. Horton:

I submit the following comments on the Initial Study (IS) for the proposed Producers project including the abandonment of H Street between Belmont and Palm Avenues, as invited by your Notice of Preparation, dated January 22, 2020. Please add me to your interested-person list for this proposal.

1. Project Background. The IS acknowledges the cheese plant property at 450 E. Belmont Avenue is part of the project area. Accordingly, this project also includes the enforcement of the Covenant affecting development of the historic cheese plant property.

In 1988, Producers purchased the historic cheese plant property. Producers never conducted any production operations at the site and has used it continuously as a truck trailer parking and staging area. In 1993, consistent with the City's adoption of the Tower District Specific Plan, Producers agreed, in exchange for its request for rezoning the cheese plant property, to reuse and maintain the site, including the historic buildings, for a small manufacturing facility or similar use compatible with the surrounding neighborhood. This agreement was formalized in the Statement of Covenants Affecting Land Development between the City and Shehadey and Shehadey, a general partnership, owner of the parcel. The Covenant prescribed specific development conditions and requirements to "enhance[e] attractiveness, usefulness, value, and desirability of the Subject Property, the surrounding property, and the public at large and to minimize possible adverse effects on the public health, safety, peace, and general welfare." The conditions include retention of the historic buildings, compatibility of new construction, height, traffic and noise restrictions, set-backs, and maintenance of street trees. The Covenant was signed by Larry Shehadey and Richard Shehadey. See, Covenant and Tower District Specific Plan Land Use Modifications/Conditions, attached.

It should be noted that this property is surrounded on three sides by residential streets, historic residences and small commercial businesses on Belmont Avenue. The residential neighborhood around the property from Broadway to Palm Avenues and Highway 180 to Belmont Avenue contains a number of historically significant homes and might qualify as an historic district. Children living in the neighborhood cross Belmont Avenue to attend John Muir School to the north.

In 2016, 23 years after signing the Covenant, Producers proposed demolition of the historic structures at the cheese plant and doubling the capacity for parking and staging refrigerated semi-truck trailers on this 1.8 acre parcel. Producers would have almost doubled the total truck trips into and out of the property from 40 to 70 per day, using not only Belmont Ave, but also the public, residential streets, Roosevelt and Ferger Avenues to access the property with it trucks.

In 2018, the demolition proposal went to the City Council. The council indicated majority opposition, but before voting, tabled the project after the Mayor offered to intercede and work to locate an alternative site for Producers truck parking. Almost two years later, despite inquiries, interested parties have not been informed of any such proposed alternative site or received a report on the work of the mayor. Today, Producers continues its use of the cheese plant property for parking and movement of refrigerated, truck trailers. Producers has still not performed any of its promises or conditions in the Covenant for development of the old cheese plant property. Neighborhood children still negotiate large diesel trucks and trailers entering and exiting the cheese plant property on Roosevelt Avenue. Because the cheese plant is an integral part of this proposal, this review should document the nearly continuous truck traffic, by video, actually entering and departing the cheese plant property on Roosevelt Avenue. The video should be part of the record for review by the decision makers.

Now, Producers proposes City abandonment a public thoroughfare, H Street, without compensation to the citizens of Fresno, and its substantial **increase** in the number of truck movements per day at the historic cheese plant in a fragile, but historic, residential neighborhood. The City's enforcement and Producers compliance with the Covenant with respect to the cheese plant property must be addressed here because the property is within the project area and Producers obligations to the neighborhood around the old cheese plant must be examined. Property owners near the old cheese plant and policy makers are entitled to know the what the City will do to enforce the Covenant and what Producers will do to comply with the Covenant and their promises regarding this property.

2. Project Description.

The project description is unclear and incomplete. In order for the public and decision-makers to understand this proposal the analysis must include the calculation of the actual area of the H Street right of way to be vacated and abandoned, including gutters, curbs, and sidewalks, etc., and an independent appraisal of the land and those valuable improvements. That appraised value should also include intangibles, such as, the access provided by H Street from northwest Fresno to downtown to the public, private and commercial, and the access for emergency vehicles to and from emergency calls, for which H Street might provide better access and response. Producers, itself, has benefitted for years from public streets and roads around its plant and should understand the importance of public access in commercial transportation.

An analysis should explain how the City of Fresno and its taxpayers will be compensated for any vacation of H Street and conveyance of legal ownership to Producers as proposed.

The IS states "Some portions of H Street between the railroad racks would be used for truck parking and represents new pavement," and "[a]mple truck parking would be provided in the newly paved area along H Street once the structures in the area are demolished." (IS, p.4) If there is "ample" truck parking along H Street, why is the historic cheese plant property still used for truck parking under this proposal.

3. Circulation, Transportation and Parking.

Although the IS projects a reduction of total truck movements under this proposal, the number of truck movements actually increases at the old cheese plant. (See, IS, p.5, table 2.) Once again, it appears that Producers is placing an even greater burden on the residents around the old cheese plant by seeking to impose more, not less, diesel truck traffic on their residential streets.

4. Air Quality.

Of course, the IS recognizes that air quality impacts of this proposal are potentially significant and require detailed analyses. This especially true for the residents surrounding the old cheese plant. Their homes lie directly adjacent to Highway 180 and downwind of the UPRR tracks. More toxic air pollutants from Producers would be an unjust and unfair burden on these residents. These families are children who walk to school on public sidewalks through these conditions. These conditions would not be tolerated in other neighborhoods in Fresno.

It is disappointing that in the Hazards and Hazardous Materials section, the IS concludes: "The project site is not located within ¼ mile of an existing school. [John] Muir Elementary School is located approximately 0.26 miles north of the nearest on-site project feature, the cheese plant,..." It should not be reassuring to the public and its representatives that an initial study would opt against protecting children over 1/100 of a mile. (IS, p 40.)

As community, we should make the protection of the health and safety of our children the first priority.

5. Cultural Resources.

The analysis here must consider the whole action involved, including off-site as well as on-site, impacts, cumulative and project level. Therefore, it must consider the old cheese plant property and the surrounding neighborhoods and Producers obligations under the Covenant. In addition, the H Street segment between Belmont and Palm Avenues proposed to be abandoned, may be historically significant as a part of the state route through Fresno before construction of present

Highway 99. The silos, all buildings, and all public infrastructure along H Street, on both sides, from Belmont to Palm Avenues, must be surveyed by a qualified professional for historic significance and eligibility as historic resources.

Apart from the H Street built -environment which should be analyzed, the public view-shed and the totality of the public space, which comprise the corridor of H Street, have unique cultural, and possibly historic, significance. It is literally unique because there is no other place like it.

The impact analysis must fully describe and evaluate all the resources in the total project area, so that the public and decision makers can make informed decisions for the public good, not just for the project applicant

6. Energy.

The IS correctly identifies wasteful energy consumption as a potentially significant impact. But, in addition to the period during construction, it would inform the public to report the nature and value of the energy expended in the creation of the H Street improvements that are proposed to be demolished. What is the total value of the creative energy of that built resource to be demolished?

7. Land Use and Planning.

The IS (p. 40) wrongly and disingenuously concludes that the proposed project would have less than significant impact in physically dividing an established community. Based on further conclusion and opinion only, the IS states correctly the project is "adjacent primarily to industrial and residential uses." Then, without any evidence, states that the demolition and abandonment of H Street are "consistent with the surrounding existing uses and would not physically divide an established community." Again, there is no evidence that an H Street abandonment would **not** divide an established community, therefore, the IS cannot make that assertion. Indeed, it is believed that property owners in the project area have expressed these very concerns of connectivity and access. The IS is wrong.

But the IS is also wrong because it fails to mention or consider whether the proposal continues to divide and cut-off that neighborhood around the old cheese plant. It is noted elsewhere that the dangers of the extreme Producers truck traffic in that neighborhood present a barrier to people who live in its proximity. Children attempt to cross Belmont Avenue to get to John Muir Elementary with Producers trucks accessing or departing the old cheese plant in their neighborhood approximately every few minutes. Is this not a proposed project further "dividing an established community?"

8. Population and Housing.

The IS states the proposal does not include housing. Maybe it should include on-site housing for employees if our community is serious about providing more housing units.

9. Public Services.

Incredibly, the IS states: "The proposed project would not result in a need for other public facilities, such as a library or other civic services." (IS, p. 52.) Maybe not a library, but what about another roadway and access to and from downtown and northwest Fresno. Fresno has a bad history of public street closures, first Broadway and others for the mall, then N Street for the adult school. These abandonments did not turn out well for public access and have likely obstructed downtown revitalization.

The closure and abandonment of H Street is itself a serious deprivation of access for all Fresno. This proposal certainly poses a significant adverse impact in its denial of public access to a long-time public right of way and the transfer of public property to a private owner without compensation.

It is unclear what the IS means: "Ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed project (existing and proposed), would fund capital and labor costs associated with fire [and police] protection services." (IS, p. 51-52.) Is there yet another "project" that will be proposed? Is there another expansion planned, but not disclosed? Are there facts for this assertion?

10. Transportation.

In this section, the IS is correct that the proposal poses the risk of potentially significant impacts on transportation and that its issues require a detailed analysis. (IS, p.54.) For example, how is access to and from downtown on H Street impacted by the proposal? How is emergency response to calls in the area, not from Producers, impacted by the proposal and closure of H Street? What is the alternative route if H Street is abandoned and blocked off to the public and emergency responders?

I request that this letter be made a part of the record of proceedings in this matter.

Very truly yours,

Bruce A. Owdom

Bruce A. Owdom

cc: interested parties
attachment

Recording Requested by
City Clerk, Fresno, California
No Fee-Govt. Code 6103
Return to City Clerk, Fresno

RECORDED IN OFFICIAL RECORDS OF
FRESNO COUNTY, CALIFORNIA
AT 6 MIN PAST 9 A M

JAN 28 1993

WILLIAM C. GREENWOOD
County Recorder
FEE $

------------------ABOVE SPACE FOR RECORDER'S USE------------------

STATEMENT OF COVENANTS
AFFECTING LAND DEVELOPMENT
(Rezoning Application No. R-90-49)

RECITALS

A. Shehadey and Shehadey, a California General Partnership, hereinafter referred to as "the Covenantor," is the owner of that certain real property in the City of Fresno, County of Fresno, State of California, hereinafter referred to as "the Subject Property" and more particularly described:

> Lots 1 through 8 inclusive and Lots 35 through 42, inclusive, in Block 1 La Sierra Tract, according to the map thereof recorded in Book 5 Page 49 of Record of Surveys, Fresno County Records.
>
> Together with that portion of the alley lying adjacent to the West line of Lots 6 and 7 in block 1 of La Sierra Tract and the East line of Lots 36 and 37 in Block 1 of La Sierra Tract, and lying between the North line of said Lot 6 projected Westerly and the South line of said Lot 7 projected Westerly as said lots are shown on the map of La Sierra Tract, except therefrom the South 5.0 feet and the North 10.0 feet, as vacated by the City of Fresno by Resolution #6122 recorded August 10, 1960 in Book 4425 Page 8 of Official Records, Document No. 5845.
>
> Excepting the North 10 feet of Lots 1 through 6 and Lots 37 through 42.
>
> The North half of Lot 32 and all of Lots 33 and 34 in Block 1 of La Sierra Tract, as per map recorded in Book 5 Page 49 of Record of Surveys, Records of Fresno County.
>
> Lots 9 and 10 in Block 1 of La Sierra Tract, according to the map thereof recorded in Book 5 Page 49, of Record of Surveys, Fresno County Records.

B. The Covenantor hereby warrants that any and all parties having record title interest in the Subject Property which may ripen into a fee have subordinated to this instrument.

C. All such instruments of Subordination, if any, are attached hereto and made a part of this instrument.

D. The Covenantor has applied to the City of Fresno for a district amendment changing the C-6 and R-3 Zone District classification to the C-M/cz Zone District classification for the Subject Property.

E. The City of Fresno desires to obtain covenants from the Covenantor to insure that the Subject Property is not developed, used, or maintained in such a way as to adversely affect adjoining properties.

COVENANTS, CONDITIONS, AND RESTRICTIONS

For favorable action on, and approval of, the Covenantor's application for an amendment to the Zone District classification of the Subject Property as referred to hereinabove, the Covenantor hereby covenants that the Subject Property shall be held, conveyed, encumbered, used, occupied, developed, maintained, and improved subject to the following covenants, conditions, and restrictions, which are for the purpose of enhancing attractiveness, usefulness, value, and desirability of the Subject Property, the surrounding property, and the public at large and to minimize possible adverse effects on the public health, safety, peace, and general welfare. Each of the covenants, conditions, and restrictions contained in this Statement will run with the Subject Property and shall be binding on each successive owner of the Subject Property and his heirs, administrators, successors, and assigns.

1. Covenantor hereby covenants as follows:

   A. The project shall retain the existing building at the southwest corner of East Belmont and North Roosevelt Avenues as depicted on attached Exhibit "L-1".

   B. Retention and renovation of the facade of the existing building immediately south of the building at the southwest corner, as shown on Exhibit "L-1", as is physically possible and economically practical. If the facade fails, due to structural distress, it should be rebuilt to resemble the existing historical structure as closely as possible using the remnant bricks from the fallen facade. All precautions in concert with common practices standard to the industry shall be taken to save the facade intact. However, no implicit guarantee can be given that the facade will not fail during the demolition and renovation process.

   C. The new construction in the infill areas on the east side of the property shall be compatible with the existing structure as shown on Exhibit "L-2".

   D. The new construction contemplated immediately west of the facade described above shall be no higher than the height of the facade for a minimum of twenty feet west of the facade.

   E. The new building to be constructed immediately west of the 30' existing building at the northwest corner of the site as shown on Exhibit "L-1" shall be of a height equal to or slightly greater than the westerly portion of said building, but in no case higher than forty feet and shall be compatible with the existing structure to the east as shown on Exhibit "L-2".

   F. The owner shall provide and maintain street trees in tree wells in the sidewalk on the west side of the property south to the entry driveway. These trees and major trees planted along the remainder of the west and south sides of the property shall be a species that attain a minimum height of thirty feet (30'0") at maturity.

   G. The future high density frozen storage building proposed for phase three shall be set back a minimum of fifty feet (50'-0") east of Ferger Avenue to the height of sixty feet (60'-0"), or sixty-six feet with a minor deviation as provided by the Fresno Municipal Code.

H. All noise producing equipment on the building shall meet the standards of the City of Fresno. Truck noise shall not exceed the level of forty-five decibels (45db) inside adjacent residences between the hours of 10:00 p.m. and 6:00 a.m. If noise levels exceed that criteria, mediation measures shall be imposed by the City of Fresno which could include restrictions on hours of operation.

I. All truck maneuvering and parking shall take place on site and shall be subject to the requirements of the City of Fresno.

2. The conditions of this Statement are intended to benefit the public and public properties. Accordingly, the City of Fresno shall have the right to enforce this Statement by any legal or equitable means against the Covenantor and such person or persons in actual possession of Subject Property who directly or who through any agent violate the terms hereof. All obligations of the Covenantor under this Statement shall inure solely to the benefit of the City of Fresno. There are no third party beneficiaries of such obligations nor shall the right of the City of Fresno be transferable in any manner to any person other than to a successor municipal corporation whose geographic boundaries include the Subject Property.

3. Covenantor covenants that, in the event of failure to comply with the conditions set forth in this Statement, Covenantor will not object to the redistricting of the Subject Property to a land use zoning district which the Council of the City of Fresno determines is proper without compliance with such conditions. In such event, Covenantor waives any right to have any uses or improvements installed subsequently to the change of land use zoning district herein requested considered, or treated as non-conforming uses or improvements after such redistricting

4. The foregoing conditions shall remain in full force and effect until such time as the City of Fresno, pursuant to the district amendment procedure of the Fresno Municipal Code, finds the enforcement of such condition is no longer equitable.

5. The provisions of this Statement shall be deemed independent and severable and the invalidity or partial invalidity or unenforceability of any one provision or portion thereof shall not affect the validity or enforceability of any other provision hereof. Whenever the context so requires, any gender includes the other genders, the singular includes the plural, and the plural includes the singular.

MS:nh:SENT121/+1682

DATED: 1 / 5 /, 1993

Accepted By:

CITY OF FRESNO,

By:

Alvin P. Solis, Director
Development Department

ATTEST:

JACQUELINE L. RYLE

By: Cindy Hamley
Deputy

APPROVED AS TO FORM:

~~HARVEY WALLACE~~ JAMES P. LOUGH
City Attorney

By: 1/20/93
Deputy

COVENANTOR:

Shehadey and Shehadey, a
California General Partnership

LARRY & ELAYNE SHEHADEY TRUST

By: Larry Shehadey
LARRY SHEHADEY, Trustee

By: Richard Shehadey
RICHARD SHEHADEY

NOTARY ACKNOWLEDGMENT

State of California)
) ss
County of Fresno)

STATE OF CALIFORNIA
COUNTY OF Fresno } ss.

On January 5, 1993 before me, Mary Steensen, Notary Public (here insert name and title of the officer), personally appeared Richard Shehadey, personally known to me (~~or proved to me on the basis of satisfactory evidence~~) to be the person(~~s~~) whose name(~~s~~) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ authorized capacity(~~ies~~), and that by his/~~her/their~~ signature(~~s~~) on the instrument the person(~~s~~), or the entity upon behalf of which the person(~~s~~) acted, executed the instrument.

WITNESS my hand and official seal.

MARY STEENSEN
My Commission Expires Dec. 22, 1995

(Seal)

Mary Steensen
Signature

ACKNOWLEDGMENT—All Purpose—Wolcotts Form 237CA—Rev. 1-91
©1991 WOLCOTTS, INC. (price class 8-2)

STATE OF CALIFORNIA

COUNTY OF Fresno } ss.

On January 8, 1993 before me, Mary Steensen Notary Public (here insert name and title of the officer),
personally appeared Larry Shehadey

, personally known to me (or ~~proved to me on the basis of satisfactory evidence~~) to be the person(~~s~~) whose name(~~s~~) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ authorized capacity(~~ies~~), and that by his/~~her/their~~ signature(~~s~~) on the instrument the person(~~s~~), or the entity upon behalf of which the person(~~s~~) acted, executed the instrument.

OFFICIAL SEAL
MARY STEENSEN
NOTARY PUBLIC-CALIFORNIA
PRINCIPAL OFFICE IN
FRESNO COUNTY
My Commission Expires Dec. 22, 1996

(Seal)

WITNESS my hand and official seal.

Mary Steensen
Signature

7

ACKNOWLEDGMENT—All Purpose—Wolcotts Form 237CA—Rev. 1-91

CLERK'S CERTIFICATION

STATE OF CALIFORNIA)
) ss.
COUNTY OF FRESNO)

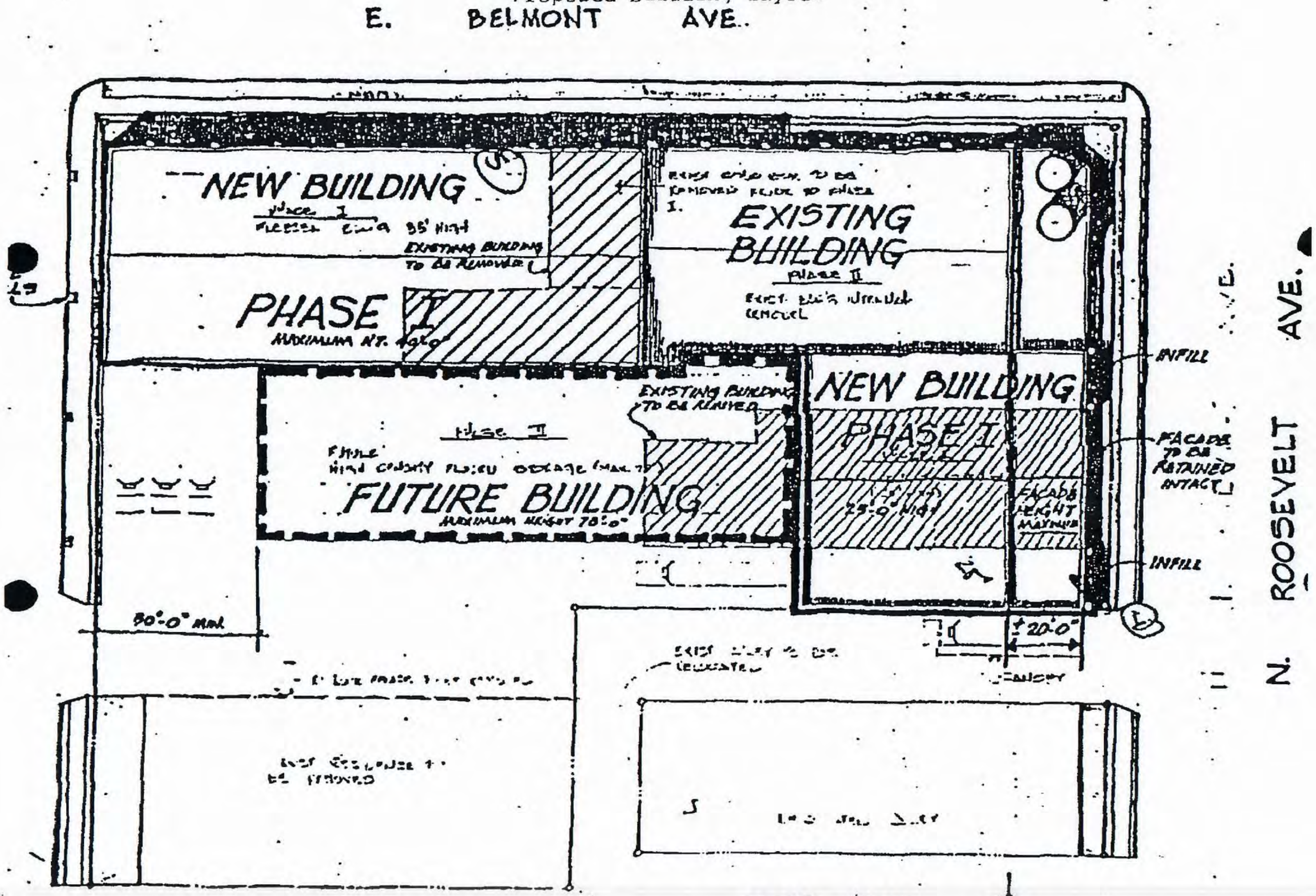
On January 27, 1993 before me, Cindy Hamby personally appeared Alvin Solis, Development Director personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(~~s~~) whose name(~~s~~) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ authorized capacity(~~ies~~), and that by his/~~her/their~~ signature(~~s~~) on the instrument(~~s~~) the person(~~s~~), or the entity upon behalf of the CITY OF FRESNO of which the person(~~s~~) acted, executed the instrument.

WITNESS my hand and official seal.

JACQUELINE L. RYLE, CMC
CITY CLERK

By Cindy Hamby
DEPUTY

Producers Dairy Expansion
Proposed Building Layout



SITE PLAN

10

EXHIBIT "L-2"

Architectural Compatibility

BRECHMANN ENGINEERING, INC.
consulting engineers

II. LAND USE MODIFICATIONS/CONDITIONS

450 ~~144~~ East Belmont

The first modification consists of 1.83 acres located at the south side of E. Belmont Avenue between N. Ferger and N. Roosevelt Avenues. The Specific Plan designation has been amended from General Commercial to Light Industrial.

Height and setback requirements are imposed as conditions of rezoning, which are also mitigation measures required by this EIR. (Refer to Plan Amendment 90-24 and Rezoning Application 90-49.) Mitigation measures shall preserve the unique appearance and masonry craftsmanship of the building and insure the greatest degree of architectural compatibility of new construction with the existing structure and with surrounding properties. Further, noise-control measures shall be placed on the operation of the proposed development and the operation of truck activities. These measures are set forth on Table B.

Table B: Mitigation Measures for 450 ~~144~~ E. Belmont

1. The project shall retain the existing building at the southwest corner of East Belmont and North Roosevelt Avenues as depicted on attached Exhibit "L-1".

2. Retention and renovation of the facade of the existing building immediately south of the building at the southwest corner, as shown on Exhibit "L-1", as is physically possible and economically practical. If the facade fails due to structural distress it should be rebuilt to resemble the existing historical structure as closely as possible, using the remnant bricks from the fallen facade. All precautions in concert with common practices standard to the industry shall be taken to save the facade intact. However, no implicit guarantee can be given that the facade will not fail during the demolition and renovation process.

3. The new construction in the infill areas on the east side of the property shall be compatible with the existing structure as shown on Exhibit "L-2".

4. The new construction contemplated immediately west of the facade described above shall be no higher than the height of the facade for a minimum of twenty feet west of the facade.

5. The new building to be constructed immediately west of the 30 foot existing building at the northwest corner of the sight as shown on Exhibit "L-1" shall be of a height equal to or slightly greater than the westerly portion of said building, but in no case higher than forty feet and shall be compatible with the existing structure to the east as shown on Exhibit "L-2".

6. The owner shall provide and maintain street trees in tree wells in the sidewalk on the west side of the property south to the entry driveway. These trees and major trees planted along the remainder of the west and south sides of the property shall be a species that attain a minimum height of thirty feet (30'-0") at maturity.

7. The future high density frozen storage building proposed for phase three shall be set back a minimum of fifty feet (50'-0") east of Ferger Avenue to the height of sixty feet (60'-0"), or sixty-six feet with a minor deviation as provided by the Fresno Municipal Code.

8. All noise producing equipment on the building shall meet the standards of the City of Fresno. Truck noise shall not exceed the level of forty-five decibels (45db) inside adjacent residences between the hours of 10:00 p.m. and 6:00 a.m. If noise levels exceed that criteria, mediation measures shall be imposed by the City of Fresno which could include restrictions on hours of operation.

9. All truck maneuvering and parking shall take place on site and shall be subject to the requirements of the City of Fresno.

Proposed Building Layout ___

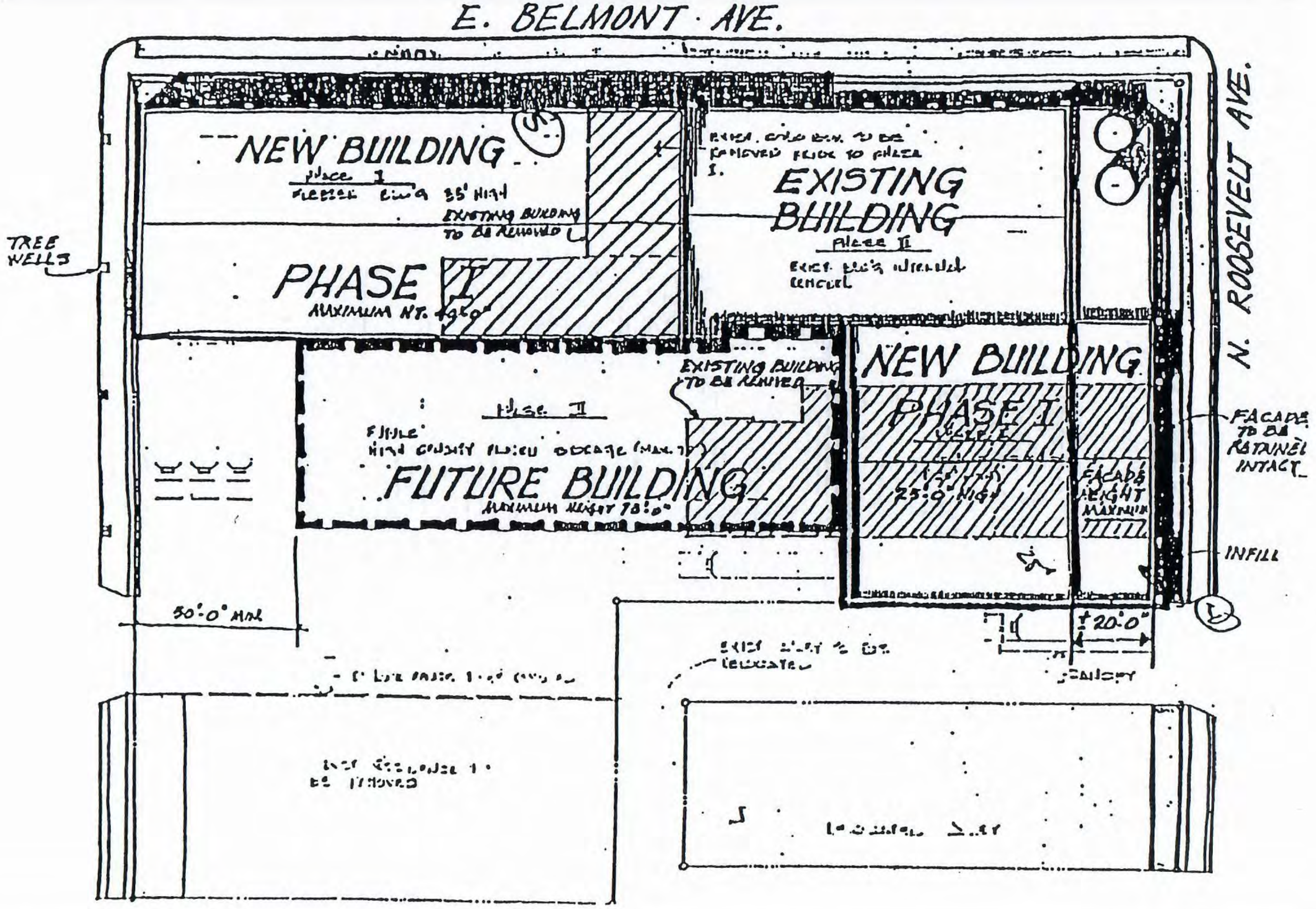
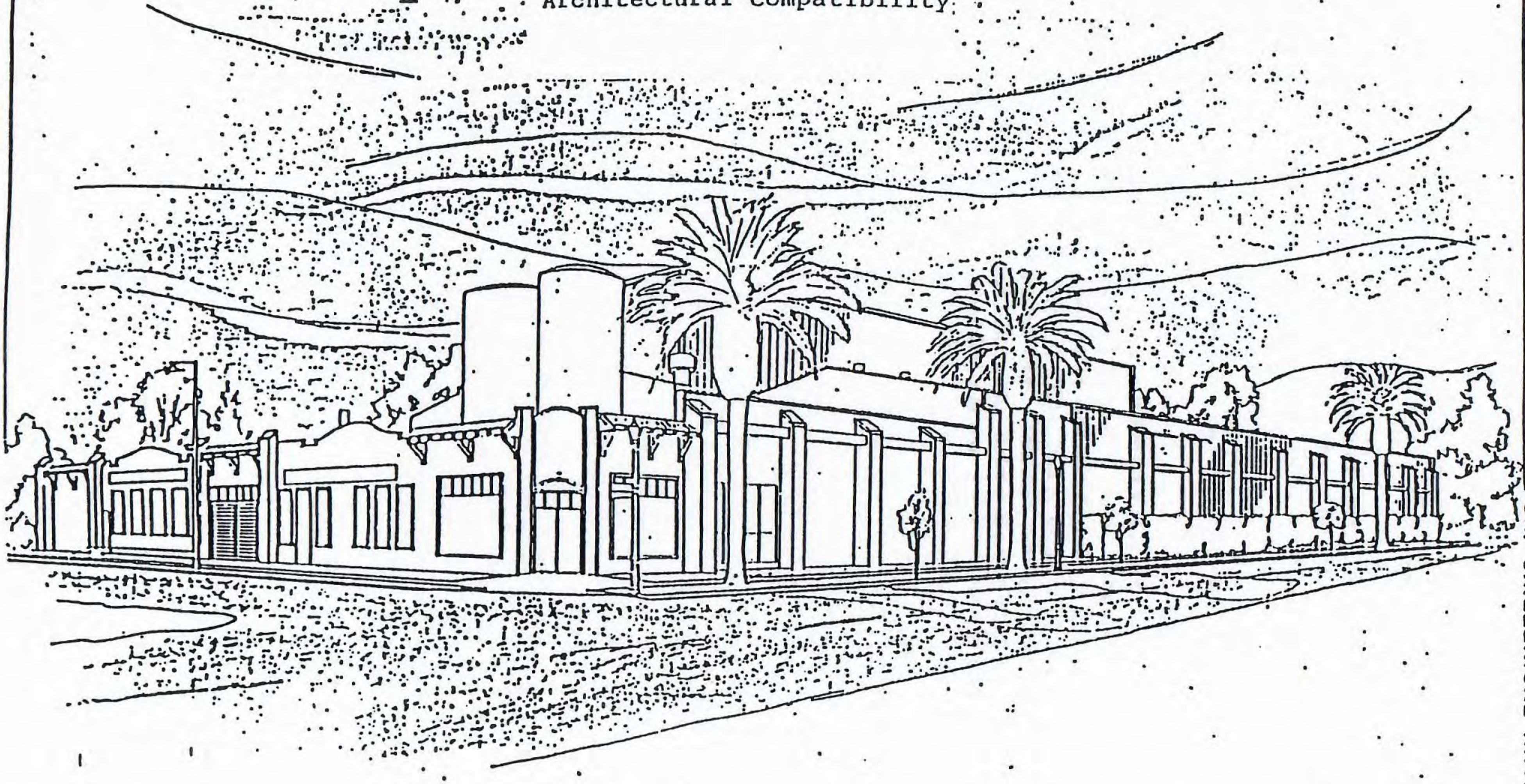


EXHIBIT "L-2"

Architectural Compatibility



BRECHMANN ENGINEERING, INC.
consulting engineers

Department of Toxic Substances Control

Jared Blumenfeld
Secretary for
Environmental Protection

Meredith Williams, Ph.D., Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Gavin Newsom
Governor

February 3, 2020

Mr. Rodney Horton
Planner III
City of Fresno Planning and Development Department
2600 Fresno Street, Room 3043
Fresno, California 93721

NOTICE OF PREPARATION FOR THE PRODUCERS DAIRY DRAFT ENVIRONMENTAL IMPACT REPORT – DATED JANUARY 2020 (STATE CLEARINGHOUSE NUMBER: 2020010298)

Dear Mr. Horton:

The Department of Toxic Substances Control (DTSC) received an Initial Study (IS)/Notice of Preparation for the Producers Dairy Project.

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue), grading a new paved parking lot for diesel milk trucks, and closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

DTSC recommends that the following issues be evaluated in the IS Hazards and Hazardous Materials section:

1. The IS should acknowledge the potential for project site activities to result in the release of hazardous wastes/substances. In instances in which releases may occur, further studies should be carried out to delineate the nature and extent of the contamination, and the potential threat to public health and/or the environment should be evaluated. The IS should also identify the mechanism(s) to initiate any required investigation and/or remediation and the government agency who will be responsible for providing appropriate regulatory oversight.
2. Refiners in the United States started adding lead compounds to gasoline in the 1920s in order to boost octane levels and improve engine performance. This practice did not officially end until 1992 when lead was banned as a fuel additive in California. Tailpipe emissions from automobiles using leaded gasoline contained lead and resulted in aerially deposited lead (ADL) being deposited in

and along roadways throughout the state. ADL-contaminated soils still exist along roadsides and medians and can also be found underneath some existing road surfaces due to past construction activities. Due to the potential for ADL-contaminated soil DTSC, recommends collecting soil samples for lead analysis prior to performing any intrusive activities for the project described in IS.

3. If buildings or other structures are to be demolished on any project sites included in the proposed project, surveys should be conducted for the presence of lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk. Removal, demolition and disposal of any of the above-mentioned chemicals should be conducted in compliance with California environmental regulations and policies. In addition, sampling near current and/or former buildings should be conducted in accordance with DTSC's 2006 *Interim Guidance Evaluation of School Sites with Potential Contamination from Lead Based Paint, Termiticides, and Electrical Transformers* (https://dtsc.ca.gov/wpcontent/uploads/sites/31/2018/09/Guidance_Lead_Contamination_050118.pdf).
4. If any projects initiated as part of the proposed project require the importation of soil to backfill any excavated areas, proper sampling should be conducted to ensure that the imported soil is free of contamination. DTSC recommends the imported materials be characterized according to *DTSC's 2001 Information Advisory Clean Imported Fill Material* (https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/SMP_FS_Cleanfill-Schools.pdf).
5. If any sites included as part of the proposed project have been used for agricultural, weed abatement or related activities, proper investigation for organochlorinated pesticides should be discussed in the IS. DTSC recommends the current and former agricultural lands be evaluated in accordance with DTSC's 2008 *Interim Guidance for Sampling Agricultural Properties (Third Revision)* (https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/Ag-Guidance-Rev-3-August-7-2008-2.pdf).

DTSC appreciates the opportunity to review the IS. Should you need any assistance with an environmental investigation, please submit a request for Lead Agency Oversight Application, which can be found at: https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/VCP_App-1460.doc. Additional information regarding voluntary agreements with DTSC can be found at: https://dtsc.ca.gov/brownfields/.

If you have any questions, please contact me at (916) 255-3710 or via email at Gavin.McCreary@dtsc.ca.gov.

Sincerely,

Gavin McCreary

Gavin McCreary
Project Manager
Site Evaluation and Remediation Unit
Site Mitigation and Restoration Program
Department of Toxic Substances Control

cc: (via email)

Governor's Office of Planning and Research
State Clearinghouse
State.Clearinghouse@opr.ca.gov

Ms. Lora Jameson, Chief
Site Evaluation and Remediation Unit
Department of Toxic Substances Control
Lora.Jameson@dtsc.ca.gov

Mr. Dave Kereazis
Office of Planning & Environmental Analysis
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

PRODUCERS DAIRY PROPOSAL ON H STREET

Don’t think I can support the expansion of Producers Dairy and relinquishment of H Street to them and other businesses. This is such an important, central location in Fresno which could be used for some sort of mixed-use development that would benefit the local community and the entire city.

In addition, many people use H Street as an easy, convenient diagonal to get into or through downtown, including many cyclists. If anything, this street should match the sections north (Weber above Belmont) and south and receive bike lanes and reduced travel lanes. The highest use is only for short periods during rush hours.

Truck traffic is just one of many factors that negatively affect this change, but must also include air quality, noise, neighborhood issues… IMHO, Producers, if they want to stay in their present location, should *pay the city* for repaving the street – it’s their trucks that do the most damage. And the street is in very bad shape at present.

Let them take care of their own streets. Can’t see how *giving* H Street to Producers benefits the City and why Producers should receive the City’s largesse. Maybe you could give the street outside my house to me – I benefit the city at least as much, by providing good housing at a reasonable cost with my 3 sfr rental houses. And anyway, Producers will do just as well outside the city core and might even be better – that land must be cheaper than they could get for their present location, and less property taxes, right?

Even though the area is still zoned industrial, that should change. It would seem much better for the City to help Producers locate and/or exchange land outside of the central part of town, to an area that has easy access to major highways and good surface streets, and is more conducive to industrial zoning.

I understand that only the EIR is being addressed at this time, but this is one reason the EIR process was initiated – to address obviously poor environmental conditions or changes. I’m pretty sure that, if done well, it will show alternatives that are much better for the environment and the City.

Kiel Lopez-Schmidt
3035 N. Farris Ave.
Fresno, CA 93704
(559) 492-7249
kielts@gmail.com
2/20/2020

Rodney Horton
City of Fresno
2600 Fresno Street, Room 3043,
Fresno, CA 93721

I'm writing in response to the notice of preparation for the Environmental Impact Report for the expansion and reconfiguration of Producers Dairy plant transportation and truck storage.

I grew up near this plant at 815 E Dudley Ave. and my mom still resides in that home. Additionally, I managed a business at 504 E. Belmont from 2014 to 2018 adjacent to the old brick cheese plant related to this project. There are a few areas that I believe are in need of extensive study.

First the site plans provided are very light on detail related to traffic engineering which seem to be crucial for a transportation related project. It is difficult to comment when bare minimum design work is not being presented. This transportation project is difficult to understand related to how it will relate and be phased with the High Speed Rail project and roadway changes.

This project says there is no expansion of trucks from existing volume. However, the volume of trucks shown in the plan is an increase and there may have been incremental increases in truck traffic that have gone unevaluated since Producers last major project in 2015. That project included expansion of 5,000 square foot two-story building (blow mold machinery on 1 st floor, bottle storage on 2 nd floor) and a 1,600 square foot addition to an existing bottling building. I believe that project avoided full EIR study. That volume increase should now be studied.

Further, Producers has not met it's deed covenant obligations at the historic brick cheese factory buildings which were incorporated in the the Tower District Specific Plan Master EIR. That lack of performance that decades of aggregate impact on our community should now be studied and mitigated.

Producers heavy use of streets including Belmont, Roosevelt, Palm and H Street among others have led to accelerated decay of streets, gutters, curb cuts, sidewalks, street light and street trees. Those ongoing and aggregate impacts need to be studied and mitigated.

As a advide bicyclist, I would also raise your attention to the impact of the proposed project on bicycle traffic. This is especially important because H Street planned in Fresno's Active

Transportation Plan as a Class I bike path in one direction and a Class II bike lane in the other direction. The vacation of H Street has the potential to void these planned bike facilities that connect existing bike facilities to the north and south. Simply redirecting bike traffic to Palm and Belmont is not ideal because that harms easy and safe bike access between Tower and West Fresno to and from Downtown. Added left hand turns especially without signalized intersection and dedicated left hand turn lane also increase danger to bicyclists.

Pedestrian traffic should be taken into account because the proposed project would redirect traffic to the Palm and Belmont intersection that lacks pedestrian amenities and safety. That intersection and corridors need extensive study especially in residential, commercial, church, and nearby John Muir Elementary School adjacencies. This should include extensive air quality monitoring before, during and after the project.

I would like to comment further about elements that should be studied. However, the design documents, description and phasing with High Speed Rail work are not adequately displayed to do so.

Thank you,

Kiel Lopez-Schmidt

LA TAPATIA TORTILLERIA, INC.
104 East Belmont Avenue
Fresno, California 93701
Phone (559) 441-1030 • Fax (559) 441-1641
www.tortillas4u.com

Taste the Difference

Date: February 3rd, 2020

Attn: Rodney Horton

Subject: Environmental Impact Report Inclusion

The purpose of this letter is to formally notify the City of Fresno that La Tapatia Tortilleria, Inc. would like to be included in the Environmental Impact Report (EIR) that needs to be conducted for the Producers Dairy Project.

We understand that a segment of H street is being proposed for abandonment (Between Belmont Avenue and Palm Avenue) for future Producers Dairy expansion purposes. This would significantly impact La Tapatia in multiple ways considering we own and or occupy 3 properties between Harrison Street and Belmont Avenue on H Street.

Points of emphasis for this study should include but not be limited to:

- Traffic pattens and congestion for all delivery trucks, export containers and vehicles coming in and going out of our facilities (104 E Belmont, 94 E Belmont, 403 H street).
- Future expansion projects that will be built along and utilize access onto and off of H street.
- Air Quality Impact
- Labor and or an Efficiency Impact
- Parking for our employees and our retail outlet customers
- Public safety

In order to get a full understanding of the potential impact of this project I would like to invite any or all members of the EIR team to meet at our facility to see our processes first hand. My direct line for setting up a visit is (559) 351-0135. Thank you very much for your time and attention into our concerns,

Justin Rushing

General Manager

La Tapatia Tortilleria, Inc.

PRODUCERS DAIRY

PUBLIC SCOPING MEETING AGENDA

MONDAY, FEBRUARY 3, 2020 - 5:00 PM

1. ***Registration Period:*** Attendees will sign in and give his/her name, association, address, and email. This information will be put on a mailing list for future mailings.

2. ***Format:*** Short Presentation and Open House

    a. Brief Presentation: 5:00-5:15pm - A brief presentation will be provided at the beginning of the meeting. The presentation will provide an overview of the project, the purpose of the meeting, and opportunities for community input/participation during the environmental review process.

    b. Open House: 5:15-6:00pm – Maps and information will be provided. The intent is to provide you with an opportunity to review some materials, ask some questions, and provide some comments if desired.

3. ***Questions/Comments:*** De Novo Planning Group and City of Fresno staff will accept questions and comments concerning the project and scope of the EIR. The intent is to record comments/concerns so they can be addressed within the Draft EIR.

Please write any comment or concern regarding this project in the space provided below.

This ~~product site & the~~ proposed project needs to answer the community questions regarding: (1) Air Quality & the health impacts to the local communities; (2) The AQ to ~~the~~ Roeding Park and Chaffee Zoo; (3) The impacts of over 200 diesel vehs daily to commuter, residents and children whom walk to/from Roeding Park or school.

This mtg was disappoint~~ed~~ment because it did not occur w/in the proposed project area. Per City Planner III R. Horton, it was held at City Hall as a convience to City staff, consultants and the business owners. There needs to be more positive outreach to the low-income communities that are impacted by Producers. Producers need to live up to their public core values vs. the lip service.

Ms. Lisa Flores
1611 N. Wishon Ave.
Fresno, CA 93704

FRESNO CA 936
10 FEB 2020 PM 1 L

DeNovo Planning
1020 Suncast ~~Ln~~ LN Ste 106
El Dorado Hills, CA
95762

9576289335 R045

ISSUES

1. Air Quality
   - PM & how it effect community health
2. Traffic
   - types of vehicles
   - Emission reduction
   - Idling time

3 ~~Road~~ Roadway & Infrastructure
   - how will the roadway be maintained w/out costing tax payers

4. Environmental Justice

5. Impacts to the historical landscape that is Roeding Park & Chaffee Zoo. How will the truck traffic impact park visitors?

City of Fresno
Attn: Rodney Horton
2600 Fresno Street, Room 3043
Fresno, California. 93721

Email to:
Rodney.Horton@fresno.gov

February 20, 2020

Thank you for the opportunity to review and comment on the Initial Study/Notice of Preparation for the Producer's Dairy Project. As such, I must remind you, I attended the scoping meeting on February 3, but did not receive a copy of the IS/NOP until Saturday, February 15 giving me less than 3 business days to review this document.

Here are my issues of concern:

- Future documents would be well suited to include an abbreviation page, so local residents could understand the technical verbiage used in this type of document.

- What are the designated truck route within/near the proposed project? Does the City/ Producer's need to do something more than a traffic analysis like a more detailed route study?

- Proposed relinquishment of "H" Street is not warranted and would not benefited the park/ zoo users, nearby local businesses, and area residents. The proposed relinquishment would limit access points to and from Roeding Park/Chaffee Zoo, downtown, the post office, west Fresno and other vital governmental offices.

- There is no discussion on effect to limiting emergency services (i.e. police, fire, emt) to the neighboring homes, Roeding Park/Chaffee Zoo, or the Downtown Arts District with the relinquishment of H Street.

- What is the City of Fresno receiving for the relinquishment of H Street?

- On Page 5, there is no discussion on the amount of current/proposed idling times of truck traffic solely within the proposed project area. Furthermore, it fails to discuss if there are any internal movements that are not accounted for.

- The proposed project will subject local residents to increase nightly light glare and will be a nuisance to local residents whom will be unable to enjoy a peaceful night sleep.

- Where is the AB617 discussion on air quality attainment/mitigation? The proposed project is in one of hot spots in Fresno outside the Industrial Triangle. AND there is no detail discussion on this?

- There are at least four Swainson's Hawks that hunt in the Roeding Park/Producer's Dairy/ Tower District region. They hunt small animals include but not limited to rodents. As such, I am very concerned the demolition of the historic structures would harm the Swainson's Hawk existence. Furthermore, there is great community concern that if the buildings were tore down that the local residents immediate (with a 1/2 mile including Roeding Park/Chaffee

Zoo) would be have to endure a rat infestation. And that killing of the rats may impact or kill off the Swainson's Hawks, as well as possibly spread disease into the neighborhoods.

- Furthermore, since the historic structure has been willful neglected by Producer's Dairy, it should be assume that there are bats. Bats keep down the bug population in the surrounding neighborhoods, as such bat mitigation maybe warranted.

- Your analysis fails to address the impact on the neighboring residents housing values and quality of life issues (i.e. air, noise, traffic, smells, and light glare). Seriously, who would want to purchase a home adjacent to this proposed project if it was lit up nightly like a correctional facility?

- Fire and Police access needs to be further discussed since you are limiting access to the Tower District, Downtown Art District, and West Fresno?

- There is no discussion on where 200 trucks get their fuel? Is it on-site? Are there underground storage facilities on site?

- The document needs to adequately discuss the pedestrian traffic. Belmont is one of the access point to Roeding Park, and many low-income families walk along Belmont Avenue to get to the park. How is the high truck traffic going to impact low income families with children crossing the H Street, and the Roundabout?

Organized Roeding Park dog park users (estimated at 800) are very concerned about this project and the potential impact to not only Roeding Park, the Swainson's Hawks, but to Chaffee Zoo and their residential animals.

If you need an clarification regarding my comments, I can be reached via email at lisayflores@aol.com.

Lisa Y. Flores
Roeding Park Small Dog Play Group
Central Valley Chihuahua Club

Cc: Miguel Arias, Council Member
Esmeralda Soria, Council Member
Richard Harriman, Attorney
Robyn Smith, Resident
Norma Davis, Resident

From: Rodney Horton
To: Malyn Rose
Subject: RE: Producers Proposed H Street project
Date: Thursday, February 20, 2020 4:56:56 PM

Thank you for the email. I will send your email to the consultant team.

Rodney

From: Malyn Rose [mailto:zqrose@gmail.com]
Sent: Thursday, February 20, 2020 3:54 PM
To: Rodney Horton
Subject: Producers Proposed H Street project

External Email: Use caution with links and attachments

Mr. Rodney Horton:

My name is Malyn Rose, I live at 308 N. Ferger Ave and have sense 1976. Buying this house with the intention of raising a family and enjoying a historic house in a quiet neighborhood. In my 40 some years I've seen many changes and I am so against the closure of H. Street. I've listed a few of the reasons in the following statements.

1: As reported in studies, read in the Fresno Bee, life expectancy in the West part of Fresno is less than any other part of Fresno. So why increase the toxicity of more truck travel and parking? We have a major heavily traveled freeway and railroad helping to contribute to the poor quality of air.

2: Noise level will increase considerably. We already have Producers parking their trucks in the Old Cheese Factory at the end of my block.

3: Producers is not a good neighbor. They have taken a part of Franklin Ave. from us which was a direct access to H. Street. A left lane turn on Palm at Belmont was eliminated. Also some houses along Palm have been torn down to increase their parking lot. I get the sense they are like the old video game "Pac Man"... chomp, chomp.

4: In closing, to make this short and to the point. Producers have not lived up to their commitment to better our neighborhood by the Covenant they signed on January 5, 1993.

This proposal leads me to believe that Producers does not have the interest of our neighborhood or the city as a whole in their quest to close a major throughway.

Please include this in the public comments on the proposed Producers project of closing H. Street between Belmont and Palm avenues as per the request dated January 20, 2020.

With regard,
Malyn Rose

-----Original Message-----
From: natalie clark [mailto:miller-clark@sbcglobal.net]
Sent: Thursday, February 20, 2020 9:34 AM
To: Rodney Horton
Cc: Scott Miller; Miguel Arias; Esmeralda Soria; Terry Cox; Robert Boro; Mindy Rose; Paul E. Pierce; Malyn Rose; Michael Clifton; Michael Birdsong; kielts@gmail.com
Subject: Public Comments RE: Producers Dairy Proposal to Close H St.

Mr. Horton,

This will serve as my comments in regards to the Producers Dairy project to close H St per your request dated January 22, 2020.

I grew up in the 300 block of Ferger Avenue, which is a block away from the traffic pattern that Producers Dairy uses. My mother purchased her house on Ferger Ave in 1976 and still lives there. I walked to school from kindergarten until high school (to catch the bus) at John Muir Elementary School. I currently live in District 1 and work downtown and use H St. often for my commute. I saw the letter you sent on January 22, 2020 on Facebook and alerted my mom about it. She had not received a letter and is within the distance of your 1,000 feet reach.

This initial request for comment needs to be broadened to a bigger audience. The closure of H St, which is a main thoroughfare to downtown from North West Fresno needs to be brought to the attention of the people using this road, not just the 1,000 feet radius of the proposed project as you state was the population of your January 22 letter. I would say that the entire City of Fresno needs to know about this and be able to comment.

If the City of Fresno grants the rights to close H St. to Producers Dairy, what is the City and it’s residents getting in return? Is this in the best interest of the City as a whole or just one private company?

The Producers proposal in your letter is very high level and not detailed enough to make any kind of decisions about. There is no timeline, no reports attached. I understand the letter is notifying people of the intent to conduct an EIR and to let them know about the scope of the proposed project. I would like to see the detailed timeline of this project and specifics as to when the environmental and traffic reports expect to be available and when the Cheese Factory upgrades fit into the schedule.

How does the High Speed Rail plans fit into the Producers Project?

I would like to see the Covenant that was signed in 1993, enforced until this project is approved. There was a City Council meeting in 2018 where Mayor Brand said he would work with Producers on another location for their truck parking. I personally spoke at this meeting about the injustice being done to the community. There are safety and environmental concerns for the neighborhood residents with the current operations that Producers has in place. They continue to break city codes with their constant truck parking and traffic in the neighborhood. I have reported these code violations on the FresGO app and they were dismissed. I was told they were taken care of. They have not been taken care of. The City needs to advocate on behalf of the residents and enforce City codes that are there to protect the neighborhood. The City is acting on behalf of one private company and not the residents as a whole.

The lack of detail of this proposal, the audience you included for comment (1,000 feet radius of the project), and the speed at which it appears you are trying to complete this project, leads me to believe that the City of Fresno is working behind the scenes with Producers to come up with a solution that best fits them and not the community. That is not how the City of Fresno should be conducting business.

Please keep me on your list of actively involved City of Fresno residents who would like to continue to be involved in this process.

Natalie Clark
City of Fresno Resident, District 1
605 E. Home Ave,
Fresno, CA 93728
559-304-7911 cell

STATE OF CALIFORNIA Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

January 23, 2020

Rodney Horton
Fresno, City of
2600 Fresno Street, RM 3043
Fresno, CA 93721

Re: 2020010298, Producers Dairy Project, Fresno County

Dear Mr. Horton:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    - **a.** The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    - **b.** Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    - **a.** If part or all of the APE has been previously surveyed for cultural resources.
    - **b.** If any known cultural resources have already been recorded on or adjacent to the APE.
    - **c.** If the probability is low, moderate, or high that cultural resources are located in the APE.
    - **d.** If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    - **a.** The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    - **b.** The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   - **a.** A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   - **b.** A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   - **a.** Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   - **b.** Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   - **c.** Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Staff Services Analyst

cc: State Clearinghouse

From: Norma Pinedo Davis [mailto:NormaPinedoDavis@gmail.com]
Sent: Monday, February 03, 2020 2:13 PM
To: Rodney Horton
Subject: Producer's Dairy Project

External Email: Use caution with links and attachments

Hello Mr. Horton

I'm writing to 1) express my opinion and 2) submit a question for discuss for tonight's meeting at City Hall regarding the proposed Producer's Dairy Project.

1) I live at 702 N Safford Ave, Fresno, Ca 93728 which is one block north of the corner of Palm & Belmont. I work daily, and my driving route takes me through that intersection every day around 730am, which would be considered peak rush hour. My drive home takes me through that intersection daily in the evenings at 530pm which is also peak rush hour. If the proposed closure of H street were to take place as proposed, the amount of traffic would be rerouted/detoured from H street would severely impact the current intersection because vehicles would now have to come north on Palm to go west on Belmont to get to their destinations. Currently H Street turns into Weber as it passes north across Belmont Ave. If that section were to be blocked off, people now have to go north then cross over using any street available to get back onto Weber using any streets possible.

There are no turn signals at that intersection, and the shape of the intersection is not squared. It's a curved intersection that constantly causes visibility problems. To make a turn from eastbound Belmont onto north Palm requires a vehicle to be further out into the intersection because of the curve. I have lived in my location for 20 years, and I've heard several vehicle crashes from even a block away caused by vehicles out in the intersection trying to make the turn.

I also feel that the amount of traffic trying to find "shortcuts" through the side street would impact the safety of our neighborhood. My home is located on the corner of Thomas & Safford. Safford is the last street, that people traveling south on Weber can use to cut eastbound to Palm. So many vehicles use that stretch to speed through the neighborhood as it is now. There is also a school on the corner of Palm and Dennett which would also be impacted by more traffic trying to find their way north from downtown if H street is closed off.

I'm opposed to this project as presented at this time. There would have to be major improvements to mitigate the amount of traffic that would now overflow in to a residential neighborhood.

2) If this project should be approved, will there be plans for any intersection upgrades for intersections impacted by the detour?

Thank you
Norma Pinedo Davis
702 N Safford Ave
Fresno, CA 93728
559.304.5896

From: Robynn Smith [mailto:robynn73@aol.com]
Sent: Tuesday, January 28, 2020 1:17 PM
To: Rodney Horton
Subject: Notice of Prep. Enviromental Impact Report/Scope Meeting

Mr. Horton,

My name is Robynn Smith. I am a home owner at 546 N Ferger Ave. I live a couple blocks from Producers Dairy and the Cheese Factory. (corner of Ferger and Belmont)

I have some serious concerns about the Project. It effects me and my family directly. My husband and I bought our home just over a year ago. We already had environmental concerns before the letter. We were shocked to get a letter raising additional concerns. We were hoping when we bought our 101 year old home, that in time, with the new High Speed Train and Downtown Revitalization that Tower District would be restored to its former glory. I was under the impression that city officials were concerned about the environment and residents. I would hope officials would want to remove potentially hazardous manufactures and business out of densely populated areas.

Let me discuss the current issues at hand. The air quality in this neighborhood is horrible. There are two auto body shops on the corner and they produce horrible toxic fumes all day, everyday. I have called the city before to make sure they are in compliance with air pollution laws but nothing has ever been done. Automotive paint fumes are not part of the scope but other types of pollution within the area should be taken into consideration when making an expansion plan.

The noise from the existing Producers trucks and the exhaust fumes are horrible. We hear the beeps (reverse) and idle from trucks all day and night. Traffic is already horrible. School busses transport children down our street and they have to compete for right of way with semi trucks on the corner of Belmont. It is an accident waiting to happen.

There are odors from processing that hovers over the neighborhood on a daily basis. Some days it smells like rotten eggs and is even visible like a fog, Some days odors rise up from sewer gasses and fill the home. Always around the same time in the evening. We assume it is flushing of large holding tanks or cleaning of equipment. We have to put Tupperware lids on the drains in the house to keep the smell out. We have had our sewer line checked and it is coming from sewer pipes in the alley. This area is old as the Producers building itself. I am curious what the sewer lines are like and if Producers expands will the sewer lines be updated to handle it? From what we can tell the alley behind our home still has remnants of clay pipes.

We would hope that a current air quality test would be done. I am aware that a new vehicle with environmental testing equipment has been purchased. I would hope that you would test various times in the surrounding populated area prior to the meeting. This way we could have a base line and know the current levels. I encourage you to test at houses closest to Producers and Muir elementary school that is roughly 2500 feet from the facility.

I have spoken to a few Tower and Lowell residents. With their help have compiled questions.

1. Air Quality? This is a truck parking lot project, what are the effect of PM 10 and or 2.5? What are the rates/incidents of asthmatic children/residents? I know of many people such as myself. What other health risks are possible? Cancer?

2. Traffic - What is the estimated of increase traffic? Types of vehicles? Emissions? Noise? Will there be idling time involved? What will the be the community resources to call in after hours idling?

3. Roadway - How will the roadway be maintained with increase weigh of the vehicles. Currently around 60 a day. How many more to be added? What is the City plan for roadway maintenance? And what is the increase cost to the roadway maintenance funds?

4. Environmental Justice/Community Outreach? Placing a truck park lot near low income communities means there are major environmental justice issues. The notice was sent in English language only. Majority of the families in our neighborhood are Hispanic and do not all speak English. I took it upon myself to contact Miguel Arias. He is going to request the notices be resent in Spanish. I will be reaching out to other groups with language barriers to know what is going on in their area. I am not an expert in this area so will be seeking outside council.

5. How will this project impact traffic to and from Roeding Park? You impact the traffic circle you impact the low income communities off of Belmont, park visitors, and business along the Belmont corridor. How will traffic be rerouted?

6. Sewer, Hazards, Disaster planning- Current condition of sewer lines? Potential environmental impact? sewer lines? Hazards during removal of old equipment? Dust, toxins and waste? waste removal? In the event of an explosion or disaster what kind of city preparedness do we have? Does the city have disaster planning for a larger facility? Would a closure of the Belmont corridor cause a delay in Emergency response for ambulance, fire or evacuation?

I ask you to consider before you push forward with this project. I am 100% opposed to expansion. I hope that you can convince Producers to find a new location in an industrial area where peoples health and lives are NOT at stake. There are a lot areas in Fresno with vast open land. Apparently this discussion has been going on for about 20 years. The agreement with the Cheese Factory and Tower District is in breech. Any future project conversations will be difficult. I am highly doubtful plans will be accepted by long term residents since Producers did not honor an existing promise. Producers has outgrown its current location and broken trust with residents. We know that Producers has been a big part of Fresno for many years. Producers can earn the trust and respect of the community if it finds a new location.

Sincerely,

Robynn Smith

From: Rodney Horton
To: steve s
Cc: Trish Herogian; Robert Ellis
Subject: RE: Producers Dairy Project
Date: Thursday, February 20, 2020 2:46:40 PM

Good Afternoon Mr. Sadler,

Thank you for your email. Your comments have been forwarded to the consultant team.

In Public Service,

Rodney Horton

From: steve s [mailto:stevesad@sbcglobal.net]
Sent: Thursday, February 20, 2020 12:27 PM
To: Rodney Horton
Cc: Trish Herogian; Robert Ellis
Subject: Fw: Producers Dairy Project

Dear Mr. Horton-

This letter is a response to the "comment period" for the Environmental Impact Report and scoping meeting for the Producers Dairy project. My property located at 320 N. H Street is directly involved/located in the sphere of this project and specifically the north west corner of Palm/H street. My initial response to this proposal was negative as the property value of my multiple units on this property would be lowered by the proposed closing of H Street and the resulting loss of visibility of the drive by traffic pattern. (my front door fronts H Street)

However-After much thought & introspection I would be agreeable to this closure of H Street under certain conditions or concerns:

-During the construction phase of said project the traffic impacts and resulting dust/debris & noise would be a concern and i would like to know the plan to mitigate these concerns. The issues just stated will have a negative impact on my HVAC unit as well as my buildings cleanliness overall. The construction noise & traffic will result in a negative impact on my customer base.

-The loss of value as a result of the closing of H Street will directly affect the possible lowering of my property valuation as well as the possible lower rents received on my rental units located on site.

-I would like to be informed of the plan going forward specifically involving the front of my building at 320 N. H Street & also the entrance & exit of my parking lot which has an entrance on Palm and an exit on H

Street. I understand that H Street will "end" at Palm & that will result in the loss of access to my front door & possibly my exit gate on H Street. As this project was not of my doing i have questions in regards to whom will be responsible for the COST of the realignment and or reconfiguration of H Street directly in front of my building? Also-Would i be able to give my preferred ideas to the reconfiguration in regards to the redesign of the front of my building & my exit gate on H Street?

I wish to be a "Good Neighbor" and would like to work with the City of Fresno & Producers Dairy to see this project to the finish & i eagerly await the City of Fresno's response.

Sincerely,

Steve Sadler

Steve Sadler-- Sadler's Office Supply & Printing 320 N. H Street Fresno, Ca 93701 (559)233-8342 Fax (559)233-0261

APPENDIX B

Air Quality, Greenhouse Gas, and Energy Appendices

CONTENTS

APPENDIX B.1

Analysis of Models and Tools for Correlating Project-Generated Emissions to Health End Points

ANALYSIS OF MODELS AND TOOLS TO CORRELATE PROJECT-GENERATED CRITERIA POLLUTANT EMISSIONS TO HEALTH END POINTS

TOOL	CREATED BY	DESCRIPTION	RESOLUTION	POLLUTANTS ANALYZED	PROJECT-LEVEL CEQA APPLICABILITY
AERMOD Modeling System[1,2]	AERMIC	A steady-state plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain. The modeling system incorporates air dispersion based on a planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain.	Project-level	SO_2, ROG, NO_2, Lead, $PM_{2.5}$, $PM_{10,}$ NH_3	This model operates at the project-level and provides air dispersion modeling of a project's pollutant emissions on the surrounding environment. However, even with supplementary (i.e. additional) software, such as the California Air Resource Board's Hotspots Analysis and Reporting Program (HARP), the model does not estimate specific health effects on receptors from the air dispersion modeling (that is, it is not scientifically feasible to infer individualized health effects on receptors from the pollutant concentrations identified by this model, even in conjunction with other software such as HARP). Moreover, concentration modeling of ozone is not possible with AERMOD (nor any other known model used in conjunction with AERMOD), due to the complex nature of pollution concentration formation and numerous regional influences (multiple emission sources, meteorology, atmospheric chemistry and geography). Therefore, this model is not recommended for correlating project-generated criteria pollutant emissions to health end points.
AirCounts[3]	Abt Assoc.	Online tool that helps large and medium-sized cities quickly estimate the health benefits of $PM_{2.5}$ emission reductions and economic value of those benefits. The tool estimates the number of deaths (mortality) avoided and economic value related to user-specified regional, annual $PM_{2.5}$ emissions reduction.	City-level	Primary $PM_{2.5}$	This tool is only illustrative, as it is limited to certain cities and does not target specific sectors. The tool is not sector-specific, and includes limited California data. It cannot provide results at a development project level. Therefore, the tool is not recommended for project-level CEQA analysis.
Air Pollution Emission Experiments and Policy analysis	Mueller and Mendelsohn 2006, 2009	The Air Pollution Emission Experiments and Policy (APEEP) analysis model (Muller and Mendelsohn 2006, 2009) is a traditional integrated assessment model. Like other integrated assessment models, APEEP connects emissions of air pollution through air-quality modeling to exposures, physical effects, and monetary damages.	National or county-level	SO_2, ROG, NO_x, Ozone, $PM_{2.5}$, PM_{10}	The model operates at the national scale but may be applied at the county-level (although it is not clear how this adjustment should be made). It cannot provide results at a development project-level. The tool is also not commercially available. Therefore, the tool is not recommended for project-level CEQA

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[1] See: https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models

[2] Note: May require additional software to estimate the level of each specific pollutant at the modeled receptors.

[3] See: https://www.abtassociates.com/tools

TOOL	CREATED BY	DESCRIPTION	RESOLUTION	POLLUTANTS ANALYZED	PROJECT-LEVEL CEQA APPLICABILITY
(APEEP) model[4]		Making these links requires the use of findings reported in the peer-reviewed literature across several scientific disciplines. The air-quality models in APEEP use the emission data provided by EPA to estimate corresponding ambient concentrations in each county in the coterminous states.			analysis.
California Emissions Estimator Model® (CalEEMod)	California Air Pollution Control Officers Association (CAPCOA)	CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects.	Project-level	SO_2, ROG, NOx, CO, GHGs, $PM_{2.5}$, PM_{10}	Although CalEEMod is useful in comparing a project's emissions to significance thresholds, it is not able to assess transport of pollutants or the impacts of external factors (weather, terrain, etc.) on pollutant concentrations at particular locations. Therefore, this model is not recommended for estimating the health effects of project-generated criteria pollutants.
CALINE3/ CAL3QHC/ CAL3QHCR[1, 2]	United States Environmental Protection Agency (USEPA)	A steady-state Gaussian dispersion model designed to determine air pollution concentrations at receptor locations downwind of highways located in relatively uncomplicated terrain. CALINE3 is incorporated into the more refined CAL3QHC and CAL3QHCR models. CAL3QHCR is a more refined version based on CAL3QHC that requires local meteorological data.	Project-level	SO_2, ROG, NO_2, Lead, $PM_{2.5}$, PM_{10}	This model operates at the project level and provides air dispersion modeling for a project's transportation emissions on the surrounding environment. However, even with supplementary (i.e. additional software), the model cannot estimate specific health effects on receptors from the air dispersion modeling. Moreover, it cannot model the (complex) chemical reactions that occur between the ozone precursors (e.g. NOx and ROG) that generate ozone. Therefore, this model is not recommended for correlating project-generated criteria pollutant emissions to health end points.
Complex Terrain Dispersion Model Plus Algorithms for Unstable Situations (CTDMPLUS)[1, 2]	USEPA	A refined point source gaussian air quality model for use in all stability conditions for complex terrain. The purpose of the model is to provide a practical, refined plum model for elevated point sources near complex terrain.	Project-level	SO_2, ROG, NO_2, Lead, $PM_{2.5}$, PM_{10}	This model operates at the project-level and provides air dispersion modeling for a project's emissions on the surrounding environment. However, even with supplementary (i.e. additional software), the model cannot estimate specific health effects on receptors from the air dispersion modeling. Moreover, it cannot model the (complex) chemical reactions that occur between the ozone precursors (e.g. NOx and ROG) that generate ozone. Therefore, this model is not recommended for correlating project-generated criteria pollutant emissions to health end points

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[4] See: https://public.tepper.cmu.edu/nmuller/APModel.aspx

TOOL	*CREATED BY*	*DESCRIPTION*	*RESOLUTION*	*POLLUTANTS ANALYZED*	*PROJECT-LEVEL CEQA APPLICABILITY*
Comprehensive Air Quality Model with Extensions (CAMx)[5]	Ramboll	CAMx is a multi-scale, three dimensional photochemical grid model. A photochemical grid model is a computer model designed for simulating air pollution episodes. CAMx is designed for computing hourly ozone concentrations at the regional, mesoscale, and urban scales for periods ranging from days up to months.	Regional, county, or city-levels	Ozone, CO, and secondary PM	CAMx is intended to accurately depict the ways in which air pollution forms, accumulates, and dissipates. However, it cannot provide results at a project-level.
Co-Benefits Risk Assessment (COBRA)[6]	USEPA	Preliminary screening tool that contains baseline emission estimates of a variety of air pollutants for a single year. COBRA is targeted to state and local governments as a screening assessment for clean energy policies. EPA's CO–Benefits Risk Assessment (COBRA) screening model is a free tool that helps state and local governments: • Explore how changes in air pollution from clean energy policies and programs; • Estimate the economic value of the health benefits associated with clean energy policies and programs to compare against program costs; • Map and visually represent the air quality, human health, and health-related economic benefits from reductions in emissions of particulate matter ($PM_{2.5}$), sulfur dioxide ($S0_2$), nitrogen oxides (NO_X), ammonia (NH_3), and volatile organic compounds (VOCs) that result from clean energy policies and programs.	National, regional, state, or county-levels	$PM_{2.5}$, SO_2, NO_x, NH_3, and ROG	COBRA is a preliminary screening tool only and cannot be used at sub-county resolution. It cannot provide results at a project-level. It also does not account for secondary emission changes resulting from market responses. Accordingly, the tool is not recommended for project-level CEQA analysis.
Environmental Benefits and Mapping Program-Community Edition (BenMAP-CE)[7]	USEPA	The USEPA's detailed model for estimating the health impacts from air pollution. It relies on input concentrations and applies concentration-response (C-R) health impact functions, which relate a change in the concentration of a pollutant with a change in the incidence of a health endpoint, including premature mortality, heart attacks, chronic respiratory illnesses, asthma exacerbation and other adverse health effects. Detailed inputs are required for air quality changes (concentrations from AERMOD), population, baseline incidence rates, and effect estimates.	National, County, City, and population levels	Ozone, PM, NO_2, SO_2, CO	This model provides an estimate of and characterizes the general impacts to health functions that relate change in health outcomes (coughs, asthma incidences, premature mortality) that change with small changes in ambient air concentrations. However, this model cannot provide results at a project-level. Accordingly, the tool is not recommended for project-level CEQA analysis.

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[5] See: https://www3.epa.gov/scram001/7thconf/information/camx.pdf

[6] See: https://www.epa.gov/statelocalenergy/co-benefits-risk-assessment-cobra-health-impacts-screening-and-mapping-tool

[7] See: https://www.epa.gov/benmap

TOOL	*CREATED BY*	*DESCRIPTION*	*RESOLUTION*	*POLLUTANTS ANALYZED*	*PROJECT-LEVEL CEQA APPLICABILITY*
Fast Scenario Screening Tool (TM5-FASST)[8]	Joint Research Centre (Italy)	A tool that allows users to evaluate how air pollutant emissions affect large scale pollutant concentrations and their impact on human health (mortality and years of life lost) and crop yield from national to regional air quality policies, such as climate policies. The target policy domains are national to regional air quality policies, or air pollutant scenarios linked to other policy domains (e.g. climate policy). The tool is web-based and does not require coding or modelling. Users must gain access through publishers.	Global and national-levels	$PM_{2.5}$, Ozone, NO_x, NH_3, CO, ROG, CH_4, SO_2	This tool is applicable at national to global scales. It cannot provide results a project-level. Accordingly, the tool is not recommended for project-level CEQA analysis.
Hotspots Analysis and Reporting Program (HARP)	California Air Resources Board (CARB)	The Hotspots Analysis and Reporting Program (HARP) is a software suite that addresses the programmatic requirements of the Air Toxics "Hot Spots" Program (Assembly Bill 2588). HARP incorporates the information presented in the 2015 Air Toxics Hotspots Program Guidance Manual for Preparation of Health Risk Assessments. HARP can be used by the air pollution control and air quality management districts (districts), facility operators and other organizations or individuals to promote statewide consistency, efficiency and cost-effective development of facility emission inventories and conducting health risk assessments.	Statewide, Air District, and Project-levels	$PM_{2.5}$, PM_{10}, air toxics, TACs, Ozone, NO_2, CO, SO_2	This model operates at the project-level and provides the ability to combine air dispersion modeling data (e.g. from AERMOD) to conduct health risks assessments and assessment of pollutant concentrations at receptors surrounding a project. This model is often used in conjunction with AERMOD (to incorporate air dispersion modeling data provided by AERMOD). However, the model does not estimate specific health effects on receptors from the air dispersion modeling (that is, it is not scientifically feasible to infer individualized health effects on receptors from the pollutant concentrations identified by this model, even in conjunction with other software such as AERMOD). Moreover, scientifically valid modeling of ozone concentrations is not possible with HARP (nor any other known model used in conjunction with HARP), due to the complex nature of pollution concentration formation and numerous regional influences (multiple emission sources, meteorology, atmospheric chemistry and geography). Therefore, this model is not recommended for estimating the health effects of project-generated criteria pollutants.
Human Exposure Model (HEM)	USEPA	The HEM is used primarily for performing risk assessments for sources emitting air toxics to ambient air. The HEM only addresses the inhalation pathway of exposure, and is designed to predict risks associated with chemicals emitted into the ambient air (i.e., in the vicinity of an emitting facility but beyond the facility's property	Project-level	SO_2, ROG, NO_2, Lead, $PM_{2.5}$, PM_{10}, NH_3	This model does not estimate specific health effects on receptors (that is, it is not scientifically feasible to infer individualized health effects on receptors from the pollutant concentrations identified by this model. Moreover, scientifically valid modeling of ozone concentrations is not possible with HEM, due to the

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[8] See: http://tm5-fasst.jrc.ec.europa.eu/

TOOL	*CREATED BY*	*DESCRIPTION*	*RESOLUTION*	*POLLUTANTS ANALYZED*	*PROJECT-LEVEL CEQA APPLICABILITY*
		boundary). The HEM provides ambient air concentrations, as surrogates for lifetime exposure, for use with unit risk estimates and inhalation reference concentrations to produce estimates of cancer risk and noncancer hazard, respectively, for the air toxics modeled.			complex nature of pollution concentration formation and numerous regional influences (multiple emission sources, meteorology, atmospheric chemistry and geography). Therefore, this model is not recommended for estimating the health effects of project-generated criteria pollutants.
Long-range Energy Alternatives Planning System-Integrated Benefits Calculator (LEAP-IBC)[9]	Climate and Clean Air Coalition (CCAC)	A calculator that allows users to rapidly estimate the impacts of reducing emissions on health, climate, and agriculture. The tool uses sensitivity coefficients that link gridded emissions of air pollutants and precursors to health, climate and agricultural impacts at a national level. The tool is primarily used for policy analysis. The tool is currently Excel-based and is available through the developers only. A web-based interface is currently under development.	National-level	$PM_{2.5}$, Ozone, NO_2	This tool is applicable at national scale. Accordingly, the tool is not recommended for project-level CEQA analysis.
Methodology for Estimating Premature Deaths Associated with Long-Term Exposure to Fine Airborne Particulate Matter in California[10]	CARB	The staff report identifies a relative risk of premature death associated with $PM_{2.5}$ exposure based on a review of all relevant scientific literature, and a new relative risk factor was developed. This new factor is a 10% increase in risk of premature death per 10 $\mu g/m^3$ increase in exposure to $PM_{2.5}$ concentrations (uncertainty interval: 3% to 20%)	National	$PM_{2.5}$	The primary author of the CARB staff report notes that the analysis method is not suited for small projects and may yield unreliable results due to various uncertainties. The tool also cannot provide results on a project-level. Accordingly, the tool is not recommended for project-level CEQA analysis.
Multi-Pollutant Evaluation Method (MPEM)[11]	Bay Area Air Quality Management District (BAAQMD)	Estimates the impacts of control measures on pollutant concentration, population exposures, and health outcomes for criteria, toxic, and GHG pollutants. Monetizes the value of total health benefits from reductions in $PM_{2.5}$, ozone, and certain carcinogens, and the social value of GHG reductions. MPEM was designed for development of a Clean Air Plan for the San Francisco Bay Area. The inputs are specific to the SF region and are not appropriate for projects outside BAAQMD.	Regional level in the SFBAAB	Ozone, PM, air toxics, GHG	This tool is designed to support the BAAQMD in regional planning and emissions analysis within the San Francisco Bay Area Air Basin (SFBAAB). The model applies changes in pollutant concentrations over a four-square kilometer grid. The tool also cannot provide results on a project-level. Additionally, this tool is only applicable for the SFBAAB. Accordingly, the tool is not recommended for project-level CEQA analysis. This project is also not

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[9] See: https://www.ccacoalition.org/en/resources/long-range-energy-alternatives-planning-integrated-benefits-calculator-leap-ibc-factsheet

[10] See: https://ww3.arb.ca.gov/research/health/pm-mort/pmmortalityreportfinalr10-24-08.pdf

[11] See: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/mpem_nov_dec_2016-pdf.pdf?la=en

TOOL	*CREATED BY*	*DESCRIPTION*	*RESOLUTION*	*POLLUTANTS ANALYZED*	*PROJECT-LEVEL CEQA APPLICABILITY*
					recommended for projects outside of the SFBAAB.
Offshore and Coastal Dispersion Model Version 5 (OCD)[1, 2]	USEPA	A straight-line Gaussian model developed to determine the impact of offshore emissions from point, area or line sources on the air quality of coastal regions. OCD incorporates overwater plume transport and dispersion as well as changes that occur as the plume crosses the shoreline. Hourly meteorological data are needed from both offshore and onshore locations.	Project-level	SO_2, ROG, NO_2, Lead, $PM_{2.5}$, PM_{10}	This model operates at the project-level and provides air dispersion modeling for a project's emissions on the surrounding environment. However, even with supplementary (i.e. additional software), the model cannot estimate specific health effects on receptors from the air dispersion modeling. Moreover, it cannot model the (complex) chemical reactions that occur between the ozone precursors (e.g. NOx and ROG) that generate ozone. This tool is used to address offshore emissions on coastal regions and is not appropriate for project-level CEQA analysis for inland locations.
Response Surface Model (RSM)-based Benefit-per-Ton Estimates[12]	USEPA	Consists of tables reporting the monetized $PM_{2.5}$-related health benefits from reducing $PM_{2.5}$ precursors from certain source types nationally and for 9 US cities/regions. Applying these estimates simply involves multiplying the emissions reduction by the relevant benefit per-ton metric. The resulting value is the PM mortality risk estimate at a 3% discount rate.	National or regional (San Joaquin County only) levels	SOx, VOC, NH_3, NO_x	RSM includes regional values specific to San Joaquin County and does not address development project-scale emissions. The values are also outdated. Accordingly, the tool is not recommended for project-level CEQA analysis.
Sector-based Benefit-per-Ton Estimates[13]	USEPA	Two specific sets of Benefit-per-ton (BPT) estimates for 17 key source categories are available. Both are a reduced-form approach based on BenMAP modeling. Applying these factors involves multiplying the emissions reduction (in tons) by the relevant benefit (economic value) or incidence (rates of mortality and morbidity) per-ton metric. The resulting value is the economics, mortality, and morbidity of direct and indirect $PM_{2.5}$ emissions.	National-scale	$PM_{2.5}$, SO_2, NO_x	The BPT estimates do not account for project-specific emissions or receptor locations, local dispersion characteristics, or regional photochemistry. The resultant health effects are therefore reflective of national averages and would not reflect localized conditions necessary to address impacts at the project-level. Accordingly, the tool is not recommended for project-level CEQA analysis.

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[12] See: https://www.epa.gov/benmap/response-surface-model-rsm-based-benefit-ton-estimates

[13] See: https://www.epa.gov/benmap/sector-based-pm25-benefit-ton-estimates. The updated Technical Support Document (February 2018) is available at: https://www.epa.gov/sites/production/files/2018-02/documents/sourceapportionmentbpttsd_2018.pdf

APPENDIX B.2

CalEEMod Modeling Results

Fresno Producer's Dairy

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	3.55	Acre	3.55	154,669.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Assumes demolition and cleanup associated with demolition occurs over an approximately two-month period.

Grading - Assume entire site (3.55073 acres) is graded.

Demolition - Total building square footage to be demolished is estimated at approximately 1.53 acres, or 66,647 sf.

Vehicle Trips - Note: operational mobile trips reflect the increase in VMT between the Project and the Existing Scenario, as shown in Table 20 of the TIA (Kittelson, 2020). Input parameters have been modified to reflect this increase in VMT

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	60.00
tblConstructionPhase	PhaseEndDate	6/25/2020	7/23/2020
tblConstructionPhase	PhaseEndDate	7/14/2020	8/11/2020
tblConstructionPhase	PhaseEndDate	6/25/2021	9/4/2020
tblConstructionPhase	PhaseEndDate	7/2/2020	7/30/2020
tblConstructionPhase	PhaseStartDate	7/3/2020	7/31/2020
tblConstructionPhase	PhaseStartDate	6/2/2021	8/12/2020
tblConstructionPhase	PhaseStartDate	6/26/2020	7/24/2020
tblGrading	AcresOfGrading	4.00	3.55
tblVehicleTrips	CC_TL	7.30	1.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	341.00
tblVehicleTrips	SU_TR	0.00	341.00
tblVehicleTrips	WD_TR	0.00	341.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1048	1.0119	0.6837	1.2900e-003	0.1001	0.0498	0.1498	0.0435	0.0461	0.0896	0.0000	113.2538	113.2538	0.0307	0.0000	114.0209
Maximum	**0.1048**	**1.0119**	**0.6837**	**1.2900e-003**	**0.1001**	**0.0498**	**0.1498**	**0.0435**	**0.0461**	**0.0896**	**0.0000**	**113.2538**	**113.2538**	**0.0307**	**0.0000**	**114.0209**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1048	1.0119	0.6837	1.2900e-003	0.1001	0.0498	0.1498	0.0435	0.0461	0.0896	0.0000	113.2537	113.2537	0.0307	0.0000	114.0208
Maximum	**0.1048**	**1.0119**	**0.6837**	**1.2900e-003**	**0.1001**	**0.0498**	**0.1498**	**0.0435**	**0.0461**	**0.0896**	**0.0000**	**113.2537**	**113.2537**	**0.0307**	**0.0000**	**114.0208**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**5-29-2020**	**8-28-2020**	1.0845	1.0845
2	**8-29-2020**	**9-30-2020**	0.0341	0.0341
		Highest	1.0845	1.0845

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0132	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-005	6.0000e-005	0.0000	0.0000	7.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	15.7483	15.7483	7.1000e-004	1.5000e-004	15.8100
Mobile	0.3262	3.5111	1.7335	6.2500e-003	0.1690	6.0400e-003	0.1750	0.0456	5.7200e-003	0.0513	0.0000	585.4423	585.4423	0.1788	0.0000	589.9131
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.3394**	**3.5111**	**1.7335**	**6.2500e-003**	**0.1690**	**6.0400e-003**	**0.1750**	**0.0456**	**5.7200e-003**	**0.0513**	**0.0000**	**601.1907**	**601.1907**	**0.1795**	**1.5000e-004**	**605.7232**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0132	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-005	6.0000e-005	0.0000	0.0000	7.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	15.7483	15.7483	7.1000e-004	1.5000e-004	15.8100
Mobile	0.3262	3.5111	1.7335	6.2500e-003	0.1690	6.0400e-003	0.1750	0.0456	5.7200e-003	0.0513	0.0000	585.4423	585.4423	0.1788	0.0000	589.9131
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.3394**	**3.5111**	**1.7335**	**6.2500e-003**	**0.1690**	**6.0400e-003**	**0.1750**	**0.0456**	**5.7200e-003**	**0.0513**	**0.0000**	**601.1907**	**601.1907**	**0.1795**	**1.5000e-004**	**605.7232**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/29/2020	7/23/2020	5	60	
2	Site Preparation	Site Preparation	7/24/2020	7/30/2020	5	5	
3	Grading	Grading	7/31/2020	8/11/2020	5	8	
4	Paving	Paving	8/12/2020	9/4/2020	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.55073

Acres of Paving: 3.55

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	303.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0219	0.0000	0.0219	3.3100e-003	0.0000	3.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0662	0.6640	0.4351	7.8000e-004		0.0332	0.0332		0.0308	0.0308	0.0000	67.9972	67.9972	0.0192	0.0000	68.4771
Total	**0.0662**	**0.6640**	**0.4351**	**7.8000e-004**	**0.0219**	**0.0332**	**0.0550**	**3.3100e-003**	**0.0308**	**0.0342**	**0.0000**	**67.9972**	**67.9972**	**0.0192**	**0.0000**	**68.4771**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.1000e-004	0.0285	3.8200e-003	8.0000e-005	2.3700e-003	1.0000e-004	2.4700e-003	6.3000e-004	9.0000e-005	7.3000e-004	0.0000	7.6928	7.6928	6.8000e-004	0.0000	7.7097
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-003	8.2000e-004	8.3400e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4100e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	2.0758	2.0758	6.0000e-005	0.0000	2.0772
Total	**2.1100e-003**	**0.0293**	**0.0122**	**1.0000e-004**	**4.7700e-003**	**1.2000e-004**	**4.8800e-003**	**1.2700e-003**	**1.0000e-004**	**1.3800e-003**	**0.0000**	**9.7686**	**9.7686**	**7.4000e-004**	**0.0000**	**9.7869**

3.2 Demolition - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0219	0.0000	0.0219	3.3100e-003	0.0000	3.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0662	0.6640	0.4351	7.8000e-004		0.0332	0.0332		0.0308	0.0308	0.0000	67.9971	67.9971	0.0192	0.0000	68.4770
Total	**0.0662**	**0.6640**	**0.4351**	**7.8000e-004**	**0.0219**	**0.0332**	**0.0550**	**3.3100e-003**	**0.0308**	**0.0342**	**0.0000**	**67.9971**	**67.9971**	**0.0192**	**0.0000**	**68.4770**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.1000e-004	0.0285	3.8200e-003	8.0000e-005	2.3700e-003	1.0000e-004	2.4700e-003	6.3000e-004	9.0000e-005	7.3000e-004	0.0000	7.6928	7.6928	6.8000e-004	0.0000	7.7097
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-003	8.2000e-004	8.3400e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4100e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	2.0758	2.0758	6.0000e-005	0.0000	2.0772
Total	**2.1100e-003**	**0.0293**	**0.0122**	**1.0000e-004**	**4.7700e-003**	**1.2000e-004**	**4.8800e-003**	**1.2700e-003**	**1.0000e-004**	**1.3800e-003**	**0.0000**	**9.7686**	**9.7686**	**7.4000e-004**	**0.0000**	**9.7869**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1060	0.0538	1.0000e-004		5.4900e-003	5.4900e-003		5.0500e-003	5.0500e-003	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4253
Total	**0.0102**	**0.1060**	**0.0538**	**1.0000e-004**	**0.0452**	**5.4900e-003**	**0.0507**	**0.0248**	**5.0500e-003**	**0.0299**	**0.0000**	**8.3577**	**8.3577**	**2.7000e-003**	**0.0000**	**8.4253**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.2000e-004	1.2500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3114	0.3114	1.0000e-005	0.0000	0.3116
Total	**1.9000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3114**	**0.3114**	**1.0000e-005**	**0.0000**	**0.3116**

3.3 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1060	0.0538	1.0000e-004		5.4900e-003	5.4900e-003		5.0500e-003	5.0500e-003	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4252
Total	**0.0102**	**0.1060**	**0.0538**	**1.0000e-004**	**0.0452**	**5.4900e-003**	**0.0507**	**0.0248**	**5.0500e-003**	**0.0299**	**0.0000**	**8.3577**	**8.3577**	**2.7000e-003**	**0.0000**	**8.4252**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.2000e-004	1.2500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3114	0.3114	1.0000e-005	0.0000	0.3116
Total	**1.9000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3114**	**0.3114**	**1.0000e-005**	**0.0000**	**0.3116**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0260	0.0000	0.0260	0.0134	0.0000	0.0134	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1055	0.0642	1.2000e-004		5.0900e-003	5.0900e-003		4.6900e-003	4.6900e-003	0.0000	10.4235	10.4235	3.3700e-003	0.0000	10.5078
Total	**9.7200e-003**	**0.1055**	**0.0642**	**1.2000e-004**	**0.0260**	**5.0900e-003**	**0.0311**	**0.0134**	**4.6900e-003**	**0.0181**	**0.0000**	**10.4235**	**10.4235**	**3.3700e-003**	**0.0000**	**10.5078**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.6000e-004	1.6700e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4152	0.4152	1.0000e-005	0.0000	0.4154
Total	**2.6000e-004**	**1.6000e-004**	**1.6700e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4152**	**0.4152**	**1.0000e-005**	**0.0000**	**0.4154**

3.4 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0260	0.0000	0.0260	0.0134	0.0000	0.0134	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1055	0.0642	1.2000e-004		5.0900e-003	5.0900e-003		4.6900e-003	4.6900e-003	0.0000	10.4235	10.4235	3.3700e-003	0.0000	10.5078
Total	**9.7200e-003**	**0.1055**	**0.0642**	**1.2000e-004**	**0.0260**	**5.0900e-003**	**0.0311**	**0.0134**	**4.6900e-003**	**0.0181**	**0.0000**	**10.4235**	**10.4235**	**3.3700e-003**	**0.0000**	**10.5078**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.6000e-004	1.6700e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4152	0.4152	1.0000e-005	0.0000	0.4154
Total	**2.6000e-004**	**1.6000e-004**	**1.6700e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4152**	**0.4152**	**1.0000e-005**	**0.0000**	**0.4154**

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0107	0.1062	0.1105	1.7000e-004		5.8600e-003	5.8600e-003		5.4000e-003	5.4000e-003	0.0000	14.7348	14.7348	4.6300e-003	0.0000	14.8506
Paving	4.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0153**	**0.1062**	**0.1105**	**1.7000e-004**		**5.8600e-003**	**5.8600e-003**		**5.4000e-003**	**5.4000e-003**	**0.0000**	**14.7348**	**14.7348**	**4.6300e-003**	**0.0000**	**14.8506**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.8000e-004	4.9000e-004	5.0000e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2455	1.2455	3.0000e-005	0.0000	1.2463
Total	**7.8000e-004**	**4.9000e-004**	**5.0000e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2455**	**1.2455**	**3.0000e-005**	**0.0000**	**1.2463**

3.5 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0107	0.1062	0.1105	1.7000e-004		5.8600e-003	5.8600e-003		5.4000e-003	5.4000e-003	0.0000	14.7348	14.7348	4.6300e-003	0.0000	14.8506
Paving	4.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0153**	**0.1062**	**0.1105**	**1.7000e-004**		**5.8600e-003**	**5.8600e-003**		**5.4000e-003**	**5.4000e-003**	**0.0000**	**14.7348**	**14.7348**	**4.6300e-003**	**0.0000**	**14.8506**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.8000e-004	4.9000e-004	5.0000e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2455	1.2455	3.0000e-005	0.0000	1.2463
Total	**7.8000e-004**	**4.9000e-004**	**5.0000e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2455**	**1.2455**	**3.0000e-005**	**0.0000**	**1.2463**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3262	3.5111	1.7335	6.2500e-003	0.1690	6.0400e-003	0.1750	0.0456	5.7200e-003	0.0513	0.0000	585.4423	585.4423	0.1788	0.0000	589.9131
Unmitigated	0.3262	3.5111	1.7335	6.2500e-003	0.1690	6.0400e-003	0.1750	0.0456	5.7200e-003	0.0513	0.0000	585.4423	585.4423	0.1788	0.0000	589.9131

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	1,210.80	1,210.80	1210.80	440,731	440,731
Total	1,210.80	1,210.80	1,210.80	440,731	440,731

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	0.00	1.00	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.481390	0.032808	0.168621	0.127212	0.018382	0.004997	0.032622	0.122881	0.002369	0.001675	0.005261	0.001115	0.000667

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	15.7483	15.7483	7.1000e-004	1.5000e-004	15.8100
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	15.7483	15.7483	7.1000e-004	1.5000e-004	15.8100
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	54134.4	15.7483	7.1000e-004	1.5000e-004	15.8100
Total		**15.7483**	**7.1000e-004**	**1.5000e-004**	**15.8100**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	54134.4	15.7483	7.1000e-004	1.5000e-004	15.8100
Total		**15.7483**	**7.1000e-004**	**1.5000e-004**	**15.8100**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0132	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-005	6.0000e-005	0.0000	0.0000	7.0000e-005
Unmitigated	0.0132	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-005	6.0000e-005	0.0000	0.0000	7.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.2300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0100					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-005	6.0000e-005	0.0000	0.0000	7.0000e-005
Total	**0.0132**	**0.0000**	**3.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.0000**	**7.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.2300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0100					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.0000e-005	6.0000e-005	0.0000	0.0000	7.0000e-005
Total	**0.0132**	**0.0000**	**3.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.0000**	**7.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Fresno Producer's Dairy

Fresno County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	3.55	Acre	3.55	154,669.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Assumes demolition and cleanup associated with demolition occurs over an approximately two-month period.

Grading - Assume entire site (3.55073 acres) is graded.

Demolition - Total building square footage to be demolished is estimated at approximately 1.53 acres, or 66,647 sf.

Vehicle Trips - Note: operational mobile trips reflect the increase in VMT between the Project and the Existing Scenario, as shown in Table 20 of the TIA (Kittelson, 2020). Input parameters have been modified to reflect this increase in VMT

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	60.00
tblConstructionPhase	PhaseEndDate	6/25/2020	7/23/2020
tblConstructionPhase	PhaseEndDate	7/14/2020	8/11/2020
tblConstructionPhase	PhaseEndDate	6/25/2021	9/4/2020
tblConstructionPhase	PhaseEndDate	7/2/2020	7/30/2020
tblConstructionPhase	PhaseStartDate	7/3/2020	7/31/2020
tblConstructionPhase	PhaseStartDate	6/2/2021	8/12/2020
tblConstructionPhase	PhaseStartDate	6/26/2020	7/24/2020
tblGrading	AcresOfGrading	4.00	3.55
tblVehicleTrips	CC_TL	7.30	1.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	341.00
tblVehicleTrips	SU_TR	0.00	341.00
tblVehicleTrips	WD_TR	0.00	341.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.1649	42.4632	22.4166	0.0442	18.2141	2.1983	20.4125	9.9699	2.0225	11.9924	0.0000	4,301.0265	4,301.0265	1.1959	0.0000	4,328.4430
Maximum	**4.1649**	**42.4632**	**22.4166**	**0.0442**	**18.2141**	**2.1983**	**20.4125**	**9.9699**	**2.0225**	**11.9924**	**0.0000**	**4,301.0265**	**4,301.0265**	**1.1959**	**0.0000**	**4,328.4430**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.1649	42.4632	22.4166	0.0442	18.2141	2.1983	20.4125	9.9699	2.0225	11.9924	0.0000	4,301.0265	4,301.0265	1.1959	0.0000	4,328.4430
Maximum	**4.1649**	**42.4632**	**22.4166**	**0.0442**	**18.2141**	**2.1983**	**20.4125**	**9.9699**	**2.0225**	**11.9924**	**0.0000**	**4,301.0265**	**4,301.0265**	**1.1959**	**0.0000**	**4,328.4430**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0725	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.8000e-004	7.8000e-004	0.0000		8.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.2496	19.4529	8.8055	0.0362	0.9530	0.0319	0.9849	0.2564	0.0302	0.2865		3,736.0108	3,736.0108	1.0247		3,761.6285
Total	**2.3221**	**19.4529**	**8.8058**	**0.0362**	**0.9530**	**0.0319**	**0.9849**	**0.2564**	**0.0302**	**0.2865**		**3,736.0116**	**3,736.0116**	**1.0247**	**0.0000**	**3,761.6293**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0725	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.8000e-004	7.8000e-004	0.0000		8.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.2496	19.4529	8.8055	0.0362	0.9530	0.0319	0.9849	0.2564	0.0302	0.2865		3,736.0108	3,736.0108	1.0247		3,761.6285
Total	**2.3221**	**19.4529**	**8.8058**	**0.0362**	**0.9530**	**0.0319**	**0.9849**	**0.2564**	**0.0302**	**0.2865**		**3,736.0116**	**3,736.0116**	**1.0247**	**0.0000**	**3,761.6293**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/29/2020	7/23/2020	5	60	
2	Site Preparation	Site Preparation	7/24/2020	7/30/2020	5	5	
3	Grading	Grading	7/31/2020	8/11/2020	5	8	
4	Paving	Paving	8/12/2020	9/4/2020	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.55073

Acres of Paving: 3.55

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	303.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0934	0.0000	1.0934	0.1656	0.0000	0.1656			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**1.0934**	**1.6587**	**2.7521**	**0.1656**	**1.5419**	**1.7074**		**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0398	1.3881	0.1810	4.0800e-003	0.1218	4.8500e-003	0.1267	0.0324	4.6400e-003	0.0371		427.8476	427.8476	0.0353		428.7305
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0737	0.0383	0.4824	1.2600e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		125.4740	125.4740	3.4000e-003		125.5589
Total	**0.1135**	**1.4263**	**0.6634**	**5.3400e-003**	**0.2450**	**5.6200e-003**	**0.2506**	**0.0651**	**5.3500e-003**	**0.0705**		**553.3216**	**553.3216**	**0.0387**		**554.2894**

3.2 Demolition - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0934	0.0000	1.0934	0.1656	0.0000	0.1656			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**1.0934**	**1.6587**	**2.7521**	**0.1656**	**1.5419**	**1.7074**	**0.0000**	**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0398	1.3881	0.1810	4.0800e-003	0.1218	4.8500e-003	0.1267	0.0324	4.6400e-003	0.0371		427.8476	427.8476	0.0353		428.7305
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0737	0.0383	0.4824	1.2600e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		125.4740	125.4740	3.4000e-003		125.5589
Total	**0.1135**	**1.4263**	**0.6634**	**5.3400e-003**	**0.2450**	**5.6200e-003**	**0.2506**	**0.0651**	**5.3500e-003**	**0.0705**		**553.3216**	**553.3216**	**0.0387**		**554.2894**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0884	0.0459	0.5789	1.5100e-003	0.1479	9.3000e-004	0.1488	0.0392	8.5000e-004	0.0401		150.5688	150.5688	4.0800e-003		150.6707
Total	**0.0884**	**0.0459**	**0.5789**	**1.5100e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.5000e-004**	**0.0401**		**150.5688**	**150.5688**	**4.0800e-003**		**150.6707**

3.3 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0884	0.0459	0.5789	1.5100e-003	0.1479	9.3000e-004	0.1488	0.0392	8.5000e-004	0.0401		150.5688	150.5688	4.0800e-003		150.6707
Total	**0.0884**	**0.0459**	**0.5789**	**1.5100e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.5000e-004**	**0.0401**		**150.5688**	**150.5688**	**4.0800e-003**		**150.6707**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.4928	0.0000	6.4928	3.3611	0.0000	3.3611			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.4928**	**1.2734**	**7.7662**	**3.3611**	**1.1716**	**4.5326**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0737	0.0383	0.4824	1.2600e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		125.4740	125.4740	3.4000e-003		125.5589
Total	**0.0737**	**0.0383**	**0.4824**	**1.2600e-003**	**0.1232**	**7.7000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**125.4740**	**125.4740**	**3.4000e-003**		**125.5589**

3.4 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.4928	0.0000	6.4928	3.3611	0.0000	3.3611			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.4928**	**1.2734**	**7.7662**	**3.3611**	**1.1716**	**4.5326**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0737	0.0383	0.4824	1.2600e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		125.4740	125.4740	3.4000e-003		125.5589
Total	**0.0737**	**0.0383**	**0.4824**	**1.2600e-003**	**0.1232**	**7.7000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**125.4740**	**125.4740**	**3.4000e-003**		**125.5589**

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005		1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.5167					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7004**	**11.8015**	**12.2823**	**0.0189**		**0.6509**	**0.6509**		**0.6005**	**0.6005**		**1,804.7070**	**1,804.7070**	**0.5670**		**1,818.8830**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0982	0.0510	0.6432	1.6800e-003	0.1643	1.0300e-003	0.1653	0.0436	9.5000e-004	0.0445		167.2986	167.2986	4.5300e-003		167.4119
Total	**0.0982**	**0.0510**	**0.6432**	**1.6800e-003**	**0.1643**	**1.0300e-003**	**0.1653**	**0.0436**	**9.5000e-004**	**0.0445**		**167.2986**	**167.2986**	**4.5300e-003**		**167.4119**

3.5 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005	0.0000	1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.5167					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7004**	**11.8015**	**12.2823**	**0.0189**		**0.6509**	**0.6509**		**0.6005**	**0.6005**	**0.0000**	**1,804.7070**	**1,804.7070**	**0.5670**		**1,818.8830**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0982	0.0510	0.6432	1.6800e-003	0.1643	1.0300e-003	0.1653	0.0436	9.5000e-004	0.0445		167.2986	167.2986	4.5300e-003		167.4119
Total	**0.0982**	**0.0510**	**0.6432**	**1.6800e-003**	**0.1643**	**1.0300e-003**	**0.1653**	**0.0436**	**9.5000e-004**	**0.0445**		**167.2986**	**167.2986**	**4.5300e-003**		**167.4119**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.2496	19.4529	8.8055	0.0362	0.9530	0.0319	0.9849	0.2564	0.0302	0.2865		3,736.0108	3,736.0108	1.0247		3,761.6285
Unmitigated	2.2496	19.4529	8.8055	0.0362	0.9530	0.0319	0.9849	0.2564	0.0302	0.2865		3,736.0108	3,736.0108	1.0247		3,761.6285

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	1,210.80	1,210.80	1210.80	440,731	440,731
Total	1,210.80	1,210.80	1,210.80	440,731	440,731

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	0.00	1.00	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.481390	0.032808	0.168621	0.127212	0.018382	0.004997	0.032622	0.122881	0.002369	0.001675	0.005261	0.001115	0.000667

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0725	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.8000e-004	7.8000e-004	0.0000		8.3000e-004
Unmitigated	0.0725	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.8000e-004	7.8000e-004	0.0000		8.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0548					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.8000e-004	7.8000e-004	0.0000		8.3000e-004
Total	**0.0725**	**0.0000**	**3.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**7.8000e-004**	**7.8000e-004**	**0.0000**		**8.3000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0548					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.8000e-004	7.8000e-004	0.0000		8.3000e-004
Total	**0.0725**	**0.0000**	**3.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**7.8000e-004**	**7.8000e-004**	**0.0000**		**8.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Fresno Producer's Dairy

Fresno County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	3.55	Acre	3.55	154,669.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Assumes demolition and cleanup associated with demolition occurs over an approximately two-month period.

Grading - Assume entire site (3.55073 acres) is graded.

Demolition - Total building square footage to be demolished is estimated at approximately 1.53 acres, or 66,647 sf.

Vehicle Trips - Note: operational mobile trips reflect the increase in VMT between the Project and the Existing Scenario, as shown in Table 20 of the TIA (Kittelson, 2020). Input parameters have been modified to reflect this increase in VMT

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	60.00
tblConstructionPhase	PhaseEndDate	6/25/2020	7/23/2020
tblConstructionPhase	PhaseEndDate	7/14/2020	8/11/2020
tblConstructionPhase	PhaseEndDate	6/25/2021	9/4/2020
tblConstructionPhase	PhaseEndDate	7/2/2020	7/30/2020
tblConstructionPhase	PhaseStartDate	7/3/2020	7/31/2020
tblConstructionPhase	PhaseStartDate	6/2/2021	8/12/2020
tblConstructionPhase	PhaseStartDate	6/26/2020	7/24/2020
tblGrading	AcresOfGrading	4.00	3.55
tblVehicleTrips	CC_TL	7.30	1.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	341.00
tblVehicleTrips	SU_TR	0.00	341.00
tblVehicleTrips	WD_TR	0.00	341.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.1585	42.4713	22.3690	0.0439	18.2141	2.1983	20.4125	9.9699	2.0225	11.9924	0.0000	4,276.3397	4,276.3397	1.1954	0.0000	4,303.8598
Maximum	**4.1585**	**42.4713**	**22.3690**	**0.0439**	**18.2141**	**2.1983**	**20.4125**	**9.9699**	**2.0225**	**11.9924**	**0.0000**	**4,276.3397**	**4,276.3397**	**1.1954**	**0.0000**	**4,303.8598**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.1585	42.4713	22.3690	0.0439	18.2141	2.1983	20.4125	9.9699	2.0225	11.9924	0.0000	4,276.3397	4,276.3397	1.1954	0.0000	4,303.8598
Maximum	**4.1585**	**42.4713**	**22.3690**	**0.0439**	**18.2141**	**2.1983**	**20.4125**	**9.9699**	**2.0225**	**11.9924**	**0.0000**	**4,276.3397**	**4,276.3397**	**1.1954**	**0.0000**	**4,303.8598**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0725	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.8000e-004	7.8000e-004	0.0000		8.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.6705	19.0424	11.0206	0.0326	0.9530	0.0351	0.9881	0.2564	0.0332	0.2896		3,362.7828	3,362.7828	1.1674		3,391.9685
Total	**1.7430**	**19.0424**	**11.0210**	**0.0326**	**0.9530**	**0.0351**	**0.9881**	**0.2564**	**0.0332**	**0.2896**		**3,362.7836**	**3,362.7836**	**1.1674**	**0.0000**	**3,391.9693**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0725	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.8000e-004	7.8000e-004	0.0000		8.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.6705	19.0424	11.0206	0.0326	0.9530	0.0351	0.9881	0.2564	0.0332	0.2896		3,362.7828	3,362.7828	1.1674		3,391.9685
Total	**1.7430**	**19.0424**	**11.0210**	**0.0326**	**0.9530**	**0.0351**	**0.9881**	**0.2564**	**0.0332**	**0.2896**		**3,362.7836**	**3,362.7836**	**1.1674**	**0.0000**	**3,391.9693**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/29/2020	7/23/2020	5	60	
2	Site Preparation	Site Preparation	7/24/2020	7/30/2020	5	5	
3	Grading	Grading	7/31/2020	8/11/2020	5	8	
4	Paving	Paving	8/12/2020	9/4/2020	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.55073

Acres of Paving: 3.55

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	303.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0934	0.0000	1.0934	0.1656	0.0000	0.1656			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**1.0934**	**1.6587**	**2.7521**	**0.1656**	**1.5419**	**1.7074**		**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0411	1.4265	0.2049	3.9900e-003	0.1218	4.9400e-003	0.1267	0.0324	4.7300e-003	0.0372		418.6690	418.6690	0.0399		419.6656
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0683	0.0450	0.4108	1.1000e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.9658	109.9658	2.9900e-003		110.0406
Total	**0.1095**	**1.4715**	**0.6158**	**5.0900e-003**	**0.2450**	**5.7100e-003**	**0.2507**	**0.0651**	**5.4400e-003**	**0.0706**		**528.6348**	**528.6348**	**0.0429**		**529.7062**

3.2 Demolition - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0934	0.0000	1.0934	0.1656	0.0000	0.1656			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**1.0934**	**1.6587**	**2.7521**	**0.1656**	**1.5419**	**1.7074**	**0.0000**	**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0411	1.4265	0.2049	3.9900e-003	0.1218	4.9400e-003	0.1267	0.0324	4.7300e-003	0.0372		418.6690	418.6690	0.0399		419.6656
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0683	0.0450	0.4108	1.1000e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.9658	109.9658	2.9900e-003		110.0406
Total	**0.1095**	**1.4715**	**0.6158**	**5.0900e-003**	**0.2450**	**5.7100e-003**	**0.2507**	**0.0651**	**5.4400e-003**	**0.0706**		**528.6348**	**528.6348**	**0.0429**		**529.7062**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0820	0.0540	0.4930	1.3300e-003	0.1479	9.3000e-004	0.1488	0.0392	8.5000e-004	0.0401		131.9590	131.9590	3.5900e-003		132.0487
Total	**0.0820**	**0.0540**	**0.4930**	**1.3300e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.5000e-004**	**0.0401**		**131.9590**	**131.9590**	**3.5900e-003**		**132.0487**

3.3 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0820	0.0540	0.4930	1.3300e-003	0.1479	9.3000e-004	0.1488	0.0392	8.5000e-004	0.0401		131.9590	131.9590	3.5900e-003		132.0487
Total	**0.0820**	**0.0540**	**0.4930**	**1.3300e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.5000e-004**	**0.0401**		**131.9590**	**131.9590**	**3.5900e-003**		**132.0487**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.4928	0.0000	6.4928	3.3611	0.0000	3.3611			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.4928**	**1.2734**	**7.7662**	**3.3611**	**1.1716**	**4.5326**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0683	0.0450	0.4108	1.1000e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.9658	109.9658	2.9900e-003		110.0406
Total	**0.0683**	**0.0450**	**0.4108**	**1.1000e-003**	**0.1232**	**7.7000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**109.9658**	**109.9658**	**2.9900e-003**		**110.0406**

3.4 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.4928	0.0000	6.4928	3.3611	0.0000	3.3611			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.4928**	**1.2734**	**7.7662**	**3.3611**	**1.1716**	**4.5326**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0683	0.0450	0.4108	1.1000e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.9658	109.9658	2.9900e-003		110.0406
Total	**0.0683**	**0.0450**	**0.4108**	**1.1000e-003**	**0.1232**	**7.7000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**109.9658**	**109.9658**	**2.9900e-003**		**110.0406**

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005		1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.5167					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7004**	**11.8015**	**12.2823**	**0.0189**		**0.6509**	**0.6509**		**0.6005**	**0.6005**		**1,804.7070**	**1,804.7070**	**0.5670**		**1,818.8830**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0911	0.0600	0.5478	1.4700e-003	0.1643	1.0300e-003	0.1653	0.0436	9.5000e-004	0.0445		146.6211	146.6211	3.9900e-003		146.7208
Total	**0.0911**	**0.0600**	**0.5478**	**1.4700e-003**	**0.1643**	**1.0300e-003**	**0.1653**	**0.0436**	**9.5000e-004**	**0.0445**		**146.6211**	**146.6211**	**3.9900e-003**		**146.7208**

3.5 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005	0.0000	1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.5167					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7004**	**11.8015**	**12.2823**	**0.0189**		**0.6509**	**0.6509**		**0.6005**	**0.6005**	**0.0000**	**1,804.7070**	**1,804.7070**	**0.5670**		**1,818.8830**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0911	0.0600	0.5478	1.4700e-003	0.1643	1.0300e-003	0.1653	0.0436	9.5000e-004	0.0445		146.6211	146.6211	3.9900e-003		146.7208
Total	**0.0911**	**0.0600**	**0.5478**	**1.4700e-003**	**0.1643**	**1.0300e-003**	**0.1653**	**0.0436**	**9.5000e-004**	**0.0445**		**146.6211**	**146.6211**	**3.9900e-003**		**146.7208**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.6705	19.0424	11.0206	0.0326	0.9530	0.0351	0.9881	0.2564	0.0332	0.2896		3,362.7828	3,362.7828	1.1674		3,391.9685
Unmitigated	1.6705	19.0424	11.0206	0.0326	0.9530	0.0351	0.9881	0.2564	0.0332	0.2896		3,362.7828	3,362.7828	1.1674		3,391.9685

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	1,210.80	1,210.80	1210.80	440,731	440,731
Total	1,210.80	1,210.80	1,210.80	440,731	440,731

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	0.00	1.00	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.481390	0.032808	0.168621	0.127212	0.018382	0.004997	0.032622	0.122881	0.002369	0.001675	0.005261	0.001115	0.000667

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0725	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.8000e-004	7.8000e-004	0.0000		8.3000e-004
Unmitigated	0.0725	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.8000e-004	7.8000e-004	0.0000		8.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0548					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.8000e-004	7.8000e-004	0.0000		8.3000e-004
Total	**0.0725**	**0.0000**	**3.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**7.8000e-004**	**7.8000e-004**	**0.0000**		**8.3000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0177					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0548					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		7.8000e-004	7.8000e-004	0.0000		8.3000e-004
Total	**0.0725**	**0.0000**	**3.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**7.8000e-004**	**7.8000e-004**	**0.0000**		**8.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B.3

Energy Consumption Estimates

On-road Mobile (Operational) Energy Usage

Unmitigated:

Step 1:

Therefore:

Average Daily VMT Increase:

1,205 Source: Kittelson & Associates, 2020

Step 2:

Given:

Fleet Mix (CalEEMod Output)

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
48.1390%	3.2808%	16.8621%	12.7212%	1.8382%	0.4997%	3.2622%	12.2881%	0.2369%	0.1675%	0.5261%	0.1115%	0.0667%

And:

Gasoline MPG Factors for each Vehicle Class - Year 2020 (EMFAC2017 Output)

LDA	LDT1	LDT2	MDV	MCY	MH
29.88582185	25.328158	23.035468	18.78319003	37.83196094	4.676647619

Diesel MPG Factors for each Vehicle Class - Year 2020 (EMFAC2017 Output)

LHD1	LHD2	MHD	HHD	OBUS	UBUS	SBUS
17.53098863	15.619688	8.8190306	5.289198388	4.609075414	8.03038204	7.9027594

Therefore:

Weighted Average MPG Factors

Gasoline: **26.6** Diesel: **7.3**

Step 3:

Therefore:

37 daily gallons of gasoline **30 daily gallons of diesel**

or

13,499 annual gallons of gasoline **11,060 annual gallons of diesel**

Off-road Mobile (Construction) Energy Usage

Note: For the sake of simplicity, and as a conservative estimation, it was assumed that all off-road vehicles use diesel fuel as an energy source.
Demolition, Site preparation and grading off-road mobile vehicle on-site gallons of fuel are calculated below.

Given Factor:	**87.4**	**metric tons**	**CO2**	**(provided in CalEEMod Output File)**
Conversion Factor:	2204.6262	pounds	per metric ton	
Intermediate Result:	**192,707**	**pounds**	**CO2**	
Conversion Factor:	22.38	pounds	CO2 per 1 gallon of diesel fuel	Source: U.S. EIA, 2016
Final Result:	**8,610.67**	**gallons**	**diesel fuel**	http://www.eia.gov/tools/faqs/faq.cfm?id=307&t=11

Mitigated Onsite Scenario	Total CO2 (MT/yr) (provided in CalEEMod Output File)
Demolition	68.4771

On-road Mobile (Construction) Energy Usage - Demolition

Step 1: **Total Daily Worker Trips (CalEEMod output)**

15

Worker Trip Length (miles) (CalEEMod output)

10.8

Therefore:

Average Worker Daily VMT:

162

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEI

LDA	**LDT1**	**LDT2**
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class - Year 2040 (EMFAC2017 output)

LDA	**LDT1**	**LDT2**
40.441311	34.261903	34.274321

Therefore:

Weighted Average Worker MPG Factor

37.354711

Step 3: **Therefore:**

4.3 Worker daily gallons of gasoline (all workers)

Step 4: 60 **# of Days (CalEEMod ouput)**

Therefore:

Result: **260** **Total gallons of gasoline (all workers)**

On-road Mobile (Construction) Energy Usage - Site Preparation

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

18

Worker Trip Length (miles) (CalEEMod Output)

10.8

Therefore:

Average Worker Daily VMT:

194

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	**LDT1**	**LDT2**
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2017) - Year 2040

LDA	**LDT1**	**LDT2**
40.441311	**34.261903**	**34.274321**

Therefore:

Weighted Average Worker MPG Factor

37.4

Step 3: **Therefore:**

5.2 **Worker daily gallons of gasoline**

Step 4: **5** **# of Days (CalEEMod Output)**

Therefore:

Result: **26** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Grading

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

15

Worker Trip Length (miles) (CalEEMod Output)

10.8

Therefore:

Average Worker Daily VMT:

162

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	**LDT1**	**LDT2**
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2017) - Year 2040

LDA	**LDT1**	**LDT2**
40.441311	34.261903	34.274321

Therefore:

Weighted Average Worker MPG Factor

37.4

Step 3: **Therefore:**

4.3 Worker daily gallons of gasoline

Step 4: 8 **# of Days (CalEEMod Output)**

Therefore:

Result: **35** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Paving

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

20

Worker Trip Length (miles) (CalEEMod Output)

10.8

Therefore:

Average Worker Daily VMT:

216

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	**LDT1**	**LDT2**
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2017) - Year 2040

LDA	**LDT1**	**LDT2**
40.441311	34.261903	34.274321

Therefore:

Weighted Average Worker MPG Factor

37.4

Step 3: **Therefore:**

5.8 Worker daily gallons of gasoline

Step 4: 18 **# of Days (CalEEMod Output)**

Therefore:

Result: **104** **Total gallons of gasoline**

APPENDIX B.4

Greenhouse Gas Efficiency Metric Calculation Methodology

Greenhouse Gas Efficiency Metric Calculation Methodology – Salinas Central Area Specific Plan

The methodology used for assessing the proposed project's consistency with GHG targets established in AB 32 is the use of GHG efficiency metrics to assess the GHG efficiency of the project on a "service population (SP)" basis (the sum of the number of jobs and the number of residents provided by a project). These metrics represent the rate of emissions needed to achieve a fair share of the state's emissions mandate embodied in AB 32. The use of "fair share" in this instance indicates the GHG efficiency level that, if applied statewide, would meet the AB 32 emissions target and support efforts to reduce emissions beyond 2020.

GHG efficiency metrics for the project were developed based on emissions rates for the land use-driven emission sectors in the CARB's GHG inventory. The GHG efficiency metric is only based on sectors that would accommodate projected growth (as indicated by population and employment growth) while allowing for consistency with the goals of AB 32 (i.e., 1990 GHG emissions levels by 2020). The per service population efficiency target is based on the AB 32 GHG reduction target and GHG emissions inventory prepared for the CARB's 2008 Scoping Plan.

To develop the efficiency metric for 2020, land-use driven sectors in the CARB's 1990 GHG inventory were identified and separated to tailor the inventory to land use projects. This process removes emission sources that would not be applicable to the project area. For example, emissions associated with ships and commercial boats, aviation, rail, industrial sources, agriculture and forestry, and unspecified sectors were removed from the CARB's 1990 inventory in order to exclude non-land use sectors. The exceptions for the industrial sector are the landfill and domestic wastewater sub-sectors which were included in development of the GHG efficiency metric because emissions from these sectors are included in the project's emissions profile. Isolating the land use-driven sectors from the CARB's overall inventory ensures that the threshold is directly applicable to land use projects, whereby emission sectors included in the inventory used for developing the GHG efficiency metric can be mapped to a project's emissions data. For example, emissions associated with on-road transportation, electricity, natural gas, wastewater treatment, and solid waste are included in both the inventory used to develop the GHG efficiency metric and the project's operational emissions. The CARB's complete 1990 inventory and the adjusted land use-driven emissions inventory are shown on the following pages.

The land-use sector driven inventory for 1990 was divided by the population and employment projections for California in 2020. Detailed calculations showing derivation of the efficiency metrics are shown on the following pages. The efficiency metric allows the threshold to be applied evenly to all project types (residential, commercial/retail and mixed use) and uses an emissions inventory comprised only of sources from land-use related sectors. The efficiency approach allows lead agencies to assess whether any given project or plan would accommodate population and employment growth in a way that is consistent with the emissions limit established under AB 32. The resultant GHG efficiency metric would be (approximately) 4.84 MT CO_2e/SP/year for 2020 (as provided below).

All calculations are based on the IPCC Second Assessment Report's Global Warming Potentials to allow consistent comparison between the ARB 1990 inventory and the California Emissions Estimator Model (CalEEMod; used to estimate project emissions).

California Greenhouse Gas Inventory for 1990 – by Sector and Activity (Land Use-driven sectors only)

Million metric tons of CO_2-equiavlent (CO_2e) – (based on IPCC Second Assessment Report's Global Warming Potentials) (CARB, 2007).

Year 1990

Transportation	
On Road	
Passenger Cars	63.77
Light Duty Trucks	44.75
Motorcycles	0.43
Heavy Duty Trucks	29.03
Freight	0.02
Electricity Generation In-State	
CHP: Commercial	***0.70***
Merchant Owned	***2.33***
Transmission and Distribution	***1.56***
Utility Owned	***29.92***
Electricity Generation In-State	
Specified Imports	***29.61***
Transmission and Distribution	***1.02***
Unspecified Imports	***30.96***
Commercial	
CHP: Commercial	***0.40***
Communication	***0.07***
Domestic Utilities	***0.34***
Education	***1.42***
Food Services	***1.89***
Healthcare	***1.32***
Hotels	***0.67***
Not Specified Commercial	***5.58***
Offices	***1.46***
Retail & Wholesale	***0.68***
Transportation Services	***0.03***
Residential	
Household Use	***29.66***
Industrial	
Landfills	***6.26***
Wastewater Treatment	
Domestic Wastewater	2.83
Total Emissions	**286.70**

Future Year Service Population Thresholds

	2020
Population	40,719,999
Employment	18,511,200
Service Population	59,231,199
Emissions (Million Metric Tons)	286.70
MT/SP	**4.84**

Note:

SP = service population.

Sources:

California Air Resources Board (CARB). 2007. Staff Report: California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit. Public Release Date: November 16, 2007. Available: https://www.arb.ca.gov/cc/inventory/1990level/1990level.htm

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California Department of Finance, Demographics Research Unit (Total Estimated and Projected Population for California and Counties: July 1, 2010 to July 1, 2060 in 5-year Increments. Published February, 2017.

California Department of Finance Employment Development Department. Industry Employment Projections Labor Market Information Division 2010-2020. Published 5/23/2012.

APPENDIX B.5

Air Toxics Health Risk Assessment

ANALYSIS OF PUBLIC HEALTH RISKS

FOR THE

FRESNO PRODUCER'S DAIRY

FRESNO CALIFORNIA

APRIL 27, 2020

PROJECT TITLE

Fresno Producer's Dairy

PREPARED BY:

De Novo Planning Group
1020 Suncast Lane Suite 106
El Dorado Hills, CA 95762

CONTACT PERSON AND PHONE NUMBER

Ben Ritchie – Principal Planner
De Novo Planning Group
1020 Suncast Lane Suite 106
El Dorado Hills, CA 95762
britchie@denovoplanning.com
(916) 949-3231

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INTRODUCTION

This Health Risk Assessment (HRA) was prepared to assess potential public health risks that may be present at the proposed Fresno Producer's Dairy project in the city of Fresno, Fresno County, California. This report analyzes the emissions of toxic air pollutants within the project area and their impacts on public health.

PROJECT DESCRIPTION

PROJECT LOCATION

The Producers Dairy project site (project site) is located at 250 E. Belmont Avenue in Fresno, California. The Truck Movement Project Area includes the Demolition and Grading Project Area (discussed below), the Producers Dairy Main Plant (discussed below), the Producers Dairy ice cream warehouse, and the Producers Dairy cheese. The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks.

The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks, as shown in Figure 1.

PROJECT BACKGROUND

In 2014, Producers Dairy Foods leased property at 302 N. Thorne Avenue. The California High Speed Rail Project required taking a large portion of the project site that was being used to park trailers. Because Producers Dairy Foods wasn't the property owner, the eminent domain process went directly with the property owner. The California High Speed Rail Authority (CHSRA) initially helped to try to accommodate Producers Dairy Foods' needs by finding or providing temporary lots where its trailers could be parked. Temporary lots were then made available at 1762 G Street and at 1399 H Street (Boxcar Lot) for Producers Dairy Foods to park its trailers.

Security and cost issues arose along with the new temporary lots. As a result, Producers Dairy Foods consolidated its operations around the remaining available space among its properties at 250 E. Belmont Avenue, 450 E. Belmont Avenue (the cheese plant property), and 302 N. Thorne Avenue. On occasion, CHSRA has continued to make the Boxcar Lot available due to temporary needs (i.e., resurfacing the cheese plant property which was damaged due to heavy winter rains).

In search for a more permanent solution to the lost parking that resulted from the California High Speed Rail Project taking via eminent domain, Producers Dairy Foods pursued a project to tear down abandoned buildings at the cheese plant property to expand available trailer parking in

2016. However, the project was tabled in 2018 and sent to the Fresno Mayor's office for further discussions in order to explore other alternatives.

Since 2018, some alternative sites have been explored and Producers Dairy Foods made an offer on a potential property (295 Fruit Avenue). However, no deal was made. The owners of the mill property site (located at 315 N. H Street) were contacted and expressed interest in a potential sale to the applicant. Currently, the property is in escrow and a sale is pending to close and relinquish portions of H Street (i.e., if H Street cannot be closed such that Producers Dairy Foods can essentially consolidate and improve the efficiency of its operations, then the pending sale can be canceled; however, if this effort is ultimately successful, then the deal can close).

EXISTING SITE CONDITIONS

Producers Dairy Foods currently operates at multiple locations within the greater Truck Movement Parking Area. The existing truck routes and turning movements are shown in Figure 2. The existing operations include the Main Plant, which includes processing facilities, blow mold and storage areas, executive offices, product loading, dry storage, bottling and processing, order processing, and truck maintenance. Existing operations also occur at the ice cream warehouse, which is located southwest of the Main Plant, as shown on Figure 2. Producers also operates at the old cheese plant property, which is no longer operational as a cheese production facility, but is currently used for trailer storage as part of daily operations.

The vast majority of the existing operations and facilities are located in the area southwest of the Palm Avenue and Belmont Avenue intersection (the Main Plant); however, the ice cream warehouse is located west of H Street and north and west of the Southern Pacific Railroad, and the cheese plant property is located at the southwest corner of the N. Roosevelt Avenue and Belmont Avenue intersection. Existing circulation patterns currently connect the ice cream warehouse and cheese plant property to the other buildings listed previously (located southwest of the Palm Avenue and Belmont Avenue intersection).

EXISTING SURROUNDING USES

Surrounding land uses include existing warehouse distribution and other industrial uses to the east, west, and south, and residential land uses to the east. The Demolition and Grading Project Area is located adjacent south of La Tapatia Tortilleria.

PROJECT CHARACTERISTICS

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- grading and new paved parking lot for diesel milk trucks; and
- closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

Approximately 3.55 acres (or 154,638 square feet) of land currently developed with a range of old, abandoned feed mill and silos would be paved. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years with extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut to keep out trespassers and control the vandalism of the buildings.

Some portions of H Street between the railroad tracks would be used for truck parking and represents new pavement.

OPERATIONS

No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The proposed project includes the demolition of existing structures between H Street and the UPRR tracks, which would be replaced with a new consolidated truck and trailer parking area, as described above. This new parking area would allow the project applicant to change their existing truck movement patterns in and around their facilities, as described in greater detail below.

CIRCULATION, TRANSPORTATION, AND PARKING

The existing routes and turning movements are shown in Figure 2, and the proposed routes and movements are shown in Figure 3. Generally, existing routes connect the cheese plant property and ice cream warehouse to the main operations (located in the area southwest of the Palm Avenue and Belmont Avenue intersection). Trucks currently travel along Belmont Avenue, over the railroad tracks, through the roundabout at Belmont Avenue / Wesley Avenue / Motel Drive, and along Wesley Avenue, Franklin Avenue, and Thorn Avenue. The proposed project would consolidate the routes and turning movements, as shown in Figure 3.

Ample truck parking would be provided in the newly paved area along H Street once the structures in this area are demolished. As noted above, portions of H Street between Belmont Avenue and Palm Avenue would be closed and relinquished. A gate would be constructed at the southern portion of H Street, northwest of the Palm Avenue and H Street intersection.

These proposed changes to the existing truck parking and movement patterns would allow the applicant to reduce the total number of truck movements, reduce the number of minutes spent daily on truck movements, and reduce the daily vehicle miles traveled associated with truck movements,_The existing trailer movements are shown in Table 1. The proposed trailer movements with the proposed new parking lot area are shown in Table 2.

TABLE 1: EXISTING TRAILER MOVEMENTS PER DAY

MOVEMENT	*TRAILERS MOVED (NUMBER)*	*TRAVEL TIME (MINUTES)*	*TRAVEL DISTANCE (MILES)*
SUNDAY/MONDAY/WEDNESDAY/THURSDAY/FRIDAY			
Main Lot to Ice Cream Warehouse	43	324	47
Main Lot to Cheese Plant Property	64	340	44
Main Lot to Other Facilities	200	856	55
Totals	*307*	*1,520*	*146*
TUESDAY/SATURDAY			
Main Lot to Ice Cream Warehouse	22	166	24
Main Lot to Cheese Plant Property	43	229	30
Main Lot to Other Facilities	134	548	31
Totals	*199*	*943*	*85*

NOTE: THIS AUDIT WAS COMPLETED BY THE PROJECT APPLICANT IN JUNE 2019. THE AUDIT IS BASED ON THE MOVEMENTS OF 388 LOADED TRAILERS.
SOURCE: PRODUCERS DAIRY FOODS, JUNE 2019.

TABLE 2: PROPOSED TRAILER MOVEMENTS PER DAY WITH NEW PARKING LOT

MOVEMENT	*TRAILERS MOVED (NUMBER)*	*TRAVEL TIME (MINUTES)*	*TRAVEL DISTANCE (MILES)*
SUNDAY/MONDAY/WEDNESDAY/THURSDAY/FRIDAY			
Main Lot to Ice Cream Warehouse	8	60	9
Main Lot to Cheese Plant Property	99	297	11
Main Lot to Other Facilities	200	841	59
Totals	*307*	*1,198*	*79*
TUESDAY/SATURDAY			
Main Lot to Ice Cream Warehouse	8	60	9
Main Lot to Cheese Plant Property	57	171	6
Main Lot to Other Facilities	134	45	38
Totals	*199*	*726*	*53*

SOURCE: PRODUCERS DAIRY FOODS, JUNE 2019.

As shown in Tables 1 and 2, the number of trailers moved per day would not change from the existing condition to the proposed condition. On Sundays, Mondays, Wednesdays, Thursdays, and Fridays, the number of trailers moved would remain the same (307 trailers), and the number of trailers moved per day on Tuesdays and Saturdays would also remain the same (199 trailers). However, as shown, the travel times and travel distances during all days would decrease as a result of the project.

As shown in Table 1, the existing operations result in 1,520 total minutes of travel time associated with trailer movements around and between the various facilities and parking areas on Sundays, Mondays, Wednesdays, Thursdays, and Fridays. As shown in Table 2, the travel time associated with trailer movements during these days would decrease to 1,198 total minutes. The project would result in a decrease of travel time during these days by 322 minutes (or five hours and 22 minutes). Similarly, the travel time on Tuesdays and Saturdays would also decrease by 217 minutes (or three hours and 37 minutes).

As shown in Table 1, the existing operations result in 146 total miles of travel on Sundays, Mondays, Wednesdays, Thursdays, and Fridays. As shown in Table 2, the travel distances during these days would decrease to 79 total miles. The project would result in a decrease of travel distance during these days by 67 miles. Similarly, the travel distance on Tuesdays and Saturdays would also decrease by 32 miles.

These travel times and distances represent minutes and miles traveled in and around the Main Plant, the ice cream warehouse, and the old cheese plant property, all of which are located within the area demarcated as the Truck Movement Project Area. These numbers do not represent total miles or minutes of travels associated with deliveries throughout the region, once the trucks and trailers leave the Truck Movement Project Area.

As noted previously, the proposed project would not result in any operational increases nor expansions that would lead to increased production or deliveries above existing conditions.

GENERAL PLAN AND ZONING DESIGNATIONS

The Demolition and Grading Project Area is designated as Employment – Light Industrial by the City's General Plan Land Use Map and is zoned as Light Industrial (IL). The Truck Movement Project Area includes various land use and zoning designations on-site and in the immediate vicinity. The land use designations in and adjacent to the Truck Movement Project Area include: Open Space – Park; Residential – Medium Density; Neighborhood Mixed Use; Employment – Heavy Industrial; Employment – Light Industrial; Commercial – Main Street; and Commercial – General. The zoning designations in and adjacent to the Truck Movement Project Area include: Park and Recreation (PR); Residential Single-Family, Medium Density (RS-5); Neighborhood Mixed Use (NMX); Heavy Industrial (IH); IL; Commercial Main Street (CMS); and Commercial General (CG).

The existing and proposed project uses are permitted within the existing General Plan land use and Zoning districts. As such, a General Plan Amendment and/or rezone would not be required for the project.

Legend

🟥 The Demolition and Grading Project Area

⬚ The Truck Movement Project Area

Sources: Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: February 4, 2020.

N

0 250 500

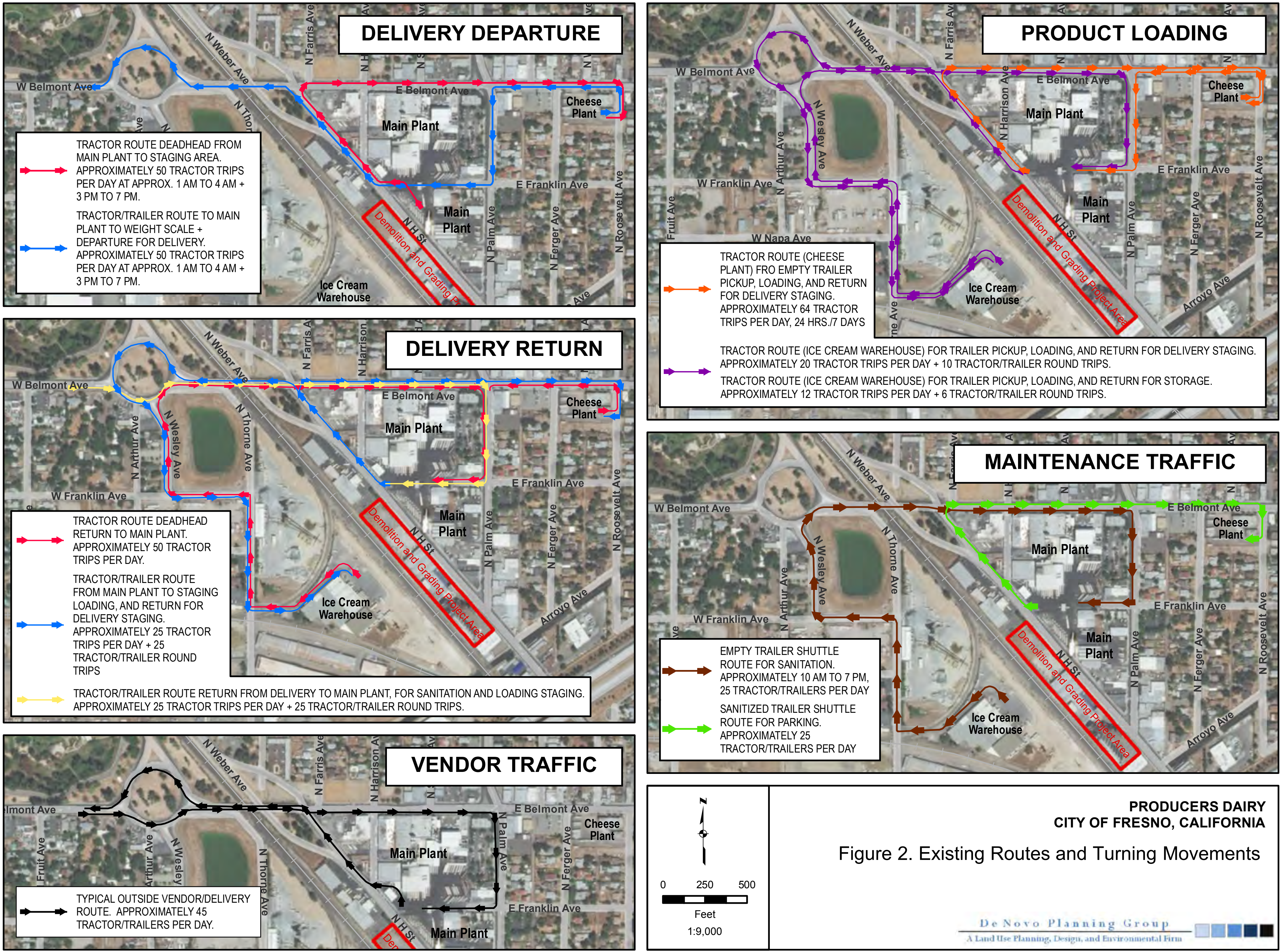
Feet

1:6,000

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 1. Aerial View

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm



→ TRACTOR ROUTE DEADHEAD FROM MAIN PLANT TO STAGING AREA. APPROXIMATELY 50 TRACTOR TRIPS PER DAY AT APPROX. 1 AM TO 4 AM + 3 PM TO 7 PM.

→ TRACTOR/TRAILER ROUTE TO MAIN PLANT TO WEIGHT SCALE + DEPARTURE FOR DELIVERY. APPROXIMATELY 50 TRACTOR TRIPS PER DAY AT APPROX. 1 AM TO 4 AM + 3 PM TO 7 PM.

→ TRACTOR ROUTE (CHEESE PLANT) FRO EMPTY TRAILER PICKUP, LOADING, AND RETURN FOR DELIVERY STAGING. APPROXIMATELY 64 TRACTOR TRIPS PER DAY, 24 HRS./7 DAYS

→ TRACTOR ROUTE (ICE CREAM WAREHOUSE) FOR TRAILER PICKUP, LOADING, AND RETURN FOR DELIVERY STAGING. APPROXIMATELY 20 TRACTOR TRIPS PER DAY + 10 TRACTOR/TRAILER ROUND TRIPS.
TRACTOR ROUTE (ICE CREAM WAREHOUSE) FOR TRAILER PICKUP, LOADING, AND RETURN FOR STORAGE. APPROXIMATELY 12 TRACTOR TRIPS PER DAY + 6 TRACTOR/TRAILER ROUND TRIPS.

→ TRACTOR ROUTE DEADHEAD RETURN TO MAIN PLANT. APPROXIMATELY 50 TRACTOR TRIPS PER DAY.

→ TRACTOR/TRAILER ROUTE FROM MAIN PLANT TO STAGING LOADING, AND RETURN FOR DELIVERY STAGING. APPROXIMATELY 25 TRACTOR TRIPS PER DAY + 25 TRACTOR/TRAILER ROUND TRIPS

→ TRACTOR/TRAILER ROUTE RETURN FROM DELIVERY TO MAIN PLANT, FOR SANITATION AND LOADING STAGING. APPROXIMATELY 25 TRACTOR TRIPS PER DAY + 25 TRACTOR/TRAILER ROUND TRIPS.

→ EMPTY TRAILER SHUTTLE ROUTE FOR SANITATION. APPROXIMATELY 10 AM TO 7 PM, 25 TRACTOR/TRAILERS PER DAY

→ SANITIZED TRAILER SHUTTLE ROUTE FOR PARKING. APPROXIMATELY 25 TRACTOR/TRAILERS PER DAY

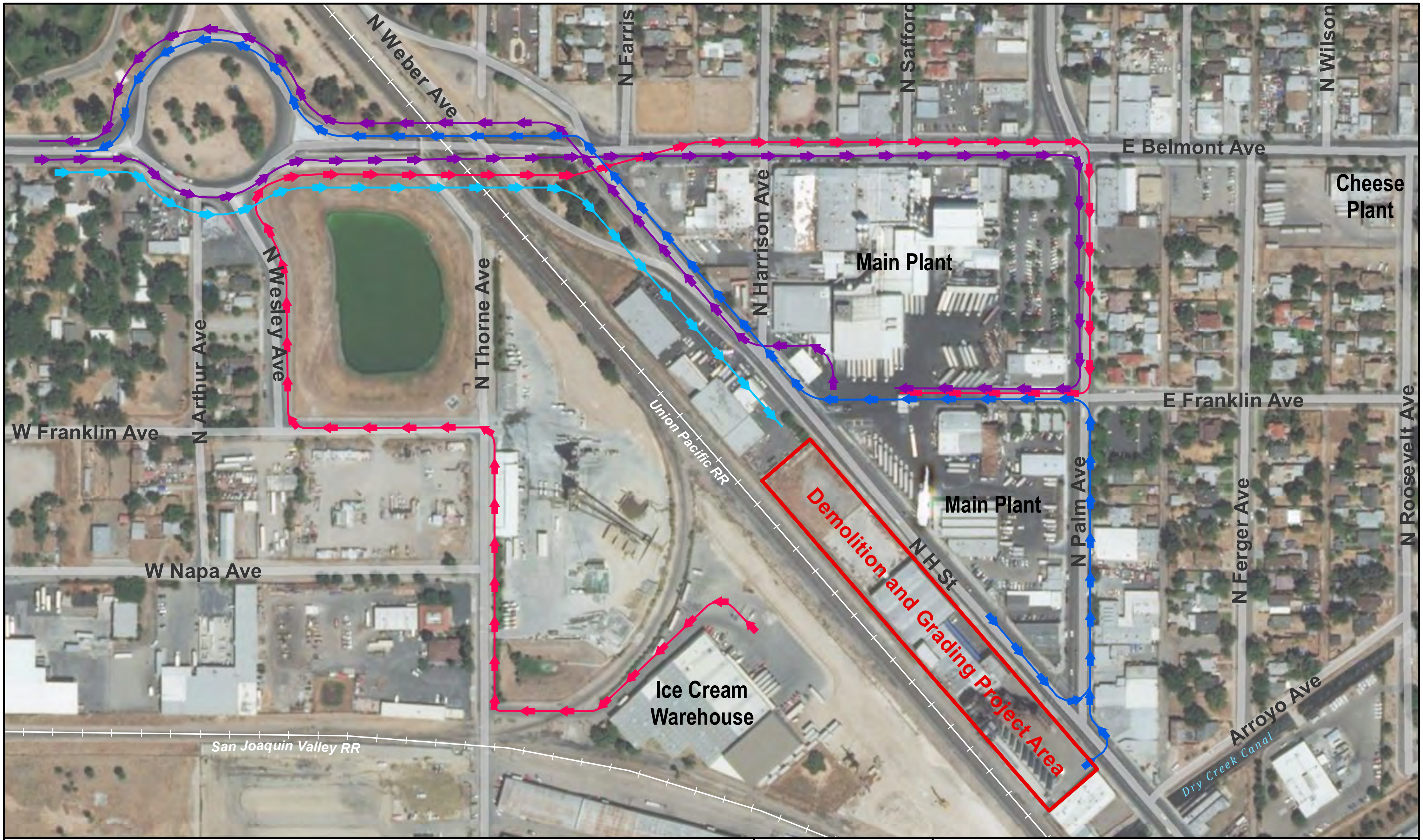
→ TYPICAL OUTSIDE VENDOR/DELIVERY ROUTE. APPROXIMATELY 45 TRACTOR/TRAILERS PER DAY.

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 2. Existing Routes and Turning Movements

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Sources: Fresno County GIS; Jeff Cazaly, Architect. Map date: February 4, 2020.



Legend

→ TRACTOR ROUTE (ICE CREAM WAREHOUSE) FOR TRAILER PICKUP, LOADING, AND RETURN FOR STORAGE. APPROXIMATELY 12 TRACTOR TRIPS PER DAY + 6 TRACTOR/TRAILER ROUND TRIPS.

→ TRACTOR/TRAILER ROUTE TO MAIN PLANT TO WEIGHT SCALE + DEPARTURE FOR DELIVERY. BELMONT TO HWY 99 NORTH + SOUTH BOUND. APPROXIMATELY 50 TRACTOR TRIPS PER DAY AT APPROX. 1 AM TO 4 AM + 3 PM TO 7 PM.

→ TRACTOR/TRAILER ROUTE RETURN FROM DELIVERY HWY. 99 TO BELMONT MAIN PLANT, FOR LOADING + STAGING. APPROXIMATELY 50 TRACTOR TRIPS PER DAY.

→ TYPICAL OUTSIDE VENDER/DELIVERY ROUTE. APPROXIMATELY 45 TRACTOR/TRAILERS PER

Sources: Jeff Cazaly, Architect; Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: February 4, 2020.

N

0 100 200

Feet

1:4,000

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Figure 3. Proposed Routes and Turning Movements

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

SCOPE OF RISK ASSESSMENT

Preparation of risk assessments is a three-step process. The first step is to identify potential contaminants that may lead to public health risks. The second step is to assess the magnitude of contaminants that may reach the public (exposure assessment). The last step is to calculate the magnitude of the health risk as a result of exposure to harmful contaminants on the basis of the toxicology of the contaminants.

The Office of Environmental Health Hazard Assessment (OEHHA), and the San Joaquin Valley Air Pollution Control District (SJVAPCD) provide guidance on the procedures that should be used, including, toxicological data for individual contaminants. While this risk assessment uses certain procedures and data from these Guidelines, this assessment is not intended to satisfy the reporting requirements under AB-2588 "Air Toxics" Hot Spots program.

The health risks that are evaluated in this study include:

- Residential Cancer Risk (70-year exposure);
- Workplace Cancer Risk (30-year exposure; start at age 16); and
- Acute and Chronic Hazard Indices.

The 70-year risk applies to residential areas where exposure may potentially occur 24 hours/day, 365 days/year. The 30-year risk is applicable to workplace exposure and therefore accounts for a reduced exposure for the fact that individuals typically would be exposed 8-hrs per day, 5 days per week, and 50 weeks per year. Non-cancer risks can be described as acute (short-term, exposure) or chronic health impacts.

SIGNIFICANCE CRITERIA

The following significance criteria shown in Table 3, based on guidance from the SJVAPCD, are used in this report to assess the significance of public health risks.

TABLE 3: THRESHOLDS OF SIGNIFICANCE FOR PUBLIC HEALTH RISKS

Risk Metric	*Significance Threshold*
Residential Cancer Risk	20 per million
Workplace Cancer Risk	20 per million
Chronic and Acute non-cancer hazard Indices	non-cancer health hazard exposure index of 1.0

SOURCE: SJVAPCD, 2015.

As shown in Table 3, a project that contributes a cancer risk in excess of 20 new cases in a population of one million persons at identified receptors, or a non-cancer hazard index of greater than or equal to 1.0 would be considered to have a significant project-level impact.

EMISSION SOURCES AND EXPOSURE

The source of toxic air pollutants (TACs) from the proposed project is diesel particulate matter (DPM) from mobile emissions (from the trucks traveling within the Truck Movement Project

Area), since the proposed project includes a change to the location of the mobile truck routes (during the project's operational phase). However, compared to the existing condition, the proposed project does not include a change in the location of magnitude of truck idling, or the use of Truck Refrigeration Units (TRUs). Based on numerous studies by the California Air Resources Board (ARB), DPM represents the largest single contributor to public health risks. Additionally, in its comprehensive assessment of diesel exhaust, OEHHA analyzed more than 30 studies of people who worked around diesel equipment, including truck drivers, railroad workers, and equipment operators. The studies showed these workers were more likely to develop lung cancer than workers who were not exposed to diesel emissions. These studies provide strong evidence that long-term occupational exposure to diesel exhaust increases the risk of lung cancer. Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks.

TABLE 4: EMISSION SOURCE ASSUMPTIONS

Source Type / Emission	Configuration	Assumptions
Mobile Diesel Truck Circulation (DPM)	*Modeled as line-volume sources* Release Height = 6 ft Width = 12 ft (width of a truck) Length = based on path of travel	• Traveling distance based on proposed routes and turning movements (see Figure 3). • Truck trips as provided by project applicant (see the legend in Figure 3). • PM_{10} mobile emissions factor provided by EMFAC 2017 (Parameters: Fresno County, Annual, Year 2020; aggregated emission factor for T6 vehicles)

DAILY TRUCK TRIPS

The total diesel truck trips generated by the proposed project is based on estimates provided by the project applicant (see Figure 3), as provided below. It should be noted that the number of total trucks trips would not change due to the proposed project. Instead, the proposed project truck routes are a consolidation of the existing truck routes, thereby reducing total truck VMT. This HRA analysis uses a conservative approach and assumes that all truck trips within the Truck Movement Project Area are project related impacts. The project does not consider the reduction in DPM that would occur due to the existing routes, many of which overlap with the proposed routes, thereby ensuring that this HRA provides a highly conservative analysis.

EMISSION RATES

Table 5 provides emissions rates by source and emissions factors. For calculations, data outputs, and reference documents, see Appendices 1 through 3.

TABLE 5: EMISSION SOURCE RATES

Mobile Emissions Source	Volume/Size	Emission Factor (grams/mile)	Emissions Pounds/Year
Tractor Route (Ice cream Warehouse) for Trailer Pickup, Loading, and Return for Storage	24 truck trips per day traveling 1.1 miles	0.102116448	2.16933305
Tractor/trailer Route to Main Plant to Weight Scale + Departure For Delivery	50 truck trips per day traveling 0.8 miles	0.102116448	3.286868257
Tractor/Trailer Route Return from Delivery – Highway 99 to Belmont Main Plant	50 truck trips per day traveling 0.5 miles	0.102116448	2.054292661
Typical Outside Vendor/Delivery Route (In)	45 truck trips per day traveling 0.7 miles	0.102116448	2.588408752
Typical Outside Vendor/Delivery Route (Out)	45 truck trips per day traveling 0.5 miles	0.102116448	1.848863394

SOURCES: JEFF CAZALY, PROJECT ARCHITECT; EMFAC 2017.

EXPOSURE ASSESSMENT

Exposure assessment involves translating the emission rate (e.g., lbs/hr, g/hr) of individual toxic air contaminants into the concentration (e.g., grams/cubic meter g /sec m ^{2} or parts per million) of each toxic air contaminant. The key step in performing an exposure assessment is the application of an air dispersion model. The dispersion model incorporates the local meteorological data (wind speed, wind direction, local temperature, inversions, etc.), stack height, and exhaust flow characteristics, into the dispersion of individual air contaminant. The Lakes Environmental AERMOD Version 9.8.3 (AERMOD Version 19191) dispersion model was employed for this assessment.

Modeling Receptor Grid: A rectangular (x-y) coordinate system was used. A region 500 x 500 meters was selected for the purposes of analysis. The modeling region divided into 544 discrete Cartesian receptors in the vicinity of the project area. This grid allows for analysis throughout the modelling extent and allows for a visual representation of dispersion contours.

Meteorological Data: Five years of meteorological data was used in the exposure assessment. The meteorological ("Met) data (wind speed, wind direction, temperature, etc.) were recorded at the SJVPACD's Fresno Yosemite International Airport location, for the period January 1, 2013 to December 31, 2017.

RISK ASSESSMENT

Once the emissions rates of individual air contaminants has been calculated, and an air dispersion model has been run through AERMOD, the next step in determining health risks is to determine the cancer risk, and acute and chronic incident rates. Period and 1-hour dispersion files we used in combination with HARP-2 risk modelling software to calculate risk scenarios for residential, and workplace cancer rates, as well as acute and chronic incidences. The Hotspots Analysis and

Reporting Program (HARP) is a software suite used to assist with the programmatic requirements of the Air Toxics "Hot Spots" Program [Assembly Bill (AB) 2588]. HARP combines the tools needed to implement the requirements of AB 2588, such as reporting a facilities emissions inventory, determining a facilities prioritization score, conducting air dispersion modeling, and performing a facility health risk assessment. This study utilized the HARP2 Air Dispersion and Risk Tool with dispersion plot files created in AERMOD. After the risk assessment was complete HARP-2, plot files were then imported back into AREMOD for spatial and visual representation, and analysis of impact areas.

The Intake Rate Percentile sets the intake rate at which a person is exposed to the air pollutant. This study utilized the high-end intake rate to assess risk at the 95th percentile exposure rate for risk scenarios. Additionally, residential cancer risk is assessed using a 70-year exposure duration starting at the third trimester; workplace cancer risks are assessed at a 30-year exposure duration with age 16 being the first potential exposure year.

RISK ASSESSMENT RESULTS

The results of the risk analysis indicate that cancer risks vary depending on the exposure scenario (residential or worker) and on location. As would be expected, locations nearest the project area have the greatest exposure and the associated risks are considerably lower as distance from the project site increases. Table 6 displays the residential and workplace cancer risk, and acute and chronic incidence rate results at nearest receptors. Figures 4 through 6 display a spatial representation of the associated risk by selected risk scenarios.

TABLE 6: SUMMARY OF MAXIMUM HEALTH RISKS

Risk Metric	Maximum Risk (per million persons)	Significance Threshold	Is Threshold Exceeded?
Residential Cancer Risk (70-year exposure)[1]	17.1	20 per million	No
Workplace Cancer Risk (30-year exposure)	1.90	20 per million	No
Chronic (non-cancer)	0.23	Hazard Index ≥1	No
Acute (non-cancer[2]	N/A	Hazard Index ≥1	No

SOURCES: AERMOD (LAKES ENVIRONMENTAL SOFTWARE, 2020); AND HARP-2 AIR DISPERSION AND RISK TOOL.

NOTES: [1]THE MAXIMUM RESIDENTIAL CANCER RISK WOULD BE FOR A RESIDENCE LOCATED AT 417 WEST BELMONT AVENUE, JUST SOUTH OF BELMONT AVENUE. THE RESIDENTIAL CANCER RISK (70-YEAR EXPOSURE, STARTING AT THE THIRD TRIMESTER) AT THIS LOCATION IS 17.1 PER MILLION PERSONS, AS PROVIDED WITHIN THIS TABLE. IT SHOULD BE NOTED, HOWEVER, THAT THE ACTUAL VALUE IS MUCH LOWER THAN THIS VALUE, SINCE THIS VALUE DOES NOT DISCOUNT THE EXISTING PRODUCER'S DAIRY TRUCKS THAT ALREADY TRAVERSE THE TRUCK MOVEMENT PROJECT AREA. [2]DPM DOES NOT GENERATE ACUTE EXPOSURE, BASED TO THE GUIDANCE PROVIDED BY THE OEHHA. THEREFORE, IT IS ASSUMED THAT ACUTE RISK IS NOT ASSOCIATED WITH THE PROPOSED PROJECT. FOR FURTHER INFORMATION, SEE: HTTPS://OEHHA.CA.GOV/AIR/GENERAL-INFO/OEHHA-ACUTE-8-HOUR-AND-CHRONIC-REFERENCE-EXPOSURE-LEVEL-REL-SUMMARY

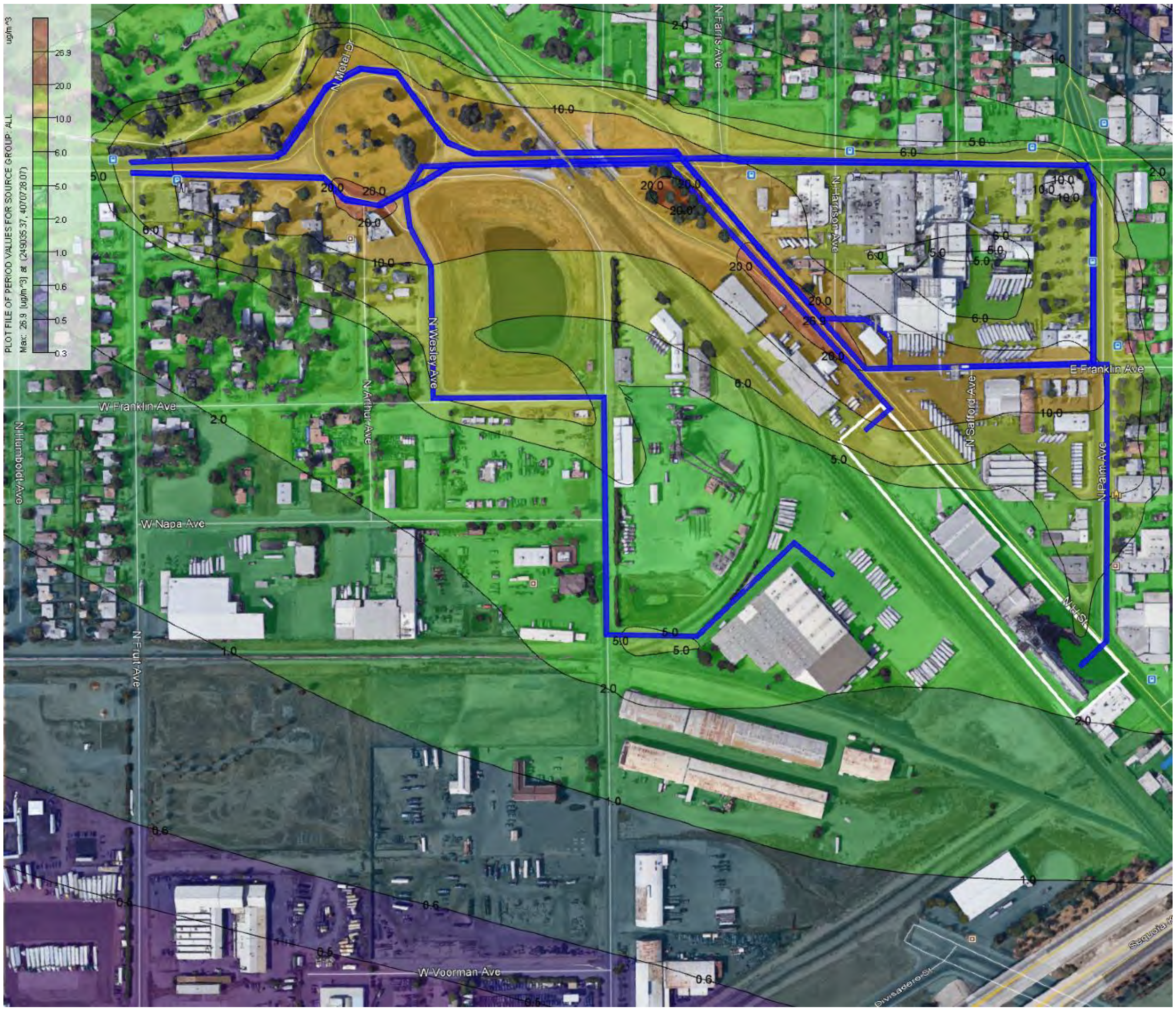
The TAC emissions from the project result from the truck travel within the Truck Movement Project Area. The values provided in Table 6 reflect the DPM from the mobile truck emissions for the proposed new routes. It should be noted that the values represented in Table 6 are highly conservative since they do not discount the existing routes, many of which overlap with the proposed routes (see Figures 2 and 3).

Variation of risk at all locations for residential cancer risk is shown in Figure 4. The highest 70-year cancer risk would affect the residential receptor located at 417 West Belmont Avenue, achieving a maximum value of 17.1 per million. Overall, the results show that residential 70-year cancer risk at the 95th percentile exposure rate would remain below 20 in a million at areas near the project site that contain residential receptors. However, it is very unlikely any individual would remain at the same location for 70 years; therefore, this result further represents a conservative estimate.

Variation of risk at all locations for workplace cancer is shown in Figure 5. Overall, the results show that 30-year workplace cancer risk at the 95th percentile exposure rate would remain below 20 in a million (the SJVPACD threshold) at the project site, with a maximum value of 1.90 per million measured within the northeast portion of the project site (the location of maximum cancer risk). This maximum risk level represents the worst-case scenario for 30-year workplace cancer risk.

Chronic or long-term exposures to DPM can result is non-cancer health effects. Chronic Non-Cancer Hazards results show that the chronic risk on and near the project site would remain below the hazard index of ≥1. Acute cancer risk is into considered for DPM; therefore, acute risk on and near the project site would also be below the hazard index of ≥1.

FIGURE-4: RESIDENTIAL CANCER RISK (70-YEAR) - 95TH PERCENTILE EXPOSURE RATE



Sources: Prepared by De Novo Planning Group (2020); Lakes Environmental AERMOD View 9.8.3; HARP-2 Air Dispersion and Risk Tool; Google Earth.
Project routes are shown with blue lines.

FIGURE-5: WORKPLACE CANCER RISK (30-YEAR)- 95TH PERCENTILE EXPOSURE RATE

Sources: Prepared by De Novo Planning Group (2020); Lakes Environmental AERMOD View 9.8.3; HARP-2 Air Dispersion and Risk Tool; Google Earth.

Project routes are shown with blue lines.

FIGURE-6: CHRONIC MAXIMUM NON-CANCER RISK (95TH PERCENTILE EXPOSURE RATE)

Sources: Prepared by De Novo Planning Group (2020); Lakes Environmental AERMOD View 9.8.3; HARP-2 Air Dispersion and Risk Tool; Google Earth.
Project routes are shown with blue lines.

REPORT PREPARERS

This document was prepared by De Novo Planning Group, Inc. of El Dorado Hills under the direction of the City of Fresno. De Novo Planning Group staff participating in document preparation included the following:

- Ben Ritchie, Principal Planner
- Josh Smith, Associate Planner

REFERENCES

CARB (2015) HARP, and AERMOD Course 296 *User's Guide for Health Risk Assessment and Dispersion Molding.*

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Kyle Melching. 2016. San Joaquin Valley Air Pollution Control District (SJVAPCD). (Email Communications on 3/25/2016].

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SJVAPCD. 2010. San Joaquin Valley Air Pollution Control District, *Guidance for Air Dispersion Modeling.*

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Appendix 1 Emissions Calculations:

Mobile Truck Emissions

Tractor Route (Ice cream Warehouse) for Trailer Pickup, Loading, and Return for Storage

pounds per gram:	0.002205
hours per day:	24

Line Source Volume #1:

Assumptions:	Factor:		Source:
1. Total travel distance (one-day):	1.1	miles	As measured by Google Maps
2. # of trucks trips per day (one-way):	24	trucks	Project Applicant
3. PM10 Mobile Emissions Factors (Fresno County, 20 MPH, Year 2020, T6):	0.102116448	g/mile	EMFAC2017

Therefore:

Total daily PM10 mobile emissions generated by the project along this line volume source:

2.695874218	**g/day-24 vehicles**
0.005943378	lbs/day-24 vehicles
2.16933305	**lbs/year-24 vehicles**

Max Hr Emissions

24.00 Peak hour truck trips (assumes all trips occur in the same hour, for a highly conservative estimate)

2.695874218	**g/day-24 vehicles**
0.005943378	lbs/day-24 vehicles
0.000247641	**lbs/hour-24 vehicles**

Mobile Truck Emissions

Tractor/trailer Route to Main Plant to Weight Scale + Departure For Delivery

pounds per gram: 0.002205
hours per day: 24

Line Source Volume #2:

Assumptions:	Factor:		Source:
1. Total travel distance (one-day):	0.8	miles	As measured by Google Maps
2. # of trucks trips per day (one-way):	50	trucks	Project Applicant
3. PM10 Mobile Emissions Factors (Fresno County, 20 MPH, Year 2020, T6):	0.102116448	g/mile	EMFAC2017

Therefore:

Total daily PM10 mobile emissions generated by the project along this line volume source:

4.084657906	**g/day-50 vehicles**
0.009005119	lbs/day-50 vehicles
3.286868257	**lbs/year-50 vehicles**

Max Hr Emissions

25.00 Peak hour truck trips (assumes half of trips occur in the same hour, for a highly conservative estimate)

2.042328953	**g/day-25 vehicles**
0.004502559	lbs/day-25 vehicles
0.000187607	**lbs/hour-25 vehicles**

Mobile Truck Emissions

Tractor/Trailer Route Return from Delivery – Highway 99 to Belmont Main Plant

pounds per gram:	0.002205
hours per day:	24

Line Source Volume #3:

Assumptions:	Factor:		Source:
1. Total travel distance (one-day):	0.5	miles	As measured by Google Maps
2. # of trucks trips per day (one-way):	50	trucks	Project Applicant
3. PM10 Mobile Emissions Factors (Fresno County, 20 MPH, Year 2020, T6):	0.102116448	g/mile	EMFAC2017

Therefore:

Total daily PM10 mobile emissions generated by the project along this line volume source:

2.552911191	**g/day-50 vehicles**
0.005628199	lbs/day-50 vehicles
2.054292661	**lbs/year-50 vehicles**

Max Hr Emissions

25.00 Peak hour truck trips (assumes half of trips occur in the same hour, for a highly conservative estimate)

1.276455596	**g/day-25 vehicles**
0.0028141	lbs/day-25 vehicles
0.000117254	**lbs/hour-25 vehicles**

Mobile Truck Emissions

Typical Outside Vendor/Delivery Route (In)

pounds per gram: 0.002205
hours per day: 24

Line Source Volume #4:

Assumptions:	Factor:		Source:
1. Total travel distance (one-day):	0.7	miles	As measured by Google Maps
2. # of trucks trips per day (one-way):	45	trucks	Project Applicant
3. PM10 Mobile Emissions Factors (Fresno County, 20 MPH, Year 2020, T6):	0.102116448	g/mile	EMFAC2017

Therefore:

Total daily PM10 mobile emissions generated by the project along this line volume source:

3.216668101 g/day-45 vehicles
0.007091531 lbs/day-45 vehicles
2.588408752 lbs/year-45 vehicles

Max Hr Emissions

23.00 Peak hour truck trips (assumes half of trips occur in the same hour, for a highly conservative estimate)

1.644074807 g/day-23 vehicles
0.00362456 lbs/day-23 vehicles
0.000151023 lbs/hour-23 vehicles

Mobile Truck Emissions

Typical Outside Vendor/Delivery Route (Out)

pounds per gram:	0.002205
hours per day:	24

Line Source Volume #5:

Assumptions:	Factor:		Source:
1. Total travel distance (one-day):	0.5	miles	As measured by Google Maps
2. # of trucks trips per day (one-way):	45	trucks	Project Applicant
3. PM10 Mobile Emissions Factors (Fresno County, 20 MPH, Year 2020, T6):	0.102116448	g/mile	EMFAC2017

Therefore:

Total daily PM10 mobile emissions generated by the project along this line volume source:

2.297620072	**g/day-45 vehicles**
0.005065379	lbs/day-45 vehicles
1.848863394	**lbs/year-45 vehicles**

Max Hr Emissions

23.00 Peak hour truck trips (assumes half of trips occur in the same hour, for a highly conservative estimate)

1.174339148	**g/day-23 vehicles**
0.002588972	lbs/day-23 vehicles
0.000107874	**lbs/hour-23 vehicles**

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APPENDIX C

Cultural and Tribal Resources Appendices

CONTENTS

APPENDIX C.1

Southern San Joaquin Valley Information Center Cultural Resources Records Search Results

California
Historical
Resources
Information
System

Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic

To: Elise Carroll
De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762

Record Search 20-007

Date: January 22, 2020

Re: Producers Dairy Project (City of Fresno)

County: Fresno

Map(s): Fresno North & Fresno South 7.5's

CULTURAL RESOURCES RECORDS SEARCH

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

The following are the results of a search of the cultural resource files at the Southern San Joaquin Valley Information Center. These files include known and recorded cultural resources sites, inventory and excavation reports filed with this office, and resources listed on the National Register of Historic Places, the OHP Built Environment Resources Directory, California State Historical Landmarks, California Register of Historical Resources, California Inventory of Historic Resources, and California Points of Historical Interest. Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the OHP are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area.

PRIOR CULTURAL RESOURCE STUDIES CONDUCTED WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

According to the information in our files, there have been two previous cultural resource studies conducted within the project area. There have been 12 additional studies conducted within the one-half mile radius. A list is enclosed.

KNOWN/RECORDED CULTURAL RESOURCES WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

There are two recorded resources within the project area. There are 30 recorded resources within the one-half mile radius. A list is enclosed. These resources consist primarily of historic era buildings. They also include an historic era canal, railroad, bridge, underpass, park, and trash scatter.

Twelve resources have been given a National Register status code of 2S2, indicating these properties have been determined eligible for listing in the National Register of historic places by a consensus through the Section 106 process. They are also listed in the California Register of Historical Resources. Six resources have been given a National Register status code of 3S, indicating they appear eligible for listing in the National Register of Historic Places as individual properties through survey evaluation. A list of these resources is enclosed. There are no other recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

COMMENTS AND RECOMMENDATIONS

We understand this project consists of demolition of all structures along H Street (north of Arroyo Avenue and south of Harrison Avenue), grading and new paved parking lot for diesel milk trucks, closure and relinquishment of H Street from Belmont Avenue to Palm Avenue, and full closure and relinquishment of N. Harrison Avenue from Belmont Avenue to H Street. Resource P-10-004285, Zacky Farms/J.B. Hill Feed Company, is located at 315 N. H Street. According to the information provided, this is one of the structures to be demolished. According to our records, this building has been given a National Register status code of 7N, indicating this building needs to be reevaluated for historical significance. Therefore, we recommend the building at 315 N. H Street and any other effected buildings more than 45 years old, be recorded and evaluated for historical significance prior to project activities. A list of qualified consultants can be found at www.chrisinfo.org.

We also recommend that you contact the Native American Heritage Commission in Sacramento. They will provide you with a current list of Native American individuals/organizations that can assist you with information regarding cultural resources that may not be included in the CHRIS Inventory and that may be of concern to the Native groups in the area. The Commission can consult their "Sacred Lands Inventory" file in order to determine what sacred resources, if any, exist within this project area and the way in which these resources might be managed. Finally, please consult with the lead agency on this project to determine if any other cultural resource investigation is required. If you need any additional information or have any questions or concerns, please contact our office at (661) 654-2289.

By:

Celeste M. Thomson, Coordinator **Date:** January 22, 2020

Please note that invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

SSJVIC Record Search 20-007

Reports in Demoliton and Grading Project Area:	Reports in .5 Mi Radius:	Resources in Demolition and Grading Project Area:	Resources in .5 Mi Radius:
FR-00135	FR-00249	P-10-003930	P-10-004244
FR-02076	FR-00250	P-10-004285	P-10-004245
	FR-01005		P-10-004246
	FR-01231		P-10-004271
	FR-01694		P-10-004315
	FR-02002		P-10-004362
	FR-02287		P-10-004382
	FR-02722		P-10-004383
	FR-02763		P-10-004384
	FR-02844		P-10-004385
	FR-02896		P-10-004386
	FR-02957		P-10-004387
			P-10-004388
			P-10-004513
			P-10-004896
			P-10-004897
			P-10-004898
			P-10-004914
			P-10-005208
			P-10-005209
			P-10-005210
			P-10-005211
			P-10-005212
			P-10-005215
			P-10-005216
			P-10-006032
			P-10-006072
			P-10-006073
			P-10-006654
			P-10-007097

Primary Number	Address	Name	NR Status Code
P-10-004244	187 N. Broadway St.	Bethel Lutheran Church	2S2
P-10-004245	405 N. Boradway St.	Hayhurst Residence	3S
P-10-004246	475 N. Broadway St.	Tinkler Funeral Home	2S2
P-10-004271	415 N. Ferger Ave.	Solorio Residence	3S
P-10-004315	890 W. Belmont Ave.	Roeding Park Historic District	2S2
P-10-004382	325 N. Fulton St.	The Alexander Home	3S
P-10-004384	340 N. Fulton St.	Wishon Residence	2S2
P-10-004385	375 N. Fulton St.	n/a	3S
P-10-004386	437 N. Fulton St.	Cobb Home	2S2
P-10-004387	408 N. Fulton St.	Stone Residence	3S
P-10-004388	405 N. Fulton St.	Proffitt Home	3S
P-10-004513	Belmont Ave.	Belmont Ave. Subway	2S2
P-10-005208	420 N. Van Ness Ave.	John G. Porter House	2S2
P-10-005209	136 N. Roosevelt Ave.	n/a	2S2
P-10-005210	101 N. Roosevelt Ave.	Standard Oil	2S2
P-10-005211	254 N. Roosevelt Ave.	n/a	2S2
P-10-005216	350 N. Fulton St.	Ira H. Brooks House	2S2
P-10-006032	N. Weber Ave.	Bridge 42C0071	2S2

APPENDIX C.2

Native American Heritage Commission Sacred Land Files Results and Native American Contacts List

STATE OF CALIFORNIA **Gavin Newsom, *Governor***

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

February 10, 2020

Rodney Horton
City of Fresno Planning and Development Department

Via Email to: rodney.horton@fresno.gov

Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Producers Dairy Project, Fresno County

Dear Mr. Horton:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

   - Any report that may contain site forms, site significance, and suggested mitigation measures.

     All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Staff Services Analyst

Attachment

Native American Heritage Commission
Native American Contacts List
February 10, 2020

Big Sandy Rancheria of Western Mono Indians
Elizabeth D. Kipp, Chairperson
PO. Box 337
Auberry ,CA 93602
lkipp@bsrnation.com
(559) 374-0066
(559) 374-0055
Western Mono

Cold Springs Rancheria
Carol Bill, Chairperson
P.O. Box 209
Tollhouse ,CA 93667
coldsprgstribe@netptc.net
(559) 855-5043
(559) 855-4445 Fax
Mono

Dumna Wo-Wah Tribal Goverment
Robert Ledger Sr., Chairperson
2191 West Pico Ave.
Fresno ,CA 93705
ledgerrobert@ymail.com
(559) 540-6346
Dumna/Foothill Yokuts
Mono

Dunlap Band of Mono Indians
Benjamin Charley Jr., Tribal Chair
P.O. Box 14
Dunlap ,CA 93621
ben.charley@yahoo.com
(760) 258-5244
Mono

Dunlap Band of Mono Indians
Dirk Charley, Tribal Secretary
5509 E. McKenzie Avenue
Fresno ,CA 93727
dcharley2016@gmail.com
(559) 554-5433
Mono

Kings River Choinumni Farm Tribe
Stan Alec
3515 East Fedora Avenue
Fresno ,CA 93726
(559) 647-3227 Cell
Foothill Yokuts
Choinumni

North Fork Mono Tribe
Ron Goode, Chairperson
13396 Tollhouse Road
Clovis ,CA 93619
rwgoode911@hotmail.com
(559) 299-3729 Home
(559) 355-1774 - cell
Mono

Santa Rosa Rancheria Tachi Yokut Tribe
Leo Sisco, Chairperson
P.O. Box 8
Lemoore ,CA 93245
(559) 924-1278
(559) 924-3583 Fax
Tache
Tachi
Yokut

Table Mountain Rancheria
Leanne Walker-Grant, Chairperson
P.O. Box 410
Friant ,CA 93626
rpennell@tmr.org
(559) 822-2587
(559) 822-2693 Fax
Yokuts

Table Mountain Rancheria
Bob Pennell, Cultural Resources Director
P.O. Box 410
Friant ,CA 93626
rpennell@tmr.org
(559) 325-0351
(559) 325-0394 Fax
Yokuts

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code,Section 5097.94 of the Public Resources Code, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans Tribes for the proposed:
Producers Dairy Project, Fresno County.

Native American Heritage Commission
Native American Contacts List
February 10, 2020

Traditional Choinumni Tribe
David Alvarez, Chairperson
2415 E. Houston Avenue
Fresno ,CA 93720
davealvarez@sbcglobal.net
(559) 217-0396 Cell

Choinumni

Traditional Choinumni Tribe
Rick Osborne, Cultural Resources
2415 E. Houston Avenue
Fresno ,CA 93720
(559) 324-8764
lemek@att.net

Choinumni

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas ,CA 93906
kwood8934@aol.com
(831) 443-9702

Foothill Yokuts
Mono
Wuksache

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code,Section 5097.94 of the Public Resources Code, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans Tribes for the proposed:
Producers Dairy Project, Fresno County.

APPENDIX C.3

Tribal Consultation Summary, Letters, and Responses

NATIVE AMERICAN GROUP	FIRST NAME	LAST NAME	TITLE	DATE(S) AND METHOD OF 1ST CONTACT ATTEMPT	DATE(S) AND METHOD OF 2ND CONTACT ATTEMPT	DATE(S) OF REPLIES RECORDED	COMMENTS
Big Sandy Rancheria of Western Mono Indians	Elizabeth	Kipp	Chairperson	February 12, 2020, Certified US Mail			
Kings River Choinumni Farm Tribe	Stan	Alec	--	Sent Letter on February 12, 2020, Certified US Mail, but received no response.	Called Stan Alec April 20, 2020; however, he did not answer. April 21, 2020 spoke with Stan Alec regarding the project. He received the notification letter sent via certified mail on February 12, 2020.	Stan Alec said the Kings River Choinumni Farm Tribe has no comments on the project via phone call on April 21, 2020.	
Cold Springs Rancheria	Carol	Bill	Chairperson	February 12, 2020, Certified US Mail			
North Fork Mono Tribe	Ron	Goode	Chairperson	February 12, 2020, Certified US Mail			
Dumna Wo-Wah Tribal Government	Robert	Ledger Sr.	Chairperson	February 12, 2020, Certified US Mail			
Santa Rosa Rancheria Tachi Yokut Tribe	Leo	Sisco	Chairperson	February 12, 2020, Certified US Mail			
Dunlap Band of Mono Indians	Benjamin	Charley Jr.,	Tribal Chair	February 12, 2020, Certified US Mail			
Dunlap Band of Mono Indians	Dirk	Charley	Tribal Liaison	February 12, 2020, Certified US Mail	N/A	February 19, 2020, voicemail stating the project site is not within the tribal boundaries.	
Table Mountain Rancheria	Leanne	Walker-Grant	Chairperson	February 12, 2020, Certified US Mail			
Table Mountain Rancheria	Bob	Pennell	CR Director	February 12, 2020, Certified US Mail			
Traditional Choinumni Tribe	David	Alvarez	Chairperson	February 12, 2020, Certified US Mail			

NATIVE AMERICAN GROUP	FIRST NAME	LAST NAME	TITLE	DATE(S) AND METHOD OF 1ST CONTACT ATTEMPT	DATE(S) AND METHOD OF 2ND CONTACT ATTEMPT	DATE(S) OF REPLIES RECORDED	COMMENTS
Traditional Choinumni Tribe	Risk	Osborne	Cultural Resources	February 12, 2020, Certified US Mail			
Wuksache Indian Tribe/Eshom Valley Band	Kenneth	Woodrow	Chairperson	February 12, 2020, Certified US Mail			

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

February 12, 2020

Big Sandy Rancheria of Western Mono Indians
Attn: Elizabeth D. Kipp, Chairperson
P.O. Box 337
Auberry, CA 93602

Subject: Project Notification Pursuant to Assembly Bill (AB) 52 for the Producers Dairy Project in the City of Fresno, Fresno County, California

Dear Chairperson Kipp,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the City of Fresno hereby extends an invitation to consult on the CEQA review of the Producers Dairy Project in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places, including:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historical Resources including historic or prehistoric ruins and any burial ground, archaeological, or historic site.

De Novo Planning Group is providing this formal notification of the Producers Dairy Project Environmental Impact Report (EIR) on behalf of the City of Fresno. To assist in your evaluation, we have included the results of the California Historical Resources Information System (CHRIS) Records Search through the Southern San Joaquin Valley Information Center (SSJVIC) that was completed for the Producers Dairy Project.

Below please find a description of the proposed project, the project location, the results of the CHRIS Records Search, the name of our project point of contact, and maps showing the project location (see enclosures).

Project Location

The Producers Dairy project site (project site) is located at 250 E. Belmont Avenue in Fresno, California There are two aspects of the project location that are addressed in the environmental document:

1. The Truck Movement Project Area; and
2. The Demolition and Grading Project Area.

The Truck Movement Project Area includes the Demolition and Grading Project Area discussed below), the Producers Dairy Main Plant (discussed below), the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. It should be noted that the only ground disturbing activities will occur on the Demolition and Grading Project Area. The other areas included in the Truck Movement Project Area are existing and will not include any renovations or construction resulting in ground disturbance.

The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H

Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks. Site disturbance of the Truck Movement Project Area is not proposed.

The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks. The Demolition and Grading Project Area is the only portion of the project site that would be disturbed as part of the proposed project.

The elevation of the site ranges from approximately 288 feet to 300 feet above mean sea level (MSL). Surrounding land uses include existing warehouse distribution and other industrial uses to the east, west, and south, and residential land uses to the east.

Project Description

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- Demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- Grading and new paved parking lot for diesel milk trucks; and
- Closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

Approximately 3.55 acres (or 154,638 square feet) of land currently developed with a range of old, abandoned feed mill and silos would be paved. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years with extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut to keep out trespassers and control the vandalism of the buildings.

No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The proposed project includes the demolition of existing structures between H Street and the UPRR tracks, which would be replaced with a new consolidated truck and trailer parking area, as described above. This new parking area would allow the project applicant to change their existing truck movement patterns in and around their facilities.

CHRIS Records Search

Records of previously recorded cultural resources and cultural resource investigations were examined by the SSJVIC through the CHRIS for the project area and a one-half mile radius (SSJVIC File # 20-007) on January 22, 2020. According to the SSJVIC, there have been two cultural resources studies conducted within the project area and 12 additional studies conducted within the one-half mile radius of the project site.

The record search indicates that there are two recorded resources within the project area and 30 recorded resources within the one-half mile radius. These resources consist primarily of historic era buildings. They also include an historic era canal, railroad, bridge, underpass, and trash scatter. Twelve resources have been given a National Register status code of 2S2, indicating these properties have been determined eligible for listing in the National Register of Historic Places by a consensus through the Section 106 process. The 12 resources are also listed in the California Register of Historic Resources. Six of the resources have been given a National Register status code of 3S, indicating they appear eligible for listing in National Register of Historic Places as individual properties through survey evaluation. There are no other recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

Additionally, the Sacred Lands File (SFL) check through the Native American Heritage Commission (NAHC) conducted for the project site on February 10, 2020 was negative.

Summary

Pursuant to Public Resources Code (PRC) section 21080.3.1 (b) and (d), the Big Sandy Rancheria of Western Mono Indians now has 30 days to inform the City, in writing, of its request to consult with the City on the Fresno Producers Dairy Project. Such a request must provide the name of the Tribe's designated lead contact person and should be directed to the lead agency contact.

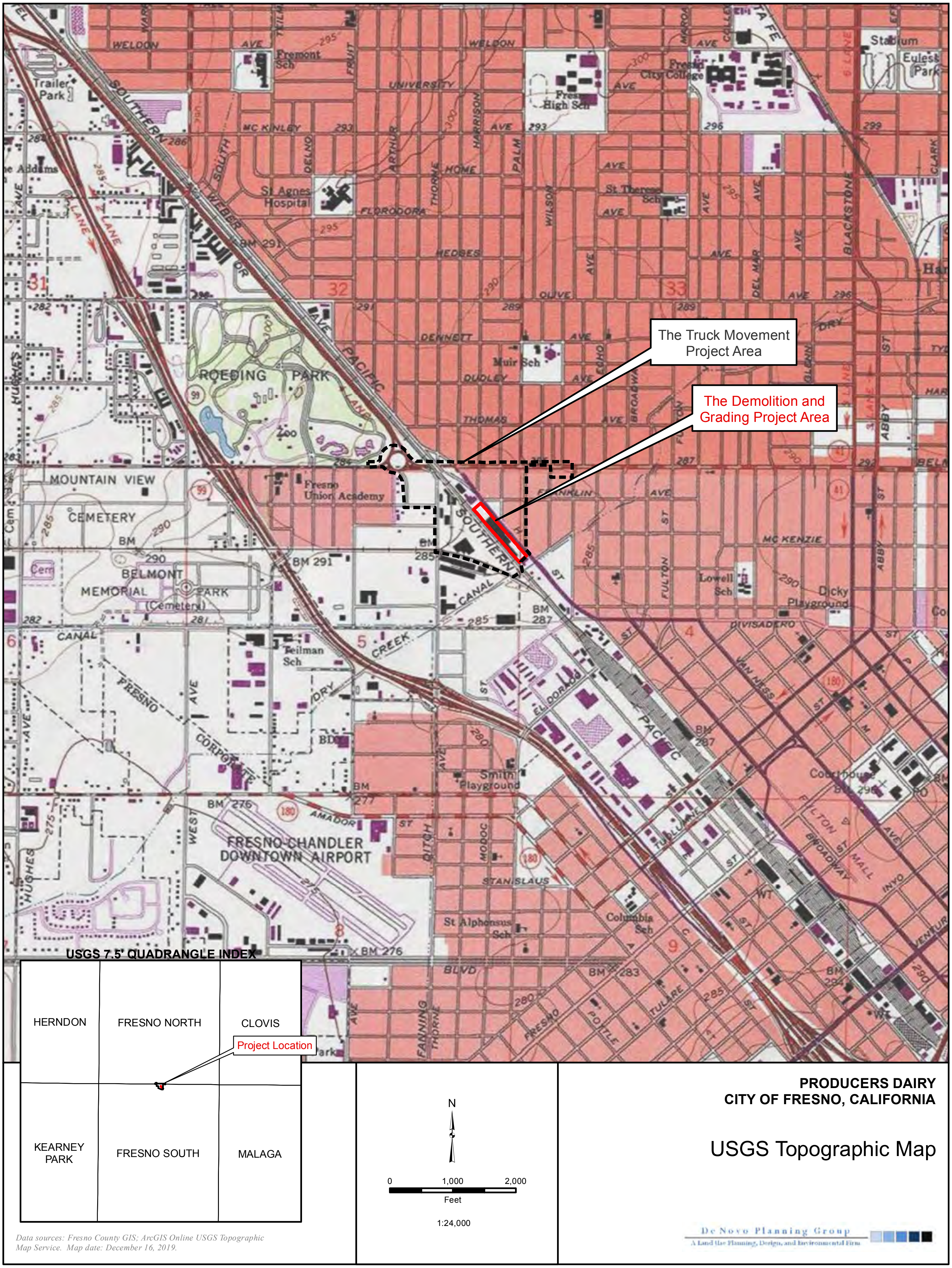
If you wish to consult with the City of Fresno regarding the proposed project, please do not hesitate to contact myself at (916) 235-0116 or at ecarroll@denovoplanning.com and I will arrange consultation with the City, or you may contact Rodney Horton, Planner III with the City of Fresno, at (559)-621-8181 or at rodney.horton@fresno.gov. Thank you for your time reviewing this letter and attached maps.

Sincerely,

Elise Carroll
Senior Planner, De Novo Planning Group

Ben Ritchie
Principal, De Novo Planning Group

Enclosures: topographic map, aerial map



PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

USGS Topographic Map

Data sources: Fresno County GIS; ArcGIS Online USGS Topographic Map Service. Map date: December 16, 2019.

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Legend

🟥 The Demolition and Grading Project Area

▨ The Truck Movement Project Area

Sources: Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: February 4, 2020.

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Feet

1:6,000

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Aerial View

De Novo Planning Group

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

February 12, 2020

Kings River Choinumni Farm Tribe
Attn: Stan Alec
3515 East Fedora Avenue
Fresno, CA 93726

Subject: Project Notification Pursuant to Assembly Bill (AB) 52 for the Producers Dairy Project in the City of Fresno, Fresno County, California

Dear Stan Alec,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the City of Fresno hereby extends an invitation to consult on the CEQA review of the Producers Dairy Project in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places, including:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historical Resources including historic or prehistoric ruins and any burial ground, archaeological, or historic site.

De Novo Planning Group is providing this formal notification of the Producers Dairy Project Environmental Impact Report (EIR) on behalf of the City of Fresno. To assist in your evaluation, we have included the results of the California Historical Resources Information System (CHRIS) Records Search through the Southern San Joaquin Valley Information Center (SSJVIC) that was completed for the Producers Dairy Project.

Below please find a description of the proposed project, the project location, the results of the CHRIS Records Search, the name of our project point of contact, and maps showing the project location (see enclosures).

Project Location

The Producers Dairy project site (project site) is located at 250 E. Belmont Avenue in Fresno, California There are two aspects of the project location that are addressed in the environmental document:

3. The Truck Movement Project Area; and
4. The Demolition and Grading Project Area.

The Truck Movement Project Area includes the Demolition and Grading Project Area discussed below), the Producers Dairy Main Plant (discussed below), the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. It should be noted that the only ground disturbing activities will occur on the Demolition and Grading Project Area. The other areas included in the Truck Movement Project Area are existing and will not include any renovations or construction resulting in ground disturbance.

The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H

Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks. Site disturbance of the Truck Movement Project Area is not proposed.

The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks. The Demolition and Grading Project Area is the only portion of the project site that would be disturbed as part of the proposed project.

The elevation of the site ranges from approximately 288 feet to 300 feet above mean sea level (MSL). Surrounding land uses include existing warehouse distribution and other industrial uses to the east, west, and south, and residential land uses to the east.

Project Description

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- Demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- Grading and new paved parking lot for diesel milk trucks; and
- Closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

Approximately 3.55 acres (or 154,638 square feet) of land currently developed with a range of old, abandoned feed mill and silos would be paved. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years with extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut to keep out trespassers and control the vandalism of the buildings.

No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The proposed project includes the demolition of existing structures between H Street and the UPRR tracks, which would be replaced with a new consolidated truck and trailer parking area, as described above. This new parking area would allow the project applicant to change their existing truck movement patterns in and around their facilities.

CHRIS Records Search

Records of previously recorded cultural resources and cultural resource investigations were examined by the SSJVIC through the CHRIS for the project area and a one-half mile radius (SSJVIC File # 20-007) on January 22, 2020. According to the SSJVIC, there have been two cultural resources studies conducted within the project area and 12 additional studies conducted within the one-half mile radius of the project site.

The record search indicates that there are two recorded resources within the project area and 30 recorded resources within the one-half mile radius. These resources consist primarily of historic era buildings. They also include an historic era canal, railroad, bridge, underpass, and trash scatter. Twelve resources have been given a National Register status code of 2S2, indicating these properties have been determined eligible for listing in the National Register of Historic Places by a consensus through the Section 106 process. The 12 resources are also listed in the California Register of Historic

Resources. Six of the resources have been given a National Register status code of 3S, indicating they appear eligible for listing in National Register of Historic Places as individual properties through survey evaluation. There are no other recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

Additionally, the Sacred Lands File (SFL) check through the Native American Heritage Commission (NAHC) conducted for the project site on February 10, 2020 was negative.

Summary

Pursuant to Public Resources Code (PRC) section 21080.3.1 (b) and (d), the Kings Valley Choinumni Farm Tribe now has 30 days to inform the City, in writing, of its request to consult with the City on the Fresno Producers Dairy Project. Such a request must provide the name of the Tribe's designated lead contact person and should be directed to the lead agency contact.

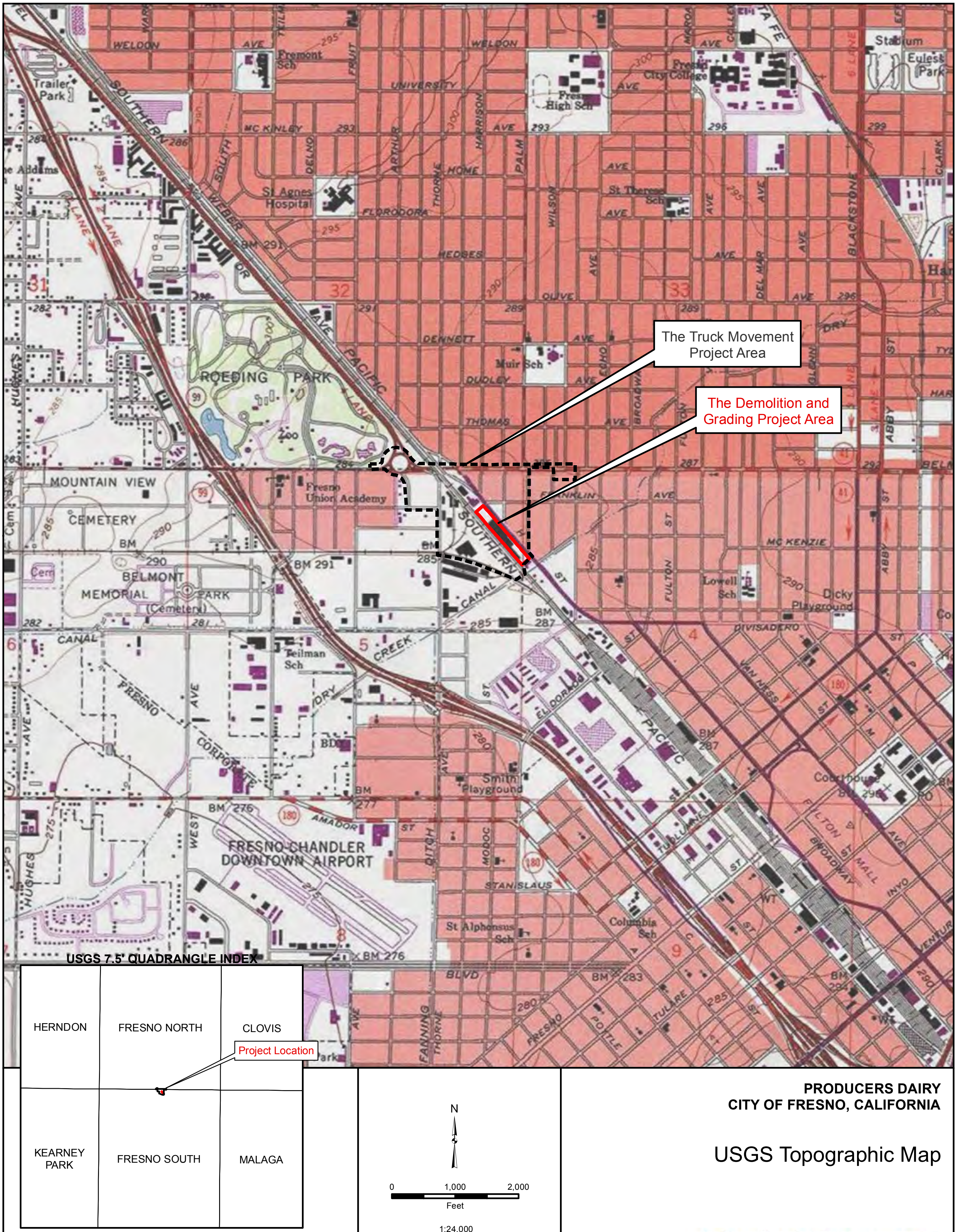
If you wish to consult with the City of Fresno regarding the proposed project, please do not hesitate to contact myself at (916) 235-0116 or at ecarroll@denovoplanning.com and I will arrange consultation with the City, or you may contact Rodney Horton, Planner III with the City of Fresno, at (559)-621-8181 or at rodney.horton@fresno.gov. Thank you for your time reviewing this letter and attached maps.

Sincerely,

Elise Carroll
Senior Planner, De Novo Planning Group

Ben Ritchie
Principal, De Novo Planning Group

Enclosures: topographic map, aerial map



PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

USGS Topographic Map

Data sources: Fresno County GIS; ArcGIS Online USGS Topographic Map Service. Map date: December 16, 2019.

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Legend

🟥 The Demolition and Grading Project Area

⬚ The Truck Movement Project Area

Sources: Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: February 4, 2020.

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Feet

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PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Aerial View

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

February 12, 2020

Cold Springs Rancheria
Attn: Carol Bill, Chairperson
P.O. Box 209
Tollhouse, CA 93667

Subject: Project Notification Pursuant to Assembly Bill (AB) 52 for the Producers Dairy Project in the City of Fresno, Fresno County, California

Dear Chairperson Carol Bill,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the City of Fresno hereby extends an invitation to consult on the CEQA review of the Producers Dairy Project in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places, including:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historical Resources including historic or prehistoric ruins and any burial ground, archaeological, or historic site.

De Novo Planning Group is providing this formal notification of the Producers Dairy Project Environmental Impact Report (EIR) on behalf of the City of Fresno. To assist in your evaluation, we have included the results of the California Historical Resources Information System (CHRIS) Records Search through the Southern San Joaquin Valley Information Center (SSJVIC) that was completed for the Producers Dairy Project.

Below please find a description of the proposed project, the project location, the results of the CHRIS Records Search, the name of our project point of contact, and maps showing the project location (see enclosures).

Project Location

The Producers Dairy project site (project site) is located at 250 E. Belmont Avenue in Fresno, California There are two aspects of the project location that are addressed in the environmental document:

5. The Truck Movement Project Area; and
6. The Demolition and Grading Project Area.

The Truck Movement Project Area includes the Demolition and Grading Project Area discussed below), the Producers Dairy Main Plant (discussed below), the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. It should be noted that the only ground disturbing activities will occur on the Demolition and Grading Project Area. The other areas included in the Truck Movement Project Area are existing and will not include any renovations or construction resulting in ground disturbance.

The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H

Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks. Site disturbance of the Truck Movement Project Area is not proposed.

The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks. The Demolition and Grading Project Area is the only portion of the project site that would be disturbed as part of the proposed project.

The elevation of the site ranges from approximately 288 feet to 300 feet above mean sea level (MSL). Surrounding land uses include existing warehouse distribution and other industrial uses to the east, west, and south, and residential land uses to the east.

Project Description

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- Demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- Grading and new paved parking lot for diesel milk trucks; and
- Closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

Approximately 3.55 acres (or 154,638 square feet) of land currently developed with a range of old, abandoned feed mill and silos would be paved. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years with extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut to keep out trespassers and control the vandalism of the buildings.

No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The proposed project includes the demolition of existing structures between H Street and the UPRR tracks, which would be replaced with a new consolidated truck and trailer parking area, as described above. This new parking area would allow the project applicant to change their existing truck movement patterns in and around their facilities.

CHRIS Records Search

Records of previously recorded cultural resources and cultural resource investigations were examined by the SSJVIC through the CHRIS for the project area and a one-half mile radius (SSJVIC File # 20-007) on January 22, 2020. According to the SSJVIC, there have been two cultural resources studies conducted within the project area and 12 additional studies conducted within the one-half mile radius of the project site.

The record search indicates that there are two recorded resources within the project area and 30 recorded resources within the one-half mile radius. These resources consist primarily of historic era buildings. They also include an historic era canal, railroad, bridge, underpass, and trash scatter. Twelve resources have been given a National Register status code of 2S2, indicating these properties have been determined eligible for listing in the National Register of Historic Places by a consensus through the Section 106 process. The 12 resources are also listed in the California Register of Historic

Resources. Six of the resources have been given a National Register status code of 3S, indicating they appear eligible for listing in National Register of Historic Places as individual properties through survey evaluation. There are no other recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

Additionally, the Sacred Lands File (SFL) check through the Native American Heritage Commission (NAHC) conducted for the project site on February 10, 2020 was negative.

Summary

Pursuant to Public Resources Code (PRC) section 21080.3.1 (b) and (d), the Cold Springs Rancheria now has 30 days to inform the City, in writing, of its request to consult with the City on the Fresno Producers Dairy Project. Such a request must provide the name of the Tribe's designated lead contact person and should be directed to the lead agency contact.

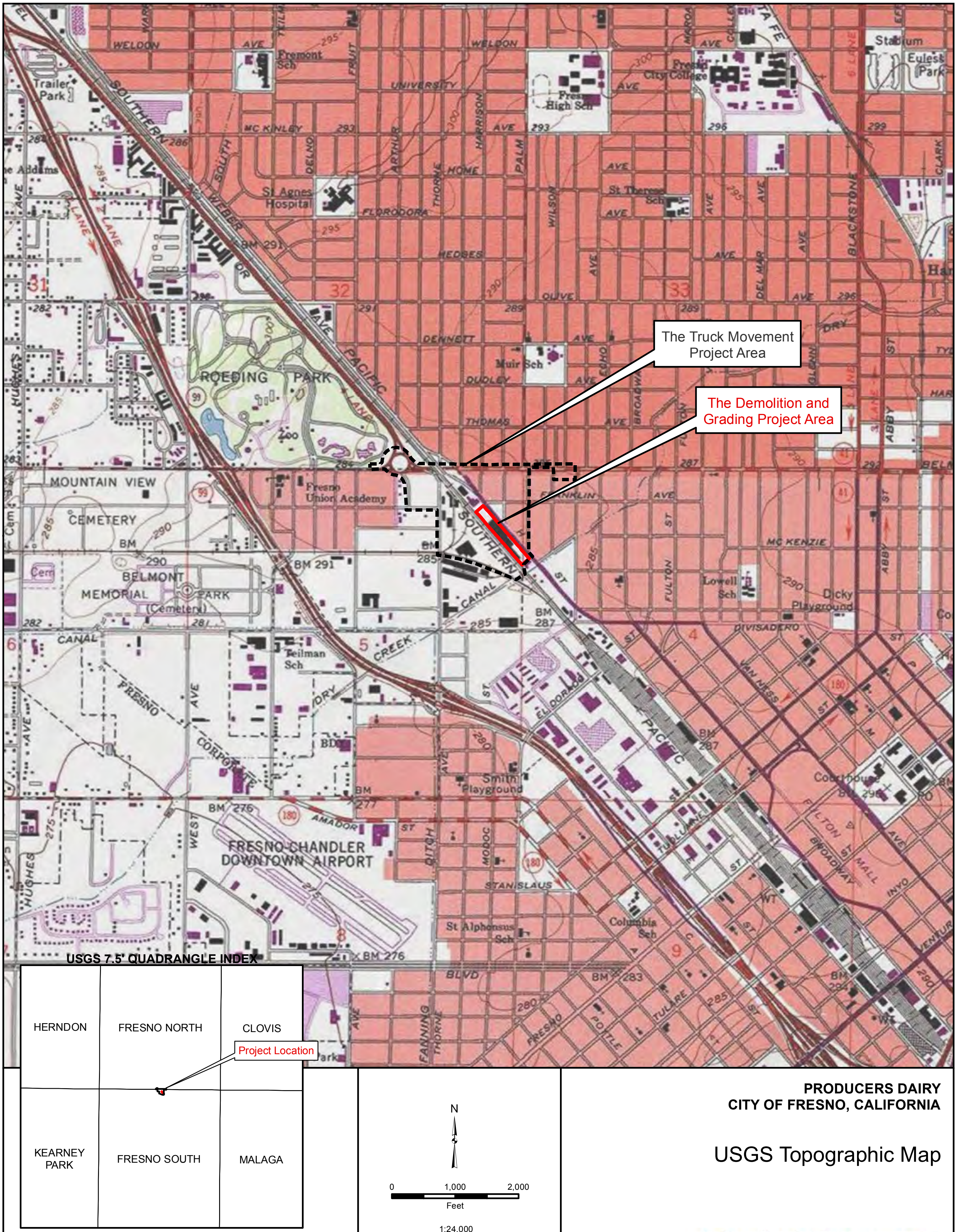
If you wish to consult with the City of Fresno regarding the proposed project, please do not hesitate to contact myself at (916) 235-0116 or at ecarroll@denovoplanning.com and I will arrange consultation with the City, or you may contact Rodney Horton, Planner III with the City of Fresno, at (559)-621-8181 or at rodney.horton@fresno.gov. Thank you for your time reviewing this letter and attached maps.

Sincerely,

Elise Carroll
Senior Planner, De Novo Planning Group

Ben Ritchie
Principal, De Novo Planning Group

Enclosures: topographic map, aerial map



PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

USGS Topographic Map

Data sources: Fresno County GIS; ArcGIS Online USGS Topographic Map Service. Map date: December 16, 2019.

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Legend

▭ The Demolition and Grading Project Area

⬚ The Truck Movement Project Area

Sources: Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: February 4, 2020.

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Feet

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PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Aerial View

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

February 12, 2020

North Fork Mono Tribe
Attn: Ron Goode, Chairperson
13396 Tollhouse Road
Clovis, CA 93619

Subject: Project Notification Pursuant to Assembly Bill (AB) 52 for the Producers Dairy Project in the City of Fresno, Fresno County, California

Dear Chairperson Goode,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the City of Fresno hereby extends an invitation to consult on the CEQA review of the Producers Dairy Project in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places, including:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historical Resources including historic or prehistoric ruins and any burial ground, archaeological, or historic site.

De Novo Planning Group is providing this formal notification of the Producers Dairy Project Environmental Impact Report (EIR) on behalf of the City of Fresno. To assist in your evaluation, we have included the results of the California Historical Resources Information System (CHRIS) Records Search through the Southern San Joaquin Valley Information Center (SSJVIC) that was completed for the Producers Dairy Project.

Below please find a description of the proposed project, the project location, the results of the CHRIS Records Search, the name of our project point of contact, and maps showing the project location (see enclosures).

Project Location

The Producers Dairy project site (project site) is located at 250 E. Belmont Avenue in Fresno, California There are two aspects of the project location that are addressed in the environmental document:

7. The Truck Movement Project Area; and
8. The Demolition and Grading Project Area.

The Truck Movement Project Area includes the Demolition and Grading Project Area discussed below), the Producers Dairy Main Plant (discussed below), the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. It should be noted that the only ground disturbing activities will occur on the Demolition and Grading Project Area. The other areas included in the Truck Movement Project Area are existing and will not include any renovations or construction resulting in ground disturbance.

The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H

Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks. Site disturbance of the Truck Movement Project Area is not proposed.

The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks. The Demolition and Grading Project Area is the only portion of the project site that would be disturbed as part of the proposed project.

The elevation of the site ranges from approximately 288 feet to 300 feet above mean sea level (MSL). Surrounding land uses include existing warehouse distribution and other industrial uses to the east, west, and south, and residential land uses to the east.

Project Description

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- Demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- Grading and new paved parking lot for diesel milk trucks; and
- Closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

Approximately 3.55 acres (or 154,638 square feet) of land currently developed with a range of old, abandoned feed mill and silos would be paved. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years with extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut to keep out trespassers and control the vandalism of the buildings.

No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The proposed project includes the demolition of existing structures between H Street and the UPRR tracks, which would be replaced with a new consolidated truck and trailer parking area, as described above. This new parking area would allow the project applicant to change their existing truck movement patterns in and around their facilities.

CHRIS Records Search

Records of previously recorded cultural resources and cultural resource investigations were examined by the SSJVIC through the CHRIS for the project area and a one-half mile radius (SSJVIC File # 20-007) on January 22, 2020. According to the SSJVIC, there have been two cultural resources studies conducted within the project area and 12 additional studies conducted within the one-half mile radius of the project site.

The record search indicates that there are two recorded resources within the project area and 30 recorded resources within the one-half mile radius. These resources consist primarily of historic era buildings. They also include an historic era canal, railroad, bridge, underpass, and trash scatter. Twelve resources have been given a National Register status code of 2S2, indicating these properties have been determined eligible for listing in the National Register of Historic Places by a consensus through the Section 106 process. The 12 resources are also listed in the California Register of Historic

Resources. Six of the resources have been given a National Register status code of 3S, indicating they appear eligible for listing in National Register of Historic Places as individual properties through survey evaluation. There are no other recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

Additionally, the Sacred Lands File (SFL) check through the Native American Heritage Commission (NAHC) conducted for the project site on February 10, 2020 was negative.

Summary

Pursuant to Public Resources Code (PRC) section 21080.3.1 (b) and (d), the North Fork Mono Tribe now has 30 days to inform the City, in writing, of its request to consult with the City on the Fresno Producers Dairy Project. Such a request must provide the name of the Tribe's designated lead contact person and should be directed to the lead agency contact.

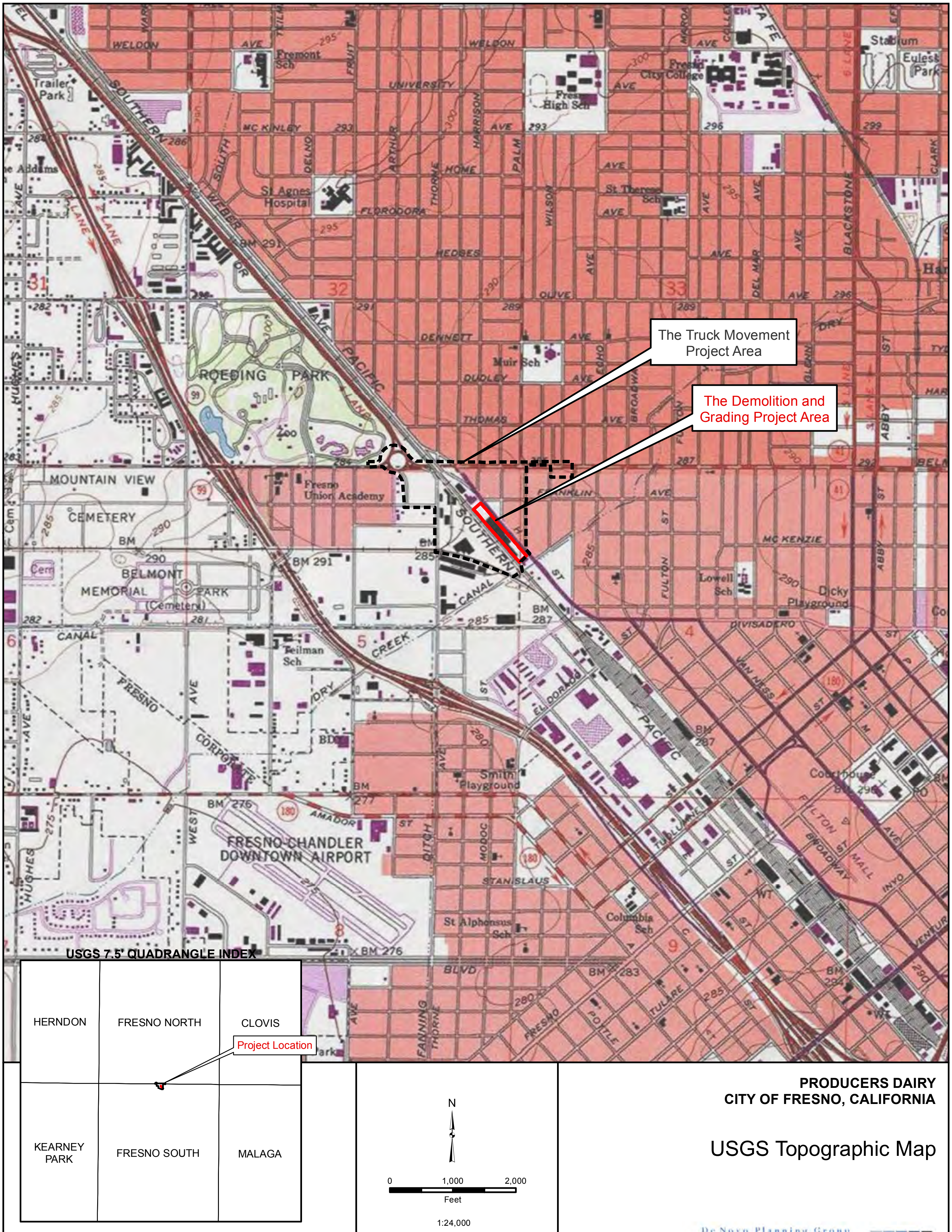
If you wish to consult with the City of Fresno regarding the proposed project, please do not hesitate to contact myself at (916) 235-0116 or at ecarroll@denovoplanning.com and I will arrange consultation with the City, or you may contact Rodney Horton, Planner III with the City of Fresno, at (559)-621-8181 or at rodney.horton@fresno.gov. Thank you for your time reviewing this letter and attached maps.

Sincerely,

Elise Carroll
Senior Planner, De Novo Planning Group

Ben Ritchie
Principal, De Novo Planning Group

Enclosures: topographic map, aerial map



Data sources: Fresno County GIS; ArcGIS Online USGS Topographic Map Service. Map date: December 16, 2019.

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

USGS Topographic Map

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Legend

□ The Demolition and Grading Project Area

⬚ The Truck Movement Project Area

Sources: Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: February 4, 2020.

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PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Aerial View

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

February 12, 2020

Dumna Wo-Wah Tribal Government
Attn: Robert Ledger Sr., Chairperson
2191 West Pico Avenue
Fresno, CA 93705

Subject: Project Notification Pursuant to Assembly Bill (AB) 52 for the Producers Dairy Project in the City of Fresno, Fresno County, California

Dear Chairperson Ledger,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the City of Fresno hereby extends an invitation to consult on the CEQA review of the Producers Dairy Project in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places, including:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historical Resources including historic or prehistoric ruins and any burial ground, archaeological, or historic site.

De Novo Planning Group is providing this formal notification of the Producers Dairy Project Environmental Impact Report (EIR) on behalf of the City of Fresno. To assist in your evaluation, we have included the results of the California Historical Resources Information System (CHRIS) Records Search through the Southern San Joaquin Valley Information Center (SSJVIC) that was completed for the Producers Dairy Project.

Below please find a description of the proposed project, the project location, the results of the CHRIS Records Search, the name of our project point of contact, and maps showing the project location (see enclosures).

Project Location

The Producers Dairy project site (project site) is located at 250 E. Belmont Avenue in Fresno, California There are two aspects of the project location that are addressed in the environmental document:

9. The Truck Movement Project Area; and
10. The Demolition and Grading Project Area.

The Truck Movement Project Area includes the Demolition and Grading Project Area discussed below), the Producers Dairy Main Plant (discussed below), the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. It should be noted that the only ground disturbing activities will occur on the Demolition and Grading Project Area. The other areas included in the Truck Movement Project Area are existing and will not include any renovations or construction resulting in ground disturbance.

The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H

Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks. Site disturbance of the Truck Movement Project Area is not proposed.

The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks. The Demolition and Grading Project Area is the only portion of the project site that would be disturbed as part of the proposed project.

The elevation of the site ranges from approximately 288 feet to 300 feet above mean sea level (MSL). Surrounding land uses include existing warehouse distribution and other industrial uses to the east, west, and south, and residential land uses to the east.

Project Description

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- Demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- Grading and new paved parking lot for diesel milk trucks; and
- Closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

Approximately 3.55 acres (or 154,638 square feet) of land currently developed with a range of old, abandoned feed mill and silos would be paved. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years with extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut to keep out trespassers and control the vandalism of the buildings.

No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The proposed project includes the demolition of existing structures between H Street and the UPRR tracks, which would be replaced with a new consolidated truck and trailer parking area, as described above. This new parking area would allow the project applicant to change their existing truck movement patterns in and around their facilities.

CHRIS Records Search

Records of previously recorded cultural resources and cultural resource investigations were examined by the SSJVIC through the CHRIS for the project area and a one-half mile radius (SSJVIC File # 20-007) on January 22, 2020. According to the SSJVIC, there have been two cultural resources studies conducted within the project area and 12 additional studies conducted within the one-half mile radius of the project site.

The record search indicates that there are two recorded resources within the project area and 30 recorded resources within the one-half mile radius. These resources consist primarily of historic era buildings. They also include an historic era canal, railroad, bridge, underpass, and trash scatter. Twelve resources have been given a National Register status code of 2S2, indicating these properties have been determined eligible for listing in the National Register of Historic Places by a consensus through the Section 106 process. The 12 resources are also listed in the California Register of Historic

Resources. Six of the resources have been given a National Register status code of 3S, indicating they appear eligible for listing in National Register of Historic Places as individual properties through survey evaluation. There are no other recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

Additionally, the Sacred Lands File (SFL) check through the Native American Heritage Commission (NAHC) conducted for the project site on February 10, 2020 was negative.

Summary

Pursuant to Public Resources Code (PRC) section 21080.3.1 (b) and (d), the Dumna Wo-Wah Tribal Government now has 30 days to inform the City, in writing, of its request to consult with the City on the Fresno Producers Dairy Project. Such a request must provide the name of the Tribe’s designated lead contact person and should be directed to the lead agency contact.

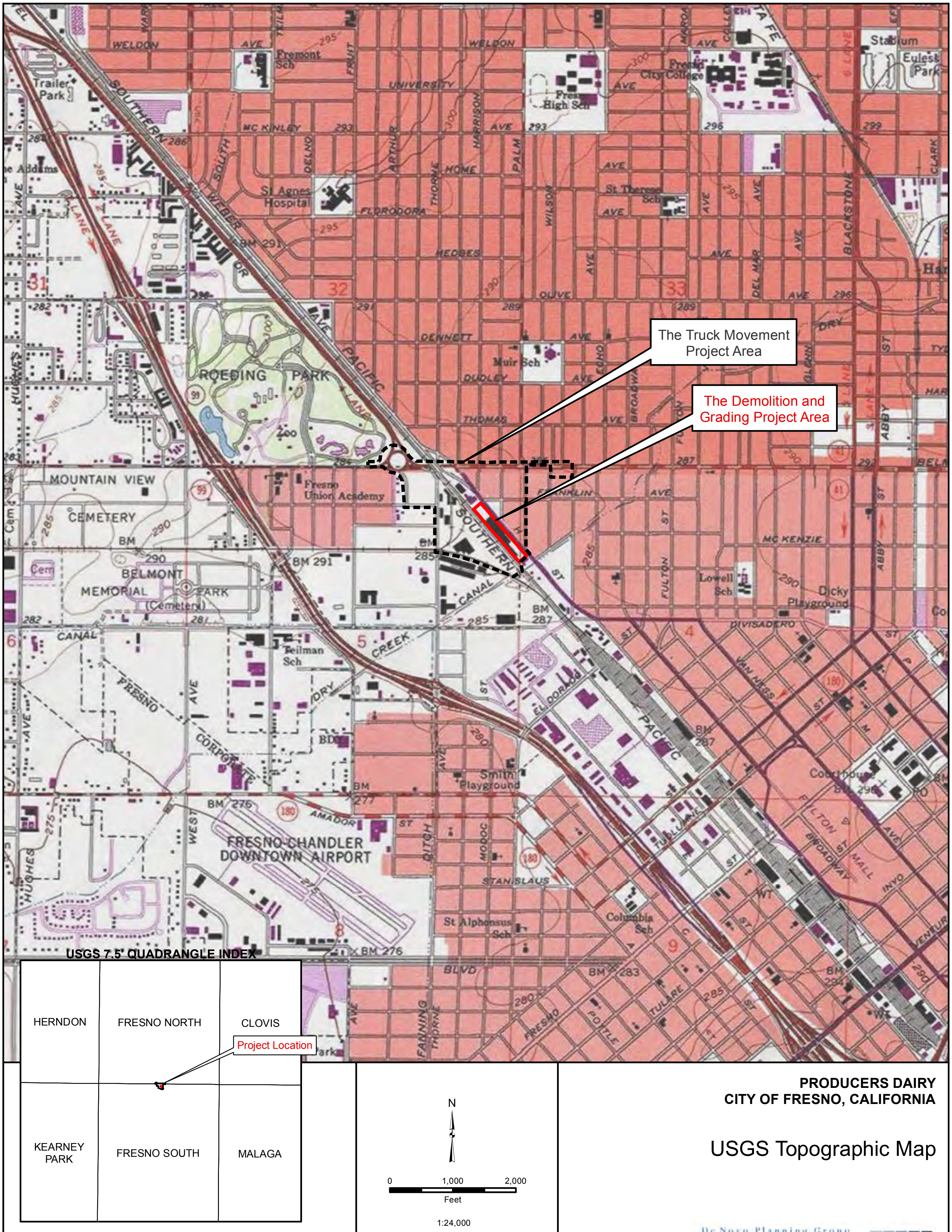
If you wish to consult with the City of Fresno regarding the proposed project, please do not hesitate to contact myself at (916) 235-0116 or at ecarroll@denovoplanning.com and I will arrange consultation with the City, or you may contact Rodney Horton, Planner III with the City of Fresno, at (559)-621-8181 or at rodney.horton@fresno.gov. Thank you for your time reviewing this letter and attached maps.

Sincerely,

Elise Carroll
Senior Planner, De Novo Planning Group

Ben Ritchie
Principal, De Novo Planning Group

Enclosures: topographic map, aerial map



Data sources: Fresno County GIS; ArcGIS Online USGS Topographic Map Service. Map date: December 16, 2019.

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

USGS Topographic Map

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Legend

🟥 The Demolition and Grading Project Area

▭ The Truck Movement Project Area

Sources: Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: February 4, 2020.

N

0 250 500

Feet

1:6,000

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Aerial View

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

February 12, 2020

Santa Rosa Rancheria Tachi Yokut Tribe
Attn: Leo Sisco, Chairperson
P.O. Box 8
Lemoore, CA 93245

Subject: Project Notification Pursuant to Assembly Bill (AB) 52 for the Producers Dairy Project in the City of Fresno, Fresno County, California

Dear Chairperson Sisco,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the City of Fresno hereby extends an invitation to consult on the CEQA review of the Producers Dairy Project in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places, including:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historical Resources including historic or prehistoric ruins and any burial ground, archaeological, or historic site.

De Novo Planning Group is providing this formal notification of the Producers Dairy Project Environmental Impact Report (EIR) on behalf of the City of Fresno. To assist in your evaluation, we have included the results of the California Historical Resources Information System (CHRIS) Records Search through the Southern San Joaquin Valley Information Center (SSJVIC) that was completed for the Producers Dairy Project.

Below please find a description of the proposed project, the project location, the results of the CHRIS Records Search, the name of our project point of contact, and maps showing the project location (see enclosures).

Project Location

The Producers Dairy project site (project site) is located at 250 E. Belmont Avenue in Fresno, California There are two aspects of the project location that are addressed in the environmental document:

11. The Truck Movement Project Area; and
12. The Demolition and Grading Project Area.

The Truck Movement Project Area includes the Demolition and Grading Project Area discussed below), the Producers Dairy Main Plant (discussed below), the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. It should be noted that the only ground disturbing activities will occur on the Demolition and Grading Project Area. The other areas included in the Truck Movement Project Area are existing and will not include any renovations or construction resulting in ground disturbance.

The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H

Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks. Site disturbance of the Truck Movement Project Area is not proposed.

The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks. The Demolition and Grading Project Area is the only portion of the project site that would be disturbed as part of the proposed project.

The elevation of the site ranges from approximately 288 feet to 300 feet above mean sea level (MSL). Surrounding land uses include existing warehouse distribution and other industrial uses to the east, west, and south, and residential land uses to the east.

Project Description

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- Demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- Grading and new paved parking lot for diesel milk trucks; and
- Closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

Approximately 3.55 acres (or 154,638 square feet) of land currently developed with a range of old, abandoned feed mill and silos would be paved. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years with extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut to keep out trespassers and control the vandalism of the buildings.

No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The proposed project includes the demolition of existing structures between H Street and the UPRR tracks, which would be replaced with a new consolidated truck and trailer parking area, as described above. This new parking area would allow the project applicant to change their existing truck movement patterns in and around their facilities.

CHRIS Records Search

Records of previously recorded cultural resources and cultural resource investigations were examined by the SSJVIC through the CHRIS for the project area and a one-half mile radius (SSJVIC File # 20-007) on January 22, 2020. According to the SSJVIC, there have been two cultural resources studies conducted within the project area and 12 additional studies conducted within the one-half mile radius of the project site.

The record search indicates that there are two recorded resources within the project area and 30 recorded resources within the one-half mile radius. These resources consist primarily of historic era buildings. They also include an historic era canal, railroad, bridge, underpass, and trash scatter. Twelve resources have been given a National Register status code of 2S2, indicating these properties have been determined eligible for listing in the National Register of Historic Places by a consensus through the Section 106 process. The 12 resources are also listed in the California Register of Historic

Resources. Six of the resources have been given a National Register status code of 3S, indicating they appear eligible for listing in National Register of Historic Places as individual properties through survey evaluation. There are no other recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

Additionally, the Sacred Lands File (SFL) check through the Native American Heritage Commission (NAHC) conducted for the project site on February 10, 2020 was negative.

Summary

Pursuant to Public Resources Code (PRC) section 21080.3.1 (b) and (d), the Santa Rosa Rancheria Tachi Yokut Tribe now has 30 days to inform the City, in writing, of its request to consult with the City on the Fresno Producers Dairy Project. Such a request must provide the name of the Tribe's designated lead contact person and should be directed to the lead agency contact.

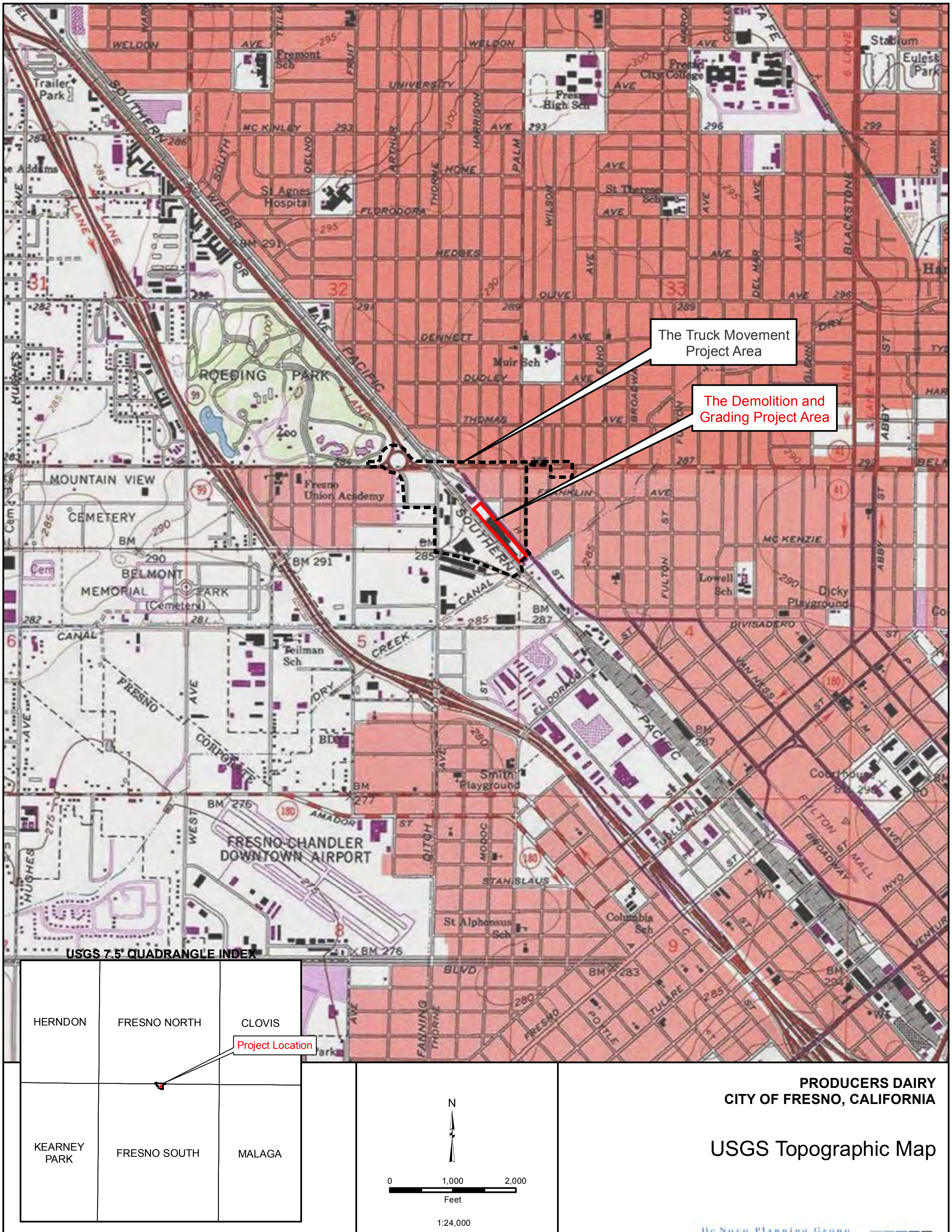
If you wish to consult with the City of Fresno regarding the proposed project, please do not hesitate to contact myself at (916) 235-0116 or at ecarroll@denovoplanning.com and I will arrange consultation with the City, or you may contact Rodney Horton, Planner III with the City of Fresno, at (559)-621-8181 or at rodney.horton@fresno.gov. Thank you for your time reviewing this letter and attached maps.

Sincerely,

Elise Carroll
Senior Planner, De Novo Planning Group

Ben Ritchie
Principal, De Novo Planning Group

Enclosures: topographic map, aerial map



PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

USGS Topographic Map

Data sources: Fresno County GIS; ArcGIS Online USGS Topographic Map Service. Map date: December 16, 2019.

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Legend

🟥 The Demolition and Grading Project Area

▭ The Truck Movement Project Area

Sources: Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: February 4, 2020.

N

0 250 500

Feet

1:6,000

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Aerial View

De Novo Planning Group

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

February 12, 2020

Dunlap Band of Mono Indians
Benjamin Charley Jr., Tribal Chair
P.O. Box 14
Dunlap, CA 93621

Subject: Project Notification Pursuant to Assembly Bill (AB) 52 for the Producers Dairy Project in the City of Fresno, Fresno County, California

Dear Tribal Chair Benjamin Charley Jr.,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the City of Fresno hereby extends an invitation to consult on the CEQA review of the Producers Dairy Project in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places, including:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historical Resources including historic or prehistoric ruins and any burial ground, archaeological, or historic site.

De Novo Planning Group is providing this formal notification of the Producers Dairy Project Environmental Impact Report (EIR) on behalf of the City of Fresno. To assist in your evaluation, we have included the results of the California Historical Resources Information System (CHRIS) Records Search through the Southern San Joaquin Valley Information Center (SSJVIC) that was completed for the Producers Dairy Project.

Below please find a description of the proposed project, the project location, the results of the CHRIS Records Search, the name of our project point of contact, and maps showing the project location (see enclosures).

Project Location

The Producers Dairy project site (project site) is located at 250 E. Belmont Avenue in Fresno, California There are two aspects of the project location that are addressed in the environmental document:

13. The Truck Movement Project Area; and
14. The Demolition and Grading Project Area.

The Truck Movement Project Area includes the Demolition and Grading Project Area discussed below), the Producers Dairy Main Plant (discussed below), the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. It should be noted that the only ground disturbing activities will occur on the Demolition and Grading Project Area. The other areas included in the Truck Movement Project Area are existing and will not include any renovations or construction resulting in ground disturbance.

The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H

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The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks. The Demolition and Grading Project Area is the only portion of the project site that would be disturbed as part of the proposed project.

The elevation of the site ranges from approximately 288 feet to 300 feet above mean sea level (MSL). Surrounding land uses include existing warehouse distribution and other industrial uses to the east, west, and south, and residential land uses to the east.

Project Description

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- Demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- Grading and new paved parking lot for diesel milk trucks; and
- Closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

Approximately 3.55 acres (or 154,638 square feet) of land currently developed with a range of old, abandoned feed mill and silos would be paved. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years with extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut to keep out trespassers and control the vandalism of the buildings.

No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The proposed project includes the demolition of existing structures between H Street and the UPRR tracks, which would be replaced with a new consolidated truck and trailer parking area, as described above. This new parking area would allow the project applicant to change their existing truck movement patterns in and around their facilities.

CHRIS Records Search

Records of previously recorded cultural resources and cultural resource investigations were examined by the SSJVIC through the CHRIS for the project area and a one-half mile radius (SSJVIC File # 20-007) on January 22, 2020. According to the SSJVIC, there have been two cultural resources studies conducted within the project area and 12 additional studies conducted within the one-half mile radius of the project site.

The record search indicates that there are two recorded resources within the project area and 30 recorded resources within the one-half mile radius. These resources consist primarily of historic era buildings. They also include an historic era canal, railroad, bridge, underpass, and trash scatter. Twelve resources have been given a National Register status code of 2S2, indicating these properties have been determined eligible for listing in the National Register of Historic Places by a consensus through the Section 106 process. The 12 resources are also listed in the California Register of Historic

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Additionally, the Sacred Lands File (SFL) check through the Native American Heritage Commission (NAHC) conducted for the project site on February 10, 2020 was negative.

Summary

Pursuant to Public Resources Code (PRC) section 21080.3.1 (b) and (d), the Dunlap Band of Mono Indians now has 30 days to inform the City, in writing, of its request to consult with the City on the Fresno Producers Dairy Project. Such a request must provide the name of the Tribe's designated lead contact person and should be directed to the lead agency contact.

If you wish to consult with the City of Fresno regarding the proposed project, please do not hesitate to contact myself at (916) 235-0116 or at ecarroll@denovoplanning.com and I will arrange consultation with the City, or you may contact Rodney Horton, Planner III with the City of Fresno, at (559)-621-8181 or at rodney.horton@fresno.gov. Thank you for your time reviewing this letter and attached maps.

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Elise Carroll
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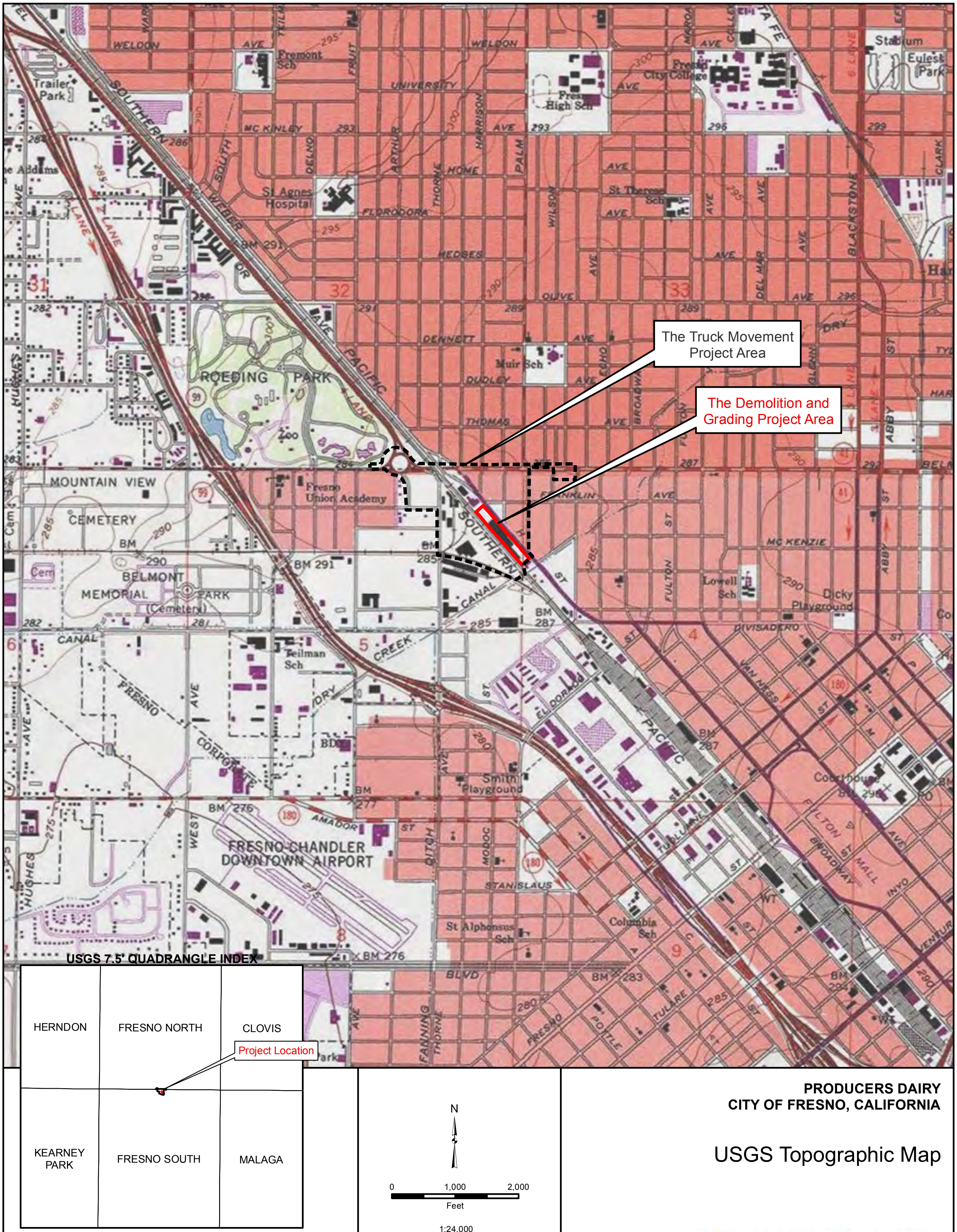
Ben Ritchie
Principal, De Novo Planning Group

Enclosures: topographic map, aerial map



PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

USGS Topographic Map

Data sources: Fresno County GIS; ArcGIS Online USGS Topographic Map Service. Map date: December 16, 2019.

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Legend

▭ The Demolition and Grading Project Area

⬚ The Truck Movement Project Area

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Feet

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PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Aerial View

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

February 12, 2020

Dunlap Band of Mono Indians
Dirk Charley, Tribal Secretary
5509 E. McKenzie Avenue
Fresno, CA 93727

Subject: Project Notification Pursuant to Assembly Bill (AB) 52 for the Producers Dairy Project in the City of Fresno, Fresno County, California

Dear Tribal Secretary Dirk Charley,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the City of Fresno hereby extends an invitation to consult on the CEQA review of the Producers Dairy Project in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places, including:

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Summary

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Ben Ritchie
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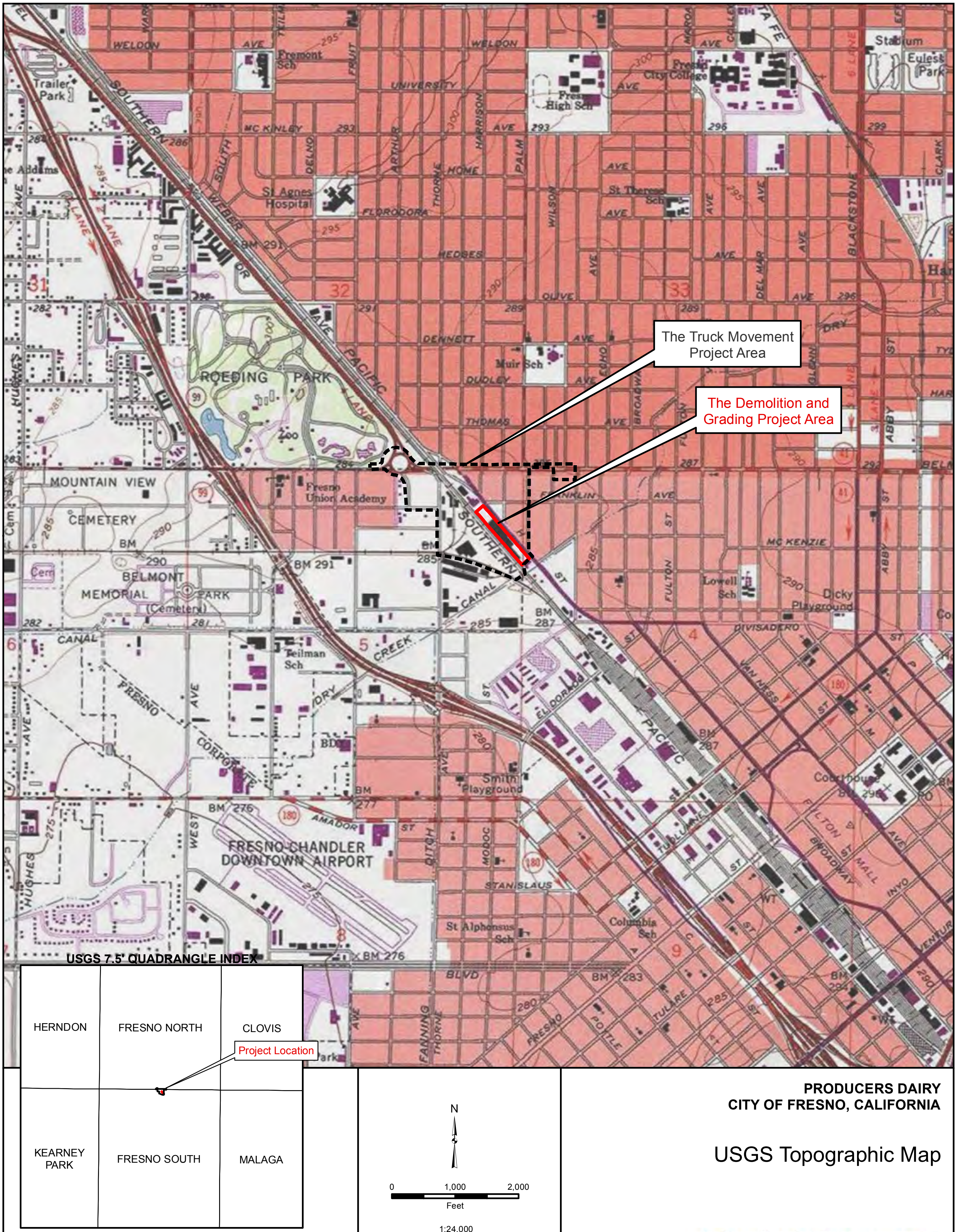


PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

USGS Topographic Map

Data sources: Fresno County GIS; ArcGIS Online USGS Topographic Map Service. Map date: December 16, 2019.

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Legend

▭ The Demolition and Grading Project Area

⬚ The Truck Movement Project Area

Sources: Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: February 4, 2020.

N

0 250 500

Feet

1:6,000

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Aerial View

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

February 12, 2020

Table Mountain Rancheria
ATTN: Leanne Walker-Grant, Chairperson
P.O. Box 410
Friant, CA 93626

Subject: Project Notification Pursuant to Assembly Bill (AB) 52 for the Producers Dairy Project in the City of Fresno, Fresno County, California

Dear Chairperson Walker-Grant,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the City of Fresno hereby extends an invitation to consult on the CEQA review of the Producers Dairy Project in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places, including:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historical Resources including historic or prehistoric ruins and any burial ground, archaeological, or historic site.

De Novo Planning Group is providing this formal notification of the Producers Dairy Project Environmental Impact Report (EIR) on behalf of the City of Fresno. To assist in your evaluation, we have included the results of the California Historical Resources Information System (CHRIS) Records Search through the Southern San Joaquin Valley Information Center (SSJVIC) that was completed for the Producers Dairy Project.

Below please find a description of the proposed project, the project location, the results of the CHRIS Records Search, the name of our project point of contact, and maps showing the project location (see enclosures).

Project Location

The Producers Dairy project site (project site) is located at 250 E. Belmont Avenue in Fresno, California There are two aspects of the project location that are addressed in the environmental document:

17. The Truck Movement Project Area; and
18. The Demolition and Grading Project Area.

The Truck Movement Project Area includes the Demolition and Grading Project Area discussed below), the Producers Dairy Main Plant (discussed below), the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. It should be noted that the only ground disturbing activities will occur on the Demolition and Grading Project Area. The other areas included in the Truck Movement Project Area are existing and will not include any renovations or construction resulting in ground disturbance.

The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H

Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks. Site disturbance of the Truck Movement Project Area is not proposed.

The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks. The Demolition and Grading Project Area is the only portion of the project site that would be disturbed as part of the proposed project.

The elevation of the site ranges from approximately 288 feet to 300 feet above mean sea level (MSL). Surrounding land uses include existing warehouse distribution and other industrial uses to the east, west, and south, and residential land uses to the east.

Project Description

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- Demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- Grading and new paved parking lot for diesel milk trucks; and
- Closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

Approximately 3.55 acres (or 154,638 square feet) of land currently developed with a range of old, abandoned feed mill and silos would be paved. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years with extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut to keep out trespassers and control the vandalism of the buildings.

No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The proposed project includes the demolition of existing structures between H Street and the UPRR tracks, which would be replaced with a new consolidated truck and trailer parking area, as described above. This new parking area would allow the project applicant to change their existing truck movement patterns in and around their facilities.

CHRIS Records Search

Records of previously recorded cultural resources and cultural resource investigations were examined by the SSJVIC through the CHRIS for the project area and a one-half mile radius (SSJVIC File # 20-007) on January 22, 2020. According to the SSJVIC, there have been two cultural resources studies conducted within the project area and 12 additional studies conducted within the one-half mile radius of the project site.

The record search indicates that there are two recorded resources within the project area and 30 recorded resources within the one-half mile radius. These resources consist primarily of historic era buildings. They also include an historic era canal, railroad, bridge, underpass, and trash scatter. Twelve resources have been given a National Register status code of 2S2, indicating these properties have been determined eligible for listing in the National Register of Historic Places by a consensus through the Section 106 process. The 12 resources are also listed in the California Register of Historic

Resources. Six of the resources have been given a National Register status code of 3S, indicating they appear eligible for listing in National Register of Historic Places as individual properties through survey evaluation. There are no other recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

Additionally, the Sacred Lands File (SFL) check through the Native American Heritage Commission (NAHC) conducted for the project site on February 10, 2020 was negative.

Summary

Pursuant to Public Resources Code (PRC) section 21080.3.1 (b) and (d), the Table Mountain Rancheria now has 30 days to inform the City, in writing, of its request to consult with the City on the Fresno Producers Dairy Project. Such a request must provide the name of the Tribe's designated lead contact person and should be directed to the lead agency contact.

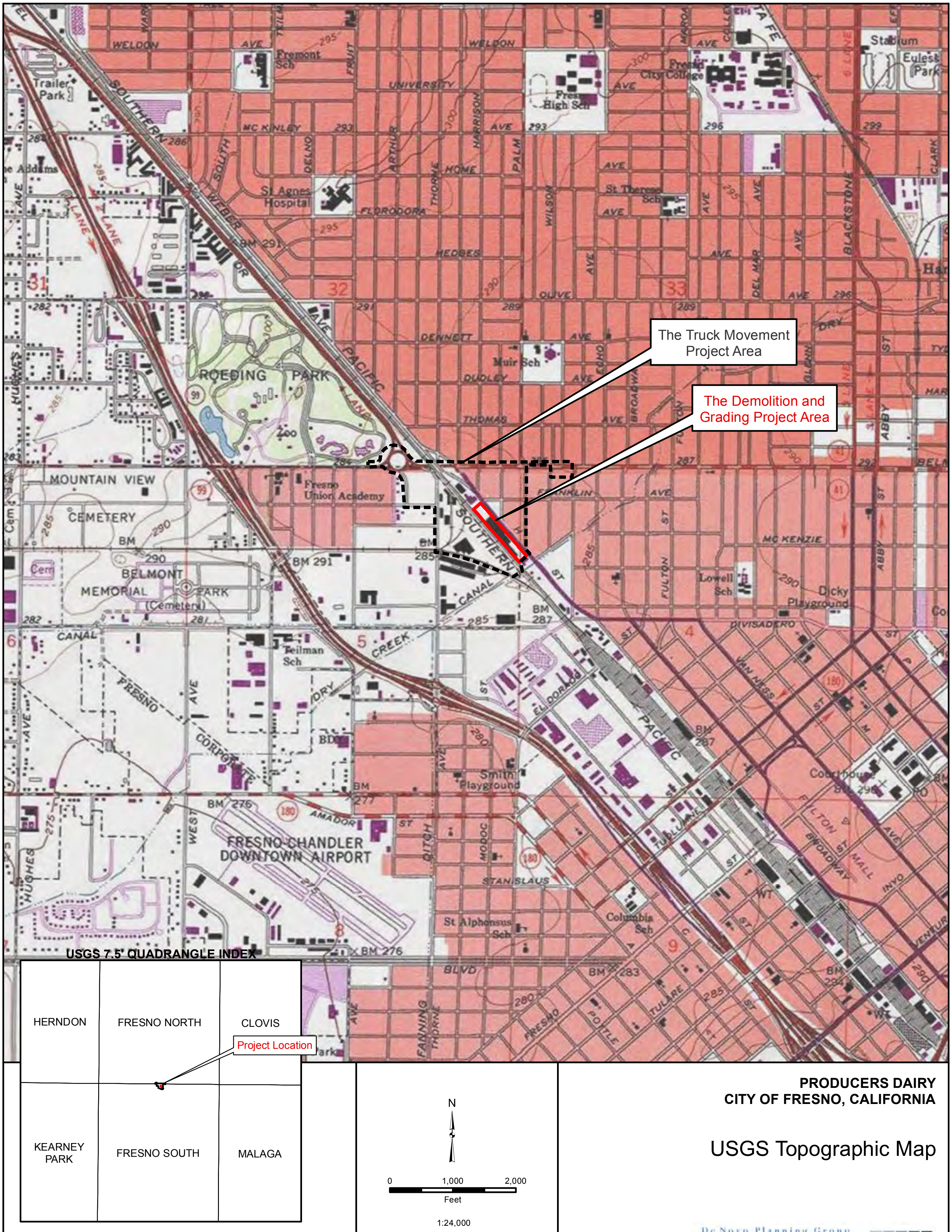
If you wish to consult with the City of Fresno regarding the proposed project, please do not hesitate to contact myself at (916) 235-0116 or at ecarroll@denovoplanning.com and I will arrange consultation with the City, or you may contact Rodney Horton, Planner III with the City of Fresno, at (559)-621-8181 or at rodney.horton@fresno.gov. Thank you for your time reviewing this letter and attached maps.

Sincerely,

Elise Carroll
Senior Planner, De Novo Planning Group

Ben Ritchie
Principal, De Novo Planning Group

Enclosures: topographic map, aerial map



PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

USGS Topographic Map

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De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Legend

🟥 The Demolition and Grading Project Area

⬚ The Truck Movement Project Area

Sources: Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: February 4, 2020.

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Feet

1:6,000

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Aerial View

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

February 12, 2020

Table Mountain Rancheria
ATTN: Bob Pennell, Cultural Resources (CR) Director
P.O. Box 410
Friant, CA 93626

Subject: Project Notification Pursuant to Assembly Bill (AB) 52 for the Producers Dairy Project in the City of Fresno, Fresno County, California

Dear Bob Pennell,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the City of Fresno hereby extends an invitation to consult on the CEQA review of the Producers Dairy Project in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places, including:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historical Resources including historic or prehistoric ruins and any burial ground, archaeological, or historic site.

De Novo Planning Group is providing this formal notification of the Producers Dairy Project Environmental Impact Report (EIR) on behalf of the City of Fresno. To assist in your evaluation, we have included the results of the California Historical Resources Information System (CHRIS) Records Search through the Southern San Joaquin Valley Information Center (SSJVIC) that was completed for the Producers Dairy Project.

Below please find a description of the proposed project, the project location, the results of the CHRIS Records Search, the name of our project point of contact, and maps showing the project location (see enclosures).

Project Location

The Producers Dairy project site (project site) is located at 250 E. Belmont Avenue in Fresno, California There are two aspects of the project location that are addressed in the environmental document:

19. The Truck Movement Project Area; and
20. The Demolition and Grading Project Area.

The Truck Movement Project Area includes the Demolition and Grading Project Area discussed below), the Producers Dairy Main Plant (discussed below), the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. It should be noted that the only ground disturbing activities will occur on the Demolition and Grading Project Area. The other areas included in the Truck Movement Project Area are existing and will not include any renovations or construction resulting in ground disturbance.

The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H

Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks. Site disturbance of the Truck Movement Project Area is not proposed.

The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks. The Demolition and Grading Project Area is the only portion of the project site that would be disturbed as part of the proposed project.

The elevation of the site ranges from approximately 288 feet to 300 feet above mean sea level (MSL). Surrounding land uses include existing warehouse distribution and other industrial uses to the east, west, and south, and residential land uses to the east.

Project Description

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- Demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- Grading and new paved parking lot for diesel milk trucks; and
- Closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

Approximately 3.55 acres (or 154,638 square feet) of land currently developed with a range of old, abandoned feed mill and silos would be paved. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years with extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut to keep out trespassers and control the vandalism of the buildings.

No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The proposed project includes the demolition of existing structures between H Street and the UPRR tracks, which would be replaced with a new consolidated truck and trailer parking area, as described above. This new parking area would allow the project applicant to change their existing truck movement patterns in and around their facilities.

CHRIS Records Search

Records of previously recorded cultural resources and cultural resource investigations were examined by the SSJVIC through the CHRIS for the project area and a one-half mile radius (SSJVIC File # 20-007) on January 22, 2020. According to the SSJVIC, there have been two cultural resources studies conducted within the project area and 12 additional studies conducted within the one-half mile radius of the project site.

The record search indicates that there are two recorded resources within the project area and 30 recorded resources within the one-half mile radius. These resources consist primarily of historic era buildings. They also include an historic era canal, railroad, bridge, underpass, and trash scatter. Twelve resources have been given a National Register status code of 2S2, indicating these properties have been determined eligible for listing in the National Register of Historic Places by a consensus through the Section 106 process. The 12 resources are also listed in the California Register of Historic

Resources. Six of the resources have been given a National Register status code of 3S, indicating they appear eligible for listing in National Register of Historic Places as individual properties through survey evaluation. There are no other recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

Additionally, the Sacred Lands File (SFL) check through the Native American Heritage Commission (NAHC) conducted for the project site on February 10, 2020 was negative.

Summary

Pursuant to Public Resources Code (PRC) section 21080.3.1 (b) and (d), the Table Mountain Rancheria now has 30 days to inform the City, in writing, of its request to consult with the City on the Fresno Producers Dairy Project. Such a request must provide the name of the Tribe's designated lead contact person and should be directed to the lead agency contact.

If you wish to consult with the City of Fresno regarding the proposed project, please do not hesitate to contact myself at (916) 235-0116 or at ecarroll@denovoplanning.com and I will arrange consultation with the City, or you may contact Rodney Horton, Planner III with the City of Fresno, at (559)-621-8181 or at rodney.horton@fresno.gov. Thank you for your time reviewing this letter and attached maps.

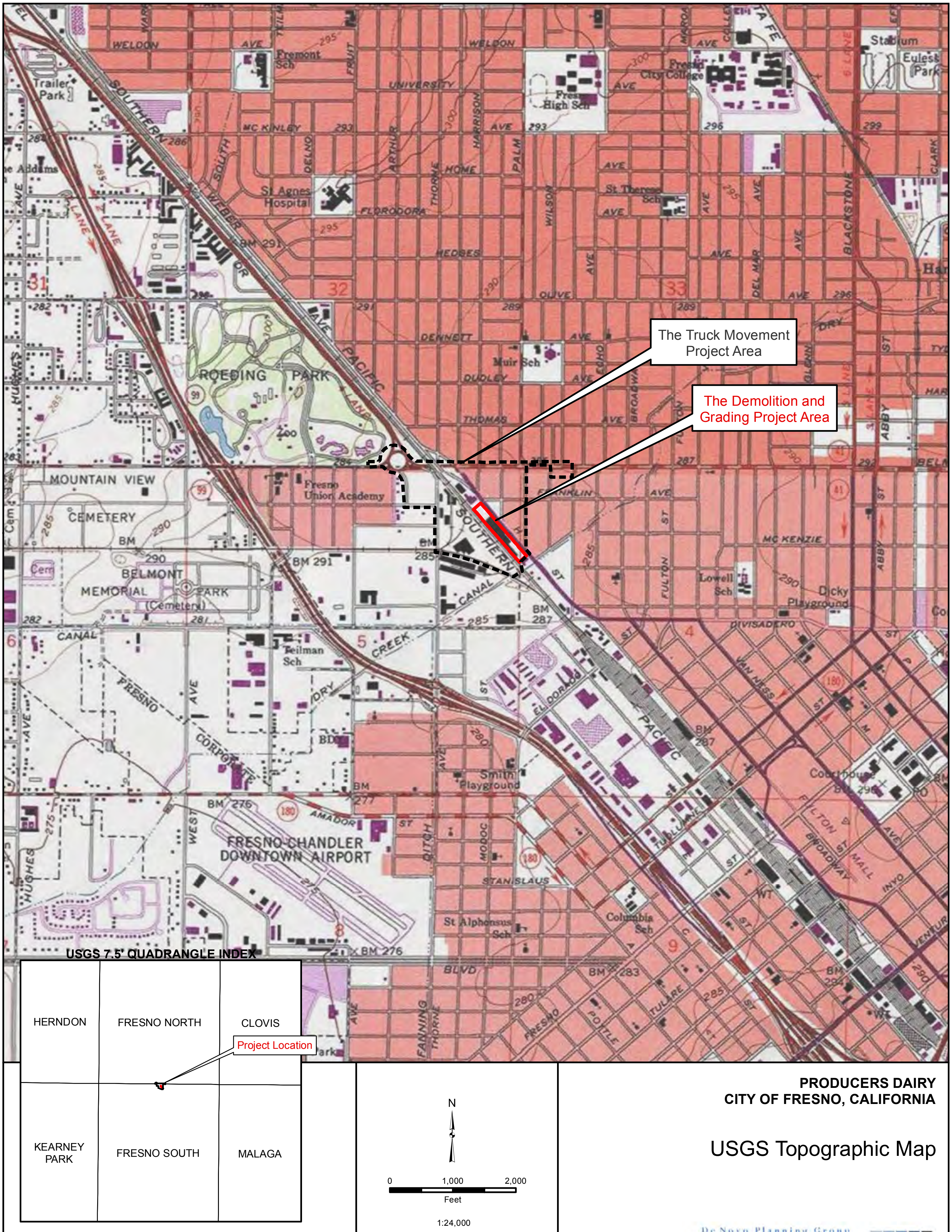
Sincerely,

EM Carroll

Elise Carroll
Senior Planner, De Novo Planning Group

Ben Ritchie
Principal, De Novo Planning Group

Enclosures: topographic map, aerial map



PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

USGS Topographic Map

Data sources: Fresno County GIS; ArcGIS Online USGS Topographic Map Service. Map date: December 16, 2019.

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Legend

🟥 The Demolition and Grading Project Area

⬚ The Truck Movement Project Area

Sources: Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: February 4, 2020.

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Feet

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PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Aerial View

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

February 12, 2020

Traditional Choinumni Tribe
ATTN: David Alvarez, Chairperson
2415 E. Houston Avenue
Fresno, CA 93720

Subject: Project Notification Pursuant to Assembly Bill (AB) 52 for the Producers Dairy Project in the City of Fresno, Fresno County, California

Dear Chairperson Alvarez,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the City of Fresno hereby extends an invitation to consult on the CEQA review of the Producers Dairy Project in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places, including:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
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De Novo Planning Group is providing this formal notification of the Producers Dairy Project Environmental Impact Report (EIR) on behalf of the City of Fresno. To assist in your evaluation, we have included the results of the California Historical Resources Information System (CHRIS) Records Search through the Southern San Joaquin Valley Information Center (SSJVIC) that was completed for the Producers Dairy Project.

Below please find a description of the proposed project, the project location, the results of the CHRIS Records Search, the name of our project point of contact, and maps showing the project location (see enclosures).

Project Location

The Producers Dairy project site (project site) is located at 250 E. Belmont Avenue in Fresno, California There are two aspects of the project location that are addressed in the environmental document:

21. The Truck Movement Project Area; and
22. The Demolition and Grading Project Area.

The Truck Movement Project Area includes the Demolition and Grading Project Area discussed below), the Producers Dairy Main Plant (discussed below), the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. It should be noted that the only ground disturbing activities will occur on the Demolition and Grading Project Area. The other areas included in the Truck Movement Project Area are existing and will not include any renovations or construction resulting in ground disturbance.

The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks. Site disturbance of the Truck Movement Project Area is not proposed.

The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks. The Demolition and Grading Project Area is the only portion of the project site that would be disturbed as part of the proposed project.

The elevation of the site ranges from approximately 288 feet to 300 feet above mean sea level (MSL). Surrounding land uses include existing warehouse distribution and other industrial uses to the east, west, and south, and residential land uses to the east.

Project Description

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- Demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- Grading and new paved parking lot for diesel milk trucks; and
- Closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

Approximately 3.55 acres (or 154,638 square feet) of land currently developed with a range of old, abandoned feed mill and silos would be paved. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years with extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut to keep out trespassers and control the vandalism of the buildings.

No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The proposed project includes the demolition of existing structures between H Street and the UPRR tracks, which would be replaced with a new consolidated truck and trailer parking area, as described above. This new parking area would allow the project applicant to change their existing truck movement patterns in and around their facilities.

CHRIS Records Search

Records of previously recorded cultural resources and cultural resource investigations were examined by the SSJVIC through the CHRIS for the project area and a one-half mile radius (SSJVIC File # 20-007) on January 22, 2020. According to the SSJVIC, there have been two cultural resources studies conducted within the project area and 12 additional studies conducted within the one-half mile radius of the project site.

The record search indicates that there are two recorded resources within the project area and 30 recorded resources within the one-half mile radius. These resources consist primarily of historic era buildings. They also include an historic era canal, railroad, bridge, underpass, and trash scatter. Twelve resources have been given a National Register status code of 2S2, indicating these properties have been determined eligible for listing in the National Register of Historic Places by a consensus through the Section 106 process. The 12 resources are also listed in the California Register of Historic Resources. Six of the resources have been given a National Register status code of 3S, indicating they appear eligible for listing in National Register of Historic Places as individual properties through survey evaluation. There are no other recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

Additionally, the Sacred Lands File (SFL) check through the Native American Heritage Commission (NAHC) conducted for the project site on February 10, 2020 was negative.

Summary

Pursuant to Public Resources Code (PRC) section 21080.3.1 (b) and (d), the Traditional Choinumni Tribe now has 30 days to inform the City, in writing, of its request to consult with the City on the Fresno Producers Dairy Project. Such a request must provide the name of the Tribe's designated lead contact person and should be directed to the lead agency contact.

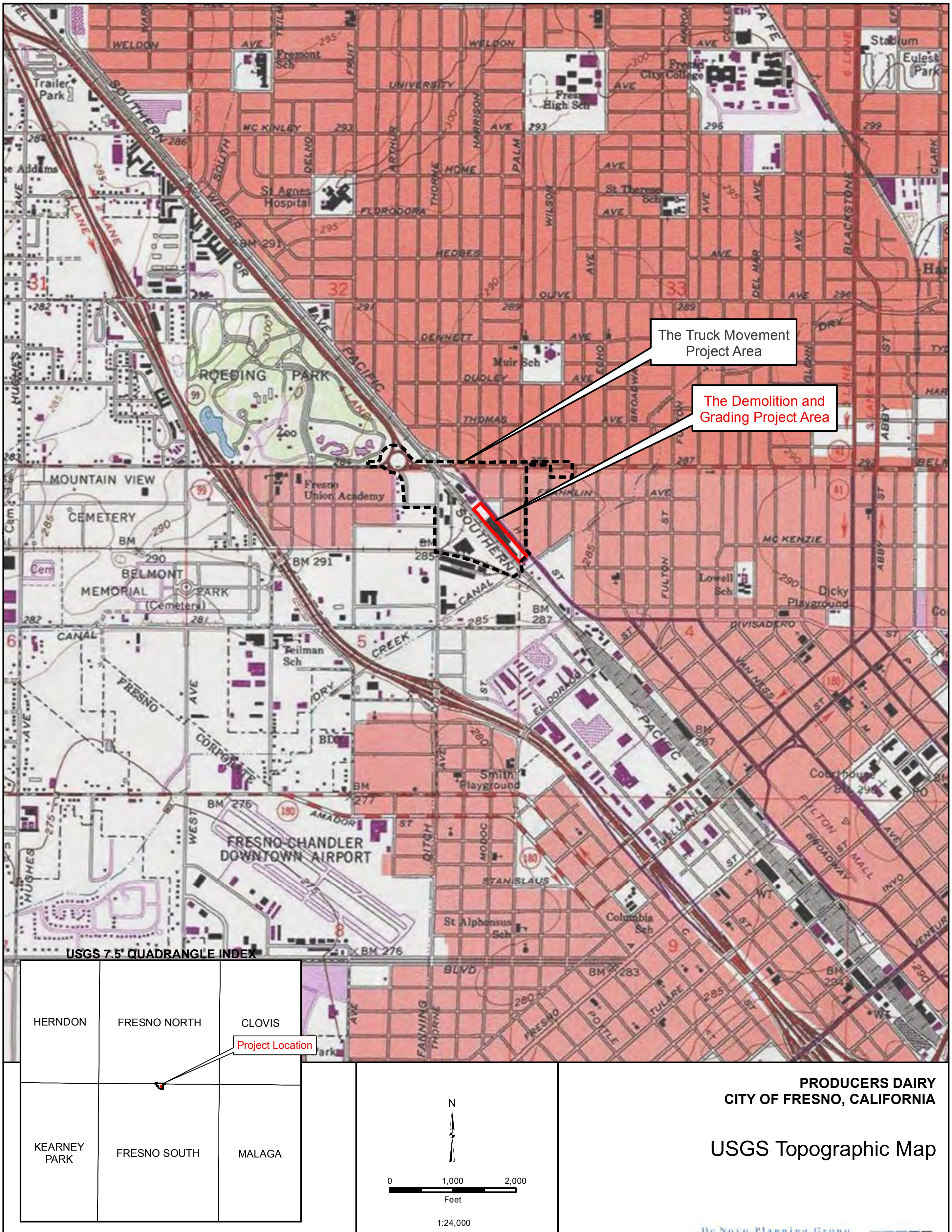
If you wish to consult with the City of Fresno regarding the proposed project, please do not hesitate to contact myself at (916) 235-0116 or at ecarroll@denovoplanning.com and I will arrange consultation with the City, or you may contact Rodney Horton, Planner III with the City of Fresno, at (559)-621-8181 or at rodney.horton@fresno.gov. Thank you for your time reviewing this letter and attached maps.

Sincerely,

Elise Carroll
Senior Planner, De Novo Planning Group

Ben Ritchie
Principal, De Novo Planning Group

Enclosures: topographic map, aerial map



PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

USGS Topographic Map

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De Novo Planning Group
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Legend

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PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Aerial View

De Novo Planning Group

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

February 12, 2020

Traditional Choinumni Tribe
ATTN: Rick Osborne
2415 E. Houston Avenue
Fresno, CA 93720

Subject: Project Notification Pursuant to Assembly Bill (AB) 52 for the Producers Dairy Project in the City of Fresno, Fresno County, California

Dear Rick Osborne,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the City of Fresno hereby extends an invitation to consult on the CEQA review of the Producers Dairy Project in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places, including:

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Project Location

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23. The Truck Movement Project Area; and
24. The Demolition and Grading Project Area.

The Truck Movement Project Area includes the Demolition and Grading Project Area discussed below), the Producers Dairy Main Plant (discussed below), the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. It should be noted that the only ground disturbing activities will occur on the Demolition and Grading Project Area. The other areas included in the Truck Movement Project Area are existing and will not include any renovations or construction resulting in ground disturbance.

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Summary

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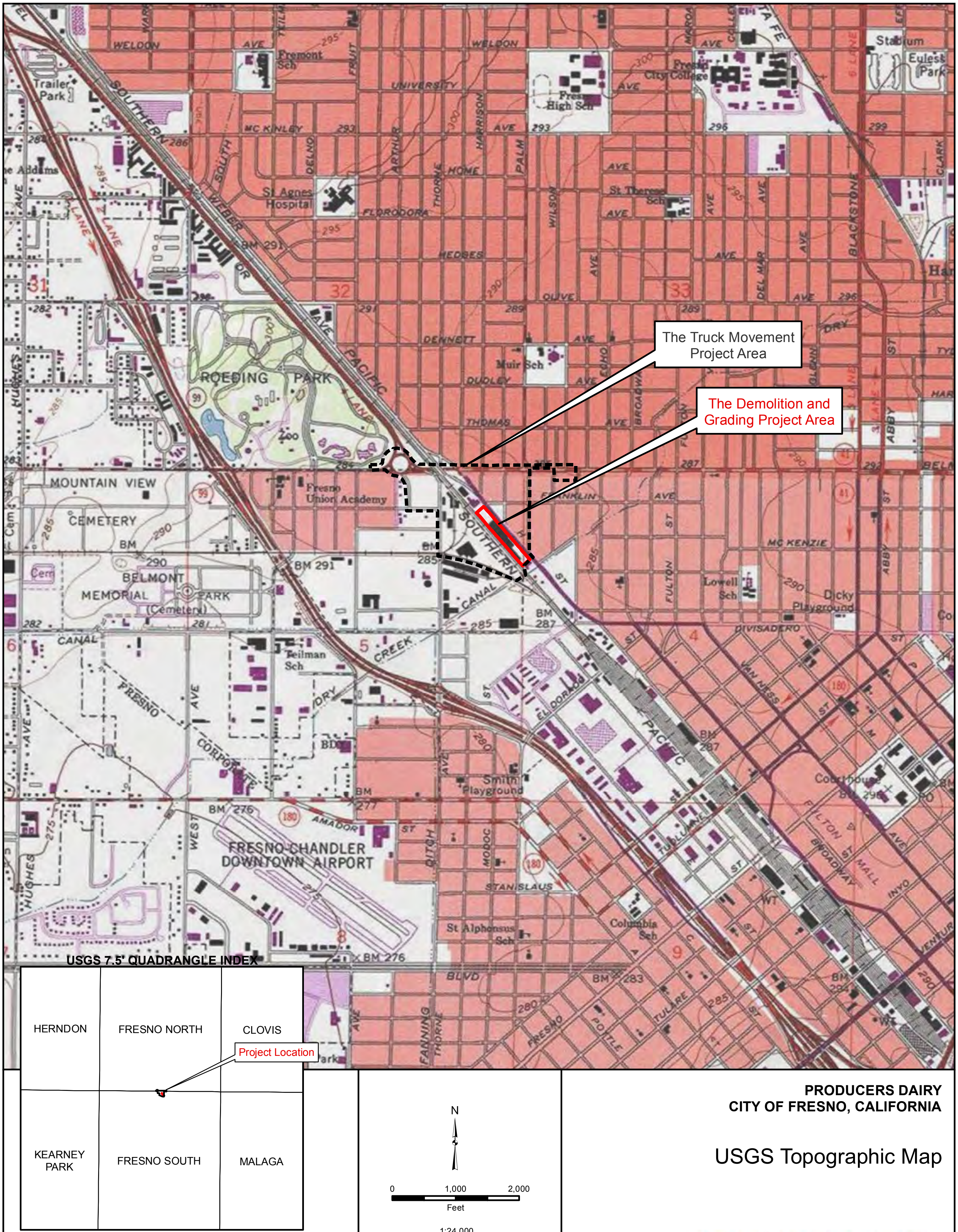
Sincerely,

Elise Carroll
Senior Planner, De Novo Planning Group

Ben Ritchie
Principal, De Novo Planning Group

Enclosures: topographic map, aerial map



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Feet

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PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

USGS Topographic Map

Data sources: Fresno County GIS; ArcGIS Online USGS Topographic Map Service. Map date: December 16, 2019.

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Legend

🟥 The Demolition and Grading Project Area

⬚ The Truck Movement Project Area

Sources: Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: February 4, 2020.

N

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Feet

1:6,000

PRODUCERS DAIRY
CITY OF FRESNO, CALIFORNIA

Aerial View

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

February 12, 2020

Wuksache Indian Tribe/Eshom Valley Band
ATTN: Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas, CA 93906

Subject: Project Notification Pursuant to Assembly Bill (AB) 52 for the Producers Dairy Project in the City of Fresno, Fresno County, California

Dear Chairperson Woodrow,

Pursuant to the provisions of AB 52, as the lead agency under the California Environmental Quality Act (CEQA), the City of Fresno hereby extends an invitation to consult on the CEQA review of the Producers Dairy Project in order to assist with identifying and/or preserving and/or mitigating project impacts to Native American cultural places, including:

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine; and
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historical Resources including historic or prehistoric ruins and any burial ground, archaeological, or historic site.

De Novo Planning Group is providing this formal notification of the Producers Dairy Project Environmental Impact Report (EIR) on behalf of the City of Fresno. To assist in your evaluation, we have included the results of the California Historical Resources Information System (CHRIS) Records Search through the Southern San Joaquin Valley Information Center (SSJVIC) that was completed for the Producers Dairy Project.

Below please find a description of the proposed project, the project location, the results of the CHRIS Records Search, the name of our project point of contact, and maps showing the project location (see enclosures).

Project Location

The Producers Dairy project site (project site) is located at 250 E. Belmont Avenue in Fresno, California There are two aspects of the project location that are addressed in the environmental document:

25. The Truck Movement Project Area; and
26. The Demolition and Grading Project Area.

The Truck Movement Project Area includes the Demolition and Grading Project Area discussed below), the Producers Dairy Main Plant (discussed below), the Producers Dairy ice cream warehouse, and the Producers Dairy cheese plant property, as well as the roadways in the area which are used for the existing and proposed truck movements. It should be noted that the only ground disturbing activities will occur on the Demolition and Grading Project Area. The other areas included in the Truck Movement Project Area are existing and will not include any renovations or construction resulting in ground disturbance.

The existing and proposed truck movements are located on portions of the following roadways: E. Belmont Avenue, W. Belmont Avenue, N. Wesley Avenue, W. Franklin Avenue, N. Thorne Avenue, H

Street, and Palm Avenue. The Truck Movement Project Area also includes the following areas and features: the roundabout at N. Motel Drive, W. Belmont Avenue, and N. Wesley Avenue; the detention basin southeast of the roundabout; the industrial area adjacent north and west of the ice cream warehouse, and the industrial area west of the Main Plant along H Street and the Union Pacific Railroad (UPRR) tracks. Site disturbance of the Truck Movement Project Area is not proposed.

The Demolition and Grading Project Area includes the segment of H Street proposed for abandonment (between Belmont Avenue and Palm Avenue) and the area between H Street and the UPRR tracks. The Demolition and Grading Project Area is the only portion of the project site that would be disturbed as part of the proposed project.

The elevation of the site ranges from approximately 288 feet to 300 feet above mean sea level (MSL). Surrounding land uses include existing warehouse distribution and other industrial uses to the east, west, and south, and residential land uses to the east.

Project Description

The proposed project includes the construction and operation of a new truck parking facility located at 315/339 N. H Street. The project would include the following components and characteristics:

- Demolition of all structures along H Street (north of Arroyo Avenue and south of N. Harrison Avenue);
- Grading and new paved parking lot for diesel milk trucks; and
- Closure and relinquishment of H Street from Belmont Avenue to Palm Avenue.

Approximately 3.55 acres (or 154,638 square feet) of land currently developed with a range of old, abandoned feed mill and silos would be paved. The structures in the Demolition and Grading Project Area include a two-story office building with a retail feed store, warehouse buildings with loading docks for rail cars and trucks, concrete storage silos for feed and grain, and an iron structure with metal loading silos. The storage silos and associated structure and equipment have been out of use for many years with extensive scavenging of the copper wiring and other items of value. The warehouse buildings are 75 to 90 years old and are not in good condition with most of the roofs being unsafe to walk on. Many of the doors and access points into the structures have been welded shut to keep out trespassers and control the vandalism of the buildings.

No changes or expansions of existing operations and shipment volumes is proposed as part of this project. The proposed project includes the demolition of existing structures between H Street and the UPRR tracks, which would be replaced with a new consolidated truck and trailer parking area, as described above. This new parking area would allow the project applicant to change their existing truck movement patterns in and around their facilities.

CHRIS Records Search

Records of previously recorded cultural resources and cultural resource investigations were examined by the SSJVIC through the CHRIS for the project area and a one-half mile radius (SSJVIC File # 20-007) on January 22, 2020. According to the SSJVIC, there have been two cultural resources studies conducted within the project area and 12 additional studies conducted within the one-half mile radius of the project site.

The record search indicates that there are two recorded resources within the project area and 30 recorded resources within the one-half mile radius. These resources consist primarily of historic era buildings. They also include an historic era canal, railroad, bridge, underpass, and trash scatter. Twelve resources have been given a National Register status code of 2S2, indicating these properties have been determined eligible for listing in the National Register of Historic Places by a consensus through the Section 106 process. The 12 resources are also listed in the California Register of Historic

Resources. Six of the resources have been given a National Register status code of 3S, indicating they appear eligible for listing in National Register of Historic Places as individual properties through survey evaluation. There are no other recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

Additionally, the Sacred Lands File (SFL) check through the Native American Heritage Commission (NAHC) conducted for the project site on February 10, 2020 was negative.

Summary

Pursuant to Public Resources Code (PRC) section 21080.3.1 (b) and (d), the Wuksache Indian Tribe/Eshom Valley Band now has 30 days to inform the City, in writing, of its request to consult with the City on the Fresno Producers Dairy Project. Such a request must provide the name of the Tribe's designated lead contact person and should be directed to the lead agency contact.

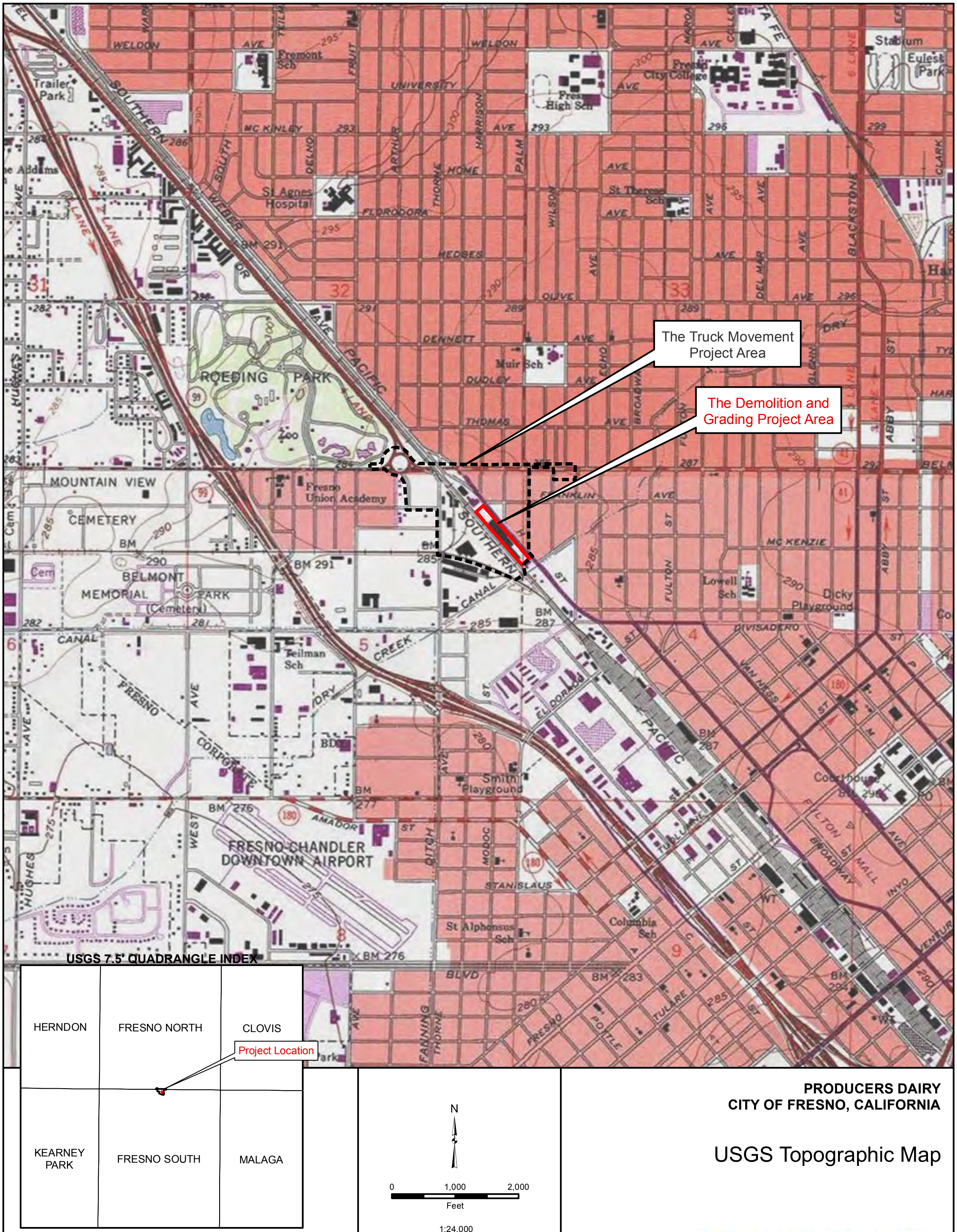
If you wish to consult with the City of Fresno regarding the proposed project, please do not hesitate to contact myself at (916) 235-0116 or at ecarroll@denovoplanning.com and I will arrange consultation with the City, or you may contact Rodney Horton, Planner III with the City of Fresno, at (559)-621-8181 or at rodney.horton@fresno.gov. Thank you for your time reviewing this letter and attached maps.

Sincerely,

Elise Carroll
Senior Planner, De Novo Planning Group

Ben Ritchie
Principal, De Novo Planning Group

Enclosures: topographic map, aerial map



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CITY OF FRESNO, CALIFORNIA

USGS Topographic Map

Data sources: Fresno County GIS; ArcGIS Online USGS Topographic Map Service. Map date: December 16, 2019.

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Legend

🟥 The Demolition and Grading Project Area

⬚ The Truck Movement Project Area

Sources: Fresno County GIS; CalTrans; ArcGIS Online World Imagery Map Service. Map date: February 4, 2020.

N

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Feet

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CITY OF FRESNO, CALIFORNIA

Aerial View

De Novo Planning Group

SENDER: *COMPLETE THIS SECTION*

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

North Fork Mono Tribe
ATTN: Ron Goode, Chairperson
13396 Tollhouse Road
Clovis, CA 93619

9590 9402 5464 9249 9220 40

2. Article Number *(Transfer from service label)*
7019 0700 0002 2191 2717

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Ron Goode ☐ Agent ☒ Addressee

B. Received by *(Printed Name)* Ron Goode

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
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☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Insured Mail Restricted Delivery (over $500)
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☐ Registered Mail™
☐ Registered Mail Restricted Delivery
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1. Article Addressed to:

Big Sandy Rancheria of Western Mono Indians
ATTN: Elizabeth D. Kipp, Chairperson
P.O. Box 337
Auberry, CA 93602

9590 9402 5464 9249 9220 71

7019 0700 0002 2191 2687

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* Chelsea Gonzalez

C. Date of Delivery 2/18/2020

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
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1. Article Addressed to:

Table Mountain Rancheria
ATTN: Leanne Walker-Grant, Chairperson
P.O. Box 410
Friant, CA 93626

9590 9402 5464 9249 9141 75

2. Article Number *(Transfer from service label)*

7019 0700 0002 2191 2762

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent
☐ Addressee

B. Received by *(Printed Name)* Monique Jaurigui

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
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☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
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☐ Insured Mail Restricted Delivery (over $500)
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1. Article Addressed to:

Dumna Wo-Wah Tribal Government
ATTN: Robert Ledger Sr., Chairperson
2191 West Pico Avenue
Fresno, CA 93705

9590 9402 5464 9249 9220 33

2. Article Number *(Transfer from service label)*

7019 0700 0002 2191 2724

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent
☐ Addressee

B. Received by *(Printed Name)*

C. Date of Delivery 2/14/20

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
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☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Insured Mail Restricted Delivery (over $500)
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1. Article Addressed to:

Table Mountain Rancheria
ATTN: Bob Pennell, CR Director
P.O. Box 410
Friant, CA 93626

9590 9402 5464 9249 9141 68

2. Article Number *(Transfer from service label)*
7019 0700 0002 2191 2779

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☐ Agent
☐ Addressee

B. Received by *(Printed Name)*
Monique Jaurigui

C. Date of Delivery

D. Is delivery address different from item 1? ☑ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
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☐ Collect on Delivery Restricted Delivery
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- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Dunlap Band of Mono Indians
ATTN: Dirk Charley, Tribal Secretary
5509 E. McKenzie Avenue
Fresno, CA 93727

9590 9402 5464 9249 9141 51

2. Article Number *(Transfer from service label)*
7019 0700 0002 2191 2755

N DELIVERY

A. Signature
X Dirk Charley
☐ Agent
☐ Addressee

B. Received by *(Printed Name)*
DIRK Charley

C. Date of Delivery
2/14/2020

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☐ Certified Mail®
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- ■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Santa Rosa Rancheria Tachi Yokut Tribe
ATTN: Leo Sisco, Chairperson
P.O. Box 8
Lemoore, CA 93245

9590 9402 5464 9249 9220 26

2. Article Number *(Transfer from service label)*

7019 0700 0002 2191 2731

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent
☐ Addressee

B. Received by *(Printed Name)*
Veronica Varela

C. Date of Delivery
2-14-20

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
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☐ Certified Mail®
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1. Article Addressed to:

Cold Springs Rancheria
ATTN: Carol Bill, Chairperson
P.O. Box 209
Tollhouse, CA 93667

9590 9402 5464 9249 9220 57

2. Article Number *(Transfer from service label)*

7019 0700 0002 2191 2700

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent
☐ Addressee

B. Received by *(Printed Name)*
Amanda Rocha

C. Date of Delivery
2/19/20

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

P.O. BOX 209

3. Service Type
☐ Adult Signature
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☐ Certified Mail®
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1. Article Addressed to:

Traditional Choinumni Tribe
ATTN: David Alvarez, Chairperson
2415 E. Houston Avenue
Fresno, CA 93720

9590 9402 5464 9249 9213 57

2. Article Number *(Transfer from service label)*
7019 1640 0000 7283 9177

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☐ Agent
☐ Addressee

B. Received by *(Printed Name)* David Alvarez

C. Date of Delivery 2-14-20

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
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1. Article Addressed to:

Traditional Choinumni Tribe
ATTN: Rick Osborne, Cultural Resources
2415 E. Houston Avenue
Fresno, CA 93720

9590 9402 5464 9249 9213 40

2. Article Number *(Transfer from service label)*
7019 0700 0002 2191 2786

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☐ Agent
☐ Addressee

B. Received by *(Printed Name)* David Alvarez

C. Date of Delivery 2-14-20

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☐ Certified Mail®
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1. Article Addressed to:

Wukşache Indian Tribe/Eshom Valley Band ATTN:
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas, CA 93906

9590 9402 5464 9249 9213 64

2. Article Number *(Transfer from service label)*

7019 1640 0000 7283 9184

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent
☐ Addressee

B. Received by *(Printed Name)*

C. Date of Delivery
2-15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

☐ Adult Signature
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☐ Collect on Delivery
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Domestic Return Receipt

APPENDIX D

Asbestos Survey Report

Leon Environmental Services

Richard "Danny" Leon CAC # 04-3708
Tommy Leon CAC # 05-3882

July 12, 2019

Erik Bowen
Bowen Engineering
4664 S. Cedar Ave., Fresno, CA
Email: erikb@bowendemolition.com

Re: Asbestos Survey Report
Old Feed Mill and Silos
315 N. H Street, Fresno, CA
LES Job #S96-19

Dear Erik,

Attached is the asbestos survey report for the above referenced site. The report includes inspection observations, a list of all samples taken, bulk sample analysis results, a sample location diagram and recommendations concerning asbestos containing materials identified at this site. If you have any questions or need additional information, please do not hesitate to call.

Thank you for using Leon Environmental Services. We look forward to working with you in the future.

Respectfully,

Richard Danny Leon

Digitally signed by Richard Danny Leon
DN: cn=Richard Danny Leon, o=Leon Environmental Services, ou, email=leonenviro@comcast.net, c=US
Date: 2019.07.15 07:29:55 -07'00'

Richard "Danny" Leon
Certified Asbestos Consultant
Certification No. 04-3708

4545 N. Brawley Ave., Suite 104, Fresno, CA 93722
Phone: 559.274.9200 Fax: 559.274.9240 Email: leonenviro@comcast.net

BUILDING DESCRIPTION

On Monday, July 1st, 2019, an asbestos survey was performed on the old feed mill and silos at **315 N. H Street, Fresno, CA** for Erik Bowen of Bowen Engineering. The structures at this site include a two story office building with a retail feed store, warehouse buildings with loading docks for both rail cars and trucks, concrete storage silos for feed and grain and an iron structure with metal loading silos. Much of the iron framed structure associated with the concrete storage silos has corrugated transite panels walls and roof. The storage silos and associated structure and equipment have been out of use for many years with extensive scavenging of the copper wiring and most anything of value. Inside the warehouse buildings are abandoned boiler rooms, old feed mill and in use packaging equipment. These structures are 75 to 90 years old and not in very good condition with most of the roofs unsafe to walk on. Many of the doors and access points into the structures have had to be welded shut to keep out the vagrants and control the vandalism of the buildings. On the north side of the warehouses is a large concrete area where another warehouse was many years ago.

ASBESTOS ANALYSIS RESULTS

All bulk samples of suspect asbestos containing materials were taken in accordance with US EPA Guidelines and accepted industry standards by a state certified asbestos consultant. Western Analytical Laboratory, Inc., a NVLAP accredited laboratory performed a total of 181 analyses from the 176 samples of suspect ACM collected from the structure at this site. The samples listed on the following table were positive for asbestos. The full list of all samples taken is on the following pages. Sample locations are indicated on the diagram included with this report. Quantities listed are estimates, for sampling purposes only, and should be verified prior to asbestos abatement.

#	Location	Material	%	Friable	Sq.Ft
2 Story Office Building					
14	Room #5 Floor	12x12 Floor Tile	>1	No	680
24	Room #11 Floor	9x9 Floor Tile	>1	No	2,440
31	Room #10 Floor	Black Floor Tile Mastic	4-5	No	400
34	2nd Floor Men's Restroom Floor	12x12 Floor Tile	>1	No	72
36	2nd Floor Hallway Floor	9x9 Floor Tile	>1	No	See 24
46	Room #18 Wall	Wall Panel Adhesive	4-5	No	7,100
Silo Building					
62	Top of Silo #1 Outside	Caulking/Sealant	2-3	No	50
70	Ground Level Silo #1 Outside	Silver Paint	3	No	40,000
72	Ground Level Silo #2 Outside	Silver Paint	3-4	No	See 70
73	Ground Level Silo #4 Outside	Silver Paint	4-5	No	See 70

#	Location	Material	%	Friable	Sq.Ft
74	Top of Silo #4 Outside	Silver Paint	4-5	No	See 70
75	Ground Level Silo #5 Outside	Silver Paint	4-5	No	See 70
76	Ground Level Silo #7 Outside	Silver Paint	4-5	No	See 70
78	Ground Level Silo #10 Outside	Silver Paint	2-3	No	See 70
83	Ground Level Silo Bldg Main Rm	Pipe Insulation	20	Yes	40 lf
87	Top of Silo #17 Outside	Transite	15	No	10,000
92	Silo Bldg Roof – Northwest Side	Roof Mastic	10	No	50
Office Building Roof					
102	Roof	Roof Mastic	10	No	100
103	Roof	Roof Mastic	5	No	See 102
South Warehouse					
104	Room 8 Walls and Ceiling	Texture	0.25*	No	See 106
105	Room 8 Walls and Ceiling	Texture	0.50*	No	See 106
106	Room 8 Walls and Ceiling	Joint Compound	1-2	No**	2850
111	Room 4 Floor	12x12 Floor Tile	>1	No	336
115	Room 6 Floor	Floor Tile	>1	No	See 111
121	Old Mill 2nd Floor Piping	Pipe Insulation	60	Yes	40 lf
122	Room 2 Floor	9x9 Floor Tile	>1	No	144
128	Restroom Walls and Ceiling	Joint Compound	1-2	No**	See 106
133	Room 3 Floor	12x12 Floor Tile	>1	No	192
North Warehouse					
146	Storage Wood Walls	Sealant on Wood	5-6	No	200
South Warehouse Roof					
163	Roof	Roof Mastic	5	No	200
164	Roof South End	Roof Mastic	10	No	See 163
North Warehouse Roof					
174	Roof	Roof Mastic	10	No	50

*Asbestos percentage determined by PLM point counting method (EPA 600/R-93/116).
**Determined after composite sampling with associated sheetrock and point counting.

COMMENTS AND RECOMMENDATIONS

To be in compliance with EPA NESHAP regulations, a licensed asbestos abatement contractor must remove all materials containing greater than 1% asbestos by weight prior to demolition. Materials that contain less than 1% asbestos by weight should also be removed or can be demolished with the structure if the demolition contractor is registered with CAL-OSHA to work with asbestos. Demolition debris/waste with any detectable amounts of asbestos cannot be recycled.

2 STORY OFFICE BLDG.

The 12x12 floor tile (sample 14) in rooms 3, 4, 5, 6, 7, and 8 on the first floor of the office building is positive for asbestos at greater than 1% by weight. Floor tiles are considered ***non-hazardous non-friable ACM*** and can be disposed of as construction waste in most cases after properly being abated. It is required that a licensed asbestos abatement contractor remove these materials prior to demolition of this structure. **680 sq. ft.**

The 9x9 floor tile (samples 24, 36) throughout the 2nd floor of the office building except rooms 10 and 16 is positive for asbestos at greater than 1% by weight. Floor tiles are considered ***non-hazardous non-friable ACM*** and can be disposed of as construction waste in most cases after properly being abated. It is required that a licensed asbestos abatement contractor remove these materials prior to demolition of this structure. **2,440 sq. ft.**

The 12x12 floor tile (sample 34) in the 2nd floor restrooms is positive for asbestos at greater than 1% by weight. Floor tiles are considered ***non-hazardous non-friable ACM*** and can be disposed of as construction waste in most cases after properly being abated. It is required that a licensed asbestos abatement contractor remove these materials prior to demolition of this structure. **72 sq. ft.**

The black floor tile mastic (sample 31) in room 10 of the office building is positive for asbestos at 4-5% by weight. Floor tile mastic is considered ***non-hazardous non-friable ACM*** and can be disposed of as construction waste in most cases after properly being abated. It is required that a licensed asbestos abatement contractor remove this material prior to demolition of this structure. **400 sq. ft.**

The wall panel adhesive (sample 46) throughout the 2nd floor is positive for asbestos at 4-5% by weight. Adhesives are considered ***non-hazardous non-friable ACM*** and can be disposed of as construction waste in most cases after properly being abated. It is required that a licensed asbestos abatement contractor remove this material prior to demolition of this structure. **7,100 sq. ft.**

SILO BLDG

The sealant/caulking (sample 62) at the top of the silos is positive for asbestos at 2-3% by weight. This material is considered ***non-hazardous non-friable ACM*** and can be disposed of as construction waste in most cases after properly being abated. It is required that a licensed asbestos abatement contractor remove this material prior to demolition of this structure. **50 sq. ft.**

The silver paint (samples 70, 72, 73, 74, 75, 76, 78) on the exterior of the silos 1-10 is positive for asbestos at 2-5% by weight. In good condition this material is considered ***non-hazardous non-friable ACM*** and can be disposed of as construction waste in most cases. If this material becomes loose & flaky or is crumbled and or pulverized it must be considered friable ACM. It is required that a licensed asbestos abatement contractor remove this material prior to demolition of this structure. **40,000 sq. ft.**

The pipe insulation (sample 83) on the piping that is near the ceiling in the main room in the first floor and goes up to the 2nd floor in the silo building is positive for asbestos at 20% by weight. This type of material is considered ***friable hazardous ACM*** and must be handled and disposed of accordingly. It is required that a licensed asbestos abatement contractor remove this material prior to demolition of this structure. **40 linear feet**

The corrugated transite panels (sample 87) on the walls and roof of the silo building are positive for asbestos at 15% by weight. Transite is considered ***non-hazardous non-friable ACM*** and can be disposed of as construction waste in most cases after properly being abated. It is required that a licensed asbestos contractor remove this material prior to demolition of this structure. **10,000 sq. ft.**

The roof mastic (sample 92) on the roof of the silo building is positive for asbestos at 10% by weight. Roof mastic is considered ***non-hazardous non-friable ACM*** and can be disposed of as construction waste in most cases after properly being abated. It is required that a licensed asbestos abatement contractor remove this material prior to demolition of this structure. **50 sq. ft.**

Office Building Roof

The roof mastic (sample 102) on the roof is positive for asbestos at 5-10% by weight. Roof mastic is considered ***non-hazardous non-friable ACM*** and can be disposed of as construction waste in most cases after properly being abated. It is required that a licensed asbestos abatement contractor remove this material prior to demolition of this structure. **100 sq. ft.**

South Warehouse

The joint compound (samples 106, 128) on the sheetrock walls and ceilings in rooms 1, 2, 3, 4, 5, 6, 7, 8, and the restroom in the south warehouse contains 1-2% asbestos by weight. By itself the joint compound would be considered a friable ACM. However, after composite sampling with the sheetrock (samples 107, 129), it is determined that the sheetrock walls & ceilings in these rooms contain less than 1% asbestos by weight. The texture (samples 104, 105) on the sheetrock walls and ceilings in rooms 7 and 8 also contains less than 1% asbestos. Materials that contain less than 1% asbestos by weight are considered ***non-friable non-hazardous ACCM*** and can be disposed of as construction waste in most cases after properly being abated. It is recommended that a licensed asbestos abatement contractor removes these materials prior to demolition of this structure. **2,850 sq. ft.**

The floor tile (samples 111, 115) in rooms 4, 5 & 6 in the south warehouse are positive for asbestos at greater than 1% by weight. Floor tile is considered ***non-***

hazardous non-friable ACM and can be disposed of as construction waste in most cases after properly being abated. It is required that a licensed asbestos contractor remove this material prior to demolition of this structure. **336 sq. ft.**

The 9x9 floor tile (sample 122) in rooms 1 & 2 is positive for asbestos at greater than 1% by weight. Floor tile is considered ***non-hazardous non-friable ACM*** and can be disposed of as construction waste in most cases after properly being abated. It is required that a licensed asbestos abatement contractor remove these materials prior to demolition of this structure. **144 sq. ft.**

The 12x12 floor tile (sample 133) in room 3 of the south warehouse is positive for asbestos at greater than 1% by weight. Floor tile is considered ***non-hazardous non-friable ACM*** and can be disposed of as construction waste in most cases after properly being abated. It is required that a licensed asbestos abatement contractor remove these materials prior to demolition of this structure. **192 sq. ft.**

The pipe insulation (sample 121) on piping in the 1st and 2nd floor of the old mill area in the south warehouse is positive for asbestos at 60% by weight. This type of material is considered ***friable ACM*** and must be handled and disposed of accordingly. It is required that a licensed asbestos abatement contractor remove this material prior to demolition of this structure. **40 linear feet**

North Warehouse

The sealant (sample 146) on the wood walls in the storage is positive for asbestos at 5-6% by weight. This type of material is considered ***non-hazardous non-friable ACM*** and can be disposed of as construction waste in most cases after properly being abated. It is required that a licensed asbestos abatement contractor remove these materials prior to demolition of this structure. **200 sq. ft.**

South Warehouse Roof

The roof mastic (samples 163, 164) on the roof where the roofing meets the parapet walls is positive for asbestos at 5-10% by weight. Roof mastic and sealants are considered ***non-hazardous non-friable ACM*** and can be disposed of as construction waste in most cases after properly being abated. It is required that a licensed asbestos abatement contractor remove this material prior to demolition of this structure. **200 sq. ft.**

North Warehouse Roof

The roof mastic (sample 174) on the north warehouse is positive for asbestos at 10% by weight. Roof mastic and sealants are considered ***non-hazardous non-friable ACM*** and can be disposed of as construction waste in most cases after properly being abated. It is required that a licensed asbestos abatement contractor remove this material prior to demolition of this structure. **50 sq. ft.**

US EPA NESHAP 40 CFR Part 61

Based on our inspection, sampling, subsequent laboratory analysis and regulatory guidelines affecting this site, the types of ACM identified in this report require removal (in most cases) prior to demolition and/or renovation procedures to comply with local, state and federal agencies. **The US EPA NESHAP (40 CFR Part 61 – November 20, 1990) requires materials containing greater than one percent asbestos be removed prior to renovation or demolition.**

f those materials are friable or likely to become friable due to the forces expected to act upon them during renovation or demolition, they become a regulated asbestos containing material (RACM) and require a 10-day notification to the local Air Pollution Control District prior to abatement. Non-friable and non-regulated ACM, in most cases, may be disposed of as construction debris in a landfill which accepts ordinary construction debris.

All friable waste containing more than 1% asbestos (RACM) should be manifested as hazardous waste for disposal purposes.

CAL OSHA--------Construction Industry--------8CCR, 1529

The construction industry standard covers employees engaged in demolition, construction and the following related activities likely to involve asbestos exposure: removal, encapsulation, alteration, repair, maintenance, insulation, spill emergency cleanup, transportation, disposal and storage of ACM. **CAL OSHA worker health and safety regulations apply during any disturbance of ACM by a person while in the employ of another.** This is true regardless of friability or quantity disturbed.

If there is greater than 100 square feet of ACM which will be affected by the demolition, a California Licensed Contractor who is registered with CAL OSHA for asbestos is required. The regulations regarding asbestos are found in Title 8 CCR Section 1529, and also include formal notification requirements to CAL OSHA at least 24 hours prior to removal. It is required that removal be conducted with the material(s) kept in a wetted state in order to contain dust and hazardous emissions.

Demolition contractors typically require that a building owner/operator accept responsibility for removal of all ACM found during the building inspection prior to start of demolition activities.

LIMITATIONS OF LIABILITY

Conclusions and recommendations presented in this report are qualitative judgments based on the prevailing regulations and accepted industry standards at the time of the report issuance. Leon Environmental Services provides no other guarantees, either expressed or implied. **All quantities of materials listed herein are estimates for sampling purposes only, and should be verified by owner representative or an abatement contractor prior to asbestos abatement.**

The nature of demolition and asbestos abatement is such that materials can be uncovered which previously were unknown to exist. Therefore, Leon Environmental Services cannot be responsible for materials not previously detected due to lack of accessibility or concealment, although every effort was made during the inspection to detect all suspect materials. **If any materials other than those included herein are discovered during renovation or demolition, it must be assumed that the materials are asbestos containing, and should be treated accordingly until further testing and analysis is performed.**

The data interpretations and recommendations are based solely on information available to Leon Environmental Services at the time of our inspection. The customer recognizes that site conditions or accessibility may vary, from those encountered at the time of our inspection and sample collection. Varying conditions or access could result in additional information that would lead us to revise conclusions and recommendations. Leon Environmental Services will not be responsible for the interpretation or use by others of information contained within this report.

Richard Danny Leon

Digitally signed by Richard Danny Leon
DN: cn=Richard Danny Leon, o=Leon Environmental Services, ou, email=leonenviro@comcast.net, c=US
Date: 2019.07.15 07:30:22 -07'00'

Richard "Danny" Leon
Certified Asbestos Consultant
Certification No. 04-3708

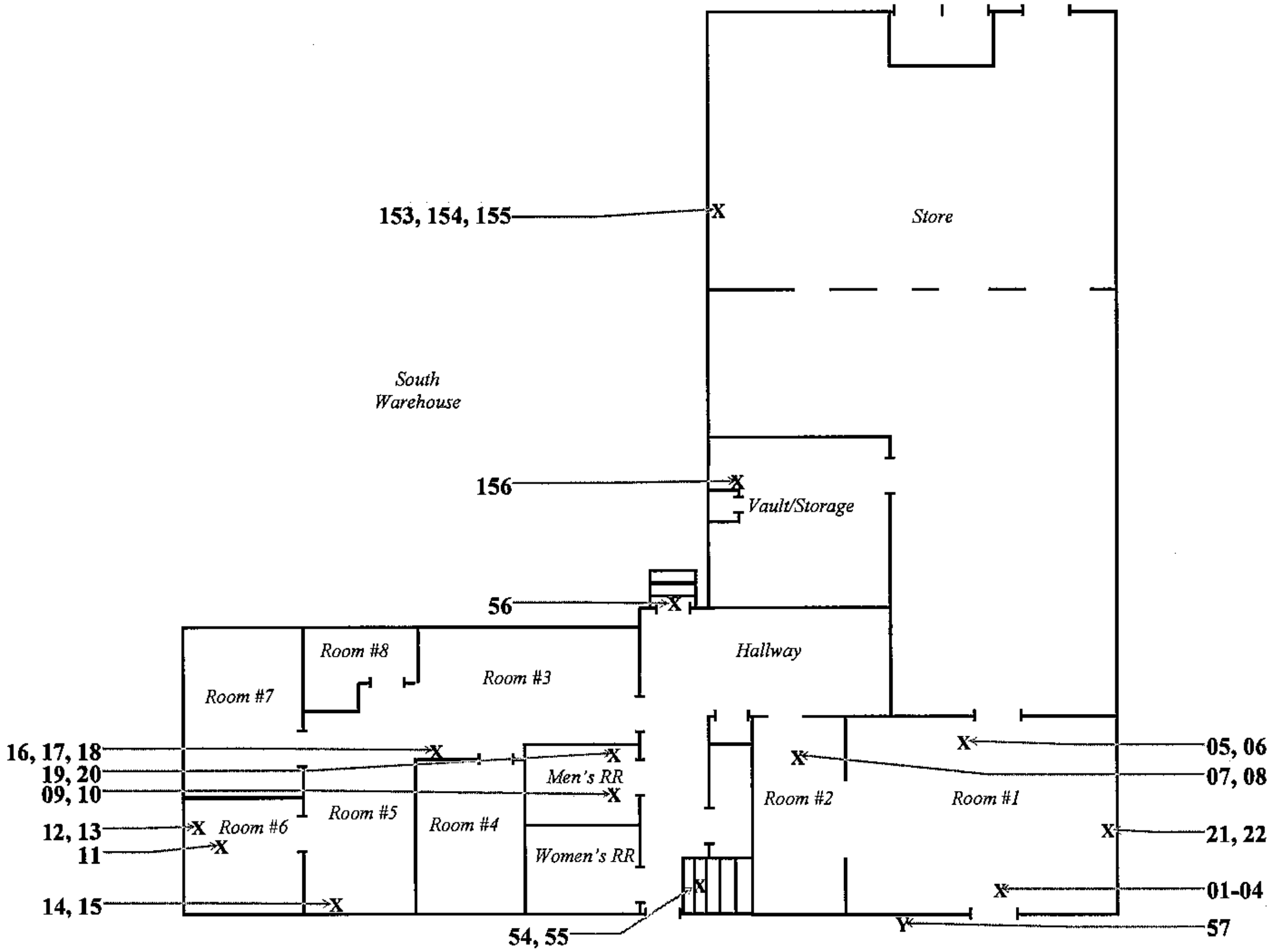
Date

*Abbreviation Key:
Asbestos Containing Material – ACM (Contains greater than 1% asbestos by weight)
Asbestos Containing Construction Material – ACCM (Contains less than 1% asbestos by weight)
Vinyl Asbestos Tile – VAT
No Asbestos Detected – N.A.D or N.D.
Homogeneous – H
Not Sampled – NS

Leon Environmental Services

Richard "Danny" Leon CAC Certification No. 04-3708
Tommy Leon CAC Certification No. 05-3882

Job S96-19 / Sample Location Diagram
Old Feed Mill & Silo's – Office Building – 1st Floor / 315 N. H Street, Fresno, CA
Erik Bowen / Bowen Engineering
Drawing not to Scale

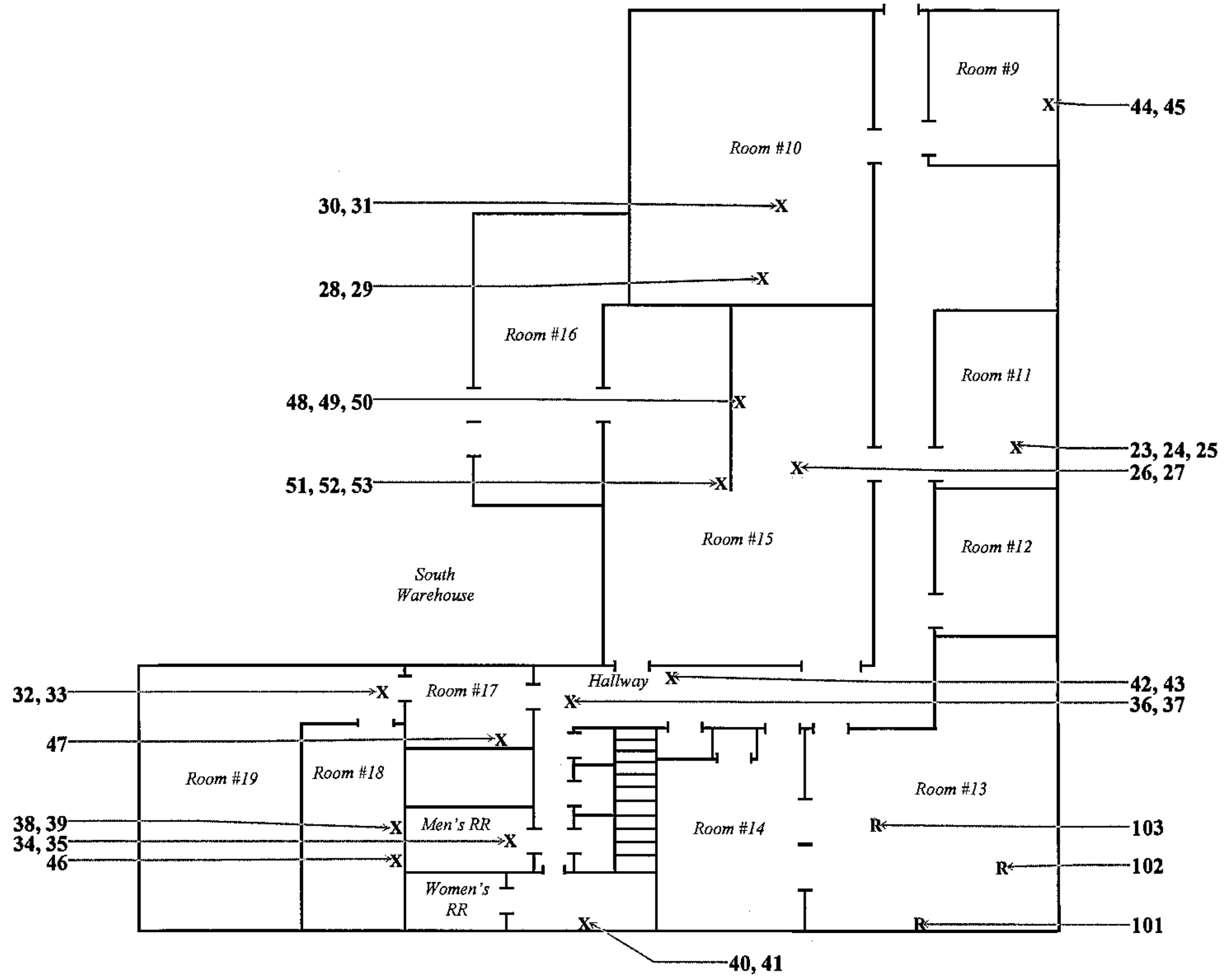


Y = Exterior Samples
X = Interior Samples
R = Roof Samples

Leon Environmental Services

Richard "Danny" Leon CAC Certification No. 04-3708
Tommy Leon CAC Certification No. 05-3882

Job S96-19 / Sample Location Diagram
Old Feed Mill & Silos – Office Building – 2nd Floor / 315 N. H Street, Fresno, CA
Erik Bowen / Bowen Engineering
Drawing not to Scale



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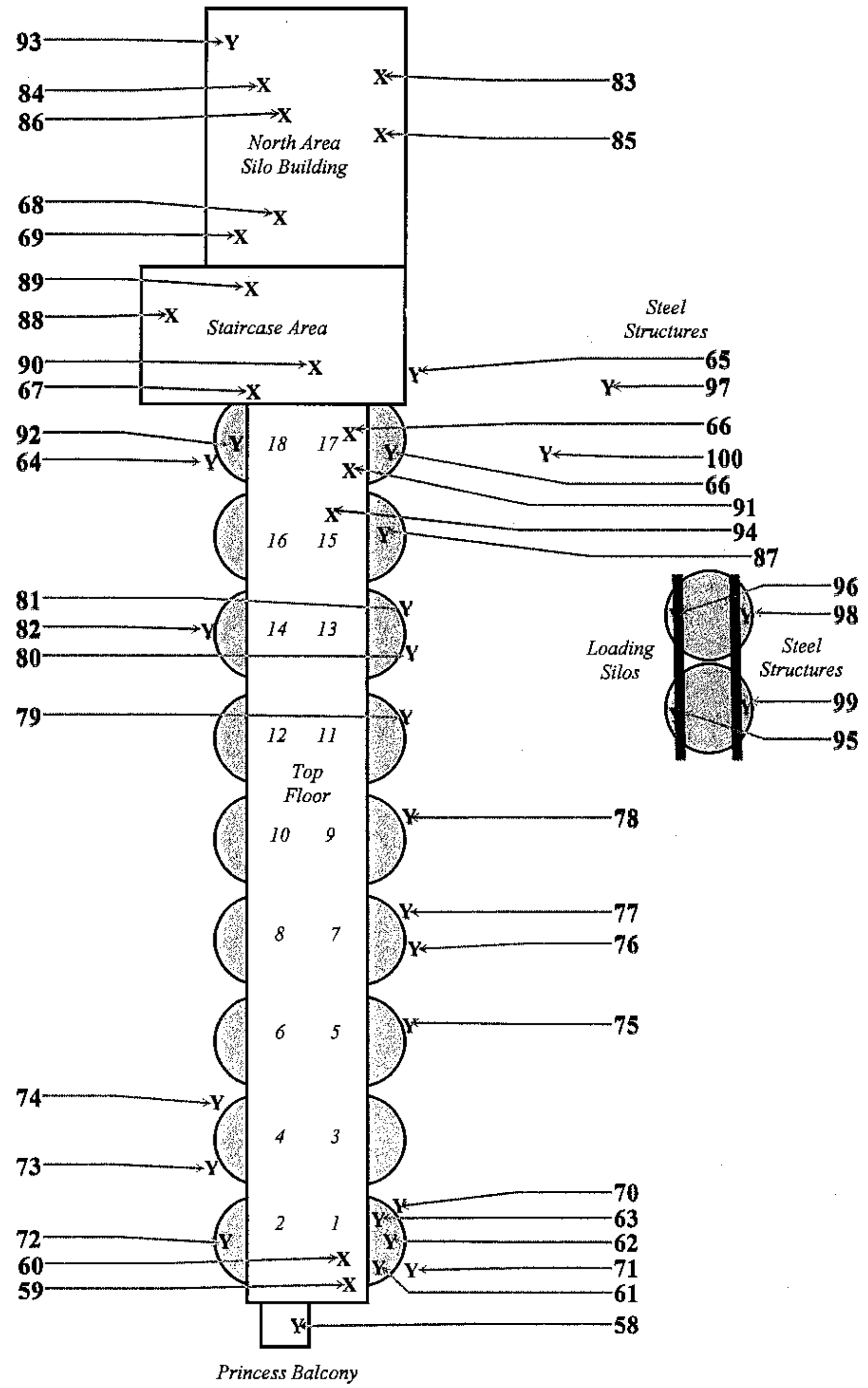
Leon Environmental Services

Richard "Danny" Leon CAC Certification No. 04-3708
Tommy Leon CAC Certification No. 05-3882

Job S96-19 / Sample Location Diagram
Old Feed Mill & Silos / 315 N. H Street, Fresno, CA
Erik Bowen / Bowen Engineering
Drawing not to Scale



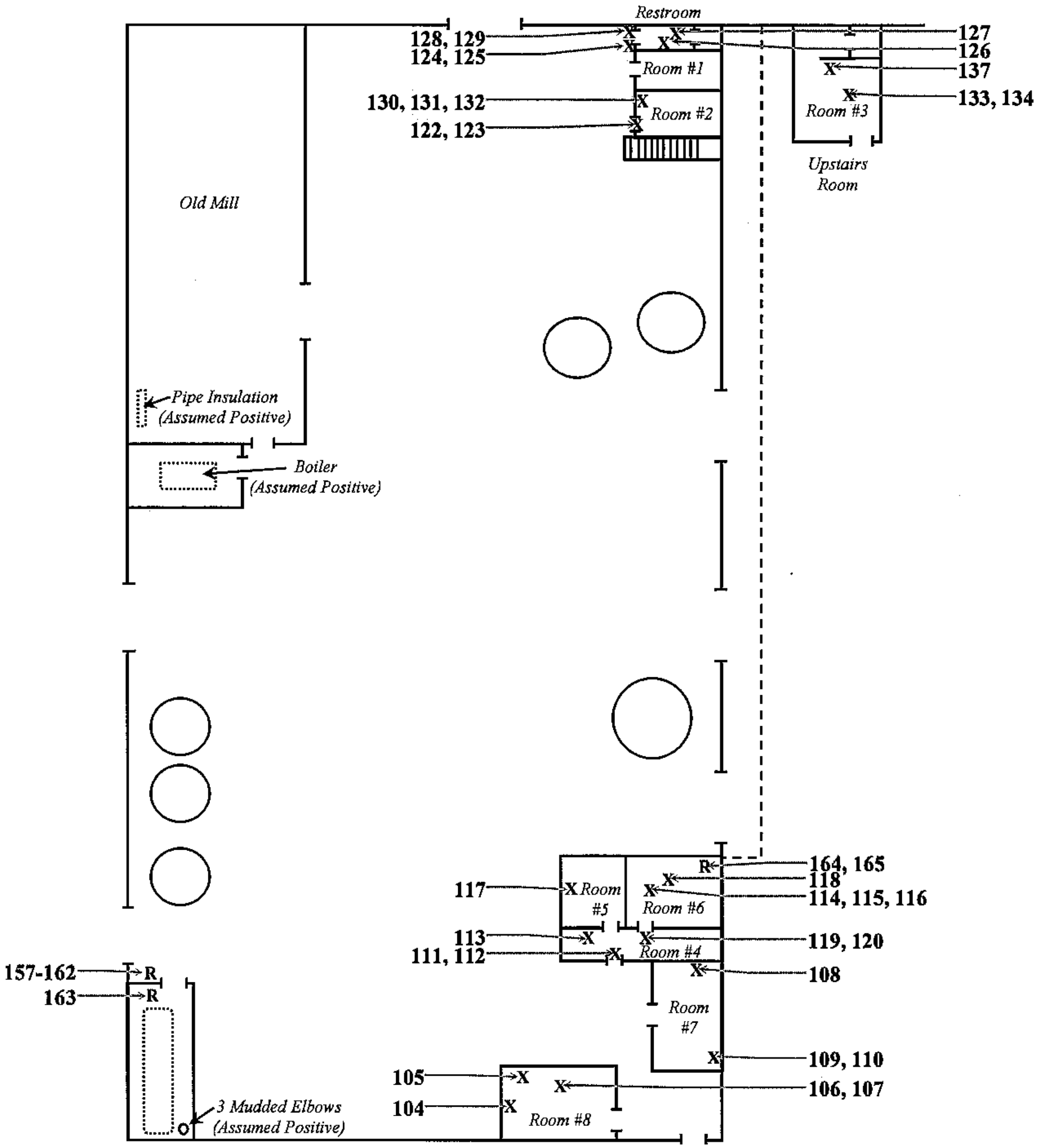
Y = Exterior Samples
X = Interior Samples
R = Roof Samples

N

Leon Environmental Services

Richard "Danny" Leon CAC Certification No. 04-3708
Tommy Leon CAC Certification No. 05-3882

Job S96-19 / Sample Location Diagram
Old Feed Mill & Silos – South Warehouse & Old Mill / 315 N. H Street, Fresno, CA
Erik Bowen / Bowen Engineering
Drawing not to Scale



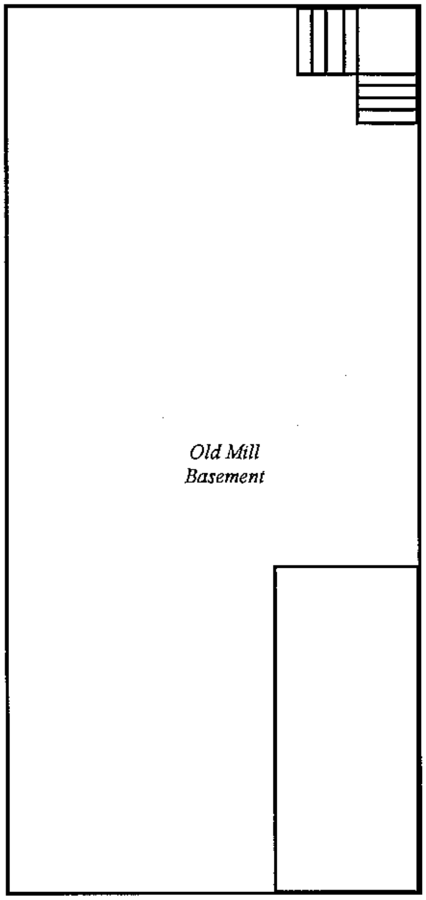
Y = Exterior Samples
X = Interior Samples
R = Roof Samples

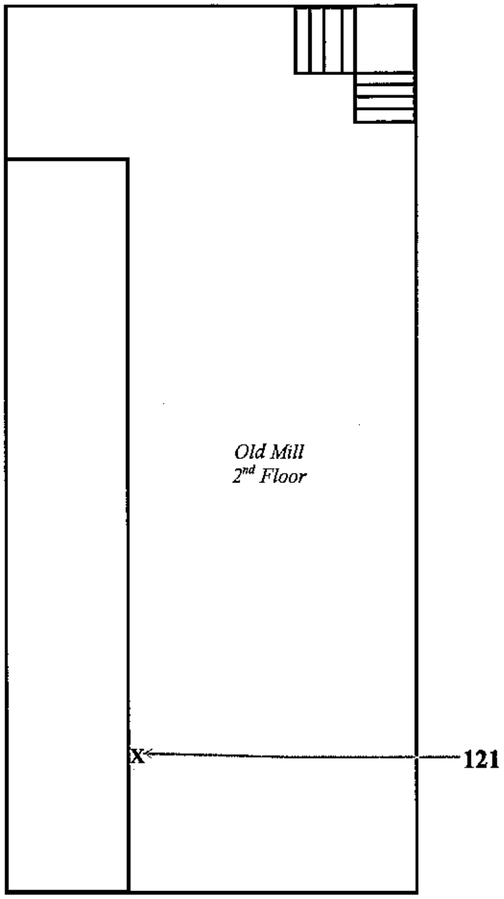
N

4545 N. Brawley Ave., Suite 104, Fresno, CA 93722
Phone: 559.274.9200 Fax: 559.274.9240 Email: LeonEnviro@comcast.net

Leon Environmental Services
Richard "Danny" Leon CAC Certification No. 04-3708
Tommy Leon CAC Certification No. 05-3882

Job S96-19 / Sample Location Diagram
Old Feed Mill & Silos – Old Feed Mill Basement & 2nd Floor / 315 N. H Street, Fresno, CA
Erik Bowen / Bowen Engineering
Drawing not to Scale





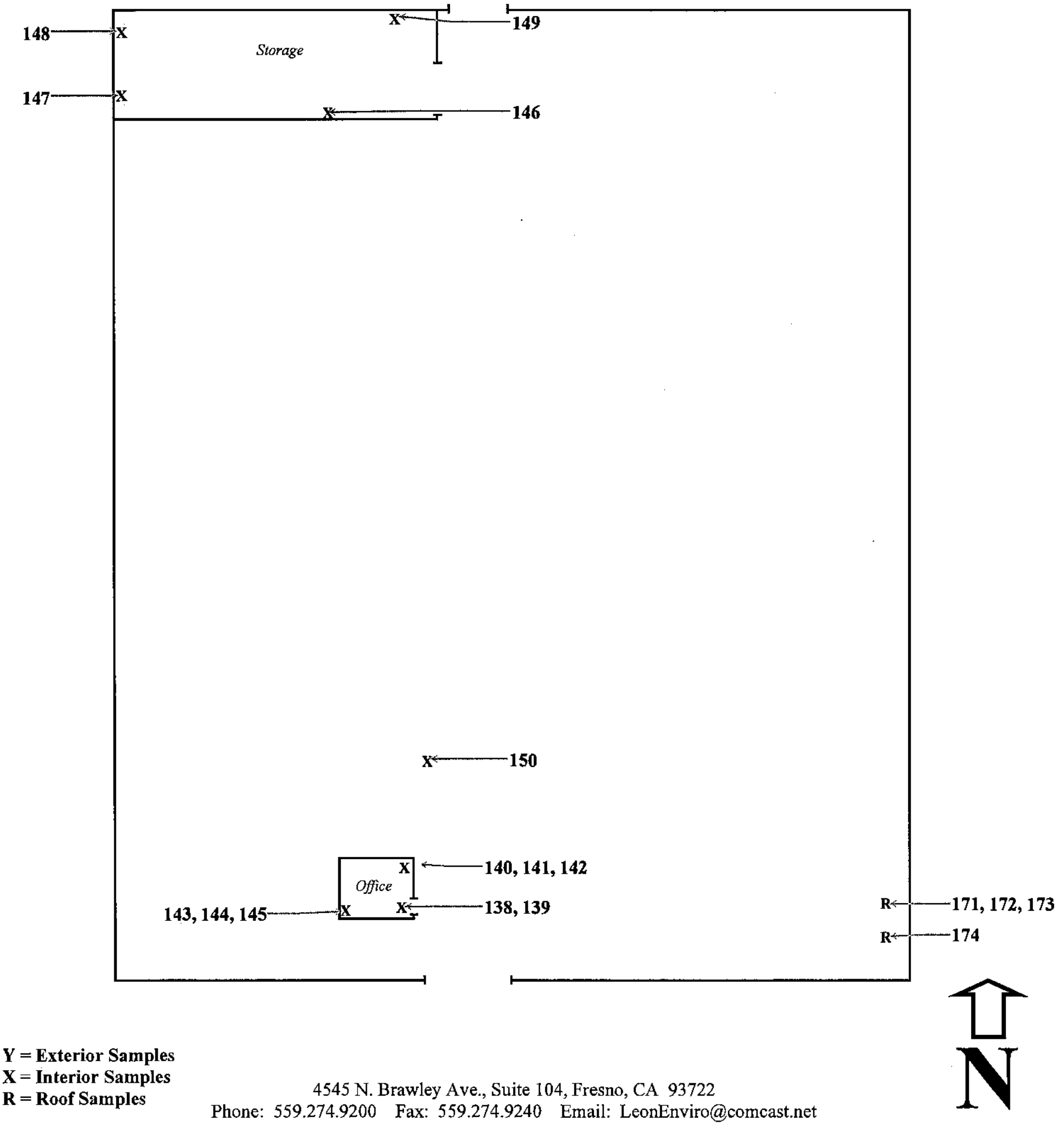
Y = Exterior Samples
X = Interior Samples
R = Roof Samples

N

Leon Environmental Services

Richard "Danny" Leon CAC Certification No. 04-3708
Tommy Leon CAC Certification No. 05-3882

Job S96-19 / Sample Location Diagram
Old Feed Mill & Silos – North Warehouse / 315 N. H Street, Fresno, CA
Erik Bowen / Bowen Engineering
Drawing not to Scale



Y = Exterior Samples
X = Interior Samples
R = Roof Samples

Leon Environmental Services

139-136.

4545 N. Brawley Ave., Suite 104, Fresno, CA 93722 Phone: 559.274.9200 Fax: 559.274.9240 Email: LeonEnviro@comcast.net

Customer: Erik Bowen **Company:** Bowen Engineering

Date: July 1, 2019 **Job No.** S96-19

Analysis PLM **Turn Around:** 2hr Rush Same Day 24hr 48hr [✓ 3-5 days]

Inspection Site : Old Feed Mill & Silos: 315 N. H Street, Fresno, CA

Sample No	Location	Material			Quantity
		Color	Type	Friable	
	2 Story Office Building				
01	Room #1 Floor	Gray Streaks	12"x12" Floor Tile (Top Layer)		
02	Room #1 Floor		Adhesive		
03	Room #1 Floor		Floor Tile (Bottom Layer)		
04	Room #1 Floor		Adhesive		
05	Room #1 Floor	Tan Streaks	12"x12" Floor Tile		
06	Room #1 Floor		Adhesive		
07	Room #2 Floor	Tan	12"x12" Floor Tile		
08	Room #2 Floor		Adhesive		
09	1st Floor Men's Restroom Floor	Dark Tan	12"x12" Floor Tile		
10	1st Floor Men's Restroom Floor		Adhesive		
11	Room #6 Ceiling		2'x4' Acoustic Ceiling Panel		
12	Room #6 Ceiling		12"x12" Acoustic Ceiling Tile		
13	Room #6 Ceiling	Brown	Ceiling Tile Mastic		
14	Room #5 Floor	Green Streak	12"x12" Floor Tile		
15	Room #5 Floor	Black	Floor Tile Mastic		
16	Room #3 Wall		Texture/Color Coat		
17	Room #3 Wall		Plaster		
18	Room #3 Wall		Button Board		
19	1st Floor Men's Restroom Wall		Color Coat		

Relinquished By Date 7/1/19

Received By Date 7/2/19

Leon Environmental Services

4545 N. Brawley Ave., Suite 104, Fresno, CA 93722 Phone: 559.274.9200 Fax: 559.274.9240 Email: LeonEnviro@comcast.net

Customer: Erik Bowen **Company:** Bowen Engineering

Date: July 1, 2019 **Job No.** S96-19

Analysis PLM **Turn Around:** 2hr Rush Same Day 24hr 48hr [✓ 3-5 days]

Inspection Site : Old Feed Mill & Silos: 315 N. H Street, Fresno, CA

Sample No	Location	Material				Quantity
		Color	Type		Friable	
20	1st Floor Men's Wall		Plaster			
21	Room #1 Wall		Color Coat			
22	Room #1 Wall		Plaster			
23	Room #11 Floor		Carpet Glue			
24	Room #11 Floor	Dark Brown	9"x9" Floor Tile			
25	Room #11 Floor	Black	Floor Tile Mastic			
26	Room #15 Floor	Gray	Linoleum			
27	Room #15 Floor		Adhesive			
28	Room #10 Floor	Beige	Linoleum			
29	Room #10 Floor		Adhesive			
30	Room #10 Floor	Beige	12"x12" Floor Tile			
31	Room #10 Floor	Black	Floor Tile Mastic			
32	Room #19 Floor	Dark Tan	12"x12" Floor Tile			
33	Room #19 Floor		Adhesive			
34	2nd Floor Men's Restroom Floor	Dark Beige	12"x12" Floor Tile			
35	2nd Floor Men's Restroom Floor	Black	Floor Tile Mastic			
36	2nd Floor Hallway Floor	Dark Brown	9"x9" Floor Tile			
37	2nd Floor Hallway Floor	Black	Floor Tile Mastic			
38	Room #18 Wall		Color Coat			
39	Room #18 Wall		Plaster			

Relinquished By Date 7/1/19 **Received By** Date 7/2/19

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Customer: Erik Bowen **Company:** Bowen Engineering

Date: July 1, 2019 **Job No.** S96-19

Analysis PLM **Turn Around:** 2hr Rush Same Day 24hr 48hr [✓ 3-5 days]

Inspection Site : Old Feed Mill & Silos: 315 N. H Street, Fresno, CA

Sample No	Location	Material			Quantity
		Color	Type	Friable	
40	2nd Floor Women's Restroom Wall		Color Coat		
41	2nd Floor Women's Restroom Wall		Plaster		
42	2nd Floor Hallway Wall		Color Coat		
43	2nd Floor Hallway Wall		Plaster		
44	Room #9 Wall		Color Coat		
45	Room #9 Wall		Plaster		
46	Room #18 Wall		Wall Panel Adhesive		
47	Room #17 Wall		Basecove Mastic		
48	Room #15 Wall		Texture/Paint		
49	Room #15 Wall		Joint Compound		
50	Room #15 Wall		Sheetrock		
51	Room #15 Wall		Texture/Paint		
52	Room #15 Wall		Joint Compound		
53	Room #15 Wall		Sheetrock		
54	1st Floor Stair Steps	Brown	Sheet Flooring		
55	1st Floor Stair Steps		Adhesive		
56	1st Floor Steps Into S. Warehouse		Concrete		
57	Exterior Window		Window Putty		

Relinquished By Date 7/1/19 **Received By** Date 7/2/19

Leon Environmental Services

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Customer: Erik Bowen **Company:** Bowen Engineering

Date: July 1, 2019 **Job No.** S96-19

Analysis PLM **Turn Around:** 2hr Rush Same Day 24hr 48hr [✓ 3-5 days]

Inspection Site : Old Feed Mill & Silos: 315 N. H Street, Fresno, CA

Sample No	***Location***	***Material***				***Quantity***
		Color	*Type*		*Friable*	
	Silo Building					
58	Princess Balcony, Top Floor, Outside Silo #1	Clear	Sealant			
59	Top Floor, Inside, Top of Silo #1 Grain Hopper	White	Gasket			
60	Top Floor, Inside, Top of Silo #1	Clear	Sealant			
61	Top of Silo #1 Outside		Coating Over Foam			
62	Top of Silo #1 Outside		Caulking/Sealant			
63	Top of Silo #1 Outside		Weather Coating On Foam			
64	Top of Silo #18 Outside Fan		Gasket			
65	Exterior Window		Window Putty			
66	Top of Silo #17 Outside		Foam			
67	Level 3A Off Staircase Structural Steel		Silver Paint			
68	Level 3B Off Staircase Hopper		Gasket			
69	Level 3B Off Staircase Structural Steel		Silver Paint			
70	Ground Level Silo #1 Outside		Silver Paint			
71	Ground Level Silo #1 Outside		Concrete			
72	Ground Level Silo #2 Outside		Coating			
73	Ground Level Silo #4 Outside		Silver Paint			
74	Top of Silo #4 Outside		Silver Paint			
75	Ground Level Silo #5 Outside		Silver Paint			
76	Ground Level Silo #7 Outside		Silver Paint			

Relinquished By Date 7/1/19 **Received By** Date 7/2/19

Leon Environmental Services

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Customer: Erik Bowen **Company:** Bowen Engineering

Date: July 1, 2019 **Job No.** S96-19

Analysis PLM **Turn Around:** 2hr Rush Same Day 24hr 48hr [✓ 3-5 days]

Inspection Site : Old Feed Mill & Silos: 315 N. H Street, Fresno, CA

Sample No	Location	Material Color	Material Type		Material Friable	Quantity
77	Ground Level Silo #7 Outside		Concrete			
78	Ground Level Silo #10 Outside		Silver Paint			
79	Ground Level Silo #11 Outside	White	Paint/Coating			
80	Ground Level Silo #13 Outside	White	Paint/Coating			
81	Ground Level Silo #13 Outside		Concrete			
82	Ground Level Silo #14 Outside	White	Paint/Coating			
83	Ground Level Silo Building Main Room Pipe	Black	Insulation & Jacketing			
84	2nd Level Silo Building Main Room Pipe		Insulation			
85	Basement Level Silo Building Floor		Silver Paint On Concrete			
86	2nd Level Silo Building Main Room Floor		Silver Paint On Concrete			
87	Top of Silo #17 Outside		Transite Debris			
88	Ground Level Near Staircase		Concrete			
89	2nd Level Near Staircase		Concrete			
90	3rd Level Near Staircase		Concrete			
91	Top Level Near Staircase		Concrete			
92	Silo Building Roof - Northwest		Roof Mastic			
93	Silo Building Roof - North	White	Sealant			
94	Top Floor - North End Transformer		Black Insulation			

Relinquished By Date 7/1/19

Received By Date 7/2/19

Leon Environmental Services

4545 N. Brawley Ave., Suite 104, Fresno, CA 93722 Phone: 559.274.9200 Fax: 559.274.9240 Email: LeonEnviro@comcast.net

Customer: Erik Bowen **Company:** Bowen Engineering

Date: July 1, 2019 **Job No.** S96-19

Analysis PLM **Turn Around:** 2hr Rush Same Day 24hr 48hr [✓ 3-5 days]

Inspection Site : Old Feed Mill & Silos: 315 N. H Street, Fresno, CA

Sample No	*Location*	*Material*				*Quantity*
		Color	Type		Friable	
	Loading Silos					
95	Exterior Structural Steel		Silver Paint			
96	Exterior Structural Steel		Silver Paint			
97	Exterior Structural Steel		Silver Paint			
98	South Loading Silo		Silver Paint			
99	North Loading Silo		Silver Paint			
100	Exterior Walkway Flange		Sealant			
	Office Building Roof					
101	Roof		2 Layer Core			
102	Roof		Roof Mastic			
103	Roof		Parapit Cap			

Relinquished By Date 7/1/19

Received By Date 7/2/19

WESTERN ANALYTICAL LABORATORY, Inc.
TEST REPORT

NVLAP TESTING
NVLAP LAB CODE 200037

REPORT NO:	139-136	CLIENT:	Leon Environmental Services 4545 N. Brawley Ave., Suite 104 Fresno CA 93722
DATE COLLECTED:	July 1, 2019		
DATE RECEIVED:	July 2, 2019	ATTENTION:	Danny Leon (CAC# 04-3708)
DATE REQUIRED:	July 6, 2019	REFERENCE:	S96-19 Erik Bowen - Bowen Engineering Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SUBJECT: Polarized Light Microscopy Analysis for Asbestos; 103 samples

METHODOLOGY: "Method for the Determination of Asbestos in Bulk Building Materials" (EPA 600/R-93/116)*

ACCREDITED: National Institute of Standards and Technology (NVLAP) # 200037

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
2 Story Office Building				
01	Room #1 Floor Top layer 12x12 Floor tile	Granular Minerals Resin	None Detected	None Detected
02	Room #1 Floor Top layer Adhesive	Granular Minerals Organics	None Detected	None Detected
03	Room #1 Floor Bottom layer Floor tile	Granular Minerals Resin	Cellulose 1-2%	None Detected
04	Room #1 Floor Bottom layer Adhesive	Granular Minerals Organics	None Detected	None Detected
05	Room #1 Floor Bottom layer 12x12 Floor tile	Granular Minerals Resin	None Detected	None Detected

t: Trace (>1% = greater than 1%, <1% = less than 1%)

Note: Sample #101 was gravimetrically reduced by ashing before PLM analysis

Optical Microscopist

Mike Meladzhikyan, Laboratory Director

REPORT # 139-136 continued:

REFERENCE: S96-19 / Erik Bowen - Bowen Engineering / Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
06	Room #1 Floor Bottom layer Adhesive	Granular Minerals Organics	None Detected	None Detected
07	Room #2 Floor 12x12 Floor tile	Granular Minerals Resin	None Detected	None Detected
08	Room #2 Floor Adhesive	Granular Minerals Organics	None Detected	None Detected
09	1st Floor Men's Restroom Floor 12x12 Floor tile	Granular Minerals Resin	None Detected	None Detected
10	1st Floor Men's Restroom Floor Adhesive	Granular Minerals Organics	None Detected	None Detected
11	Room #6 Ceiling 2'x 4' acoustic ceiling panel	Granular Minerals Organics Perlite	Cellulose 30% Glass Wool 30%	None Detected
12	Room #6 Ceiling 12"x12" Acoustical ceiling tile	Granular Minerals Organics	Cellulose 90%	None Detected
13	Room # Ceiling Brown Ceiling tile Mastic	Granular Minerals Organics	None Detected	None Detected
14	Room #5 Floor 12x12 Floor tile	Granular Minerals Resin	None Detected	Chrysotile >1%
15	Room #5 Floor Black Floor tile mastic	Granular Minerals Organics (tar)	None Detected	None Detected

t: Trace >1% = greater than 1% <1 = less than 1%

Optical Microscopist

Mike Maladzhikyan, Laboratory Director

REPORT # 139-136 continued:

REFERENCE: S96-19 / Erik Bowen - Bowen Engineering / Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
16	Room #3 Wall Texture/ color coat	Granular Minerals Organics	None Detected	None Detected
17	Room #3 Wall Plaster	Granular Minerals Organics Gypsum	Cellulose <1%	None Detected
18	Room #3 Wall Button board	Granular Minerals Gypsum	Cellulose 10%	None Detected
19	1st Floor Men's Restroom Wall Color coat	Granular Minerals Organics	None Detected	None Detected
20	1st Floor Men's Restroom Wall Plaster	Granular Minerals Organics Gypsum	Cellulose <1%	None Detected
21	Room #1 Wall Color coat	Granular Minerals Organics	None Detected	None Detected
22	Room #1 Wall Plaster	Granular Minerals Organics Gypsum	Cellulose <1%	None Detected
23	Room #11 Floor Carpet glue	Granular Minerals Organics	None Detected	None Detected
24	Room #11 Floor 9x9 Floor tile	Granular Minerals Resin	None Detected	Chrysotile >1%
25	Room #11 Floor Black Floor tile mastic	Granular Minerals Organics (tar)	None Detected	None Detected

t: Trace >1% = greater than 1% <1 = less than 1%

Optical Microscopist

Mike Maladzhikyan, Laboratory Director

REPORT # 139-136 continued:

REFERENCE: S96-19 / Erik Bowen - Bowen Engineering / Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
26	Room #15 Floor Gray Linoleum	Granular Minerals Resin	Cellulose 15% Fiberglass 3%	None Detected
27	Room #15 Floor Adhesive	Granular Minerals Organics	None Detected	None Detected
28	Room #10 Floor Beige Linoleum	Granular Minerals Resin	None Detected	None Detected
29	Room #10 Floor Adhesive	Granular Minerals Organics	None Detected	None Detected
30	Room #10 Floor 12x12 Floor tile	Granular Minerals Resin	Cellulose 2%	None Detected
31	Room #10 Floor Black Floor tile mastic	Granular Minerals Organics (tar)	None Detected	Chrysotile 4-5%
32	Room #19 Floor 12x12 Floor tile	Granular Minerals Resin	None Detected	None Detected
33	Room #19 Floor Adhesive	Granular Minerals Organics	None Detected	None Detected
34	2nd Floor Men's Restroom Floor 12x12 Floor tile	Granular Minerals Resin	None Detected	Chrysotile >1%
35	2nd Floor Men's Restroom Floor Black Floor tile mastic	Granular Minerals Organics (tar)	None Detected	None Detected

t: Trace >1% = greater than 1% <1 = less than 1%

Optical Microscopist

Mike Maladzhikyan, Laboratory Director

REPORT # 139-136 continued:

REFERENCE: S96-19 / Erik Bowen - Bowen Engineering / Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
36	2nd Floor Hallway Floor 9x9 Floor tile	Granular Minerals Resin	None Detected	Chrysotile >1%
37	2nd Floor Hallway Floor Black Floor tile mastic	Granular Minerals Organics (tar)	None Detected	None Detected
38	Room #18 Wall Color coat	Granular Minerals Organics	None Detected	None Detected
39	Room #18 Wall Plaster	Granular Minerals Organics Perlite Gypsum	Cellulose <1%	None Detected
40	2nd Floor Women's Restroom Wall Color coat	Granular Minerals Organics	None Detected	None Detected
41	2nd Floor Women's Restroom Wall Plaster	Granular Minerals Organics Perlite Gypsum	Cellulose <1%	None Detected
42	2nd Floor Hallway Wall Color coat	Granular Minerals Organics	None Detected	None Detected
43	2nd Floor Hallway Wall Plaster	Granular Minerals Organics Perlite Gypsum	Cellulose <1%	None Detected
44	Room #9 Wall Color coat	Granular Minerals Organics	None Detected	None Detected
45	Room #9 Wall Plaster	Granular Minerals Organics Perlite Gypsum	Cellulose <1%	None Detected

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Optical Microscopist

Mike Maladzhikyan, Laboratory Director

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
46	Room #18 Wall Wall panel Adhesive	Granular Minerals Organics	None Detected	Chrysotile 4-5%
47	Room #17 Wall Base cove Adhesive	Granular Minerals Organics	None Detected	None Detected
48	Room #15 Wall Texture/ paint	Granular Minerals Organics	None Detected	None Detected
49	Room #15 Wall Joint compound	Granular Minerals Organics	None Detected	None Detected
50	Room #15 Wall Sheetrock	Granular Minerals Organics Gypsum	Cellulose 10% Fiberglass 1-2%	None Detected
51	Room #15 Wall Texture/ paint	Granular Minerals Organics	None Detected	None Detected
52	Room #15 Wall Joint compound	Granular Minerals Organics	None Detected	None Detected
53	Room #15 Wall Sheetrock	Granular Minerals Gypsum	Cellulose 10%	None Detected
54	1st Floor Stair Steps Brown Sheet flooring	Granular Minerals Resin	None Detected	None Detected
55	1st Floor Stair Steps Adhesive	Granular Minerals Organics	None Detected	None Detected

t: Trace   >1% = greater than 1%   <1 = less than 1%

Optical Microscopist

Mike Maladzhikyan, Laboratory Director

REPORT # 139-136 continued:

REFERENCE: S96-19 / Erik Bowen - Bowen Engineering / Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
56	1st Floor Steps into South Warehouse Concrete	Granular Minerals Mortar	None Detected	None Detected
57	Exterior Window Window putty	Granular Minerals Organics	None Detected	None Detected
		Silo Building		
58	Princess Balcony, Top Floor, outside Silo #1 Clear sealant	Granular Minerals Organics	None Detected	None Detected
59	Top Floor, inside, Top of Silo #1 Grain Hopper White gasket	Granular Minerals Organics	None Detected	None Detected
60	Top Floor, inside, Top of Silo #1 Clear sealant	Granular Minerals Organics	None Detected	None Detected
61	Top of Silo #1 Outside Coating over foam	Granular Minerals Organics	None Detected	None Detected
62	Top of Silo #1 Outside Caulking / sealant	Granular Minerals Organics	None Detected	Chrysotile 2-3%
63	Top of Silo #1 Outside Weather coating on foam	Granular Minerals Organics	None Detected	None Detected
64	Top of Silo #18 Outside Fan Gasket	Granular Minerals Organics	None Detected	None Detected
65	Exterior Window Window putty	Granular Minerals Organics	None Detected	None Detected

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Optical Microscopist

Mike Maladzhikyan, Laboratory Director

REPORT # 139-136 continued:

REFERENCE: S96-19 / Erik Bowen - Bowen Engineering / Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
66	Top of Silo #17 Outside Foam	Granular Minerals Organics	None Detected	None Detected
67	Level 3A off Staircase Structural Steel Silver paint	Granular Minerals Organics (tar)	None Detected	None Detected
68	Level 3B off staircase Hopper Gasket	Granular Minerals Organics	Cellulose 5%	None Detected
69	Level 3B off Staircase Structural Steel Silver paint	Granular Minerals Organics (tar)	None Detected	None Detected
70	Ground Level Silo #1 Outside Silver paint	Granular Minerals Organics (tar)	None Detected	Chrysotile 3%
71	Ground Level Silo #1 Outside Concrete	Granular Minerals Mortar	None Detected	None Detected
72	Ground Level Silo #2 Outside Coating	Granular Minerals Organics (tar)	None Detected	Chrysotile 3-4%
73	Ground Level Silo #4 Outside Silver paint	Granular Minerals Organics (tar)	None Detected	Chrysotile 4-5%
74	Top of Silo #4 Outside Silver paint	Granular Minerals Organics (tar)	None Detected	Chrysotile 4-5%
75	Ground Level Silo #5 Outside Silver paint	Granular Minerals Organics (tar)	None Detected	Chrysotile 4-5%

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Optical Microscopist

Mike Maladzhikyan, Laboratory Director

REPORT # 139-136 continued:

REFERENCE: S96-19 / Erik Bowen - Bowen Engineering / Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
76	Ground Level Silo #7 Outside Silver paint	Granular Minerals Organics (tar)	None Detected	Chrysotile 4-5%
77	Ground Level Silo #7 Outside Concrete	Granular Minerals Perlite	None Detected	None Detected
78	Ground Level Silo #10 Outside Silver paint	Granular Minerals Organics (tar)	None Detected	Chrysotile 2-3%
79	Ground Level Silo #11 Outside Paint / coating	Granular Minerals Organics	None Detected	None Detected
80	Ground Level Silo #13 Outside Paint / coating	Granular Minerals Organics Opaques	None Detected	None Detected
81	Ground Level Silo #13 Outside Concrete	Granular Minerals Mortar	None Detected	None Detected
82	Ground Level Silo #14 Outside Paint / coating	Granular Minerals Organics	None Detected	None Detected
83	Ground Level Silo Bldg. Main Room Pipe Insulation & jacketing	Granular Minerals Organics	None Detected	Chrysotile 20%
84	2nd Level Silo Bldg. Main Room Pipe Insulation	Granular Minerals Organics	Cellulose 5%	None Detected
85	Basement Level Silo Bldg. Floor Silver paint on Concrete	Granular Minerals Organics (tar)	None Detected	None Detected

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Optical Microscopist

Mike Maladzhikyan, Laboratory Director

REPORT # 139-136 continued:

REFERENCE: S96-19 / Erik Bowen - Bowen Engineering / Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
86	2nd Level Silo Bldg. Main Room Floor Silver paint on Concrete	Granular Minerals Organics (tar)	None Detected	None Detected
87	Top of Silo #17 Outside Transite debris	Granular Minerals Mortar	None Detected	Chrysotile 15%
88	Ground Level near Staircase Concrete	Granular Minerals Mortar	None Detected	None Detected
89	2nd Level near Staircase Concrete	Granular Minerals Mortar	None Detected	None Detected
90	3rd Level near Staircase Concrete	Granular Minerals Mortar	None Detected	None Detected
91	Top Level near Staircase Concrete	Granular Minerals Mortar	None Detected	None Detected
92	Silo Bldg. Roof – North West Roof mastic	Granular Minerals Organics (tar)	None Detected	Chrysotile 10%
93	Silo Bldg. Roof – North Sealant	Granular Minerals Organics	None Detected	None Detected
94	Top Floor – North End Transformer Black insulation	Granular Minerals Organics (tar)	Cellulose 1%	None Detected

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Optical Microscopist

Mike Maledzhikyan, Laboratory Director

REPORT # 139-136 continued:

REFERENCE: S96-19 / Erik Bowen - Bowen Engineering / Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
Loading Silos				
95	Exterior Structural Steel Silver paint	Granular Minerals Organics (tar)	None Detected	None Detected
96	Exterior Structural Steel Silver paint	Granular Minerals Organics	None Detected	None Detected
97	Exterior Structural Steel Silver paint	Granular Minerals Organics	None Detected	None Detected
98	South Loading Silo Silver paint	Granular Minerals Organics	None Detected	None Detected
99	North Loading Silo Silver paint	Granular Minerals Organics	None Detected	None Detected
100	Exterior Walkway Flange Sealant	Granular Minerals Organics	None Detected	None Detected
Office Building Roof				
101	Roof 2 layer Roof core	Granular Minerals Organics (tar)	Fiberglass 10%	None Detected
102	Roof Roof mastic	Granular Minerals Organics (tar)	None Detected	Chrysotile 10%
103	Roof Parapet cap	Granular Minerals Organics (tar)	None Detected	Chrysotile 5% (from Roof mastic)

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Optical Microscopist

Mike Maladzhikyan, Laboratory Director

Leon Environmental Services

4545 N. Brawley Ave., Suite 104, Fresno, CA 93722 Phone: 559.274.9200 Fax: 559.274.9240 Email: LeonEnviro@comcast.net

139-165

Customer: Erik Bowen **Company:** Bowen Engineering

Date: July 2, 2019 **Job No.** S96-19

Analysis PLM **Turn Around:** 3-5 Days

Inspection Site : Old Feed Mill & Silos: 315 N. H Street, Fresno, CA

Sample No	***Location***	***Material***		***Quantity***
		Color	*Type*	
	South Warehouse			
104	Room 8 Walls and Ceiling		Texture	
105	Room 8 Walls and Ceiling		Texture	
106	Room 8 Walls and Ceiling		Joint Compound - Comp with Sheetrock if >1%	
107	Room 8 Walls and Ceiling		Sheetrock	
108	Room 7 Walls and Ceiling		Texture	
109	Room 7 Walls and Ceiling		Joint Compound - Comp with Sheetrock if >1%	
110	Room 7 Walls and Ceiling		Sheetrock	
111	Room 4 Floor	Brown	12x12 Floor Tile	
112	Room 4 Floor		Floor Tile Adhesive	
113	Room 4 Base Coves	Dark Brown	Base Cove Mastic	
114	Room 6 Floor		Carpet Adhesive	
115	Room 6 Floor		Floor Tile	
116	Room 6 Floor		Floor Tile Adhesive	
117	Room 5 Ceiling		Texture	
118	Room 6 Ceiling		Texture	
119	Room 4 Ceiling		Texture	
120	Room 4 Ceiling		Sheetrock	
121	Old Mill 2nd Floor Piping		Pipe Insulation	
122	Room 2 Floor		9x9 Floor Tile	

Relinquished By Date 07/02/19

Received By Date 7/3/19

Leon Environmental Services

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Customer: Erik Bowen **Company:** Bowen Engineering

Date: July 2, 2019 **Job No.** S96-19

Analysis PLM **Turn Around:** 3-5 Days

Inspection Site : Old Feed Mill & Silos: 315 N. H Street, Fresno, CA

Sample No	*Location*	*Material*		*Quantity*
		Color	Type	
123	Room 2 Floor		Floor Tile Adhesive	
124	Restroom Floor		12x12 Floor Tile	
125	Restroom Floor		Floor Tile Adhesive	
126	Restroom Walls		Wainscot Adhesive	
127	Restroom Walls and Ceiling		Texture	
128	Restroom Walls and Ceiling		Joint Compound - Comp with Sheetrock if >1%	
129	Restroom Walls and Ceiling		Sheetrock	
130	Room 2 Walls and Ceiling		Texture	
131	Room 2 Walls and Ceiling		Joint Compound - Comp with Sheetrock if >1%	
132	Room 2 Walls and Ceiling		Sheetrock	
133	Room 3 Floor		12x12 Floor Tile	
134	Room 3 Floor		Floor Tile Adhesive	
135	Room 3 Walls and Ceiling		Texture	
136	Room 3 Walls and Ceiling		Joint Compound - Comp with Sheetrock if >1%	
137	Room 3 Walls and Ceiling		Sheetrock	
	North Warehouse			
138	Office Floor		12x12 Floor Tile	
139	Office Floor		Floor Tile Adhesive	
140	Office Walls and Ceiling		Texture	
141	Office Walls and Ceiling		Joint Compound - Comp with Sheetrock if >1%	

Relinquished By Date 07/02/19

Received By Date 7/3/19

Leon Environmental Services

4545 N. Brawley Ave., Suite 104, Fresno, CA 93722 Phone: 559.274.9200 Fax: 559.274.9240 Email: LeonEnviro@comcast.net

Customer: Erik Bowen **Company:** Bowen Engineering

Date: July 2, 2019 **Job No.** S96-19

Analysis PLM **Turn Around:** 3-5 Days

Inspection Site : Old Feed Mill & Silos: 315 N. H Street, Fresno, CA

Sample No	*Location*	*Material* Color	*Material* Type	*Quantity*
142	Office Walls and Ceiling		Sheetrock	
143	Office Walls and Ceiling		Texture	
144	Office Walls and Ceiling		Joint Compound - Comp with Sheetrock if >1%	
145	Office Walls and Ceiling		Sheetrock	
146	Storage Wood Walls		Sealant on Wood	
147	Storage Walls	On Brick	Plaster	
148	Storage Walls	On Brick	Plaster	
149	Storage Walls	On Brick	Plaster	
150	North Warehouse Foundation		Concrete	
	Feed Store			
151	Electrical Room Walls	On SR BB	Plaster	
152	Electrical Room Walls		Sheetrock Button Board	
153	Store Walls		Wall Covering	
154	Store Walls		Finish Coat	
155	Store Walls	On Brick	Plaster	
156	Vault Walls	On Brick	Plaster	
	South Warehouse Roof			
158	Roof South End Top Layer		Asphalt Shingle Roofing	
159	Roof South End Top Layer		Underlayment	
160	Roof South End 2nd Layer		Asphalt Shingle Roofing	

Relinquished By Date 07/02/19

Received By Date 7/3/19

Leon Environmental Services

4545 N. Brawley Ave., Suite 104, Fresno, CA 93722 Phone: 559.274.9200 Fax: 559.274.9240 Email: LeonEnviro@comcast.net

Customer: Erik Bowen **Company:** Bowen Engineering

Date: July 2, 2019 **Job No.** S96-19

Analysis PLM **Turn Around:** 3-5 Days

Inspection Site : Old Feed Mill & Silos: 315 N. H Street, Fresno, CA

Sample No	*Location*	*Material*		*Quantity*
		Color	Type	
161	Roof South End 2nd Layer		Underlayment	
162	Roof South End 3rd Layer		Asphalt Shingle Roofing	
163	Roof South End 3rd Layer		Underlayment	
164	Roof South End		Roof Mastic	
165	Spanish Tile Roof		Spanish Tile Mortar	
166	Roof - Middle, Top Layer		Asphalt Shingle Roofing	
167	Roof - Middle, 2nd Layer		Asphalt Shingle Roofing	
168	Roof - Middle, 3rd Layer		Asphalt Shingle Roofing	
169	Roof - Middle, 4th Layer		Underlayment	
170	Roof - Middle, Bottom Layer		Underlayment	
	North Warehouse Roof			
171	Roof Top Layer		Asphalt Shingle Roofing	
172	Roof 2nd Layer		Asphalt Rolled Roofing	
173	Roof 2nd Layer		Underlayment	
174	Roof		Roof Mastic	
	North Dock			
175	Top Foundation		Concrete	
176	Dock		Concrete	

Relinquished By Date 07/02/19 **Received By** Date 7/3/19

WESTERN ANALYTICAL LABORATORY, Inc.
TEST REPORT

REPORT NO:	139-165	CLIENT:	Leon Environmental Services 4545 N. Brawley Ave., Suite 104 Fresno CA 93722
DATE COLLECTED:	July 2, 2019		
DATE RECEIVED:	July 3, 2019	ATTENTION:	Danny Leon (CAC# 04-3708)
DATE REQUIRED:	July 9, 2019	REFERENCE:	S96-19 Erik Bowen - Bowen Engineering Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SUBJECT: Polarized Light Microscopy Analysis for Asbestos; 73 samples

METHODOLOGY: "Method for the Determination of Asbestos in Bulk Building Materials" (EPA 600/R-93/116)*

ACCREDITED: National Institute of Standards and Technology (NVLAP) # 200037

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
South Warehouse				
104	Room 8 Walls and Ceiling Texture	Granular Minerals Organics	None Detected	Chrysotile (t)
105	Room 8 Walls and Ceiling Texture	Granular Minerals Organics	None Detected	Chrysotile (t)
106	Room 8 Walls and Ceiling Joint compound	Granular Minerals Organics	None Detected	Chrysotile 1-2%
107	Room 8 Walls and Ceiling Sheetrock and joint compound composite	Granular Minerals Organics Gypsum	Cellulose 10% Fiberglass <1%	Chrysotile (t)
108	Room 7 Walls and Ceiling Texture	Granular Minerals Organics	None Detected	Chrysotile (t)

t: Trace (>1% = greater than 1%, <1% = less than 1%)

Optical Microscopist

Mike Maladzhikyan, Laboratory Director

REPORT # 139-165 continued:

REFERENCE: S96-19 / Erik Bowen - Bowen Engineering / Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
109	Room 7 Walls and Ceiling Joint compound	Granular Minerals Organics	None Detected	None Detected
110	Room 7 Walls and Ceiling Sheetrock	Granular Minerals Organics Gypsum	Cellulose 10% Fiberglass 1-2%	None Detected
111	Room 4 Floor 12x12 Floor tile	Granular Minerals Resin	None Detected	Chrysotile >1%
112	Room 4 Floor Floor tile Adhesive	Granular Minerals Organics	None Detected	None Detected
113	Room 4 Base Coves Base cove Adhesive, dark brown	Granular Minerals Organics	None Detected	None Detected
114	Room 6 Floor Carpet glue	Granular Minerals Organics	None Detected	None Detected
115	Room 6 Garage Floor tile	Granular Minerals Resin	None Detected	Chrysotile >1%
116	Room 6 Garage Floor tile Adhesive	Granular Minerals Organics	None Detected	None Detected
117	Room 5 Ceiling Texture	Granular Minerals Organics	None Detected	None Detected
118	Room 6 Ceiling Texture	Granular Minerals Organics	None Detected	None Detected

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Optical Microscopist

Mike Maladzhikyan, Laboratory Director

REFERENCE: S96-19 / Erik Bowen - Bowen Engineering / Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
119	Room 4 Ceiling Texture	Granular Minerals Organics	None Detected	None Detected
120	Room 4 Ceiling Sheetrock	Granular Minerals Gypsum	Cellulose 10%	None Detected
121	Old Mill 2nd Floor Piping Pipe insulation	Granular Minerals Organics Opaques	Cellulose 20%	Chrysotile 60%
122	Room 2 Floor 9x9 Floor tile	Granular Minerals Resin	None Detected	Chrysotile >1%
123	Room 2 Floor Floor tile Adhesive	Granular Minerals Organics	None Detected	None Detected
124	Restroom Floor 12x12 Floor tile	Granular Minerals Resin	None Detected	None Detected
125	Restroom Floor Floor tile Adhesive	Granular Minerals Organics	None Detected	None Detected
126	Restroom Walls Wainscot Adhesive	Granular Minerals Organics	None Detected	None Detected
127	Restroom Walls and Ceiling Texture	Granular Minerals Organics	None Detected	None Detected
128	Restroom Walls and Ceiling Joint compound	Granular Minerals Organics	None Detected	Chrysotile 1-2%

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Optical Microscopist

Mike Maladzhikyan, Laboratory Director

REPORT # 139-165 continued:

REFERENCE: S96-19 / Erik Bowen - Bowen Engineering / Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
129	Restroom Walls and Ceiling Sheetrock and joint compound composite	Granular Minerals Organics Gypsum	Cellulose 10% Fiberglass 1%	Chrysotile (t)
130	Room 2 Walls and Ceiling Texture	Granular Minerals Organics	None Detected	None Detected
131	Room 2 Walls and Ceiling Joint compound	Granular Minerals Organics	None Detected	None Detected
132	Room 2 Walls and Ceiling Sheetrock	Granular Minerals Gypsum	Cellulose 10%	None Detected
133	Room 3 Floor 12x12 Floor tile	Granular Minerals Resin	None Detected	Chrysotile >1%
134	Room 3 Floor Floor tile Adhesive	Granular Minerals Organics	None Detected	None Detected
135	Room 3 Walls and Ceiling Texture	Granular Minerals Organics	None Detected	None Detected
136	Room 3 Walls and Ceiling Joint compound	Granular Minerals Organics	None Detected	None Detected
137	Room 3 Walls and Ceiling Sheetrock	Granular Minerals Gypsum	Cellulose 10%	None Detected
North Warehouse				
138	Office Floor 12x12 Floor tile	Granular Minerals Resin	None Detected	None Detected

t: Trace >1% = greater than 1% <1 = less than 1%

Optical Microscopist

Mike Maladzhikyan, Laboratory Director

REPORT # 139-165 continued:

REFERENCE: S96-19 / Erik Bowen - Bowen Engineering / Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
139	Office Floor Floor tile Adhesive	Granular Minerals Organics	None Detected	None Detected
140	Office Walls and Ceiling Texture	Granular Minerals Organics	None Detected	None Detected
141	Office Walls and Ceiling Joint compound	Granular Minerals Organics	None Detected	None Detected
142	Office Walls and Ceiling Sheetrock	Granular Minerals Gypsum	Cellulose 10% Fiberglass 1%	None Detected
143	Office Walls and Ceiling Texture	Granular Minerals Organics	None Detected	None Detected
144	Office Walls and Ceiling Joint compound	Granular Minerals Organics	None Detected	None Detected
145	Office Walls and Ceiling Sheetrock	Granular Minerals Gypsum	Cellulose 10% Fiberglass <1%	None Detected
146	Storage Wood Walls Sealant on wood	Granular Minerals Organics (tar)	None Detected	Chrysotile 5-6%
147	Storage Walls Plaster	Granular Minerals Organics Mortar	None Detected	None Detected
148	Storage Walls Plaster	Granular Minerals Organics Mortar	None Detected	None Detected

t: Trace >1% = greater than 1% <1 = less than 1%

Optical Microscopist

Mike Maladzhikyan, Laboratory Director

REPORT # 139-165 continued:

REFERENCE: S96-19 / Erik Bowen - Bowen Engineering / Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
149	Storage Walls Plaster	Granular Minerals Organics Mortar	None Detected	None Detected
150	North Warehouse Foundation Concrete	Granular Minerals Mortar	None Detected	None Detected
Feed Store				
151	Electrical Room Walls Plaster	Granular Minerals Organics Perlite Gypsum	Cellulose <1%	None Detected
152	Electrical Room Walls Sheetrock Button board	Granular Minerals Gypsum	Cellulose 10%	None Detected
153	Store Walls Wall covering	Granular Minerals Organics Perlite Gypsum	Cellulose 70%	None Detected
154	Store Walls Finish coat	Granular Minerals Organics	None Detected	None Detected
155	Store Walls Plaster	Granular Minerals Organics Perlite Gypsum	Cellulose <1%	None Detected
156	Vault Walls Plaster	Granular Minerals Organics Gypsum	Cellulose <1%	None Detected
South Warehouse Roof				
157	Roof South End top layer Asphalt shingle roofing	Granular Minerals Organics (tar)	Fiberglass 4-5%	None Detected

t: Trace >1% = greater than 1% <1 = less than 1%

Optical Microscopist

Mike Maladzhikyan, Laboratory Director

REPORT # 139-165 continued:

REFERENCE: S96-19 / Erik Bowen - Bowen Engineering / Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
158	Roof South End top layer Underlayment	Granular Minerals Organics (tar)	Cellulose 40%	None Detected
159	Roof South End 2nd layer Asphalt shingle roofing	Granular Minerals Organics (tar)	Cellulose 10% Synthetics 2%	None Detected
160	Roof South End 2nd layer Underlayment	Granular Minerals Organics (tar)	Cellulose 40% Synthetics 5%	None Detected
161	Roof South End 3rd layer Asphalt shingle roofing	Granular Minerals Organics (tar)	Cellulose 10% Synthetics 2%	None Detected
162	Roof South End 3rd layer Underlayment	Granular Minerals Organics (tar)	Cellulose 40% Synthetics 5%	None Detected
163	Roof Roofing shingle w/ mastic	Granular Minerals Organics (tar)	Fiberglass 2-3%	Chrysotile 5% (from Roof mastic)
164	Roof South End Roof mastic	Granular Minerals Organics (tar)	None Detected	Chrysotile 10%
165	Spanish Tile Roof Spanish tile mortar	Granular Minerals Mortar	None Detected	None Detected
166	Roof – Middle, Top layer Asphalt shingle roofing	Granular Minerals Organics (tar)	Fiberglass 4-5%	None Detected
167	Roof – Middle, 2nd layer Asphalt shingle roofing	Granular Minerals Organics (tar)	Fiberglass 4-5%	None Detected

t: Trace >1% = greater than 1% <1 = less than 1%

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Mike Maladzhikyan, Laboratory Director

REPORT # 139-165 continued:

REFERENCE: S96-19 / Erik Bowen - Bowen Engineering / Old Feed Mill & Silos: 315 N. H Street Fresno, CA

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NON-FIBROUS MATERIALS	OTHER FIBROUS MATERIALS	ASBESTIFORM MINERALS
168	Roof – Middle, 3rd layer Asphalt shingle roofing	Granular Minerals Organics (tar)	Fiberglass 4-5%	None Detected
169	Roof – Middle, 4th layer Underlayment	Granular Minerals Organics (tar)	Fiberglass 10%	None Detected
170	Roof – Middle, Bottom layer Underlayment	Granular Minerals Organics (tar)	Fiberglass 10%	None Detected
North Warehouse Roof				
171	Roof top layer Asphalt shingle roofing	Granular Minerals Organics (tar)	Fiberglass 4-5%	None Detected
172	Roof 2nd layer Asphalt rolled roofing	Granular Minerals Organics (tar)	Cellulose 10%	None Detected
173	Roof 2nd layer Underlayment	Granular Minerals Organics (tar)	Cellulose 40%	None Detected
174	Roof Roof mastic	Granular Minerals Organics (tar)	None Detected	Chrysotile 10%
North Dock				
175	Top Foundation Concrete	Granular Minerals Mortar	None Detected	None Detected
176	Dock Concrete	Granular Minerals Mortar	None Detected	None Detected

t: Trace >1% = greater than 1% <1 = less than 1%

Optical Microscopist

Mike Maladzhikyan, Laboratory Director

WESTERN ANALYTICAL LABORATORY, Inc.
POINT COUNT SUMMARY

NVLAP TESTING
NVLAP LAB CODE 200037

REPORT NO: 139-165-P
DATE COLLECTED: July 2, 2019
DATE RECEIVED: July 3, 2019
DATE REQUIRED: July 9, 2019

CLIENT: Leon Environmental Services
4545 N. Brawley Ave., Suite 104
Fresno CA 93722

ATTENTION: Danny Leon CAC# 04-3708

REFERENCE: S96-19
Erik Bowen - Bowen Engineering
Old Feed Mill & Silos: 315 N. H Street
Fresno, CA

SUBJECT: Polarized Light Microscopy Analysis for Asbestos; 5 samples

METHODOLOGY: "Method for the Determination of Asbestos in Bulk Building Materials" (EPA 600/R-93/116)*, *Point Count Method*

ACCREDITED: National Institute of Standards and Technology (NVLAP) # 200037

SAMPLE ID NUMBER	SAMPLE LOCATION AND DESCRIPTION	NO. of FIELDS	ASBESTOS POINTS	ASBESTOS PERCENT	ASBESTOS TYPE
104	Room 8 Walls and Ceiling Texture	400	1	**0.25%**	Chrysotile
105	Room 8 Walls and Ceiling Texture	400	2	**0.50%**	Chrysotile
107	Room 8 Walls and Ceiling Sheetrock and joint compound composite	400	0	**0.00%**	Chrysotile
108	Room 7 Walls and Ceiling Texture	400	0	0.00%	Chrysotile
129	Restroom Walls and Ceiling Sheetrock and joint compound composite	400	0	**0.00%**	Chrysotile

Optical Microscopist

Mike Maladzhikyan, Laboratory Director

APPENDIX E

Environmental Noise Assessment

Producers Dairy Environmental Noise Assessment

Draft Environmental Impact Report

City of Fresno, California

April 17, 2020

jcb Project # 2019-151

Prepared for:

De Novo Planning Group

City of Fresno

Attn:
Ben Ritchie
1020 Suncast Lane, Suite 106
El Dorado Hills, California 95762

Prepared by:

j.c. brennan & associates, Inc.

Jim Brennan

Jim Brennan
President
Member, Institute of Noise Control Engineering (INCE)

This section provides a general description of the existing noise sources in the project vicinity, a discussion of the regulatory setting, and identifies potential noise impacts associated with the proposed project. Project impacts are evaluated relative to applicable noise level criteria and to the existing ambient noise environment. Mitigation measures have been identified for significant noise-related impacts.

3.12.1 ENVIRONMENTAL SETTING

KEY TERMS

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.
CNEL	Community noise equivalent level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
$L_{(n)}$	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L_{50} is the sound level exceeded 50 percent of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
SEL	Sound exposure levels. A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-

hour average, it tends to disguise short-term variations in the noise environment. CNEL is similar to L_{dn}, but includes a +5 dB penalty for evening noise. Table 3.12-1 lists several examples of the noise levels associated with common situations.

TABLE 3.12-1: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	*NOISE LEVEL (DBA)*	*COMMON INDOOR ACTIVITIES*
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. NOVEMBER 2009.

EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual’s past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a 1 dBA change cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;

- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING NOISE LEVELS

Traffic Noise Levels

The FHWA Highway Traffic Noise Prediction Model (FHWA-RD 77-108) was used to develop L_{dn} (24-hour average) noise contours for the primary project-area roadways. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model predicts hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within 1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical 24-hour period.

Existing traffic volumes were obtained from the traffic study prepared for the project by the project traffic consultant, (Kittelson & Associates, March 2020). Day/night traffic distributions were based upon continuous hourly noise measurement data collected and file data for similar roadways. In addition, heavy truck use along each roadway was also provided by the traffic consultant. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated for existing conditions. The location of the continuous noise monitoring sites are shown on Figure 3.12-1. Table 3.12-2 shows the results of this analysis. Appendix A provides the complete inputs and results for the FHWA traffic noise modeling.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segment. In some locations sensitive receptors may receive shielding from noise barriers and/or buildings, or may be located at distances which vary from the assumed calculation distance. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the Project area roadway segments analyzed in this report. In some locations, no sensitive receptor locations were specifically identified. In this case, a standard reference distance of 100-feet from the roadway centerlines was used.

The actual distances to noise level contours may vary from the distances predicted by the FHWA model due to roadway curvature, grade, shielding from local topography or structures, elevated roadways, or elevated receivers. The distances reported in Table 3.12-2 are generally considered to be conservative estimates of noise exposure along the project-area roadways.

TABLE 3.12-2: PREDICTED EXISTING TRAFFIC NOISE LEVELS AT 100-FEET FROM ROADWAY CENTERLINES

ROADWAY	*SEGMENT*	*NOISE LEVEL AT 100-FEET, (L_{DN}), DB*	*DISTANCES TO TRAFFIC NOISE CONTOURS, L_{DN} (FEET)*	
			70 DB	*65 DB*
Weber Avenue	North of Thomas Ave	63	33	71
Weber Avenue	Thomas Ave to Belmont Ave	63	33	71
Belmont Avenue	West of Weber Avenue	63	35	75
Belmont Avenue	Weber Avenue to Stafford Ave	63	33	71
Belmont Avenue	Stafford Ave to Palm Ave	63	33	71
Belmont Avenue	West of Palm Ave	64	38	82
H Street	South of Belmont Ave	62	32	68
H Street	North of Palm Ave	63	37	79
H Street	South of Palm Ave	65	47	101
Palm Avenue	North of Belmont Ave	61	25	53
Safford	North of Belmont Ave	48	3	7

NOTES: DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS. EXISTING NOISE LEVELS ARE BASED ON PREDICTIONS, NOT FULL MEASUREMENTS.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM KITTELSON & ASSOCIATES, AND J.C. BRENNAN & ASSOCIATES, INC. 2020

COMMUNITY NOISE SURVEY

A community noise survey was conducted to document existing ambient noise levels in the project area. The measurements were conducted on January 7-8, 2020. Continuous 24-hour noise monitoring was conducted at two sites to record day-night statistical noise level trends. The 24-hour noise level measurements were supplemented with short-term noise measurements at three additional locations during the daytime period. The data collected included the hourly average (L_{eq}), median (L_{50}), and the maximum level (L_{max}) during the measurement period. Noise monitoring sites and the measured noise levels at each site are summarized in Table 3.12-3. Figure 3.12-1 shows the locations of the noise monitoring sites. The complete noise monitoring results are contained in Appendix B.

Community noise monitoring equipment included Larson Davis Laboratories (LDL) Model 820 and Model 824 precision integrating sound level meters equipped with LDL ½" microphones. The measurement systems were calibrated using a LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

TABLE 3.12-3: EXISTING AMBIENT NOISE MONITORING RESULTS

SITE	LOCATION	LDN (DBA)	MEASURED AVERAGE HOURLY NOISE LEVELS, DBA					
			DAYTIME (7:00 AM - 10:00 PM)			NIGHTTIME (10:00 PM – 7:00 AM)		
			LEQ	L50	LMAX	LEQ	L50	LMAX
A	North Wesley Avenue	66.4	64.3	58.9	82.0	58.6	48.9	76.1
B	H. Street	73.8	71.5	67.2	84.2	66.1	61.0	83.4
1	Southeast of Ice Cream Plant	NA	57.5	54.3	60.7	@ 9:50 a.m.		
2	North Palm Avenue	NA	63.0	59.5	71.4	@ 10:15 a.m.		
3	N.E. of Round-a-bout (Weber Ave)	NA	75.1	86.3	69.1	@10:45 a.m.		

SOURCE: J.C. BRENNAN & ASSOCIATES, INC. - 2020

The results of the community noise survey shown in Table 3.12-3 indicate that existing transportation noise sources including roadway traffic and railroad operations were a major contributor of ambient noise in the project vicinity. In addition industrial noise sources also contributed to the ambient noise environment.

3.12.2 REGULATORY SETTING

FEDERAL

There are no federal regulations related to noise that apply to the proposed project.

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, indicate that a significant noise impact may occur if a project exposes persons to noise or vibration levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels. CEQA standards are discussed more below under the Thresholds of Significance criteria section.

CITY OF FRESNO

City of Fresno General Plan

For the purposes of evaluating noise impacts due to new projects, the goals and policies of the City of Fresno General Plan Noise Element are used. The Noise Element outlines the following Objectives and Implementing Policies which are pertinent to the project. This does not include all policies, but provides policies which are relevant to the project. In addition, the Noise Element provides criteria for evaluating land use compatibility.

Tables 9-2 and 9-3 of the General Plan Noise Element (Tables 3.12-4 and 3.12-5 of this report) provide the noise compatibility guidelines.

Tables 3.12-4: Transportation Noise Level Criteria (Non-Aircraft) - &
Table 3.12-5: Stationary Noise Level Criteria

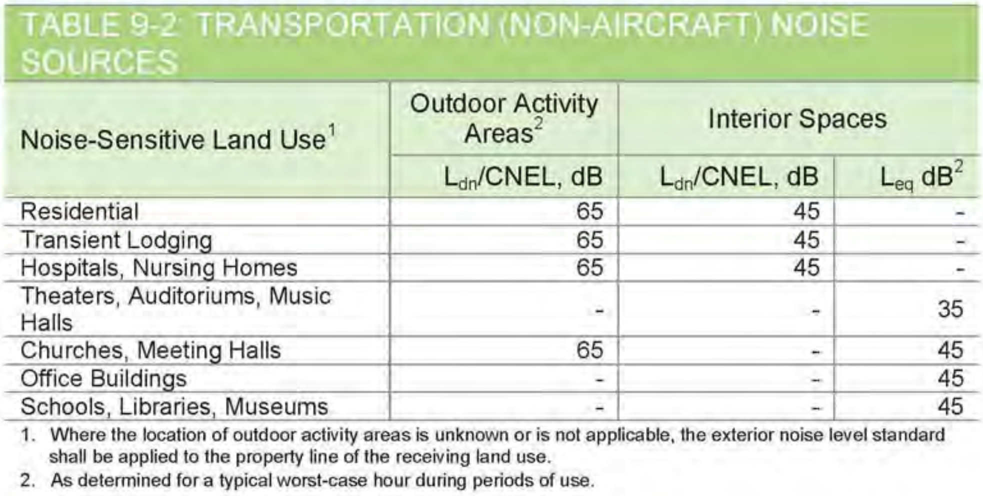


TABLE 9-2 TRANSPORTATION (NON-AIRCRAFT) NOISE SOURCES

Noise-Sensitive Land Use[1]	Outdoor Activity Areas[2]	Interior Spaces	
	L_{dn}/CNEL, dB	L_{dn}/CNEL, dB	L_{eq} dB[2]
Residential	65	45	-
Transient Lodging	65	45	-
Hospitals, Nursing Homes	65	45	-
Theaters, Auditoriums, Music Halls	-	-	35
Churches, Meeting Halls	65	-	45
Office Buildings	-	-	45
Schools, Libraries, Museums	-	-	45

1. Where the location of outdoor activity areas is unknown or is not applicable, the exterior noise level standard shall be applied to the property line of the receiving land use.
2. As determined for a typical worst-case hour during periods of use.

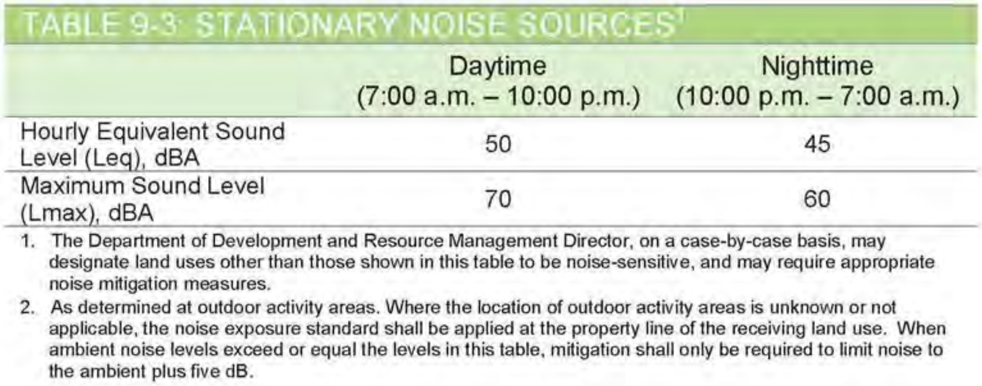


TABLE 9-3 STATIONARY NOISE SOURCES[1]

	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. – 7:00 a.m.)
Hourly Equivalent Sound Level (Leq), dBA	50	45
Maximum Sound Level (Lmax), dBA	70	60

1. The Department of Development and Resource Management Director, on a case-by-case basis, may designate land uses other than those shown in this table to be noise-sensitive, and may require appropriate noise mitigation measures.
2. As determined at outdoor activity areas. Where the location of outdoor activity areas is unknown or not applicable, the noise exposure standard shall be applied at the property line of the receiving land use. When ambient noise levels exceed or equal the levels in this table, mitigation shall only be required to limit noise to the ambient plus five dB.

Objective NS-1 Protect the citizens of the City from the harmful effects of exposure to excessive noise.

Implementing Policy NS-1-a Desirable and Generally Acceptable Exterior Noise Environment. Establish 65 dB Ldn or CNEL as the standard for the desirable maximum average exterior noise levels for defined usable exterior areas of residential and noise-sensitive uses for noise, but designate 60 dB Ldn or CNEL (measured at the property line) for noise generated by stationary sources impinging upon residential and noise-sensitive uses. Maintain 65 dB Ldn or CNEL as the maximum average exterior noise levels for non-sensitive commercial land uses, and maintain 70 dB Ldn or CNEL as maximum average exterior noise level for industrial land uses, both to be measured at th property line of parcels where noise is generated which may impinge on neighboring properties.

Commentary: The noise ordinance will define usable exterior areas for single family and multiple family residential and noise sensitive uses to include rear yards and other outdoor areas intended to accommodate leisure or active use, excluding front or side yard areas, and front or side porches. Balconies or roof decks facing from and side yards shall be included in designated areas to be protected from noise where these spaces are used to calculate compliance with required outdoor living area as required by adopted development standards.

Implementing Policy NS-1b Conditionally Acceptable Exterior Noise Exposure Range. Establish conditionally acceptable noise exposure level range for residential and other noise sensitive uses to be 65 dB Ldn or require appropriate noise reducing mitigation measures as determined by a site specific acoustical analysis to comply with the desirable and conditionally acceptable exterior noise level and the required interior noise level standards set in Table 9-2.

Implementing Policy NS-1c Generally Unacceptable Exterior Noise Exposure Range. Establish the exterior noise exposure of greater than 65 dB Ldn or CNEL to be generally unacceptable for residential or other noise sensitive uses for noise generated by sources in Policy NS-1-a, and study alternative less noise sensitive uses for these areas if otherwise appropriate. Require appropriate noise reducing mitigation measures as determined by a site specific acoustical analysis to comply with the generally acceptable exterior noise and the required 45 dB interior noise level standards et in Table 9-2 as conditions of permit approval.

Implementing Policy NS-1i Mitigation of New Developments. Require an acoustical analysis where new development of industrial, commercial or other noise generating land uses (including transportation facilities such as roadways, railroads, and airports) may result in noise level that exceed the noise level exposure criteria established in Tables 9-2 and 9-3 to determine impacts, and require developers to mitigate these impacts in conformance with tables 9-2 and 9-3 as a condition of permit approval through appropriate means.

Noise mitigation measures may include:

- The screening of noise sources such as parking and loading facilities, outdoor activities, and mechanical equipment;
- providing increased setbacks for noise sources from adjacent dwellings;
- Installation of walls and landscaping that serve as noise buffers;
- Installation of soundproofing materials and double-glazed windows; and
- Regulating operations, such as hours of operation, including deliveries and trash pickup.

Alternative acoustical designs that achieve the prescribed noise level reduction may be approved by the City, provided a qualified Acoustical Consultant submits information demonstrating that the alternative designs will achieve and maintain the specific targets for outdoor activity areas and interior spaces. As a last resort, developers may propose to construct noise walls along roadways when compatible with aesthetic concerns and neighborhood character.

Implementing Policy NS-1j Significance Threshold. Establish, as a threshold of significance fo the City's environmental review process, that a significant increase in ambient noise levels is assumed if the project would increase noise levels in the immediate vicinity by 3 dB Ldn or CNEL, or more above the ambient noise limits established in this General Plan Update.

Commentary: When an increase in noise would result in a "Significant" impact (increase of three dBA or more) to residents or businesses, then noise mitigation would be required to reduce noise exposure. If the increase in noise is less than three dBA, then the noise impact is considered insignificant and no noise mitigation is needed.

Implementing Policy NS-1k Proposal Review. Review all new public and private development proposals that may potentially be affected by or cause a significant increase in noise levels, per Policy NS-1-i, to determine conformance with the policies of this Noise Element. Require developers to reduce the noise impacts of new development on adjacent properties through appropriate means.

Implementing Policy NS-1m Transportation Related Noise Impacts. For projects subject to the City approval, require that the project sponsor mitigate noise created by new transportation and transportation-related stationary noise sources, including roadway improvement projects, so that resulting noise levels do not exceed the City's adopted standards for noise sensitive land uses.

City of Fresno Noise Ordinance

Section 10-101 of the City's Municipal Code contains the City's Noise Ordinance, which establishes excessive noise guidelines and exemptions. The standards for ambient noise for varying land uses are somewhat generic and are assumed to be overridden by actual noise measurements and modeling of noise sources.

Exceptions for construction activities are contained in Section 10-109, which states the following:

Construction, repair or remodeling work accomplished pursuant to a building, electrical, plumbing, mechanical, or other construction permit issued by the City or other governmental agency, or to site preparation and grading, provided such work takes place between the hours of 7:00 a.m. and 10:00 p.m. on any day except Sunday.

City of Fresno Community Plan Areas

The City of Fresno is divided in to 9 Community Plan Areas, including the Downtown Areas Community Plan, and the Fresno High-Roeding Community Plan, which this project is located within. The western portion of the Truck Movement Project Area, west of the railroad tracks, is within the Downtown Neighborhoods Community Plan, and the remaining portion of the Truck Movement Project Area (including the Demo and Grading Project Area) is located in the Fresno High-Roeding Community Plan.

These Community Plans follow the City of Fresno General Plan and Noise Ordinance noise level guidelines.

3.12.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact related to noise if it will result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without project;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels within two miles of a public airport or public use airport; or
- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

NOISE STANDARDS

The noise standards applicable to the project include the relevant portions of the City of Fresno General Plan, as described in the Regulatory Framework section above, and the following standards.

Based upon the General Plan Noise Element, the project will have a significant increase in noise if it exceeds a 3 dB Ldn. This is consistent with Table 3.12-6 which is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the Ldn.

TABLE 3.12-6: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

AMBIENT NOISE LEVEL WITHOUT PROJECT, LDN	*INCREASE REQUIRED FOR SIGNIFICANT IMPACT*
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

SOURCE: FEDERAL INTERAGENCY COMMITTEE ON NOISE (FICON)

VIBRATION STANDARDS

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The City of Fresno does not establish criteria for vibration impacts. However, the Federal Transit Administration establishes vibration impact thresholds for construction/demolition projects. These thresholds are shown below in Table 3.12-7.

TABLE 3.12-7 GROUNDBORNE VIBRATION CRITERIA:

ARCHITECTURAL DAMAGE BUILDING CATEGORY	*PPV (IN/SEC*	*LV (VDB)*[A]
I. Reinforced concrete, steel, or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

[A] *RMS VELOCITY CALCULATED FROM VIBRATION LEVEL (VDB) USING THE REFERENCE OF ONE MICRO-INCH/SECOND.*
SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT, 2006.

Table 3.12-7 indicates that the threshold for damage to structures ranges from 0.2 to 0.5 peak particle velocity in inches per second (in/sec p.p.v). One-half this minimum threshold or 0.1 in/sec p.p.v. is considered a safe criterion that would protect against architectural or structural damage. The general threshold at which human annoyance could also occur is typically noted as 0.1 in/sec p.p.v.

IMPACTS AND MITIGATION MEASURES

Impact 3.12-1: The proposed project has the potential to increase traffic noise levels at existing receptors (significant and unavoidable)

To describe future noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. Direct inputs to the model included traffic volumes contained in the traffic study for the project. The FHWA model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. To predict L_{dn}/CNEL values, it is necessary to determine the day/night distribution of traffic and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Table 3.12-8 shows the noise levels associated with traffic on the local roadway network under the existing and existing plus project traffic conditions. Table 3.12-9 shows the noise levels associated with traffic on the local roadway network under the cumulative and cumulative plus project traffic conditions.

As indicated by Table 3.12-8, and Table 3.12-9 the related noise level increases under development of the proposed project are predicted to range between 0 and +5 dB Ldn in areas where residential uses currently exist, which include Palm Avenue from H Street to north of Belmont Avenue, Safford Avenue between Belmont Avenue to the Connect, Belmont Avenue from Weber to Palm, and the Connect west of Stafford Avenue. Traffic levels decrease significantly along H Street between Belmont and Palm where no residential or sensitive receivers currently exist.

Based upon Policy NS-1-j, **Significance Threshold.** Establish, as a threshold of significance for the City's environmental review process, that a significant increase in ambient noise levels is assumed if the project would increase noise levels in the immediate vicinity by 3 dB Ldn or CNEL, above the ambient noise limits established in this General Plan Update (*or in this case the modeled increase in traffic noise levels due to the project)*. This is a Significant Impact.

Potential mitigation measures could include reducing truck traffic speeds, imposing limits on the use of engine brakes or jake brakes. However, these types of mitigation measures are not expected to result in more than a 1 dB reduction in overall traffic noise levels, which would result in significant impacts where Table 3.12-9 shows increases in traffic noise levels of +5 dB Ldn. The use of barriers would not be practical where entrances to driveways would leave gaps in the barriers and would leave them ineffective. Therefore, this is a significant and unavoidable impact.

TABLE 3.12-8: EXISTING TRAFFIC NOISE LEVELS VS. EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS (AT 100-FEET FROM ROADWAY CENTERLINES)

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN}, DB)			DISTANCE TO EXISTING + PROJECT TRAFFIC NOISE CONTOURS, FEET[1]	
		EXISTING	EXISTING + PROJECT	CHANGE (DB)	70 DB L_{DN}	65 DB L_{DN}
Weber Ave	North of Thomas Ave	63	63	0	34	73
Weber Ave	Thomas Ave to Belmont Ave	63	61	-2	25	55
Belmont Ave	West of Weber Ave	63	63	0	35	75
Belmont Ave	Weber Ave to Stafford Ave	63	66	**+3**	51	109
Belmont Ave	Stafford Ave to Palm Ave	63	66	**+3**	51	109
Belmont Ave	West of Palm Ave	64	64	0	38	82
H Street	South of Belmont Ave	62	---	Abandoned	---	---
H Street	North of Palm Ave	63	50	-13	5	10
H Street	South of Palm Ave	65	65	0	48	103
Palm Ave	North of Belmont Ave	61	65	**+4**	48	104
Safford Ave	North of Belmont Ave	48	48	0	3	7

[1] DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS. ACTUAL DISTANCES MAY VARY DUE TO SHIELDING FROM EXISTING NOISE BARRIERS OR INTERVENING STRUCTURES. TRAFFIC NOISE LEVELS MAY VARY DEPENDING ON ACTUAL SETBACK DISTANCES AND LOCALIZED SHIELDING.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM KITTELSON AND J.C. BRENNAN & ASSOCIATES, INC. 2020.

TABLE 3.12-9: CUMULATIVE TRAFFIC NOISE LEVELS VS. CUMULATIVE PLUS PROJECT TRAFFIC NOISE LEVELS (AT 100-FEET FROM ROADWAY CENTERLINES)

ROADWAY	*SEGMENT*	*NOISE LEVELS (L_{DN}, DB)*			*DISTANCE TO CUMULATIVE + PROJECT TRAFFIC NOISE CONTOURS, FEET*[1]	
		CUMULATIVE	*CUMULATIVE + PROJECT*	*CHANGE (DB)*	*70 DB L_{DN}*	*65 DB L_{DN}*
Weber Ave	North of Thomas Ave	65	65	0	49	105
Weber Ave	Thomas Ave to Belmont Ave	65	65	0	48	103
Belmont Ave	West of Safford Ave	64	64	0	43	92
Belmont Ave	Safford Ave to Palm Ave	65	68	**+3**	72	156
Belmont Ave	West of Palm Ave	66	66	0	53	113
H Street	North of Palm Ave	65	46	-19	2	5
H Street	South of Palm Ave	67	67	0	62	134
Palm Ave	H Street to Belmont Ave	62	67	**+5**	63	136
Palm Ave	North of Belmont Ave	61	65	**+4**	49	105
Safford Ave	Belmont Ave to Connect	61	65	**+4**	49	105
Connect	West of Safford Ave	61	65	**+4**	48	104

[1] *DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS. ACTUAL DISTANCES MAY VARY DUE TO SHIELDING FROM EXISTING NOISE BARRIERS OR INTERVENING STRUCTURES. TRAFFIC NOISE LEVELS MAY VARY DEPENDING ON ACTUAL SETBACK DISTANCES AND LOCALIZED SHIELDING.*

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM KITTELSON AND J.C. BRENNAN & ASSOCIATES, INC. 2020.

Impact 3.12-2: The proposed project has the potential to increase noise levels associated with construction and demolition activities (less than significant)

The demolition and site improvements would include the use of heavy equipment and impact tools that can generate noise. Table 3.12-10 provides a list of the types of equipment which may be associated with demolition and construction activities and the associated noise levels.

TABLE 3.12-10: CONSTRUCTION EQUIPMENT NOISE

TYPE OF EQUIPMENT	*PREDICTED NOISE LEVELS, L_{MAX} DB*					*DISTANCES TO NOISE CONTOURS (FEET)*	
	NOISE LEVEL AT 50'	*NOISE LEVEL AT 100'*	*NOISE LEVEL AT 200'*	*NOISE LEVEL AT 300'*	*NOISE LEVEL AT 1,000'*	*70 DB L_{MAX} CONTOUR*	*65 DB L_{MAX} CONTOUR*
Backhoe	78	72	66	62	52	126	223
Compactor	83	77	71	67	57	223	397
Compressor (air)	78	72	66	62	52	126	223
Concrete Saw	90	84	78	74	64	500	889
Dozer	82	76	70	66	56	199	354
Dump Truck	76	70	64	60	50	100	177
Excavator	81	75	69	65	55	177	315
Generator	81	75	69	65	55	177	315
Jackhammer	89	83	77	73	63	446	792
Pneumatic Tools	85	79	73	69	59	281	500

SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006. J.C. BRENNAN & ASSOCIATES, INC. 2016.

Activities involved in project construction would typically generate maximum noise levels ranging from 78 to 90 dB at a distance of 50 feet. The nearest residential receptor would be located approximately 100-feet or more from project sites. At this distance, construction related activities are predicted to generate maximum noise levels ranging between 72-84 dB L_{max}. Based upon the average measured daytime maximum noise level at Site A which was 82 dB, and the average measured daytime maximum noise level at Sit B which was 84 dB, maximum noise levels due to project construction are predicted to be consistent with existing background noise levels. Implementation of the proposed project would have a **less than significant** impact. In addition, the project would be required to comply with the City of Fresno Noise Ordinance restrictions on hours of operation.

Impact 3.12-3: The proposed project has the potential to increase noise vibration association with construction activities (less than significant)

The primary vibration-generating activities associated with the proposed project would occur during demolition. Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located approximately 100-feet or further from the project area. At this distance construction vibrations are not predicted to exceed acceptable levels. Additionally, demolition activities would be temporary in nature and would likely occur during normal daytime working hours.

Vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural. Table 3.12-11 shows the typical vibration levels produced by construction equipment.

TABLE 3.12-11: VIBRATION LEVELS FOR VARYING CONSTRUCTION EQUIPMENT

TYPE OF EQUIPMENT	*PEAK PARTICLE VELOCITY @ 25 FEET (INCHES/SECOND)*	*PEAK PARTICLE VELOCITY @ 100 FEET (INCHES/SECOND)*
Large Bulldozer	0.089	0.011
Loaded Trucks	0.076	0.010
Small Bulldozer	0.003	0.000
Auger/drill Rigs	0.089	0.011
Jackhammer	0.035	0.004
Vibratory Hammer	0.070	0.009
Vibratory Compactor/roller	0.210	0.026

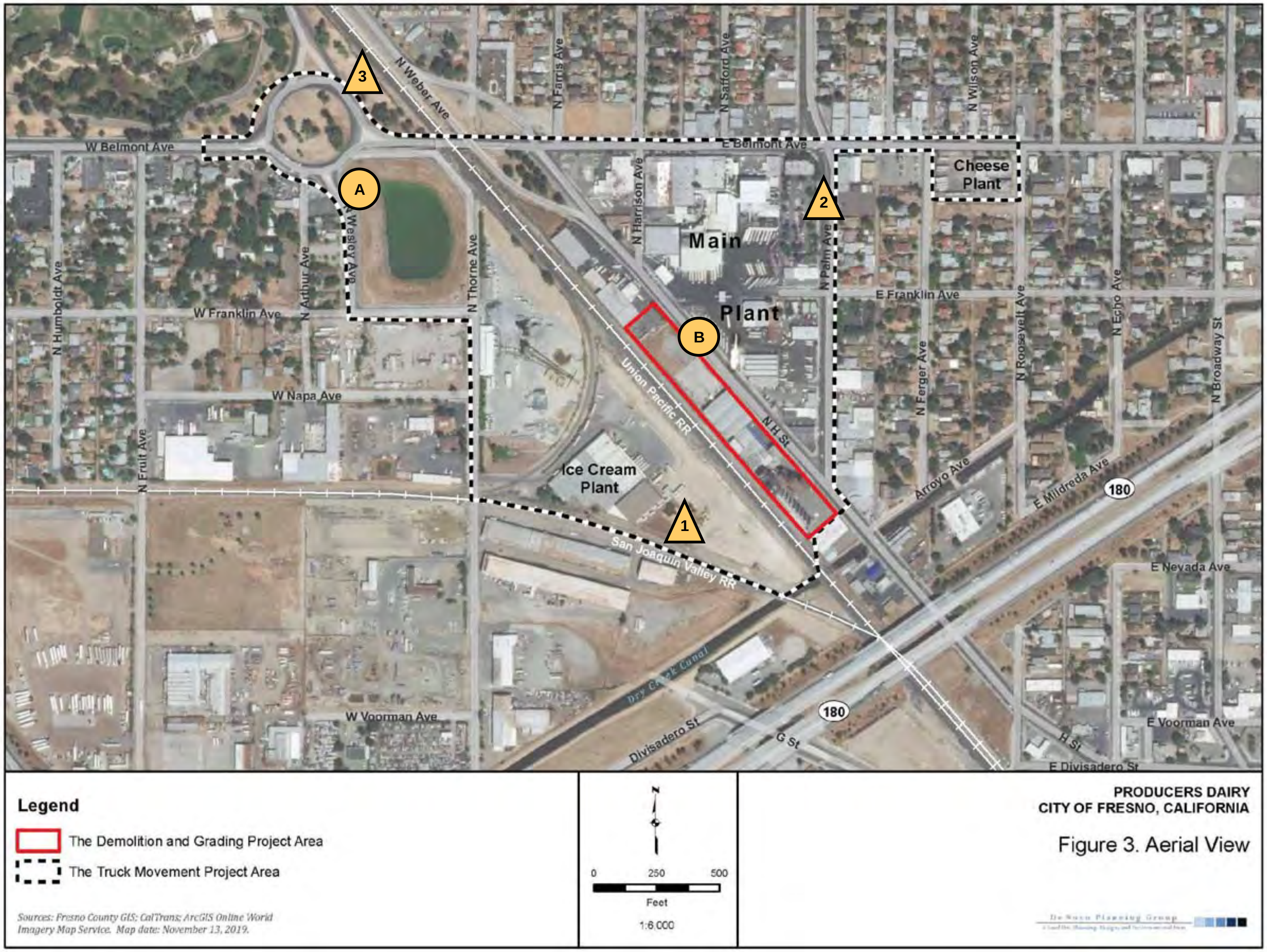
SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES, MAY 2006

The Table 3.12-11 data indicate that construction vibration levels anticipated for the project are less than the 0.2 in/sec p.p.v. threshold of damage to buildings and less than the 0.1 in/sec threshold of annoyance criteria at distances of 100 feet. Therefore, construction vibrations are not predicted to cause damage to existing buildings or cause annoyance to sensitive receptors. Implementation of the proposed project would have a **less than significant** impact.

Impact 3.12-4: The proposed project has the potential to increase stationary noise at sensitive receptors (less than significant)

Truck parking and trailer movements would be the primary on-site noise source. The truck parking and trailer movements would be provided in the newly paved area along H Street once the structures in this area are demolished.

These proposed changes to the existing truck parking and movement patterns would allow the applicant to reduce the total number of truck movements. The existing trailer movements would not change. Since the parking areas would be located in industrial areas and would not be close to any residences or noise-sensitive uses, this is not considered to be a significant noise source. This is less than significant.



● **Continuous 24-hour measurements**

▲ **Short-term (10 minute) measurements**

Figure 1
Project Location / Noise Monitoring Sites

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4/10/2020

Appendix A

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2019-151 Producers Dairy
Description: Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Lot Numbers	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Weber	North of Thomas	9,180	85		15	2	2	45	100	
2	Weber	Thomas to Belmont	8,880	85		15	2	2	45	100	
3	N H Steet	South of Belmont	8,300	85		15	2	2	45	100	
4	Belmont	West of Weber	9,730	85		15	2	2	45	100	
5	Belmont	Weber to Safford	8,920	85		15	2	2	45	100	
6	Belmont	Stafford to Palm	8,850	85		15	2	2	45	100	
7	Belmont	West of Palm	11,070	85		15	2	2	45	100	
8	N H Steet	North of Palm	10,350	85		15	2	2	45	100	
9	N H Steet	South of Palm	15,160	85		15	2	2	45	100	
10	Palm	North of Belmont	5,770	85		15	2	2	45	100	
11	Safford	North of Belmont	280	85		15	2	2	45	100	
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Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2019-151 Producers Dairy
Description: Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Lot Numbers	Autos	Medium Trucks	Heavy Trucks	Total
1	Weber	North of Thomas	61.1	52.5	57.0	63
2	Weber	Thomas to Belmont	60.9	52.4	56.9	63
3	N H Steet	South of Belmont	60.6	52.1	56.6	62
4	Belmont	West of Weber	61.3	52.8	57.3	63
5	Belmont	Weber to Safford	60.9	52.4	56.9	63
6	Belmont	Stafford to Palm	60.9	52.3	56.8	63
7	Belmont	West of Palm	61.9	53.3	57.8	64
8	N H Steet	North of Palm	61.6	53.0	57.5	63
9	N H Steet	South of Palm	63.2	54.7	59.2	65
10	Palm	North of Belmont	59.0	50.5	55.0	61
11	Safford	North of Belmont	45.9	37.3	41.8	48

Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2019-151 Producers Dairy
Description: Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Lot Numbers	75	70	65	60	55
1	Weber	North of Thomas	16	34	73	156	337
2	Weber	Thomas to Belmont	15	33	71	153	330
3	N H Steet	South of Belmont	15	32	68	146	315
4	Belmont	West of Weber	16	35	75	163	350
5	Belmont	Weber to Safford	15	33	71	153	331
6	Belmont	Stafford to Palm	15	33	71	153	329
7	Belmont	West of Palm	18	38	82	177	382
8	N H Steet	North of Palm	17	37	79	169	365
9	N H Steet	South of Palm	22	47	101	219	471
10	Palm	North of Belmont	11	25	53	115	247
11	Safford	North of Belmont	2	3	7	15	33

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Appendix A

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2019-151 Producers Dairy
Description: Existing + Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Lot Numbers	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Weber	North of Thomas	9,180	85		15	2	2	45	100	
2	Weber	Thomas to Belmont	6,020	85		15	2	2	45	100	
3	N H Steet	South of Belmont	0	85			2	2	45	100	
4	Belmont	West of Weber	9,730	85		15	2	2	45	100	
5	Belmont	Weber to Safford	16,930	85		15	2	2	45	100	
6	Belmont	Stafford to Palm	16,910	85		15	2	2	45	100	
7	Belmont	West of Palm	11,020	85		15	2	2	45	100	
8	N H Steet	North of Palm	470	85		15	2	2	45	100	
9	N H Steet	South of Palm	15,410	85		15	2	2	45	100	
10	Palm	North of Belmont	15,680	85		15	2	2	45	100	
11	Safford	North of Belmont	280	85		15	2	2	45	100	
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Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2019-151 Producers Dairy
Description: Existing + Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Lot Numbers	Autos	Medium Trucks	Heavy Trucks	Total
1	Weber	North of Thomas	61.1	52.5	57.0	63
2	Weber	Thomas to Belmont	59.2	50.7	55.2	61
4	Belmont	West of Weber	61.3	52.8	57.3	63
5	Belmont	Weber to Safford	63.7	55.2	59.7	66
6	Belmont	Stafford to Palm	63.7	55.2	59.7	66
7	Belmont	West of Palm	61.9	53.3	57.8	64
8	N H Steet	North of Palm	48.2	39.6	44.1	50
9	N H Steet	South of Palm	63.3	54.8	59.2	65
10	Palm	North of Belmont	63.4	54.8	59.3	65
11	Safford	North of Belmont	45.9	37.3	41.8	48

Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Noise Contour Output

Project #: 2019-151 Producers Dairy
Description: Existing + Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Lot Numbers	75	70	65	60	55
1	Weber	North of Thomas	16	34	73	156	337
2	Weber	Thomas to Belmont	12	25	55	118	254
4	Belmont	West of Weber	16	35	75	163	350
5	Belmont	Weber to Safford	24	51	109	235	507
6	Belmont	Stafford to Palm	24	51	109	235	506
7	Belmont	West of Palm	18	38	82	177	381
8	N H Steet	North of Palm	2	5	10	22	46
9	N H Steet	South of Palm	22	48	103	221	476
10	Palm	North of Belmont	22	48	104	224	482
11	Safford	North of Belmont	2	3	7	15	33

Appendix A

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2019-151 Producers Dairy
Description: Cumulative No Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Lot Numbers	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Weber	North of Thomas	15,820	85		15	2	2	45	100	
2	Weber	Thomas to Belmont	15,500	85		15	2	2	45	100	
3	Belmont	West of Safford	13,120	85		15	2	2	45	100	
4	Belmont	Safford to Palm	13,860	85		15	2	2	45	100	
5	Belmont	West of Safford	17,940	85		15	2	2	45	100	
6	N H Steet	North of Palm	15,270	85		15	2	2	45	100	
7	N H Steet	South of Palm	22,640	85		15	2	2	45	100	
8	Palm	N H to Belmont	8,230	85		15	2	2	45	100	
9	Palm	North of Belmont	5,780	85		15	2	2	45	100	
10	Safford	Belmont to Connect	5,780	85		15	2	2	45	100	
11	Connect	West of Safford	5,480	85		15	2	2	45	100	
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Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #:	2019-151 Producers Dairy
Description:	Cumulative No Project
Ldn/CNEL:	Ldn
Hard/Soft:	Soft

Segment	Roadway Name	Lot Numbers	Autos	Medium Trucks	Heavy Trucks	Total
1	Weber	North of Thomas	63.4	54.9	59.4	65
2	Weber	Thomas to Belmont	63.3	54.8	59.3	65
3	Belmont	West of Safford	62.6	54.1	58.5	64
4	Belmont	Safford to Palm	62.9	54.3	58.8	65
5	Belmont	West of Safford	64.0	55.4	59.9	66
6	N H Steet	North of Palm	63.3	54.7	59.2	65
7	N H Steet	South of Palm	65.0	56.4	60.9	67
8	Palm	N H to Belmont	60.6	52.0	56.5	62
9	Palm	North of Belmont	59.1	50.5	55.0	61
10	Safford	Belmont to Connect	59.1	50.5	55.0	61
11	Connect	West of Safford	58.8	50.3	54.8	61

Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2019-151 Producers Dairy
Description: Cumulative No Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Lot Numbers	75	70	65	60	55
1	Weber	North of Thomas	22	48	104	225	484
2	Weber	Thomas to Belmont	22	48	103	222	478
3	Belmont	West of Safford	20	43	92	198	428
4	Belmont	Safford to Palm	21	44	96	206	444
5	Belmont	West of Safford	24	53	113	244	527
6	N H Steet	North of Palm	22	47	102	220	473
7	N H Steet	South of Palm	29	62	133	286	615
8	Palm	N H to Belmont	15	31	68	145	313
9	Palm	North of Belmont	11	25	53	115	248
10	Safford	Belmont to Connect	11	25	53	115	248
11	Connect	West of Safford	11	24	51	111	239

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Appendix A

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2019-151 Producers Dairy
Description: Cumulative Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Lot Numbers	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Weber	North of Thomas	16,080	85		15	2	2	45	100	
2	Weber	Thomas to Belmont	15,500	85		15	2	2	45	100	
3	Belmont	West of Safford	13,150	85		15	2	2	45	100	
4	Belmont	Safford to Palm	28,820	85		15	2	2	45	100	
5	Belmont	West of Safford	17,870	85		15	2	2	45	100	
6	N H Steet	North of Palm	180	85		15	2	2	45	100	
7	N H Steet	South of Palm	22,900	85		15	2	2	45	100	
8	Palm	N H to Belmont	23,480	85		15	2	2	45	100	
9	Palm	North of Belmont	16,040	85		15	2	2	45	100	
10	Safford	Belmont to Connect	16,040	85		15	2	2	45	100	
11	Connect	West of Safford	15,660	85		15	2	2	45	100	
12											
13											
14											
15											
16											
17											
18											
19											
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21											
22											
23											
24											
25											

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Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2019-151 Producers Dairy
Description: Cumulative Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Lot Numbers	Autos	Medium Trucks	Heavy Trucks	Total
1	Weber	North of Thomas	63.5	54.9	59.4	65
2	Weber	Thomas to Belmont	63.3	54.8	59.3	65
3	Belmont	West of Safford	62.6	54.1	58.6	64
4	Belmont	Safford to Palm	66.0	57.5	62.0	68
5	Belmont	West of Safford	64.0	55.4	59.9	66
6	N H Steet	North of Palm	44.0	35.4	39.9	46
7	N H Steet	South of Palm	65.0	56.5	61.0	67
8	Palm	N H to Belmont	65.1	56.6	61.1	67
9	Palm	North of Belmont	63.5	54.9	59.4	65
10	Safford	Belmont to Connect	63.5	54.9	59.4	65
11	Connect	West of Safford	63.4	54.8	59.3	65

Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2019-151 Producers Dairy
Description: Cumulative Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Lot Numbers	75	70	65	60	55
1	Weber	North of Thomas	23	49	105	227	490
2	Weber	Thomas to Belmont	22	48	103	222	478
3	Belmont	West of Safford	20	43	92	199	428
4	Belmont	Safford to Palm	34	72	156	335	723
5	Belmont	West of Safford	24	53	113	244	525
6	N H Steet	North of Palm	1	2	5	11	25
7	N H Steet	South of Palm	29	62	134	288	620
8	Palm	N H to Belmont	29	63	136	293	630
9	Palm	North of Belmont	23	49	105	227	489
10	Safford	Belmont to Connect	23	49	105	227	489
11	Connect	West of Safford	22	48	104	223	481

Appendix B

2019-151 Producers Dariy

24hr Continuous Noise Monitoring - Site A

01/07/2020 - 01/08/2020

Hour	Leq	Lmax	L50	L90
13:00	64	81	60	56
14:00	67	90	60	55
15:00	63	78	59	53
16:00	63	80	59	54
17:00	68	96	59	53
18:00	63	76	60	55
19:00	62	78	58	53
20:00	58	74	54	51
21:00	57	72	52	48
22:00	56	76	50	45
23:00	54	73	49	45
0:00	56	74	47	43
1:00	58	79	47	43
2:00	60	74	46	42
3:00	52	71	44	42
4:00	60	78	46	43
5:00	61	82	54	52
6:00	61	77	57	53
7:00	62	79	59	56
8:00	65	86	61	57
9:00	65	81	60	57
10:00	63	81	60	57
11:00	65	83	61	57
12:00	66	94	60	56

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	68.2	57.0	64.3	61.3	52.2	58.6
Lmax (Maximum)	96.5	72.3	82.0	81.9	71.2	76.1
L50 (Median)	61.3	52.3	58.9	56.7	44.0	48.9
L90 (Background)	57.2	48.2	54.5	53.1	41.6	45.3

Computed Ldn, dB	66.4
% Daytime Energy	86%
% Nighttime Energy	14%

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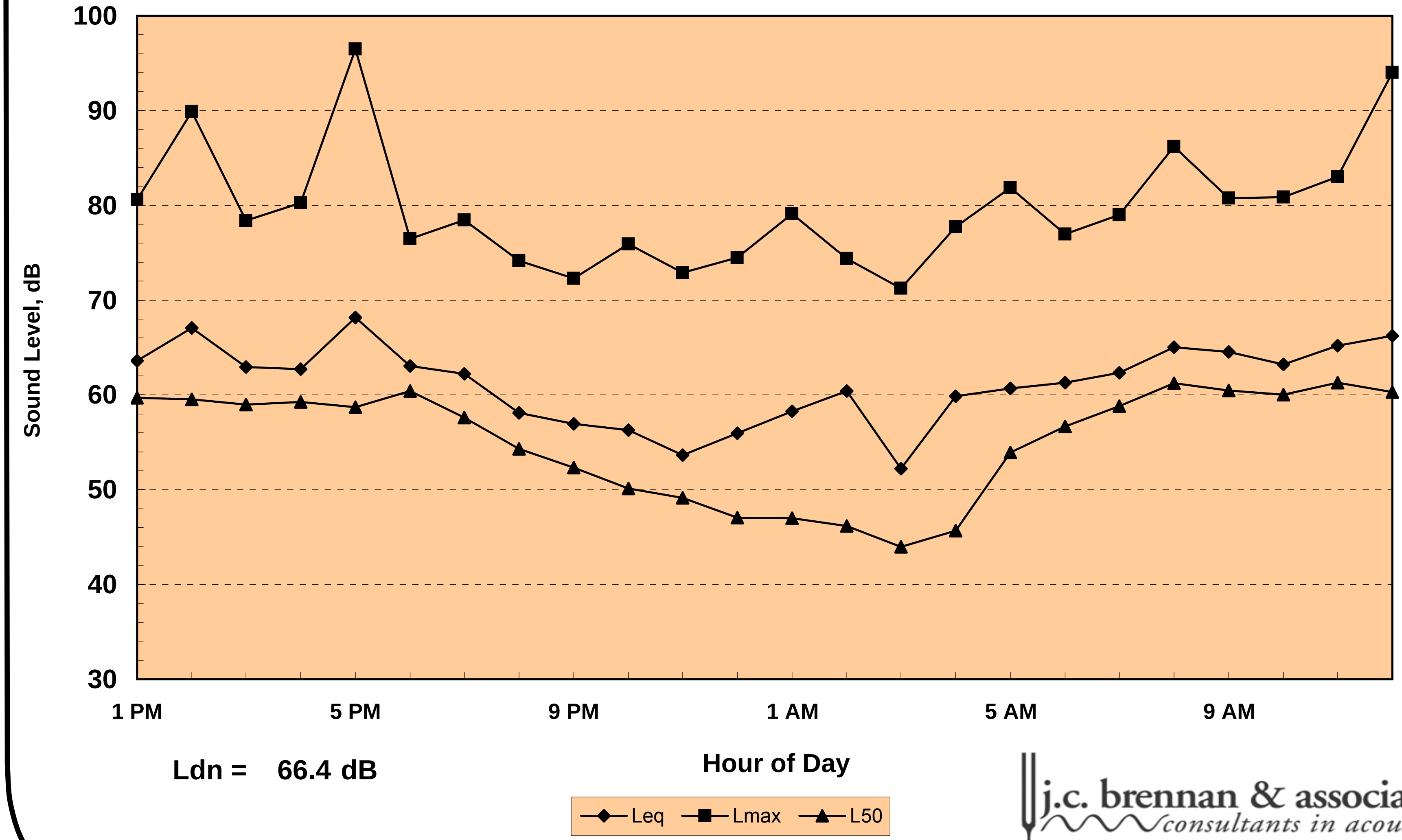
Appendix B

2019-151 Producers Dariy
24hr Continuous Noise Monitoring - Site A
01/07/2020 - 01/08/2020



Ldn = 66.4 dB

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Appendix B

2019-151 Producers Dariy
24hr Continuous Noise Monitoring - Site B
01/07/2020 - 01/08/2020

Hour	Leq	Lmax	L50	L90
13:00	71	83	67	60
14:00	71	86	67	59
15:00	71	84	68	59
16:00	72	84	68	61
17:00	73	83	71	61
18:00	73	84	72	61
19:00	70	83	66	59
20:00	69	82	64	59
21:00	67	83	62	59
22:00	67	83	62	59
23:00	66	87	61	57
0:00	65	83	61	58
1:00	65	85	60	58
2:00	66	81	61	59
3:00	63	81	60	57
4:00	67	86	61	58
5:00	65	81	61	58
6:00	69	84	63	59
7:00	70	83	63	59
8:00	74	84	71	62
9:00	73	86	69	62
10:00	71	87	66	61
11:00	71	86	66	60
12:00	71	84	67	62

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	74.2	67.2	71.5	68.7	63.4	66.1
Lmax (Maximum)	86.8	82.4	84.2	86.6	80.5	83.4
L50 (Median)	71.9	61.8	67.2	62.6	59.9	61.0
L90 (Background)	62.2	58.8	60.3	59.4	57.2	58.3

Computed Ldn, dB	73.8
% Daytime Energy	85%
% Nighttime Energy	15%

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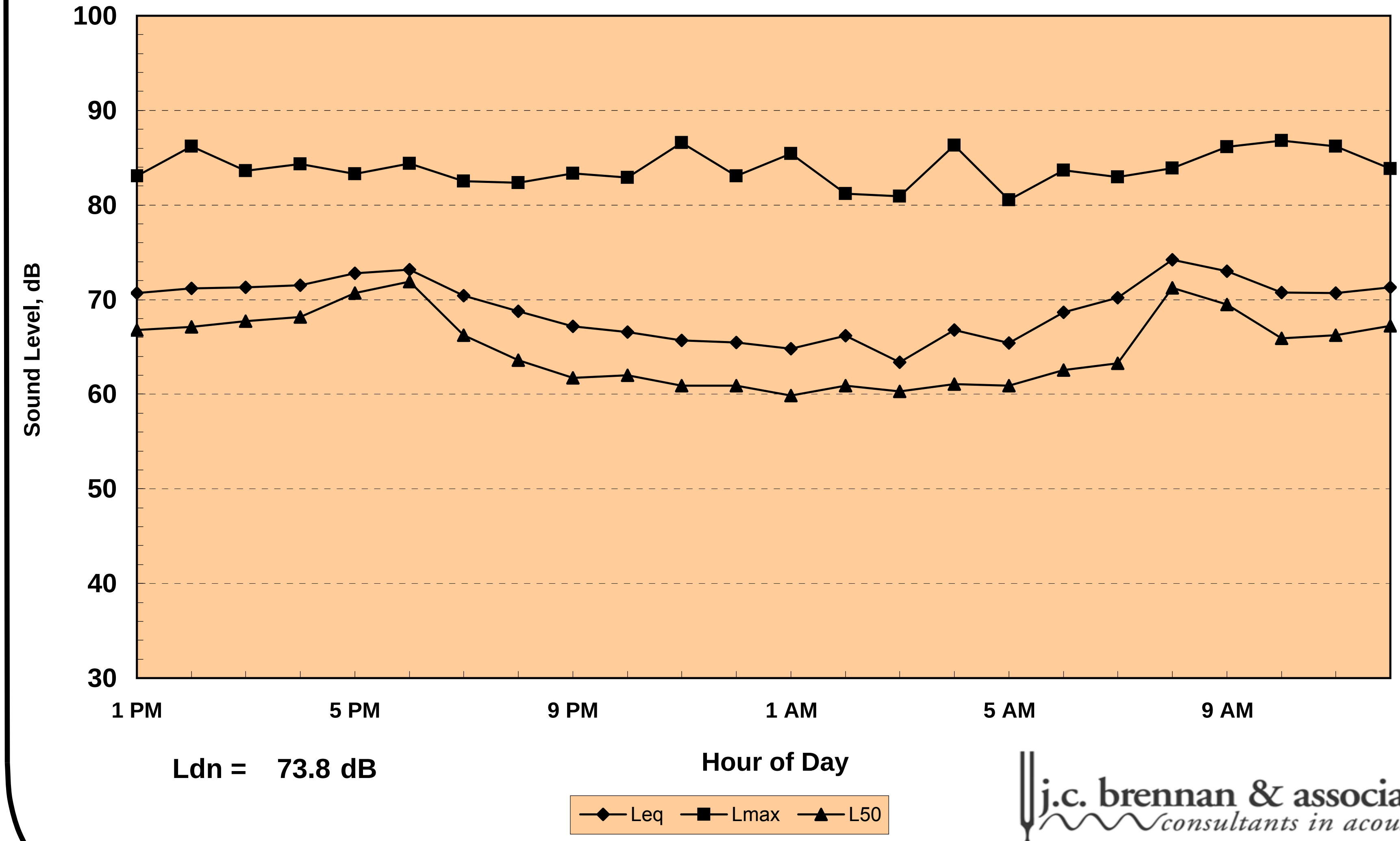
Appendix B

2019-151 Producers Dariy
24hr Continuous Noise Monitoring - Site B
01/07/2020 - 01/08/2020



Ldn = 73.8 dB

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APPENDIX F

Transportation Impact Study

Transportation Impact Study

Producer’s Dairy

Fresno, California

FINAL

March 2020

Transportation Impact Study

Producer's Dairy

Fresno, California

Prepared For:
De Novo Planning Group

Prepared By:
Kittelson & Associates, Inc.
155 Grand Avenue, Suite 900
Oakland, California 94612
(510) 839-1742

Project Manager: Aaron Elias, P.E.
Project Principal: Mike Aronson, P.E.
Transportation Analyst: Claire Casey

Project No. 24057

March 2020

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INTRODUCTION

This report presents the findings of the transportation impact analysis conducted for Producer's Dairy, located at 250 E. Belmont Avenue in Fresno, California. The Producer's Dairy Project (herein referred to as the "Project") would redevelop property located along the west side of North H Street east of the Southern Pacific Railroad tracks between approximately Palm Avenue and Harrison Avenue.

The purpose of the study is to assess potential transportation deficiencies resulting from the implementation of the Project on the surrounding transportation system and to identify feasible solutions to improve the deficiencies. The study also serves as the transportation analysis component of an environmental impact review document that is being prepared concurrently for the Project. The project location and vicinity are shown in Figure 1.

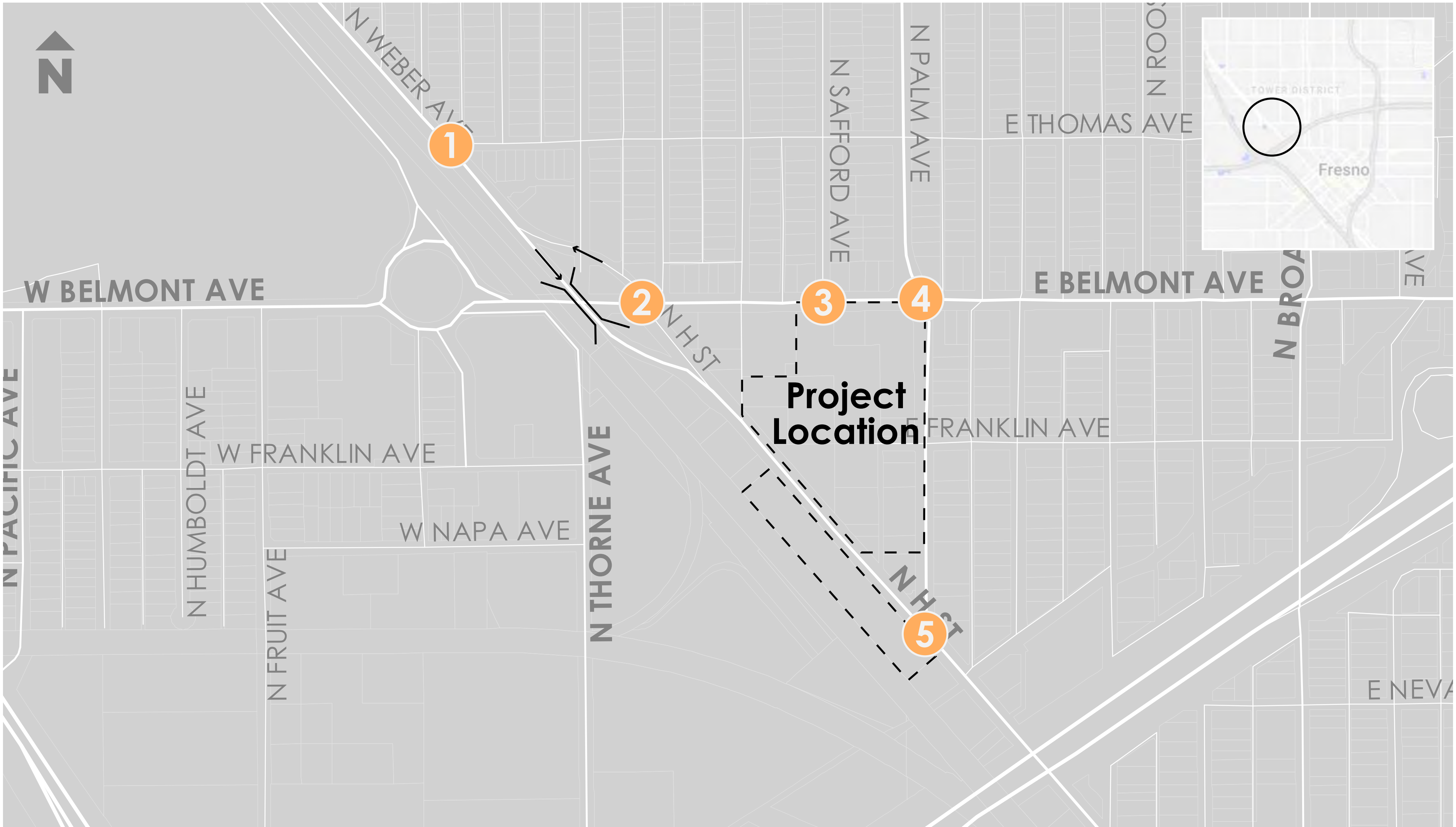
PROJECT DESCRIPTION

The Project would redevelop the property along the west side of North H Street between Palm Avenue and Harrison Street. As part of the redevelopment, Producer's Dairy has requested the City of Fresno vacate North H Street from just north of Palm Avenue to just south of Harrison Street. The goal of the redevelopment and vacating North H Street is not to increase total operations at the Project site but rather to make the existing truck movements more efficient. As such, the proposed Project would not be creating additional trip generation compared to existing conditions.

Since trip generation will be the same, the transportation analysis focuses on the effects of closing North H Street to public vehicle traffic. The diversion route is anticipated to include North Palm Avenue for vehicles that are currently using North H Street. The other consideration is that southbound Weber Avenue north of Belmont Avenue does not intersect with Belmont Avenue. Instead, southbound traffic uses an overpass to merge with North H Street south of Belmont Avenue. This southbound traffic would need to be rerouted under the Project condition to keep traffic from entering a dead-end street once North H Street is vacated.

Surrounding Land Uses

Land uses immediately surrounding the Project site include residential, automobile sales and repair, restaurants, retail to the north and east, and industrial and retail to the southwest. State Route 180 is located south of the Project site, while State Route 99 is located to the west.



⌐ ¬ Project Boundary

Figure 1

Project Location and Study Intersections

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& ASSOCIATES

ANALYSIS APPROACH

The analysis assessed the Project's potential effects on vehicular traffic, transit operations, bicycle transportation, and pedestrian transportation.

Analysis Scenarios

Vehicle volumes were evaluated to assess the performance of the circulation system for the peak hours occurring during the weekday AM (7:00 – 9:00 AM) and weekday PM (4:00 – 6:00 PM) peak periods, for the following scenarios (these scenarios are described in more detail in their respective sections):

- Existing
- Existing Plus Project
- Cumulative (2040)
- Cumulative Plus Project

Study Locations

A set of intersections were selected for analysis based upon the anticipated distributional patterns of Project traffic. The selections were made in consultation with the City of Fresno. The intersection locations selected for analysis are listed below and shown in Figure 1.

Study Intersections

1. North H Street & Palm Avenue
2. Belmont Avenue & Palm Avenue
3. Belmont Avenue & Weber Avenue
4. Belmont Avenue & Safford Avenue
5. Thomas Avenue & Weber Avenue

An additional intersection, Belmont Avenue Connector & Safford Avenue, was analyzed in cumulative conditions only since it is a new intersection that would be constructed by the California High-Speed Rail project. The High-Speed Rail project plans to create an overpass for Belmont Avenue over the railroad tracks located west of the Project and Weber Avenue/ H Street. The High-Speed Rail project would build a connector roadway parallel to Belmont Avenue and east of Weber Avenue/H Street that would connect into Belmont Avenue at Safford Avenue. A detailed description of the cumulative conditions and high-speed rail plans is discussed in the "Project Conditions" section of this report.

Since the project would not add any additional trips on the roadway network, it was assumed that the freeways near the Project would not be significantly impacted, and thus no freeway analyses were performed.

EXISTING CONDITIONS

A description of the existing roadway, transit, bicycle, and pedestrian components of the transportation system within the study area follow. Appendix 1 provides an overview of some of the transportation terminology used in this report.

ROADWAY NETWORK

The existing roadway network in the study area is composed of a street system made up of arterial and collector roads. Roadway classifications listed are from the City of Fresno General Plan[1].

Arterials

North Weber Avenue/ North H Street is a two to four-lane, northwest-southeast roadway with a posted speed limit of 40-45 miles per hour near the Project site. The facility extends to Ashlan Avenue to the north and extends to State Route 41 to the south. The roadway becomes a collector street south of State Route 180. Sidewalks are intermittent near the Project site. There is an existing Class II bike lane north of Belmont and proposed Class I and II bike lanes to the south. On-street parking is mostly restricted but allowed on parts of the east side.

Collectors

Belmont Avenue is a four-lane, east-west roadway that extends the length of Fresno and turns into East Trimmer Springs Road to the east outside of city limits near Centerville. It has posted speeds of 30 miles per hour near the Project site. On-street parking is permitted intermittently, and there are existing sidewalks and planned Class II bike lanes along the street.

North Palm Avenue is a four-lane, north-south roadway that extends between West Nees Avenue to the north and North H Street to the south. It has a posted speed limit of 35 miles per hour near the Project site. On-street parking is permitted, and there are existing sidewalks and planned Class I bike lanes along the street.

TRANSIT FACILITIES

Fresno is primarily served by the Fresno Area Express (FAX) transit system which operates bus service and paratransit operations servicing the city. Regional connections are provided by the Fresno County Rural Transit Agency (FCRTA) and Amtrak for travel outside of the Fresno-Clovis Metropolitan Area.

Fresno Area Express (FAX)

FAX provides the principal bus service in the city of Fresno. It operates seventeen routes and Handy Ride, a paratransit operation, with a fleet of over 100 buses.

FAX operates two routes that directly serve the Project site through nearby street-side bus stops. Bus service on these routes is detailed in Table 1 with the routes near the Project site shown in Figure 2.

Route 26 provides local commuter and weekend service between Nees Avenue/ Blackstone Avenue and Fresno International Airport. It passes by the Downtown Transit Center and Fresno Pacific University and has bus stops along N. Palm Avenue near the Project.

Route 33 provides local commuter and weekend service between Belmont Avenue/ Pacific Avenue and Butler Avenue/ Maple Avenue. It has bus stops along Belmont Avenue near the Project.

Table 1: Bus Routes Serving the Project

Route	Serving	Day	Times		Frequency
26	Downtown Transit Center, Fresno Pacific University, and Fresno International Airport	Weekday	6:00 AM	10:00 PM	0.5/hour
		Weekend	7:30 AM	6:30 PM	0.5/hour
33	Between Belmont Avenue/ Pacific Avenue and Butler Avenue/ Maple Avenue	Weekday	6:00 AM	7:30 PM	0.5/hour
		Weekend	7:30 AM	6:30 PM	1.5/hour

Source: FAX website, www.fresno.gov/fax, accessed January 29, 2020
Kittelson & Associates, Inc., 2020

TRUCK FACILITIES

There are designated truck routes in the Project area. North H Street/ Weber Street, Palm Avenue, and Belmont Avenue are all existing truck routes according to the City of Fresno Public Works. Existing and future truck routes are shown in Figure 3.

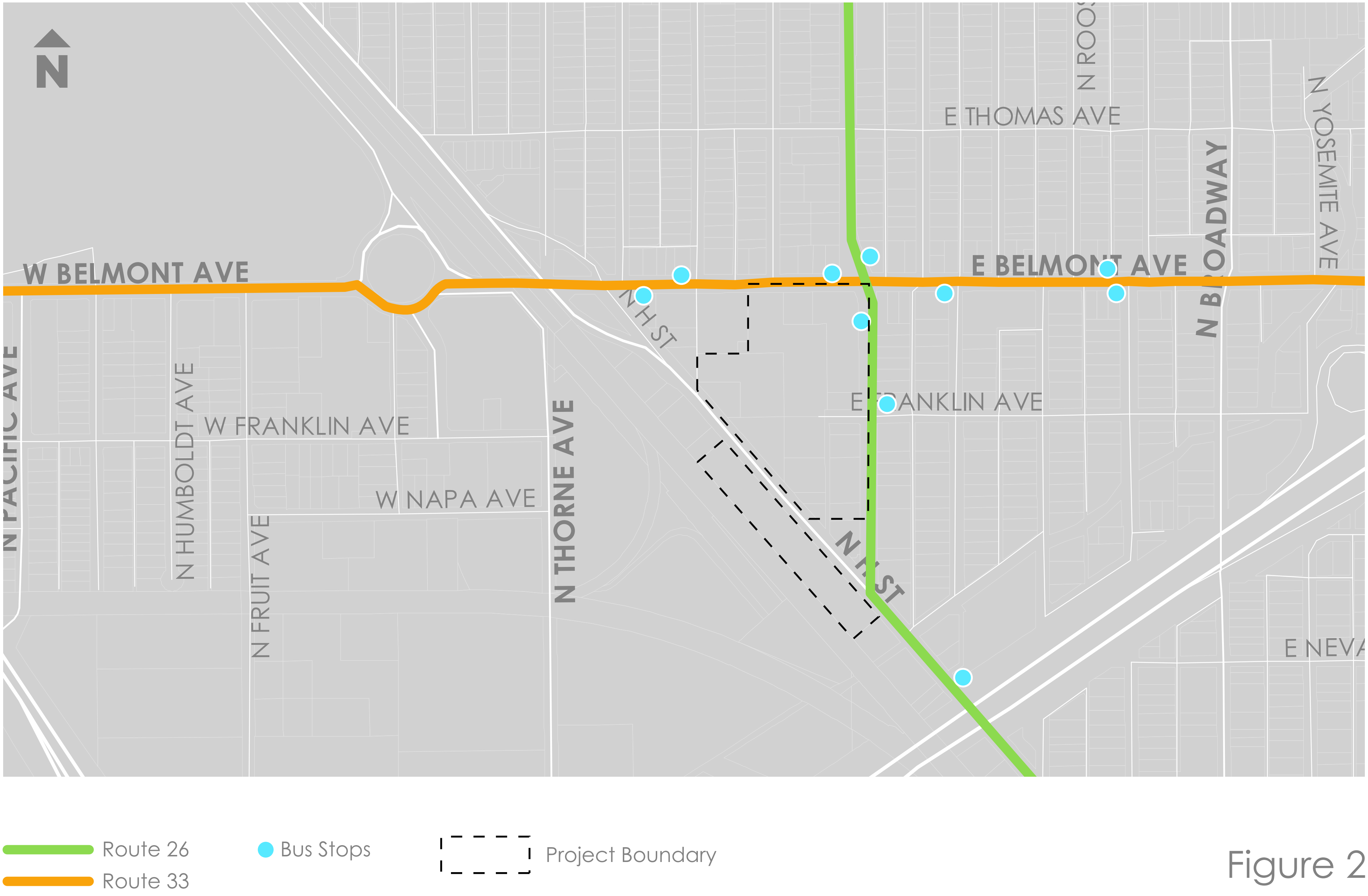

Figure 2

Existing Transit

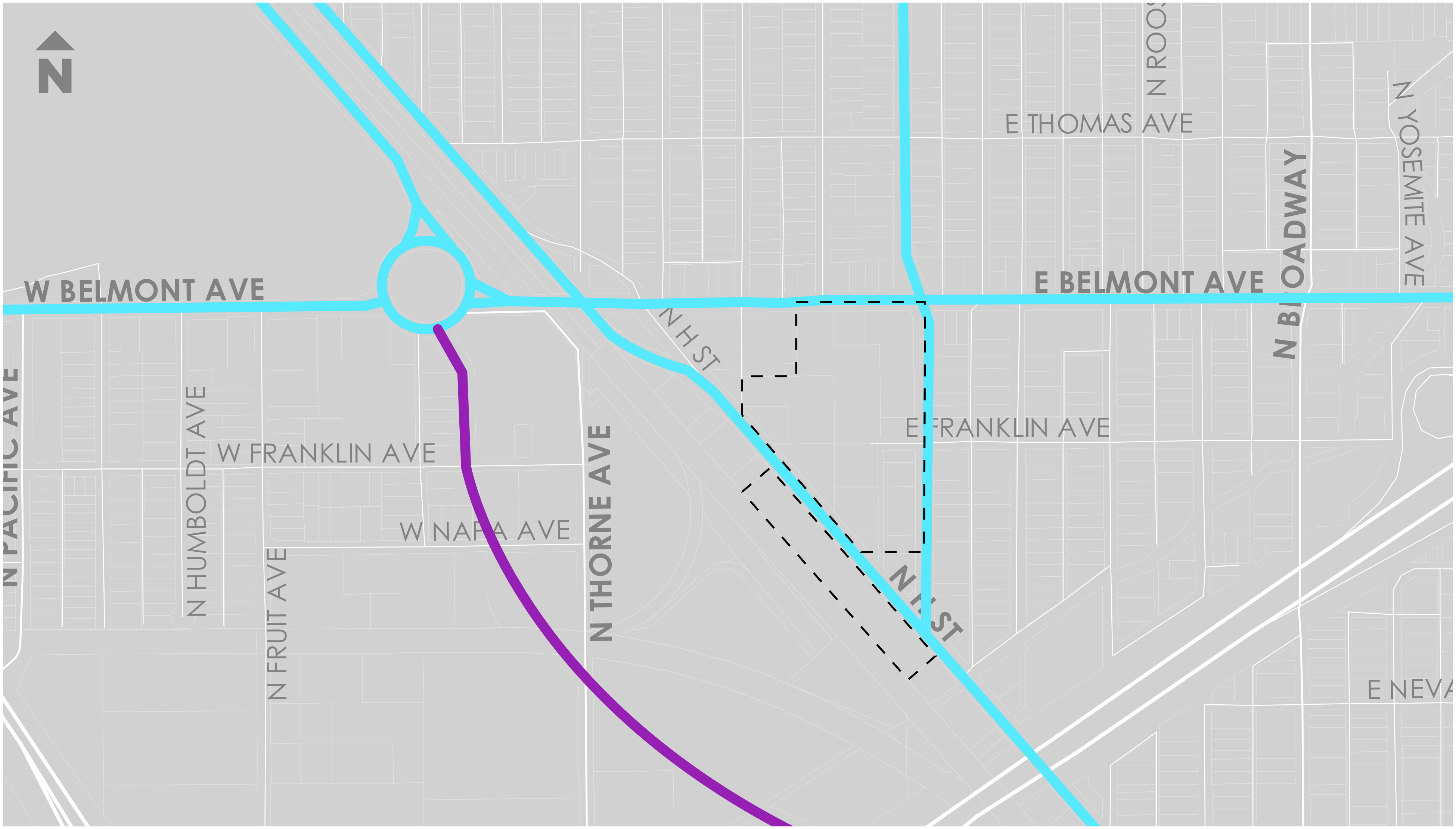

Figure 3

Truck Routes

KITTELSON & ASSOCIATES

BICYCLE AND PEDESTRIAN FACILITIES

Bicycle and pedestrian facilities are important components of the transportation network in the study area. They not only offer non-vehicular opportunities for both commute and recreational trips but also provide connections to the region's transit network.

Existing Bicycle Facilities

Bicycle facilities are defined by the following four classes[1]:

- **Class I** – Provides a completely separated facility designed for the exclusive use of bicyclists and pedestrians with crossing points minimized.
- **Class II** – Provides a restricted right-of-way designated lane for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossflows by pedestrians and motorists permitted.
- **Class III** – Provides a right-of-way designated by signs or permanent markings and shared with pedestrians and motorists.
- **Class IV** – Provides a restricted right-of-way designated lane for the exclusive use of bicyclists that is separated by a vertical element to provide further separation from motor vehicle traffic.

The City of Fresno adopted the Active Transportation Plan (ATP) in March 2017. This plan identifies existing and future planned bicycle facilities within the City's jurisdiction.

The following bikeways are currently present within the study area. They are shown graphically in Figure 4:

- **Class II Bike Lanes**
    - North H Street, north of Belmont Avenue

Planned and Proposed Bicycle Facilities

The ATP includes planned and proposed bikeway facilities near the Project site. They are discussed below and shown in Figure 4:

- **Class I Bike Paths**
    - North H Street, from Stanislaus Street to Belmont Avenue
    - Dry Creek Canal
- **Class II Bike Lanes**
    - North H Street, from Divisadero Street to Belmont Avenue
    - Palm Avenue, north of H Street
    - Belmont Avenue

---

[1] As detailed in Chapter 1000 of the Highway Design Manual (Caltrans, 2015).

None of these bikeways are listed as priority bikeways in the ATP.

Pedestrian Facilities

Pedestrian facilities are present near the Project site. Sidewalks are present along Belmont Avenue, except in the vicinity of the underpass for the railroad tracks, where they are proposed in the ATP. Sidewalks are also present along Palm Avenue on both sides and along the east side of H Street. Sidewalks are proposed in the ATP on the west side of H Street. The signalized intersections near the Project site have marked crosswalks across most legs. There is also an unsignalized pedestrian crosswalk across Belmont Avenue at Safford Avenue. Figure 5 shows existing and planned sidewalks near the Project.

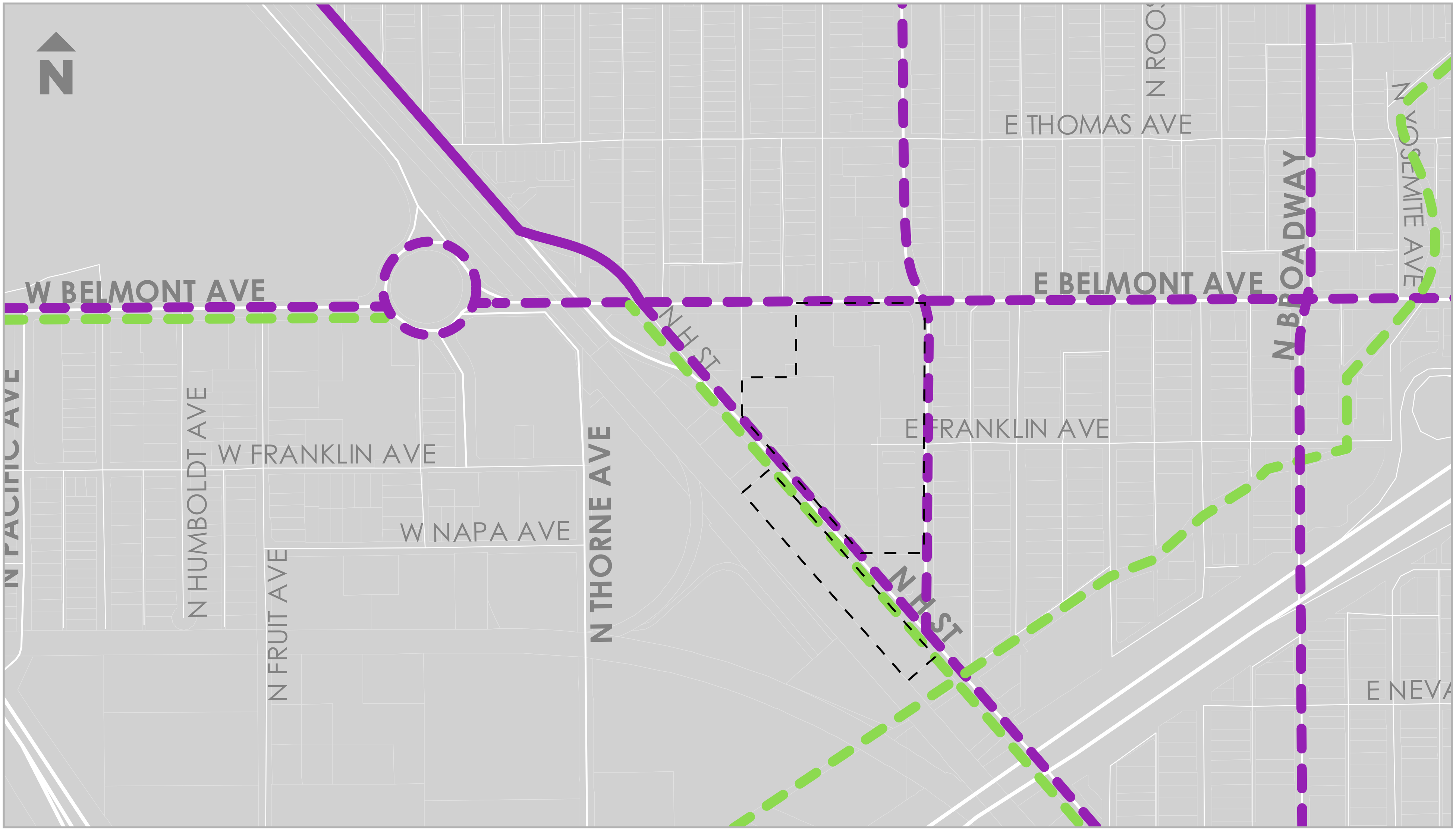

Figure 4

Bicycle Facilities

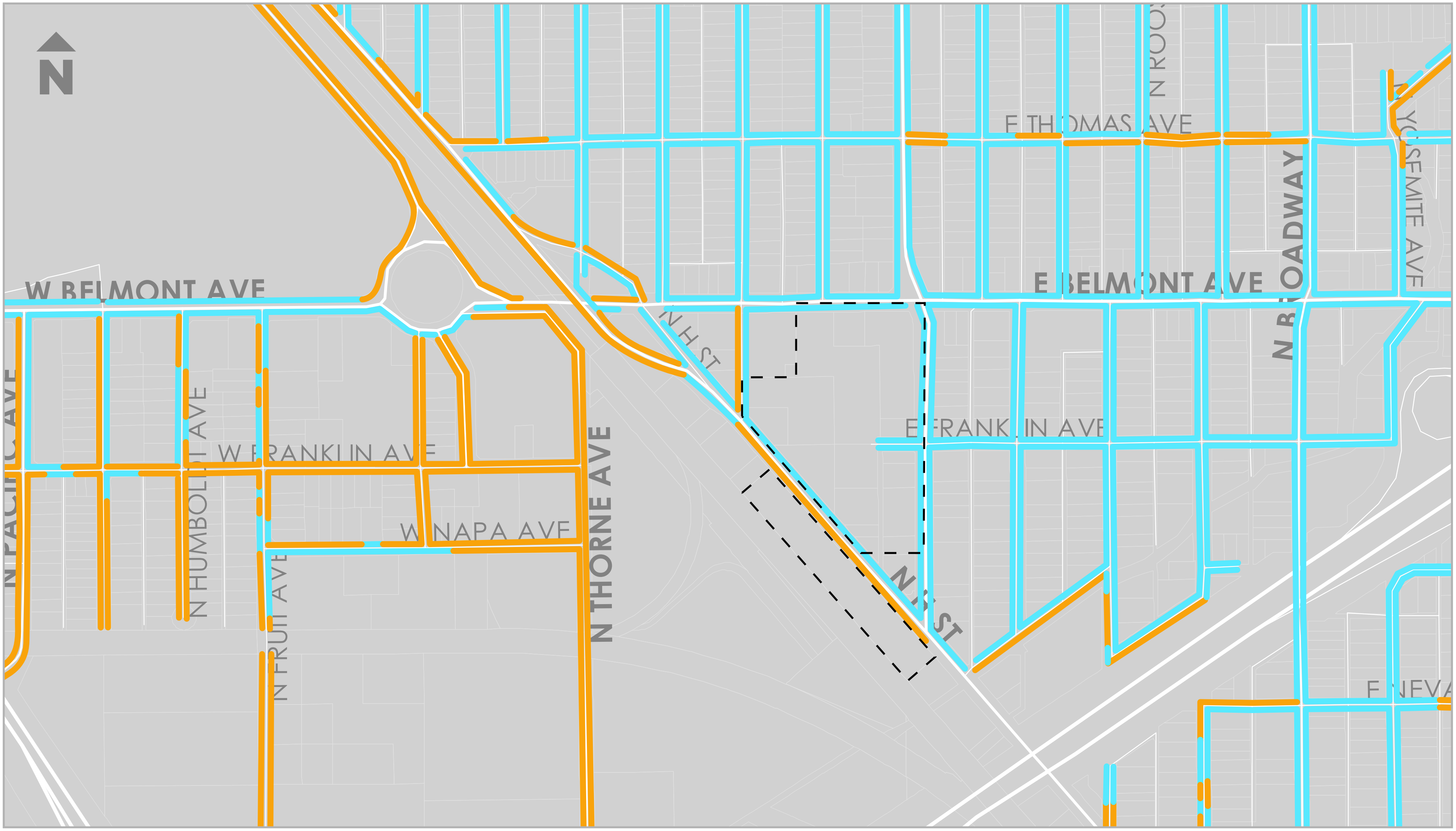

Figure 5
Pedestrian Facilities

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& ASSOCIATES

EXISTING TRAFFIC CONDITIONS

The existing operations of the study intersections were assessed for the weekday AM and PM peak hours. These peak hours represent the hours with the highest vehicle volumes during the study periods, which are the morning peak period (7:00 AM to 9:00 AM) and afternoon peak period (4:00 PM to 6:00 PM). Data were collected on Tuesday, December 10, 2019, a midweek day when schools were in session representing typical conditions. Appendix 2 provides the intersection turn movement counts collected at each intersection.

Pneumatic tube counts were also collected at North H Street just north of Palm Avenue and on Weber Avenue just south of Thomas Avenue. Tube counts were collected during a 7-day period from Tuesday, December 10, 2019 through Monday, December 16, 2019. Appendix 3 provides the raw tube count data collected at the two locations.

Analysis Methodologies and Level of Service Standards

"Level of service" describes the operating conditions experienced by users of a facility. Level of service is a qualitative measure of the effect of a number of factors, including speed and travel time, traffic interruptions, freedom to maneuver, driving comfort, and convenience. Levels of service are designated A through F from best to worst, which cover the entire range of traffic operations that might occur. Level of Service (LOS) A through E generally represents traffic volumes at less than roadway capacity, while LOS F represents over capacity and/or forced flow conditions.

LOS was analyzed using methodologies described in the 6th Edition of the *Highway Capacity Manual* (HCM 6), as implemented in the analysis software program Vistro. The LOS criteria for signalized and unsignalized intersections are shown in Table 2 and Table 3, respectively.

In addition to assessing the Project's effect on intersection operations, the Project's effect on 95th percentile queue lengths were evaluated based on the HCM 6th Edition methodology for the analysis intersections.

Existing Intersection Levels of Service

Intersection turning movement volumes, lane configurations, and traffic control were used to calculate the levels of service at the study intersections for the AM and PM peak hours. Table 4 shows a list of study intersections and the LOS results for existing conditions. As shown, all intersections operate at an existing LOS C or better.

Table 2: HCM 6 LOS Criteria for Signalized Intersections

Level of Service (LOS)	Average Delay (seconds/vehicle)	Description
A	≤ 10	Very Low Delay: This level of service occurs when progression is extremely favorable, and most vehicles arrive during a green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 10 and ≤ 20	Minimal Delays: This level of service generally occurs with good progression, short cycle lengths, or both. More vehicles stop than at LOS A, causing higher levels of average delay.
C	> 20 and ≤ 35	Acceptable Delay: Delay increases due to fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level of service. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.
D	> 35 and ≤ 55	Approaching Unstable Operation/Significant Delays: The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume / capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 55 and ≤ 80	Unstable Operation/Substantial Delays: These high delay values generally indicate poor progression, long cycle lengths, and high volume / capacity ratios. Individual cycle failures are frequent occurrences.
F	> 80	Excessive Delays: This level, considered unacceptable to most drivers, often occurs with oversaturation (that is, when arrival traffic volumes exceed the capacity of the intersection). It may also occur at high volume / capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.
Source: *Highway Capacity Manual 6th Edition* (HCM 6)		

Table 3: HCM 6 LOS Criteria for Unsignalized Intersections

Level of Service (LOS)	Average Delay (seconds/vehicle)	Description
A	≤ 10	Very Low Delay
B	> 10 and ≤ 15	Minimal Delays
C	> 15 and ≤ 25	Acceptable Delay
D	> 25 and ≤ 35	Approaching Unstable Operation and/or Significant Delays
E	> 35 and ≤ 50	Unstable Operation and/or Substantial Delays
F	> 50	Excessive Delays
Source: *Highway Capacity Manual 6th Edition* (HCM 6)		

Table 4: Intersection Level of Service – Existing Conditions

#	Intersection	Existing AM			Existing PM		
		V/C	Delay	LOS	V/C	Delay	LOS
1	Thomas Avenue & Weber Avenue	0.02	18.2	C	0.02	19.6	C
2	Belmont Avenue & Weber Avenue	0.23	11.7	B	0.47	15.5	B
3	Belmont Avenue & Safford Avenue	0.01	12.0	B	0.01	17.0	C
4	Belmont Avenue & Palm Avenue	0.24	15.3	B	0.34	16.4	B
5	H Street & Palm Avenue	0.40	14.5	B	0.28	10.2	B

Source: Kittelson & Associates, Inc. 2020
Intersections analyzed using HCM 6 methodologies
V/C = Volume/capacity ratio
Delay = Average vehicle delay in seconds
LOS = Level of service

REGULATORY SETTING

This section summarizes applicable federal, state, regional, and local plans, laws, and regulations that are relevant to this analysis. This information provides a context for the discussion related to the Project's consistency with applicable policies, plans, laws, and regulations.

FEDERAL

No federal plans, policies, regulations, or laws pertaining to transportation have been determined to be applicable to this Project.

STATE

Senate Bill 743 (Steinberg, 2013) required changes to the CEQA Guidelines regarding the analysis of transportation impacts. Those proposed changes identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts. Since the bill has gone into effect, automobile delay, as measured by "level of service" and other similar metrics, no longer constitutes a significant environmental effect under CEQA. Auto-mobility (often expressed as "level of service") may continue to be a measure for planning purposes.[2]

In December 2018, the California Governor's Office of Planning and Research (OPR) and the State Natural Resources Agency submitted updated CEQA Guidelines to the Office of Administrative Law for final approval to implement SB 743. The Office of Administrative Law approved the updated CEQA Guidelines, thus implementing SB 743 and making VMT the primary metric used to analyze transportation impacts. However, local agencies have until July 1, 2020 to implement the updated guidelines.

There are currently no adopted CEQA thresholds for determining VMT impacts in the city of Fresno and LOS can no longer be used to assess transportation impacts under CEQA. Therefore, this report analyzes the Project's anticipated effect on VMT and LOS for informational purposes but does not use them for evaluating the Project's transportation impacts.

REGIONAL

No regional plans, policies, regulations, or laws pertaining to transportation are applicable since the Project is not increasing trip generation and therefore would not change conditions on regional transportation facilities.

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[2] Governor's Office of Planning and Research, 2016. Technical Advisory on Evaluating Transportation Impacts in CEQA, Implementing Senate Bill 743 (Steinberg, 2013)

LOCAL

City of Fresno 2035 General Plan

The City of Fresno adopted the Fresno 2035 General Plan[3] in December 2014 as an update to the previous Fresno General Plan approved in 2002. It serves as the City's guide for the continued development, enhancement, and revitalization of the Fresno metropolitan area. The following policies related to transportation and circulation are applicable to the Project:

- **MT-2-i: Transportation Impact Studies.** Require a Transportation Impact Study (TIS) to assess the impacts of new development projects on existing and planned streets for projects meeting one or more of the following criteria, unless it is determined by the City Traffic Engineer that the project site and surrounding area already has appropriate multi-modal infrastructure improvements.
    - When a project includes a General Plan amendment that changes the General Plan Land Use Designation.
    - When the project will substantially change the off-site transportation system (auto, transit, bike or pedestrian) or connection to the system, as determined by the City Traffic Engineer.
    - Transportation impact criteria are tiered based on a project's location within the City's Sphere of Influence. This is to assist with areas being incentivized for development. The four zones, as defined on Figure MT-4, are listed below. The following criteria apply:
        - Traffic Impact Zone I (TIZ-I): TIZ-I represents the Downtown Planning Area. Maintain a peak hour LOS standard of F or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.
        - Traffic Impact Zone II (TIZ-II): TIZ-II generally represents areas of the City currently built up and wanting to encourage infill development. Maintain a peak hour LOS standard of E or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.
        - Traffic Impact Zone III (TIZ-III): TIZ-III generally represents areas near or outside the City Limits but within the SOI as of December 31, 2012. Maintain a peak hour LOS standard of D or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 100 or more peak hour new vehicle trips.
        - Traffic Impact Zone IV (TIZ-IV): TIZ-IV represents the southern employment areas within and planned by the City. Maintain a peak hour LOS standard of E

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[3] City of Fresno General Plan 2035, December 18, 2014.

> or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.

The Project is in Zone II above, so the Project would be required to maintain a peak hour LOS standard of E or better.

City of Fresno Traffic Impact Study Report Guidelines

The City of Fresno's Traffic Impact Study Report Guidelines (updated February 2, 2009) establish general procedures and requirements for traffic impact studies. The Report Guidelines set forth the following criteria for determining whether a project would be required to implement an improvement at a study intersection:

- The Project triggers an intersection operating at an acceptable level of service (LOS E or better for locations in Zone II) to operate at an unacceptable LOS.
- The Project triggers an intersection operating at an unacceptable LOS to operate at LOS F.
- The Project increases the average delay for a study intersection that is already operating at an unacceptable LOS.

City of Fresno Active Transportation Plan

The City of Fresno Active Transportation Plan (ATP)[4] is a comprehensive guide that creates a vision for active transportation in the City of Fresno. It is an update to the City of Fresno Bicycle, Pedestrian, & Trails, Master Plan that was adopted in 2010.

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[4] City of Fresno Active Transportation Plan, December 2016.

TRANSPORTATION ANALYSIS

The transportation analysis assesses how the study area's transportation system would operate with the implementation of the proposed Project. This analysis includes both effects that would result in significant impacts under the California Environmental Quality Act (CEQA) guidelines and non-CEQA effects that the Project should improve to maintain an efficient transportation network.

Since LOS can no longer be used for CEQA impacts and the City of Fresno has not yet adopted VMT impact criteria, they have not been assigned significance criteria and are presented in this report for informational purposes only.

CEQA SIGNIFICANCE CRITERIA

The Project's impact is not considered to be significant unless it would:

a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

b. Conflict or be inconsistent with CEQA Guideline section 15064.3, subdivision (b).

c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

d. Result in inadequate emergency access.

Significance criteria "b" is related to the implementation of vehicle miles traveled (VMT) as the primary performance metric. Since the City of Fresno has not yet adopted VMT impact criteria (they have until July 1, 2020 to adopt it), VMT in this analysis is presented for informational purposes only.

NON-CEQA CRITERIA

While level of service (LOS) is no longer applicable to CEQA analyses, the City of Fresno requires a transportation analysis looking at how intersection operations will be affected by the Project. If a Project triggers any of the following criteria, the Project will need to implement improvement measures to maintain an efficient transportation system:

a. Causes an intersection operating at an acceptable level of service (LOS E or better for locations in Zone II) to operate at an unacceptable LOS.

b. Causes an intersection operating at an unacceptable LOS to operate at LOS F.

c. Causes an increase in the average delay for a study intersection that is already operating at an unacceptable LOS.

PROJECT CONDITIONS

The Project requests that the City of Fresno vacate North H Street from just north of Palm Avenue to just south of Harrison Street. The closing of North H Street would require the rerouting of traffic onto other routes including Palm Avenue. The primary reroutes are shown in Figure 6 and include rerouted traffic from:

- Northbound H Street north of Palm Avenue;
- Southbound H Street south of Belmont Avenue; and
- Southbound Weber Street south of Thomas Avenue.

The projected net change in traffic volumes at each intersection is included in Appendix 5.

As discussed in the "Project Description" section of this report, southbound Weber Avenue north of Belmont Avenue does not intersect with Belmont Avenue. Instead, southbound traffic uses an overpass to merge with North H Street south of Belmont Avenue. This southbound traffic would thus be rerouted to keep traffic from entering a dead-end street once North H Street is vacated.

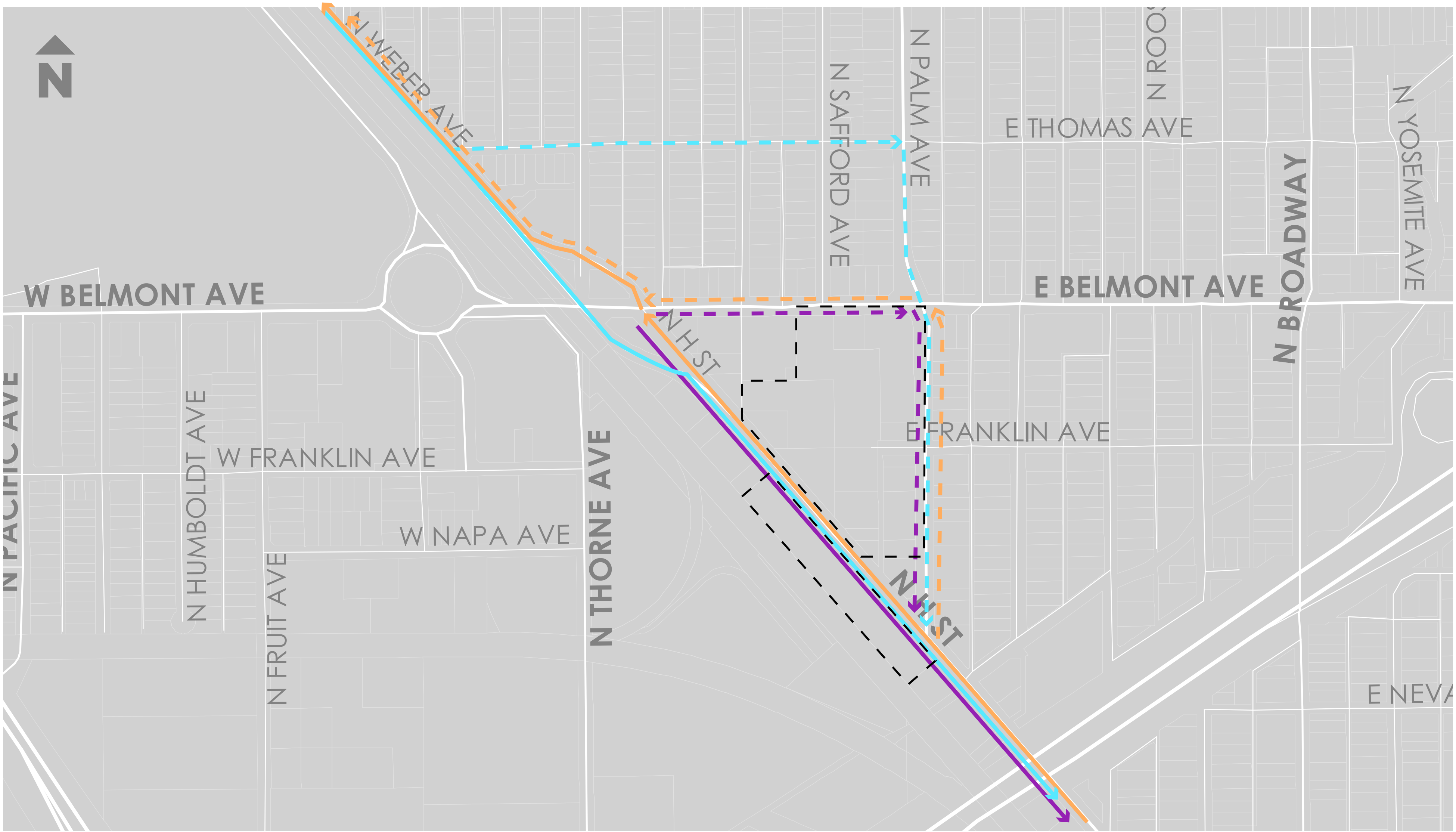


Figure 6

Existing Plus Project

Existing Traffic to be Rerouted

North H Street

As discussed in the "Analysis Approach" section of this report, counts were collected on North H Street, north of Palm Avenue. Table 5 summarizes the existing traffic characteristics on North H Street as shown in the count data. As shown in the table, about 7,300 vehicles per day travel along North H Street and would be affected by the Project. About 2.2 percent of these are classified as heavy vehicles. Producer's Dairy has confirmed that their trucks and employees are unlikely to use the section of North H Street where counts were collected, since their main entrance is on Franklin Avenue west of Palm Avenue. Therefore, this count provides an accurate estimate of the total amount of traffic that would need to be rerouted.

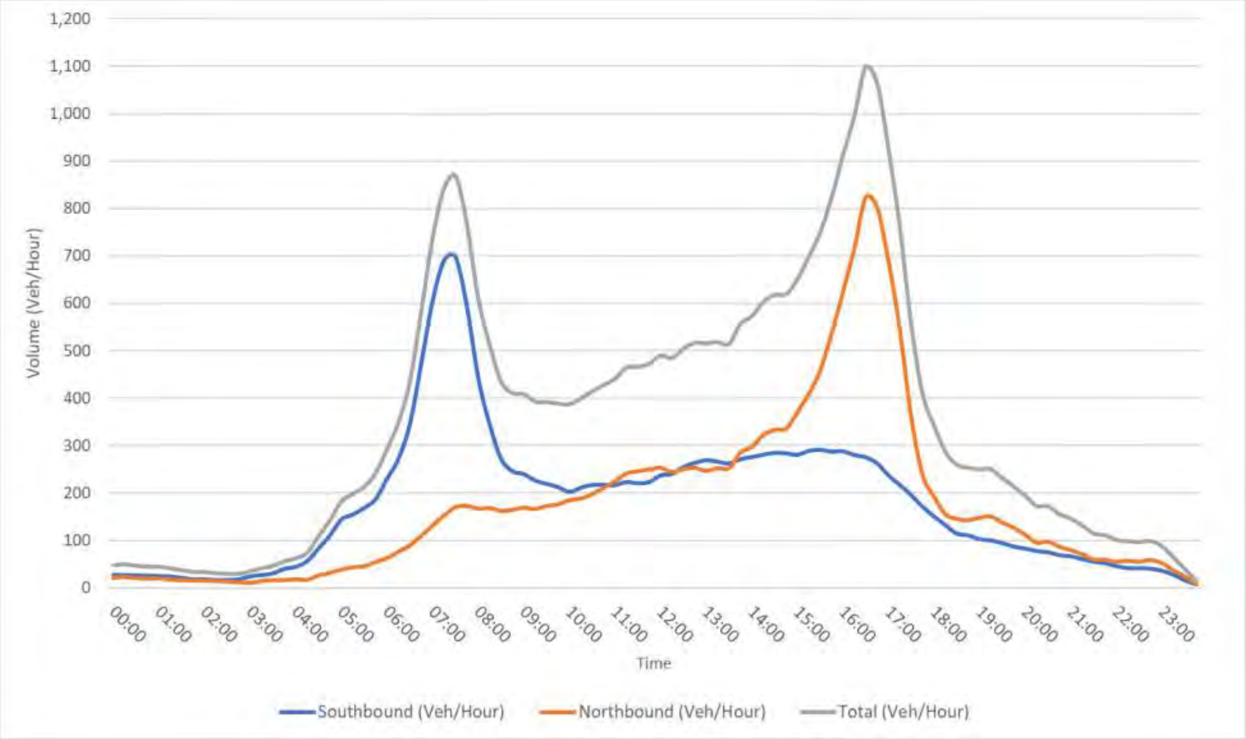
Table 5: Existing Traffic Characteristics on North H Street, north of Palm Avenue

Traffic Characteristics	
Weekday Average Daily Traffic Volume	8,500 (vehicles/day)
Weekend Average Daily Traffic Volume	4,400 (vehicles/day)
Average Daily Traffic Volume (All Days)	7,300 (vehicles/day)
Weekday AM Peak Hour Volumes	870 (vehicles/hour)
Weekday PM Peak Hour Volumes	1,100 (vehicles/hour)
Heavy Vehicle Percentage (%) - Daily	2.2%

Source: Kittelson & Associates, 2020.

Figure 7 displays the average daily traffic volume profile on North H Street, based on the data collected from bidirectional tube counts. As shown in the figure, southbound volumes are higher in the morning periods, while northbound volumes are higher in the later evening periods.

Figure 7: Average Weekday Hourly Traffic Volume on North H St, north of Palm Ave



Southbound Weber Avenue

Counts were also collected on Weber Avenue, south of Thomas Avenue. Table 6 summarizes the existing traffic characteristics on Weber Avenue as shown in the count data. Since southbound traffic on Weber Avenue north of Belmont Avenue uses an overpass to merge with North H Street, the southbound traffic on Weber Avenue would need to be diverted under the Project condition. As displayed in the table, about 3,050 vehicles per day travel southbound along Weber Avenue south of Thomas Avenue and will need to be rerouted if the Project is implemented.

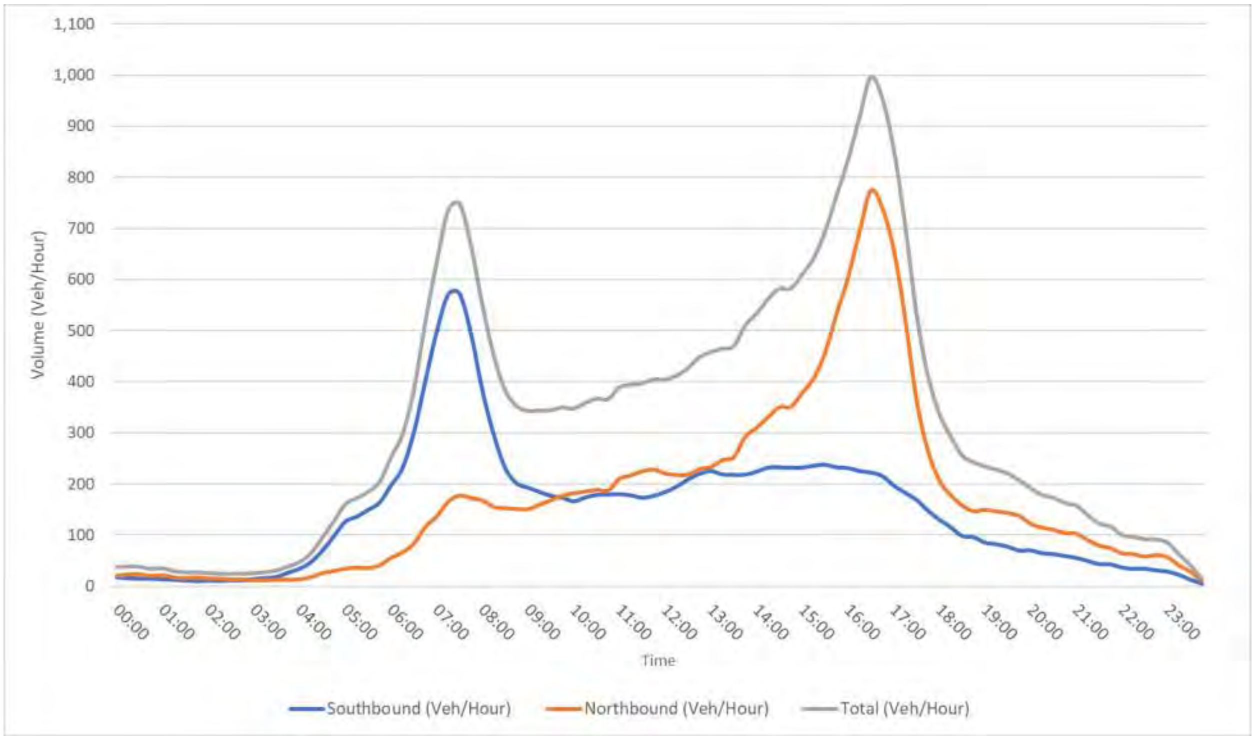
Table 6: Existing Traffic Characteristics on Weber Avenue, south of Thomas Avenue

Traffic Characteristics	
Weekday Average Daily Traffic Volume	7,700 (vehicles/day)
Weekend Average Daily Traffic Volume	4,000 (vehicles/day)
Average Daily Traffic Volume (All Days)	6,600 (vehicles/day)
Southbound Average Daily Traffic Volume (All Days)	3,050 (vehicles/day)
Southbound Weekday AM Peak Hour Volumes	570 (vehicles/hour)
Southbound Weekday PM Peak Hour Volumes	240 (vehicles/hour)

Source: Kittelson & Associates, 2020

Figure 8 displays the average daily traffic volume profile on North H Street, based on the data collected from bidirectional tube counts. As shown in the figure, southbound volumes are generally higher in the morning periods, while northbound volumes are generally higher in the later evening periods.

Figure 8: Average Weekday Hourly Traffic Volume Weber Ave, just south of Thomas Ave



CUMULATIVE CONDITIONS

Cumulative conditions representing the year 2040 were also analyzed. The main change to the study area is the planned development of the California High-Speed Rail. The plans for the High-Speed Rail project in the Project area are included in Appendix 8. As part of the High-Speed Rail project, Belmont Avenue would no longer connect to North Weber Avenue. Instead, Belmont Avenue would be grade-separated from North Weber Avenue, and a new Belmont Avenue overpass would be installed over North Weber Avenue. This overpass would start just west of Safford Avenue.

Since Belmont Avenue would no longer connect to North Weber Avenue, a connector road would also be constructed. This connector road would connect North Weber Avenue, just north Belmont Avenue, to Safford Avenue and would run parallel to Belmont Avenue to the north.

Traffic under cumulative conditions would be rerouted due to the Project's closure of North H Street as well as the use of the connector road to travel between North Weber Avenue and Belmont Avenue. This rerouting of traffic under cumulative conditions is shown in Figure 9. The projected net change in traffic volumes at each intersection is included in Appendix 5.

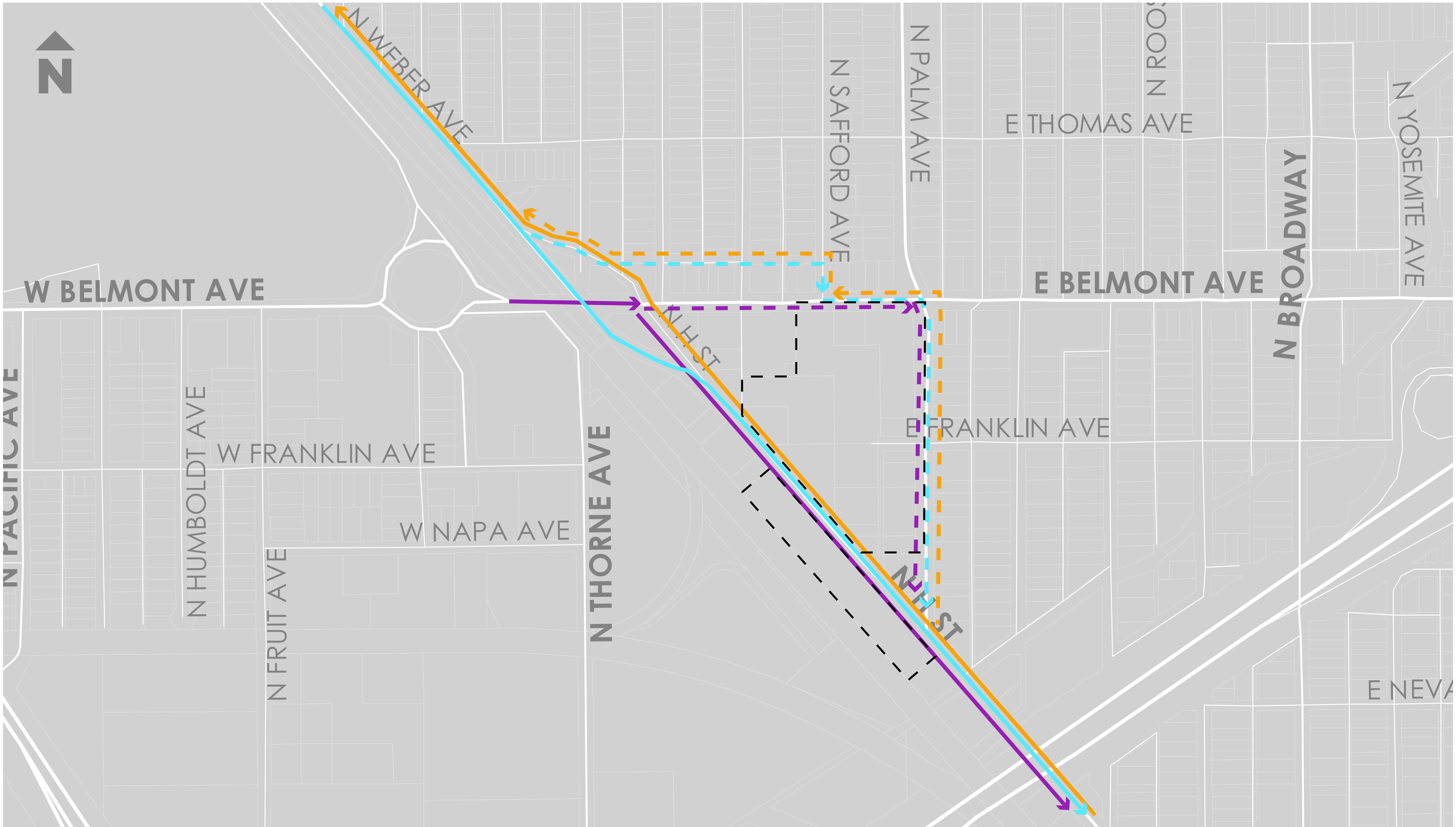


Figure 9

Cumulative Plus Project

KITTELSON
& ASSOCIATES

CIRCULATION SYSTEM PERFORMANCE

As discussed previously, LOS can no longer be used in assessing CEQA impacts. However, the City of Fresno still relies on this type of analysis for transportation planning. This section provides the findings of the LOS analyses for informational purposes only.

The performance of the identified analysis intersections was assessed for two scenarios including traffic conditions as of when environmental review commenced (Existing) and the future planning year 2040 (Cumulative Condition). At locations where the Project would cause a transportation deficiency, potential improvements have been proposed.

Existing Conditions

Intersection analyses of Existing and Existing plus Project conditions were performed to determine if the study intersections would fall below the thresholds listed above if the Project was built and operating under existing traffic conditions.

Existing Intersection Operations

The weekday AM and PM peak hour intersection turning movement volumes and lane configurations for Existing Conditions with and without the Project were used to calculate the LOS. The volumes and lane configurations used in this analysis are provided in Appendix 4. The level of service results are summarized in Table 7 and Table 8 for the AM and PM peak hours, respectively. Detailed calculation worksheets are provided in Appendix 6. As shown in these tables, the Project would cause the following intersections to perform below the LOS thresholds established by the City of Fresno.

- #3 Belmont Avenue & Safford Avenue – the Project would cause the LOS to deteriorate from LOS C to LOS F in the PM peak hour.
- #4 Belmont Avenue & Palm Avenue – the Project would cause the LOS to deteriorate from LOS B to LOS F in the PM peak hour.
- #5 H Street & Palm Avenue – the Project would cause the LOS to deteriorate from LOS B to LOS F during the AM peak hour.

Since the Project does not include any increases in traffic activity at Producer's Dairy, the traffic operations changes listed above would be attributable to the rerouting of traffic associated with the proposed closure of North H Street.

Table 7: Intersection Level of Service – Existing Conditions – Weekday AM Peak Hour

#	Intersection	Existing AM			Existing AM + Project		
		V/C	Delay	LOS	V/C	Delay	LOS
1	Thomas Avenue & Weber Avenue	0.02	18.2	C	0.55	10.7	B
2	Belmont Avenue & Weber Avenue	0.23	11.7	B	0.26	12.8	B
3	Belmont Avenue & Safford Avenue	0.01	12.0	B	0.02	15.6	C
4	Belmont Avenue & Palm Avenue	0.24	15.3	B	1.53	36.7	D
5	H Street & Palm Avenue	0.40	14.5	B	0.54	94.3	F

Source: Kittelson & Associates, Inc. 2020
Intersections analyzed using HCM 6 methodologies
V/C = Volume/capacity ratio
Delay = Average vehicle delay in seconds
LOS = Level of service
Intersections shaded in grey represent where the LOS falls below the LOS recommended by the City of Fresno.

Table 8: Intersection Level of Service – Existing Conditions – Weekday PM Peak Hour

#	Intersection	Existing AM			Existing AM + Project		
		V/C	Delay	LOS	V/C	Delay	LOS
1	Thomas Avenue & Weber Avenue	0.02	19.6	C	0.04	14.0	B
2	Belmont Avenue & Weber Avenue	0.47	15.5	B	0.53	31.8	C
3	Belmont Avenue & Safford Avenue	0.01	17.0	C	0.04	51.0	F
4	Belmont Avenue & Palm Avenue	0.34	16.4	B	1.36	177.0	F
5	H Street & Palm Avenue	0.28	10.2	B	0.86	12.2	B

Source: Kittelson & Associates, Inc. 2020
Intersections analyzed using HCM 6 methodologies
V/C = Volume/capacity ratio
Delay = Average vehicle delay in seconds
LOS = Level of service
Intersections shaded in grey represent where the LOS falls below the LOS recommended by the City of Fresno.

Proposed Improvements

The following intersections are where the Project would cause the intersection LOS under existing conditions to fall below the standards set by the City of Fresno. Proposed improvements, if possible, are recommended for each of these locations. Detailed calculation worksheets showing intersection operations with implementation of the recommended improvements under the Existing plus Project scenario are provided in Appendix 7. Table 9 and Table 10 show the existing AM and PM peak hour operations for the study intersections with these recommended improvements.

Belmont Avenue and Safford Avenue (#3)

The rerouting of traffic due to the Project would cause the volume on westbound Belmont Avenue to increase since it would be carrying traffic that used to be on northbound H Street. The higher traffic volume would increase the delay for the southbound left-turn movement out of Safford Avenue from an acceptable LOS C to an unacceptable LOS F during the PM peak hour.

> **Proposed Improvement:** The volume of the southbound left turn out of Safford Avenue affected by the increased traffic volume is three vehicles during the PM peak hour. Since a signal at this intersection would not be warranted for three vehicles, there is no feasible mitigation measure for this intersection. This deficiency would be corrected once the High-Speed Rail street improvements are implemented since the intersection would be signalized.

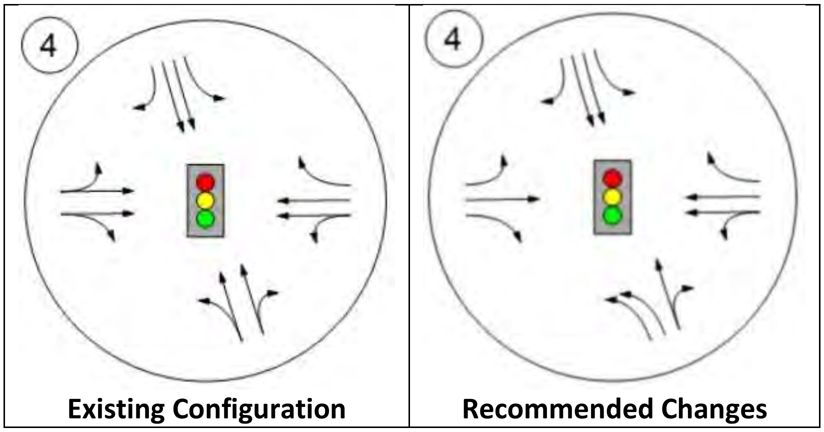
Belmont Avenue and Palm Avenue (#4)

The rerouting of traffic due to the H Street closure would increase the northbound left-turn volume at the intersection, causing the delay to increase at the intersection from LOS B to LOS F during the PM peak hour.

> **Proposed Improvement**: Implement the following geometric and signal timing improvements:
>
> - Modify the northbound approach from a shared left/thru lane and a shared right/thru lane into two exclusive left lanes and a shared thru/right lane.
> - Modify the eastbound approach from a shared left/thru lane and a shared right/thru lane into an exclusive left lane, exclusive through lane, and an exclusive right lane.
> - Modify the traffic signal into a fully actuated controller with protected left turn phasing for the northbound and southbound approaches on Palm Avenue. Additionally, install an eastbound right-turn overlap to run concurrently with the northbound left turn phase.

Implementation of this improvement would improve the operation of this intersection to LOS C during the PM peak hour. A representation of the proposed lane configuration changes is shown in Figure 10.

Figure 10: Proposed Changes to Belmont Avenue and Palm Avenue for Existing Traffic Volumes



H Street and Palm Avenue (#5)

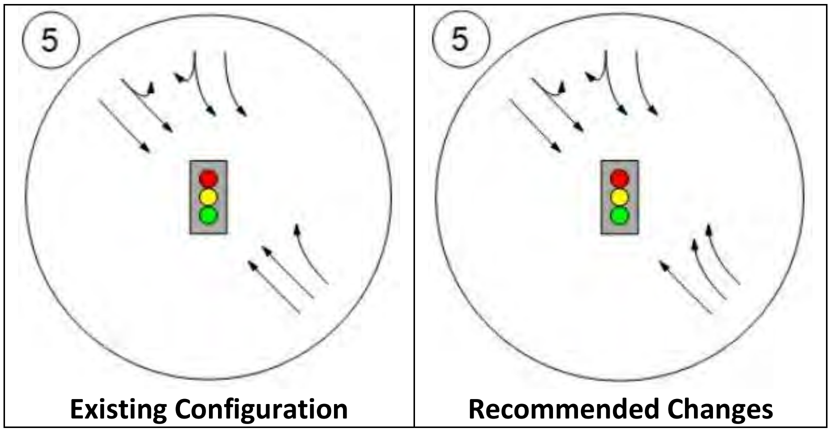
The rerouting of traffic due to the H Street closure would increase the southbound left-turn volume, causing the delay to increase at the intersection from LOS B to LOS F during the AM peak hour.

Proposed Improvement: Implement the following geometric and signal timing improvements:

- Reconfigure the northbound H Street approach to have a single through lane and double right-turn lanes.
- Install a fully actuated signal with a right-turn overlap for the northbound H Street approach.

Implementation of these changes would improve the operation of this intersection to LOS A during the AM peak hour. A representation of the proposed lane configuration changes is shown in Figure 11.

Figure 11: H Street and Palm Avenue Changes for Existing Traffic Volumes



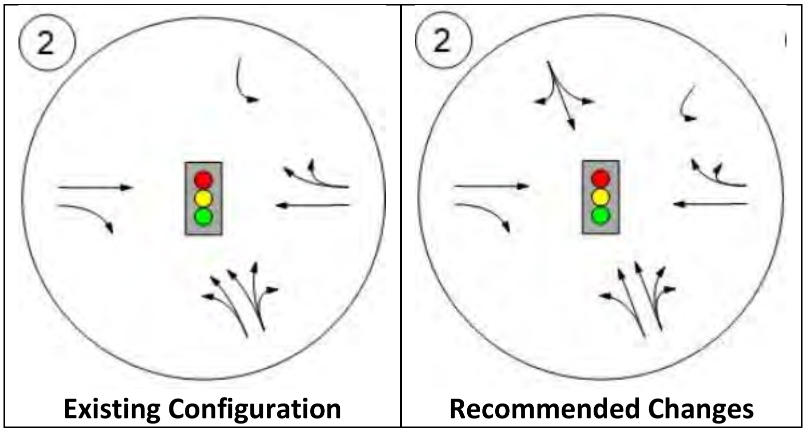
Thomas Avenue

The closure of H Street southbound would require southbound traffic on H Street to make a left turn on Thomas Avenue and proceed through the neighborhood to Palm Avenue. The increased traffic on a local street would decrease the safety for residents along Thomas Avenue.

> **Proposed Improvement:** Implement the following geometric and signal timing improvements:
>
> - Modify the intersection of Belmont Avenue and Weber Street to have a southbound approach with one shared left/thru/right lane.
> - Upgrade the traffic signal controller to a fully actuated controller with split phase operations for the northbound and southbound approaches. Additionally, install a westbound right-turn overlap signal to run concurrently with the southbound split phase.

Implementation of this improvement would result in acceptable LOS A operations. A representation of the proposed lane configuration changes is shown in Figure 12. Please note that implementation of this improvement would result in additional traffic on Belmont Avenue. This would increase the delay at the Belmont Avenue and Safford Avenue intersection which is why the mitigated tables shown in Table 9 and Table 10 show a worse LOS at Safford Avenue.

Figure 12: H Street and Belmont Avenue Changes for Existing Traffic Volumes



Existing Configuration

Recommended Changes

Table 9: Intersection Level of Service – Existing AM Improved Peak Hour Operations

#	Intersection	Existing AM			Existing AM + Project			Existing AM + Project under Improved Conditions		
		V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
1	Thomas Avenue & Weber Avenue	0.02	18.2	C	0.55	10.7	B	0.02	18.2	C
2	Belmont Avenue & Weber Avenue	0.23	11.7	B	0.26	12.8	B	0.74	14.6	B
3	Belmont Avenue & Safford Avenue	0.01	12.0	B	0.02	15.6	C	0.04	23.4	C
4	Belmont Avenue & Palm Avenue	0.24	15.3	B	1.53	36.7	D	0.34	20.6	C
5	H Street & Palm Avenue	0.40	14.5	B	0.54	94.3	F	0.52	6.3	A

Source: Kittelson & Associates, Inc. 2020
Intersections analyzed using HCM 6 methodologies
V/C = Volume/capacity ratio
Delay = Average vehicle delay in seconds
LOS = Level of service
Intersections shaded in grey represent where the LOS falls below the LOS recommended by the City of Fresno.

Table 10: Intersection Level of Service – Existing PM Improved Peak Hour Operations

#	Intersection	Existing PM			Existing PM + Project			Existing PM + Project under Improved Conditions		
		V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
1	Thomas Avenue & Weber Avenue	0.02	19.6	C	0.04	14.0	B	0.02	19.6	C
2	Belmont Avenue & Weber Avenue	0.47	15.5	B	0.53	31.8	C	0.19	8.8	A
3	Belmont Avenue & Safford Avenue	0.01	17.0	C	0.04	51.0	F	0.04	60.0	F
4	Belmont Avenue & Palm Avenue	0.34	16.4	B	1.36	177.0	F	0.52	29.8	C
5	H Street & Palm Avenue	0.28	10.2	B	0.86	12.2	B	0.22	3.5	A

Source: Kittelson & Associates, Inc. 2020
Intersections analyzed using HCM 6 methodologies
V/C = Volume/capacity ratio
Delay = Average vehicle delay in seconds
LOS = Level of service
Intersections shaded in grey represent where the LOS falls below the LOS recommended by the City of Fresno.

Cumulative Conditions

The Cumulative Conditions analysis forecasts how the study area's transportation system would operate with the Project in combination with the growth and changes of the surrounding community by the year 2040. The traffic growth based on changes of the surrounding community by 2040 were derived from the latest version of the Fresno Council of Governments (Fresno COG) Travel Demand Model which was used for the recent Fresno General Plan Update EIR. Estimated growth in segment volumes along the roadways in the study area, as forecast by the travel model, were applied to the existing traffic counts to develop cumulative 2040 volumes on streets and at intersections.

As discussed previously in the "Project Conditions" section, the California High-Speed Rail project would affect the transportation system in the cumulative year. With the high-speed train, North Weber Avenue would connect to Belmont Avenue with a connector road that runs parallel to Belmont Avenue.

This section describes the effects the Project would have on the transportation system considering the anticipated growth in traffic volumes and the High-Speed Rail project.

Cumulative Intersection Operations

The weekday AM and PM peak hour intersection turning movement volumes and lane configurations for cumulative conditions with and without the Project are provided in Appendix 4. This information was used to calculate the level of service and identify if the level of service would fall below the thresholds set by the City of Fresno. The level of service results are summarized in Table 11 and Table 12 for the AM and PM peak hours, respectively. Detailed calculation worksheets are provided in Appendix 6.

As shown in these tables, the Project would cause the following intersections to perform below the LOS thresholds set by the City of Fresno under cumulative conditions:

- #3 Belmont Avenue & Safford Avenue – the Project would cause the LOS to deteriorate from LOS A to LOS F in the AM peak hour and from LOS B to LOS F in the PM peak hour.
- #4 Belmont Avenue & Palm Avenue – the Project would cause the LOS to deteriorate from LOS B to LOS F in the AM peak hour and from LOS D to LOS F in the PM peak hour.
- #5 H Street & Palm Avenue – the Project would cause the LOS to deteriorate from LOS C to LOS F during the AM peak hour.
- #6 Belmont Avenue Connector & Safford Avenue – the project would cause the LOS to deteriorate from LOS A to LOS F in the AM peak hour.

While Thomas Avenue and Weber Avenue would operate below the LOS standard in the AM peak hour due to cumulative traffic growth, the Project would not affect the operations at this location under cumulative conditions.

Table 11: Intersection Level of Service – Cumulative Conditions – Weekday AM Peak Hour

#	Intersection	Cumulative AM			Cumulative AM + Project		
		V/C	Delay	LOS	V/C	Delay	LOS
1	Thomas Avenue & Weber Avenue	0.17	67.1	F	0.17	67.1	F
2	Belmont Avenue Connector & Weber Avenue	0.15	10.4	B	0.94	27.0	D
3	Belmont Avenue & Safford Avenue	0.42	7.0	A	1.54	293.1	F
4	Belmont Avenue & Palm Avenue	0.52	18.1	B	1.94	391.3	F
5	H Street & Palm Avenue	0.70	21.8	C	0.92	393.8	F
6	Belmont Avenue Connector & Safford Avenue	0.11	8.8	A	1.41	205.6	F

Source: Kittelson & Associates, Inc. 2020
Intersections analyzed using HCM 6 methodologies
V/C = Volume/capacity ratio
Delay = Average vehicle delay in seconds
LOS = Level of service
Intersections shaded in grey represent where the LOS falls below the LOS recommended by the City of Fresno.

Table 12: Intersection Level of Service – Cumulative Conditions – Weekday PM Peak Hour

#	Intersection	Cumulative PM			Cumulative PM + Project		
		V/C	Delay	LOS	V/C	Delay	LOS
1	Thomas Avenue & Weber Avenue	0.08	48.9	E	0.08	48.9	E
2	Belmont Avenue Connector & Weber Avenue	0.75	36.7	E	0.88	27.0	D
3	Belmont Avenue & Safford Avenue	0.80	18.9	B	1.65	420.4	F
4	Belmont Avenue & Palm Avenue	>2.00	36.1	D	>2.00	323.4	F
5	H Street & Palm Avenue	0.40	12.5	B	0.39	30.8	C
6	Belmont Avenue Connector & Safford Avenue	0.24	9.4	A	0.64	14.1	B

Source: Kittelson & Associates, Inc. 2020
Intersections analyzed using HCM 6 methodologies
V/C = Volume/capacity ratio
Delay = Average vehicle delay in seconds
LOS = Level of service
Intersections shaded in grey represent where the LOS falls below the LOS recommended by the City of Fresno.

Proposed Improvements

The following are the intersections where the Project would cause the intersection LOS under cumulative conditions to fall below the standards set by the City of Fresno. For each intersection, recommended improvements are proposed to improve the intersection LOS to be within City of Fresno thresholds. Detailed calculation worksheets for proposed improvement conditions are provided in Appendix 7. Table 13 and Table 14 show the cumulative AM and PM peak hour operations if the recommended improvements are implemented.

Belmont Avenue Connector and Weber Avenue (#2)

The rerouting of traffic due to the H Street closure would change the traffic patterns at this intersection from through movements on Weber Street to southbound left and westbound right turn movements. While the operations of the intersection would still meet the City of Fresno standard (LOS E), there would be excess delay for the Belmont Avenue Connector that is stop-controlled.

> **Proposed Improvement**: The intersection should be reconfigured so that the stop control changes from westbound Belmont Avenue Connector to northbound Weber Avenue/H Street since the vehicle volumes on this street are significantly lower with the vacation of H Street while the connector volumes are significantly increased. The reconfiguration of the intersection would also need be designed to allow the safe movement of pedestrians crossing at this intersection.

Implementation of this improvement would place the stop control approach on the lower volume roadway where it would better meet a driver's expectation for the location of the traffic control device at this intersection.

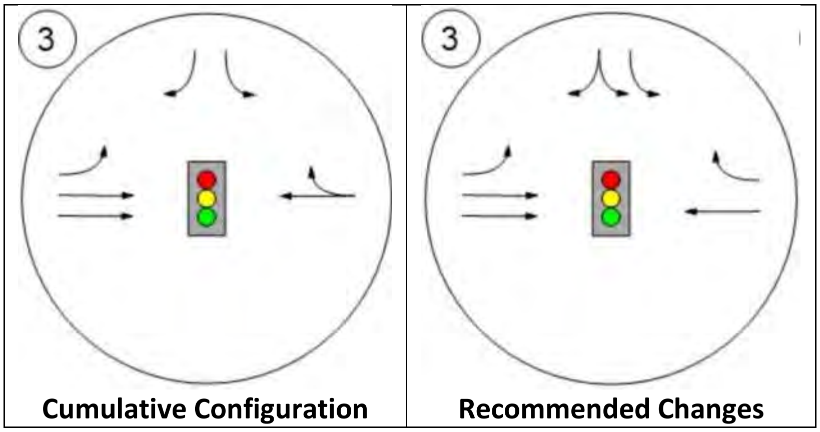
Belmont Avenue and Safford Avenue (#3)

The rerouting of traffic due to the H Street closure would increase the delay at this intersection during both the AM and PM peak hours resulting in LOS F operations.

> **Proposed Improvement**: Implement the following geometric and signal timing improvements:
>
> - Modify the southbound approach from an exclusive left lane and an exclusive right lane into an exclusive left and shared left/right lane.
> - Add a westbound right-turn lane from Belmont Avenue onto Safford Avenue.
> - Modify the traffic signal to a fully actuated controller with a westbound right-turn overlap.

Implementation of this improvement would improve the operation of this intersection to LOS C during the AM and PM peak hours. A representation of the proposed lane configuration changes is shown in Figure 13.

Figure 13: Safford Avenue and Belmont Avenue Changes for Cumulative Traffic Volumes



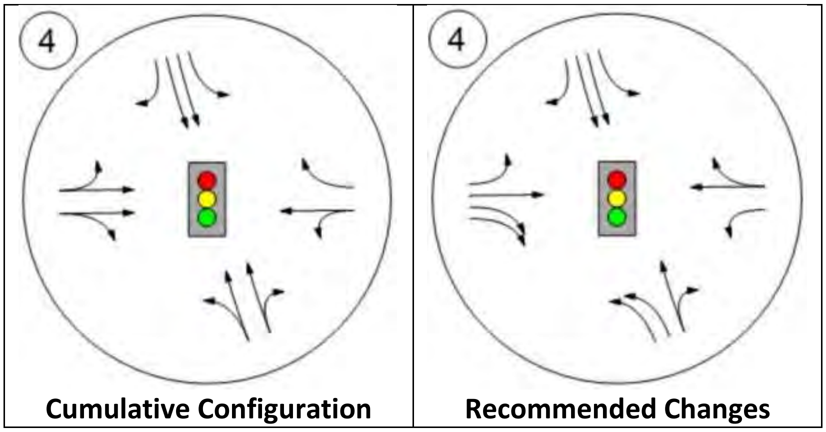
Belmont Avenue and Palm Avenue (#5)

The rerouting of traffic due to the H Street closure would increase the delay at this intersection during both the AM and PM peak hours resulting in LOS F operations.

> **Proposed Improvement**: Implement the following geometric and signal timing improvements:
>
> - Modify the westbound approach from an exclusive right and a shared left/thru lane into a shared thru/right lane and an exclusive left-turn lane.
> - Modify the northbound approach from a shared left/thru lane and a shared right/thru lane into two exclusive left-turn lanes and a shared thru/right lane.
> - Modify the eastbound approach from a shared left/thru lane and a shared right/thru lane into an exclusive left-turn lane, exclusive through lane, and two exclusive right-turn lanes.
> - Modify the traffic signal to provide protected left turn operations on the northbound and southbound approaches. The eastbound right turns should also have a right-turn overlap signal to correspond with the protected northbound left operations. Eastbound and westbound left turns on Belmont would be permissible movements.

Implementation of this improvement would improve the operation of this intersection to LOS C during the AM and PM peak hours. It should be noted that these improvements would require a widening of Belmont Avenue and resulting increased right-of-way west of Palm Avenue to accommodate the travel lanes. This would likely require the acquisition of neighboring parcels. A representation of the proposed lane configuration changes is shown in Figure 14.

Figure 14: Palm Avenue and Belmont Avenue Changes for Cumulative Traffic Volumes



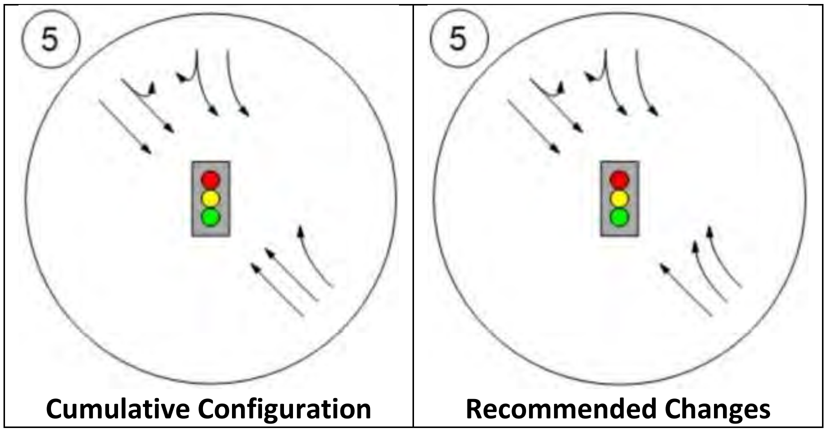
H Street and Palm Avenue (#5)

The rerouting of traffic due to the H Street closure would increase the delay at this intersection during the AM peak hour resulting in LOS F operations.

> **Proposed Improvement**: Implement the following geometric and signal timing improvements:
>
> - Modify the northbound H Street approach from two exclusive through lanes and an exclusive right-turn lane to one exclusive through lane and two exclusive right-turn lanes.
> - Modify the traffic signal to an actuated controller and retime the traffic signal. The northbound H Street movement should allow for a right-turn overlap signal.

Implementation of this improvement would improve the operation of this intersection to LOS D during the AM peak hour and LOS A in the PM peak hour. A representation of the proposed lane configuration changes is shown in Figure 15.

Figure 15: Palm Avenue and H Street Changes for Cumulative Traffic Volumes



Belmont Connector Road and Safford Avenue (#6)

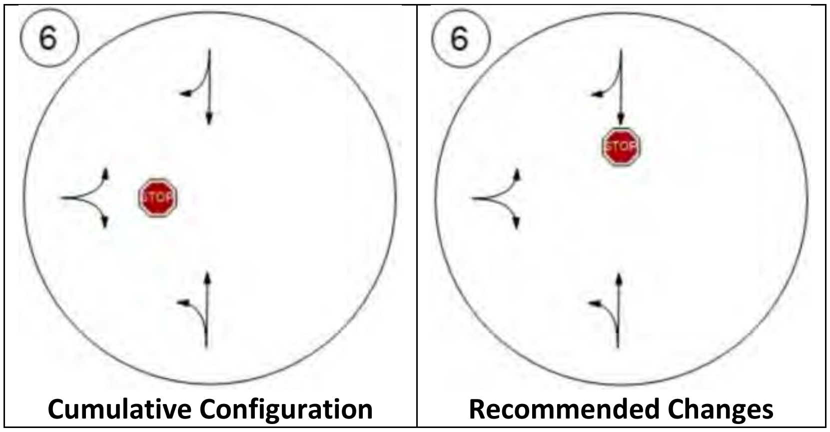
The rerouting of traffic due to the H Street closure would increase the delay at this intersection during the AM peak hour resulting in LOS F operations. The design proposed in the High-Speed Rail project would create a two-way stop control intersection with the connector roadway yielding to Safford Avenue. The increased use of the connector roadway as a result of the Project would cause a significant amount of eastbound right turns from the connector roadway onto Safford Avenue headed toward Belmont Avenue.

Proposed Improvement: Implement the following geometric and signal timing improvements:

- Reconfigure the intersection such that southbound Safford Avenue would be stop controlled and the connector roadway and northbound Safford Avenue would be free movements. This would allow for the primary movements at this intersection (eastbound connector roadway to southbound Safford Avenue and northbound Safford Avenue onto westbound connector roadway) to be free movements.

Implementation of this improvement would still result in LOS F operations for the southbound Safford traffic, but this is estimated to affect about 9 vehicles rather than the more than 1,400 vehicles that would be traveling eastbound on the connector roadway. The recommended revisions would improve the operation of this intersection, but it would still operate at LOS F during the AM peak hour. A representation of the proposed lane configuration changes is shown in Figure 16.

Figure 16: Belmont Connector and Safford Ave Changes for Cumulative Traffic Volumes



Cumulative Configuration

Recommended Changes

Table 13: Intersection Level of Service – Cumulative AM Improved Peak Hour Operations

#	Intersection	Cumulative AM			Cumulative AM + Project			Cumulative AM + Project under Improved Conditions		
		V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
1	Thomas Avenue & Weber Avenue	0.17	67.1	F	0.17	67.1	F	0.17	67.1	F
2	Belmont Avenue Connector & Weber Avenue	0.15	10.4	B	0.94	27.0	D	0.94	27.0	D
3	Belmont Avenue & Safford Avenue	0.42	7.0	A	1.54	293.1	F	0.77	26.9	C
4	Belmont Avenue & Palm Avenue	0.52	18.1	B	1.94	391.3	F	0.43	26.6	C
5	H Street & Palm Avenue	0.70	21.8	C	0.92	393.8	F	0.83	47.8	D
6	Belmont Avenue Connector & Safford Avenue	0.11	8.8	A	1.41	205.6	F	0.12	61.1	F

Source: Kittelson & Associates, Inc. 2020
Intersections analyzed using HCM 6 methodologies
V/C = Volume/capacity ratio
Delay = Average vehicle delay in seconds
LOS = Level of service
Intersections shaded in grey represent where the LOS falls below the LOS recommended by the City of Fresno.

Table 14: Intersection Level of Service – Cumulative PM Improved Peak Hour Operations

#	Intersection	Cumulative PM			Cumulative PM + Project			Cumulative PM + Project under Improved Conditions		
		V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
1	Thomas Avenue & Weber Avenue	0.08	48.9	E	0.08	48.9	E	0.08	48.9	E
2	Belmont Avenue Connector & Weber Avenue	0.75	36.7	E	0.88	27.0	D	0.88	27.0	D
3	Belmont Avenue & Safford Avenue	0.80	18.9	B	1.65	420.4	F	0.73	20.4	C
4	Belmont Avenue & Palm Avenue	>2.0	36.1	D	>2.0	323.4	F	0.83	31.6	C
5	H Street & Palm Avenue	0.40	12.5	B	0.39	30.8	C	0.63	6.5	A
6	Belmont Avenue Connector & Safford Avenue	0.24	9.4	A	0.64	14.1	B	0.07	45.5	E

Source: Kittelson & Associates, Inc. 2020
Intersections analyzed using HCM 6 methodologies
V/C = Volume/capacity ratio
Delay = Average vehicle delay in seconds
LOS = Level of service
Intersections shaded in grey represent where the LOS falls below the LOS recommended by the City of Fresno.

Queue Lengths

An analysis of 95th percentile queue lengths was performed for informational purposes. Queue lengths are based on the HCM 6th Edition methodologies for the study intersections and are shown in Table 15 and Table 16 for the Existing AM and PM peak hours, respectively. Queue lengths for Cumulative AM and Cumulative PM peak hours are shown in Table 17 and Table 18, respectively. The study intersections were generally found to have sufficient storage to contain the 95th percentile queue length with the addition of Project traffic except for the following locations:

- **Belmont Avenue & Safford Avenue:** The queue would exceed the available storage for the southbound left-turn (Cumulative + Project AM) and westbound thru/right lane (Cumulative + Project AM/PM) movements. Implementing the proposed improvements described previously in this report for the intersection would decrease the queue lengths to within the existing storage lengths except for the westbound through movement. While the anticipated 95th percentile queue would be significantly reduced, there is still a potential for the westbound through movement to extend into the upstream intersection under cumulative conditions.
- **Belmont Avenue & Palm Avenue:** The queue would exceed the available storage for the following movements and scenarios:
  - Northbound through movement (Existing + Project PM, Cumulative + Project PM)
  - Southbound left-turn movement (all scenarios)
  - Eastbound through movement (Cumulative + Project AM/PM)
  - Westbound through movement (Cumulative + Project PM)
  - Westbound right-turn movement (Existing PM, Existing + Project PM)

  Implementing the proposed improvements at this intersection would decrease the queue lengths to within the existing storage lengths except for the following movements and scenarios:

  - Southbound left-turn movement (all scenarios)
  - Southbound right-turn movement (Existing + Project AM and Cumulative + Project AM/PM with Improvements)
  - Westbound right-turn movement (Existing + Project AM/PM with Improvements)

  While the anticipated 95th percentile queues would be significantly reduced, there is still a potential for the southbound left-turn and right-turn movements to extend into the southbound lanes from the turn pocket lanes. There is also the potential for the westbound right-turn to extend into the westbound lanes from the pocket lane.

- **H Street & Palm Avenue:** The queue would exceed the available storage for the southbound left-turn movement in the Cumulative + Project AM scenario. Implementing the proposed improvements at this intersection would decrease the queue length to within the existing available storage length.

- **Belmont Avenue Connector & Safford Avenue:** The queue would exceed the available storage for the eastbound right-turn movement in the Cumulative + Project AM scenario. Implementing the proposed improvements at this intersection would decrease the queue length to within the existing storage length.

Table 15: 95th Percentile Queues for Existing AM Peak Hour

#	Intersection	Scenario	Northbound			Southbound			Eastbound			Westbound		
			Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
1	Thomas Avenue & Weber Avenue	Storage		1,000			1,000						1,000	
		Existing AM		0			1						2	
		Existing + Project AM		0			87						1	
		Existing + Project AM with Improvements		0			1						2	
2	Belmont Avenue (Belmont Avenue Connector under Cumulative) & Weber Avenue	Storage		1,000		1,000				500	500		900	900
		Existing AM		46		4				86	0		105	30
		Existing + Project AM		2		3				185	0		139	84
		Existing + Project AM with Improvements		6		225				178	0		129	1
3	Belmont Avenue & Safford Avenue	Storage					1,000			590			280	
		Existing AM					1			1			0	
		Existing + Project AM					2			1			0	
		Existing + Project AM with Improvements					3			1			0	
4	Belmont Avenue & Palm Avenue	Storage	400	1,000		70	1,000	70	900	900	350		1,000	60
		Existing AM	N/A	42		126	80	45	N/A	55	N/A		60	45
		Existing + Project AM	N/A	459		134	326	45	N/A	107	N/A		59	45
		Existing + Project AM with Improvements	62	144		113	133	72	27	99	335		84	63
5	H Street & Palm Avenue	Storage					1,000			1,000			1,000	210
		Existing AM					121			260			37	2
		Existing + Project AM					942			3			1	7
		Existing + Project AM with Improvements					105			2			2	0

Source: Kittelson & Associates, Inc. 2020
Intersections analyzed using HCM 6 methodologies
Queue lengths reported in feet
Intersections shaded in grey represent locations where queue lengths would exceed storage.

Table 16: 95th Percentile Queues for Existing PM Peak Hour

#	Intersection	Scenario	Northbound			Southbound			Eastbound			Westbound		
			Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
1	Thomas Avenue & Weber Avenue	Storage		1,000			1,000						1,000	
		Existing PM		0			2						4	
		Existing + Project PM		0			29						3	
		Existing + Project PM with Improvements		0			2						4	
2	Belmont Avenue & Weber Avenue	Storage		1,000		1,000				500	500		900	900
		Existing PM		215		4				151	0		154	66
		Existing + Project PM		2		3				186	0		273	590
		Existing + Project PM with Improvements		5		81				125	0		196	19
3	Belmont Avenue & Safford Avenue	Storage					1,000			590			280	
		Existing PM					1			1			0	
		Existing + Project PM					4			2			0	
		Existing + Project PM with Improvements					4			2			0	
4	Belmont Avenue & Palm Avenue	Storage	400	1,000		70	1,000	70	900	900	350		1,000	60
		Existing PM	N/A	147		117	32	27	N/A	113	N/A		190	90
		Existing + Project PM	N/A	2,725		166	94	27	N/A	127	N/A		129	90
		Existing + Project PM with Improvements	286	473		133	80	68	109	266	31		258	194
5	H Street & Palm Avenue	Storage					1,000			1,000			1,000	210
		Existing PM					54			66			204	9
		Existing + Project PM					169			12			1	124
		Existing + Project PM with Improvements					57			9			1	3

Source: Kittelson & Associates, Inc. 2020
Intersections analyzed using HCM 6 methodologies
Queue lengths reported in feet
Intersections shaded in grey represent locations where queue lengths would exceed storage.

Table 17: 95th Percentile Queues for Cumulative AM Peak Hour

#	Intersection	Scenario	Northbound			Southbound			Eastbound			Westbound		
			Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
1	Thomas Avenue & Weber Avenue	Storage		1,000			1,000						1,000	
		Cumulative AM		0			2						17	
		Cumulative + Project AM		0			2						17	
		Cumulative + Project AM with Improvements		0			2						17	
2	Belmont Avenue Connector & Weber Avenue	Storage		1,000		500	1,000						900	
		Cumulative AM		0		0	0						13	
		Cumulative + Project AM		0		461	0						32	
		Cumulative + Project AM with Improvements		0		461	0						32	
3	Belmont Avenue & Safford Avenue	Storage				1,000	1,000	1,000	100	590			280	50
		Cumulative AM				11	N/A	98	14	29			107	N/A
		Cumulative + Project AM				4,491	N/A	0	14	155			1,105	N/A
		Cumulative + Project AM with Improvements				N/A	638	N/A	19	240			423	2
4	Belmont Avenue & Palm Avenue	Storage	400	1,000		70	1,000	70	900	900	525	100	1,000	
		Cumulative AM	N/A	78		206	115	64	N/A	213	N/A	N/A	220	
		Cumulative + Project AM	N/A	396		230	115	64	N/A	6,576	N/A	N/A	370	
		Cumulative + Project AM with Improvements	120	234		185	191	102	69	192	470	26	493	
5	H Street & Palm Avenue	Storage					1,000			1,000			1,000	210
		Cumulative AM					321			465			68	5
		Cumulative + Project AM					3,395			10			1	14
		Cumulative + Project AM with Improvements					762			9			2	1
6	Belmont Avenue Connector & Safford Avenue	Storage*		200			500			1,000				
		Cumulative AM		6			0			9				
		Cumulative + Project AM		19			0			1,609				
		Cumulative + Project AM with Improvements		0			10			0				

Source: Kittelson & Associates, Inc. 2020
Intersections analyzed using HCM 6 methodologies. Queue lengths reported in feet.
Intersections shaded in grey represent locations where queue lengths exceed storage.
*Storage lengths for Belmont Avenue Connector are based on estimates from the Facility Plans included in Appendix 8

Table 18: 95th Percentile Queues for Cumulative PM Peak Hour

#	Intersection	Scenario	Northbound			Southbound			Eastbound			Westbound		
			Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
1	Thomas Avenue & Weber Avenue	Storage		1,000			1,000						1,000	
		Cumulative PM		0			5						14	
		Cumulative + Project PM		0			5						14	
		Cumulative + Project PM with Improvements		0			5						14	
2	Belmont Avenue Connector & Weber Avenue	Storage		1,000		500	1,000						900	
		Cumulative PM		0		0	0						149	
		Cumulative + Project PM		0		54	0						312	
		Cumulative + Project PM with Improvements		0		54	0						312	
3	Belmont Avenue & Safford Avenue	Storage				1,000	1,000	1,000	590	590			280	50
		Cumulative PM				10	N/A	259	17	55			536	N/A
		Cumulative + Project PM				673	N/A	4	17	123			6,261	N/A
		Cumulative + Project PM with Improvements				N/A	428	N/A	26	117			706	36
4	Belmont Avenue & Palm Avenue	Storage	400	1,000		70	1,000	70	900	900	525	100	1,000	
		Cumulative PM	N/A	143		369	74	64	N/A	213	N/A	N/A	745	
		Cumulative + Project PM	N/A	2,938		746	74	64	N/A	2,181	N/A	N/A	2,880	
		Cumulative + Project PM with Improvements	337	360		280	118	99	131	199	84	33	511	
5	H Street & Palm Avenue	Storage					1,000			1,000			1,000	210
		Cumulative PM					154			171			222	10
		Cumulative + Project PM					529			19			1	182
		Cumulative + Project PM with Improvements					204			16			2	3
6	Belmont Avenue Connector & Safford Avenue	Storage*		200			500			1,000				
		Cumulative PM		18			0			24				
		Cumulative + Project PM		104			0			121				
		Cumulative + Project PM with Improvements		0			6			0				

Source: Kittelson & Associates, Inc. 2020
Intersections analyzed using HCM 6 methodologies. Queue lengths reported in feet.
Intersections shaded in grey represent locations where queue lengths exceed storage.
*Storage lengths for Belmont Avenue Connector are based on estimates from the Facility Plans included in Appendix 8

VEHICLE MILES TRAVELED (VMT)

An analysis of vehicle miles traveled (VMT) was performed to examine how the Project would affect two sources of VMT: Producer's Dairy trucks, and automobiles whose routes would be changed by the closure of North H Street. Changes to VMT as a result of Producer's Dairy trucks would be consistent for both existing and cumulative conditions. However, changes to automobile VMT were analyzed separately for existing and cumulative conditions due to planned changes to the transportation network resulting from the California High-Speed Rail project.

Producer's Dairy Trucks VMT

Producer's Dairy provided data on existing truck movements which was used to estimate the change in truck VMT anticipated as a result of the proposed Project. Data provided included detailed routes and numbers of trucks that the dairy is using currently as well as miles traveled on each route. Producer's Dairy also provided site plans showing the future routes that the trucks will take to enter and leave the site. Existing data on truck routes was provided for June 9th, 2019 to June 14th, 2019.

Producer's Dairy currently uses two offsite locations (cheese plant and the ice cream warehouse[5]) for staging trucks. With the implementation of the Project, these trucks will instead be staged at the main plant (250 E. Belmont Avenue). This will result in a net decrease of VMT for truck trips. Average daily VMT was calculated using a day-weighted average since Producer's Dairy runs different routes on Tuesday and Saturday than the other five days. Table 19 shows the average existing VMT for trucks traveling between the main plant and the cheese plant or ice cream warehouse, based on routes and numbers of trucks provided by the dairy and Kittelson's analysis. Since these trips will all be eliminated if the proposed Project is implemented, the Project is anticipated to result in a decrease of about 58 truck miles traveled per day.

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[5] The Cheese Plant is located at 450 E. Belmont Avenue while the Ice Cream Warehouse is located at 302 N. Thorne Avenue.

Table 19: Existing Daily VMT from Producer's Dairy Trucks to be Eliminated

Truck Route	SUN/MON/WED/THUR/FRI			TUES/SAT			Day-Weighted Average VMT
	Average Distance	Average # of Trucks	Average Daily VMT	Average Distance	Average # of Trucks	Average Daily VMT	
Cheese to Ice Cream	1.1	1.0	1.1	1.1	0.0	0.0	0.8
Cheese to Main	0.4	17.8	7.2	0.4	9.0	3.6	6.2
Ice Cream to Cheese	1.1	0.6	0.7	1.1	0.0	0.0	0.5
Ice Cream to Main	1.2	15.8	18.2	1.2	10.0	11.5	16.3
Main to Cheese	0.6	36.8	21.3	0.6	16.0	9.3	17.9
Main to Ice Cream	1.0	18.8	18.6	1.0	9.0	8.9	15.8
TOTAL:	**-**	-	67.1	-	-	33.3	**57.5**

Automobile VMT

The second source of VMT that will be affected by the Project is automobile VMT, which would be affected by the closure of North H Street. As discussed previously in "Traffic Reroutes," the three reroutes include:

- Northbound H Street – Rerouted to Northbound Palm Avenue and Belmont Avenue
- Southbound H Street – Rerouted to Belmont Avenue and Southbound Palm Avenue
- Southbound Weber Street – Rerouted to Thomas Avenue and Southbound Palm Avenue

Table 20 shows the average increase in automobile VMT as a result of automobile reroutes. As shown in the table, the Project would result in an addition of about 1,205 automobile miles traveled on a typical day under existing conditions.

Table 20: Change in Daily VMT from Automobile Reroutes (Existing Plus Project)

Route	Current Distance (miles)	Rerouted Distance (miles)	Existing ADT	Change in Daily VMT
Northbound H Street	0.33	0.47	3,571	**500**
Southbound H Street	0.33	0.47	669[1]	**94**
Southbound Weber Street	0.53	0.73	3,053	**611**
Total				**1,205**

[1] Southbound H Street volumes calculated by subtracting ADT on Southbound H Street from ADT on Southbound Weber Street. It is assumed most vehicles traveling southbound on Weber Street would end up southbound on H Street and therefore are already accounted for in the reroutes.
Source: Kittelson & Associates, 2020.

The addition of the proposed street changes associated with High-Speed Rail will change the reroutes of northbound H Street and southbound Weber Street, as shown previously in Figure 6 (page 20). Vehicles will no longer use East Thomas Avenue, and instead will be rerouted onto a future connector road and North Safford Avenue. Furthermore, traffic volumes are projected to increase by 2040, as discussed above in "Cumulative Conditions." Therefore, the change in VMT under cumulative conditions is expected to differ from the change in VMT under existing conditions. Table 21 shows the average increase in automobile VMT as a result of automobile reroutes under cumulative conditions. As shown in the table, the Project will result in an additional 2,154 automobile vehicle miles traveled on a typical day under cumulative conditions.

Table 21: Change in Daily VMT from Automobile Reroutes (Cumulative Plus Project)

Route	Existing Distance (miles)	Proposed Distance (miles)	Future ADT[1]	Change in Daily VMT
Northbound H Street[2]	0.53	0.68	4,107	**616**
Southbound H Street	0.33	0.47	726	**102**
Southbound Weber Street	0.53	0.68	9,574	**1,436**
Total				**2,154**

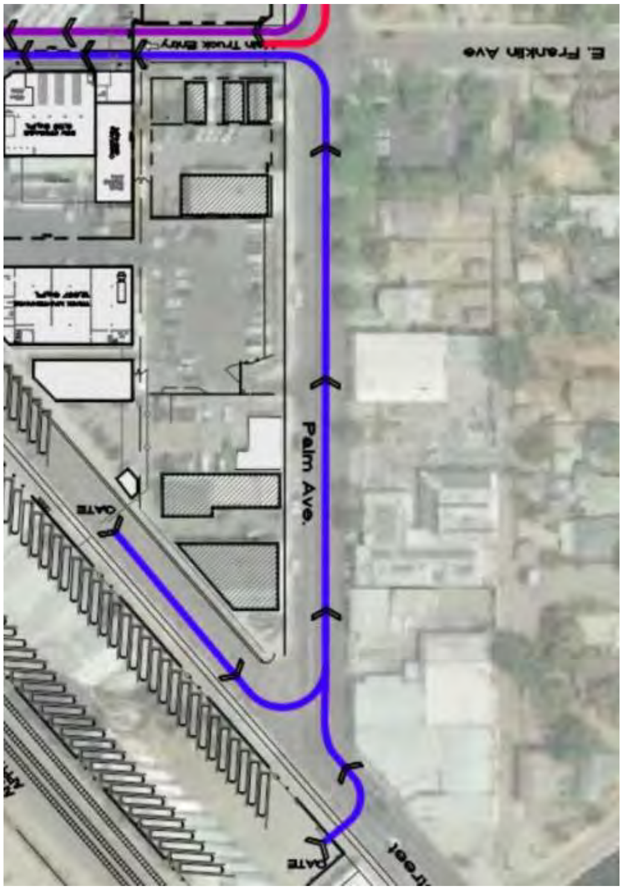
[1] Future ADT was calculated based on a ratio of future Peak Hour PM Volumes to Existing Peak Hour PM Volumes multiplied by Existing ADT from tube counts.
[2] Distance for Northbound H Street measured from Palm Avenue to Thomas Avenue under cumulative conditions to account for High-Speed Train.
Source: Kittelson & Associates, 2020.

GEOMETRIC DESIGN AND INCOMPATIBLE USE

The plan for the Project was reviewed to assess potential hazards due to geometric design or incompatible uses. The Project is not proposing a change in land use since it would continue to operate as a dairy, so it is not an incompatible use. Therefore, this assessment focuses on potential hazards due to geometric design.

The proposed truck routing plan for the Project shows that trucks would exit out of the gate on H Street and make a left turn onto Palm Avenue in order to access the site entrance on Franklin Avenue (Figure 17). This left-turn movement is at an intersection with an acute angle for the movement which would likely result in a tractor-trailer encroaching into the southbound travel lanes on Palm Avenue, potentially resulting in an increased risk of vehicle collisions. Large trucks that cannot make a left turn from southbound H Street onto northbound Palm Avenue without encroaching into opposing lanes of traffic should be restricted from making this movement.

Figure 17: Proposed Truck Route from H Street to Franklin Avenue Along Palm Avenue



EMERGENCY ACCESS

It is anticipated that emergency vehicles would still be able to access the Producer's Dairy site using all current access points if the Project were implemented. Therefore, emergency access to the site is not anticipated to be affected. However, the Project is anticipated to cause emergency vehicles responding in the area to divert from current routes that use H Street. The diversion to other routes and the increased delay on these routes due to other traffic may affect response times in the area.

TRANSIT IMPACTS

The Project site is served by two bus routes operated by The Fresno Area Express (FAX) transit service. Bus Route 33 runs along Belmont Avenue, and Route 26 runs along Palm Avenue to North H Street. Based on a qualitative assessment of transit service in the area and a review of the operations impacts, the Project is anticipated to decrease the performance of transit buses or safety of transit facilities resulting in the following potentially significant impacts:

- **Operations on Belmont Avenue** – The Project is projected to significantly increase the number of vehicles on Belmont Avenue which would increase delay at several of the analysis intersections. These impacted intersections would decrease the performance of the transit lines resulting in a significant impact.

- **Operations on Palm Avenue** – The Project is projected to significantly increase the number of vehicles on Palm Avenue which would increase delay at several of the analysis intersections. These impacted intersections would decrease the performance of the transit lines resulting in a significant impact.

BICYCLE IMPACTS

A qualitative assessment was conducted to determine the Project's potential impacts on bicyclists and bicycle facilities. The City of Fresno's Active Transportation Plan includes planned Class I and Class II bikeways along North H Street south of Belmont Avenue. Based on this assessment, the Project would have the following potentially significant impact on the performance or safety of bicycle facilities:

- **Class I and Class II Bikeways along North H Street –** The Project's closure of North H Street would cause the planned bikeways along North H Street to no longer be feasible.

PEDESTRIAN IMPACTS

A qualitative assessment was conducted to determine the Project's potential impacts on pedestrians and pedestrian facilities. The City of Fresno's Active Transportation Plan includes planned sidewalks on North H Street between Harrison Avenue and Palm Avenue. Based on this assessment, the Project would have the following potentially significant impact on the performance or safety of pedestrian facilities:

- **Sidewalks along North H Street –** The Project's closure of North H Street would cause the existing and planned sidewalks along North H Street to no longer be accessible to pedestrians.

TRUCK ROUTE IMPACTS

A qualitative assessment was conducted to determine the Project's potential impacts on designated truck routes. North H Street by the Project location is an existing truck route in the city of Fresno. Based on this assessment, the following presents a potentially significant impact on the performance or safety of truck route facilities:

- **Truck Routes along North H Street –** The Project's closure of North H Street would cause this portion of North H Street to no longer be available as a truck route, requiring trucks to divert to other available truck routes.

CEQA PROJECT IMPACTS AND PROPOSED MITIGATIONS

TRAF-1	**The proposed project would conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. This would be considered a potentially significant impact.**

The Project's potentially significant impacts for conflicting with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities include:

Impact TRAF-1A: The Project would result in North H Street, which is a designated truck route, to no longer be a public street. This would result in southbound trucks on Weber Avenue north of Belmont Avenue to divert onto Thomas Avenue which is not a designated truck route and located in a residential area. The loss of the truck route on H Street and the diversion of trucks onto Thomas Avenue, which is not part of the truck network and located in a residential neighborhood, would result in a significant impact.

> **Mitigation Measure TRAF-1A:** A southbound approach to the intersection of Belmont Avenue and N H Street shall be constructed to allow southbound trucks from Weber Avenue to be rerouted onto eastbound Belmont Avenue and southbound Palm Avenue (both designated truck routes) in order to rejoin their original truck route on H Street south of Palm Avenue.
>
> **Significance After Mitigation:** Less than significant.

Impact TRAF-1B: The Project is projected to significantly increase the number of vehicles on both Palm Avenue and Belmont Avenue which serve Fresno Area Express transit service routes 26 and 33, respectively. The increased traffic volume would result in substantial additional delay in the area which would increase transit travel times for these routes and may decrease transit ridership. This effect on the performance of the transit lines results in a significant impact.

> **Mitigation Measure TRAF-1B:** Implement operational improvements at the intersections along Belmont Avenue and Palm Avenue affected by the rerouting of traffic due to the Project. Implementing these improvements would allow transit vehicles to maintain their route schedules.
>
> **Significance After Mitigation:** Less than significant.

Impact TRAF-1C: The Project's closure of North H Street would cause the planned bikeways along North H Street to no longer be feasible and reduce the bicycle network connections in the study area.

> **Mitigation Measure TRAF-1C:** Provide an alternative route for bicycles by constructing the proposed bicycle facilities on Palm Avenue and Belmont Avenue. Additionally, northbound left-turning bicycles at the intersection of Belmont Avenue and Palm Avenue should be provided with markings and right-of-way allocation to allow for a two-stage left-turn

movement. This left-turn movement would allow bicycles rerouted by the Project to rejoin the existing bicycle lanes located on Weber Street north of Belmont Avenue.

Significance After Mitigation: Less than significant.

Impact TRAF-1D: The Project's closure of North H Street would prohibit pedestrians from using it between Belmont Avenue and Palm Avenue which would conflict with the existing and proposed pedestrian connections in the area.

Mitigation Measure TRAF-1D: Install pedestrian signage directing pedestrian around the closure of H Street using Palm Avenue and Belmont Avenue. Both Palm Avenue and Belmont Avenue have existing sidewalks to facilitate pedestrian movements within the study area.

Significance After Mitigation: Less than significant.

TRAF-2 **The proposed project would conflict with or be inconsistent with CEQA Guideline section 15064.3, subdivision (b). This would be considered a potentially significant impact.**

The City of Fresno has until July 1, 2020 to establish thresholds of significance related to VMT analyses for the purposes of CEQA. Since the City does not have guidelines as of the writing of this traffic study, the Project does not conflict with CEQA Guideline section 15064.3. The effect of the Project on VMT is reported in this analysis, but it is reported for informational purposes only.

TRAF-3 **The proposed project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). This would be considered a potentially significant impact.**

The Project is proposing modifications to an existing land use. Since the Project has and will continue to produce the same goods (dairy products) it has previously, it does not represent an incompatible use. Potentially significant impacts for where the Project would substantially increase hazards due to a geometric design feature include:

Impact TRAF-3A: The proposed truck route for the Project show trucks exiting out of the southern gate on H Street and making a left turn onto Palm Avenue in order to access the site entrance on Franklin Avenue. The intersection of H Street and Palm Avenue forms an acute angle which may result in a truck making the southbound left turn from H Street onto northbound Palm Avenue to have the trailer track into the southbound lanes of Palm Avenue. This could potentially result in collisions between vehicles waiting at the light on southbound Palm Avenue and left-turning trucks from southbound H Street onto northbound Palm Avenue.

> **Mitigation Measure TRAF-3A:** Restrict the H Street gate from being used by large trucks that would be making a southbound left turn from H Street onto northbound Palm Avenue. Instead, revise the site plan to align a new gate with the intersection of Palm Avenue and H Street. This new gate would create a fourth leg to the intersection and allow truck movements to and from both Palm Avenue north of H Street and H Street south of Palm Avenue.
>
> **Significance After Mitigation:** Less than significant.

TRAF-4	The proposed project would result in inadequate emergency access. This would be considered a potentially significant impact.

While emergency vehicle access to the Project site is not anticipated to be disrupted by the Project, the rerouting of traffic due to the closure of H Street is anticipated to have the following impact:

Impact TRAF-4A: The Project would cause H Street traffic to reroute onto both Palm Avenue and Belmont Avenue. This additional volume would increase the delays at intersections within the study area which would decrease the emergency vehicle response time in the area, resulting in inadequate emergency access.

> **Mitigation Measure TRAF-4A:** Implement operational improvements at the intersections along Belmont Avenue and Palm Avenue affected by the increased traffic volume. Implementing these improvements would reduce the increased delay on Belmont Avenue and Palm Avenue allowing emergency vehicles to maintain a similar response time to what they have today.
>
> **Significance After Mitigation:** Less than significant.

Appendix 1 Transportation Terminology

Several traffic analysis concepts were used to evaluate the Project's impacts on the existing and future transportation system. The following is an explanation of transportation terminology used in this report.

Level of Service (LOS)

"Levels of service" describe the operating conditions experienced by motorists during peak times of travel. Level of service (LOS) is a qualitative measure of the effect of a number of factors, including speed and travel time, traffic interruptions, freedom to maneuver, driving comfort and convenience. Levels of service are designated "A" through "F" from best to worst, which cover the entire range of traffic operations that might occur. Level of Service (LOS) "A" through "E" generally represent traffic volumes at less than intersection capacity, while LOS "F" represents over capacity and/or significant delays.

Peak Hour Factor (PHF)

A peak hour factor is a measure of fluctuation in vehicle flow. In urban and suburban areas, PHFs are generally found to be in the range of 0.70 to 1.00. PHFs closer to 1.00 reflect locations where the vehicle flow is consistent and uniform, whereas PHFs with less than 0.80 tend to be locations with more erratic vehicle flow. When a PHF is unknown, default values of 0.90 to 0.95 tend to be used. PHF is calculated by dividing the total vehicles entering and leaving an intersection in an hour by four times the highest 15-minute increment of vehicles in that same hour.

Bicycle Terminology

- Bikeways that are indicated by pavement markings and/or signage. There are generally three classes of bikeways:
    - Class I (Paths) - Trails that are exclusively for non-motorized access and are typically shared with pedestrians and/or equestrians
    - Class II (Bike Lanes) – Marked lanes on roadways for exclusive use by bicyclists
    - Class III (Bike Routes) – Roadways in which bicyclists and motorists share the travel lane.
- All of these bikeways may be supplemented with signage and/or bicycle symbol pavement markings. The lack of bicycle designations on city streets does not preclude bicycle usage, as they are defined as a vehicle in the California Vehicle Code and subject to the same rules governing motor vehicles

Pedestrian Terminology

Pedestrian facilities are made up of several components and may include the following:

- Walkways, such as sidewalks, paths, and roadway shoulders, which provide exclusive access to pedestrian circulation and adequate widths for walking that are free of obstructions. On high-volume and/or high-speed roadways, buffers are needed to provide greater separation from roadway traffic to create a more conducive walking environment. Buffers, which are areas between the curb and walkway, often house utilities, street furniture, and landscaping

- Intersection crossing aids, such as marked crosswalks, pedestrian bulb-outs, in-pavement flashers, raised crosswalks, median pedestrian refuges, pedestrian-actuated signalization with visual and audible pedestrian signal heads, and curb ramps with detectable warnings.
- Landscaping, such as trees, bushes, and other foliage, can provide shade from the sun and overhead protection during inclement weather, create a more pleasant walking environment, and may absorb noise and pollution from the roadway if placed in the buffer zone.
- Amenities, such as benches, water fountains, pedestrian-scaled lighting, refuse cans, mailboxes, newspaper stands, maps and directional signage.

Additionally, pedestrian activity is encouraged for routine and recreational purposes by providing and maintaining walkway facilities on both sides of all roadways, allowing pedestrians to cross all intersection legs, orienting buildings towards walkways rather than parking lots, and providing easy, continuous, direct path to and from activity centers. Pedestrian activity is discouraged by locating dead spaces (fences, blank walls, surface parking) next to walkways, designing limited access roadways (cul-de-sacs, long stretches of road with no intersections) with no pedestrian access points, high-volume or high-speed roadways with inadequate walkway widths and no buffers, and large turning radii at intersections.

Appendix 2 Traffic Count Data

Prepared by National Data & Surveying Services

N Weber Ave & W Thomas Ave

Peak Hour Turning Movement Count

ID: 19-07471-001
City: Fresno

Day: Tuesday
Date: 12/10/2019

PEAK HOURS		COUNT PERIODS
07:15 AM - 08:15 AM	AM	07:00 AM - 09:00 AM
NONE	NOON	NONE
04:45 PM - 05:45 PM	PM	04:00 PM - 06:00 PM

N Weber Ave
SOUTHBOUND

	↲	↓	↳	⮍	⇧	
AM	0	636	14	0	169	AM
NOON	0	0	0	0	0	NOON
PM	0	219	28	0	676	PM
	0	1	0	0		

W Thomas Ave
WESTBOUND

	PM	NOON	AM
0 ↰	16	0	6
1 ←	0	0	0
0 ↲	2	0	5
0 ⮏	0	0	0
⇨	32	0	15

W Thomas Ave
EASTBOUND

	AM	NOON	PM
⇦	0	0	0
⮌ 0	0	0	0
↱ 0	0	0	0
→ 0	0	0	0
↴ 0	0	0	0

N Weber Ave
NORTHBOUND

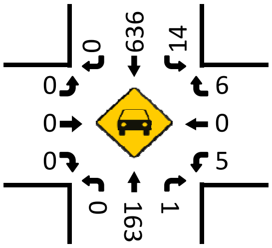
		0	0	1	0	
	⇩	⮎	↰	↑	↱	
PM	221	0	0	660	4	PM
NOON	0	0	0	0	0	NOON
AM	641	0	0	163	1	AM

CONTROL

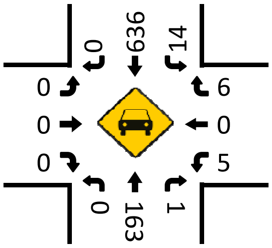
1-Way Stop(WB)

	AM	NOON	PM
TEV	825	0	929
PHF	0.86		0.93

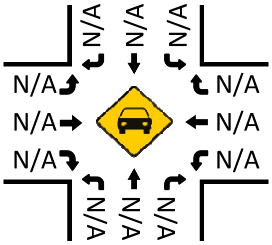
Total Vehicles (AM)



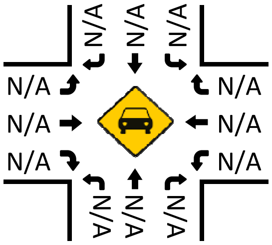
Total Vehicles (AM)



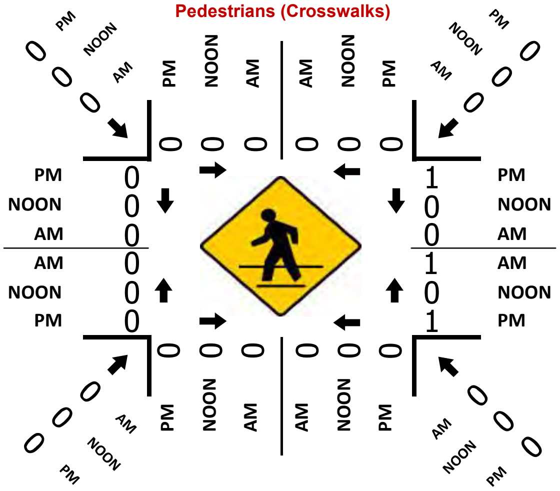
Total Vehicles (Noon)



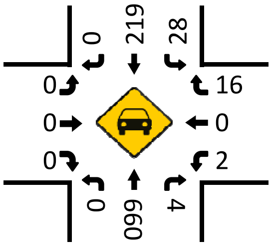
Total Vehicles (Noon)



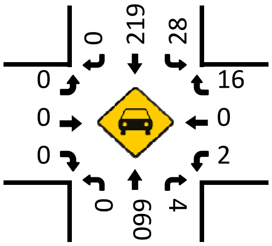
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



Prepared by National Data & Surveying Services

N Weber Ave/N H St/N Farris Ave & E Belmont Ave

Peak Hour Turning Movement Count

ID: 19-07471-002
City: Fresno

Day: Tuesday
Date: 12/10/2019

PEAK HOURS		COUNT PERIODS
AM	07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:30 PM - 05:30 PM	04:00 PM - 06:00 PM

N Weber Ave/N H St/N Farris Ave

SOUTHBOUND

	↲	↓	↳	↶	⇧
AM	0	641	0	0	173
NOON	0	0	0	0	0
PM	0	206	0	0	707
	0	1	0	0	

E Belmont Ave

EASTBOUND

	AM	NOON	PM	
⇦	283	0	564	
↶	0	0	0	0
↱	1	0	0	0
→	191	0	350	1
↴	167	0	59	1

E Belmont Ave

WESTBOUND

		PM	NOON	AM
1	↰	158	0	66
1	←	355	0	226
0	↲	0	0	0
0	↶	0	0	0
	⇨	361	0	200

CONTROL

Signalized

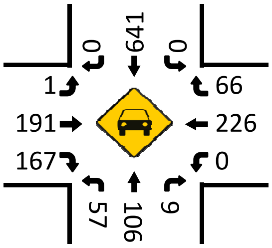
	AM	NOON	PM
TEV	1464	0	1897
PHF	0.83		0.96

	⇩	↶	↰	↑	↱
		0	0	2	1
PM	265	0	209	549	11
NOON	0	0	0	0	0
AM	808	0	57	106	9

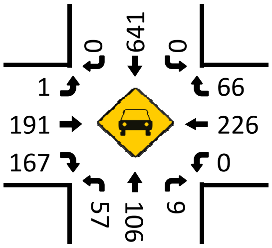
NORTHBOUND

N Weber Ave/N H St/N Farris Ave

Total Vehicles (AM)



Total Vehicles (AM)



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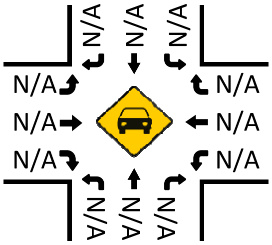
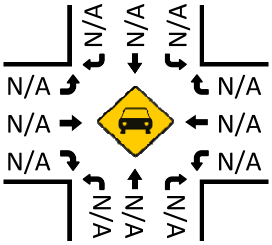
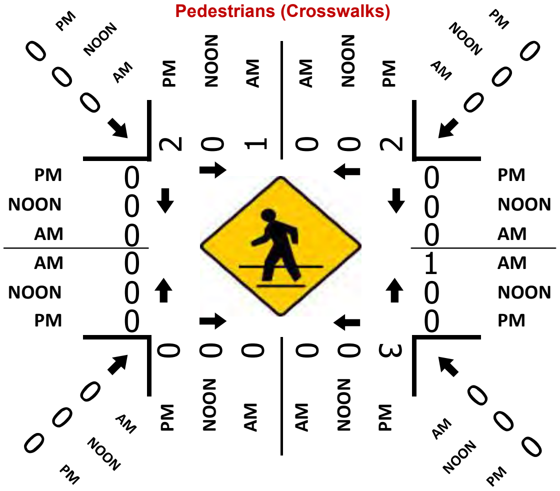


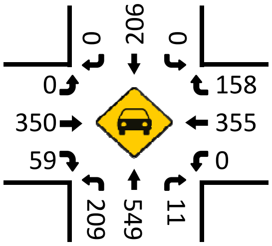
Total Vehicles (Noon)



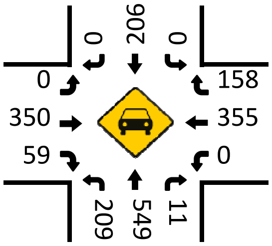
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



Prepared by National Data & Surveying Services

N Safford Ave & E Belmont Ave

Peak Hour Turning Movement Count

ID: 19-07471-003
City: Fresno

Day: Tuesday
Date: 12/10/2019

	PEAK HOURS	COUNT PERIODS
AM	07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:30 PM - 05:30 PM	04:00 PM - 06:00 PM

N Safford Ave — SOUTHBOUND

	↲	↓	↳	↶	⇧
AM	3	0	6	0	8
NOON	0	0	0	0	0
PM	4	0	3	0	20
	0	1	0	0	

E Belmont Ave — EASTBOUND

	AM	NOON	PM	
⇦	294	0	529	
↶	0	0	1	0
↱	7	0	10	0
→	199	0	360	2
↴	0	0	0	0

E Belmont Ave — WESTBOUND

		PM	NOON	AM
↰	0	10	0	1
←	2	524	0	291
↲	0	0	0	0
↶	0	0	0	0
⇨		363	0	205

N Safford Ave — NORTHBOUND

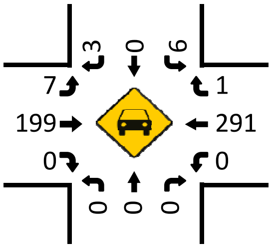
	⇩	↶	↰	↑	↱
		0	0	0	0
PM	0	0	0	0	0
NOON	0	0	0	0	0
AM	0	0	0	0	0

CONTROL

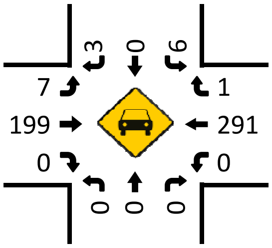
1-Way Stop(SB)

	AM	NOON	PM
TEV	507	0	912
PHF	0.87		0.90

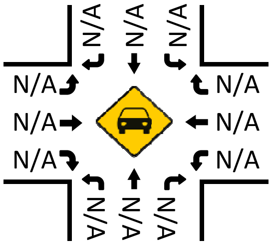
Total Vehicles (AM)



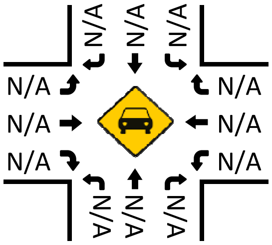
Total Vehicles (AM)



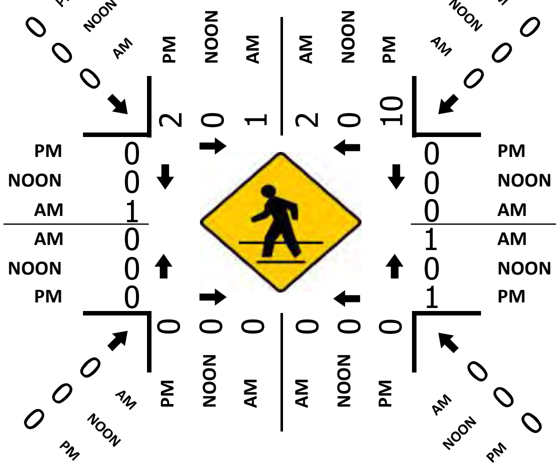
Total Vehicles (Noon)



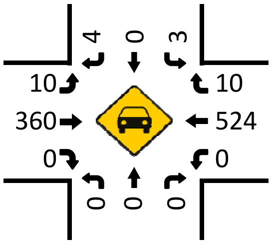
Total Vehicles (Noon)



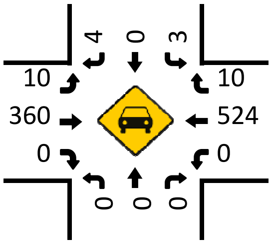
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



Prepared by National Data & Surveying Services

N Palm Ave & E Belmont Ave

Peak Hour Turning Movement Count

ID: 19-07471-004
City: Fresno

Day: Tuesday
Date: 12/10/2019

PEAK HOURS		COUNT PERIODS
07:30 AM - 08:30 AM	AM	07:00 AM - 09:00 AM
NONE	NOON	NONE
04:30 PM - 05:30 PM	PM	04:00 PM - 06:00 PM

N Palm Ave — SOUTHBOUND

	↲	↓	↳	↶	⇧
AM	67	272	155	1	224
NOON	0	0	0	0	0
PM	46	112	129	3	602
	1	2	1	0	

E Belmont Ave — EASTBOUND

	AM	NOON	PM	
⇦	277	0	527	
↶	0	0	0	0
↱	33	0	79	0
→	151	0	267	2
↴	28	0	21	0

E Belmont Ave — WESTBOUND

		PM	NOON	AM
1	↰	174	0	84
2	←	454	0	203
0	↙	25	0	21
0	↷	0	0	0
	⇨	451	0	335

N Palm Ave — NORTHBOUND

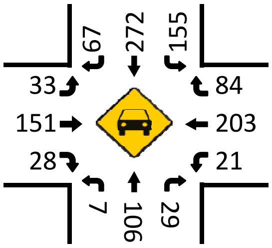
		0	0	2	0
	⇩	↶	↰	↑	↱
PM	158	0	27	346	55
NOON	0	0	0	0	0
AM	321	0	7	106	29

CONTROL

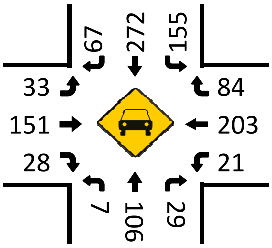
Signalized

	AM	NOON	PM
TEV	1157	0	1738
PHF	0.88		0.92

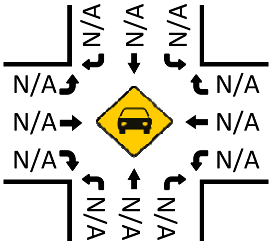
Total Vehicles (AM)



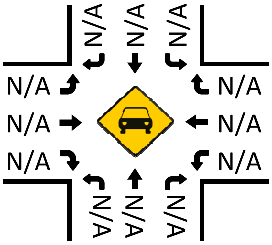
Total Vehicles (AM)



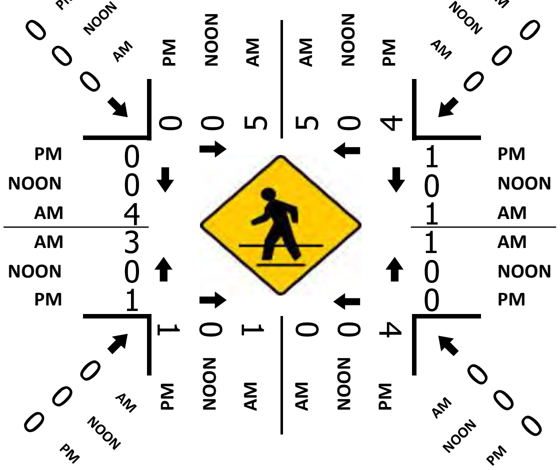
Total Vehicles (Noon)



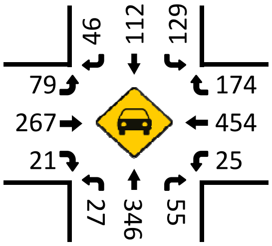
Total Vehicles (Noon)



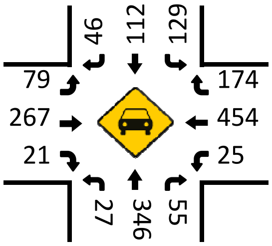
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



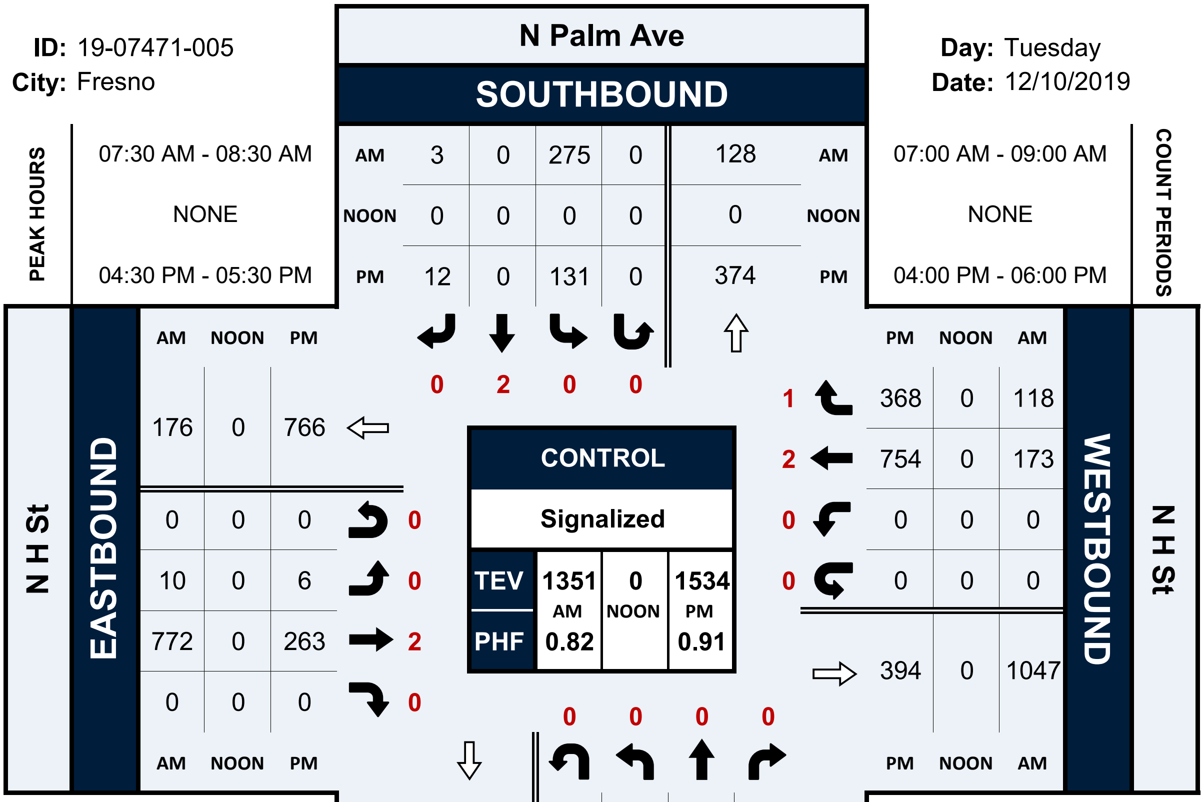
Prepared by National Data & Surveying Services

N Palm Ave & N H St

Peak Hour Turning Movement Count

ID: 19-07471-005
City: Fresno

Day: Tuesday
Date: 12/10/2019



PEAK HOURS		COUNT PERIODS
07:30 AM - 08:30 AM	AM	07:00 AM - 09:00 AM
NONE	NOON	NONE
04:30 PM - 05:30 PM	PM	04:00 PM - 06:00 PM

N Palm Ave

SOUTHBOUND

	↲	↓	↳	⮌	⇧
AM	3	0	275	0	128
NOON	0	0	0	0	0
PM	12	0	131	0	374
	0	2	0	0	

N H St

EASTBOUND

		AM	NOON	PM
⇦		176	0	766
⮌	0	0	0	0
↱	0	10	0	6
→	2	772	0	263
↴	0	0	0	0

CONTROL

Signalized

	AM	NOON	PM
TEV	1351	0	1534
PHF	0.82		0.91

N H St

WESTBOUND

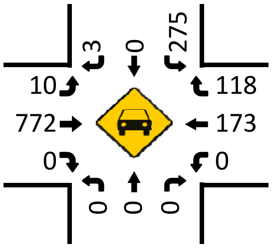
		PM	NOON	AM
↰	1	368	0	118
←	2	754	0	173
↲	0	0	0	0
⮌	0	0	0	0
⇨		394	0	1047

NORTHBOUND

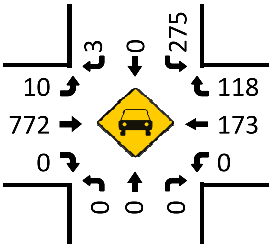
N Palm Ave

	⇩	⮌	↰	↑	↱
		0	0	0	0
PM	0	0	0	0	0
NOON	0	0	0	0	0
AM	0	0	0	0	0

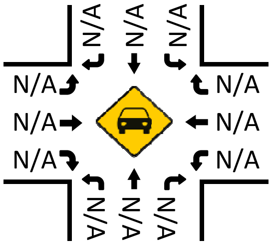
Total Vehicles (AM)



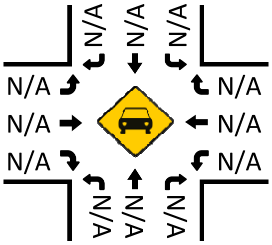
Total Vehicles (AM)



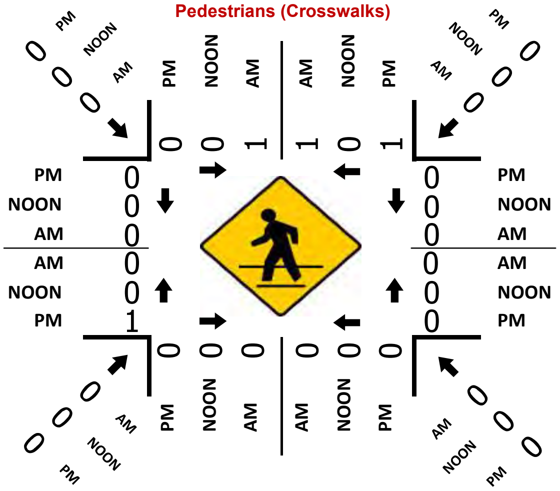
Total Vehicles (Noon)



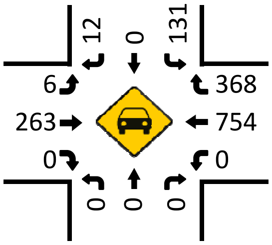
Total Vehicles (Noon)



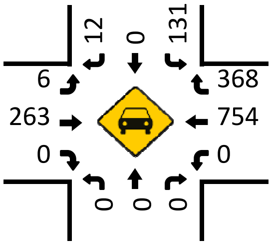
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



Appendix 3 Tube Count Data

Prepared by National Data & Surveying Services

CLASSIFICATION

N H St N/O Palm Ave

Day: Tuesday
Date: 12/10/2019

City: Fresno
Project #: CA19_7472_001

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	35	4	0	2	0	0	0	0	0	0	0	0	**41**
01:00	0	27	3	0	1	1	0	0	0	0	0	0	0	**32**
02:00	0	25	4	0	1	0	0	0	0	0	0	0	0	**30**
03:00	0	35	3	0	1	0	0	0	0	0	0	0	0	**39**
04:00	0	51	11	0	1	0	0	0	0	0	0	0	0	**63**
05:00	0	160	29	0	3	0	0	0	0	0	0	0	0	**192**
06:00	1	222	54	0	0	0	0	1	0	0	0	0	0	**278**
07:00	2	701	104	2	12	0	1	1	1	0	0	0	0	**824**
08:00	3	554	88	1	12	0	0	0	3	0	0	0	0	**661**
09:00	0	303	74	3	8	0	0	0	2	0	0	0	0	**390**
10:00	2	305	87	3	12	1	0	0	1	0	0	0	0	**411**
11:00	2	327	64	0	5	2	1	0	3	0	0	0	0	**404**
12:00 PM	1	401	87	2	3	1	0	1	2	0	0	0	0	**498**
13:00	0	421	66	0	22	1	0	1	1	0	0	0	0	**512**
14:00	4	477	89	0	7	0	3	1	4	0	0	0	0	**585**
15:00	1	528	95	3	11	0	0	1	2	0	0	0	0	**641**
16:00	2	727	133	0	12	0	1	1	1	0	0	0	0	**877**
17:00	4	718	125	0	10	0	0	0	2	0	0	0	0	**859**
18:00	1	266	49	0	0	0	0	0	0	0	0	0	0	**316**
19:00	0	229	35	1	1	0	0	0	1	0	0	0	0	**267**
20:00	0	170	26	0	2	0	0	0	1	0	0	0	0	**199**
21:00	0	113	15	1	1	0	1	0	0	0	0	0	0	**131**
22:00	0	76	9	0	2	0	0	0	2	0	0	0	0	**89**
23:00	0	58	12	0	1	0	0	0	1	0	0	0	0	**72**
Totals	**23**	**6929**	**1266**	**16**	**130**	**6**	**7**	**7**	**27**					**8411**
% of Totals	0%	82%	15%	0%	2%	0%	0%	0%	0%					100%

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
AM Volumes	10	2745	525	9	58	4	2	2	10	0	0	0	0	3365
% AM	0%	33%	6%	0%	1%	0%	0%	0%	0%					40%
AM Peak Hour	08:00	07:00	07:00	09:00	07:00	11:00	07:00	06:00	08:00					07:00
Volume	3	701	104	3	12	2	1	1	3					824
PM Volumes	13	4184	741	7	72	2	5	5	17	0	0	0	0	5046
% PM	0%	50%	9%	0%	1%	0%	0%	0%	0%					60%
PM Peak Hour	14:00	16:00	16:00	15:00	13:00	12:00	14:00	12:00	14:00					16:00
Volume	4	727	133	3	22	1	3	1	4					877

Directional Peak Periods All Classes	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
	Volume		%	Volume		%	Volume		%	Volume		%
	1485	⟷	18%	1010	⟷	12%	1736	⟷	21%	4180	⟷	50%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

CLASSIFICATION

Weber Ave S/O Thomas Ave

Day: Tuesday
Date: 12/10/2019

City: Fresno
Project #: CA19_7472_002

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	9	1	0	0	0	0	0	0	0	0	0	0	**10**
01:00	0	13	0	0	0	0	0	0	0	0	0	0	0	**13**
02:00	0	9	2	0	0	0	0	0	0	0	0	0	0	**11**
03:00	0	7	3	0	0	0	0	0	0	0	0	0	0	**10**
04:00	0	15	3	0	0	0	0	0	0	0	0	0	0	**18**
05:00	0	24	13	0	0	0	0	0	0	0	0	0	0	**37**
06:00	0	33	6	0	3	0	0	0	0	0	0	0	0	**42**
07:00	0	127	15	1	6	2	0	0	0	0	0	0	0	**151**
08:00	0	145	25	1	2	0	0	0	0	0	0	0	0	**173**
09:00	0	115	22	1	4	2	0	0	0	0	0	0	0	**144**
10:00	0	147	28	0	1	1	0	0	0	0	0	0	0	**177**
11:00	0	175	29	1	5	0	0	0	0	0	0	0	0	**210**
12:00 PM	0	172	33	0	10	1	0	0	0	0	0	0	0	**216**
13:00	1	195	34	1	4	1	0	1	0	0	0	0	0	**237**
14:00	0	243	54	2	13	0	0	0	0	0	0	0	0	**312**
15:00	0	312	48	0	4	1	0	0	0	0	0	0	0	**365**
16:00	0	461	84	1	4	0	0	1	0	0	0	0	0	**551**
17:00	0	520	81	2	8	0	0	0	0	0	0	0	0	**611**
18:00	0	156	27	1	2	0	0	0	0	0	0	0	0	**186**
19:00	0	139	15	0	3	0	0	0	0	0	0	0	0	**157**
20:00	0	93	21	0	0	0	0	0	0	0	0	0	0	**114**
21:00	0	78	11	0	1	0	0	0	0	0	0	0	0	**90**
22:00	0	41	7	0	2	0	0	0	0	0	0	0	0	**50**
23:00	0	39	5	0	0	0	0	0	0	0	0	0	0	**44**
Totals	**1**	**3268**	**567**	**11**	**72**	**8**		**2**						**3929**
% of Totals	0%	83%	14%	0%	2%	0%		0%						100%

	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
AM Volumes	0	819	147	4	21	5	0	0	0	0	0	0	0	996
% AM		21%	4%	0%	1%	0%								25%
AM Peak Hour		11:00	11:00	07:00	07:00	07:00								11:00
Volume		175	29	1	6	2								210
PM Volumes	1	2449	420	7	51	3	0	2	0	0	0	0	0	2933
% PM	0%	62%	11%	0%	1%	0%		0%						75%
PM Peak Hour	13:00	17:00	16:00	14:00	14:00	12:00		13:00						17:00
Volume	1	520	84	2	13	1		1						611

Directional Peak Periods **All Classes**	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
	Volume		%	Volume		%	Volume		%	Volume		%
	324	⟷	8%	453	⟷	12%	1162	⟷	30%	1990	⟷	51%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

VOLUME

Weber Ave S/O Thomas Ave

Day: Tuesday
Date: 12/10/2019

City: Fresno
Project #: CA19_7472_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	3,550	0	0	3,550

AM Period	NB	SB		EB	WB	TOTAL		PM Period	NB	SB		EB	WB	TOTAL	
00:00	0	6				6		**12:00**	0	46				46	
00:15	0	4				4		**12:15**	0	37				37	
00:30	0	3				3		**12:30**	0	47				47	
00:45	0	3	16			3	16	**12:45**	0	46	176			46	176
01:00	0	4				4		**13:00**	0	49				49	
01:15	0	4				4		**13:15**	0	59				59	
01:30	0	3				3		**13:30**	0	48				48	
01:45	0	1	12			1	12	**13:45**	0	63	219			63	219
02:00	0	2				2		**14:00**	0	40				40	
02:15	0	3				3		**14:15**	0	59				59	
02:30	0	6				6		**14:30**	0	61				61	
02:45	0	3	14			3	14	**14:45**	0	71	231			71	231
03:00	0	4				4		**15:00**	0	56				56	
03:15	0	2				2		**15:15**	0	57				57	
03:30	0	4				4		**15:30**	0	55				55	
03:45	0	5	15			5	15	**15:45**	0	55	223			55	223
04:00	0	7				7		**16:00**	0	71				71	
04:15	0	5				5		**16:15**	0	49				49	
04:30	0	16				16		**16:30**	0	55				55	
04:45	0	11	39			11	39	**16:45**	0	63	238			63	238
05:00	0	17				17		**17:00**	0	48				48	
05:15	0	29				29		**17:15**	0	48				48	
05:30	0	34				34		**17:30**	0	60				60	
05:45	0	44	124			44	124	**17:45**	0	50	206			50	206
06:00	0	23				23		**18:00**	0	33				33	
06:15	0	37				37		**18:15**	0	41				41	
06:30	0	59				59		**18:30**	0	20				20	
06:45	0	73	192			73	192	**18:45**	0	26	120			26	120
07:00	0	73				73		**19:00**	0	18				18	
07:15	0	125				125		**19:15**	0	20				20	
07:30	0	169				169		**19:30**	0	22				22	
07:45	0	180	547			180	547	**19:45**	0	19	79			19	79
08:00	0	151				151		**20:00**	0	17				17	
08:15	0	122				122		**20:15**	0	15				15	
08:30	0	76				76		**20:30**	0	23				23	
08:45	0	60	409			60	409	**20:45**	0	22	77			22	77
09:00	0	42				42		**21:00**	0	17				17	
09:15	0	43				43		**21:15**	0	18				18	
09:30	0	36				36		**21:30**	0	12				12	
09:45	0	52	173			52	173	**21:45**	0	8	55			8	55
10:00	0	39				39		**22:00**	0	9				9	
10:15	0	37				37		**22:15**	0	11				11	
10:30	0	43				43		**22:30**	0	11				11	
10:45	0	46	165			46	165	**22:45**	0	5	36			5	36
11:00	0	36				36		**23:00**	0	2				2	
11:15	0	42				42		**23:15**	0	5				5	
11:30	0	36				36		**23:30**	0	8				8	
11:45	0	51	165			51	165	**23:45**	0	4	19			4	19
TOTALS			1871				**1871**	**TOTALS**			1679				**1679**
SPLIT %			100.0%				**52.7%**	**SPLIT %**			100.0%				**47.3%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	3,550	0	0	3,550

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour		07:15			**07:15**	**PM Peak Hour**		14:15			**14:15**
AM Pk Volume		625			**625**	**PM Pk Volume**		247			**247**
Pk Hr Factor		0.868			**0.868**	**Pk Hr Factor**		0.870			**0.870**
7 - 9 Volume	0	956	0	0	**956**	**4 - 6 Volume**	0	444	0	0	**444**
7 - 9 Peak Hour		07:15			**07:15**	**4 - 6 Peak Hour**		16:00			**16:00**
7 - 9 Pk Volume	0	625	0	0	**625**	**4 - 6 Pk Volume**	0	238	0	0	**238**
Pk Hr Factor	0.000	0.868	0.000	0.000	**0.868**	**Pk Hr Factor**	0.000	0.838	0.000	0.000	**0.838**

Prepared by National Data & Surveying Services

VOLUME

Weber Ave S/O Thomas Ave

Day: Wednesday
Date: 12/11/2019

City: Fresno
Project #: CA19_7472_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	3,595	0	0	3,595

AM Period	NB	SB		EB	WB	TOTAL		PM Period	NB	SB		EB	WB	TOTAL	
00:00	0	7				7		**12:00**	0	51				51	
00:15	0	4				4		**12:15**	0	46				46	
00:30	0	5				5		**12:30**	0	49				49	
00:45	0	4	20			4	20	**12:45**	0	59	205			59	205
01:00	0	3				3		**13:00**	0	65				65	
01:15	0	3				3		**13:15**	0	52				52	
01:30	0	3				3		**13:30**	0	56				56	
01:45	0	1	10			1	10	**13:45**	0	53	226			53	226
02:00	0	4				4		**14:00**	0	58				58	
02:15	0	0				0		**14:15**	0	52				52	
02:30	0	3				3		**14:30**	0	59				59	
02:45	0	4	11			4	11	**14:45**	0	60	229			60	229
03:00	0	3				3		**15:00**	0	66				66	
03:15	0	3				3		**15:15**	0	41				41	
03:30	0	2				2		**15:30**	0	59				59	
03:45	0	7	15			7	15	**15:45**	0	62	228			62	228
04:00	0	4				4		**16:00**	0	43				43	
04:15	0	8				8		**16:15**	0	48				48	
04:30	0	8				8		**16:30**	0	69				69	
04:45	0	13	33			13	33	**16:45**	0	64	224			64	224
05:00	0	15				15		**17:00**	0	59				59	
05:15	0	34				34		**17:15**	0	52				52	
05:30	0	41				41		**17:30**	0	41				41	
05:45	0	49	139			49	139	**17:45**	0	46	198			46	198
06:00	0	39				39		**18:00**	0	44				44	
06:15	0	40				40		**18:15**	0	31				31	
06:30	0	48				48		**18:30**	0	35				35	
06:45	0	86	213			86	213	**18:45**	0	20	130			20	130
07:00	0	61				61		**19:00**	0	26				26	
07:15	0	101				101		**19:15**	0	26				26	
07:30	0	161				161		**19:30**	0	27				27	
07:45	0	185	508			185	508	**19:45**	0	22	101			22	101
08:00	0	145				145		**20:00**	0	24				24	
08:15	0	104				104		**20:15**	0	19				19	
08:30	0	83				83		**20:30**	0	15				15	
08:45	0	53	385			53	385	**20:45**	0	12	70			12	70
09:00	0	41				41		**21:00**	0	13				13	
09:15	0	56				56		**21:15**	0	13				13	
09:30	0	43				43		**21:30**	0	14				14	
09:45	0	57	197			57	197	**21:45**	0	15	55			15	55
10:00	0	38				38		**22:00**	0	5				5	
10:15	0	46				46		**22:15**	0	6				6	
10:30	0	43				43		**22:30**	0	5				5	
10:45	0	37	164			37	164	**22:45**	0	7	23			7	23
11:00	0	47				47		**23:00**	0	11				11	
11:15	0	49				49		**23:15**	0	15				15	
11:30	0	37				37		**23:30**	0	9				9	
11:45	0	37	170			37	170	**23:45**	0	6	41			6	41
TOTALS			1865				**1865**	**TOTALS**			1730				**1730**
SPLIT %			100.0%				**51.9%**	**SPLIT %**			100.0%				**48.1%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	3,595	0	0	3,595

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour		07:30			**07:30**	**PM Peak Hour**		16:30			**16:30**
AM Pk Volume		595			**595**	**PM Pk Volume**		244			**244**
Pk Hr Factor		0.804			**0.804**	**Pk Hr Factor**		0.884			**0.884**
7 - 9 Volume	0	893	0	0	**893**	**4 - 6 Volume**	0	422	0	0	**422**
7 - 9 Peak Hour		07:30			**07:30**	**4 - 6 Peak Hour**		16:30			**16:30**
7 - 9 Pk Volume	0	595	0	0	**595**	**4 - 6 Pk Volume**	0	244	0	0	**244**
Pk Hr Factor	0.000	0.804	0.000	0.000	**0.804**	**Pk Hr Factor**	0.000	0.884	0.000	0.000	**0.884**

Prepared by National Data & Surveying Services

VOLUME

Weber Ave S/O Thomas Ave

Day: Thursday
Date: 12/12/2019

City: Fresno
Project #: CA19_7472_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	3,674	0	0	3,674

AM Period	NB	SB		EB	WB	TOTAL		PM Period	NB	SB		EB	WB	TOTAL	
00:00	0	4				4		12:00	0	36				36	
00:15	0	4				4		12:15	0	39				39	
00:30	0	2				2		12:30	0	49				49	
00:45	0	5	15			5	15	12:45	0	55	179			55	179
01:00	0	3				3		13:00	0	49				49	
01:15	0	3				3		13:15	0	50				50	
01:30	0	3				3		13:30	0	64				64	
01:45	0	1	10			1	10	13:45	0	61	224			61	224
02:00	0	2				2		14:00	0	47				47	
02:15	0	2				2		14:15	0	56				56	
02:30	0	2				2		14:30	0	62				62	
02:45	0	3	9			3	9	14:45	0	56	221			56	221
03:00	0	2				2		15:00	0	53				53	
03:15	0	4				4		15:15	0	51				51	
03:30	0	4				4		15:30	0	67				67	
03:45	0	5	15			5	15	15:45	0	59	230			59	230
04:00	0	5				5		16:00	0	67				67	
04:15	0	4				4		16:15	0	74				74	
04:30	0	11				11		16:30	0	62				62	
04:45	0	14	34			14	34	16:45	0	65	268			65	268
05:00	0	18				18		17:00	0	56				56	
05:15	0	30				30		17:15	0	69				69	
05:30	0	42				42		17:30	0	58				58	
05:45	0	44	134			44	134	17:45	0	53	236			53	236
06:00	0	28				28		18:00	0	47				47	
06:15	0	59				59		18:15	0	45				45	
06:30	0	65				65		18:30	0	26				26	
06:45	0	71	223			71	223	18:45	0	37	155			37	155
07:00	0	61				61		19:00	0	22				22	
07:15	0	133				133		19:15	0	17				17	
07:30	0	155				155		19:30	0	22				22	
07:45	0	171	520			171	520	19:45	0	21	82			21	82
08:00	0	137				137		20:00	0	25				25	
08:15	0	122				122		20:15	0	12				12	
08:30	0	67				67		20:30	0	13				13	
08:45	0	58	384			58	384	20:45	0	14	64			14	64
09:00	0	51				51		21:00	0	8				8	
09:15	0	51				51		21:15	0	11				11	
09:30	0	39				39		21:30	0	7				7	
09:45	0	64	205			64	205	21:45	0	16	42			16	42
10:00	0	41				41		22:00	0	13				13	
10:15	0	34				34		22:15	0	8				8	
10:30	0	36				36		22:30	0	13				13	
10:45	0	42	153			42	153	22:45	0	8	42			8	42
11:00	0	47				47		23:00	0	9				9	
11:15	0	45				45		23:15	0	14				14	
11:30	0	51				51		23:30	0	5				5	
11:45	0	51	194			51	194	23:45	0	7	35			7	35
TOTALS			1896				**1896**	**TOTALS**			1778				**1778**
SPLIT %			100.0%				**51.6%**	**SPLIT %**			100.0%				**48.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	3,674	0	0	3,674

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour		07:15			**07:15**	**PM Peak Hour**		16:00			**16:00**
AM Pk Volume		596			**596**	**PM Pk Volume**		268			**268**
Pk Hr Factor		0.871			**0.871**	**Pk Hr Factor**		0.905			**0.905**
7 - 9 Volume	0	904	0	0	**904**	**4 - 6 Volume**	0	504	0	0	**504**
7 - 9 Peak Hour		07:15			**07:15**	**4 - 6 Peak Hour**		16:00			**16:00**
7 - 9 Pk Volume	0	596	0	0	**596**	**4 - 6 Pk Volume**	0	268	0	0	**268**
Pk Hr Factor	0.000	0.871	0.000	0.000	**0.871**	**Pk Hr Factor**	0.000	0.905	0.000	0.000	**0.905**

Prepared by National Data & Surveying Services

VOLUME

Weber Ave S/O Thomas Ave

Day: Friday
Date: 12/13/2019

City: Fresno
Project #: CA19_7472_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	3,615	0	0	3,615

AM Period	NB	SB		EB	WB	TOTAL		PM Period	NB	SB		EB	WB	TOTAL	
00:00	0	7				7		12:00	0	42				42	
00:15	0	5				5		12:15	0	45				45	
00:30	0	9				9		12:30	0	47				47	
00:45	0	1	22			1	22	12:45	0	50	184			50	184
01:00	0	5				5		13:00	0	53				53	
01:15	0	4				4		13:15	0	63				63	
01:30	0	6				6		13:30	0	74				74	
01:45	0	2	17			2	17	13:45	0	54	244			54	244
02:00	0	8				8		14:00	0	52				52	
02:15	0	4				4		14:15	0	55				55	
02:30	0	1				1		14:30	0	61				61	
02:45	0	2	15			2	15	14:45	0	75	243			75	243
03:00	0	1				1		15:00	0	50				50	
03:15	0	5				5		15:15	0	69				69	
03:30	0	4				4		15:30	0	64				64	
03:45	0	4	14			4	14	15:45	0	82	265			82	265
04:00	0	3				3		16:00	0	62				62	
04:15	0	6				6		16:15	0	60				60	
04:30	0	12				12		16:30	0	41				41	
04:45	0	11	32			11	32	16:45	0	63	226			63	226
05:00	0	20				20		17:00	0	66				66	
05:15	0	29				29		17:15	0	55				55	
05:30	0	36				36		17:30	0	43				43	
05:45	0	36	121			36	121	17:45	0	42	206			42	206
06:00	0	23				23		18:00	0	44				44	
06:15	0	34				34		18:15	0	43				43	
06:30	0	51				51		18:30	0	31				31	
06:45	0	74	182			74	182	18:45	0	33	151			33	151
07:00	0	55				55		19:00	0	32				32	
07:15	0	91				91		19:15	0	24				24	
07:30	0	150				150		19:30	0	29				29	
07:45	0	155	451			155	451	19:45	0	15	100			15	100
08:00	0	112				112		20:00	0	21				21	
08:15	0	113				113		20:15	0	19				19	
08:30	0	88				88		20:30	0	17				17	
08:45	0	65	378			65	378	20:45	0	27	84			27	84
09:00	0	36				36		21:00	0	21				21	
09:15	0	39				39		21:15	0	19				19	
09:30	0	48				48		21:30	0	13				13	
09:45	0	49	172			49	172	21:45	0	18	71			18	71
10:00	0	44				44		22:00	0	11				11	
10:15	0	36				36		22:15	0	10				10	
10:30	0	42				42		22:30	0	22				22	
10:45	0	52	174			52	174	22:45	0	7	50			7	50
11:00	0	52				52		23:00	0	7				7	
11:15	0	47				47		23:15	0	7				7	
11:30	0	48				48		23:30	0	11				11	
11:45	0	35	182			35	182	23:45	0	6	31			6	31
TOTALS		1760					**1760**	**TOTALS**		1855					**1855**
SPLIT %		100.0%					**48.7%**	**SPLIT %**		100.0%					**51.3%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	3,615	0	0	3,615

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour		07:30			**07:30**	**PM Peak Hour**		15:15			**15:15**
AM Pk Volume		530			**530**	**PM Pk Volume**		277			**277**
Pk Hr Factor		0.855			**0.855**	**Pk Hr Factor**		0.845			**0.845**
7 - 9 Volume	0	829	0	0	**829**	**4 - 6 Volume**	0	432	0	0	**432**
7 - 9 Peak Hour		07:30			**07:30**	**4 - 6 Peak Hour**		16:15			**16:15**
7 - 9 Pk Volume	0	530	0	0	**530**	**4 - 6 Pk Volume**	0	230	0	0	**230**
Pk Hr Factor	0.000	0.855	0.000	0.000	**0.855**	**Pk Hr Factor**	0.000	0.871	0.000	0.000	**0.871**

Prepared by National Data & Surveying Services

VOLUME

Weber Ave S/O Thomas Ave

Day: Saturday
Date: 12/14/2019

City: Fresno
Project #: CA19_7472_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	2,083	0	0	2,083

AM Period	NB	SB		EB	WB	TOTAL		PM Period	NB	SB		EB	WB	TOTAL	
00:00	0	7				7		12:00	0	28				28	
00:15	0	6				6		12:15	0	41				41	
00:30	0	5				5		12:30	0	45				45	
00:45	0	3	21			3	21	12:45	0	35	149			35	149
01:00	0	1				1		13:00	0	46				46	
01:15	0	2				2		13:15	0	33				33	
01:30	0	0				0		13:30	0	41				41	
01:45	0	0	3			0	3	13:45	0	48	168			48	168
02:00	0	0				0		14:00	0	31				31	
02:15	0	1				1		14:15	0	44				44	
02:30	0	0				0		14:30	0	39				39	
02:45	0	0	1			0	1	14:45	0	38	152			38	152
03:00	0	0				0		15:00	0	28				28	
03:15	0	0				0		15:15	0	48				48	
03:30	0	0				0		15:30	0	37				37	
03:45	0	1	1			1	1	15:45	0	49	162			49	162
04:00	0	0				0		16:00	0	35				35	
04:15	0	2				2		16:15	0	31				31	
04:30	0	5				5		16:30	0	26				26	
04:45	0	6	13			6	13	16:45	0	37	129			37	129
05:00	0	5				5		17:00	0	22				22	
05:15	0	6				6		17:15	0	41				41	
05:30	0	7				7		17:30	0	40				40	
05:45	0	19	37			19	37	17:45	0	31	134			31	134
06:00	0	8				8		18:00	0	36				36	
06:15	0	14				14		18:15	0	35				35	
06:30	0	29				29		18:30	0	31				31	
06:45	0	18	69			18	69	18:45	0	32	134			32	134
07:00	0	13				13		19:00	0	23				23	
07:15	0	23				23		19:15	0	22				22	
07:30	0	32				32		19:30	0	20				20	
07:45	0	37	105			37	105	19:45	0	16	81			16	81
08:00	0	24				24		20:00	0	15				15	
08:15	0	20				20		20:15	0	22				22	
08:30	0	30				30		20:30	0	16				16	
08:45	0	36	110			36	110	20:45	0	16	69			16	69
09:00	0	39				39		21:00	0	10				10	
09:15	0	30				30		21:15	0	19				19	
09:30	0	31				31		21:30	0	14				14	
09:45	0	30	130			30	130	21:45	0	18	61			18	61
10:00	0	34				34		22:00	0	14				14	
10:15	0	34				34		22:15	0	13				13	
10:30	0	36				36		22:30	0	12				12	
10:45	0	34	138			34	138	22:45	0	10	49			10	49
11:00	0	30				30		23:00	0	9				9	
11:15	0	41				41		23:15	0	11				11	
11:30	0	34				34		23:30	0	6				6	
11:45	0	33	138			33	138	23:45	0	3	29			3	29
TOTALS			766				**766**	**TOTALS**			1317				**1317**
SPLIT %			100.0%				**36.8%**	**SPLIT %**			100.0%				**63.2%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	2,083	0	0	2,083

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour		11:45			**11:45**	**PM Peak Hour**		15:15			**15:15**
AM Pk Volume		147			**147**	**PM Pk Volume**		169			**169**
Pk Hr Factor		0.817			**0.817**	**Pk Hr Factor**		0.862			**0.862**
7 - 9 Volume	0	215	0	0	**215**	**4 - 6 Volume**	0	263	0	0	**263**
7 - 9 Peak Hour		07:15			**07:15**	**4 - 6 Peak Hour**		16:45			**16:45**
7 - 9 Pk Volume	0	116	0	0	**116**	**4 - 6 Pk Volume**	0	140	0	0	**140**
Pk Hr Factor	0.000	0.784	0.000	0.000	**0.784**	**Pk Hr Factor**	0.000	0.854	0.000	0.000	**0.854**

Prepared by National Data & Surveying Services

VOLUME

Weber Ave S/O Thomas Ave

Day: Sunday
Date: 12/15/2019

City: Fresno
Project #: CA19_7472_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	1,601	0	0	1,601

AM Period	NB	SB		EB	WB	TOTAL		PM Period	NB	SB		EB	WB	TOTAL	
00:00	0	7				7		**12:00**	0	25				25	
00:15	0	7				7		**12:15**	0	13				13	
00:30	0	6				6		**12:30**	0	24				24	
00:45	0	4	24			4	24	**12:45**	0	25	87			25	87
01:00	0	5				5		**13:00**	0	35				35	
01:15	0	4				4		**13:15**	0	31				31	
01:30	0	2				2		**13:30**	0	30				30	
01:45	0	1	12			1	12	**13:45**	0	26	122			26	122
02:00	0	2				2		**14:00**	0	24				24	
02:15	0	2				2		**14:15**	0	34				34	
02:30	0	2				2		**14:30**	0	30				30	
02:45	0	1	7			1	7	**14:45**	0	37	125			37	125
03:00	0	3				3		**15:00**	0	24				24	
03:15	0	3				3		**15:15**	0	29				29	
03:30	0	1				1		**15:30**	0	20				20	
03:45	0	2	9			2	9	**15:45**	0	26	99			26	99
04:00	0	5				5		**16:00**	0	23				23	
04:15	0	2				2		**16:15**	0	23				23	
04:30	0	6				6		**16:30**	0	27				27	
04:45	0	8	21			8	21	**16:45**	0	25	98			25	98
05:00	0	2				2		**17:00**	0	26				26	
05:15	0	5				5		**17:15**	0	27				27	
05:30	0	7				7		**17:30**	0	19				19	
05:45	0	5	19			5	19	**17:45**	0	14	86			14	86
06:00	0	11				11		**18:00**	0	17				17	
06:15	0	5				5		**18:15**	0	16				16	
06:30	0	14				14		**18:30**	0	20				20	
06:45	0	15	45			15	45	**18:45**	0	22	75			22	75
07:00	0	8				8		**19:00**	0	25				25	
07:15	0	16				16		**19:15**	0	17				17	
07:30	0	22				22		**19:30**	0	15				15	
07:45	0	12	58			12	58	**19:45**	0	18	75			18	75
08:00	0	13				13		**20:00**	0	18				18	
08:15	0	24				24		**20:15**	0	16				16	
08:30	0	19				19		**20:30**	0	16				16	
08:45	0	20	76			20	76	**20:45**	0	15	65			15	65
09:00	0	28				28		**21:00**	0	17				17	
09:15	0	30				30		**21:15**	0	10				10	
09:30	0	29				29		**21:30**	0	12				12	
09:45	0	36	123			36	123	**21:45**	0	11	50			11	50
10:00	0	37				37		**22:00**	0	11				11	
10:15	0	26				26		**22:15**	0	14				14	
10:30	0	27				27		**22:30**	0	7				7	
10:45	0	38	128			38	128	**22:45**	0	9	41			9	41
11:00	0	31				31		**23:00**	0	7				7	
11:15	0	32				32		**23:15**	0	6				6	
11:30	0	28				28		**23:30**	0	12				12	
11:45	0	31	122			31	122	**23:45**	0	9	34			9	34
TOTALS			644				**644**	**TOTALS**			957				**957**
SPLIT %			100.0%				**40.2%**	**SPLIT %**			100.0%				**59.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	1,601	0	0	1,601

AM Peak Hour		09:15			**09:15**	**PM Peak Hour**		14:00			**14:00**
AM Pk Volume		132			**132**	**PM Pk Volume**		125			**125**
Pk Hr Factor		0.892			**0.892**	**Pk Hr Factor**		0.845			**0.845**
7 - 9 Volume	0	134	0	0	**134**	**4 - 6 Volume**	0	184	0	0	**184**
7 - 9 Peak Hour		08:00			**08:00**	**4 - 6 Peak Hour**		16:30			**16:30**
7 - 9 Pk Volume	0	76	0	0	**76**	**4 - 6 Pk Volume**	0	105	0	0	**105**
Pk Hr Factor	0.000	0.792	0.000	0.000	**0.792**	**Pk Hr Factor**	0.000	0.972	0.000	0.000	**0.972**

Prepared by National Data & Surveying Services

VOLUME

Weber Ave S/O Thomas Ave

Day: Monday
Date: 12/16/2019

City: Fresno
Project #: CA19_7472_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	3,251	0	0	3,251

AM Period	NB	SB		EB	WB	TOTAL		PM Period	NB	SB		EB	WB	TOTAL	
00:00	0	6				6		12:00	0	43				43	
00:15	0	5				5		12:15	0	34				34	
00:30	0	3				3		12:30	0	46				46	
00:45	0	1	15			1	15	12:45	0	55	178			55	178
01:00	0	5				5		13:00	0	54				54	
01:15	0	4				4		13:15	0	48				48	
01:30	0	6				6		13:30	0	50				50	
01:45	0	4	19			4	19	13:45	0	63	215			63	215
02:00	0	0				0		14:00	0	39				39	
02:15	0	2				2		14:15	0	46				46	
02:30	0	3				3		14:30	0	51				51	
02:45	0	1	6			1	6	14:45	0	61	197			61	197
03:00	0	3				3		15:00	0	51				51	
03:15	0	2				2		15:15	0	51				51	
03:30	0	2				2		15:30	0	47				47	
03:45	0	6	13			6	13	15:45	0	66	215			66	215
04:00	0	3				3		16:00	0	52				52	
04:15	0	5				5		16:15	0	46				46	
04:30	0	10				10		16:30	0	40				40	
04:45	0	16	34			16	34	16:45	0	62	200			62	200
05:00	0	18				18		17:00	0	37				37	
05:15	0	19				19		17:15	0	39				39	
05:30	0	43				43		17:30	0	30				30	
05:45	0	35	115			35	115	17:45	0	35	141			35	141
06:00	0	23				23		18:00	0	26				26	
06:15	0	38				38		18:15	0	33				33	
06:30	0	45				45		18:30	0	15				15	
06:45	0	73	179			73	179	18:45	0	22	96			22	96
07:00	0	53				53		19:00	0	20				20	
07:15	0	111				111		19:15	0	22				22	
07:30	0	133				133		19:30	0	15				15	
07:45	0	170	467			170	467	19:45	0	8	65			8	65
08:00	0	118				118		20:00	0	15				15	
08:15	0	105				105		20:15	0	20				20	
08:30	0	65				65		20:30	0	9				9	
08:45	0	66	354			66	354	20:45	0	12	56			12	56
09:00	0	63				63		21:00	0	15				15	
09:15	0	50				50		21:15	0	16				16	
09:30	0	67				67		21:30	0	12				12	
09:45	0	37	217			37	217	21:45	0	11	54			11	54
10:00	0	30				30		22:00	0	7				7	
10:15	0	47				47		22:15	0	11				11	
10:30	0	51				51		22:30	0	4				4	
10:45	0	47	175			47	175	22:45	0	10	32			10	32
11:00	0	48				48		23:00	0	4				4	
11:15	0	42				42		23:15	0	6				6	
11:30	0	46				46		23:30	0	5				5	
11:45	0	54	190			54	190	23:45	0	3	18			3	18
TOTALS			1784				**1784**	**TOTALS**			1467				**1467**
SPLIT %			100.0%				**54.9%**	**SPLIT %**			100.0%				**45.1%**

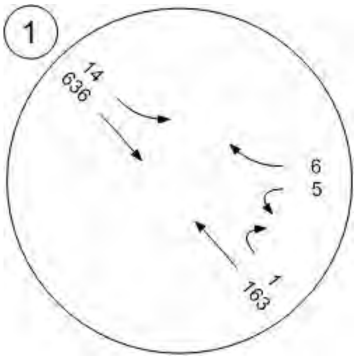
DAILY TOTALS	NB	SB	EB	WB	Total
	0	3,251	0	0	3,251

	NB	SB	EB	WB	Total		NB	SB	EB	WB	Total
AM Peak Hour		07:15			**07:15**	**PM Peak Hour**		15:15			**15:15**
AM Pk Volume		532			**532**	**PM Pk Volume**		216			**216**
Pk Hr Factor		0.782			**0.782**	**Pk Hr Factor**		0.818			**0.818**
7 - 9 Volume	0	821	0	0	**821**	**4 - 6 Volume**	0	341	0	0	**341**
7 - 9 Peak Hour		07:15			**07:15**	**4 - 6 Peak Hour**		16:00			**16:00**
7 - 9 Pk Volume	0	532	0	0	**532**	**4 - 6 Pk Volume**	0	200	0	0	**200**
Pk Hr Factor	0.000	0.782	0.000	0.000	**0.782**	**Pk Hr Factor**	0.000	0.806	0.000	0.000	**0.806**

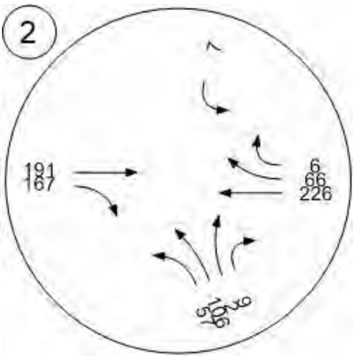
Appendix 4 Volume and Lane Configuration Figures

Traffic Volume - Base Volume

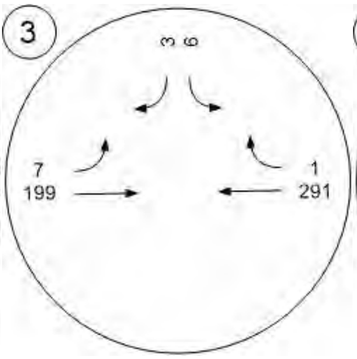
Thomas Ave & Weber Ave



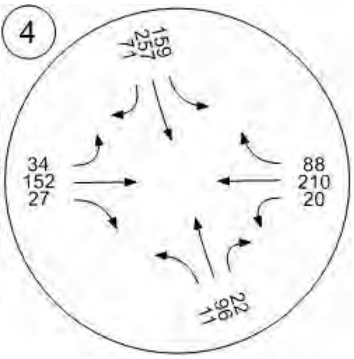
Weber Ave and Belmont Ave



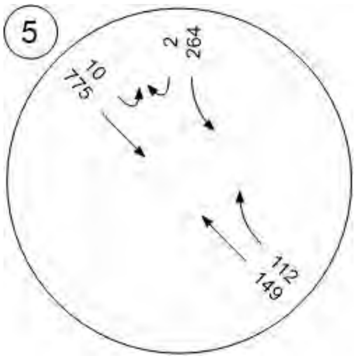
Belmont Ave & Safford Ave



Palm Ave and Belmont Ave



Palm Ave and N H St



Traffic Volume - Base Volume

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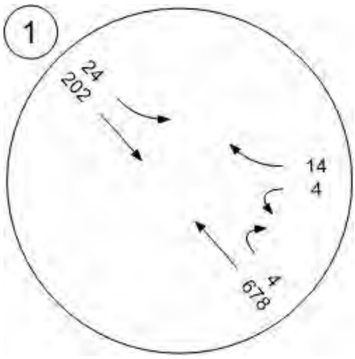
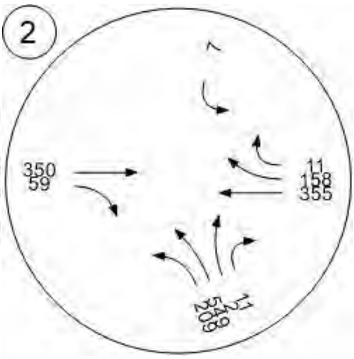
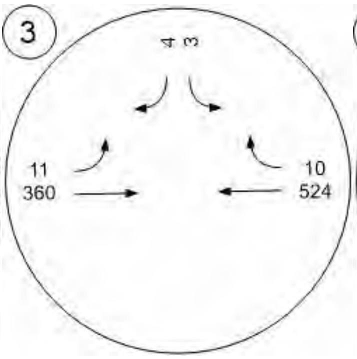
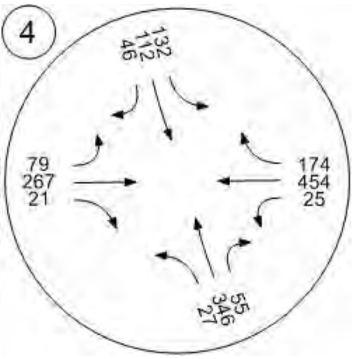
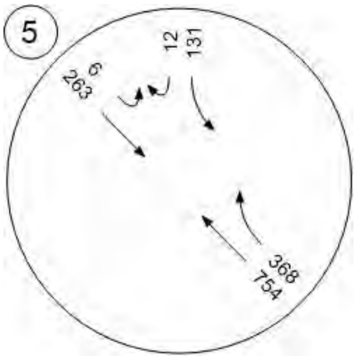

Thomas Ave & Weber Ave


Weber Ave and Belmont Ave


Belmont Ave & Safford Ave


Palm Ave and Belmont Ave


Palm Ave and N H St

Traffic Volume - Base Volume

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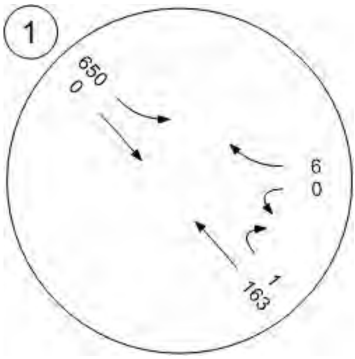
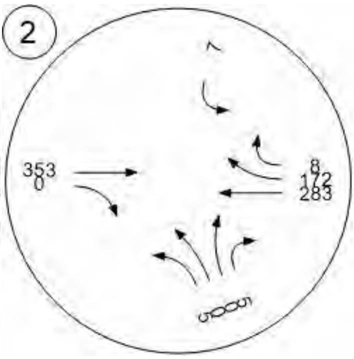
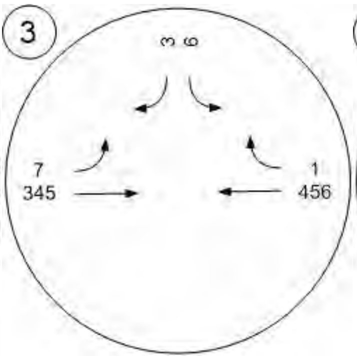
Thomas Ave & Weber Ave



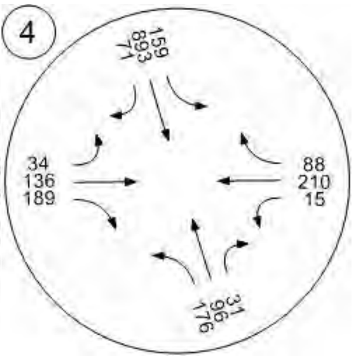
Weber Ave and Belmont Ave



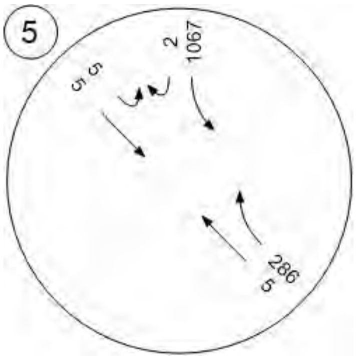
Belmont Ave & Safford Ave



Palm Ave and Belmont Ave



Palm Ave and N H St



Traffic Volume - Base Volume

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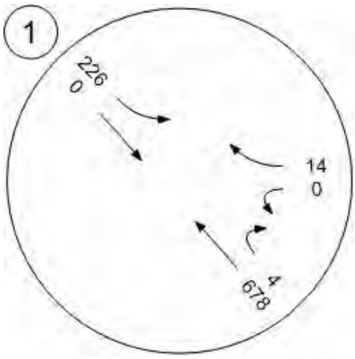
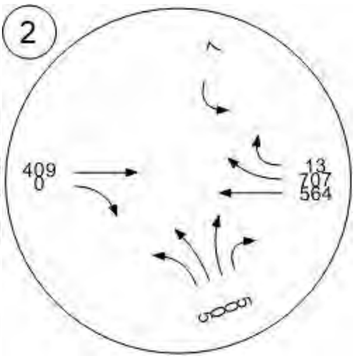
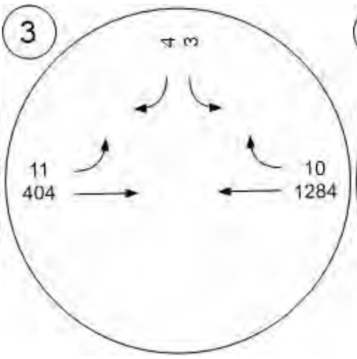
Thomas Ave & Weber Ave



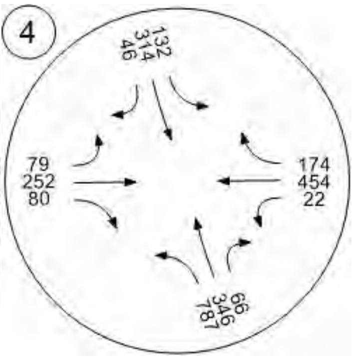
Weber Ave and Belmont Ave



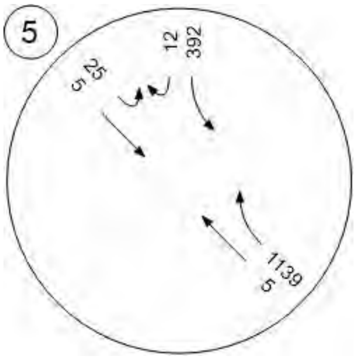
Belmont Ave & Safford Ave



Palm Ave and Belmont Ave

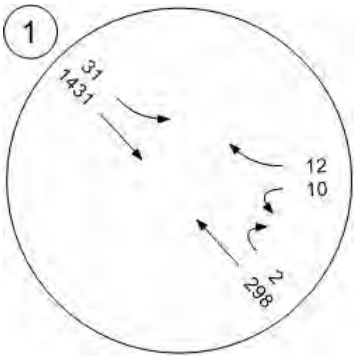


Palm Ave and N H St



Traffic Volume - Base Volume

Thomas Ave & Weber Ave



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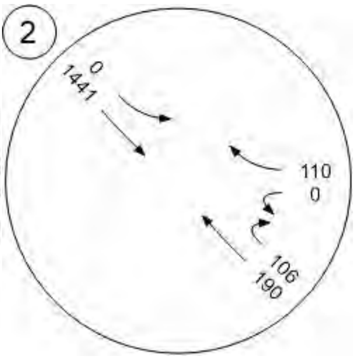
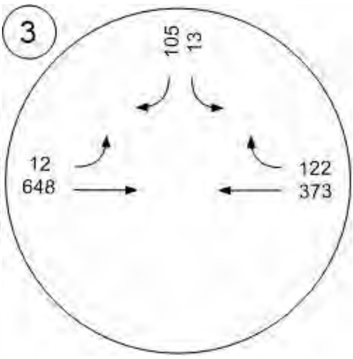
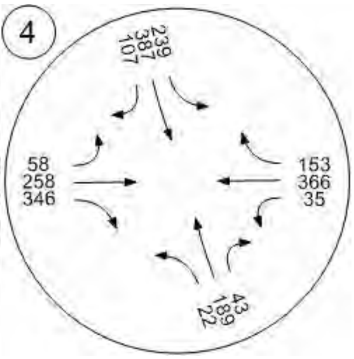


Belmont Ave & Safford Ave



Palm Ave and Belmont Ave



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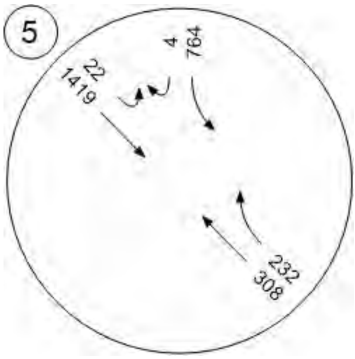
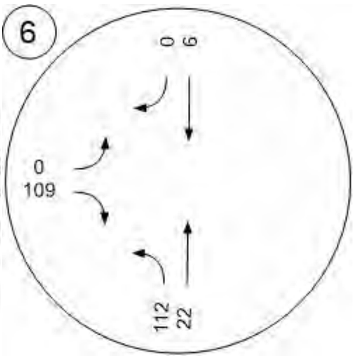


Safford Avenue and Connect



Traffic Volume - Base Volume

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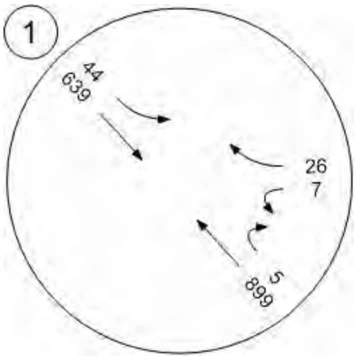
Thomas Ave & Weber Ave



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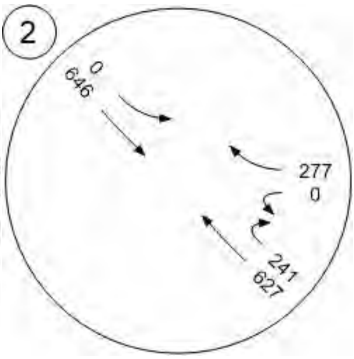
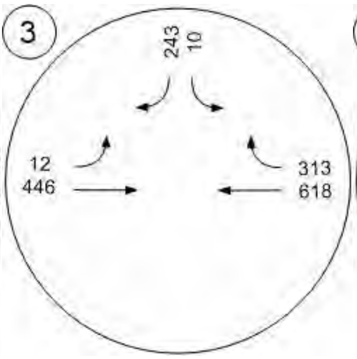
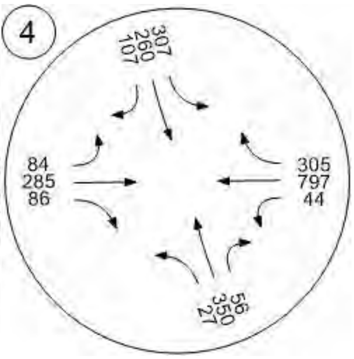


Belmont Ave & Safford Ave



Palm Ave and Belmont Ave



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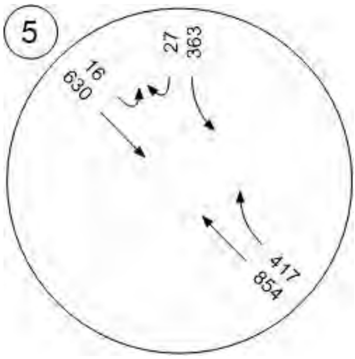

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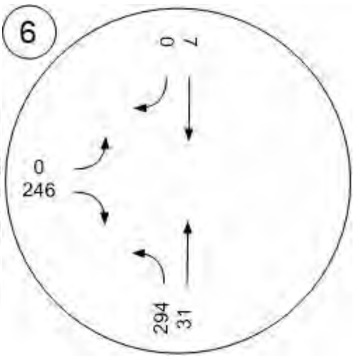
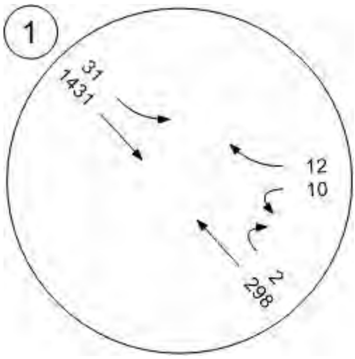


Traffic Volume - Base Volume

Thomas Ave & Weber Ave



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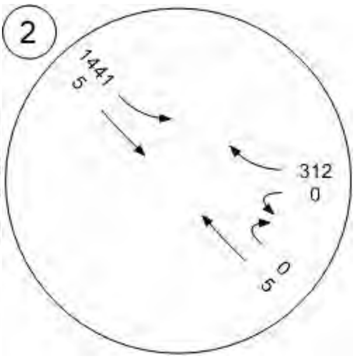
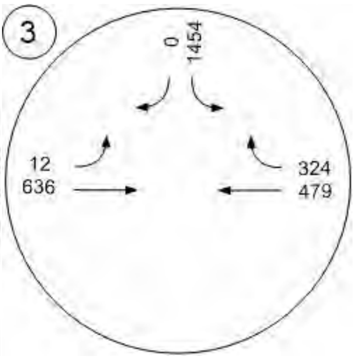
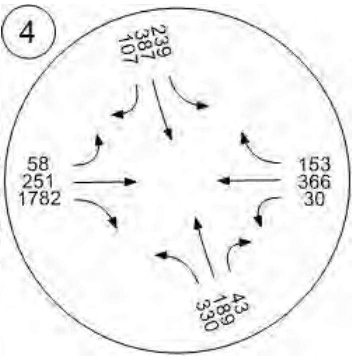


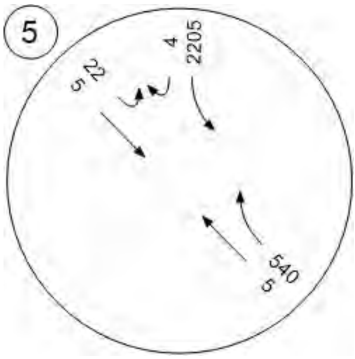
Belmont Ave & Safford Ave



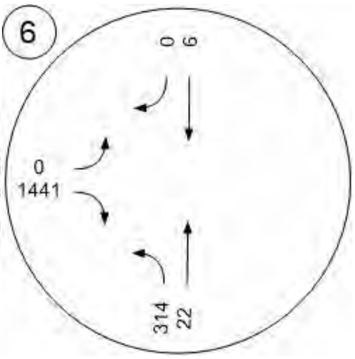
Palm Ave and Belmont Ave



Palm Ave and N H St



Safford Avenue and Connect



Traffic Volume - Base Volume

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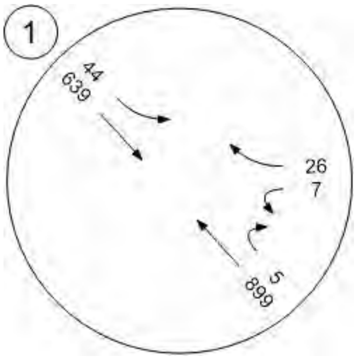
Thomas Ave & Weber Ave



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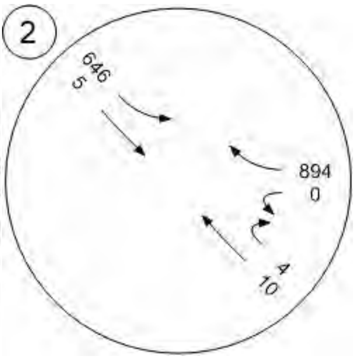
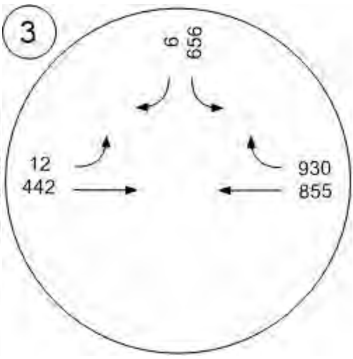
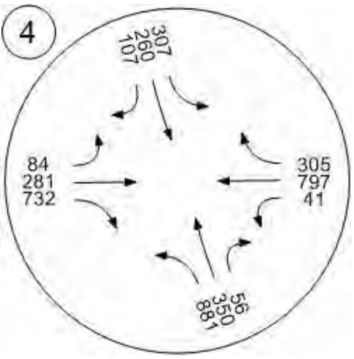


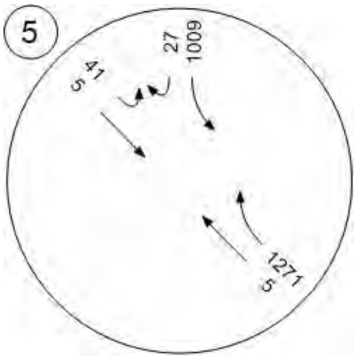
Belmont Ave & Safford Ave



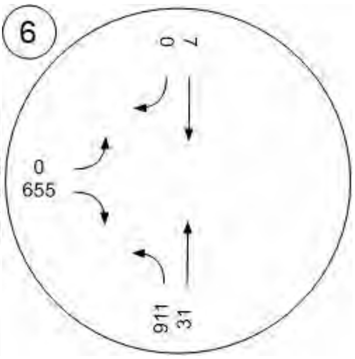
Palm Ave and Belmont Ave



Palm Ave and N H St



Safford Avenue and Connect



Appendix 5 Volume Figures – Net Volume Changes

Traffic Volume - Net New Site Trips

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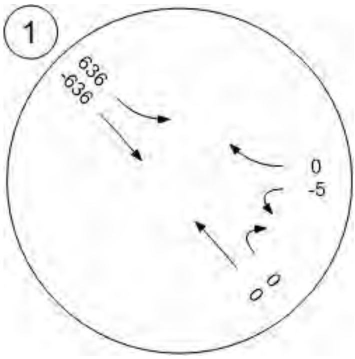
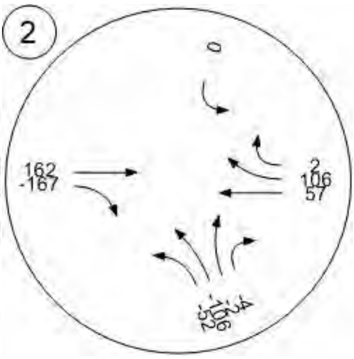
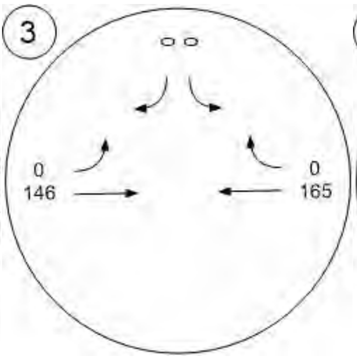


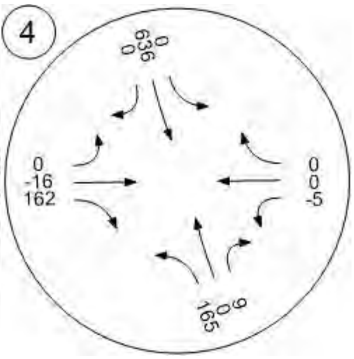
Weber Ave and Belmont Ave



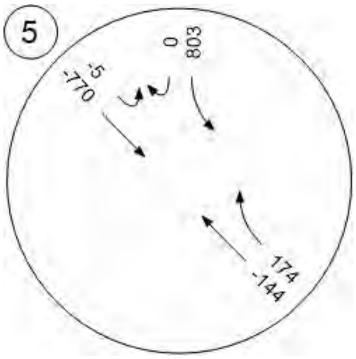
Belmont Ave & Safford Ave



Palm Ave and Belmont Ave



Palm Ave and N H St



Traffic Volume - Net New Site Trips

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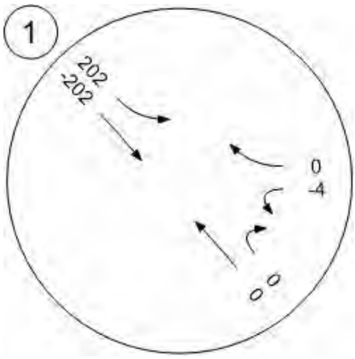
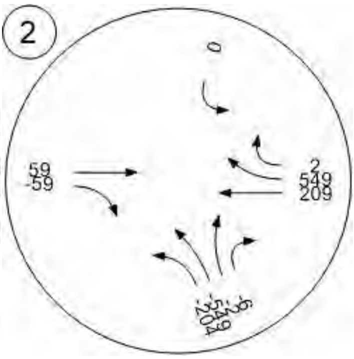
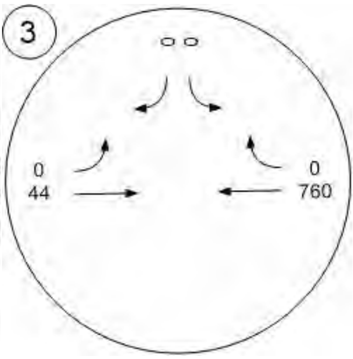
Thomas Ave & Weber Ave



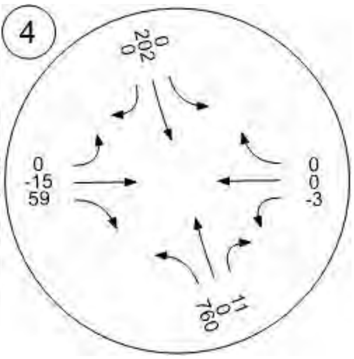
Weber Ave and Belmont Ave



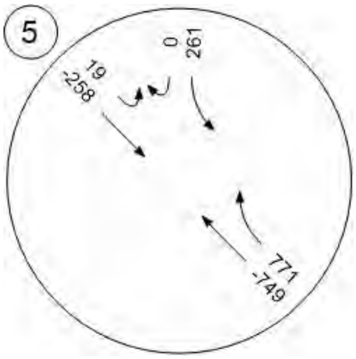
Belmont Ave & Safford Ave



Palm Ave and Belmont Ave



Palm Ave and N H St



Traffic Volume - Net New Site Trips

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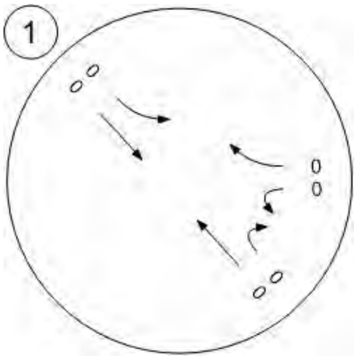
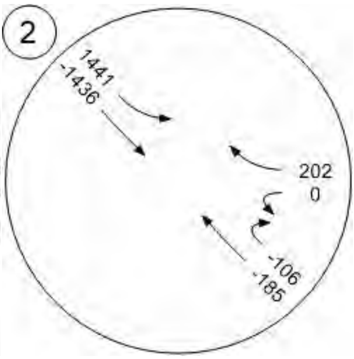
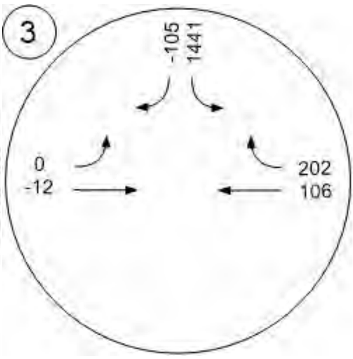
Thomas Ave & Weber Ave



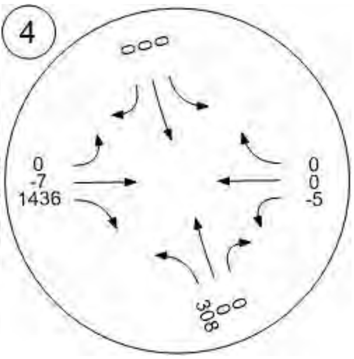
Belmont Avenue Connector &



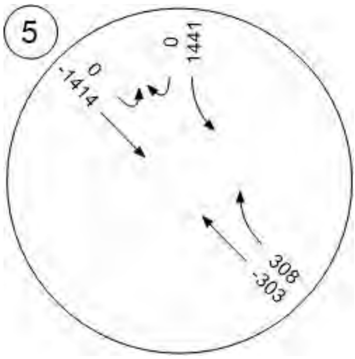
Belmont Ave & Safford Ave



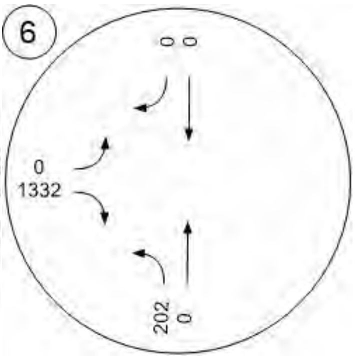
Palm Ave and Belmont Ave



Palm Ave and N H St



Safford Avenue and Connect



Traffic Volume - Net New Site Trips

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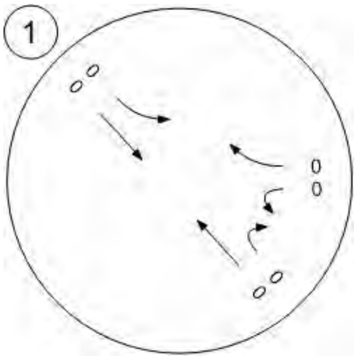
Thomas Ave & Weber Ave



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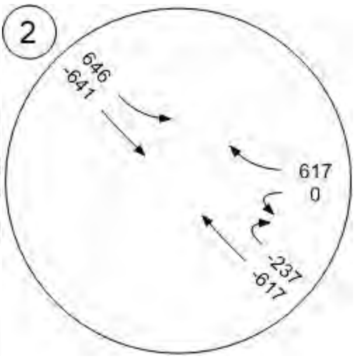
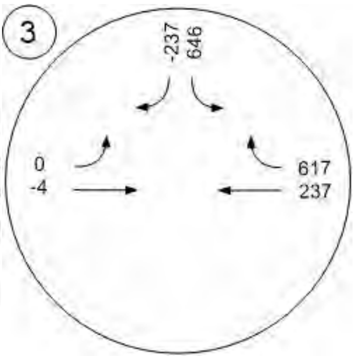
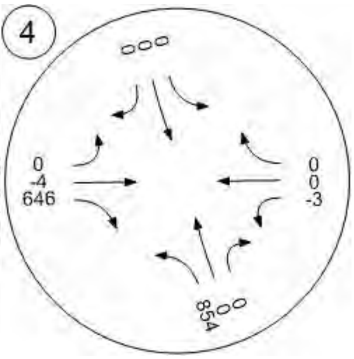


Belmont Ave & Safford Ave



Palm Ave and Belmont Ave



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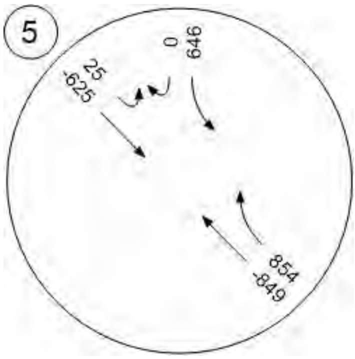
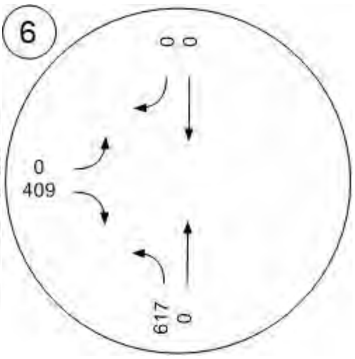


Safford Avenue and Connect



Appendix 6 Level of Service Worksheets

Producer's Dairy

Vistro File: H:\...\Producers_Dairy_20200203.vistro
Report File: H:\...\ExistingAM_NP.pdf

Scenario 5 Existing AM
2/4/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Thomas Ave & Weber Ave	Two-way stop	HCM 6th Edition	WB Left	0.022	18.2	C
2	Weber Ave and Belmont Ave	Signalized	HCM 6th Edition	SB Left	0.227	11.7	B
3	Belmont Ave & Safford Ave	Two-way stop	HCM 6th Edition	SB Left	0.013	12.0	B
4	Palm Ave and Belmont Ave	Signalized	HCM 6th Edition	SB Left	0.243	15.3	B
5	Palm Ave and N H St	Signalized	HCM 6th Edition	SB Right	0.397	14.5	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Thomas Ave & Weber Ave

Control Type:	Two-way stop	Delay (sec / veh):	18.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name	Weber Ave		Weber Ave		Thomas Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↱		↰		↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Weber Ave		Weber Ave		Thomas Ave	
Base Volume Input [veh/h]	163	1	14	636	5	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	1	14	636	5	6
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	0	4	185	1	2
Total Analysis Volume [veh/h]	190	1	16	740	6	7
Pedestrian Volume [ped/h]	0		0		1	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.64	0.00	18.23	9.49
Movement LOS	A	A	A	A	C	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.88	0.88	2.30	2.30
d_A, Approach Delay [s/veh]	0.00		0.16		13.52	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.31					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 2: Weber Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	11.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.227

Intersection Setup

Name	H St				Farris Ave				Belmont Ave			
Approach	Northbound				Southbound				Eastbound			
Lane Configuration	↰ ↱				↰				↑ ↱			
Turning Movement	Left	Thru	Right	Right2	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Curb Present	No				No				No			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	H St				Farris Ave				Belmont Ave			
Base Volume Input [veh/h]	57	106	2	9	7	0	0	0	0	0	191	167
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	57	106	2	9	7	0	0	0	0	0	191	167
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	1.0000	1.0000	1.0000	1.0000	1.0000	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	32	1	3	2	0	0	0	0	0	58	50
Total Analysis Volume [veh/h]	69	128	2	11	8	0	0	0	0	0	230	201
Presence of On-Street Parking	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				1				0			
v_di, Inbound Pedestrian Volume crossing th	0				0				0			
v_co, Outbound Pedestrian Volume along th	0				0				0			
v_ci, Inbound Pedestrian Volume along the le	1				0				0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	64
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	0	2	0	0	2	0	0	0	0	0	4	2
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lag	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	5
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	34	30
Amber [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	3.2	3.9
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
Split [s]	0	30	0	0	30	0	0	0	0	0	34	30
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.9	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	2.2	2.9
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C
C, Cycle Length [s]	64	64	64	64
L, Total Lost Time per Cycle [s]	4.90	4.90	4.90	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.90	2.90	2.90	2.20
g_i, Effective Green Time [s]	25	25	25	30
g / C, Green / Cycle	0.39	0.39	0.39	0.47
(v / s)_i Volume / Saturation Flow Rate	0.06	0.06	0.01	0.12
s, saturation flow rate [veh/h]	1813	1663	1247	1870
c, Capacity [veh/h]	711	652	514	871
d1, Uniform Delay [s]	12.58	12.58	14.81	10.42
k, delay calibration	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.46	0.50	0.06	0.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.15	0.15	0.02	0.26
d, Delay for Lane Group [s/veh]	13.05	13.08	14.86	11.16
Lane Group LOS	B	B	B	B
Critical Lane Group	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.02	0.94	0.08	1.91
50th-Percentile Queue Length [ft/ln]	25.42	23.39	2.04	47.85
95th-Percentile Queue Length [veh/ln]	1.83	1.68	0.15	3.45
95th-Percentile Queue Length [ft/ln]	45.76	42.09	3.68	86.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.05	13.07	13.08	13.08	14.86	0.00	0.00	0.00	0.00	0.00	11.16	0.00
Movement LOS	B	B	B	B	B						B	
d_A, Approach Delay [s/veh]	13.06				14.86				11.16			
Approach LOS	B				B				B			
d_I, Intersection Delay [s/veh]	11.72											
Intersection LOS	B											
Intersection V/C	0.227											

Other Modes

g_Walk,mi, Effective Walk Time [s]	29.8	29.8	25.1
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	9.14	9.14	11.82
I_p,int, Pedestrian LOS Score for Intersection	1.954	1.669	2.082
Crosswalk LOS	A	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	784	784	931
d_b, Bicycle Delay [s]	11.82	11.82	9.14
I_b,int, Bicycle LOS Score for Intersection	1.724	1.560	1.939
Bicycle LOS	A	A	A

Intersection Setup

Name	Belmont Ave							
Approach	Westbound				Southeastbound			
Lane Configuration	↑↱							
Turning Movement	Left	Thru	Right	Right2	Left	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Curb Present	No							
Crosswalk	Yes				Yes			

Volumes

Name	Belmont Ave							
Base Volume Input [veh/h]	0	226	66	6	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	226	66	6	0	0	0	0
Peak Hour Factor	1.0000	0.8300	0.8300	0.8300	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	68	20	2	0	0	0	0
Total Analysis Volume [veh/h]	0	272	80	7	0	0	0	0
Presence of On-Street Parking	No			No				
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	1				0			
v_di, Inbound Pedestrian Volume crossing th	0				0			
v_co, Outbound Pedestrian Volume along th	0				0			
v_ci, Inbound Pedestrian Volume along the e	1				0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0			
Bicycle Volume [bicycles/h]	0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	64
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	4	0	0	0	0	0	0
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	0	0	0	0
Maximum Green [s]	0	34	0	0	0	0	0	0
Amber [s]	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	34	0	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No						
Maximum Recall		No						
Pedestrian Recall		No						
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	
C, Cycle Length [s]	64	64	
L, Total Lost Time per Cycle [s]	4.20	4.20	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	
l2, Clearance Lost Time [s]	2.20	2.20	
g_i, Effective Green Time [s]	30	30	
g / C, Green / Cycle	0.47	0.47	
(v / s)_i Volume / Saturation Flow Rate	0.15	0.05	
s, saturation flow rate [veh/h]	1870	1589	
c, Capacity [veh/h]	871	740	
d1, Uniform Delay [s]	10.69	9.67	
k, delay calibration	0.50	0.50	
I, Upstream Filtering Factor	1.00	1.00	
d2, Incremental Delay [s]	0.94	0.32	
d3, Initial Queue Delay [s]	0.00	0.00	
Rp, platoon ratio	1.00	1.00	
PF, progression factor	1.00	1.00	

Lane Group Results

X, volume / capacity	0.31	0.12	
d, Delay for Lane Group [s/veh]	11.63	9.99	
Lane Group LOS	B	A	
Critical Lane Group	Yes	No	
50th-Percentile Queue Length [veh/ln]	2.33	0.68	
50th-Percentile Queue Length [ft/ln]	58.31	16.89	
95th-Percentile Queue Length [veh/ln]	4.20	1.22	
95th-Percentile Queue Length [ft/ln]	104.95	30.40	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	11.63	9.99	9.99	0.00	0.00	0.00	0.00
Movement LOS		B	A	A				
d_A, Approach Delay [s/veh]	11.23				0.00			
Approach LOS	B				A			
d_I, Intersection Delay [s/veh]	11.72							
Intersection LOS	B							
Intersection V/C	0.227							

Other Modes

g_Walk,mi, Effective Walk Time [s]	25.1	25.1
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00
d_p, Pedestrian Delay [s]	11.82	11.82
I_p,int, Pedestrian LOS Score for Intersection	2.247	1.773
Crosswalk LOS	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	931	0
d_b, Bicycle Delay [s]	9.14	32.00
I_b,int, Bicycle LOS Score for Intersection	2.140	4.132
Bicycle LOS	B	D

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Belmont Ave & Safford Ave

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Safford Ave		Belmont Ave		Belmont Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Safford Ave		Belmont Ave		Belmont Ave	
Base Volume Input [veh/h]	6	3	7	199	291	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	3	7	199	291	1
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	2	57	84	0
Total Analysis Volume [veh/h]	7	3	8	229	334	1
Pedestrian Volume [ped/h]	3		1		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

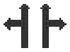
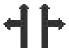
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.05	9.40	7.98	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.02	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.30	1.30	0.50	0.25	0.00	0.00
d_A, Approach Delay [s/veh]	11.25		0.27		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.30					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Palm Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	15.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.243

Intersection Setup

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	70.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Base Volume Input [veh/h]	11	96	22	159	257	71	34	152	27	20	210	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	96	22	159	257	71	34	152	27	20	210	88
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	27	6	45	73	20	10	43	8	6	60	25
Total Analysis Volume [veh/h]	13	109	25	181	292	81	39	173	31	23	239	100
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	1			5			0			5		
v_di, Inbound Pedestrian Volume crossing m	0			5			1			5		
v_co, Outbound Pedestrian Volume crossing	1			3			4			1		
v_ci, Inbound Pedestrian Volume crossing mi	1			4			3			1		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	79
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	2	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Split [s]	0	36	0	0	36	0	0	43	0	0	43	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	4	0	0	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	34	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	3.2	0.0	0.0	3.2	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	R	C	C	C	C	R
C, Cycle Length [s]	79	79	79	79	79	79	79	79	79	79
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	5.20	5.20	5.20	5.20	5.20
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	3.20	3.20	3.20	3.20	3.20
g_i, Effective Green Time [s]	30	30	30	30	30	38	38	38	38	38
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.48	0.48	0.48	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.04	0.04	0.14	0.08	0.05	0.08	0.07	0.08	0.07	0.06
s, saturation flow rate [veh/h]	1729	1591	1254	3560	1561	1550	1627	1742	1702	1580
c, Capacity [veh/h]	712	606	502	1357	595	801	778	887	814	756
d1, Uniform Delay [s]	15.79	15.83	20.89	16.49	15.95	11.51	11.59	11.58	11.61	11.46
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.39	2.01	0.36	0.48	0.41	0.42	0.36	0.41	0.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.11	0.12	0.36	0.22	0.14	0.15	0.15	0.15	0.16	0.13
d, Delay for Lane Group [s/veh]	16.09	16.21	22.90	16.85	16.42	11.92	12.01	11.94	12.02	11.83
Lane Group LOS	B	B	C	B	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.92	0.85	2.79	1.77	0.99	1.23	1.19	1.34	1.27	0.99
50th-Percentile Queue Length [ft/ln]	23.07	21.14	69.82	44.25	24.80	30.63	29.81	33.38	31.68	24.74
95th-Percentile Queue Length [veh/ln]	1.66	1.52	5.03	3.19	1.79	2.21	2.15	2.40	2.28	1.78
95th-Percentile Queue Length [ft/ln]	41.52	38.06	125.68	79.66	44.64	55.13	53.66	60.08	57.02	44.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.09	16.14	16.21	22.90	16.85	16.42	11.92	11.97	12.01	11.94	11.98	11.83
Movement LOS	B	B	B	C	B	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	16.15			18.76			11.97			11.94		
Approach LOS	B			B			B			B		
d_I, Intersection Delay [s/veh]	15.31											
Intersection LOS	B											
Intersection V/C	0.243											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.91	31.91	31.91	31.91
I_p,int, Pedestrian LOS Score for Intersection	2.280	2.635	2.286	2.698
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	762	762	957	957
d_b, Bicycle Delay [s]	15.14	15.14	10.74	10.74
I_b,int, Bicycle LOS Score for Intersection	1.681	2.017	1.760	1.858
Bicycle LOS	A	B	A	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Palm Ave and N H St

Control Type:	Signalized	Delay (sec / veh):	14.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.397

Intersection Setup

Name	Palm Ave		H St		H St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	210.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Palm Ave		H St		H St	
Base Volume Input [veh/h]	264	2	10	775	149	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	264	2	10	775	149	112
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	1	3	242	47	35
Total Analysis Volume [veh/h]	330	3	13	969	186	140
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	1		0		1	
v_ci, Inbound Pedestrian Volume crossing mi	1		0		1	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		4		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	76
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Overlap
Signal Group	2	0	0	4	4	2
Auxiliary Signal Groups						2,4
Lead / Lag	Lag	-	-	-	-	-
Minimum Green [s]	5	0	0	5	5	5
Maximum Green [s]	28	0	0	47	47	28
Amber [s]	3.9	0.0	0.0	3.9	3.9	3.9
All red [s]	2.0	0.0	0.0	2.0	2.0	2.0
Split [s]	34	0	0	53	53	34
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	3.0
Walk [s]	9	0	0	15	15	9
Pedestrian Clearance [s]	19	0	0	32	32	19
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.9	0.0	0.0	3.9	3.9	3.9
Minimum Recall	No			No	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C	R
C, Cycle Length [s]	87	87	87	87	87	87
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	0.00
g_i, Effective Green Time [s]	28	28	47	47	47	81
g / C, Green / Cycle	0.32	0.32	0.54	0.54	0.54	0.93
(v / s)_i Volume / Saturation Flow Rate	0.09	0.09	0.28	0.28	0.05	0.09
s, saturation flow rate [veh/h]	1781	1777	1860	1702	3560	1577
c, Capacity [veh/h]	575	574	1049	921	1928	1471
d1, Uniform Delay [s]	22.00	22.00	12.61	12.63	9.65	0.22
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.27	1.27	1.63	2.01	0.10	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.29	0.29	0.49	0.51	0.10	0.10
d, Delay for Lane Group [s/veh]	23.27	23.27	14.24	14.64	9.75	0.35
Lane Group LOS	C	C	B	B	A	A
Critical Lane Group	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.68	2.68	6.27	5.82	0.83	0.05
50th-Percentile Queue Length [ft/ln]	67.03	66.91	156.81	145.52	20.78	1.31
95th-Percentile Queue Length [veh/ln]	4.83	4.82	10.38	9.78	1.50	0.09
95th-Percentile Queue Length [ft/ln]	120.65	120.44	259.50	244.44	37.41	2.37

Movement, Approach, & Intersection Results

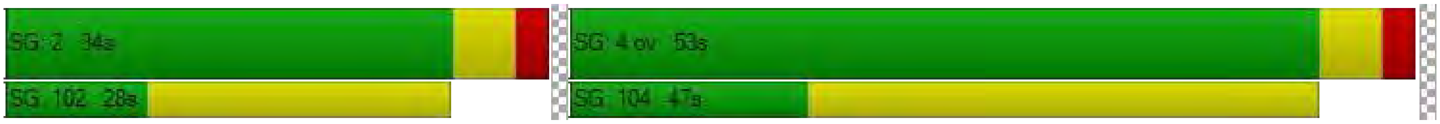
d_M, Delay for Movement [s/veh]	23.27	23.27	14.24	14.43	9.75	0.35
Movement LOS	C	C	B	B	A	A
d_A, Approach Delay [s/veh]	23.27		14.43		5.71	
Approach LOS	C		B		A	
d_I, Intersection Delay [s/veh]	14.49					
Intersection LOS	B					
Intersection V/C	0.397					

Other Modes

g_Walk,mi, Effective Walk Time [s]	19.0	13.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.38	26.11	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.248	2.405	0.000
Crosswalk LOS	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	739	1239	1239
d_b, Bicycle Delay [s]	15.09	5.51	5.50
I_b,int, Bicycle LOS Score for Intersection	2.109	2.370	1.829
Bicycle LOS	B	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Producer's Dairy

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Scenario 3 Existing+Proj AM
2/4/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Thomas Ave & Weber Ave	Two-way stop	HCM 6th Edition	SB Left	0.548	10.7	B
2	Weber Ave and Belmont Ave	Signalized	HCM 6th Edition	EB Thru	0.257	12.8	B
3	Belmont Ave & Safford Ave	Two-way stop	HCM 6th Edition	SB Left	0.020	15.6	C
4	Palm Ave and Belmont Ave	Signalized	HCM 6th Edition	NB Left	1.525	36.7	D
5	Palm Ave and N H St	Signalized	HCM 6th Edition	SB Right	0.542	94.3	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: Thomas Ave & Weber Ave

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.548

Intersection Setup

Name	Weber Ave		Weber Ave		Thomas Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↱		↰		┳	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Weber Ave		Weber Ave		Thomas Ave	
Base Volume Input [veh/h]	163	1	650	0	0	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	1	650	0	0	6
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	0	189	0	0	2
Total Analysis Volume [veh/h]	190	1	756	0	0	7
Pedestrian Volume [ped/h]	0		0		1	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.55	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	10.72	0.00	84.15	9.27
Movement LOS	A	A	B	A	F	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	3.48	3.48	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	86.96	86.96	0.62	0.62
d_A, Approach Delay [s/veh]	0.00		10.72		9.27	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	8.56					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 2: Weber Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.257

Intersection Setup

Name	H St				Farris Ave				Belmont Ave			
Approach	Northbound				Southbound				Eastbound			
Lane Configuration												
Turning Movement	Left	Thru	Right	Right2	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Curb Present	No				No				No			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	H St				Farris Ave				Belmont Ave			
Base Volume Input [veh/h]	5	0	0	5	7	0	0	0	0	0	353	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	0	5	7	0	0	0	0	0	353	0
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	1.0000	1.0000	1.0000	1.0000	1.0000	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	2	2	0	0	0	0	0	106	0
Total Analysis Volume [veh/h]	6	0	0	6	8	0	0	0	0	0	425	0
Presence of On-Street Parking	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				1				0			
v_di, Inbound Pedestrian Volume crossing th	0				0				0			
v_co, Outbound Pedestrian Volume along th	0				0				0			
v_ci, Inbound Pedestrian Volume along the le	1				0				0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	64
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	0	2	0	0	2	0	0	0	0	0	4	2
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lag	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	5
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	34	30
Amber [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	3.2	3.9
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
Split [s]	0	30	0	0	30	0	0	0	0	0	34	30
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.9	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	2.2	2.9
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C
C, Cycle Length [s]	64	64	64	64
L, Total Lost Time per Cycle [s]	4.90	4.90	4.90	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.90	2.90	2.90	2.20
g_i, Effective Green Time [s]	25	25	25	30
g / C, Green / Cycle	0.39	0.39	0.39	0.47
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.01	0.23
s, saturation flow rate [veh/h]	1781	1445	1409	1870
c, Capacity [veh/h]	698	567	617	871
d1, Uniform Delay [s]	11.86	11.87	13.25	11.83
k, delay calibration	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.03	0.04	1.95
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.01	0.01	0.01	0.49
d, Delay for Lane Group [s/veh]	11.88	11.91	13.29	13.78
Lane Group LOS	B	B	B	B
Critical Lane Group	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.05	0.05	0.08	4.11
50th-Percentile Queue Length [ft/ln]	1.30	1.33	1.88	102.79
95th-Percentile Queue Length [veh/ln]	0.09	0.10	0.14	7.40
95th-Percentile Queue Length [ft/ln]	2.34	2.39	3.38	185.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.88	11.88	11.91	11.91	13.29	0.00	0.00	0.00	0.00	0.00	13.78	0.00
Movement LOS	B	B	B	B	B						B	
d_A, Approach Delay [s/veh]	11.89				13.29				13.78			
Approach LOS	B				B				B			
d_I, Intersection Delay [s/veh]	12.84											
Intersection LOS	B											
Intersection V/C	0.257											

Other Modes

g_Walk,mi, Effective Walk Time [s]	29.8	29.8	25.1
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	9.14	9.14	11.82
I_p,int, Pedestrian LOS Score for Intersection	1.890	1.670	2.147
Crosswalk LOS	A	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	784	784	931
d_b, Bicycle Delay [s]	11.82	11.82	9.14
I_b,int, Bicycle LOS Score for Intersection	1.565	1.560	2.261
Bicycle LOS	A	A	B

Intersection Setup

Name	Belmont Ave							
Approach	Westbound				Southeastbound			
Lane Configuration	↑↱							
Turning Movement	Left	Thru	Right	Right2	Left	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Curb Present	No							
Crosswalk	Yes				Yes			

Volumes

Name	Belmont Ave							
Base Volume Input [veh/h]	0	283	172	8	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	283	172	8	0	0	0	0
Peak Hour Factor	1.0000	0.8300	0.8300	0.8300	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	85	52	2	0	0	0	0
Total Analysis Volume [veh/h]	0	341	207	10	0	0	0	0
Presence of On-Street Parking	No			No				
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	1				0			
v_di, Inbound Pedestrian Volume crossing th	0				0			
v_co, Outbound Pedestrian Volume along th	0				0			
v_ci, Inbound Pedestrian Volume along the le	1				0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0			
Bicycle Volume [bicycles/h]	0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	64
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	4	0	0	0	0	0	0
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	0	0	0	0
Maximum Green [s]	0	34	0	0	0	0	0	0
Amber [s]	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	34	0	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No						
Maximum Recall		No						
Pedestrian Recall		No						
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	
C, Cycle Length [s]	64	64	
L, Total Lost Time per Cycle [s]	4.20	4.20	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	
l2, Clearance Lost Time [s]	2.20	2.20	
g_i, Effective Green Time [s]	30	30	
g / C, Green / Cycle	0.47	0.47	
(v / s)_i Volume / Saturation Flow Rate	0.18	0.14	
s, saturation flow rate [veh/h]	1870	1589	
c, Capacity [veh/h]	871	740	
d1, Uniform Delay [s]	11.18	10.58	
k, delay calibration	0.50	0.50	
I, Upstream Filtering Factor	1.00	1.00	
d2, Incremental Delay [s]	1.32	1.01	
d3, Initial Queue Delay [s]	0.00	0.00	
Rp, platoon ratio	1.00	1.00	
PF, progression factor	1.00	1.00	

Lane Group Results

X, volume / capacity	0.39	0.29	
d, Delay for Lane Group [s/veh]	12.50	11.59	
Lane Group LOS	B	B	
Critical Lane Group	No	No	
50th-Percentile Queue Length [veh/ln]	3.08	1.87	
50th-Percentile Queue Length [ft/ln]	76.99	46.73	
95th-Percentile Queue Length [veh/ln]	5.54	3.36	
95th-Percentile Queue Length [ft/ln]	138.58	84.12	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	12.50	11.59	11.59	0.00	0.00	0.00	0.00
Movement LOS		B	B	B				
d_A, Approach Delay [s/veh]	12.15				0.00			
Approach LOS	B				A			
d_I, Intersection Delay [s/veh]	12.84							
Intersection LOS	B							
Intersection V/C	0.257							

Other Modes

g_Walk,mi, Effective Walk Time [s]	25.1	25.1
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00
d_p, Pedestrian Delay [s]	11.82	11.82
I_p,int, Pedestrian LOS Score for Intersection	2.342	1.772
Crosswalk LOS	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	931	0
d_b, Bicycle Delay [s]	9.14	32.00
I_b,int, Bicycle LOS Score for Intersection	2.464	4.132
Bicycle LOS	B	D

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Belmont Ave & Safford Ave

Control Type:	Two-way stop	Delay (sec / veh):	15.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	Safford Ave		Belmont Ave		Belmont Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Safford Ave		Belmont Ave		Belmont Ave	
Base Volume Input [veh/h]	6	3	7	345	456	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	3	7	345	456	1
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	2	99	131	0
Total Analysis Volume [veh/h]	7	3	8	397	524	1
Pedestrian Volume [ped/h]	3		1		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	15.59	10.16	8.51	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.02	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.86	1.86	0.59	0.29	0.00	0.00
d_A, Approach Delay [s/veh]	13.96		0.17		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.22					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 4: Palm Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	36.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.525

Intersection Setup

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	70.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Base Volume Input [veh/h]	176	96	31	159	893	71	34	136	189	15	210	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	176	96	31	159	893	71	34	136	189	15	210	88
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	27	9	45	254	20	10	39	54	4	60	25
Total Analysis Volume [veh/h]	200	109	35	181	1015	81	39	155	215	17	239	100
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	1			5			0			5		
v_di, Inbound Pedestrian Volume crossing m	0			5			1			5		
v_co, Outbound Pedestrian Volume crossing	1			3			4			1		
v_ci, Inbound Pedestrian Volume crossing mi	1			4			3			1		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	79
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	2	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Split [s]	0	36	0	0	36	0	0	43	0	0	43	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	4	0	0	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	34	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	3.2	0.0	0.0	3.2	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	R	C	C	C	C	R
C, Cycle Length [s]	79	79	79	79	79	79	79	79	79	79
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	5.20	5.20	5.20	5.20	5.20
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	3.20	3.20	3.20	3.20	3.20
g_i, Effective Green Time [s]	30	30	30	30	30	38	38	38	38	38
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.48	0.48	0.48	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	1.26	0.09	0.15	0.29	0.05	0.11	0.15	0.08	0.07	0.06
s, saturation flow rate [veh/h]	159	1625	1243	3560	1561	1700	1446	1747	1702	1580
c, Capacity [veh/h]	152	619	458	1357	595	868	692	887	814	756
d1, Uniform Delay [s]	37.79	16.61	22.94	21.17	15.95	11.99	12.62	11.56	11.59	11.46
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	182.40	0.88	2.54	3.81	0.48	0.60	1.17	0.35	0.40	0.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.32	0.23	0.39	0.75	0.14	0.22	0.31	0.15	0.15	0.13
d, Delay for Lane Group [s/veh]	220.18	17.48	25.48	24.98	16.42	12.58	13.79	11.91	11.99	11.83
Lane Group LOS	F	B	C	C	B	B	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	10.57	1.84	2.99	8.31	0.99	2.00	2.39	1.30	1.24	0.99
50th-Percentile Queue Length [ft/ln]	264.23	46.04	74.68	207.84	24.80	49.91	59.67	32.54	30.91	24.74
95th-Percentile Queue Length [veh/ln]	18.35	3.31	5.38	13.04	1.79	3.59	4.30	2.34	2.23	1.78
95th-Percentile Queue Length [ft/ln]	458.82	82.87	134.42	326.06	44.64	89.85	107.40	58.56	55.63	44.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	220.18	17.48	17.48	25.48	24.98	16.42	12.58	12.58	13.79	11.91	11.95	11.83
Movement LOS	F	B	B	C	C	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	135.33			24.51			13.22			11.91		
Approach LOS	F			C			B			B		
d_I, Intersection Delay [s/veh]	36.67											
Intersection LOS	D											
Intersection V/C	1.525											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.91	31.91	31.91	31.91
I_p,int, Pedestrian LOS Score for Intersection	2.539	2.752	2.638	2.695
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	762	762	957	957
d_b, Bicycle Delay [s]	15.14	15.14	10.74	10.74
I_b,int, Bicycle LOS Score for Intersection	1.843	2.613	1.897	1.853
Bicycle LOS	A	B	A	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Palm Ave and N H St

Control Type:	Signalized	Delay (sec / veh):	94.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.542

Intersection Setup

Name	Palm Ave		H St		H St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	210.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Palm Ave		H St		H St	
Base Volume Input [veh/h]	1067	2	5	5	5	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1067	2	5	5	5	286
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	333	1	2	2	2	89
Total Analysis Volume [veh/h]	1334	3	6	6	6	358
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	1		0		1	
v_ci, Inbound Pedestrian Volume crossing mi	1		0		1	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		4		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	76
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Overlap
Signal Group	2	0	0	4	4	2
Auxiliary Signal Groups						2,4
Lead / Lag	Lag	-	-	-	-	-
Minimum Green [s]	5	0	0	5	5	5
Maximum Green [s]	28	0	0	47	47	28
Amber [s]	3.9	0.0	0.0	3.9	3.9	3.9
All red [s]	2.0	0.0	0.0	2.0	2.0	2.0
Split [s]	34	0	0	53	53	34
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	3.0
Walk [s]	9	0	0	15	15	9
Pedestrian Clearance [s]	19	0	0	32	32	19
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.9	0.0	0.0	3.9	3.9	3.9
Minimum Recall	No			No	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C	R
C, Cycle Length [s]	87	87	87	87	87	87
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	0.00
g_i, Effective Green Time [s]	28	28	47	47	47	81
g / C, Green / Cycle	0.32	0.32	0.54	0.54	0.54	0.93
(v / s)_i Volume / Saturation Flow Rate	0.38	0.38	0.00	0.00	0.00	0.23
s, saturation flow rate [veh/h]	1781	1780	1370	1702	3560	1577
c, Capacity [veh/h]	575	575	822	921	1928	1471
d1, Uniform Delay [s]	29.45	29.45	9.31	9.18	9.16	0.26
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	90.96	91.22	0.02	0.01	0.00	0.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.16	1.16	0.01	0.01	0.00	0.24
d, Delay for Lane Group [s/veh]	120.41	120.67	9.33	9.19	9.17	0.65
Lane Group LOS	F	F	A	A	A	A
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	25.99	26.01	0.06	0.05	0.03	0.16
50th-Percentile Queue Length [ft/ln]	649.63	650.28	1.41	1.24	0.64	4.02
95th-Percentile Queue Length [veh/ln]	37.69	37.74	0.10	0.09	0.05	0.29
95th-Percentile Queue Length [ft/ln]	942.36	943.48	2.53	2.23	1.14	7.23

Movement, Approach, & Intersection Results

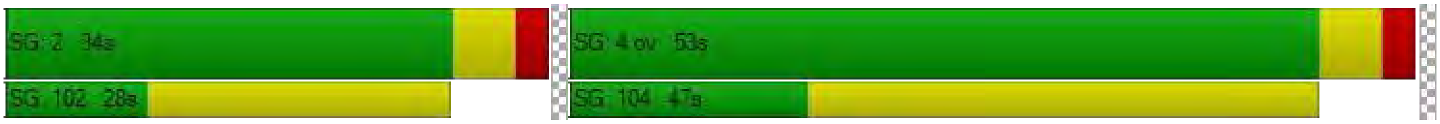
d_M, Delay for Movement [s/veh]	120.54	120.67	9.33	9.20	9.17	0.65
Movement LOS	F	F	A	A	A	A
d_A, Approach Delay [s/veh]	120.54		9.26		0.79	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	94.31					
Intersection LOS	F					
Intersection V/C	0.542					

Other Modes

g_Walk,mi, Effective Walk Time [s]	19.0	13.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.38	26.11	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.534	2.124	0.000
Crosswalk LOS	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	739	1239	1239
d_b, Bicycle Delay [s]	15.09	5.51	5.50
I_b,int, Bicycle LOS Score for Intersection	3.766	1.570	1.860
Bicycle LOS	D	A	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Producer's Dairy

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Report File: H:\...\ExistingPM_NP.pdf

Scenario 6 Existing PM
2/4/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Thomas Ave & Weber Ave	Two-way stop	HCM 6th Edition	WB Left	0.016	19.6	C
2	Weber Ave and Belmont Ave	Signalized	HCM 6th Edition	SB Left	0.471	15.5	B
3	Belmont Ave & Safford Ave	Two-way stop	HCM 6th Edition	SB Left	0.010	17.0	C
4	Palm Ave and Belmont Ave	Signalized	HCM 6th Edition	SB Left	0.342	16.4	B
5	Palm Ave and N H St	Signalized	HCM 2010	SB Right	0.278	10.2	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Thomas Ave & Weber Ave

Control Type:	Two-way stop	Delay (sec / veh):	19.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

Intersection Setup

Name	Weber Ave		Weber Ave		Thomas Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↱		↰		↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Weber Ave		Weber Ave		Thomas Ave	
Base Volume Input [veh/h]	678	4	24	202	4	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	678	4	24	202	4	14
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	184	1	7	55	1	4
Total Analysis Volume [veh/h]	737	4	26	220	4	15
Pedestrian Volume [ped/h]	0		0		1	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.00	0.02	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	9.29	0.00	19.61	14.18
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.09	0.09	0.16	0.16
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.32	2.32	4.07	4.07
d_A, Approach Delay [s/veh]	0.00		0.98		15.32	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.53					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 2: Weber Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.471

Intersection Setup

Name	H St				Farris Ave				Belmont Ave			
Approach	Northbound				Southbound				Eastbound			
Lane Configuration	↰↑↱				↰				↑↱			
Turning Movement	Left	Thru	Right	Right2	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Curb Present	No				No				No			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	H St				Farris Ave				Belmont Ave			
Base Volume Input [veh/h]	209	549	2	11	7	0	0	0	0	0	350	59
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	209	549	2	11	7	0	0	0	0	0	350	59
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	1.0000	1.0000	1.0000	1.0000	1.0000	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	143	1	3	2	0	0	0	0	0	91	15
Total Analysis Volume [veh/h]	218	572	2	11	7	0	0	0	0	0	365	61
Presence of On-Street Parking	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	2				2				0			
v_di, Inbound Pedestrian Volume crossing th	1				2				0			
v_co, Outbound Pedestrian Volume along th	0				0				1			
v_ci, Inbound Pedestrian Volume along the le	0				0				2			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	64
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	0	2	0	0	2	0	0	0	0	0	4	2
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lag	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	5
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	34	30
Amber [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	3.2	3.9
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
Split [s]	0	30	0	0	30	0	0	0	0	0	34	30
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.9	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	2.2	2.9
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C
C, Cycle Length [s]	64	64	64	64
L, Total Lost Time per Cycle [s]	4.90	4.90	4.90	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.90	2.90	2.90	2.20
g_i, Effective Green Time [s]	25	25	25	30
g / C, Green / Cycle	0.39	0.39	0.39	0.47
(v / s)_i Volume / Saturation Flow Rate	0.23	0.23	0.01	0.20
s, saturation flow rate [veh/h]	1822	1692	830	1870
c, Capacity [veh/h]	715	663	263	871
d1, Uniform Delay [s]	15.33	15.32	21.65	11.35
k, delay calibration	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.46	3.71	0.19	1.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.58	0.03	0.42
d, Delay for Lane Group [s/veh]	18.78	19.03	21.84	12.84
Lane Group LOS	B	B	C	B
Critical Lane Group	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	4.96	4.65	0.10	3.36
50th-Percentile Queue Length [ft/ln]	124.08	116.29	2.40	83.98
95th-Percentile Queue Length [veh/ln]	8.62	8.19	0.17	6.05
95th-Percentile Queue Length [ft/ln]	215.43	204.72	4.32	151.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.78	18.95	19.03	19.03	21.84	0.00	0.00	0.00	0.00	0.00	12.84	0.00
Movement LOS	B	B	B	B	C						B	
d_A, Approach Delay [s/veh]	18.90				21.84				12.84			
Approach LOS	B				C				B			
d_I, Intersection Delay [s/veh]	15.54											
Intersection LOS	B											
Intersection V/C	0.471											

Other Modes

g_Walk,mi, Effective Walk Time [s]	29.8	29.8	25.1
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	9.14	9.14	11.82
I_p,int, Pedestrian LOS Score for Intersection	2.147	1.671	2.206
Crosswalk LOS	B	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	784	784	931
d_b, Bicycle Delay [s]	11.82	11.82	9.14
I_b,int, Bicycle LOS Score for Intersection	2.213	1.560	2.162
Bicycle LOS	B	A	B

Intersection Setup

Name	Belmont Ave							
Approach	Westbound				Southeastbound			
Lane Configuration								
Turning Movement	Left	Thru	Right	Right2	Left	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Curb Present	No							
Crosswalk	Yes				Yes			

Volumes

Name	Belmont Ave							
Base Volume Input [veh/h]	0	355	158	11	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	355	158	11	0	0	0	0
Peak Hour Factor	1.0000	0.9600	0.9600	0.9600	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	92	41	3	0	0	0	0
Total Analysis Volume [veh/h]	0	370	165	11	0	0	0	0
Presence of On-Street Parking	No			No				
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			
v_di, Inbound Pedestrian Volume crossing th	0				0			
v_co, Outbound Pedestrian Volume along th	2				0			
v_ci, Inbound Pedestrian Volume along the le	2				0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0			
Bicycle Volume [bicycles/h]	0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	64
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	4	0	0	0	0	0	0
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	0	0	0	0
Maximum Green [s]	0	34	0	0	0	0	0	0
Amber [s]	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	34	0	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No						
Maximum Recall		No						
Pedestrian Recall		No						
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	
C, Cycle Length [s]	64	64	
L, Total Lost Time per Cycle [s]	4.20	4.20	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	
l2, Clearance Lost Time [s]	2.20	2.20	
g_i, Effective Green Time [s]	30	30	
g / C, Green / Cycle	0.47	0.47	
(v / s)_i Volume / Saturation Flow Rate	0.20	0.11	
s, saturation flow rate [veh/h]	1870	1589	
c, Capacity [veh/h]	871	740	
d1, Uniform Delay [s]	11.39	10.28	
k, delay calibration	0.50	0.50	
I, Upstream Filtering Factor	1.00	1.00	
d2, Incremental Delay [s]	1.52	0.76	
d3, Initial Queue Delay [s]	0.00	0.00	
Rp, platoon ratio	1.00	1.00	
PF, progression factor	1.00	1.00	

Lane Group Results

X, volume / capacity	0.42	0.24	
d, Delay for Lane Group [s/veh]	12.91	11.03	
Lane Group LOS	B	B	
Critical Lane Group	Yes	No	
50th-Percentile Queue Length [veh/ln]	3.42	1.47	
50th-Percentile Queue Length [ft/ln]	85.47	36.63	
95th-Percentile Queue Length [veh/ln]	6.15	2.64	
95th-Percentile Queue Length [ft/ln]	153.85	65.93	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	12.91	11.03	11.03	0.00	0.00	0.00	0.00
Movement LOS		B	B	B				
d_A, Approach Delay [s/veh]	12.31				0.00			
Approach LOS	B				A			
d_I, Intersection Delay [s/veh]	15.54							
Intersection LOS	B							
Intersection V/C	0.471							

Other Modes

g_Walk,mi, Effective Walk Time [s]	25.1	25.1
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00
d_p, Pedestrian Delay [s]	11.82	11.82
I_p,int, Pedestrian LOS Score for Intersection	2.324	2.031
Crosswalk LOS	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	931	0
d_b, Bicycle Delay [s]	9.14	32.00
I_b,int, Bicycle LOS Score for Intersection	2.442	4.132
Bicycle LOS	B	D

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Belmont Ave & Safford Ave

Control Type:	Two-way stop	Delay (sec / veh):	17.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Safford Ave		Belmont Ave		Belmont Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↰↱		↰ ↑		↑ ↱	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Safford Ave		Belmont Ave		Belmont Ave	
Base Volume Input [veh/h]	3	4	11	360	524	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	4	11	360	524	10
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	3	100	146	3
Total Analysis Volume [veh/h]	3	4	12	400	582	11
Pedestrian Volume [ped/h]	12		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

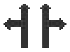
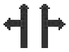
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	16.99	10.43	8.81	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.04	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.20	1.20	0.95	0.48	0.00	0.00
d_A, Approach Delay [s/veh]	13.24		0.26		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.20					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 4: Palm Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	16.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.342

Intersection Setup

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	70.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Base Volume Input [veh/h]	27	346	55	132	112	46	79	267	21	25	454	174
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	346	55	132	112	46	79	267	21	25	454	174
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	94	15	36	30	13	21	73	6	7	123	47
Total Analysis Volume [veh/h]	29	376	60	143	122	50	86	290	23	27	493	189
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	3			2			2			2		
v_di, Inbound Pedestrian Volume crossing m	2			2			3			2		
v_co, Outbound Pedestrian Volume crossing	0			0			1			1		
v_ci, Inbound Pedestrian Volume crossing mi	1			1			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	2			4			0			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	79
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	2	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Split [s]	0	36	0	0	36	0	0	43	0	0	43	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	4	0	0	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	34	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	3.2	0.0	0.0	3.2	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	R	C	C	C	C	R
C, Cycle Length [s]	79	79	79	79	79	79	79	79	79	79
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	5.20	5.20	5.20	5.20	5.20
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	3.20	3.20	3.20	3.20	3.20
g_i, Effective Green Time [s]	30	30	30	30	30	38	38	38	38	38
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.48	0.48	0.48	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.14	0.14	0.15	0.03	0.03	0.17	0.14	0.15	0.15	0.12
s, saturation flow rate [veh/h]	1813	1616	952	3560	1565	1006	1672	1792	1702	1564
c, Capacity [veh/h]	742	616	337	1357	596	550	800	907	814	748
d1, Uniform Delay [s]	17.42	17.51	25.55	15.67	15.63	14.73	12.48	12.54	12.61	12.19
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.20	1.61	3.87	0.13	0.28	1.42	0.92	0.83	0.99	0.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.33	0.36	0.42	0.09	0.08	0.30	0.29	0.30	0.31	0.25
d, Delay for Lane Group [s/veh]	18.62	19.12	29.42	15.80	15.90	16.15	13.39	13.37	13.60	13.00
Lane Group LOS	B	B	C	B	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	3.27	2.99	2.61	0.70	0.60	2.21	2.51	2.89	2.76	2.00
50th-Percentile Queue Length [ft/ln]	81.87	74.70	65.37	17.51	14.95	55.26	62.80	72.13	68.94	50.12
95th-Percentile Queue Length [veh/ln]	5.89	5.38	4.71	1.26	1.08	3.98	4.52	5.19	4.96	3.61
95th-Percentile Queue Length [ft/ln]	147.37	134.46	117.67	31.52	26.91	99.46	113.04	129.83	124.09	90.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.62	18.83	19.12	29.42	15.80	15.90	16.15	14.16	13.39	13.37	13.49	13.00
Movement LOS	B	B	B	C	B	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	18.86			22.00			14.55			13.35		
Approach LOS	B			C			B			B		
d_I, Intersection Delay [s/veh]	16.40											
Intersection LOS	B											
Intersection V/C	0.342											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.91	31.91	31.91	31.91
I_p,int, Pedestrian LOS Score for Intersection	2.321	2.728	2.405	2.734
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	762	762	957	957
d_b, Bicycle Delay [s]	15.15	15.16	10.74	10.76
I_b,int, Bicycle LOS Score for Intersection	1.943	1.819	1.889	2.145
Bicycle LOS	A	A	A	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Palm Ave and N H St

Control Type:	Signalized	Delay (sec / veh):	10.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.278

Intersection Setup

Name	Palm Ave		H St		H St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	210.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Palm Ave		H St		H St	
Base Volume Input [veh/h]	131	12	6	263	754	368
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	131	12	6	263	754	368
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	3	2	72	207	101
Total Analysis Volume [veh/h]	144	13	7	289	829	404
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	1		1		0	
Bicycle Volume [bicycles/h]	0		2		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	76
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Overlap
Signal Group	2	0	0	4	4	2
Auxiliary Signal Groups						2,4
Lead / Lag	Lag	-	-	-	-	-
Minimum Green [s]	5	0	0	5	5	5
Maximum Green [s]	28	0	0	47	47	28
Amber [s]	3.9	0.0	0.0	3.9	3.9	3.9
All red [s]	2.0	0.0	0.0	2.0	2.0	2.0
Split [s]	34	0	0	53	53	34
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	3.0
Walk [s]	9	0	0	15	15	9
Pedestrian Clearance [s]	19	0	0	32	32	19
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.9	0.0	0.0	3.9	3.9	3.9
Minimum Recall	No			No	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C	R
C, Cycle Length [s]	87	87	87	87	87	87
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	2.00
g_i, Effective Green Time [s]	28	28	47	47	47	81
g / C, Green / Cycle	0.32	0.32	0.54	0.54	0.54	0.93
(v / s)_i Volume / Saturation Flow Rate	0.04	0.04	0.09	0.08	0.23	0.26
s, saturation flow rate [veh/h]	1774	1739	1805	1695	3547	1563
c, Capacity [veh/h]	573	562	1020	918	1920	1457
d1, Uniform Delay [s]	20.87	20.88	9.97	9.99	11.94	0.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.50	0.52	0.31	0.36	0.71	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

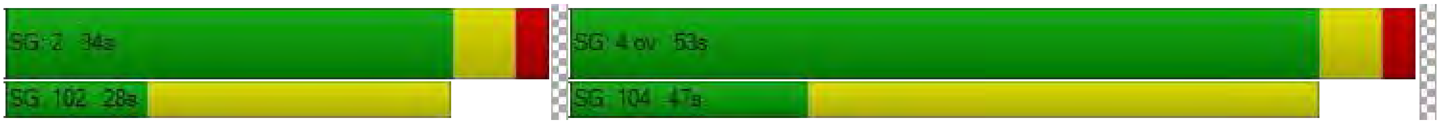
X, volume / capacity	0.14	0.14	0.15	0.16	0.43	0.28
d, Delay for Lane Group [s/veh]	21.37	21.39	10.29	10.35	12.65	0.74
Lane Group LOS	C	C	B	B	B	A
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.19	1.18	1.46	1.37	4.62	0.19
50th-Percentile Queue Length [ft/ln]	29.83	29.55	36.56	34.13	115.62	4.79
95th-Percentile Queue Length [veh/ln]	2.15	2.13	2.63	2.46	8.15	0.34
95th-Percentile Queue Length [ft/ln]	53.69	53.20	65.81	61.43	203.79	8.62

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.38	21.39	10.29	10.32	12.65	0.74
Movement LOS	C	C	B	B	B	A
d_A, Approach Delay [s/veh]	21.38		10.32		8.75	
Approach LOS	C		B		A	
d_I, Intersection Delay [s/veh]	10.20					
Intersection LOS	B					
Intersection V/C	0.278					

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Producer's Dairy

Vistro File: H:\...\Producers_Dairy_20200203.vistro
Report File: H:\...\ExistingPM_PP.pdf

Scenario 4 Existing+Proj PM
2/4/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Thomas Ave & Weber Ave	Two-way stop	HCM 6th Edition	WB Right	0.036	14.0	B
2	Weber Ave and Belmont Ave	Signalized	HCM 6th Edition	WB Right	0.526	31.8	C
3	Belmont Ave & Safford Ave	Two-way stop	HCM 6th Edition	SB Left	0.037	51.0	F
4	Palm Ave and Belmont Ave	Signalized	HCM 6th Edition	NB Left	1.363	177.0	F
5	Palm Ave and N H St	Signalized	HCM 2010	SB Right	0.860	12.2	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: Thomas Ave & Weber Ave

Control Type:	Two-way stop	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.036

Intersection Setup

Name	Weber Ave		Weber Ave		Thomas Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	⊢		⊣		⊤	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Weber Ave		Weber Ave		Thomas Ave	
Base Volume Input [veh/h]	678	4	226	0	0	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	678	4	226	0	0	14
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	184	1	61	0	0	4
Total Analysis Volume [veh/h]	737	4	246	0	0	15
Pedestrian Volume [ped/h]	0		0		1	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.28	0.00	0.00	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	10.81	0.00	31.08	13.97
Movement LOS	A	A	B	A	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	1.18	1.18	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	29.40	29.40	2.80	2.80
d_A, Approach Delay [s/veh]	0.00		10.81		13.97	
Approach LOS	A		B		B	
d_I, Intersection Delay [s/veh]	2.86					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Weber Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	31.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.526

Intersection Setup

Name	H St				Farris Ave				Belmont Ave			
Approach	Northbound				Southbound				Eastbound			
Lane Configuration												
Turning Movement	Left	Thru	Right	Right2	Left	Thru	Right	Right2	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Curb Present	No				No				No			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	H St				Farris Ave				Belmont Ave			
Base Volume Input [veh/h]	5	0	0	5	7	0	0	0	0	0	409	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	0	5	7	0	0	0	0	0	409	0
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	1.0000	1.0000	1.0000	1.0000	1.0000	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	1	2	0	0	0	0	0	107	0
Total Analysis Volume [veh/h]	5	0	0	5	7	0	0	0	0	0	426	0
Presence of On-Street Parking	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	2				2				0			
v_di, Inbound Pedestrian Volume crossing th	1				2				0			
v_co, Outbound Pedestrian Volume along th	0				0				1			
v_ci, Inbound Pedestrian Volume along the le	0				0				2			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	64
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	0	2	0	0	2	0	0	0	0	0	4	2
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	Lag	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	5
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	34	30
Amber [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	3.2	3.9
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
Split [s]	0	30	0	0	30	0	0	0	0	0	34	30
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.9	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	2.2	2.9
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C
C, Cycle Length [s]	64	64	64	64
L, Total Lost Time per Cycle [s]	4.90	4.90	4.90	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.90	2.90	2.90	2.20
g_i, Effective Green Time [s]	25	25	25	30
g / C, Green / Cycle	0.39	0.39	0.39	0.47
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.00	0.23
s, saturation flow rate [veh/h]	1781	1446	1411	1870
c, Capacity [veh/h]	698	567	619	871
d1, Uniform Delay [s]	11.86	11.86	13.22	11.83
k, delay calibration	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.03	0.03	1.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.01	0.01	0.01	0.49
d, Delay for Lane Group [s/veh]	11.87	11.89	13.25	13.80
Lane Group LOS	B	B	B	B
Critical Lane Group	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.04	0.04	0.07	4.12
50th-Percentile Queue Length [ft/ln]	1.08	1.10	1.64	103.12
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.12	7.42
95th-Percentile Queue Length [ft/ln]	1.95	1.99	2.95	185.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.87	11.87	11.89	11.89	13.25	0.00	0.00	0.00	0.00	0.00	13.80	0.00
Movement LOS	B	B	B	B	B						B	
d_A, Approach Delay [s/veh]	11.88				13.25				13.80			
Approach LOS	B				B				B			
d_I, Intersection Delay [s/veh]	31.76											
Intersection LOS	C											
Intersection V/C	0.526											

Other Modes

g_Walk,mi, Effective Walk Time [s]	29.8	29.8	25.1
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	9.14	9.14	11.82
I_p,int, Pedestrian LOS Score for Intersection	1.889	1.671	2.228
Crosswalk LOS	A	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	784	784	931
d_b, Bicycle Delay [s]	11.82	11.82	9.14
I_b,int, Bicycle LOS Score for Intersection	1.564	1.560	2.263
Bicycle LOS	A	A	B

Intersection Setup

Name	Belmont Ave							
Approach	Westbound				Southeastbound			
Lane Configuration	↑↱							
Turning Movement	Left	Thru	Right	Right2	Left	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Curb Present	No							
Crosswalk	Yes				Yes			

Volumes

Name	Belmont Ave							
Base Volume Input [veh/h]	0	564	707	13	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	564	707	13	0	0	0	0
Peak Hour Factor	1.0000	0.9600	0.9600	0.9600	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	147	184	3	0	0	0	0
Total Analysis Volume [veh/h]	0	588	736	14	0	0	0	0
Presence of On-Street Parking	No			No				
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0			
v_di, Inbound Pedestrian Volume crossing th	0				0			
v_co, Outbound Pedestrian Volume along th	2				0			
v_ci, Inbound Pedestrian Volume along the le	2				0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0			
Bicycle Volume [bicycles/h]	0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	64
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	0	4	0	0	0	0	0	0
Auxiliary Signal Groups								
Lead / Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	0	0	0	0
Maximum Green [s]	0	34	0	0	0	0	0	0
Amber [s]	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	34	0	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No						
Maximum Recall		No						
Pedestrian Recall		No						
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	
C, Cycle Length [s]	64	64	
L, Total Lost Time per Cycle [s]	4.20	4.20	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	
l2, Clearance Lost Time [s]	2.20	2.20	
g_i, Effective Green Time [s]	30	30	
g / C, Green / Cycle	0.47	0.47	
(v / s)_i Volume / Saturation Flow Rate	0.31	0.47	
s, saturation flow rate [veh/h]	1870	1589	
c, Capacity [veh/h]	871	740	
d1, Uniform Delay [s]	13.33	17.10	
k, delay calibration	0.50	0.50	
I, Upstream Filtering Factor	1.00	1.00	
d2, Incremental Delay [s]	4.18	36.47	
d3, Initial Queue Delay [s]	0.00	0.00	
Rp, platoon ratio	1.00	1.00	
PF, progression factor	1.00	1.00	

Lane Group Results

X, volume / capacity	0.68	1.01	
d, Delay for Lane Group [s/veh]	17.51	53.57	
Lane Group LOS	B	F	
Critical Lane Group	No	Yes	
50th-Percentile Queue Length [veh/ln]	6.69	16.66	
50th-Percentile Queue Length [ft/ln]	167.13	416.46	
95th-Percentile Queue Length [veh/ln]	10.93	23.58	
95th-Percentile Queue Length [ft/ln]	273.14	589.60	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	17.51	53.57	53.57	0.00	0.00	0.00	0.00
Movement LOS		B	D	D				
d_A, Approach Delay [s/veh]	37.72				0.00			
Approach LOS	D				A			
d_I, Intersection Delay [s/veh]	31.76							
Intersection LOS	C							
Intersection V/C	0.526							

Other Modes

g_Walk,mi, Effective Walk Time [s]	25.1	25.1
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00
d_p, Pedestrian Delay [s]	11.82	11.82
I_p,int, Pedestrian LOS Score for Intersection	2.530	2.030
Crosswalk LOS	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	931	0
d_b, Bicycle Delay [s]	9.14	32.00
I_b,int, Bicycle LOS Score for Intersection	3.744	4.132
Bicycle LOS	D	D

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report

Intersection 3: Belmont Ave & Safford Ave

Control Type:	Two-way stop	Delay (sec / veh):	51.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.037

Intersection Setup

Name	Safford Ave		Belmont Ave		Belmont Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Safford Ave		Belmont Ave		Belmont Ave	
Base Volume Input [veh/h]	3	4	11	404	1284	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	4	11	404	1284	10
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	3	112	357	3
Total Analysis Volume [veh/h]	3	4	12	449	1427	11
Pedestrian Volume [ped/h]	12		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.01	0.03	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	51.01	16.26	13.08	0.00	0.00	0.00
Movement LOS	F	C	B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.08	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.78	3.78	2.02	1.01	0.00	0.00
d_A, Approach Delay [s/veh]	31.15		0.34		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	0.20					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 4: Palm Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	177.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.363

Intersection Setup

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↰↑ ↑↱			↰ ↑ ↑ ↱			↰↑ ↑↱			↰↑ ↑ ↱		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	70.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Base Volume Input [veh/h]	787	346	66	132	314	46	79	252	80	22	454	174
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	787	346	66	132	314	46	79	252	80	22	454	174
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	214	94	18	36	85	13	21	68	22	6	123	47
Total Analysis Volume [veh/h]	855	376	72	143	341	50	86	274	87	24	493	189
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	3			2			2			2		
v_di, Inbound Pedestrian Volume crossing m	2			2			3			2		
v_co, Outbound Pedestrian Volume crossing	0			0			1			1		
v_ci, Inbound Pedestrian Volume crossing mi	1			1			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	2			4			0			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	79
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	2	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Split [s]	0	36	0	0	36	0	0	43	0	0	43	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	4	0	0	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	34	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	3.2	0.0	0.0	3.2	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	R	C	C	C	C	R
C, Cycle Length [s]	79	79	79	79	79	79	79	79	79	79
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	5.20	5.20	5.20	5.20	5.20
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	3.20	3.20	3.20	3.20	3.20
g_i, Effective Green Time [s]	30	30	30	30	30	38	38	38	38	38
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.48	0.48	0.48	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	1.08	0.27	0.15	0.10	0.03	0.18	0.16	0.15	0.15	0.12
s, saturation flow rate [veh/h]	791	1650	942	3560	1565	1086	1603	1797	1702	1564
c, Capacity [veh/h]	393	629	209	1357	596	585	767	910	814	748
d1, Uniform Delay [s]	30.70	20.77	35.43	16.74	15.63	14.39	12.76	12.53	12.60	12.19
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	538.46	6.74	16.71	0.44	0.28	1.51	1.15	0.82	0.98	0.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	2.18	0.71	0.68	0.25	0.08	0.33	0.33	0.29	0.31	0.25
d, Delay for Lane Group [s/veh]	569.16	27.51	52.14	17.18	15.90	15.91	13.92	13.35	13.58	13.00
Lane Group LOS	F	C	D	B	B	B	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	No	No
50th-Percentile Queue Length [veh/ln]	66.20	7.76	3.70	2.10	0.60	2.55	2.82	2.87	2.73	2.00
50th-Percentile Queue Length [ft/ln]	1654.95	193.91	92.39	52.53	14.95	63.65	70.56	71.71	68.36	50.12
95th-Percentile Queue Length [veh/ln]	108.99	12.32	6.65	3.78	1.08	4.58	5.08	5.16	4.92	3.61
95th-Percentile Queue Length [ft/ln]	2724.67	308.09	166.30	94.56	26.91	114.56	127.01	129.08	123.06	90.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	569.16	27.51	27.51	52.14	17.18	15.90	15.91	14.70	13.92	13.35	13.46	13.00
Movement LOS	F	C	C	D	B	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	382.93			26.42			14.78			13.34		
Approach LOS	F			C			B			B		
d_I, Intersection Delay [s/veh]	176.95											
Intersection LOS	F											
Intersection V/C	1.363											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.91	31.91	31.91	31.91
I_p,int, Pedestrian LOS Score for Intersection	2.589	2.764	3.793	2.732
Crosswalk LOS	B	C	D	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	762	762	957	957
d_b, Bicycle Delay [s]	15.15	15.16	10.74	10.76
I_b,int, Bicycle LOS Score for Intersection	2.635	2.000	1.928	2.142
Bicycle LOS	B	B	A	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Palm Ave and N H St

Control Type:	Signalized	Delay (sec / veh):	12.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.860

Intersection Setup

Name	Palm Ave		H St		H St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	210.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Palm Ave		H St		H St	
Base Volume Input [veh/h]	392	12	25	5	5	1139
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	392	12	25	5	5	1139
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	108	3	7	1	1	313
Total Analysis Volume [veh/h]	431	13	27	5	5	1252
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	1		1		0	
Bicycle Volume [bicycles/h]	0		2		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	76
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Overlap
Signal Group	2	0	0	4	4	2
Auxiliary Signal Groups						2,4
Lead / Lag	Lag	-	-	-	-	-
Minimum Green [s]	5	0	0	5	5	5
Maximum Green [s]	28	0	0	47	47	28
Amber [s]	3.9	0.0	0.0	3.9	3.9	3.9
All red [s]	2.0	0.0	0.0	2.0	2.0	2.0
Split [s]	34	0	0	53	53	34
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	3.0
Walk [s]	9	0	0	15	15	9
Pedestrian Clearance [s]	19	0	0	32	32	19
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.9	0.0	0.0	3.9	3.9	3.9
Minimum Recall	No			No	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C	R
C, Cycle Length [s]	87	87	87	87	87	87
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	2.00
g_i, Effective Green Time [s]	28	28	47	47	47	81
g / C, Green / Cycle	0.32	0.32	0.54	0.54	0.54	0.93
(v / s)_i Volume / Saturation Flow Rate	0.13	0.13	0.02	0.00	0.00	0.80
s, saturation flow rate [veh/h]	1774	1762	1343	1695	3547	1563
c, Capacity [veh/h]	573	569	810	918	1920	1457
d1, Uniform Delay [s]	22.80	22.80	10.32	9.18	9.16	1.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.98	2.00	0.08	0.01	0.00	6.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

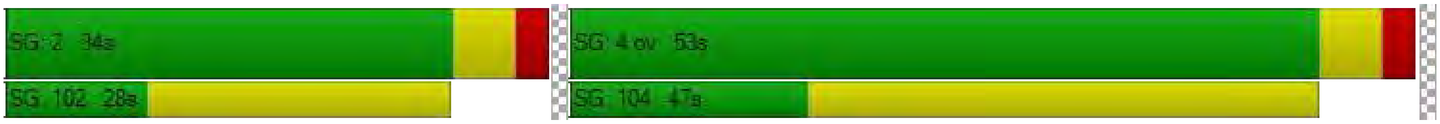
X, volume / capacity	0.39	0.39	0.03	0.01	0.00	0.86
d, Delay for Lane Group [s/veh]	24.79	24.80	10.39	9.19	9.16	7.80
Lane Group LOS	C	C	B	A	A	A
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.75	3.73	0.26	0.04	0.02	2.75
50th-Percentile Queue Length [ft/ln]	93.73	93.13	6.47	1.10	0.53	68.81
95th-Percentile Queue Length [veh/ln]	6.75	6.71	0.47	0.08	0.04	4.95
95th-Percentile Queue Length [ft/ln]	168.72	167.64	11.64	1.97	0.95	123.85

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.79	24.80	10.39	9.19	9.16	7.80
Movement LOS	C	C	B	A	A	A
d_A, Approach Delay [s/veh]	24.79		10.20		7.81	
Approach LOS	C		B		A	
d_I, Intersection Delay [s/veh]	12.20					
Intersection LOS	B					
Intersection V/C	0.860					

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Producer's Dairy

Vistro File: H:\...\Producers_Dairy_20200203.vistro
Scenario 7 Cumulative AM

Report File: H:\...\CumulativeAM_NP.pdf
2/4/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Thomas Ave & Weber Ave	Two-way stop	HCM 6th Edition	WB Left	0.170	67.1	F
2	Belmont Avenue Connector & Weber Avenue	Two-way stop	HCM 6th Edition	WB Right	0.148	10.4	B
3	Belmont Ave & Safford Ave	Signalized	HCM 6th Edition	EB Left	0.419	7.0	A
4	Palm Ave and Belmont Ave	Signalized	HCM 6th Edition	SB Left	0.523	18.1	B
5	Palm Ave and N H St	Signalized	HCM 6th Edition	SB Right	0.704	21.8	C
6	Safford Avenue and Connector Road	Two-way stop	HCM 6th Edition	EB Right	0.107	8.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Thomas Ave & Weber Ave

Control Type:	Two-way stop	Delay (sec / veh):	67.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.170

Intersection Setup

Name	Weber Ave		Weber Ave		Thomas Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↱		↰		⊤	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Weber Ave		Weber Ave		Thomas Ave	
Base Volume Input [veh/h]	298	2	31	1431	10	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	298	2	31	1431	10	12
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	1	8	377	3	3
Total Analysis Volume [veh/h]	314	2	33	1506	11	13
Pedestrian Volume [ped/h]	0		0		1	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.02	0.17	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.98	0.00	67.05	16.39
Movement LOS	A	A	A	A	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.08	0.08	0.66	0.66
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.05	2.05	16.52	16.52
d_A, Approach Delay [s/veh]	0.00		0.17		39.61	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	0.65					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 2: Belmont Avenue Connector & Weber Avenue

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.148

Intersection Setup

Name	Weber Ave		Weber Ave		Belmont Avenue Connector	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↱		↰ ↑		↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Weber Ave		Weber Ave		Belmont Avenue Connector	
Base Volume Input [veh/h]	190	106	0	1441	0	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	106	0	1441	0	110
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	28	0	379	0	29
Total Analysis Volume [veh/h]	200	112	0	1517	0	116
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

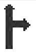
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.00	0.15
d_M, Delay for Movement [s/veh]	0.00	0.00	7.88	0.00	45.27	10.40
Movement LOS	A	A	A	A	E	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.52	0.52
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	12.97	12.97
d_A, Approach Delay [s/veh]	0.00		0.00		10.40	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.62					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Belmont Ave & Safford Ave

Control Type:	Signalized	Delay (sec / veh):	7.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.419

Intersection Setup

Name	Safford Ave		Belmont Avenue		Belmont Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Safford Ave		Belmont Avenue		Belmont Ave	
Base Volume Input [veh/h]	13	105	12	648	373	122
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	105	12	648	373	122
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	28	3	171	98	32
Total Analysis Volume [veh/h]	14	111	13	682	393	128
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		1		0	
v_di, Inbound Pedestrian Volume crossing m	1		0		0	
v_co, Outbound Pedestrian Volume crossing	2		0		1	
v_ci, Inbound Pedestrian Volume crossing mi	1		0		2	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	9.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	2	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	35	0	9	40	31	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	0	5	0
Pedestrian Clearance [s]	25	0	0	0	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	0.0	20.0	20.0	20.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C
C, Cycle Length [s]	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	7	1	60	55
g / C, Green / Cycle	0.10	0.10	0.02	0.80	0.73
(v / s)_i Volume / Saturation Flow Rate	0.01	0.07	0.01	0.19	0.29
s, saturation flow rate [veh/h]	1781	1581	1781	3560	1791
c, Capacity [veh/h]	172	153	31	2838	1301
d1, Uniform Delay [s]	30.90	32.96	36.52	1.91	3.97
k, delay calibration	0.11	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.20	6.47	8.74	0.20	0.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.08	0.73	0.42	0.24	0.40
d, Delay for Lane Group [s/veh]	31.10	39.43	45.26	2.11	4.89
Lane Group LOS	C	D	D	A	A
Critical Lane Group	No	Yes	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.23	2.18	0.31	0.64	2.39
50th-Percentile Queue Length [ft/ln]	5.87	54.49	7.65	16.07	59.64
95th-Percentile Queue Length [veh/ln]	0.42	3.92	0.55	1.16	4.29
95th-Percentile Queue Length [ft/ln]	10.57	98.08	13.77	28.92	107.35

Movement, Approach, & Intersection Results

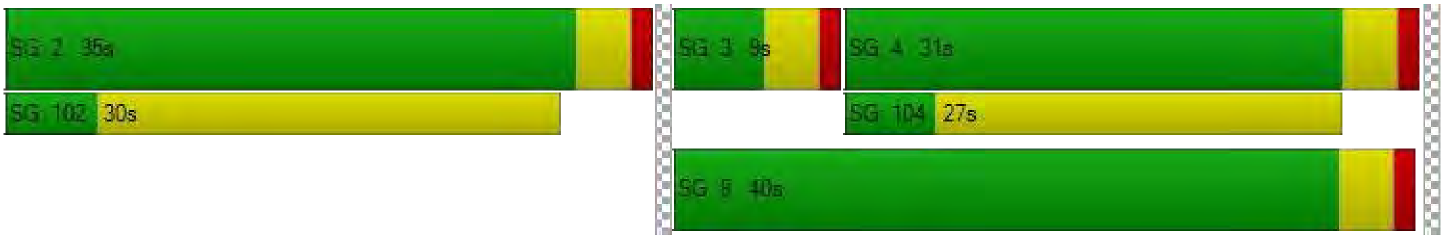
d_M, Delay for Movement [s/veh]	31.10	39.43	45.26	2.11	4.89	4.89
Movement LOS	C	D	D	A	A	A
d_A, Approach Delay [s/veh]	38.50		2.92		4.89	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	7.00					
Intersection LOS	A					
Intersection V/C	0.419					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.04	29.04	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.019	2.416	0.000
Crosswalk LOS	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	827	960	720
d_b, Bicycle Delay [s]	12.91	10.14	15.36
I_b,int, Bicycle LOS Score for Intersection	1.560	2.133	2.419
Bicycle LOS	A	B	B

Sequence

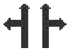
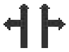
Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Palm Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	18.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.523

Intersection Setup

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	70.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Base Volume Input [veh/h]	22	189	43	239	387	107	58	258	346	35	366	153
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	189	43	239	387	107	58	258	346	35	366	153
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	50	11	63	102	28	15	68	91	9	96	40
Total Analysis Volume [veh/h]	23	199	45	252	407	113	61	272	364	37	385	161
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	1			5			0			5		
v_di, Inbound Pedestrian Volume crossing m	0			5			1			5		
v_co, Outbound Pedestrian Volume crossing	1			3			4			1		
v_ci, Inbound Pedestrian Volume crossing mi	1			4			3			1		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	79
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	2	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Split [s]	0	36	0	0	36	0	0	43	0	0	43	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	4	0	0	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	34	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	3.2	0.0	0.0	3.2	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	R	C	C	C	R
C, Cycle Length [s]	79	79	79	79	79	79	79	79	79
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	5.20	5.20	5.20	5.20
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	3.20	3.20	3.20	3.20
g_i, Effective Green Time [s]	30	30	30	30	30	38	38	38	38
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.48	0.48	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.08	0.08	0.22	0.11	0.07	0.26	0.26	0.24	0.10
s, saturation flow rate [veh/h]	1701	1593	1135	3560	1542	1235	1452	1730	1580
c, Capacity [veh/h]	701	607	434	1357	587	645	695	877	756
d1, Uniform Delay [s]	16.35	16.45	24.75	17.09	16.29	13.92	14.48	13.88	11.95
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.64	0.79	5.59	0.57	0.73	2.75	2.99	1.89	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.21	0.58	0.30	0.19	0.50	0.54	0.48	0.21
d, Delay for Lane Group [s/veh]	16.99	17.24	30.35	17.66	17.02	16.68	17.47	15.76	12.60
Lane Group LOS	B	B	C	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.74	1.62	4.70	2.57	1.42	3.83	4.90	5.13	1.67
50th-Percentile Queue Length [ft/ln]	43.40	40.41	117.57	64.13	35.51	95.76	122.40	128.13	41.72
95th-Percentile Queue Length [veh/ln]	3.12	2.91	8.26	4.62	2.56	6.89	8.52	8.84	3.00
95th-Percentile Queue Length [ft/ln]	78.12	72.73	206.48	115.44	63.92	172.37	213.12	220.94	75.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.99	17.09	17.24	30.35	17.66	17.02	16.68	16.71	17.47	15.76	15.76	12.60
Movement LOS	B	B	B	C	B	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	17.11			21.70			17.10			14.89		
Approach LOS	B			C			B			B		
d_I, Intersection Delay [s/veh]	18.08											
Intersection LOS	B											
Intersection V/C	0.523											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft^2/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft^2/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.91	31.91	31.91	31.91
I_p,int, Pedestrian LOS Score for Intersection	2.442	2.730	2.365	2.767
Crosswalk LOS	B	B	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	762	762	957	957
d_b, Bicycle Delay [s]	15.14	15.14	10.74	10.74
I_b,int, Bicycle LOS Score for Intersection	1.780	2.197	2.135	2.522
Bicycle LOS	A	B	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Palm Ave and N H St

Control Type:	Signalized	Delay (sec / veh):	21.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.704

Intersection Setup

Name	Palm Ave		H St		H St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	210.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Palm Ave		H St		H St	
Base Volume Input [veh/h]	764	4	22	1419	308	232
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	764	4	22	1419	308	232
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	201	1	6	373	81	61
Total Analysis Volume [veh/h]	804	4	23	1494	324	244
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	1		0		1	
v_ci, Inbound Pedestrian Volume crossing mi	1		0		1	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		4		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	76
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Overlap
Signal Group	2	0	0	4	4	2
Auxiliary Signal Groups						2,4
Lead / Lag	Lag	-	-	-	-	-
Minimum Green [s]	5	0	0	5	5	5
Maximum Green [s]	28	0	0	47	47	28
Amber [s]	3.9	0.0	0.0	3.9	3.9	3.9
All red [s]	2.0	0.0	0.0	2.0	2.0	2.0
Split [s]	34	0	0	53	53	34
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	3.0
Walk [s]	9	0	0	15	15	9
Pedestrian Clearance [s]	19	0	0	32	32	19
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.9	0.0	0.0	3.9	3.9	3.9
Minimum Recall	No			No	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C	R
C, Cycle Length [s]	87	87	87	87	87	87
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	0.00
g_i, Effective Green Time [s]	28	28	47	47	47	81
g / C, Green / Cycle	0.32	0.32	0.54	0.54	0.54	0.93
(v / s)_i Volume / Saturation Flow Rate	0.23	0.23	0.43	0.43	0.09	0.15
s, saturation flow rate [veh/h]	1781	1779	1850	1702	3560	1577
c, Capacity [veh/h]	575	575	1044	921	1928	1471
d1, Uniform Delay [s]	25.79	25.79	15.88	15.94	10.07	0.24
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.02	7.04	5.17	6.75	0.19	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.70	0.76	0.79	0.17	0.17
d, Delay for Lane Group [s/veh]	32.81	32.84	21.05	22.69	10.25	0.48
Lane Group LOS	C	C	C	C	B	A
Critical Lane Group	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	8.17	8.17	12.76	12.09	1.51	0.10
50th-Percentile Queue Length [ft/ln]	204.19	204.14	319.01	302.17	37.79	2.48
95th-Percentile Queue Length [veh/ln]	12.85	12.85	18.62	17.79	2.72	0.18
95th-Percentile Queue Length [ft/ln]	321.36	321.29	465.47	444.71	68.03	4.47

Movement, Approach, & Intersection Results

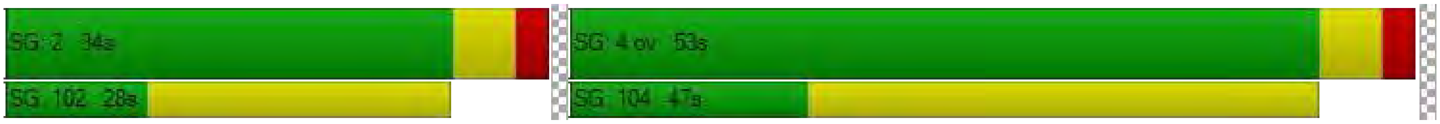
d_M, Delay for Movement [s/veh]	32.83	32.84	21.05	21.84	10.25	0.48
Movement LOS	C	C	C	C	B	A
d_A, Approach Delay [s/veh]	32.83		21.83		6.06	
Approach LOS	C		C		A	
d_I, Intersection Delay [s/veh]	21.81					
Intersection LOS	C					
Intersection V/C	0.704					

Other Modes

g_Walk,mi, Effective Walk Time [s]	19.0	13.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.38	26.11	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.406	2.569	0.000
Crosswalk LOS	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	739	1239	1239
d_b, Bicycle Delay [s]	15.09	5.51	5.50
I_b,int, Bicycle LOS Score for Intersection	2.893	2.811	2.028
Bicycle LOS	C	C	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Safford Avenue and Connector Road

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.107

Intersection Setup

Name	Safford Ave		Safford Ave		Belmont Avenue Connector	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	┤		├		┬	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Safford Ave		Safford Ave		Belmont Avenue Connector	
Base Volume Input [veh/h]	112	22	9	0	0	109
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	112	22	9	0	0	109
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	6	2	0	0	29
Total Analysis Volume [veh/h]	118	23	9	0	0	115
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.00	0.00	0.00	0.00	0.11
d_M, Delay for Movement [s/veh]	7.41	0.00	0.00	0.00	10.79	8.76
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.24	0.24	0.00	0.00	0.36	0.36
95th-Percentile Queue Length [ft/ln]	5.92	5.92	0.00	0.00	8.98	8.98
d_A, Approach Delay [s/veh]	6.20		0.00		8.76	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.10					
Intersection LOS	A					

Producer's Dairy

Vistro File: H:\...\Producers_Dairy_20200203.vistro
Scenario 9 Cumulative + Project AM

Report File: H:\...\CumulativeAM_PP.pdf
2/4/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Thomas Ave & Weber Ave	Two-way stop	HCM 6th Edition	WB Left	0.170	67.1	F
2	Belmont Avenue Connector & Weber Avenue	Two-way stop	HCM 6th Edition	SB Left	0.939	27.0	D
3	Belmont Ave & Safford Ave	Signalized	HCM 6th Edition	SB Left	1.536	293.1	F
4	Palm Ave and Belmont Ave	Signalized	HCM 6th Edition	EB Right	1.937	391.3	F
5	Palm Ave and N H St	Signalized	HCM 6th Edition	SB Right	0.921	393.8	F
6	Safford Avenue and Connector Road	Two-way stop	HCM 6th Edition	EB Right	1.414	205.6	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: Thomas Ave & Weber Ave

Control Type:	Two-way stop	Delay (sec / veh):	67.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.170

Intersection Setup

Name	Weber Ave		Weber Ave		Thomas Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	┣		┫		┳	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Weber Ave		Weber Ave		Thomas Ave	
Base Volume Input [veh/h]	298	2	31	1431	10	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	298	2	31	1431	10	12
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	1	8	377	3	3
Total Analysis Volume [veh/h]	314	2	33	1506	11	13
Pedestrian Volume [ped/h]	0		0		1	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.02	0.17	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.98	0.00	67.05	16.39
Movement LOS	A	A	A	A	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.08	0.08	0.66	0.66
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.05	2.05	16.52	16.52
d_A, Approach Delay [s/veh]	0.00		0.17		39.61	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	0.65					
Intersection LOS	F					

Intersection Level Of Service Report

Intersection 2: Belmont Avenue Connector & Weber Avenue

Control Type:	Two-way stop	Delay (sec / veh):	27.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.939

Intersection Setup

Name	Weber Ave		Weber Ave		Belmont Avenue Connector	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Weber Ave		Weber Ave		Belmont Avenue Connector	
Base Volume Input [veh/h]	5	0	1441	5	0	312
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	1441	5	0	312
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	379	1	0	82
Total Analysis Volume [veh/h]	5	0	1517	5	0	328
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.94	0.00	0.00	0.30
d_M, Delay for Movement [s/veh]	0.00	0.00	27.05	0.00	4167.29	9.79
Movement LOS	A	A	D	A	F	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	18.44	0.00	1.29	1.29
95th-Percentile Queue Length [ft/ln]	0.00	0.00	460.97	0.00	32.35	32.35
d_A, Approach Delay [s/veh]	0.00		26.96		9.79	
Approach LOS	A		D		A	
d_I, Intersection Delay [s/veh]	23.85					
Intersection LOS	D					

Intersection Level Of Service Report

Intersection 3: Belmont Ave & Safford Ave

Control Type:	Signalized	Delay (sec / veh):	293.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.536

Intersection Setup

Name	Safford Ave		Belmont Avenue		Belmont Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↰↱		↰↑↑		↑↱	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Safford Ave		Belmont Avenue		Belmont Ave	
Base Volume Input [veh/h]	1454	0	12	636	479	324
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1454	0	12	636	479	324
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	383	0	3	167	126	85
Total Analysis Volume [veh/h]	1531	0	13	669	504	341
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		1		0	
v_di, Inbound Pedestrian Volume crossing m	1		0		0	
v_co, Outbound Pedestrian Volume crossing	2		0		1	
v_ci, Inbound Pedestrian Volume crossing mi	1		0		2	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	9.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	2	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	35	0	9	40	31	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	0	5	0
Pedestrian Clearance [s]	25	0	0	0	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	0.0	20.0	20.0	20.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C
C, Cycle Length [s]	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	31	31	1	36	31
g / C, Green / Cycle	0.41	0.41	0.02	0.48	0.41
(v / s)_i Volume / Saturation Flow Rate	0.86	0.00	0.01	0.19	0.48
s, saturation flow rate [veh/h]	1781	1589	1781	3560	1743
c, Capacity [veh/h]	735	656	31	1712	715
d1, Uniform Delay [s]	22.05	0.00	36.52	12.47	22.15
k, delay calibration	0.50	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	492.02	0.00	8.74	0.67	95.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	2.08	0.00	0.42	0.39	1.18
d, Delay for Lane Group [s/veh]	514.08	0.00	45.26	13.14	118.13
Lane Group LOS	F	A	D	B	F
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	112.16	0.00	0.31	3.43	30.45
50th-Percentile Queue Length [ft/ln]	2803.97	0.00	7.65	85.85	761.31
95th-Percentile Queue Length [veh/ln]	179.64	0.00	0.55	6.18	44.19
95th-Percentile Queue Length [ft/ln]	4490.98	0.00	13.77	154.53	1104.69

Movement, Approach, & Intersection Results

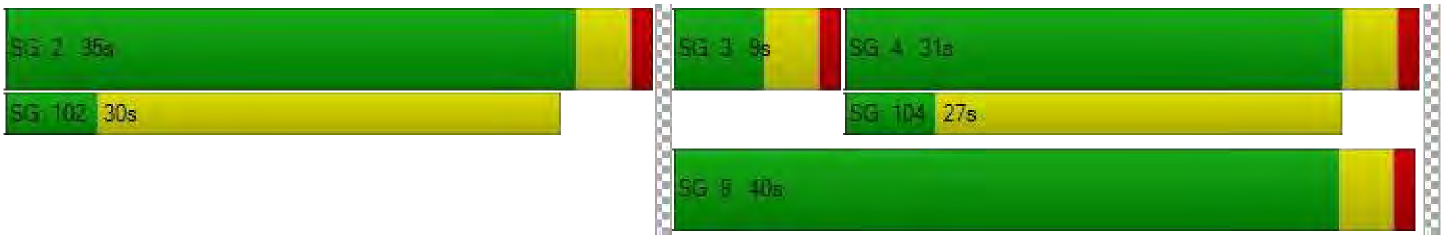
d_M, Delay for Movement [s/veh]	514.08	0.00	45.26	13.14	118.13	118.13
Movement LOS	F	A	D	B	F	F
d_A, Approach Delay [s/veh]	514.08		13.75		118.13	
Approach LOS	F		B		F	
d_I, Intersection Delay [s/veh]	293.08					
Intersection LOS	F					
Intersection V/C	1.536					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.04	29.04	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.545	2.413	0.000
Crosswalk LOS	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	827	960	720
d_b, Bicycle Delay [s]	12.91	10.14	15.36
I_b,int, Bicycle LOS Score for Intersection	1.560	2.122	2.954
Bicycle LOS	A	B	C

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 4: Palm Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	391.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.937

Intersection Setup

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	70.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Base Volume Input [veh/h]	330	189	43	239	387	107	58	251	1782	30	366	153
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	330	189	43	239	387	107	58	251	1782	30	366	153
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	87	50	11	63	102	28	15	66	469	8	96	40
Total Analysis Volume [veh/h]	347	199	45	252	407	113	61	264	1876	32	385	161
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	1			5			0			5		
v_di, Inbound Pedestrian Volume crossing m	0			5			1			5		
v_co, Outbound Pedestrian Volume crossing	1			3			4			1		
v_ci, Inbound Pedestrian Volume crossing mi	1			4			3			1		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	79
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	2	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Split [s]	0	36	0	0	36	0	0	43	0	0	43	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	4	0	0	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	34	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	3.2	0.0	0.0	3.2	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	R	C	C	C	R
C, Cycle Length [s]	79	79	79	79	79	79	79	79	79
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	5.20	5.20	5.20	5.20
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	3.20	3.20	3.20	3.20
g_i, Effective Green Time [s]	30	30	30	30	30	38	38	38	38
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.48	0.48	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.49	0.15	0.22	0.11	0.07	0.77	1.30	0.50	0.10
s, saturation flow rate [veh/h]	705	1643	1135	3560	1542	420	1446	840	1580
c, Capacity [veh/h]	360	626	372	1357	587	255	692	451	756
d1, Uniform Delay [s]	31.06	17.77	28.73	17.09	16.29	25.61	20.60	24.54	11.95
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	39.23	1.82	9.50	0.57	0.73	150.48	774.65	27.12	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.96	0.39	0.68	0.30	0.19	1.27	2.71	0.92	0.21
d, Delay for Lane Group [s/veh]	70.29	19.60	38.23	17.66	17.02	176.09	795.25	51.66	12.60
Lane Group LOS	E	B	D	B	B	F	F	D	B
Critical Lane Group	Yes	No	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	10.54	3.38	5.40	2.57	1.42	14.21	160.18	9.71	1.67
50th-Percentile Queue Length [ft/ln]	263.38	84.58	134.88	64.13	35.51	355.36	4004.59	242.74	41.72
95th-Percentile Queue Length [veh/ln]	15.86	6.09	9.20	4.62	2.56	23.58	263.03	14.82	3.00
95th-Percentile Queue Length [ft/ln]	396.46	152.24	230.12	115.44	63.92	589.50	6575.86	370.49	75.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	70.29	19.60	19.60	38.23	17.66	17.02	176.09	176.09	795.25	51.66	51.66	12.60
Movement LOS	E	B	B	D	B	B	F	F	F	D	D	B
d_A, Approach Delay [s/veh]	49.36			24.28			703.83			40.78		
Approach LOS	D			C			F			D		
d_I, Intersection Delay [s/veh]	391.26											
Intersection LOS	F											
Intersection V/C	1.937											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.91	31.91	31.91	31.91
I_p,int, Pedestrian LOS Score for Intersection	2.881	2.730	3.420	2.763
Crosswalk LOS	C	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	762	762	957	957
d_b, Bicycle Delay [s]	15.14	15.14	10.74	10.74
I_b,int, Bicycle LOS Score for Intersection	2.047	2.197	3.375	2.513
Bicycle LOS	B	B	C	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Palm Ave and N H St

Control Type:	Signalized	Delay (sec / veh):	393.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.921

Intersection Setup

Name	Palm Ave		H St		H St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	210.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Palm Ave		H St		H St	
Base Volume Input [veh/h]	2205	4	22	5	5	540
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2205	4	22	5	5	540
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	580	1	6	1	1	142
Total Analysis Volume [veh/h]	2321	4	23	5	5	568
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	1		0		1	
v_ci, Inbound Pedestrian Volume crossing mi	1		0		1	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		4		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	76
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Overlap
Signal Group	2	0	0	4	4	2
Auxiliary Signal Groups						2,4
Lead / Lag	Lag	-	-	-	-	-
Minimum Green [s]	5	0	0	5	5	5
Maximum Green [s]	28	0	0	47	47	28
Amber [s]	3.9	0.0	0.0	3.9	3.9	3.9
All red [s]	2.0	0.0	0.0	2.0	2.0	2.0
Split [s]	34	0	0	53	53	34
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	3.0
Walk [s]	9	0	0	15	15	9
Pedestrian Clearance [s]	19	0	0	32	32	19
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.9	0.0	0.0	3.9	3.9	3.9
Minimum Recall	No			No	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C	R
C, Cycle Length [s]	87	87	87	87	87	87
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	0.00
g_i, Effective Green Time [s]	28	28	47	47	47	81
g / C, Green / Cycle	0.32	0.32	0.54	0.54	0.54	0.93
(v / s)_i Volume / Saturation Flow Rate	0.65	0.65	0.02	0.00	0.00	0.36
s, saturation flow rate [veh/h]	1781	1780	1348	1702	3560	1577
c, Capacity [veh/h]	575	575	812	921	1928	1471
d1, Uniform Delay [s]	29.45	29.45	10.28	9.18	9.16	0.31
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	465.55	465.92	0.06	0.01	0.00	0.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	2.02	2.02	0.03	0.01	0.00	0.39
d, Delay for Lane Group [s/veh]	495.00	495.37	10.35	9.19	9.16	1.08
Lane Group LOS	F	F	B	A	A	A
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	85.84	85.86	0.22	0.04	0.02	0.31
50th-Percentile Queue Length [ft/ln]	2145.93	2146.55	5.49	1.10	0.53	7.84
95th-Percentile Queue Length [veh/ln]	135.79	135.83	0.40	0.08	0.04	0.56
95th-Percentile Queue Length [ft/ln]	3394.73	3395.87	9.88	1.97	0.95	14.12

Movement, Approach, & Intersection Results

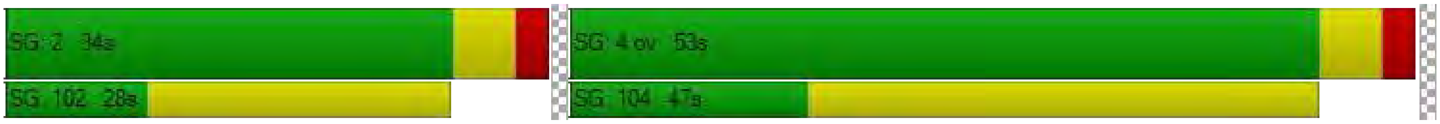
d_M, Delay for Movement [s/veh]	495.18	495.37	10.35	9.19	9.16	1.08
Movement LOS	F	F	B	A	A	A
d_A, Approach Delay [s/veh]	495.18		10.14		1.15	
Approach LOS	F		B		A	
d_I, Intersection Delay [s/veh]	393.80					
Intersection LOS	F					
Intersection V/C	0.921					

Other Modes

g_Walk,mi, Effective Walk Time [s]	19.0	13.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.38	26.11	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.855	2.128	0.000
Crosswalk LOS	C	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	739	1239	1239
d_b, Bicycle Delay [s]	15.09	5.51	5.50
I_b,int, Bicycle LOS Score for Intersection	5.396	1.583	2.032
Bicycle LOS	F	A	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 6: Safford Avenue and Connector Road

Control Type:	Two-way stop	Delay (sec / veh):	205.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.414

Intersection Setup

Name	Safford Ave		Safford Ave		Belmont Avenue Connector	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Safford Ave		Safford Ave		Belmont Avenue Connector	
Base Volume Input [veh/h]	314	22	9	0	0	1441
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	314	22	9	0	0	1441
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	6	2	0	0	379
Total Analysis Volume [veh/h]	331	23	9	0	0	1517
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.00	0.00	0.00	0.00	1.41
d_M, Delay for Movement [s/veh]	7.81	0.00	0.00	0.00	213.34	205.58
Movement LOS	A	A	A	A	F	F
95th-Percentile Queue Length [veh/ln]	0.77	0.77	0.00	0.00	64.38	64.38
95th-Percentile Queue Length [ft/ln]	19.30	19.30	0.00	0.00	1609.40	1609.40
d_A, Approach Delay [s/veh]	7.30		0.00		205.58	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	167.26					
Intersection LOS	F					

Producer's Dairy

Vistro File: H:\...\Producers_Dairy_20200203.vistro
Scenario 8 Cumulative PM

Report File: H:\...\CumulativePM_NP.pdf
2/4/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Thomas Ave & Weber Ave	Two-way stop	HCM 6th Edition	WB Left	0.079	48.9	E
2	Belmont Avenue Connector & Weber Avenue	Two-way stop	HCM 6th Edition	WB Right	0.746	36.7	E
3	Belmont Ave & Safford Ave	Signalized	HCM 6th Edition	EB Left	0.800	18.9	B
4	Palm Ave and Belmont Ave	Signalized	HCM 6th Edition	EB Left	10,822.282	36.1	D
5	Palm Ave and N H St	Signalized	HCM 6th Edition	SB Right	0.400	12.5	B
6	Safford Avenue and Connector Road	Two-way stop	HCM 6th Edition	EB Right	0.241	9.4	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Thomas Ave & Weber Ave

Control Type:	Two-way stop	Delay (sec / veh):	48.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.079

Intersection Setup

Name	Weber Ave		Weber Ave		Thomas Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	├		┤		┬	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Weber Ave		Weber Ave		Thomas Ave	
Base Volume Input [veh/h]	899	5	44	639	7	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	899	5	44	639	7	26
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	237	1	12	168	2	7
Total Analysis Volume [veh/h]	946	5	46	673	7	27
Pedestrian Volume [ped/h]	0		0		1	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.06	0.01	0.08	0.09
d_M, Delay for Movement [s/veh]	0.00	0.00	10.33	0.00	48.86	19.81
Movement LOS	A	A	B	A	E	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.20	0.20	0.57	0.57
95th-Percentile Queue Length [ft/ln]	0.00	0.00	5.10	5.10	14.36	14.36
d_A, Approach Delay [s/veh]	0.00		0.66		25.79	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	0.79					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 2: Belmont Avenue Connector & Weber Avenue

Control Type:	Two-way stop	Delay (sec / veh):	36.7
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.746

Intersection Setup

Name	Weber Ave		Weber Ave		Belmont Avenue Connector	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↱		↰ ↑		↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Weber Ave		Weber Ave		Belmont Avenue Connector	
Base Volume Input [veh/h]	627	241	0	646	0	277
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	627	241	0	646	0	277
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	165	63	0	170	0	73
Total Analysis Volume [veh/h]	660	254	0	680	0	292
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.75
d_M, Delay for Movement [s/veh]	0.00	0.00	9.83	0.00	53.08	36.70
Movement LOS	A	A	A	A	F	E
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	5.95	5.95
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	148.72	148.72
d_A, Approach Delay [s/veh]	0.00		0.00		36.70	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	5.68					
Intersection LOS	E					

Intersection Level Of Service Report

Intersection 3: Belmont Ave & Safford Ave

Control Type: Signalized
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes
Delay (sec / veh): 18.9
Level Of Service: B
Volume to Capacity (v/c): 0.800

Intersection Setup

Name	Safford Ave		Belmont Avenue		Belmont Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Safford Ave		Belmont Avenue		Belmont Ave	
Base Volume Input [veh/h]	10	243	12	446	618	313
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	243	12	446	618	313
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	64	3	117	163	82
Total Analysis Volume [veh/h]	11	256	13	469	651	329
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		1		0	
v_di, Inbound Pedestrian Volume crossing m	1		0		0	
v_co, Outbound Pedestrian Volume crossing	2		0		1	
v_ci, Inbound Pedestrian Volume crossing mi	1		0		2	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	9.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	2	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	42	0	9	53	44	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	0	5	0
Pedestrian Clearance [s]	25	0	0	0	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	0.0	20.0	20.0	20.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C
C, Cycle Length [s]	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	18	2	69	64
g / C, Green / Cycle	0.19	0.19	0.02	0.73	0.67
(v / s)_i Volume / Saturation Flow Rate	0.01	0.16	0.01	0.13	0.56
s, saturation flow rate [veh/h]	1781	1585	1781	3560	1764
c, Capacity [veh/h]	335	298	29	2592	1181
d1, Uniform Delay [s]	31.53	37.36	46.30	4.05	11.69
k, delay calibration	0.11	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	7.18	10.13	0.15	6.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.86	0.44	0.18	0.83
d, Delay for Lane Group [s/veh]	31.57	44.54	56.43	4.20	18.52
Lane Group LOS	C	D	E	A	B
Critical Lane Group	No	Yes	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.21	6.26	0.38	1.21	15.08
50th-Percentile Queue Length [ft/ln]	5.23	156.40	9.62	30.36	377.02
95th-Percentile Queue Length [veh/ln]	0.38	10.36	0.69	2.19	21.45
95th-Percentile Queue Length [ft/ln]	9.41	258.95	17.32	54.65	536.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.57	44.54	56.43	4.20	18.52	18.52
Movement LOS	C	D	E	A	B	B
d_A, Approach Delay [s/veh]	44.01		5.61		18.52	
Approach LOS	D		A		B	
d_I, Intersection Delay [s/veh]	18.86					
Intersection LOS	B					
Intersection V/C	0.800					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.93	38.93	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.142	2.474	0.000
Crosswalk LOS	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	1032	842
d_b, Bicycle Delay [s]	17.10	11.14	15.92
I_b,int, Bicycle LOS Score for Intersection	1.560	1.957	3.177
Bicycle LOS	A	A	C

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Palm Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	36.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	10,822.282

Intersection Setup

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↰↑ ↑↱			↰ ↑ ↑ ↱			↰↑ ↑↱			↰↑ ↱		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	70.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Base Volume Input [veh/h]	27	350	56	307	260	107	84	285	86	44	797	305
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	350	56	307	260	107	84	285	86	44	797	305
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	92	15	81	68	28	22	75	23	12	210	80
Total Analysis Volume [veh/h]	28	368	59	323	274	113	88	300	91	46	839	321
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	1			5			0			5		
v_di, Inbound Pedestrian Volume crossing m	0			5			1			5		
v_co, Outbound Pedestrian Volume crossing	1			3			4			1		
v_ci, Inbound Pedestrian Volume crossing mi	1			4			3			1		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	79
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	2	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Split [s]	0	36	0	0	36	0	0	43	0	0	43	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	4	0	0	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	34	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	3.2	0.0	0.0	3.2	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	R	C	C	C	R
C, Cycle Length [s]	79	79	79	79	79	79	79	79	79
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	5.20	5.20	5.20	5.20
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	3.20	3.20	3.20	3.20
g_i, Effective Green Time [s]	30	30	30	30	30	38	38	38	38
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.48	0.48	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.13	0.13	0.34	0.08	0.07	10000.00	0.24	0.50	0.20
s, saturation flow rate [veh/h]	1789	1616	960	3560	1542	0	1634	1769	1580
c, Capacity [veh/h]	732	616	341	1357	587	91	782	894	756
d1, Uniform Delay [s]	17.36	17.46	31.54	16.40	16.29	39.50	14.12	21.35	13.46
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.19	1.57	36.98	0.34	0.73	85.21	2.28	27.70	1.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.33	0.35	0.95	0.20	0.19	0.97	0.50	0.99	0.42
d, Delay for Lane Group [s/veh]	18.54	19.03	68.52	16.73	17.02	124.71	16.40	49.05	15.21
Lane Group LOS	B	B	E	B	B	F	B	D	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	3.18	2.93	9.66	1.65	1.42	3.83	4.89	22.08	3.81
50th-Percentile Queue Length [ft/ln]	79.48	73.25	241.49	41.28	35.51	95.86	122.37	552.01	95.25
95th-Percentile Queue Length [veh/ln]	5.72	5.27	14.76	2.97	2.56	6.90	8.52	29.79	6.86
95th-Percentile Queue Length [ft/ln]	143.06	131.85	368.92	74.30	63.92	172.55	213.08	744.67	171.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.54	18.75	19.03	68.52	16.73	17.02	124.71	16.40	16.40	49.05	49.05	15.21
Movement LOS	B	B	B	E	B	B	F	B	B	D	D	B
d_A, Approach Delay [s/veh]	18.78			40.34			36.30			40.05		
Approach LOS	B			D			D			D		
d_I, Intersection Delay [s/veh]	36.09											
Intersection LOS	D											
Intersection V/C	10822.282											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.91	31.91	31.91	31.91
I_p,int, Pedestrian LOS Score for Intersection	2.404	2.816	2.450	3.047
Crosswalk LOS	B	C	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	762	762	957	957
d_b, Bicycle Delay [s]	15.14	15.14	10.74	10.74
I_b,int, Bicycle LOS Score for Intersection	1.935	2.145	1.955	3.550
Bicycle LOS	A	B	A	D

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Palm Ave and N H St

Control Type:	Signalized	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.400

Intersection Setup

Name	Palm Ave		H St		H St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	210.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Palm Ave		H St		H St	
Base Volume Input [veh/h]	363	27	16	630	854	417
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	363	27	16	630	854	417
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	96	7	4	166	225	110
Total Analysis Volume [veh/h]	382	28	17	663	899	439
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	1		0		1	
v_ci, Inbound Pedestrian Volume crossing mi	1		0		1	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		4		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	76
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Overlap
Signal Group	2	0	0	4	4	2
Auxiliary Signal Groups						2,4
Lead / Lag	Lag	-	-	-	-	-
Minimum Green [s]	5	0	0	5	5	5
Maximum Green [s]	28	0	0	47	47	28
Amber [s]	3.9	0.0	0.0	3.9	3.9	3.9
All red [s]	2.0	0.0	0.0	2.0	2.0	2.0
Split [s]	34	0	0	53	53	34
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	3.0
Walk [s]	9	0	0	15	15	9
Pedestrian Clearance [s]	19	0	0	32	32	19
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.9	0.0	0.0	3.9	3.9	3.9
Minimum Recall	No			No	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C	R
C, Cycle Length [s]	87	87	87	87	87	87
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	0.00
g_i, Effective Green Time [s]	28	28	47	47	47	81
g / C, Green / Cycle	0.32	0.32	0.54	0.54	0.54	0.93
(v / s)_i Volume / Saturation Flow Rate	0.12	0.12	0.19	0.19	0.25	0.28
s, saturation flow rate [veh/h]	1781	1752	1798	1702	3560	1577
c, Capacity [veh/h]	575	566	1017	921	1928	1471
d1, Uniform Delay [s]	22.56	22.56	11.26	11.35	12.24	0.28
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.74	1.77	0.93	1.08	0.81	0.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.36	0.34	0.36	0.47	0.30
d, Delay for Lane Group [s/veh]	24.30	24.33	12.19	12.43	13.05	0.80
Lane Group LOS	C	C	B	B	B	A
Critical Lane Group	No	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.43	3.38	3.80	3.63	5.15	0.21
50th-Percentile Queue Length [ft/ln]	85.73	84.48	94.90	90.76	128.71	5.31
95th-Percentile Queue Length [veh/ln]	6.17	6.08	6.83	6.54	8.87	0.38
95th-Percentile Queue Length [ft/ln]	154.31	152.07	170.82	163.38	221.73	9.56

Movement, Approach, & Intersection Results

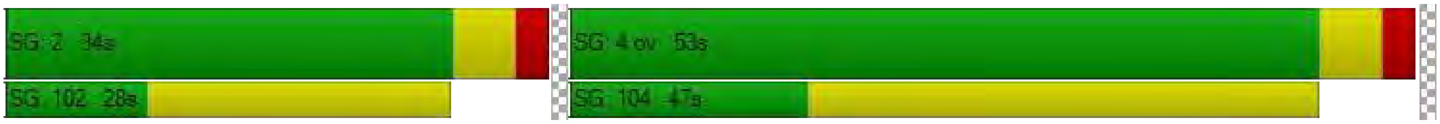
d_M, Delay for Movement [s/veh]	24.31	24.33	12.19	12.31	13.05	0.80
Movement LOS	C	C	B	B	B	A
d_A, Approach Delay [s/veh]	24.31		12.31		9.03	
Approach LOS	C		B		A	
d_I, Intersection Delay [s/veh]	12.53					
Intersection LOS	B					
Intersection V/C	0.400					

Other Modes

g_Walk,mi, Effective Walk Time [s]	19.0	13.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.38	26.11	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.346	2.511	0.000
Crosswalk LOS	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	739	1239	1239
d_b, Bicycle Delay [s]	15.09	5.51	5.50
I_b,int, Bicycle LOS Score for Intersection	2.236	2.121	2.663
Bicycle LOS	B	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 6: Safford Avenue and Connector Road

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.241

Intersection Setup

Name	Safford Ave		Safford Ave		Belmont Avenue Connector	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	┤		├		┬	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Safford Ave		Safford Ave		Belmont Avenue Connector	
Base Volume Input [veh/h]	294	31	7	0	0	246
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	294	31	7	0	0	246
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	8	2	0	0	65
Total Analysis Volume [veh/h]	309	33	7	0	0	259
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.00	0.00	0.00	0.00	0.24
d_M, Delay for Movement [s/veh]	7.76	0.00	0.00	0.00	16.48	9.41
Movement LOS	A	A	A	A	C	A
95th-Percentile Queue Length [veh/ln]	0.71	0.71	0.00	0.00	0.94	0.94
95th-Percentile Queue Length [ft/ln]	17.69	17.69	0.00	0.00	23.58	23.58
d_A, Approach Delay [s/veh]	7.01		0.00		9.41	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.95					
Intersection LOS	A					

Producer's Dairy

Vistro File: H:\...\Producers_Dairy_20200203.vistro
Report File: H:\...\CumulativePM_PP.pdf

Scenario 10 Cumulative + Project PM
2/4/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Thomas Ave & Weber Ave	Two-way stop	HCM 6th Edition	WB Left	0.079	48.9	E
2	Belmont Avenue Connector & Weber Avenue	Two-way stop	HCM 6th Edition	WB Right	0.882	27.0	D
3	Belmont Ave & Safford Ave	Signalized	HCM 6th Edition	WB Right	1.651	420.4	F
4	Palm Ave and Belmont Ave	Signalized	HCM 6th Edition	WB Thru	10,823.061	323.4	F
5	Palm Ave and N H St	Signalized	HCM 6th Edition	SB Right	0.394	30.8	C
6	Safford Avenue and Connector Road	Two-way stop	HCM 6th Edition	EB Right	0.641	14.1	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Thomas Ave & Weber Ave

Control Type:	Two-way stop	Delay (sec / veh):	48.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.079

Intersection Setup

Name	Weber Ave		Weber Ave		Thomas Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	┣		┫		┳	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Weber Ave		Weber Ave		Thomas Ave	
Base Volume Input [veh/h]	899	5	44	639	7	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	899	5	44	639	7	26
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	237	1	12	168	2	7
Total Analysis Volume [veh/h]	946	5	46	673	7	27
Pedestrian Volume [ped/h]	0		0		1	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.06	0.01	0.08	0.09
d_M, Delay for Movement [s/veh]	0.00	0.00	10.33	0.00	48.86	19.81
Movement LOS	A	A	B	A	E	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.20	0.20	0.57	0.57
95th-Percentile Queue Length [ft/ln]	0.00	0.00	5.10	5.10	14.36	14.36
d_A, Approach Delay [s/veh]	0.00		0.66		25.79	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	0.79					
Intersection LOS	E					

Intersection Level Of Service Report

Intersection 2: Belmont Avenue Connector & Weber Avenue

Control Type:	Two-way stop	Delay (sec / veh):	27.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.882

Intersection Setup

Name	Weber Ave		Weber Ave		Belmont Avenue Connector	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Weber Ave		Weber Ave		Belmont Avenue Connector	
Base Volume Input [veh/h]	10	4	646	5	0	894
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	4	646	5	0	894
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	170	1	0	235
Total Analysis Volume [veh/h]	11	4	680	5	0	941
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.42	0.00	0.00	0.88
d_M, Delay for Movement [s/veh]	0.00	0.00	8.89	0.00	62.82	27.00
Movement LOS	A	A	A	A	F	D
95th-Percentile Queue Length [veh/ln]	0.00	0.00	2.17	0.00	12.48	12.48
95th-Percentile Queue Length [ft/ln]	0.00	0.00	54.24	0.00	312.10	312.10
d_A, Approach Delay [s/veh]	0.00		8.83		27.00	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	19.17					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 3: Belmont Ave & Safford Ave

Control Type:	Signalized	Delay (sec / veh):	420.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.651

Intersection Setup

Name	Safford Ave		Belmont Avenue		Belmont Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↰↱		↰↑↑		↑↱	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Safford Ave		Belmont Avenue		Belmont Ave	
Base Volume Input [veh/h]	656	6	12	442	855	930
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	656	6	12	442	855	930
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	173	2	3	116	225	245
Total Analysis Volume [veh/h]	691	6	13	465	900	979
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		1		0	
v_di, Inbound Pedestrian Volume crossing m	1		0		0	
v_co, Outbound Pedestrian Volume crossing	2		0		1	
v_ci, Inbound Pedestrian Volume crossing mi	1		0		2	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	9.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	2	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	42	0	9	53	44	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	0	5	0
Pedestrian Clearance [s]	25	0	0	0	22	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	0.0	20.0	20.0	20.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	C
C, Cycle Length [s]	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	38	38	2	49	44
g / C, Green / Cycle	0.40	0.40	0.02	0.52	0.46
(v / s)_i Volume / Saturation Flow Rate	0.39	0.00	0.01	0.13	1.10
s, saturation flow rate [veh/h]	1781	1587	1781	3560	1709
c, Capacity [veh/h]	711	634	29	1839	783
d1, Uniform Delay [s]	28.01	17.21	46.30	12.78	25.76
k, delay calibration	0.44	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	25.40	0.01	10.13	0.33	634.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.97	0.01	0.44	0.25	2.40
d, Delay for Lane Group [s/veh]	53.41	17.21	56.43	13.11	660.01
Lane Group LOS	D	B	E	B	F
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	19.65	0.08	0.38	2.73	154.38
50th-Percentile Queue Length [ft/ln]	491.29	1.98	9.62	68.21	3859.38
95th-Percentile Queue Length [veh/ln]	26.92	0.14	0.69	4.91	250.47
95th-Percentile Queue Length [ft/ln]	673.04	3.56	17.32	122.78	6261.81

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.41	17.21	56.43	13.11	660.01	660.01
Movement LOS	D	B	E	B	F	F
d_A, Approach Delay [s/veh]	53.10		14.29		660.01	
Approach LOS	D		B		F	
d_I, Intersection Delay [s/veh]	420.43					
Intersection LOS	F					
Intersection V/C	1.651					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.93	38.93	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.493	2.473	0.000
Crosswalk LOS	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	1032	842
d_b, Bicycle Delay [s]	17.10	11.14	15.92
I_b,int, Bicycle LOS Score for Intersection	1.560	1.954	4.660
Bicycle LOS	A	A	E

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Palm Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	323.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	10,823.061

Intersection Setup

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	70.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Base Volume Input [veh/h]	881	350	56	307	260	107	84	281	732	41	797	305
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	881	350	56	307	260	107	84	281	732	41	797	305
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	232	92	15	81	68	28	22	74	193	11	210	80
Total Analysis Volume [veh/h]	927	368	59	323	274	113	88	296	771	43	839	321
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	1			5			0			5		
v_di, Inbound Pedestrian Volume crossing m	0			5			1			5		
v_co, Outbound Pedestrian Volume crossing	1			3			4			1		
v_ci, Inbound Pedestrian Volume crossing mi	1			4			3			1		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	79
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	2	0	0	4	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Split [s]	0	36	0	0	36	0	0	43	0	0	43	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	4	0	0	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	24	0	0	24	0	0	34	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.9	0.0	0.0	3.9	0.0	0.0	3.2	0.0	0.0	3.2	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	R	C	C	C	R
C, Cycle Length [s]	79	79	79	79	79	79	79	79	79
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	5.20	5.20	5.20	5.20
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	3.20	3.20	3.20	3.20
g_i, Effective Green Time [s]	30	30	30	30	30	38	38	38	38
g / C, Green / Cycle	0.38	0.38	0.38	0.38	0.38	0.48	0.48	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	1.06	0.26	0.34	0.08	0.07	10000.00	0.71	1.23	0.20
s, saturation flow rate [veh/h]	877	1657	960	3560	1542	0	1509	717	1580
c, Capacity [veh/h]	425	631	226	1357	587	91	722	391	756
d1, Uniform Delay [s]	30.06	20.39	36.18	16.40	16.29	39.50	20.60	26.33	13.46
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	538.25	5.73	215.59	0.34	0.73	85.21	222.66	573.43	1.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	2.18	0.68	1.43	0.20	0.19	0.97	1.48	2.26	0.42
d, Delay for Lane Group [s/veh]	568.31	26.11	251.77	16.73	17.02	124.71	243.26	599.75	15.21
Lane Group LOS	F	C	F	B	B	F	F	F	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	71.72	7.16	17.88	1.65	1.42	3.83	56.49	68.37	3.81
50th-Percentile Queue Length [ft/ln]	1792.90	178.96	446.90	41.28	35.51	95.86	1412.29	1709.34	95.25
95th-Percentile Queue Length [veh/ln]	117.51	11.55	29.85	2.97	2.56	6.90	87.25	115.22	6.86
95th-Percentile Queue Length [ft/ln]	2937.77	288.66	746.27	74.30	63.92	172.55	2181.15	2880.46	171.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	568.31	26.11	26.11	251.77	16.73	17.02	124.71	243.26	243.26	599.75	599.75	15.21
Movement LOS	F	C	C	F	B	B	F	F	F	F	F	B
d_A, Approach Delay [s/veh]	397.32			123.70			234.23			443.78		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	323.43											
Intersection LOS	F											
Intersection V/C	10823.061											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.91	31.91	31.91	31.91
I_p,int, Pedestrian LOS Score for Intersection	2.784	2.816	4.241	3.045
Crosswalk LOS	C	C	D	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	762	762	957	957
d_b, Bicycle Delay [s]	15.14	15.14	10.74	10.74
I_b,int, Bicycle LOS Score for Intersection	2.677	2.145	2.512	3.545
Bicycle LOS	B	B	B	D

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Palm Ave and N H St

Control Type:	Signalized	Delay (sec / veh):	30.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.394

Intersection Setup

Name	Palm Ave		H St		H St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	210.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Palm Ave		H St		H St	
Base Volume Input [veh/h]	1009	27	41	5	5	1271
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1009	27	41	5	5	1271
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	266	7	11	1	1	334
Total Analysis Volume [veh/h]	1062	28	43	5	5	1338
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	1		0		1	
v_ci, Inbound Pedestrian Volume crossing mi	1		0		1	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		4		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	76
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Overlap
Signal Group	2	0	0	4	4	2
Auxiliary Signal Groups						2,4
Lead / Lag	Lag	-	-	-	-	-
Minimum Green [s]	5	0	0	5	5	5
Maximum Green [s]	28	0	0	47	47	28
Amber [s]	3.9	0.0	0.0	3.9	3.9	3.9
All red [s]	2.0	0.0	0.0	2.0	2.0	2.0
Split [s]	34	0	0	53	53	34
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	3.0
Walk [s]	9	0	0	15	15	9
Pedestrian Clearance [s]	19	0	0	32	32	19
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.9	0.0	0.0	3.9	3.9	3.9
Minimum Recall	No			No	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C	R
C, Cycle Length [s]	87	87	87	87	87	87
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	0.00
g_i, Effective Green Time [s]	28	28	47	47	47	81
g / C, Green / Cycle	0.32	0.32	0.54	0.54	0.54	0.93
(v / s)_i Volume / Saturation Flow Rate	0.31	0.31	0.03	0.00	0.00	0.85
s, saturation flow rate [veh/h]	1781	1770	1348	1702	3560	1577
c, Capacity [veh/h]	575	572	812	921	1928	1471
d1, Uniform Delay [s]	28.73	28.81	10.44	9.18	9.16	1.26
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	26.57	27.72	0.12	0.01	0.00	9.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.95	0.95	0.05	0.01	0.00	0.91
d, Delay for Lane Group [s/veh]	55.30	56.53	10.56	9.19	9.16	11.19
Lane Group LOS	E	E	B	A	A	B
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	14.83	15.01	0.42	0.04	0.02	4.05
50th-Percentile Queue Length [ft/ln]	370.73	375.37	10.42	1.10	0.53	101.34
95th-Percentile Queue Length [veh/ln]	21.14	21.37	0.75	0.08	0.04	7.30
95th-Percentile Queue Length [ft/ln]	528.62	534.24	18.76	1.97	0.95	182.41

Movement, Approach, & Intersection Results

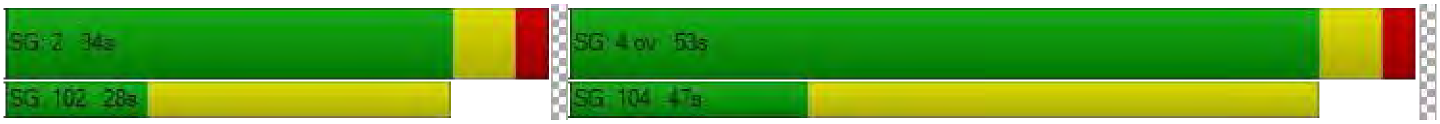
d_M, Delay for Movement [s/veh]	55.90	56.53	10.56	9.19	9.16	11.19
Movement LOS	E	E	B	A	A	B
d_A, Approach Delay [s/veh]	55.92		10.42		11.18	
Approach LOS	E		B		B	
d_I, Intersection Delay [s/veh]	30.82					
Intersection LOS	C					
Intersection V/C	0.394					

Other Modes

g_Walk,mi, Effective Walk Time [s]	19.0	13.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.38	26.11	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.775	2.139	0.000
Crosswalk LOS	C	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	739	1239	1239
d_b, Bicycle Delay [s]	15.09	5.51	5.50
I_b,int, Bicycle LOS Score for Intersection	3.358	1.599	2.668
Bicycle LOS	C	A	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Safford Avenue and Connector Road

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.641

Intersection Setup

Name	Safford Ave		Safford Ave		Belmont Avenue Connector	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↰		↱		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Safford Ave		Safford Ave		Belmont Avenue Connector	
Base Volume Input [veh/h]	911	31	7	0	0	655
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	911	31	7	0	0	655
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	240	8	2	0	0	172
Total Analysis Volume [veh/h]	959	33	7	0	0	689
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.59	0.00	0.00	0.00	0.00	0.64
d_M, Delay for Movement [s/veh]	10.44	0.00	0.00	0.00	141.22	14.11
Movement LOS	B	A	A	A	F	B
95th-Percentile Queue Length [veh/ln]	4.18	4.18	0.00	0.00	4.86	4.86
95th-Percentile Queue Length [ft/ln]	104.53	104.53	0.00	0.00	121.51	121.51
d_A, Approach Delay [s/veh]	10.10		0.00		14.11	
Approach LOS	B		A		B	
d_I, Intersection Delay [s/veh]	11.69					
Intersection LOS	B					

Appendix 7 Level of Service Worksheets – Proposed Improvements

Producer's Dairy

Vistro File: H:\...\Producers_Dairy_20200325.vistro Scenario 11 Existing+Proj AM Improved
Report File: H:\...\ExistingAM_PP MIT.pdf 3/25/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Thomas Ave & Weber Ave	Two-way stop	HCM 6th Edition	WB Left	0.022	18.2	C
2	Weber Ave and Belmont Ave	Signalized	HCM 6th Edition	NBR2	0.736	14.6	B
3	Belmont Ave & Safford Ave	Two-way stop	HCM 6th Edition	SB Left	0.035	23.4	C
4	Palm Ave and Belmont Ave	Signalized	HCM 6th Edition	NB Thru	0.336	20.6	C
5	Palm Ave and N H St	Signalized	HCM 6th Edition	EB Left	0.518	6.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Thomas Ave & Weber Ave

Control Type:	Two-way stop	Delay (sec / veh):	18.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name	Weber Ave		Weber Ave		Thomas Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	┣		┫		┳	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Weber Ave		Weber Ave		Thomas Ave	
Base Volume Input [veh/h]	163	1	14	636	5	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	1	14	636	5	6
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	0	4	185	1	2
Total Analysis Volume [veh/h]	190	1	16	740	6	7
Pedestrian Volume [ped/h]	0		0		1	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.64	0.00	18.23	9.49
Movement LOS	A	A	A	A	C	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.88	0.88	2.30	2.30
d_A, Approach Delay [s/veh]	0.00		0.16		13.52	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.31					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 2: Weber Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	14.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.736

Intersection Setup

Name	H St								Belmont Ave			
Approach	Northbound				Southbound				Eastbound			
Lane Configuration												
Turning Movement	Left	Thru	Right	Right2	Left	Left	Thru	Right	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Curb Present	No				No				No			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	H St								Belmont Ave			
Base Volume Input [veh/h]	5	0	0	5	643	0	0	0	0	0	353	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	0	5	643	0	0	0	0	0	353	0
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	2	161	0	0	0	0	0	106	0
Total Analysis Volume [veh/h]	6	0	0	6	643	0	0	0	0	0	425	0
Presence of On-Street Parking	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing the leg [pe	0				0				0			
v_di, Inbound Pedestrian Volume crossing the leg [ped/h	0				0				0			
v_co, Outbound Pedestrian Volume along the leg [ped/h]	0				0				0			
v_ci, Inbound Pedestrian Volume along the leg [ped/h]	1				0				0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	9.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Permis	Split	Split	Permis	Permis	Permis	Unsign
Signal Group	0	2	0	0	0	0	1	0	0	0	4	2
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	0	0	5	0	0	0	5	5
Maximum Green [s]	0	30	0	0	0	0	30	0	0	0	34	30
Amber [s]	0.0	3.9	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.2	3.9
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0
Split [s]	0	10	0	0	0	0	55	0	0	0	35	10
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No					No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.9	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.2	2.9
Minimum Recall		No					No				No	
Maximum Recall		No					No				No	
Pedestrian Recall		No					No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	20.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	47	47	47	47
L, Total Lost Time per Cycle [s]	4.90	4.90	4.00	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.90	2.90	2.00	2.20
g_i, Effective Green Time [s]	0	0	20	13
g / C, Green / Cycle	0.01	0.01	0.43	0.28
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.36	0.23
s, saturation flow rate [veh/h]	1781	1446	1781	1870
c, Capacity [veh/h]	19	16	761	528
d1, Uniform Delay [s]	22.98	23.00	12.02	15.60
k, delay calibration	0.11	0.11	0.13	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.00	14.89	3.22	2.95
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.39	0.85	0.81
d, Delay for Lane Group [s/veh]	31.97	37.88	15.24	18.55
Lane Group LOS	C	D	B	B
Critical Lane Group	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.11	0.12	5.25	3.96
50th-Percentile Queue Length [ft/ln]	2.69	3.10	131.31	99.08
95th-Percentile Queue Length [veh/ln]	0.19	0.22	9.01	7.13
95th-Percentile Queue Length [ft/ln]	4.84	5.59	225.27	178.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.97	31.97	37.88	37.88	15.24	0.00	15.24	15.24	0.00	0.00	18.55	0.00
Movement LOS	C	C	D	D	B		B	B			B	
d_A, Approach Delay [s/veh]	34.93				15.24				18.55			
Approach LOS	C				B				B			
d_I, Intersection Delay [s/veh]	14.59											
Intersection LOS	B											
Intersection V/C	0.736											

Other Modes

g_Walk,mi, Effective Walk Time [s]	30.8	5.1	51.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	23.94	45.03	12.01
I_p,int, Pedestrian LOS Score for Intersection	1.929	2.226	2.148
Crosswalk LOS	A	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	102	1020	616
d_b, Bicycle Delay [s]	45.03	12.01	23.94
I_b,int, Bicycle LOS Score for Intersection	1.565	2.621	2.261
Bicycle LOS	A	B	B

Intersection Setup

Name	Belmont Ave				Farris Ave			
Approach	Westbound				Southwestbound			
Lane Configuration	↑↱				↰			
Turning Movement	Left	Thru	Right	Right2	Left2	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Curb Present	No				No			
Crosswalk	Yes				Yes			

Volumes

Name	Belmont Ave				Farris Ave			
Base Volume Input [veh/h]	0	283	172	8	7	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	283	172	8	7	0	0	0
Peak Hour Factor	1.0000	0.8300	0.8300	0.8300	0.8300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	85	52	2	2	0	0	0
Total Analysis Volume [veh/h]	0	341	207	10	8	0	0	0
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing the leg [pe	1				1			
v_di, Inbound Pedestrian Volume crossing the leg [ped/h	0				0			
v_co, Outbound Pedestrian Volume along the leg [ped/h]	0				0			
v_ci, Inbound Pedestrian Volume along the leg [ped/h]	1				0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0			
Bicycle Volume [bicycles/h]	0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	9.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Overlap	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	1	2	0	0	0
Auxiliary Signal Groups				1,8				
Lead / Lag	-	-	-	-	Lag	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	0
Amber [s]	0.0	3.2	0.0	3.0	3.9	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	35	0	55	10	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	2.0	2.9	0.0	0.0	0.0
Minimum Recall		No		No	No			
Maximum Recall		No		No	No			
Pedestrian Recall		No		No	No			
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L
C, Cycle Length [s]	47	47	47
L, Total Lost Time per Cycle [s]	4.20	4.00	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00
l2, Clearance Lost Time [s]	2.20	0.00	2.90
g_i, Effective Green Time [s]	13	37	0
g / C, Green / Cycle	0.28	0.80	0.01
(v / s)_i Volume / Saturation Flow Rate	0.18	0.14	0.01
s, saturation flow rate [veh/h]	1870	1589	1410
c, Capacity [veh/h]	528	1270	154
d1, Uniform Delay [s]	14.74	1.09	23.40
k, delay calibration	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00
d2, Incremental Delay [s]	1.33	0.06	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.17	0.05
d, Delay for Lane Group [s/veh]	16.08	1.16	23.54
Lane Group LOS	B	A	C
Critical Lane Group	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.87	0.02	0.09
50th-Percentile Queue Length [ft/ln]	71.83	0.56	2.17
95th-Percentile Queue Length [veh/ln]	5.17	0.04	0.16
95th-Percentile Queue Length [ft/ln]	129.29	1.00	3.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	16.08	1.16	1.16	23.54	0.00	0.00	0.00
Movement LOS		B	A	A	C			
d_A, Approach Delay [s/veh]	10.27				23.54			
Approach LOS	B				C			
d_I, Intersection Delay [s/veh]	14.59							
Intersection LOS	B							
Intersection V/C	0.736							

Other Modes

g_Walk,mi, Effective Walk Time [s]	5.1	30.8
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00
d_p, Pedestrian Delay [s]	45.03	23.94
I_p,int, Pedestrian LOS Score for Intersection	2.552	1.708
Crosswalk LOS	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	616	102
d_b, Bicycle Delay [s]	23.94	45.03
I_b,int, Bicycle LOS Score for Intersection	2.464	1.560
Bicycle LOS	B	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Belmont Ave & Safford Ave

Control Type:	Two-way stop	Delay (sec / veh):	23.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.035

Intersection Setup

Name	Safford Ave		Belmont Ave		Belmont Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↰↱		↰↑		↑↱	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Safford Ave		Belmont Ave		Belmont Ave	
Base Volume Input [veh/h]	6	3	7	981	456	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	3	7	981	456	1
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	2	282	131	0
Total Analysis Volume [veh/h]	7	3	8	1128	524	1
Pedestrian Volume [ped/h]	3		1		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.01	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	23.45	10.50	8.51	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.02	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.02	3.02	0.59	0.29	0.00	0.00
d_A, Approach Delay [s/veh]	19.57		0.06		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 4: Palm Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.336

Intersection Setup

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	70.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Base Volume Input [veh/h]	176	96	31	159	257	71	34	136	825	15	210	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	176	96	31	159	257	71	34	136	825	15	210	88
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	27	9	45	73	20	10	39	234	4	60	25
Total Analysis Volume [veh/h]	200	109	35	181	292	81	39	155	938	17	239	100
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	1			5			0			5		
v_di, Inbound Pedestrian Volume crossing major street [	0			5			1			5		
v_co, Outbound Pedestrian Volume crossing minor stree	1			3			4			1		
v_ci, Inbound Pedestrian Volume crossing minor street [	1			4			3			1		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	9.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Overla	Permis	Permis	Permis
Signal Group	5	2	0	1	6	0	0	4	5	0	8	0
Auxiliary Signal Groups									4,5			
Lead / Lag	Lead	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	5	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	30	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.2	3.0	0.0	3.2	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	0.0	2.0	1.0	0.0	2.0	0.0
Split [s]	9	34	0	41	66	0	0	45	9	0	45	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	4	0	4	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	24	0	24	24	0	0	34	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.9	0.0	2.0	3.9	0.0	0.0	3.2	2.0	0.0	3.2	0.0
Minimum Recall	No	Yes		No	Yes			No	No		No	
Maximum Recall	No	No		No	No			No	No		No	
Pedestrian Recall	No	No		No	No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	0.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	C	C	R
C, Cycle Length [s]	86	86	86	86	86	86	86	86	86	86	86
L, Total Lost Time per Cycle [s]	4.00	5.90	4.00	5.90	5.90	5.20	5.20	4.00	5.20	5.20	5.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.90	2.00	3.90	3.90	3.20	3.20	0.00	3.20	3.20	3.20
g_i, Effective Green Time [s]	30	9	32	11	11	30	30	65	30	30	30
g / C, Green / Cycle	0.35	0.11	0.37	0.13	0.13	0.35	0.35	0.75	0.35	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.06	0.08	0.10	0.08	0.05	0.03	0.08	0.59	0.07	0.07	0.06
s, saturation flow rate [veh/h]	3459	1783	1781	3560	1543	1135	1870	1589	1800	1702	1576
c, Capacity [veh/h]	1200	194	658	468	203	393	649	1198	671	590	547
d1, Uniform Delay [s]	19.57	37.36	19.12	35.52	34.36	23.67	20.11	6.39	19.86	19.88	19.68
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	5.52	0.22	1.36	1.27	0.11	0.19	5.15	0.14	0.17	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.17	0.74	0.27	0.62	0.40	0.10	0.24	0.78	0.20	0.21	0.18
d, Delay for Lane Group [s/veh]	19.64	42.88	19.34	36.89	35.63	23.78	20.30	11.53	20.00	20.05	19.84
Lane Group LOS	B	D	B	D	D	C	C	B	B	C	B
Critical Lane Group	No	No	No	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.37	3.20	2.51	2.95	1.61	0.60	2.19	8.59	1.86	1.72	1.39
50th-Percentile Queue Length [ft/ln]	34.19	79.99	62.63	73.69	40.14	15.00	54.86	214.74	46.48	43.02	34.71
95th-Percentile Queue Length [veh/ln]	2.46	5.76	4.51	5.31	2.89	1.08	3.95	13.40	3.35	3.10	2.50
95th-Percentile Queue Length [ft/ln]	61.54	143.98	112.74	132.65	72.26	27.00	98.74	334.90	83.66	77.44	62.47

Movement, Approach, & Intersection Results

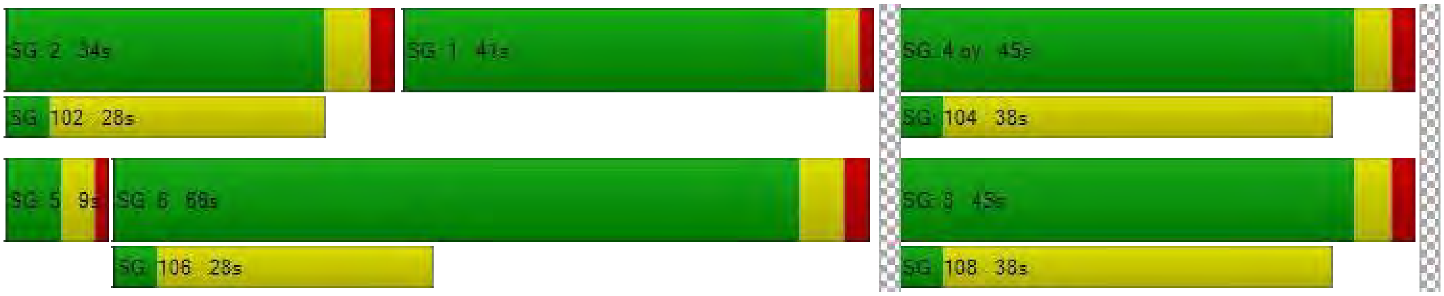
d_M, Delay for Movement [s/veh]	19.64	42.88	42.88	19.34	36.89	35.63	23.78	20.30	11.53	20.00	20.03	19.84
Movement LOS	B	D	D	B	D	D	C	C	B	B	C	B
d_A, Approach Delay [s/veh]	29.37			30.97			13.15			19.97		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	20.65											
Intersection LOS	C											
Intersection V/C	0.336											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	52.27	52.27	52.27	52.27
I_p,int, Pedestrian LOS Score for Intersection	2.650	2.655	2.638	2.458
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	468	1002	663	663
d_b, Bicycle Delay [s]	35.21	14.96	26.80	26.80
I_b,int, Bicycle LOS Score for Intersection	2.127	2.017	3.427	1.853
Bicycle LOS	B	B	C	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Palm Ave and N H St

Control Type:	Signalized	Delay (sec / veh):	6.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.518

Intersection Setup

Name	Palm Ave		H St		H St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↰ ↔		↰ ↑		↑ ↱ ↱	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	210.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Palm Ave		H St		H St	
Base Volume Input [veh/h]	1067	2	5	5	5	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1067	2	5	5	5	286
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	333	1	2	2	2	89
Total Analysis Volume [veh/h]	1334	3	6	6	6	358
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	0		0		0	
v_di, Inbound Pedestrian Volume crossing major street [	0		0		0	
v_co, Outbound Pedestrian Volume crossing minor stree	1		0		1	
v_ci, Inbound Pedestrian Volume crossing minor street [	1		0		1	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		4		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Overlap
Signal Group	2	0	0	4	4	2
Auxiliary Signal Groups						2,4
Lead / Lag	Lag	-	-	-	-	-
Minimum Green [s]	5	0	0	5	5	5
Maximum Green [s]	28	0	0	47	47	28
Amber [s]	3.9	0.0	0.0	3.9	3.9	3.9
All red [s]	2.0	0.0	0.0	2.0	2.0	2.0
Split [s]	97	0	0	53	53	97
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	3.0
Walk [s]	9	0	0	15	15	9
Pedestrian Clearance [s]	19	0	0	32	32	19
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.9	0.0	0.0	3.9	3.9	3.9
Minimum Recall	No			No	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	0.0	0.0	20.0	20.0	20.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C	R
C, Cycle Length [s]	36	36	36	36	36	36
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	0.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	3.90
g_i, Effective Green Time [s]	19	19	6	6	6	30
g / C, Green / Cycle	0.52	0.52	0.15	0.15	0.15	0.84
(v / s)_i Volume / Saturation Flow Rate	0.38	0.38	0.01	0.00	0.00	0.13
s, saturation flow rate [veh/h]	1781	1780	1054	1702	1870	2794
c, Capacity [veh/h]	925	924	346	258	284	2331
d1, Uniform Delay [s]	6.63	6.64	12.99	12.94	12.95	0.56
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.09	1.09	0.02	0.03	0.03	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.72	0.02	0.02	0.02	0.15
d, Delay for Lane Group [s/veh]	7.72	7.72	13.01	12.97	12.98	0.59
Lane Group LOS	A	A	B	B	B	A
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.34	2.34	0.04	0.03	0.04	0.01
50th-Percentile Queue Length [ft/ln]	58.53	58.56	1.03	0.75	0.89	0.24
95th-Percentile Queue Length [veh/ln]	4.21	4.22	0.07	0.05	0.06	0.02
95th-Percentile Queue Length [ft/ln]	105.36	105.41	1.85	1.35	1.61	0.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.72	7.72	13.01	12.98	12.98	0.59
Movement LOS	A	A	B	B	B	A
d_A, Approach Delay [s/veh]	7.72		13.00		0.79	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	6.29					
Intersection LOS	A					
Intersection V/C	0.518					

Other Modes

g_Walk,mi, Effective Walk Time [s]	19.0	13.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	57.20	62.56	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.574	2.159	0.000
Crosswalk LOS	B	B	F
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1215	628	628
d_b, Bicycle Delay [s]	11.56	35.37	35.31
I_b,int, Bicycle LOS Score for Intersection	3.766	1.570	2.160
Bicycle LOS	D	A	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Producer's Dairy

Vistro File: H:\...\Producers_Dairy_20200325.vistro Scenario 12 Existing+Proj PM Improved
Report File: H:\...\ExistingPM_PP MIT.pdf 3/25/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Thomas Ave & Weber Ave	Two-way stop	HCM 6th Edition	WB Left	0.016	19.6	C
2	Weber Ave and Belmont Ave	Signalized	HCM 6th Edition	NBR2	0.190	8.8	A
3	Belmont Ave & Safford Ave	Two-way stop	HCM 6th Edition	SB Left	0.044	60.0	F
4	Palm Ave and Belmont Ave	Signalized	HCM 6th Edition	SB Right	0.523	29.8	C
5	Palm Ave and N H St	Signalized	HCM 2010	EB Left	0.220	3.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Thomas Ave & Weber Ave

Control Type:	Two-way stop	Delay (sec / veh):	19.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

Intersection Setup

Name	Weber Ave		Weber Ave		Thomas Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	┣		┫		┳	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Weber Ave		Weber Ave		Thomas Ave	
Base Volume Input [veh/h]	678	4	24	202	4	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	678	4	24	202	4	14
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	184	1	7	55	1	4
Total Analysis Volume [veh/h]	737	4	26	220	4	15
Pedestrian Volume [ped/h]	0		0		1	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.00	0.02	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	9.29	0.00	19.61	14.18
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.09	0.09	0.16	0.16
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.32	2.32	4.07	4.07
d_A, Approach Delay [s/veh]	0.00		0.98		15.32	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.53					
Intersection LOS	C					

Intersection Level Of Service Report

Intersection 2: Weber Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.190

Intersection Setup

Name	H St								Belmont Ave			
Approach	Northbound				Southbound				Eastbound			
Lane Configuration												
Turning Movement	Left	Thru	Right	Right2	Left	Left	Thru	Right	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			
Grade [%]	0.00				0.00				0.00			
Curb Present	No				No				No			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	H St								Belmont Ave			
Base Volume Input [veh/h]	5	0	0	5	209	0	0	0	0	0	409	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	0	5	209	0	0	0	0	0	409	0
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	1	52	0	0	0	0	0	107	0
Total Analysis Volume [veh/h]	5	0	0	5	209	0	0	0	0	0	426	0
Presence of On-Street Parking	No			No	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing the leg [pe	2				0				0			
v_di, Inbound Pedestrian Volume crossing the leg [ped/h	1				0				0			
v_co, Outbound Pedestrian Volume along the leg [ped/h]	0				0				1			
v_ci, Inbound Pedestrian Volume along the leg [ped/h]	0				0				2			
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	9.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Permis	Split	Split	Permis	Permis	Permis	Unsign
Signal Group	0	2	0	0	0	0	1	0	0	0	4	2
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	0	0	5	0	0	0	5	5
Maximum Green [s]	0	30	0	0	0	0	30	0	0	0	34	30
Amber [s]	0.0	3.9	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.2	3.9
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0
Split [s]	0	20	0	0	0	0	9	0	0	0	71	20
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No					No				No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	2.9	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.2	2.9
Minimum Recall		No					No				No	
Maximum Recall		No					No				No	
Pedestrian Recall		No					No				No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	20.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	C
C, Cycle Length [s]	51	51	51	51
L, Total Lost Time per Cycle [s]	4.90	4.90	4.00	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.90	2.90	2.00	2.20
g_i, Effective Green Time [s]	0	0	14	23
g / C, Green / Cycle	0.01	0.01	0.28	0.45
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.12	0.23
s, saturation flow rate [veh/h]	1781	1446	1781	1870
c, Capacity [veh/h]	17	14	501	844
d1, Uniform Delay [s]	25.02	25.04	14.88	9.91
k, delay calibration	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.24	15.16	0.55	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.29	0.36	0.42	0.50
d, Delay for Lane Group [s/veh]	34.27	40.20	15.43	10.38
Lane Group LOS	C	D	B	B
Critical Lane Group	No	No	No	No
50th-Percentile Queue Length [veh/ln]	0.10	0.11	1.79	2.79
50th-Percentile Queue Length [ft/ln]	2.48	2.84	44.83	69.68
95th-Percentile Queue Length [veh/ln]	0.18	0.20	3.23	5.02
95th-Percentile Queue Length [ft/ln]	4.47	5.12	80.70	125.42

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.27	34.27	40.20	40.20	15.43	0.00	15.43	15.43	0.00	0.00	10.38	0.00
Movement LOS	C	C	D	D	B		B	B			B	
d_A, Approach Delay [s/veh]	37.23				15.43				10.38			
Approach LOS	D				B				B			
d_I, Intersection Delay [s/veh]	8.78											
Intersection LOS	A											
Intersection V/C	0.190											

Other Modes

g_Walk,mi, Effective Walk Time [s]	66.8	15.1	5.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	5.51	36.04	45.13
I_p,int, Pedestrian LOS Score for Intersection	1.869	2.248	2.281
Crosswalk LOS	A	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	302	100	1336
d_b, Bicycle Delay [s]	36.04	45.13	5.51
I_b,int, Bicycle LOS Score for Intersection	1.564	1.904	2.263
Bicycle LOS	A	A	B

Intersection Setup

Name	Belmont Ave				Farris Ave			
Approach	Westbound				Southwestbound			
Lane Configuration	↑↱				↖			
Turning Movement	Left	Thru	Right	Right2	Left2	Left	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00			
Grade [%]	0.00				0.00			
Curb Present	No				No			
Crosswalk	Yes				Yes			

Volumes

Name	Belmont Ave				Farris Ave			
Base Volume Input [veh/h]	0	564	707	13	7	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	564	707	13	7	0	0	0
Peak Hour Factor	1.0000	0.9600	0.9600	0.9600	0.9600	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	147	184	3	2	0	0	0
Total Analysis Volume [veh/h]	0	588	736	14	7	0	0	0
Presence of On-Street Parking	No			No	No			No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing the leg [pe	0				2			
v_di, Inbound Pedestrian Volume crossing the leg [ped/h	0				2			
v_co, Outbound Pedestrian Volume along the leg [ped/h]	2				0			
v_ci, Inbound Pedestrian Volume along the leg [ped/h]	2				0			
v_ab, Corner Pedestrian Volume [ped/h]	0				0			
Bicycle Volume [bicycles/h]	0				0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	9.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Overlap	Permissive	Permissive	Permissive	Permissive
Signal Group	0	8	0	1	2	0	0	0
Auxiliary Signal Groups				1,8				
Lead / Lag	-	-	-	-	Lag	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	0
Amber [s]	0.0	3.2	0.0	3.0	3.9	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0
Split [s]	0	71	0	9	20	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	2.0	2.9	0.0	0.0	0.0
Minimum Recall		No		No	No			
Maximum Recall		No		No	No			
Pedestrian Recall		No		No	No			
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	20.0	0.0	20.0	20.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L
C, Cycle Length [s]	51	51	51
L, Total Lost Time per Cycle [s]	4.20	4.00	4.90
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00
l2, Clearance Lost Time [s]	2.20	0.00	2.90
g_i, Effective Green Time [s]	23	41	0
g / C, Green / Cycle	0.45	0.82	0.01
(v / s)_i Volume / Saturation Flow Rate	0.31	0.47	0.00
s, saturation flow rate [veh/h]	1870	1589	1411
c, Capacity [veh/h]	844	1296	142
d1, Uniform Delay [s]	11.16	1.64	25.44
k, delay calibration	0.11	0.30	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00
d2, Incremental Delay [s]	1.05	1.15	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.58	0.05
d, Delay for Lane Group [s/veh]	12.21	2.79	25.58
Lane Group LOS	B	A	C
Critical Lane Group	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	4.41	0.42	0.08
50th-Percentile Queue Length [ft/ln]	110.21	10.38	2.11
95th-Percentile Queue Length [veh/ln]	7.85	0.75	0.15
95th-Percentile Queue Length [ft/ln]	196.29	18.68	3.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	12.21	2.79	2.79	25.58	0.00	0.00	0.00
Movement LOS		B	A	A	C			
d_A, Approach Delay [s/veh]	6.93				25.58			
Approach LOS	A				C			
d_I, Intersection Delay [s/veh]	8.78							
Intersection LOS	A							
Intersection V/C	0.190							

Other Modes

g_Walk,mi, Effective Walk Time [s]	15.1	66.8
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00
d_p, Pedestrian Delay [s]	36.04	5.51
I_p,int, Pedestrian LOS Score for Intersection	2.626	1.651
Crosswalk LOS	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1336	302
d_b, Bicycle Delay [s]	5.51	36.04
I_b,int, Bicycle LOS Score for Intersection	3.744	1.560
Bicycle LOS	D	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 3: Belmont Ave & Safford Ave

Control Type:	Two-way stop	Delay (sec / veh):	60.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

Intersection Setup

Name	Safford Ave		Belmont Ave		Belmont Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Safford Ave		Belmont Ave		Belmont Ave	
Base Volume Input [veh/h]	3	4	11	606	1284	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	4	11	606	1284	10
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	3	168	357	3
Total Analysis Volume [veh/h]	3	4	12	673	1427	11
Pedestrian Volume [ped/h]	12		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.01	0.03	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	60.00	16.67	13.08	0.00	0.00	0.00
Movement LOS	F	C	B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.17	0.17	0.08	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.36	4.36	2.02	1.01	0.00	0.00
d_A, Approach Delay [s/veh]	35.24		0.23		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 4: Palm Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.523

Intersection Setup

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↰ ↰ ↑↱			↰ ↑ ↑ ↱			↰ ↑ ↱			↰↑ ↑ ↱		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	70.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	60.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Base Volume Input [veh/h]	787	346	66	132	112	46	79	252	282	22	454	174
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	787	346	66	132	112	46	79	252	282	22	454	174
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	214	94	18	36	30	13	21	68	77	6	123	47
Total Analysis Volume [veh/h]	855	376	72	143	122	50	86	274	307	24	493	189
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	3			2			2			2		
v_di, Inbound Pedestrian Volume crossing major street [	2			2			3			2		
v_co, Outbound Pedestrian Volume crossing minor stree	0			0			1			1		
v_ci, Inbound Pedestrian Volume crossing minor street [	1			1			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	2			4			0			4		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	9.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Overla	Permis	Permis	Permis
Signal Group	5	2	0	1	6	0	0	4	5	0	8	0
Auxiliary Signal Groups									4,5			
Lead / Lag	Lead	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	5	0	5	0
Maximum Green [s]	60	60	0	60	60	0	0	60	60	0	60	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.2	3.0	0.0	3.2	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	0.0	2.0	1.0	0.0	2.0	0.0
Split [s]	32	34	0	32	34	0	0	44	32	0	44	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	4	0	4	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	24	0	24	24	0	0	34	0	0	34	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.9	0.0	2.0	3.9	0.0	0.0	3.2	2.0	0.0	3.2	0.0
Minimum Recall	No	Yes		No	Yes			No	No		No	
Maximum Recall	Yes	No		No	No			No	Yes		No	
Pedestrian Recall	No	No		No	No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	C	C	R
C, Cycle Length [s]	114	114	114	114	114	114	114	114	114	114	114
L, Total Lost Time per Cycle [s]	4.00	5.90	4.00	5.90	5.90	5.20	5.20	4.00	5.20	5.20	5.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.90	2.00	3.90	3.90	3.20	3.20	0.00	3.20	3.20	3.20
g_i, Effective Green Time [s]	60	31	36	7	7	32	32	97	32	32	32
g / C, Green / Cycle	0.53	0.27	0.32	0.06	0.06	0.28	0.28	0.85	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.25	0.25	0.08	0.03	0.03	0.10	0.15	0.19	0.15	0.15	0.12
s, saturation flow rate [veh/h]	3459	1813	1781	3560	1538	902	1870	1588	1661	1702	1559
c, Capacity [veh/h]	1825	489	563	207	90	183	526	1358	502	479	438
d1, Uniform Delay [s]	16.84	40.28	28.89	52.21	52.06	47.23	34.41	1.49	34.08	34.68	33.33
k, delay calibration	0.50	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.87	7.30	0.23	2.64	5.34	1.86	0.80	0.08	0.81	0.97	0.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.92	0.25	0.59	0.56	0.47	0.52	0.23	0.51	0.54	0.43
d, Delay for Lane Group [s/veh]	17.71	47.57	29.12	54.85	57.40	49.09	35.21	1.57	34.88	35.64	34.00
Lane Group LOS	B	D	C	D	E	D	D	A	C	D	C
Critical Lane Group	No	Yes	Yes	No	No	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	7.06	13.01	2.95	1.77	1.52	2.42	6.48	0.68	6.00	6.22	4.33
50th-Percentile Queue Length [ft/ln]	176.62	325.28	73.75	44.36	38.02	60.57	161.95	16.98	150.12	155.51	108.29
95th-Percentile Queue Length [veh/ln]	11.42	18.93	5.31	3.19	2.74	4.36	10.65	1.22	10.02	10.31	7.74
95th-Percentile Queue Length [ft/ln]	285.59	473.17	132.74	79.84	68.43	109.03	266.30	30.56	250.58	257.77	193.62

Movement, Approach, & Intersection Results

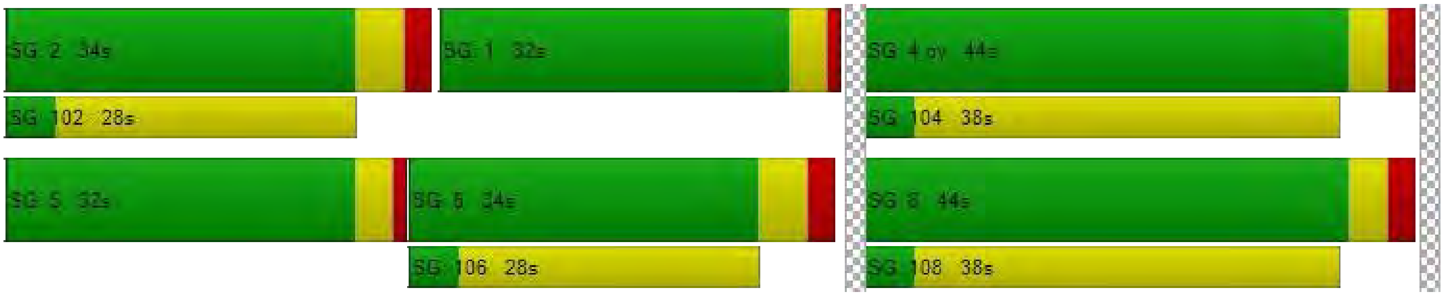
d_M, Delay for Movement [s/veh]	17.71	47.57	47.57	29.12	54.85	57.40	49.09	35.21	1.57	34.88	35.28	34.00
Movement LOS	B	D	D	C	D	E	D	D	A	C	D	C
d_A, Approach Delay [s/veh]	27.98			43.57			21.52			34.93		
Approach LOS	C			D			C			C		
d_I, Intersection Delay [s/veh]	29.82											
Intersection LOS	C											
Intersection V/C	0.523											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	47.29	47.29	47.29	47.29
I_p,int, Pedestrian LOS Score for Intersection	2.688	2.744	2.714	2.545
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	511	511	705	705
d_b, Bicycle Delay [s]	30.52	30.55	23.04	23.09
I_b,int, Bicycle LOS Score for Intersection	3.710	1.819	2.660	2.142
Bicycle LOS	D	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Palm Ave and N H St

Control Type:	Signalized	Delay (sec / veh):	3.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.220

Intersection Setup

Name	Palm Ave		H St		H St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	210.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name	Palm Ave		H St		H St	
Base Volume Input [veh/h]	392	12	31	5	5	1139
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	392	12	31	5	5	1139
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	108	3	9	1	1	313
Total Analysis Volume [veh/h]	431	13	34	5	5	1252
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	1		1		0	
Bicycle Volume [bicycles/h]	0		2		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Overlap
Signal Group	2	0	0	4	4	2
Auxiliary Signal Groups						2,4
Lead / Lag	Lag	-	-	-	-	-
Minimum Green [s]	5	0	0	5	5	5
Maximum Green [s]	28	0	0	47	47	28
Amber [s]	3.9	0.0	0.0	3.9	3.9	3.9
All red [s]	2.0	0.0	0.0	2.0	2.0	2.0
Split [s]	34	0	0	56	56	34
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	3.0
Walk [s]	9	0	0	15	15	9
Pedestrian Clearance [s]	19	0	0	32	32	19
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.9	0.0	0.0	3.9	3.9	3.9
Minimum Recall	No			No	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	0.0	0.0	20.0	20.0	20.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C	R
C, Cycle Length [s]	43	43	43	43	43	43
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	0.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	3.90
g_i, Effective Green Time [s]	16	16	16	16	16	38
g / C, Green / Cycle	0.37	0.37	0.36	0.36	0.36	0.86
(v / s)_i Volume / Saturation Flow Rate	0.13	0.13	0.03	0.00	0.00	0.46
s, saturation flow rate [veh/h]	1774	1762	1203	1695	1863	2744
c, Capacity [veh/h]	657	652	597	607	667	2371
d1, Uniform Delay [s]	9.85	9.85	10.70	8.98	8.98	0.74
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.30	0.31	0.04	0.01	0.00	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

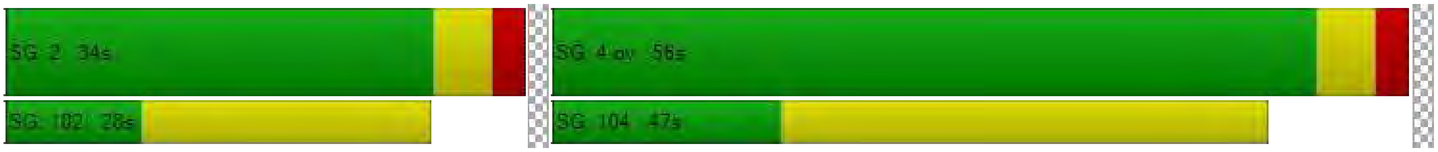
X, volume / capacity	0.34	0.34	0.06	0.01	0.01	0.53
d, Delay for Lane Group [s/veh]	10.15	10.16	10.74	8.98	8.98	0.92
Lane Group LOS	B	B	B	A	A	A
Critical Lane Group	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.26	1.25	0.20	0.03	0.03	0.06
50th-Percentile Queue Length [ft/ln]	31.46	31.25	4.94	0.63	0.63	1.51
95th-Percentile Queue Length [veh/ln]	2.27	2.25	0.36	0.05	0.05	0.11
95th-Percentile Queue Length [ft/ln]	56.64	56.26	8.90	1.14	1.13	2.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.15	10.16	10.74	8.98	8.98	0.92
Movement LOS	B	B	B	A	A	A
d_A, Approach Delay [s/veh]	10.15		10.51		0.95	
Approach LOS	B		B		A	
d_I, Intersection Delay [s/veh]	3.51					
Intersection LOS	A					
Intersection V/C	0.220					

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Producer's Dairy

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Report File: H:\...\CumulativeAM_PP MIT.pdf

Scenario 13 Cumulative + Project AM Improved
3/25/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Thomas Ave & Weber Ave	Two-way stop	HCM 6th Edition	WB Left	0.170	67.1	F
2	Belmont Avenue Connector & Weber Avenue	Two-way stop	HCM 6th Edition	SB Left	0.939	27.0	D
3	Belmont Ave & Safford Ave	Signalized	HCM 6th Edition	EB Left	0.773	26.9	C
4	Palm Ave and Belmont Ave	Signalized	HCM 6th Edition	EB Left	0.432	26.6	C
5	Palm Ave and N H St	Signalized	HCM 6th Edition	SB Right	0.834	47.8	D
6	Safford Avenue and Connector Road	Two-way stop	HCM 6th Edition	SB Thru	0.123	61.1	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Thomas Ave & Weber Ave

Control Type:	Two-way stop	Delay (sec / veh):	67.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.170

Intersection Setup

Name	Weber Ave		Weber Ave		Thomas Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↱		↰		⊤	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Weber Ave		Weber Ave		Thomas Ave	
Base Volume Input [veh/h]	298	2	31	1431	10	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	298	2	31	1431	10	12
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	1	8	377	3	3
Total Analysis Volume [veh/h]	314	2	33	1506	11	13
Pedestrian Volume [ped/h]	0		0		1	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.02	0.17	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.98	0.00	67.05	16.39
Movement LOS	A	A	A	A	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.08	0.08	0.66	0.66
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.05	2.05	16.52	16.52
d_A, Approach Delay [s/veh]	0.00		0.17		39.61	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	0.65					
Intersection LOS	F					

Intersection Level Of Service Report

Intersection 2: Belmont Avenue Connector & Weber Avenue

Control Type:	Two-way stop	Delay (sec / veh):	27.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.939

Intersection Setup

Name	Weber Ave		Weber Ave		Belmont Avenue Connector	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↱		↰ ↑		⊤	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Weber Ave		Weber Ave		Belmont Avenue Connector	
Base Volume Input [veh/h]	5	0	1441	5	0	312
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	1441	5	0	312
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	379	1	0	82
Total Analysis Volume [veh/h]	5	0	1517	5	0	328
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.94	0.00	0.00	0.30
d_M, Delay for Movement [s/veh]	0.00	0.00	27.05	0.00	4167.29	9.79
Movement LOS	A	A	D	A	F	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	18.44	0.00	1.29	1.29
95th-Percentile Queue Length [ft/ln]	0.00	0.00	460.97	0.00	32.35	32.35
d_A, Approach Delay [s/veh]	0.00		26.96		9.79	
Approach LOS	A		D		A	
d_I, Intersection Delay [s/veh]	23.85					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 3: Belmont Ave & Safford Ave

Control Type:	Signalized	Delay (sec / veh):	26.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.773

Intersection Setup

Name	Safford Ave		Belmont Avenue		Belmont Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↰ ↰↱		↰ ↑ ↑		↑ ↱	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Safford Ave		Belmont Avenue		Belmont Ave	
Base Volume Input [veh/h]	1454	0	12	636	479	324
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1454	0	12	636	479	324
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	383	0	3	167	126	85
Total Analysis Volume [veh/h]	1531	0	13	669	504	341
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	0		1		0	
v_di, Inbound Pedestrian Volume crossing major street [	1		0		0	
v_co, Outbound Pedestrian Volume crossing minor stree	2		0		1	
v_ci, Inbound Pedestrian Volume crossing minor street [	1		0		2	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	9.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Overlap
Signal Group	2	0	3	8	4	2
Auxiliary Signal Groups						2,4
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	5	5	5
Maximum Green [s]	30	0	30	30	30	30
Amber [s]	3.0	0.0	3.0	3.0	3.0	3.0
All red [s]	1.0	0.0	1.0	1.0	1.0	1.0
Split [s]	65	0	9	40	31	65
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	3.0
Walk [s]	5	0	0	0	5	5
Pedestrian Clearance [s]	25	0	0	0	22	25
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	2.0
Minimum Recall	No		No	No	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	0.0	20.0	20.0	20.0	20.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	R
C, Cycle Length [s]	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	50	50	2	47	41	95
g / C, Green / Cycle	0.48	0.48	0.02	0.44	0.39	0.91
(v / s)_i Volume / Saturation Flow Rate	0.43	0.43	0.01	0.19	0.27	0.21
s, saturation flow rate [veh/h]	1781	1781	1781	3560	1870	1588
c, Capacity [veh/h]	856	856	29	1578	728	1442
d1, Uniform Delay [s]	24.85	24.85	51.19	20.03	26.82	0.57
k, delay calibration	0.28	0.28	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.41	8.41	10.82	0.84	5.37	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.89	0.45	0.42	0.69	0.24
d, Delay for Lane Group [s/veh]	33.26	33.26	62.01	20.87	32.18	0.65
Lane Group LOS	C	C	E	C	C	A
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	18.47	18.47	0.42	5.68	11.38	0.03
50th-Percentile Queue Length [ft/ln]	461.69	461.69	10.61	142.09	284.44	0.84
95th-Percentile Queue Length [veh/ln]	25.52	25.52	0.76	9.59	16.91	0.06
95th-Percentile Queue Length [ft/ln]	637.88	637.88	19.09	239.83	422.73	1.51

Movement, Approach, & Intersection Results

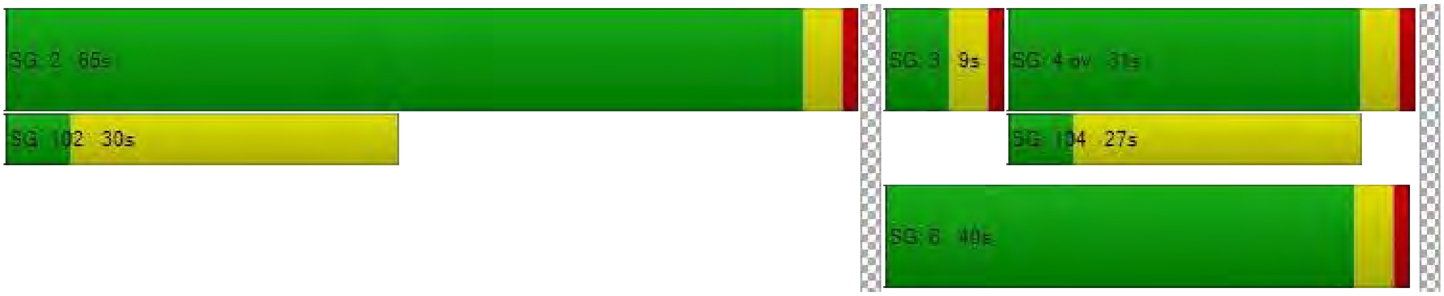
d_M, Delay for Movement [s/veh]	33.26	33.26	62.01	20.87	32.18	0.65
Movement LOS	C	C	E	C	C	A
d_A, Approach Delay [s/veh]	33.26		21.65		19.46	
Approach LOS	C		C		B	
d_I, Intersection Delay [s/veh]	26.86					
Intersection LOS	C					
Intersection V/C	0.773					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	43.89	43.89	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.562	2.429	0.000
Crosswalk LOS	B	B	F
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1162	686	514
d_b, Bicycle Delay [s]	9.22	22.67	28.97
I_b,int, Bicycle LOS Score for Intersection	4.086	2.122	2.954
Bicycle LOS	D	B	C

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Palm Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	26.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.432

Intersection Setup

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	70.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Base Volume Input [veh/h]	330	189	43	239	387	107	58	251	1782	30	366	153
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	330	189	43	239	387	107	58	251	1782	30	366	153
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	87	50	11	63	102	28	15	66	469	8	96	40
Total Analysis Volume [veh/h]	347	199	45	252	407	113	61	264	1876	32	385	161
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	1			5			0			5		
v_di, Inbound Pedestrian Volume crossing major street [	0			5			1			5		
v_co, Outbound Pedestrian Volume crossing minor stree	1			3			4			1		
v_ci, Inbound Pedestrian Volume crossing minor street [	1			4			3			1		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	9.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Overla	Permis	Permis	Permis
Signal Group	5	2	0	1	6	0	7	4	5	3	8	0
Auxiliary Signal Groups									4,5			
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	5	5	5	0
Maximum Green [s]	30	30	0	30	30	0	5	30	30	5	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	3.0	3.2	3.0	3.0	3.2	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	1.0	1.0	2.0	0.0
Split [s]	9	34	0	42	67	0	9	44	9	9	44	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	4	0	5	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	24	0	10	24	0	0	34	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.9	0.0	2.0	3.9	0.0	2.0	3.2	2.0	2.0	3.2	0.0
Minimum Recall	No	Yes		No	Yes			No	No		No	
Maximum Recall	No	No		No	No			No	No		No	
Pedestrian Recall	No	No		No	No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	0.0	20.0	0.0	20.0	20.0	20.0	20.0	20.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	5.90	4.00	5.90	5.90	5.20	5.20	4.00	5.20	5.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	3.90	2.00	3.90	3.90	3.20	3.20	0.00	3.20	3.20
g_i, Effective Green Time [s]	30	15	30	14	14	30	30	65	30	30
g / C, Green / Cycle	0.33	0.16	0.33	0.16	0.16	0.33	0.33	0.73	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.10	0.14	0.14	0.11	0.07	0.07	0.14	0.67	0.03	0.31
s, saturation flow rate [veh/h]	3459	1805	1781	3560	1548	861	1870	2812	1115	1772
c, Capacity [veh/h]	1158	297	592	577	251	92	626	2046	306	593
d1, Uniform Delay [s]	22.05	36.16	23.28	35.52	33.87	44.69	23.10	10.00	29.37	28.67
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.42	0.11	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.14	5.62	0.49	1.59	1.26	7.76	0.45	6.92	0.15	17.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.82	0.43	0.70	0.45	0.66	0.42	0.92	0.10	0.92
d, Delay for Lane Group [s/veh]	22.19	41.78	23.77	37.11	35.13	52.45	23.55	16.92	29.52	46.08
Lane Group LOS	C	D	C	D	D	D	C	B	C	D
Critical Lane Group	No	No	No	Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.66	5.52	4.11	4.26	2.27	1.54	4.28	12.91	0.57	13.65
50th-Percentile Queue Length [ft/ln]	66.46	137.97	102.72	106.45	56.87	38.53	106.98	322.73	14.29	341.27
95th-Percentile Queue Length [veh/ln]	4.78	9.37	7.40	7.64	4.09	2.77	7.67	18.80	1.03	19.71
95th-Percentile Queue Length [ft/ln]	119.62	234.29	184.90	191.05	102.37	69.36	191.79	470.05	25.72	492.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	22.19	41.78	41.78	23.77	37.11	35.13	52.45	23.55	16.92	29.52	46.08	46.08
Movement LOS	C	D	D	C	D	D	D	C	B	C	D	D
d_A, Approach Delay [s/veh]	30.28			32.47			18.70			45.16		
Approach LOS	C			C			B			D		
d_I, Intersection Delay [s/veh]	26.61											
Intersection LOS	C											
Intersection V/C	0.432											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	52.27	52.27	52.27	52.27
I_p,int, Pedestrian LOS Score for Intersection	2.928	2.749	2.964	2.425
Crosswalk LOS	C	B	C	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	468	1018	647	647
d_b, Bicycle Delay [s]	35.21	14.46	27.47	27.47
I_b,int, Bicycle LOS Score for Intersection	2.535	2.197	5.191	2.513
Bicycle LOS	B	B	F	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Palm Ave and N H St

Control Type:	Signalized	Delay (sec / veh):	47.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.834

Intersection Setup

Name	Palm Ave		H St		H St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	210.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Palm Ave		H St		H St	
Base Volume Input [veh/h]	2205	4	22	5	5	540
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2205	4	22	5	5	540
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	580	1	6	1	1	142
Total Analysis Volume [veh/h]	2321	4	23	5	5	568
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	0		0		0	
v_di, Inbound Pedestrian Volume crossing major street [	0		0		0	
v_co, Outbound Pedestrian Volume crossing minor stree	1		0		1	
v_ci, Inbound Pedestrian Volume crossing minor street [	1		0		1	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		4		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Overlap
Signal Group	2	0	0	4	4	2
Auxiliary Signal Groups						2,4
Lead / Lag	Lag	-	-	-	-	-
Minimum Green [s]	5	0	0	5	5	5
Maximum Green [s]	28	0	0	47	47	28
Amber [s]	3.9	0.0	0.0	3.9	3.9	3.9
All red [s]	2.0	0.0	0.0	2.0	2.0	2.0
Split [s]	34	0	0	56	56	34
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	3.0
Walk [s]	9	0	0	15	15	9
Pedestrian Clearance [s]	19	0	0	32	32	19
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.9	0.0	0.0	3.9	3.9	3.9
Minimum Recall	No			No	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	0.0	0.0	20.0	20.0	20.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C	R
C, Cycle Length [s]	46	46	46	46	46	46
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	0.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	3.90
g_i, Effective Green Time [s]	28	28	7	7	7	40
g / C, Green / Cycle	0.60	0.60	0.14	0.14	0.14	0.87
(v / s)_i Volume / Saturation Flow Rate	0.65	0.65	0.02	0.00	0.00	0.20
s, saturation flow rate [veh/h]	1781	1780	1198	1702	1870	2798
c, Capacity [veh/h]	1077	1076	324	239	263	2439
d1, Uniform Delay [s]	9.16	9.16	18.24	17.15	17.15	0.47
k, delay calibration	0.46	0.46	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	50.59	50.76	0.09	0.03	0.03	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.08	1.08	0.07	0.02	0.02	0.23
d, Delay for Lane Group [s/veh]	59.75	59.92	18.33	17.19	17.18	0.52
Lane Group LOS	F	F	B	B	B	A
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	21.16	21.21	0.21	0.04	0.04	0.02
50th-Percentile Queue Length [ft/ln]	529.06	530.13	5.14	1.08	1.08	0.41
95th-Percentile Queue Length [veh/ln]	30.49	30.55	0.37	0.08	0.08	0.03
95th-Percentile Queue Length [ft/ln]	762.24	763.83	9.25	1.95	1.94	0.74

Movement, Approach, & Intersection Results

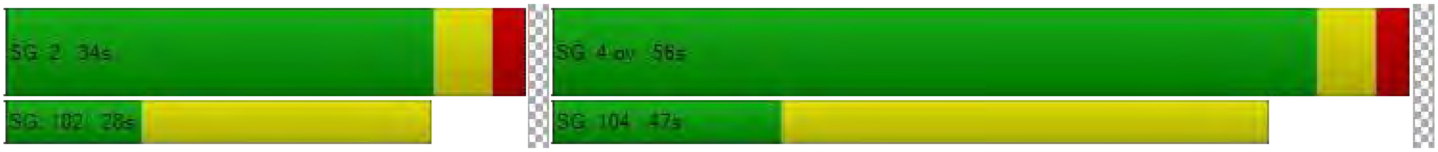
d_M, Delay for Movement [s/veh]	59.83	59.92	18.33	17.19	17.18	0.52
Movement LOS	F	E	B	B	B	A
d_A, Approach Delay [s/veh]	59.83		18.12		0.66	
Approach LOS	E		B		A	
d_I, Intersection Delay [s/veh]	47.85					
Intersection LOS	D					
Intersection V/C	0.834					

Other Modes

g_Walk,mi, Effective Walk Time [s]	19.0	13.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	28.01	32.94	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.866	2.138	0.000
Crosswalk LOS	C	B	F
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	624	1113	1113
d_b, Bicycle Delay [s]	21.29	8.86	8.85
I_b,int, Bicycle LOS Score for Intersection	5.396	1.583	2.505
Bicycle LOS	F	A	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Safford Avenue and Connector Road

Control Type:	Two-way stop	Delay (sec / veh):	61.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.123

Intersection Setup

Name	Safford Ave		Safford Ave		Belmont Avenue Connector	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↰↑		↑↱		↰↱	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Safford Ave		Safford Ave		Belmont Avenue Connector	
Base Volume Input [veh/h]	314	22	9	0	0	1441
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	314	22	9	0	0	1441
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	6	2	0	0	379
Total Analysis Volume [veh/h]	331	23	9	0	0	1517
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Stop	Free
Flared Lane		No	
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance		No	
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.12	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	61.09	16.95	7.96	0.00
Movement LOS	A	A	F	C	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.40	0.40	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	10.04	10.04	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		61.09		0.00	
Approach LOS	A		F		A	
d_I, Intersection Delay [s/veh]	0.29					
Intersection LOS	F					

Producer's Dairy

Vistro File: H:\...\Producers_Dairy_20200325.vistro
Report File: H:\...\CumulativePM_PP MIT.pdf

Scenario 14 Cumulative + Project PM Improved
3/25/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Thomas Ave & Weber Ave	Two-way stop	HCM 6th Edition	WB Left	0.079	48.9	E
2	Belmont Avenue Connector & Weber Avenue	Two-way stop	HCM 6th Edition	WB Right	0.882	27.0	D
3	Belmont Ave & Safford Ave	Signalized	HCM 6th Edition	EB Left	0.732	20.4	C
4	Palm Ave and Belmont Ave	Signalized	HCM 6th Edition	EB Left	0.831	31.6	C
5	Palm Ave and N H St	Signalized	HCM 6th Edition	EB Left	0.625	6.5	A
6	Safford Avenue and Connector Road	Two-way stop	HCM 6th Edition	SB Thru	0.073	45.5	E

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: Thomas Ave & Weber Ave

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 48.9
Level Of Service: E
Volume to Capacity (v/c): 0.079

Intersection Setup

Name	Weber Ave		Weber Ave		Thomas Ave	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	┣		┫		┳	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Weber Ave		Weber Ave		Thomas Ave	
Base Volume Input [veh/h]	899	5	44	639	7	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	899	5	44	639	7	26
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	237	1	12	168	2	7
Total Analysis Volume [veh/h]	946	5	46	673	7	27
Pedestrian Volume [ped/h]	0		0		1	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.06	0.01	0.08	0.09
d_M, Delay for Movement [s/veh]	0.00	0.00	10.33	0.00	48.86	19.81
Movement LOS	A	A	B	A	E	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.20	0.20	0.57	0.57
95th-Percentile Queue Length [ft/ln]	0.00	0.00	5.10	5.10	14.36	14.36
d_A, Approach Delay [s/veh]	0.00		0.66		25.79	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	0.79					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 2: Belmont Avenue Connector & Weber Avenue

Control Type:	Two-way stop	Delay (sec / veh):	27.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.882

Intersection Setup

Name	Weber Ave		Weber Ave		Belmont Avenue Connector	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↱		↰ ↑		↰↱	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Weber Ave		Weber Ave		Belmont Avenue Connector	
Base Volume Input [veh/h]	10	4	646	5	0	894
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	4	646	5	0	894
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	170	1	0	235
Total Analysis Volume [veh/h]	11	4	680	5	0	941
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.42	0.00	0.00	0.88
d_M, Delay for Movement [s/veh]	0.00	0.00	8.89	0.00	62.82	27.00
Movement LOS	A	A	A	A	F	D
95th-Percentile Queue Length [veh/ln]	0.00	0.00	2.17	0.00	12.48	12.48
95th-Percentile Queue Length [ft/ln]	0.00	0.00	54.24	0.00	312.10	312.10
d_A, Approach Delay [s/veh]	0.00		8.83		27.00	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	19.17					
Intersection LOS	D					

Intersection Level Of Service Report

Intersection 3: Belmont Ave & Safford Ave

Control Type:	Signalized	Delay (sec / veh):	20.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.732

Intersection Setup

Name	Safford Ave		Belmont Avenue		Belmont Ave	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Safford Ave		Belmont Avenue		Belmont Ave	
Base Volume Input [veh/h]	656	6	12	442	855	930
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	656	6	12	442	855	930
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	173	2	3	116	225	245
Total Analysis Volume [veh/h]	691	6	13	465	900	979
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	0		1		0	
v_di, Inbound Pedestrian Volume crossing major street [	1		0		0	
v_co, Outbound Pedestrian Volume crossing minor stree	2		0		1	
v_ci, Inbound Pedestrian Volume crossing minor street [	1		0		2	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	9.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Overlap
Signal Group	2	0	3	8	4	2
Auxiliary Signal Groups						2,4
Lead / Lag	Lead	-	Lead	-	-	-
Minimum Green [s]	5	0	5	5	5	5
Maximum Green [s]	30	0	30	30	30	30
Amber [s]	3.0	0.0	3.0	3.0	3.0	3.0
All red [s]	1.0	0.0	1.0	1.0	1.0	1.0
Split [s]	100	0	9	40	31	100
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	3.0
Walk [s]	5	0	0	0	5	5
Pedestrian Clearance [s]	25	0	0	0	22	25
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	2.0
Minimum Recall	No		No	No	No	No
Maximum Recall	No		No	No	No	No
Pedestrian Recall	No		No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	0.0	20.0	20.0	20.0	20.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	R
C, Cycle Length [s]	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	36	36	2	96	90	130
g / C, Green / Cycle	0.26	0.26	0.01	0.68	0.64	0.93
(v / s)_i Volume / Saturation Flow Rate	0.20	0.20	0.01	0.13	0.48	0.62
s, saturation flow rate [veh/h]	1781	1777	1781	3560	1870	1588
c, Capacity [veh/h]	464	463	26	2430	1196	1474
d1, Uniform Delay [s]	47.60	47.61	68.44	8.11	17.54	0.94
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.41
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.49	2.50	14.28	0.18	4.41	1.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.75	0.50	0.19	0.75	0.66
d, Delay for Lane Group [s/veh]	50.10	50.11	82.72	8.29	21.94	2.87
Lane Group LOS	D	D	F	A	C	A
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	11.54	11.52	0.57	2.59	20.78	0.79
50th-Percentile Queue Length [ft/ln]	288.56	288.12	14.17	64.73	519.39	19.84
95th-Percentile Queue Length [veh/ln]	17.11	17.09	1.02	4.66	28.25	1.43
95th-Percentile Queue Length [ft/ln]	427.86	427.31	25.50	116.52	706.27	35.71

Movement, Approach, & Intersection Results

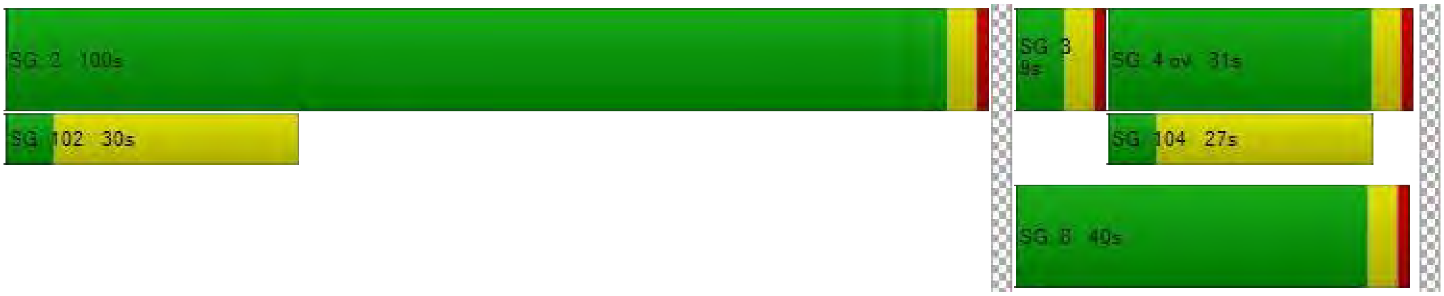
d_M, Delay for Movement [s/veh]	50.11	50.11	82.72	8.29	21.94	2.87
Movement LOS	D	D	F	A	C	A
d_A, Approach Delay [s/veh]	50.11		10.31		12.01	
Approach LOS	D		B		B	
d_I, Intersection Delay [s/veh]	20.44					
Intersection LOS	C					
Intersection V/C	0.732					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	61.29	61.29	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.511	2.491	0.000
Crosswalk LOS	B	B	F
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1371	514	386
d_b, Bicycle Delay [s]	6.91	38.63	45.60
I_b,int, Bicycle LOS Score for Intersection	2.710	1.954	4.660
Bicycle LOS	B	A	E

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: Palm Ave and Belmont Ave

Control Type:	Signalized	Delay (sec / veh):	31.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.831

Intersection Setup

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↰ ↰ ↱			↰ ↑ ↑ ↱			↰ ↑ ↱ ↱			↰ ↑ ↱		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	70.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Ave			Palm Ave			Belmont Ave			Belmont Ave		
Base Volume Input [veh/h]	881	350	56	307	260	107	84	281	732	41	797	305
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	881	350	56	307	260	107	84	281	732	41	797	305
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	232	92	15	81	68	28	22	74	193	11	210	80
Total Analysis Volume [veh/h]	927	368	59	323	274	113	88	296	771	43	839	321
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stre	1			5			0			5		
v_di, Inbound Pedestrian Volume crossing major street [	0			5			1			5		
v_co, Outbound Pedestrian Volume crossing minor stre	1			3			4			1		
v_ci, Inbound Pedestrian Volume crossing minor street [	1			4			3			1		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	9.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Overla	Permis	Permis	Permis
Signal Group	5	2	0	1	6	0	0	4	5	0	8	0
Auxiliary Signal Groups									4,5			
Lead / Lag	Lead	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	5	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	30	0	30	0
Amber [s]	3.0	3.9	0.0	3.0	3.9	0.0	0.0	3.2	3.0	0.0	3.2	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	0.0	2.0	1.0	0.0	2.0	0.0
Split [s]	21	34	0	21	34	0	0	45	21	0	45	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	4	0	5	4	0	0	4	0	0	4	0
Pedestrian Clearance [s]	0	24	0	10	24	0	0	34	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	3.9	0.0	2.0	3.9	0.0	0.0	3.2	2.0	0.0	3.2	0.0
Minimum Recall	No	Yes		No	Yes			No	No		No	
Maximum Recall	No	No		No	No			No	No		No	
Pedestrian Recall	No	No		No	No			No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	20.0	0.0	20.0	20.0	0.0	0.0	20.0	20.0	0.0	20.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	5.90	4.00	5.90	5.90	5.20	5.20	4.00	5.20	5.20	5.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	3.90	2.00	3.90	3.90	3.20	3.20	0.00	3.20	3.20	3.20
g_i, Effective Green Time [s]	27	22	18	13	13	30	30	62	30	30	30
g / C, Green / Cycle	0.32	0.26	0.21	0.15	0.15	0.35	0.35	0.73	0.35	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.27	0.23	0.18	0.08	0.07	0.18	0.16	0.27	0.04	0.32	0.33
s, saturation flow rate [veh/h]	3459	1821	1781	3560	1547	484	1870	2812	1083	1870	1687
c, Capacity [veh/h]	1106	479	373	542	236	88	657	2058	306	657	592
d1, Uniform Delay [s]	27.00	30.31	32.64	33.26	33.05	42.71	21.37	4.23	28.16	26.63	26.77
k, delay calibration	0.11	0.18	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.37	0.38
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.77	9.30	6.17	0.73	1.51	43.61	0.49	0.11	0.21	16.64	19.56
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.89	0.87	0.51	0.48	1.00	0.45	0.37	0.14	0.92	0.93
d, Delay for Lane Group [s/veh]	28.77	39.62	38.81	33.99	34.56	86.32	21.86	4.35	28.37	43.27	46.33
Lane Group LOS	C	D	D	C	C	F	C	A	C	D	D
Critical Lane Group	No	Yes	Yes	No	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.66	9.38	6.90	2.61	2.19	2.90	4.48	1.87	0.73	14.25	13.50
50th-Percentile Queue Length [ft/ln]	216.44	234.46	172.52	65.28	54.85	72.56	112.00	46.79	18.32	356.28	337.46
95th-Percentile Queue Length [veh/ln]	13.48	14.40	11.21	4.70	3.95	5.22	7.95	3.37	1.32	20.44	19.52
95th-Percentile Queue Length [ft/ln]	337.08	360.02	280.22	117.50	98.73	130.60	198.78	84.23	32.98	511.06	488.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.77	39.62	39.62	38.81	33.99	34.56	86.32	21.86	4.35	28.37	44.12	46.33
Movement LOS	C	D	D	D	C	C	F	C	A	C	D	D
d_A, Approach Delay [s/veh]	32.19			36.28			15.08			44.15		
Approach LOS	C			D			B			D		
d_I, Intersection Delay [s/veh]	31.63											
Intersection LOS	C											
Intersection V/C	0.831											

Other Modes

g_Walk,mi, Effective Walk Time [s]	8.0	8.0	8.0	8.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	42.32	42.32	42.32	42.32
I_p,int, Pedestrian LOS Score for Intersection	2.845	2.827	2.953	2.674
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	562	562	796	796
d_b, Bicycle Delay [s]	25.86	25.86	18.12	18.12
I_b,int, Bicycle LOS Score for Intersection	3.794	2.145	3.465	2.552
Bicycle LOS	D	B	C	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Palm Ave and N H St

Control Type:	Signalized	Delay (sec / veh):	6.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.625

Intersection Setup

Name	Palm Ave		H St		H St	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↰ ↰↱		↰↑ ↑		↑ ↱ ↱	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	210.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		No	

Volumes

Name	Palm Ave		H St		H St	
Base Volume Input [veh/h]	1009	27	41	5	5	1271
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1009	27	41	5	5	1271
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	266	7	11	1	1	334
Total Analysis Volume [veh/h]	1062	28	43	5	5	1338
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	0		0		0	
v_di, Inbound Pedestrian Volume crossing major street [	0		0		0	
v_co, Outbound Pedestrian Volume crossing minor stree	1		0		1	
v_ci, Inbound Pedestrian Volume crossing minor street [	1		0		1	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		4		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Overlap
Signal Group	2	0	0	4	4	2
Auxiliary Signal Groups						2,4
Lead / Lag	Lag	-	-	-	-	-
Minimum Green [s]	5	0	0	5	5	5
Maximum Green [s]	28	0	0	47	47	28
Amber [s]	3.9	0.0	0.0	3.9	3.9	3.9
All red [s]	2.0	0.0	0.0	2.0	2.0	2.0
Split [s]	47	0	0	53	53	47
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	3.0
Walk [s]	9	0	0	15	15	9
Pedestrian Clearance [s]	19	0	0	32	32	19
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.9	0.0	0.0	3.9	3.9	3.9
Minimum Recall	No			No	No	No
Maximum Recall	No			No	No	No
Pedestrian Recall	No			No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	0.0	0.0	20.0	20.0	20.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	C	C	R
C, Cycle Length [s]	55	55	55	55	55	55
L, Total Lost Time per Cycle [s]	5.90	5.90	5.90	5.90	5.90	0.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.90	3.90	3.90	3.90	3.90	3.90
g_i, Effective Green Time [s]	25	25	19	19	19	49
g / C, Green / Cycle	0.45	0.45	0.34	0.34	0.34	0.89
(v / s)_i Volume / Saturation Flow Rate	0.31	0.31	0.03	0.00	0.00	0.48
s, saturation flow rate [veh/h]	1781	1770	1234	1702	1870	2786
c, Capacity [veh/h]	803	798	544	570	626	2486
d1, Uniform Delay [s]	11.97	12.01	14.20	12.23	12.22	0.60
k, delay calibration	0.13	0.13	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.23	1.28	0.06	0.01	0.00	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.68	0.68	0.08	0.01	0.01	0.54
d, Delay for Lane Group [s/veh]	13.20	13.29	14.26	12.23	12.23	0.78
Lane Group LOS	B	B	B	B	B	A
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.63	4.65	0.36	0.04	0.04	0.06
50th-Percentile Queue Length [ft/ln]	115.80	116.36	9.04	0.94	0.94	1.57
95th-Percentile Queue Length [veh/ln]	8.16	8.19	0.65	0.07	0.07	0.11
95th-Percentile Queue Length [ft/ln]	204.04	204.81	16.28	1.69	1.69	2.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.24	13.29	14.26	12.23	12.23	0.78
Movement LOS	B	B	B	B	B	A
d_A, Approach Delay [s/veh]	13.24		14.05		0.83	
Approach LOS	B		B		A	
d_I, Intersection Delay [s/veh]	6.54					
Intersection LOS	A					
Intersection V/C	0.625					

Other Modes

g_Walk,mi, Effective Walk Time [s]	19.0	13.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	32.81	37.85	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.792	2.154	0.000
Crosswalk LOS	C	B	F
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	822	942	942
d_b, Bicycle Delay [s]	17.35	14.02	14.00
I_b,int, Bicycle LOS Score for Intersection	3.358	1.599	3.776
Bicycle LOS	C	A	D

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report

Intersection 6: Safford Avenue and Connector Road

Control Type:	Two-way stop	Delay (sec / veh):	45.5
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.073

Intersection Setup

Name	Safford Ave		Safford Ave		Belmont Avenue Connector	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	┤		├		┬	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Safford Ave		Safford Ave		Belmont Avenue Connector	
Base Volume Input [veh/h]	911	31	7	0	0	655
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	911	31	7	0	0	655
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	240	8	2	0	0	172
Total Analysis Volume [veh/h]	959	33	7	0	0	689
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Stop	Free
Flared Lane		No	
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance		No	
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.07	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	45.51	19.75	10.09	0.00
Movement LOS	A	A	E	C	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.23	0.23	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	5.79	5.79	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		45.51		0.00	
Approach LOS	A		E		A	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	E					

Appendix 8 High-Speed Train Project – Final Facility Plans

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LEGEND

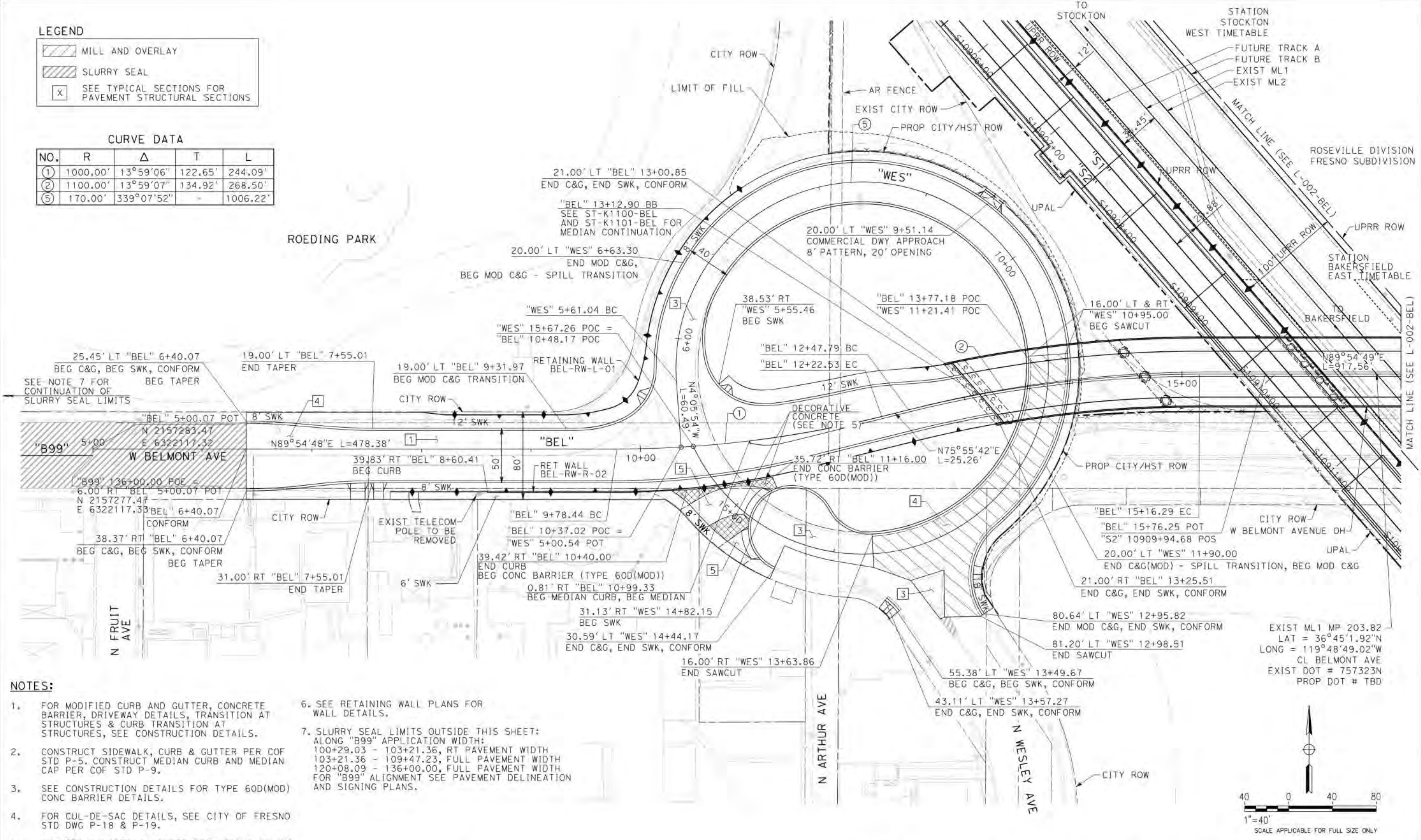
▨ MILL AND OVERLAY

▨ SLURRY SEAL

☐ X SEE TYPICAL SECTIONS FOR PAVEMENT STRUCTURAL SECTIONS

CURVE DATA

NO.	R	Δ	T	L
①	1000.00'	13°59'06"	122.65'	244.09'
②	1100.00'	13°59'07"	134.92'	268.50'
⑤	170.00'	339°07'52"	-	1006.22'



NOTES:

1. FOR MODIFIED CURB AND GUTTER, CONCRETE BARRIER, DRIVEWAY DETAILS, TRANSITION AT STRUCTURES & CURB TRANSITION AT STRUCTURES, SEE CONSTRUCTION DETAILS.
2. CONSTRUCT SIDEWALK, CURB & GUTTER PER COF STD P-5. CONSTRUCT MEDIAN CURB AND MEDIAN CAP PER COF STD P-9.
3. SEE CONSTRUCTION DETAILS FOR TYPE 60D(MOD) CONC BARRIER DETAILS.
4. FOR CUL-DE-SAC DETAILS, SEE CITY OF FRESNO STD DWG P-18 & P-19.
5. STAMPED COLORED CONCRETE PER MEDIAN ISLAND DETAIL ON COF STD P-9
6. SEE RETAINING WALL PLANS FOR WALL DETAILS.
7. SLURRY SEAL LIMITS OUTSIDE THIS SHEET: ALONG "B99" APPLICATION WIDTH:
100+29.03 - 103+21.36, RT PAVEMENT WIDTH
103+21.36 - 109+47.23, FULL PAVEMENT WIDTH
120+08.09 - 136+00.00, FULL PAVEMENT WIDTH
FOR "B99" ALIGNMENT SEE PAVEMENT DELINEATION AND SIGNING PLANS.

REV	DATE	BY	CHK	APP	DESCRIPTION
1	7/26/19	AM	JM	SB	READY FOR CONSTRUCTION - CITY COMMENTS
D	06/01/18	JM	NP	SB	READY FOR CONSTRUCTION

DESIGNED BY A. MACDONALD
DRAWN BY G. MEHRDEL
CHECKED BY K. LEVESQUE
IN CHARGE S. BATES
DATE 06/01/18

TutorPerini
ZACHRY
PARSONS
A joint venture

CONSULTANT
TPZP, A Joint Venture
1401 Fulton St.
Suite 400
Fresno, California 93721
Tel. (559) 385-7025

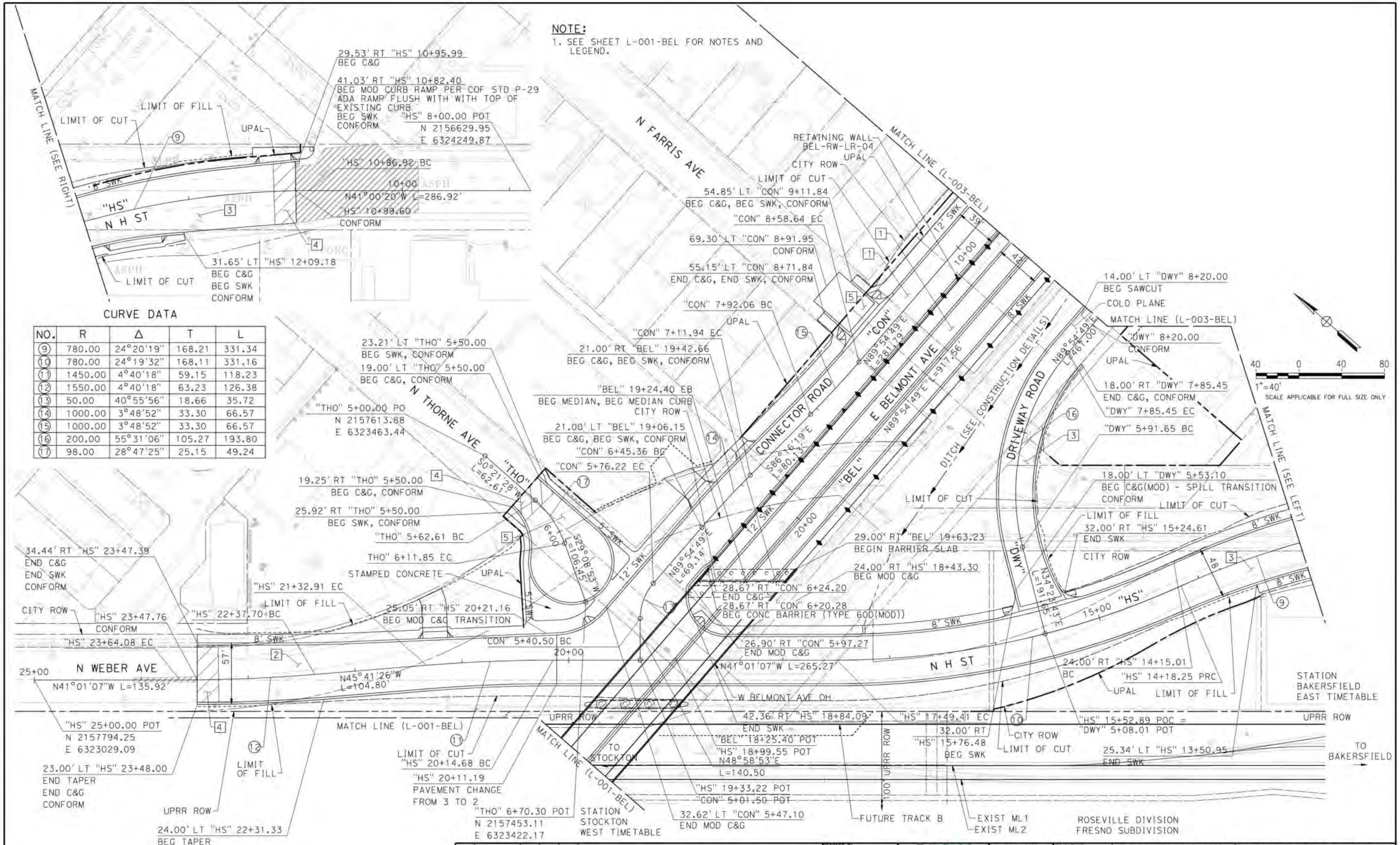
PW FILE NO.
PROJ. ID.
FUND NO.
ORG. NO.

CITY OF FRESNO DEPARTMENT OF PUBLIC WORKS

CALIFORNIA HIGH-SPEED TRAIN PROJECT
FINAL FACILITY PLANS

WEST BELMONT AVENUE GRADE SEPARATION
LAYOUT
SHEET 1 OF 3

REVIEWED:
OFFICE ENG. ____ CITY ENG. ____
DR. BY ____
CH. BY ____
DATE ____
SCALE 1"=40
SHEET NO. 10
OF 104 SHEETS
L-001-BEL



NOTE:

1. SEE SHEET L-001-BEL FOR NOTES AND LEGEND.

CURVE DATA

NO.	R	Δ	T	L
⑨	780.00	24°20'19"	168.21	331.34
⑩	780.00	24°19'32"	168.11	331.16
⑪	1450.00	4°40'18"	59.15	118.23
⑫	1550.00	4°40'18"	63.23	126.38
⑬	50.00	40°55'56"	18.66	35.72
⑭	1000.00	3°48'52"	33.30	66.57
⑮	1000.00	3°48'52"	33.30	66.57
⑯	200.00	55°31'06"	105.27	193.80
⑰	98.00	28°47'25"	25.15	49.24

REV	DATE	BY	CHK	APP	DESCRIPTION
1	7/26/19	AM	JM	SB	READY FOR CONSTRUCTION - CITY COMMENTS
0	06/01/18	JM	NP	SB	READY FOR CONSTRUCTION

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ORG. NO.

CITY OF FRESNO DEPARTMENT OF PUBLIC WORKS

CALIFORNIA HIGH-SPEED TRAIN PROJECT
FINAL FACILITY PLANS

WEST BELMONT AVENUE GRADE SEPARATION
LAYOUT
SHEET 2 OF 3

REVIEWED:
OFFICE ENG. CITY ENG.
DR. BY
CH. BY
DATE
SCALE 1"=40'
SHEET NO. 8
OF 104 SHEETS
L-002-BEL

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NOTE:

1. SEE SHEET L-001-BEL FOR NOTES AND LEGEND.

CURVE DATA

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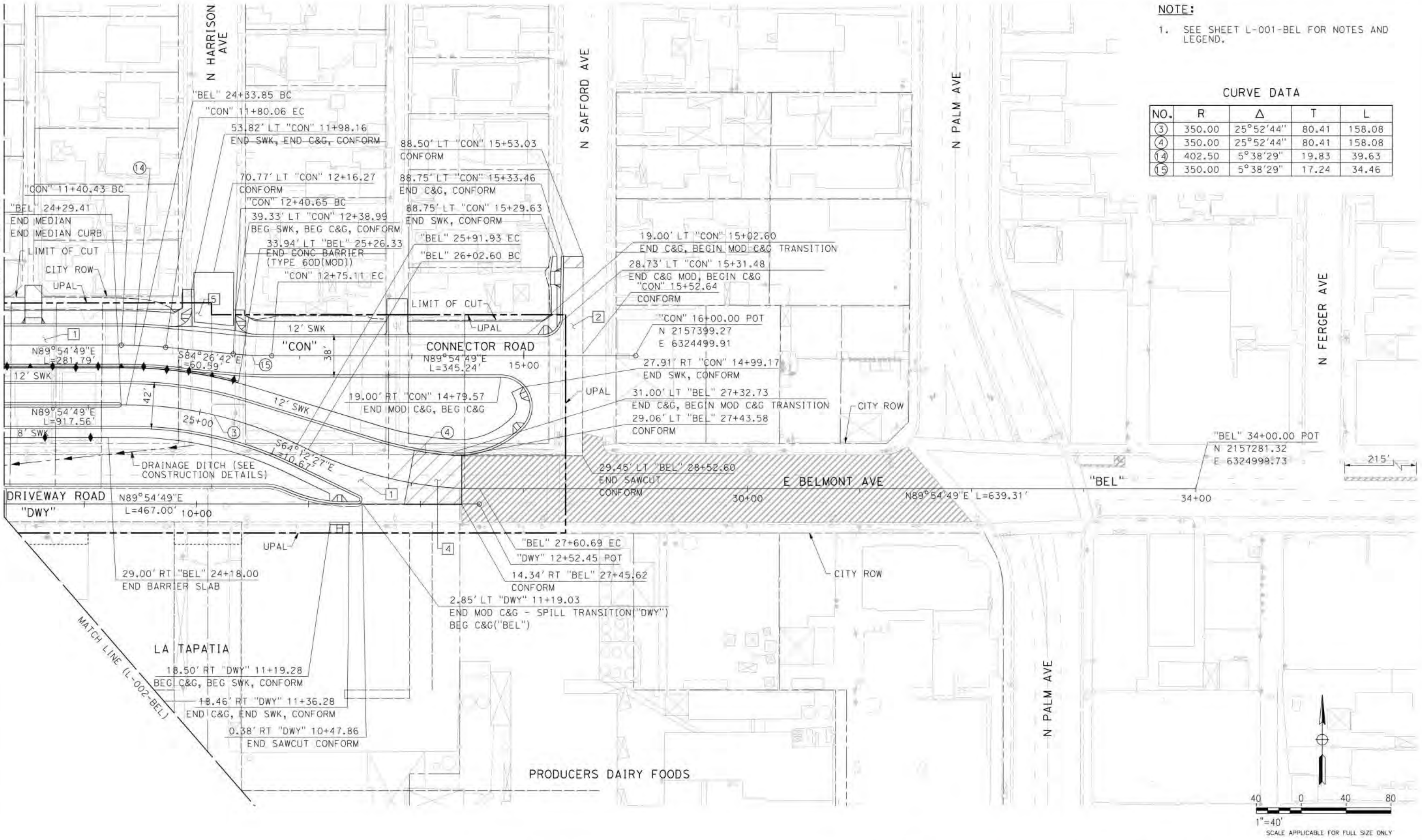
④	350.00	25°52'44"	80.41	158.08
⑭	402.50	5°38'29"	19.83	39.63
⑮	350.00	5°38'29"	17.24	34.46



REV	DATE	BY	CHK	APP	DESCRIPTION
1	7/26/19	AM	JM	SB	READY FOR CONSTRUCTION - CITY COMMENTS
0	06/01/18	JM	NP	SB	READY FOR CONSTRUCTION

DESIGNED BY A. MACDONALD
DRAWN BY O. MEHRDEL
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ORG. NO.

CITY OF FRESNO DEPARTMENT OF PUBLIC WORKS

CALIFORNIA HIGH-SPEED TRAIN PROJECT
FINAL FACILITY PLANS

WEST BELMONT AVENUE GRADE SEPARATION
LAYOUT
SHEET 3 OF 3

REVIEWED:
OFFICE ENG. ______ CITY ENG. ______
DR. BY ______
CH. BY ______
DATE ______
SCALE 1"=40'
SHEET NO. 12
OF 104 SHEETS
L-003-BEL

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APPENDIX G

CEQA VMT Analysis

KITTELSON & ASSOCIATES
155 GRAND AVENUE, SUITE 505
OAKLAND, CA 94612
P 510.839.1742 F 510.839.0871

TECHNICAL MEMORANDUM

Producer's Dairy

CEQA VMT Analysis

Date:	July 27, 2020	Project #: 24057
To:	Ben Ritchie, De Novo Planning	
From:	Aaron Elias, Kittelson & Associates, Inc.	
cc:		

Producer's Dairy is proposing to redevelop the property along the west side of North H Street between Palm Avenue and Harrison Street in Fresno, CA (Project). As part of the redevelopment, Producer's Dairy has requested that the City of Fresno vacate H Street from just north of Palm Avenue to just south of Harrison Street. This would allow the property proposed for redevelopment to connect directly with the existing Producer's facility located on the east side of H Street. The goal of the redevelopment and vacating H Street is not to increase total operations at the Project site but rather to make the existing truck movements more efficient. As such, the proposed Project would not create additional trip generation compared to existing conditions.

A Transportation Impact Analysis (TIA) was completed in March 2020. This TIA quantified how the Project would affect Vehicle Miles Traveled (VMT), and also provided a local transportation analysis to determine how the nearby circulation system would operate with and without the Project. However, the VMT analysis in the TIA was provided for informational purposes only and did not make a determination of significance. The VMT analysis for CEQA is required for environmental analyses as of July 1, 2020. Since the Project environmental review has been delayed and will be released for public review after July 1, 2020, this memorandum documents the VMT analysis and makes a determination of significance.

CEQA SIGNIFICANCE CRITERIA

The Project's impact is not considered to be significant unless it would:

a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

b. Conflict or be inconsistent with CEQA Guideline section 15064.3, subdivision (b).

c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

d. Result in inadequate emergency access.

Significance criteria "a", "c", and "d" were assessed in the March 2020 TIA. Significance criteria "b" is related to the implementation of vehicle miles traveled (VMT) and is assessed in this technical memorandum. The following criteria are used to assess a significant impact related to VMT consistent with the City of Fresno "CEQA Guidelines for Vehicle Miles Traveled Thresholds" dated June 18, 2020:

- A proposed (residential) project exceeding a level of 13 percent below existing regional average[1] VMT per capita may indicate a significant transportation impact.
- A similar threshold would apply to office projects (13 percent below existing regional average VMT per employee).
- VMT generated by retail projects would indicate a significant impact for any net increase in total VMT.
- For transportation projects, any growth in VMT attributable to the transportation project would result in a significant impact.

VEHICLE MILES TRAVELED ASSESSMENT

An analysis of vehicle miles traveled (VMT) was performed to examine how the Project would affect VMT. The Project is unique in that it includes both a land use component and a transportation component. The land use component involves developing adjacent parcels to the existing main plant with additional truck parking and storage facilities. The transportation component of the project is closing H Street to allow for a connection between the main plant and the proposed new parking facilities on the adjacent parcels. This VMT assessment looks at both project components separately.

---

[1] The City of Fresno defines the region for applying these threshold as Fresno County

Land Use Component

The land use component for the project is to demolish existing structures on the adjacent parcels in order to add additional truck parking and storage capacity in the immediate vicinity of the existing main plant, with the goal of improving the efficiency of Producer's Dairy truck movements. There is no proposed increase in production or increase in employment, therefore, VMT for the land use component is based on how truck movements change with the Project area and immediate vicinity.

Producer's Dairy provided data on existing truck movements which was used to estimate the change in truck VMT anticipated as a result of the proposed Project. Data provided included detailed routes and numbers of trucks that the dairy is using currently, as well as miles traveled on each route. Producer's Dairy also provided site plans showing the future routes that the trucks will take to enter and leave the site. Existing data on truck routes was provided for June 9th, 2019 to June 14th, 2019.

Producer's Dairy currently uses two offsite locations (the cheese plant and the ice cream warehouse) for staging trucks. With the implementation of the Project, these trucks will instead be staged across H Street from the main plant (250 E. Belmont Avenue). This will result in a net decrease of VMT for truck trips. Average daily VMT was calculated using a day-weighted average since Producer's Dairy runs different routes on Tuesday and Saturday than on the other five days. Table 1 shows the average existing VMT for trucks traveling between the main plant and the cheese plant or ice cream warehouse, based on routes and numbers of trucks provided by the dairy and Kittelson's analysis. Since these trips will all be eliminated if the proposed Project is implemented, the Project is anticipated to result in a decrease of about 58 truck miles traveled per day.

With no increase in employment and a reduction of 58 truck miles traveled per day, the land use component of the project would not cause a significant impact related to VMT.

Table 1: Existing Daily VMT from Producer's Dairy Trucks to be Eliminated

Truck Route	SUN/MON/WED/THUR/FRI			TUES/SAT			Day-Weighted Average VMT
	Average Distance	Average # of Trucks	Average Daily VMT	Average Distance	Average # of Trucks	Average Daily VMT	
Cheese to Ice Cream	1.1	1.0	1.1	1.1	0.0	0.0	0.8
Cheese to Main	0.4	17.8	7.2	0.4	9.0	3.6	6.2
Ice Cream to Cheese	1.1	0.6	0.7	1.1	0.0	0.0	0.5
Ice Cream to Main	1.2	15.8	18.2	1.2	10.0	11.5	16.3
Main to Cheese	0.6	36.8	21.3	0.6	16.0	9.3	17.9
Main to Ice Cream	1.0	18.8	18.6	1.0	9.0	8.9	15.8
TOTAL:	-	-	67.1	-	-	33.3	**57.5**

Transportation Component

The second component of the project is a transportation component because the Project requires the closure of a small section of H Street to meet the objectives. Closing H Street requires vehicles to reroute around the closure. Full details of these reroutes are discussed in the March 2020 TIA and include the following three reroutes:

- Northbound H Street – Rerouted to Northbound Palm Avenue and Belmont Avenue
- Southbound H Street – Rerouted to Belmont Avenue and Southbound Palm Avenue
- Southbound Weber Street – Rerouted to Thomas Avenue and Southbound Palm Avenue

Table 2 shows the average increase in automobile VMT as a result of automobile reroutes. As shown in the table, the Project would result in the addition of about 1,205 automobile miles traveled on a typical day under existing conditions.

Table 2: Change in Daily VMT from Automobile Reroutes (Existing Plus Project)

Route	Current Distance (miles)	Rerouted Distance (miles)	Existing ADT	Change in Daily VMT
Northbound H Street	0.33	0.47	3,571	**500**
Southbound H Street	0.33	0.47	669[1]	**94**
Southbound Weber Street	0.53	0.73	3,053	**611**
Total				**1,205**

[1] Southbound H Street volumes calculated by subtracting ADT on Southbound H Street from ADT on Southbound Weber Street. It is assumed most vehicles traveling southbound on Weber Street would end up southbound on H Street and therefore are already accounted for in the reroutes.
Source: Kittelson & Associates, 2020.

The future addition of the proposed street changes associated with High-Speed Rail will change the reroutes of northbound H Street and southbound Weber Street, as shown in the March 2020 TIA. Vehicles will no longer use Thomas Avenue, and instead will be rerouted onto a future connector road and Safford Avenue. Furthermore, traffic volumes are projected to increase by 2040, as discussed in the Cumulative Conditions section of the March 2020 TIA. Therefore, the change in VMT under cumulative conditions is expected to differ from the change in VMT under existing conditions. Table 3 shows the average increase in automobile VMT as a result of automobile reroutes under cumulative conditions. As shown in the table, the Project will result in an additional 2,154 automobile vehicle miles traveled on a typical day under cumulative conditions.

Table 3: Change in Daily VMT from Automobile Reroutes (Cumulative Plus Project)

Route	Existing Distance (miles)	Proposed Distance (miles)	Future ADT[1]	Change in Daily VMT
Northbound H Street[2]	0.53	0.68	4,107	**616**
Southbound H Street	0.33	0.47	726	**102**
Southbound Weber Street	0.53	0.68	9,574	**1,436**
Total				**2,154**

[1] Future ADT was calculated based on a ratio of future Peak Hour PM Volumes to Existing Peak Hour PM Volumes multiplied by Existing ADT from tube counts.
[2] Distance for Northbound H Street measured from Palm Avenue to Thomas Avenue under cumulative conditions to account for High-Speed Train.
Source: Kittelson & Associates, 2020.

Since the transportation component of the project would cause VMT to increase, the Project's transportation component has a significant impact related to VMT.

CEQA PROJECT IMPACTS AND PROPOSED MITIGATIONS

TRAF-2 **The proposed project would conflict with or be inconsistent with CEQA Guideline section 15064.3, subdivision (b). This would be considered a potentially significant impact.**

Impact TRAF-2A: The closure of H Street would result in an additional 1,205 (existing plus project) and 2,154 (cumulative plus project) vehicle miles traveled as vehicles detour around the closure. Based on the City of Fresno thresholds of significance, this represents a significant impact because any growth in VMT attributable to a transportation project would result in a significant impact. The only mitigation to prevent the closure of H Street from causing traffic under existing and cumulative conditions to reroute is not to close H Street. Since this conflicts with the project objectives, it is not a feasible mitigation measure and the impact will remain **significant and unavoidable**.