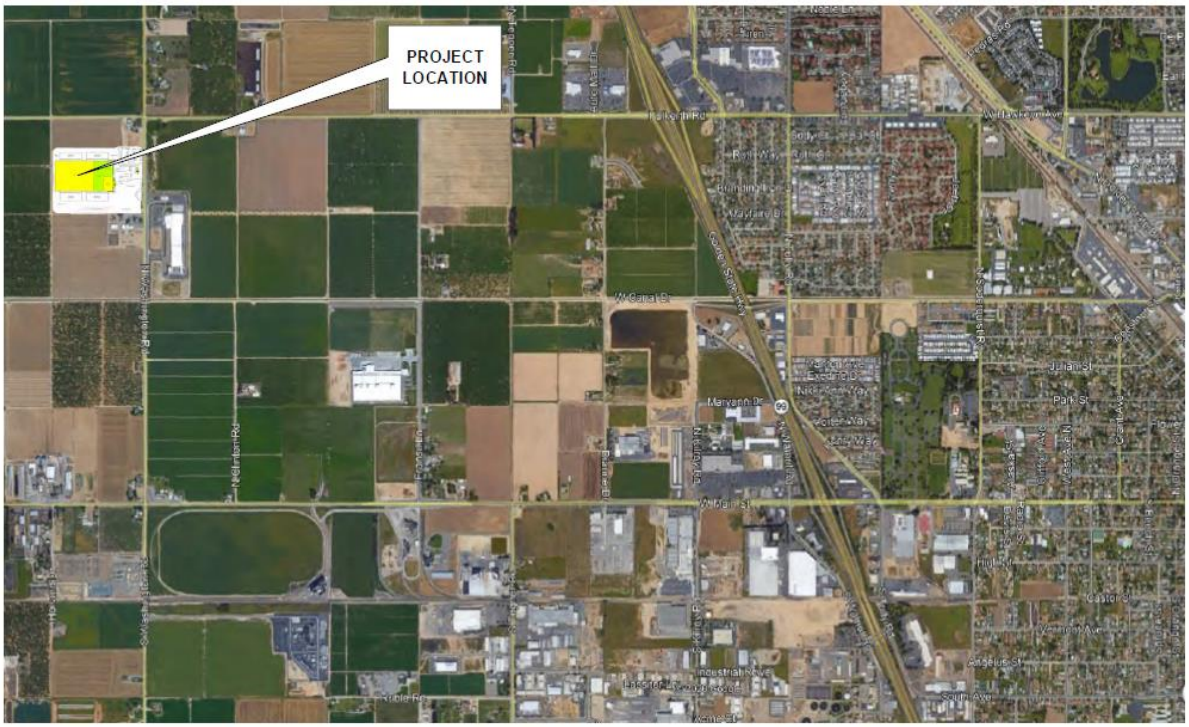
DRAFT ADDENDUM TO THE ENVIRONMENTAL IMPACT REPORT

AVILA & SONS

PACKING HOUSE PROJECT



AUGUST 2021

DRAFT ADDENDUM TO THE ENVIRONMENTAL IMPACT REPORT

AVILA & SONS PACKING HOUSE PROJECT

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Project #130100

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CHAPTER 1 - INTRODUCTION AND OVERVIEW

1.1 - Introduction

As Lead Agency, the Stanislaus County Planning and Community Development Department prepared a project level Environmental Impact Report ("certified EIR" or "EIR") (State Clearinghouse No. 2012102021) for the (referred to herein as the "Project"). As evaluated at that time, the construction and operation of a 180,000-square-foot warehouse and associated facilities in order to conduct receiving, storage, packing, and shipping of watermelons, sweet potatoes, beans, wheat, pumpkins, and squash. Several structures would be constructed in addition to the existing buildings on the site on an approximately 26-acre site, constructed in three phases. The 180,000-square-foot warehouse would be constructed in increments of a 300-foot section by 200-foot section. All other buildings and site improvements would be completed in the first construction phase.

Dan Avila & Sons (Applicant) is proposing to develop a facility to receive, store, pack, and ship agricultural produce, commonly known in the agricultural sector as a packing house (the Project) on the same property (APN 023-039-017), The Project site is zoned A-2-40 (General Agriculture) Zoning District, with a General Plan Designation of Agriculture (AG).

The adjacent parcel to the south (APN 023-039-018) (aka the Non-Packing House Parcel) is an approximately 34.19-acre parcel located in unincorporated Stanislaus County and is also zoned A-2-40 (General Agriculture) Zoning District, with a General Plan Designation of Agriculture (AG). The Applicant desires to obtain ministerial permits (building permits) to conduct improvements to a barn, to convert it for use as an agricultural shop building for the storage, maintenance, and repair of farm equipment such as trucks, tractors, pickups in support of crop production on several contiguous parcels owned or operated by the Applicant. The converted barn will not be used as part of the Packing House Project. However, it is included in the Project, as described below.

Both properties were previously the subject of a Nuisance Abatement Hearing for non-permitted construction and non-permitted grading activities. The focus of those prior abatements related to activities that intended to convert the above referenced barn on the Non-Packing House Parcel into a packing house (formerly referred to as a warehouse). It also involved prior efforts to convert a residential building on the Packing House Parcel to an office and sales establishment.

An important aspect of the intended Project is to resolve the prior violations that were the subject of the prior abatement hearings. Specifically, the Packing House Project will, in part, address the environmental evaluations and permits required to convert a residence on the Packing House Project site to an office and sales establishment.

As noted above, the barn conversion is not intended to be used to support the Packing House Project. However, the prior abatement activities, as well as the proponent's initial goals, caused the intended improvements and uses on both parcels to be linked together in those enforcement actions. For that reason, this Project Description clarifies the proponent's intent

to no longer utilize the existing barn, or any buildings on the Non-Packing House Parcel (APN 023-039-018), in association with the Packing House Project. In accordance with the County's A-2 Zoning District, the Applicant's use of the Non-Packing House Parcel is required to be incidental and accessory to the use of the subject property for farming purposes. The Applicant's use of the Non-Packing House Parcel includes ongoing parking of the Applicant's own farm produce truck, along with various other equipment and materials, used for both the Applicant's farming operations on the Non-Packing House Parcel and several contiguous parcels owned or operated by the Applicant. The farm produce trucks will access the Non-Packing House Parcel via the main gate on the Packing House Parcel and cross the lower-right corner of the Packing House Parcel. Therefore, the County has determined that activities on both parcels must be considered in any environmental assessment for a proposed use on either parcel.

Lead Agency Contact Information

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1.2 - Proposed Modified Project Overview

The currently proposed modifications to the approved Project will not have a significant impact beyond what was analyzed in the certified EIR, and in many instances will have a lesser impact. However, the certified EIR is relevant and retains informational value. The modifications to the approved Project analyzed in this Addendum include the fact that the Project site was previously to be developed across three phases. The Project will now include the development of new offices and a packing building, over seven phases. In addition, the existing barn will now be used as an agricultural shop building instead of as a packing shed, and not used in support of any of the Packing House Project activities. The conversion of the barn on the adjacent parcel to an agricultural shop building will be conducted as an activity distinct and separate from the development of the Packing House Project, but is included in the Project for environmental assessment purposes.

Other differences are:

- 153 total vehicle trips per day, employees and trucks, inclusive of Applicant's own trucks and employee vehicles that park on the Non-Packing House Parcel, down from 817 daily trips assumed by the prior traffic study.

- Open-air handling during Phase 1, and to be discontinued at Phase 7, at which time it will be covered.
- Gravel surfacing of interior circulation and parking instead of paving.
- Construction of a domestic well to serve as a public water system, when it is required by State public water regulations. The public water system, including any treatment and waste discharge requirements will be subject to an independent environment assessment in compliance with California Environmental Quality Act (CEQA) Guidelines.

1.3 - Addendum Organization

This document is organized as follows pursuant to the requirements of the CEQA Guidelines:

- *Chapter 1, Introduction and Overview*, describes the background of the proposed modified project; explains the rationale for preparing an Addendum to the certified EIR as the appropriate form of environmental review pursuant to CEQA; and explains the purpose, scope, and content of the Addendum.
- *Chapter 2, Modified Project Description*, describes the location and details of the proposed modified project.
- *Chapter 3, Environmental Analysis*, evaluates whether the proposed project modification to the approved project would result in new or substantially more severe significant environmental impacts compared with the impacts disclosed in the certified EIR.
- *Chapter 4, References*, lists the documents and individuals consulted during preparation of the Addendum.
- *Chapter 5, Preparers*, lists the individuals involved in preparing the Addendum.

1.4 - Addendum Scope of Environmental Review

This Addendum evaluates whether the proposed Project modification to the approved Avila & Sons Washington Road Warehouse Project would trigger a requirement for a Subsequent EIR under CEQA Guidelines Section 15162, or whether CEQA evaluations of the Project's modifications can be addressed in accordance through the preparation of an Addendum in accordance with CEQA Guidelines Section 15164. This Addendum confirms that a Subsequent EIR is not required because none of the standards of Guidelines Section 15162 that would require a Subsequent EIR are satisfied. This Addendum also includes any additions or changes to the previously certified EIR required by the modifications to the Project as required by CEQA Guidelines Section 15164.

The certified EIR assessed the environmental impacts of the approved Project, which consisted of:

- The construction and operation of a 180,000-square-foot warehouse and associated facilities in order to conduct receiving, storage, packing and shipping of produce;

  - This 180,000-square-foot warehouse will have 10 truck shipping and receiving docking bays on the north and south sides of the building. Seventy truck deliveries/loads per day are anticipated seasonally from June to October for a total of 7,000 annually.
- The construction of several structures on a 26 +/- acre portion of a 61.7 +/- acre site in addition to the existing buildings already on the site;
  - Other proposed and existing structures on the site include: an existing dwelling being converted into an office, an existing barn being converted into a packing shed, a pole barn, a produce stand, and a milk barn.
  - Construction of a new water system consisting of an 8-inch well drilled to a depth of 480 feet along with a water treatment facility to serve as a public water system to the site. The new water system will include a 10 HP submersible pump, a 1,500-gallon hydropneumatics tank, and approximately 250 feet of distribution piping. If necessary, filtration equipment will be designed as a part of the improvements (Quality Service, Inc., 2019). The water system would be installed and operational when the number of individuals on site reach the threshold as required by the State under California Health and Safety Code Section 116275(h).
- A maximum of approximately 75 employees being on the site at any time with hours of operation being mostly from 6:00 a.m. to 6:00 p.m., but could operate for 24 hours on occasion;
- Produce processed at the facility would be coming from the fields on the site surrounding the buildings, as well as from other sites farmed by the Project proponent;

As discussed in the certified EIR, the approved Project was determined to have a less-than-significant or no impact regarding the environmental impact areas to Mineral Resources, Population and Housing. The proposed modifications to the Project would not affect any of those resources in any manner differently than the approved Project and would therefore also have no impact on those resource. Therefore, those topics are not analyzed in this Addendum.

The certified EIR determined that the approved Project would have a less-than-significant impact with mitigation incorporated to the following environmental impact areas:

- Aesthetics
- Biological Resources
- Cultural Resources
- Greenhouse Gases
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Public Services and Utilities
- Transportation and Traffic

The certified EIR established that the approved Project would result in significant and unavoidable impacts regarding the following environmental impact areas:

- Air Quality
- Greenhouse Gases
- Noise

This Addendum will address the impact of the Project's modification on each of the environmental resource areas previously analyzed in the certified EIR, as well as changes in the circumstances under which the Project, as modified, will be undertaken. It will also examine whether there was is any new information of substantial importance not known with the exercise of reasonable diligence when the EIR was Certified that concerns the items detailed in §15162(a)(3), detailed below. Additionally, since the certification of the EIR in 2014, new environmental resources were established in CEQA Appendix G; this Addendum therefore also analyzes the Project's impacts on Energy, Wildfire, and Tribal Resources.

1.5 - Basis for an EIR Addendum

An agency may prepare an addendum to a certified EIR pursuant to CEQA Guidelines §15164 "if some changes or additions are necessary but none of the conditions described in §15162 calling for the preparation of a subsequent EIR have occurred."

§15162 states that a subsequent EIR is required if any of the following conditions exist:

1. Substantial changes are proposed in the project which will require major revisions to the previous EIR…due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified effects;
2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR…due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified…shows any of the following:
    a. The project will have one or more significant effects not discussed in the previous EIR;
    b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;
    c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
    d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

As noted above, and discussed in further detail below, none of the proposed modifications to the approved Project satisfy the conditions set forth in §15162, and an EIR Addendum is therefore an appropriate CEQA compliance document to address the proposed Project modifications, in accordance with CEQA Guidelines §15164.

1.6 - Evaluation of Alternatives

CEQA requires a comparative evaluation of a proposed project and alternatives to the project, including the "No Project" alternative. The certified EIR addressed a reasonable range of alternatives for the approved project. There is no new information indicating that an alternative that was previously rejected as infeasible is in fact now feasible, or that a considerably different alternative than those previously studied would substantially reduce one or more significant effects on the environment already previously disclosed in the certified EIR.

CHAPTER 2 - PROPOSED MODIFIED PROJECT DESCRIPTION

2.1 - Background

Dan Avila & Sons (Applicant) is proposing to develop a facility to receive, store, pack, and ship agricultural produce, commonly known in the agricultural sector as a packing house (the Packing House Project, or Project) on a property identified as APN 023-039-017, an approximately 25.72-acre parcel located in unincorporated Stanislaus County (the "Packing House Parcel"). The Packing House Parcel is zoned A-2-40 (General Agriculture) Zoning District, with a General Plan Designation of Agriculture (AG).

The adjacent parcel to the south (APN 023-039-018) (aka the Non-Packing House Parcel) is an approximately 34.19-acre parcel located in unincorporated Stanislaus County and is also zoned A-2-40 (General Agriculture) Zoning District, with a General Plan Designation of Agriculture (AG). The Applicant desires to obtain ministerial permits (building permits) to conduct improvements to a barn, to convert it for use as an agricultural shop building for the storage, maintenance, and repair of farm equipment such as trucks, tractors, pickups in support of crop production on several contiguous parcels owned or operated by the Applicant. The converted barn will not be used as part of the Packing House Project. However, it is included in the Project, as described below.

Both properties were previously the subject of a Nuisance Abatement Hearing for non-permitted construction and non-permitted grading activities. The focus of those prior abatements related to activities that intended to convert the above referenced barn on the Non-Packing House Parcel into a packing house (formerly referred to as a warehouse). It also involved prior efforts to convert a residential building on the Packing House Parcel to an office and sales establishment.

An important aspect of the intended Project is to resolve the prior violations that were the subject of the prior abatement hearings. Specifically, the Packing House Project will, in part, address the environmental evaluations and permits required to convert a residence on the Packing House Project site to an office and sales establishment.

As noted above, the barn conversion is not intended to be used to support the Packing House Project. However, the prior abatement activities, as well as the proponent's initial goals, caused the intended improvements and uses on both parcels to be linked together in those enforcement actions. For that reason, this Project Description clarifies the proponent's intent to no longer utilize the existing barn, or any buildings on the Non-Packing House Parcel (APN 023-039-018), in association with the Packing House Project. In accordance with the County's A-2 Zoning District, the Applicant's use of the Non-Packing House Parcel is required to be incidental and accessory to the use of the subject property for farming purposes. The Applicant's use of the Non-Packing House Parcel includes ongoing parking of the Applicant's own farm produce truck, along with various other equipment and materials, used for both the Applicant's farming operations on the Non-Packing House Parcel and several contiguous parcels owned or operated by the Applicant. The farm produce trucks will access the Non-Packing House Parcel via the main gate on the Packing House Parcel and cross the lower-

right corner of the Packing House Parcel. Therefore, the County has determined that activities on both parcels must be considered in any environmental assessment for a proposed use on either parcel.

2.2 - Proposed Modified Project Location

The site for the Project is generally located on the west side of N. Washington Road, south of Fulkerth Road, at the western boundary of the City of Turlock city limits. The site address is 1301 N. Washington Road, Turlock, California 95380. The site consists of two legal parcels, commonly referred to as Assessor Parcel Numbers (APNs) 023-039-017, and -018.

The Packing House Parcel (APN 023-039-017) is currently improved with a residence, a residential well, an agricultural well, a fruit stand, a storage shed, a truck scale and two access points from N. Washington Road. The majority of the parcel is presently used for growing seasonal agricultural crops. The site is currently in agricultural production, consisting almost entirely of sweet potato row crops. Presently, there are two driveway access points onto N. Washington Road from the Non-Packing House Parcel. Power lines bisect the Project site along an east-west axis, and occur on the east Project site boundary. The Non-Packing House Parcel (APN 023-039-018) is improved with a residence, two office trailers, a barn, and small outbuildings, and is used for storage and maintenance of Applicant's farming vehicles, equipment, and materials. Under existing conditions, the property owner brings produce trucks onto the Non-Packing House Parcel to pick up bins stored here as part of the ongoing farm operation via the existing access points on both parcels.

The topography of the Project site is essentially flat and level. Vegetation consists primarily of cultivated vegetables. Several trees of various sizes grow at locations within and along the site perimeter, including on the N. Washington Road frontage, all in the vicinity of the existing structures on the site.

2.2.1 - Surrounding Land Use And Land Designations

Lands in the vicinity of the Project site are dominated by agricultural, industrial, and scattered residential uses. Land to the north is planted in row crops, while orchards are located on lands to the south and west. To the east, across N. Washington Road and in the Turlock city limits, is a Blue Diamond almond processing facility. Turlock Irrigation District Canal #4 forms the south boundary of the Non-Packing House Parcel site along an east-west axis.

City and County General Plan Land Use Designations for property surrounding the Project site range from Industrial to the east (i.e., Westside Industrial Specific Plan), Urban Reserve to the north (across Fulkerth Road), and General Agriculture to the west and south.

2.3 - Proposed Modified Project Characteristics

Differences between the certified EIR to the proposed Addendum is that previously the site was to be developed across three phases, and the existing barn will now be used as an

agricultural shop building instead of as a packing shed, and not used in support of any of the Packing House Project activities. The Project will now include the development of new offices and a packing building, over seven phases. These phases as well as the parcels the Project will be developed on can be seen in Figures 2-1 and 2-2. The conversion of the barn on the adjacent parcel to an agricultural shop building will be conducted as an activity distinct and separate from the development of the Packing House Project, but is included in the Project for environmental assessment purposes. Additionally, the amount of truck trips has been reduced from 817 vehicle trips per day to 153 vehicle trips per day. A new water well, along with water filtration, treatment and disposal facilities will be constructed if necessary, as required by the State under California Health and Safety Code Section 116275(h). This new water well will be subject to its own environmental review process.

As previously mentioned, the proposed modified Project will be developed over seven phases.

2.3.1 - PHASE 1

Phase 1 will undertake the conversion of the existing 996-square-foot house located on the northeastern corner of the Packing House Parcel into an office to accommodate four workers in sales, human resources, and administration. In addition to the office, this phase of development will also address the installation of the driveway onto Washington Road, as well as gravel and paved handicap-accessible parking stalls directly north of the proposed office. The existing office trailers will cease to be utilized as office space once the existing house is converted to an office.

Phase 1 also commences receiving, sorting, and shipping of owner's produce on-site, in the open air, on native soil, of the Applicant's commodities farmed both on this site, and from other, off-site properties owned by the Applicant. A public water system, under California Health and Safety Code (HSC) Section 116275 (h), that regularly serves at least 25 individuals daily at least 60 days out of the year, will be permitted, installed and fully operational before the threshold number of employees is reached. The public water system is subject to permit by the State Water Resources Control Board (SWRCB). This phase is scheduled for 2023.

A 262 foot residential well is present on the property, but it has been determined to have no practical uses in meeting the domestic demand of the proposed entity; it does not meet the necessary water quality or local code requirements to qualify as an approved public water supply well in that it has a shallow bentonite annular seal and contains levels of nitrate and uranium above their respective state Maximum Contaminant Levels. A new water well will be drilled and used to supply potable water to the project. A public water system for on-site use only will be installed when the number of employees reach the threshold as required by the State under California Health and Safety Code Section 116275(h). The new water system will consist of an 8 inch well drilled to a depth of 480 feet, a 10 HP submersible pump, a 1,500-gallon hydropneumatics tank, and approximately 250 feet of distribution piping. If necessary, filtration equipment will be designed as a part of the improvements (Quality Service, Inc., 2019).

2.3.2 - PHASE 2

Phase 2 would develop an existing agricultural building to an agricultural shop building. The building will be used to do the repair / maintenance as required on the farm equipment. This phase is scheduled for 2023.

2.3.3 - PHASE 3

Phase 3 would develop a 150-feet-wide x 100-feet-long packing building, with a 30-foot-tall eave. In this phase, a very small percentage of incoming produce will come from farms owned by others during the sweet potato packing season (September – May, approximately one roundtrip per day). This phase is scheduled for 2026.

2.3.4 - PHASE 4

Phase 4 would establish the development of a 150-feet-wide x 100-feet-long packing building, with a 30-foot-tall eave along the length, scheduled for 2031. Additionally, this phase will construct a 300-feet-wide x 100-feet-long storage building. This phase would also address the installation of the site work on the east and north sides of the building.

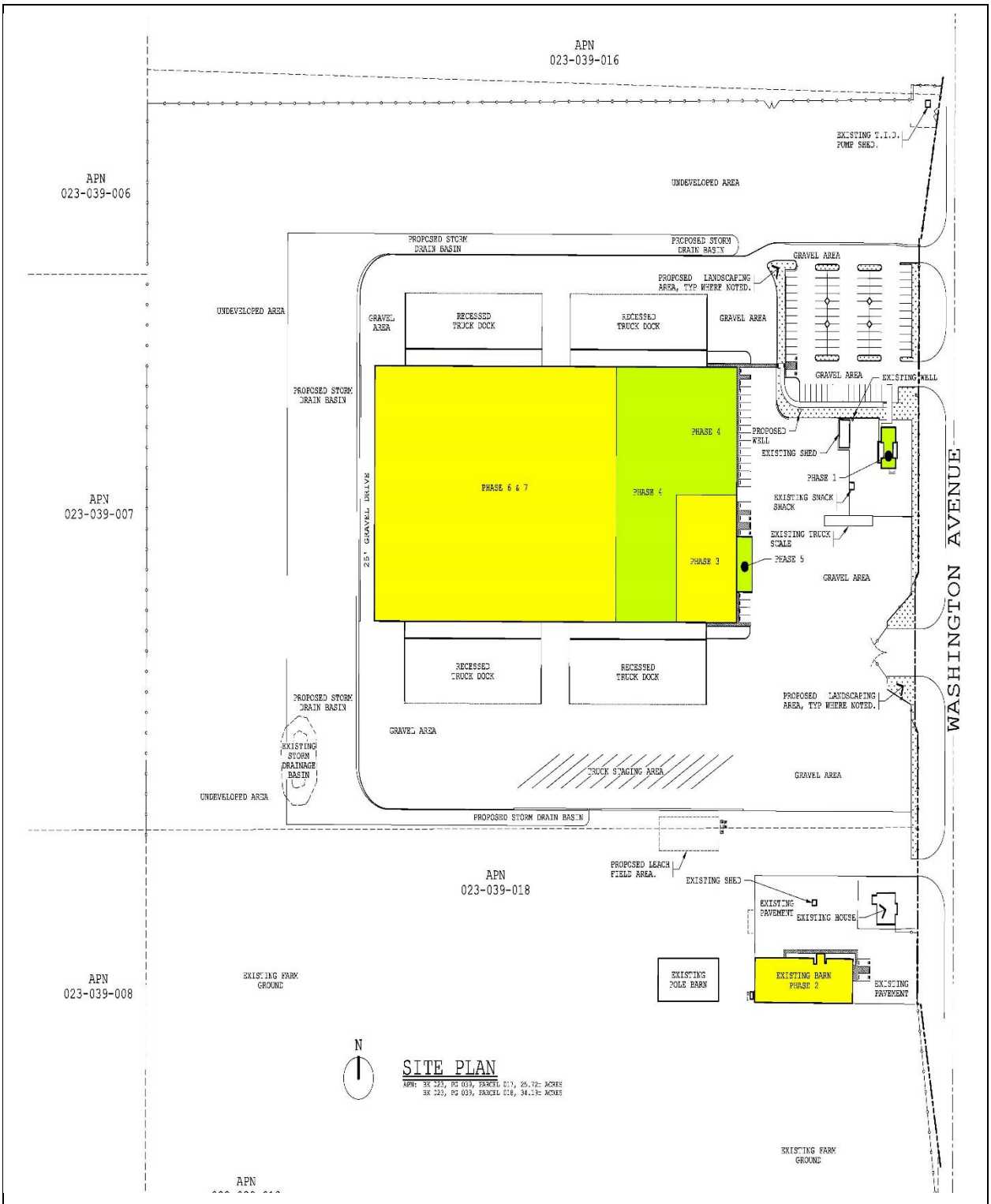

Figure 2-1
Project Site Plan

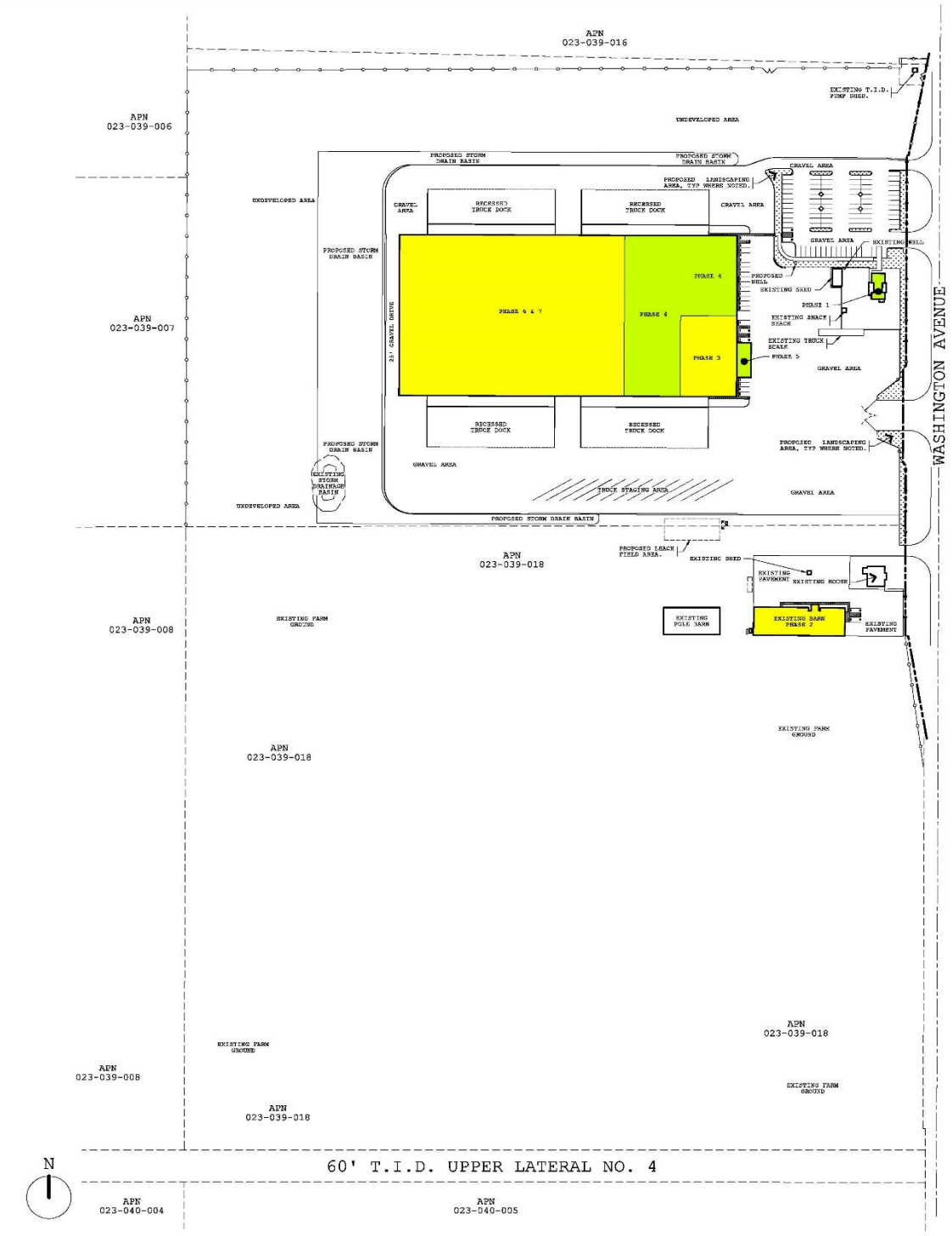

Figure 2-2
Project Parcels

2.3.5 - PHASE 5

Phase 5 will see development of a two-story 3,315-square-foot office/breakroom/ storage building scheduled for 2030. The office that was converted from a residence will remain as an office for Human Resources.

2.3.6 - PHASE 6

Phase 6 would install a 300-feet-wide x 400-feet-long floor slab scheduled for 2032. The floor slab will be utilized for the sorting, packing, and shipping of the agricultural produce. The development of this phase will also address the installation of all the site work on the north, south, and west sides of the floor slab. These improvements are expected to increase labor efficiency.

2.3.7 - PHASE 7

Phase 7 will construct a 300-feet-wide x 400 feet long x 30-foot-tall roof over the Phase 6 slab, for a sorting, packing, and shipping building without walls.

Other differences are:

- 153 total vehicle trips per day, employees and trucks, inclusive of Applicant's own trucks and employee vehicles that park on the Non-Packing House Parcel, down from 817 daily trips assumed by the prior traffic study.
- Open-air handling during Phase 1 to be discontinued at Phase 7, at which time it will be covered.
- Gravel surfacing of interior circulation and parking instead of paving.

The new facilities that constitute the Packing House Project (and the conversion of the existing residence on the Packing House Parcel into an office to support the Project) will be developed over seven phases, totaling approximately 181,658 square feet. Agricultural commodities handled at the Packing House will come from the fields on the site surrounding the Packing House, as well as from other sites farmed by the Project Applicant. Produce will be received in the center of the proposed packing house, which will be designed with areas for the receiving, sorting, packing, storing, and shipping.

By Phase 3, a maximum of approximately 63 employees associated with the Packing House Project would be on the Packing House Parcel at any time. Hours of operation would mostly be 6:00 a.m. to 6:00 p.m. but could operate for 24 hours for the sweet potato packing holidays (the week before Thanksgiving and Christmas).

2.3.8 - SURFACE AREA

Approximately 14.13 acres of the site, including the buildings, would be covered with either impervious surfaces or gravel. Agricultural buffers will be maintained per County standards.

Table 2-1
Proposed Modified Project Phasing

Phase	Year	Improvement	Number of Employees Added Per Phase	*Total Employees (cumulative)	Total Round Trips All Vehicles (cumulative) ∂ ɵ
1	2023	Existing residence to be converted to an office for sales and human resources with the construction of the new Washington Road driveway; Commodities handled in the open, and installation of a public water system when required by State Health and Safety Code.	43	43	133
2	2023	Convert an existing agricultural building to an agricultural shop building used for repair / maintenance of farm equipment.	0	43	133
3	2026	Develop a 150-feet-wide x 100-feet-long packing building, with a 30-foot-tall eaves.			
4	2031	2nd 150' x 100' storage and packing building. On-site vehicle travel areas will be gravel surfaced. 3rd storage building (300 'x 100').	20	63	153
5	2033	3,315 s.f., 2-Story Office/breakroom/storage building (to replace temporary sales office).	0	63	153
6	2035	300' x 400' Floor slab, site work	-5	58	148
7	2036	300' x 400' Roof to cover the Phase 6 slab.	0	58	148

* Maximum number of employees in a shift
∂ Assumes one employee per vehicle, although many carpool. Truck trips includes 55 field trucks and 35 shipping trucks in all phases, at peak season (two months of the year-July and August)
ɵ Additional 10% total round trips are added to account for miscellaneous activities that require employees to leave the field momentarily; assumes 10% of employees carpool

2.3.9 - LIGHTING

Outdoor lighting would be limited to the minimum required for security in parking areas and for worker safety at outdoor activity areas and the packing house loading and docking areas.

2.3.10 - SITE PARKING AND ACCESS

Access to the Project site is proposed from three driveways onto N. Washington Road; one driveway is aligned with the existing traffic signaled driveway to the Blue Diamond facility. A left turn in and left turn out of the facility is proposed. A commercial driveway entrance will be constructed for the modified project. Fifty-five truck deliveries/loads per day are anticipated to occur daily between June and October. On site vehicular circulation and parking will be reconfigured to accommodate N. Washington Road street dedication and improvements. The existing driveway onto Fulkerth Road will not be used to serve this Project. The existing access to the Non-Packing House Parcel will be maintained.

Parking for the packing house is provided at a ratio of one car per each employee with a maximum shift employing up to 63 people, plus additional spaces for periodic visitors such as the owner, managers, inspectors or visitors, a total of 90 vehicle parking spaces. There will be no parking on the Non-Packing House Parcel for Packing House employees.

Of the total of 90 parking spaces that will be provided for standard passenger vehicles – 80 will be in the parking lot at the northeast corner, and 10 along the east side of the Packing House. These include standard stalls, as well as ADA accessible and clean air stalls that may be utilized daily or intermittently.

In addition to the 26 large truck docking bays at the packing house, there will also be 12 large truck parking spaces in the staging area for a total of 38 truck parking spaces.

2.3.11 - WATER AND WASTEWATER

Water would be obtained from on-site wells. Currently, there are existing two wells; one for irrigation water that produces approximately 800 gallons per minute (gpm) and is not used, and a domestic well that produces 25 gpm. The majority of water demand will be for rinsing of produce. Additional water would be for used for employee sinks and toilets. The amount of water required will vary depending upon the time of year. During summer, up to 3,000 gallons per week of water would be required for washing of produce. A typical summertime harvest of watermelons does not require rinsing. Although during other times of the year, November and December, when the demand for sweet potatoes is greater, up to 6,000 gallons per week would be used. Until a public water system is installed and approved, water would be obtained from two on-site wells. Chlorine, diluted to 150 parts per million, would likely be added to the wash water. Wastewater from washing operations would be recycled and used for irrigation. The number of on-site employees will be limited until a public water system is approved and operational.

A public water system for on-site use only will be installed when the number of employees reach the threshold as required by the State under California Health and Safety Code Section 116275(h). According to the Preliminary Technical Report, the population served would not reside at the site, so it would legally be regarded a non-transient, non-community public water system (Quality Service, Inc., 2019). The source of the proposed public water system is groundwater. The existing residential well on the site does not meet the necessary water

quality or local code requirements to qualify as an approved public water system. Therefore, a new well will need to be fashioned to meet construction code requirements and to produce a compliant water quality. After reviewing local hydrogeology and studying local well construction methods, a new well can be drilled on the property so long as the well is constructed with the goal of improving water quality in the design of the well.

A new water well will be drilled and used to supply potable water to the project. A public water system for on-site use only will be installed when the number of employees reach the threshold as required by the State under California Health and Safety Code Section 116275(h). The new water system will consist of an 8" well drilled to a depth of 480 feet, a 10 HP submersible pump, a 1,500-gallon hydropneumatics tank, and approximately 250 feet of distribution piping. If necessary, filtration equipment will be designed as a part of the improvements (Quality Service, Inc., 2019).

Wastewater will be disposed of via on-site septic system. A septic leach field system will be used to dispose of wastewater from employee sinks and toilets. Water and wastewater systems will be installed in accordance with County and State regulations.

2.3.12 - GRADING AND STORM DRAINAGE

The site will be graded the minimum amount required to facilitate collection and treatment of all storm water on site, before being conveyed to an on-site retention basin shown on the site plan. The pond is presently 0.07 acres in size and will be enlarged to approximately 0.25 acres in size. Similarly, proposed gravel, concrete, and asphalt concrete areas will be graded and constructed to direct all run-off to the retention basin. Storm water collected on site would be conveyed by a combination of surface scales, culverts, and sheet flow to the retention basin. Before entering the retention basin, storm water would be filtered in accordance with best management practices (BMPs). The method of treatment, as well as the design and size of the retention basin, will be determined prior to issuance of grading and building permits. Storm water would be disposed of through a combination of percolation into the soil and evaporation. In addition, storm water may be recycled and used for irrigation.

2.3.13 - CONSTRUCTION EQUIPMENT

Equipment required for site development and construction of structures would include the following: scraper, grader, backhoe, compactor, crane, cherry picker, and forklift.

2.4 - Entitlements Required

The required discretionary approval needed for the proposed Project includes but is not limited to:

Stanislaus County

- Conditional Use Permit

Department of Water Resources

- Public Water System Permit

City of Turlock

Encroachment Permit

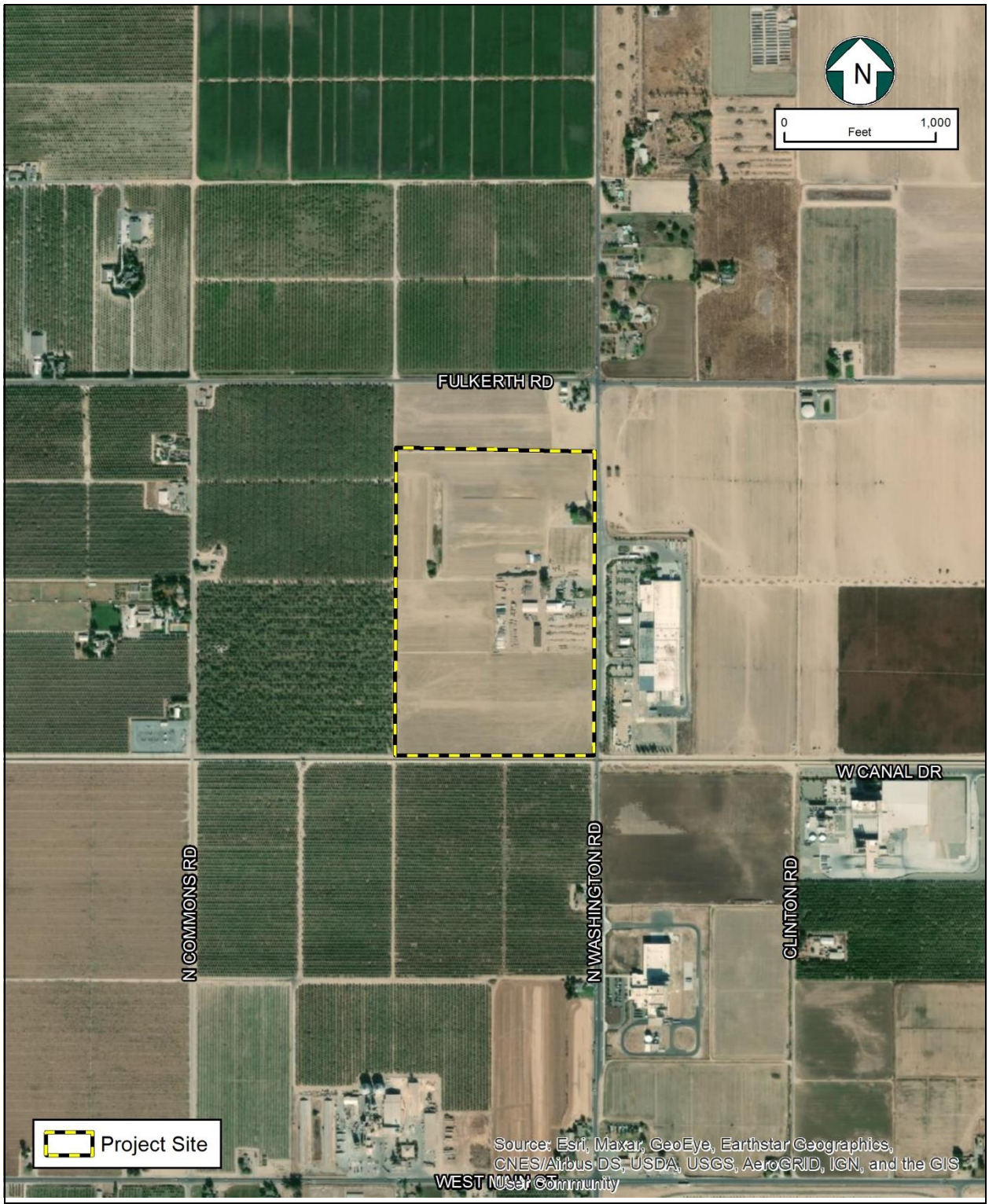

Figure 2-3
Project Area

CHAPTER 3 - ENVIRONMENTAL ANALYSIS

3.1 - Aesthetics

This section evaluates whether the aesthetics impacts of the modified Project involve any of the standards in CEQA Guidelines Section 15162. Such aesthetic impacts include impacts to scenic views and vistas, potential disturbance of scenic resources (i.e., trees, rock outcroppings, etc.), alteration of agricultural uses (from the perspective of aesthetics), and impacts associated with development of the proposed Project, including light or glare.

3.1.1 - SETTING

The location of the proposed Project, as modified, is the same as that of the approved Project. The proposed modified Project would therefore not result in any changes to the setting analyzed in the certified EIR.

3.1.2 - IMPACT ANALYSIS

Modified Project Impacts

This section evaluates the potential for the proposed modified Project to result in new or substantially more severe significant impacts to aesthetics in relation to the following questions as stated in the CEQA Guidelines Appendix G Checklist:

Would the project:

(a,b) Substantially damage scenic vistas or scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The certified EIR established that portions of the Project area and surrounding area are characterized by rural by agricultural settings and are generally flat, affording little in the way of vantage points or panoramic views. Neither the Project site nor any of the surrounding land uses contains features typically associated with scenic vistas (e.g., ridgelines, peaks, overlooks), nor is the Project site part of any formally identified scenic vista. Therefore, little opportunity exists for Project development to obscure views of scenic vistas that may be located within the immediate area of the Project site. The proposed Project modifications as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR would not change the finding in the certified EIR of less-than-significant impact. Therefore, no new or revised mitigation measures are required.

CONCLUSION

With respect to the above described aesthetic impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the

Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described aesthetic impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such aesthetic impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(c) Substantially degrade the existing visual character or quality of public views of the site and its surroundings?

The certified EIR established that the majority of the Project area is currently visually characterized as agricultural land, and lacks notable features. Development of the Project area would involve the construction and operation of a warehouse and associated facilities on currently undeveloped land, which would result in a substantial change in the existing visual character of the Project area.

Changes to the Project area would be visible from the adjacent roadways and properties. The existing view would change from partially agricultural views to views with a more industrial character including vehicles, structures, landscaping, and fences. Although the views from public roadways would change, they would be consistent and compatible with existing views on the Project site and to the east, which consists of a Blue Diamond Facility and associated industrial development along N. Washington Road.

For these reasons, the proposed Project modifications as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR would not result in a new or substantial increase in the severity of the impacts to visual character or quality of the site and its surroundings than was previously disclosed in the certified EIR. The proposed modified Project would not result in additional impacts greater than analyzed in the certified EIR.

CONCLUSION

With respect to the above described aesthetic impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described aesthetic impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such aesthetic impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The certified EIR determined that outdoor site lighting would consist of lighting for security in parking areas and lighting for worker safety at outdoor activity areas, including warehouse loading and docking areas. The Project will add to the existing light and glare on the site and in the vicinity. Security lights currently exist at one existing barn structure on the Project site, and numerous parking and security lights exist across the street at an industrial facility. In addition, increased vehicular traffic on and off the Project site will add additional lights and glare to the site. Much of the light from sources on site, including site illumination and vehicle headlights, will be blocked from view offsite by the proposed landscape screening along the North Washington Road street frontage. The effectiveness of the landscape screening will improve as vegetation matures. The proposed Project modifications as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR would not result in additional aesthetic impacts to what was analyzed in the certified EIR, and it does not change the finding in the certified EIR that the aesthetic impacts related to light and glare are less than significant.

CONCLUSION

With respect to the above described aesthetic impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described aesthetic impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such aesthetic impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

Cumulative Impacts

The certified EIR concluded that the mitigated impacts of the approved Project on aesthetics, when combined with the impacts of past, present, and reasonably foreseeable projects, was less than cumulatively considerable. The proposed Project modifications as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR Project would not generate adverse cumulative impacts to aesthetics and visual resources beyond than those already disclosed in the certified EIR.

CONCLUSION

With respect to the above described aesthetic impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental

effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described aesthetic impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such aesthetic impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

3.2 - Agriculture and Forest Resources

This section evaluates whether the impacts of the modified Project to agricultural and forest resources involve any of the standards in CEQA Guidelines Section 15162.

3.2.1 - SETTING

The certified EIR analyzed the environmental and regulatory setting with respect to agriculture and forest resources. The location of the Project is just west of the Turlock city limits. The Project location consists 25.72 +/- acres; and, is designated under the FMMP as Prime Farmland or Farmland of Statewide Importance and currently has a contract under the Williamson Act. The Project will continue to use the property for crop production and agricultural purposes and is in accordance with the General Agricultural (A-2-40) Zoning and the General Plan Designation of Agriculture (AG).

The certified EIR concluded that the approved Project would not result in the conversion of Prime Farmland or Farmland of Statewide Importance, the Project will not conflict with the Williamson Act contract and as a result assist in using the land for continued agricultural purposes. In regard to forestland, timberland resource component the Project would not (1) conflict with existing zoning or cause rezoning of forestland, timberland or timberland zoned Timberland and (2) result in the loss of forestland or conversion of forestland to no-forest use. The proposed modified Project would not result in any changes to the setting analyzed in the certified EIR.

3.2.2 - IMPACT ANALYSIS

Modified Project Impacts

The certified EIR for the Project conducted evaluations of the following questions stated in the CEQA Guidelines Appendix G Checklist:

Would the project:

(a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?

As noted in the certified EIR, the Project is within land area designated under the FMMP as Prime Farmland or Farmland of Statewide Importance. There are no changes with respect that circumstance of the modified Project's development. However, the certified EIR also found that the Project was consistent with agricultural uses, and there are no changes with respect to intended nature of the Project's land uses. The proposed Project modifications as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and will not change the finding in the certified EIR of no impact.

CONCLUSION

With respect to the above described agricultural and forest resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described agricultural and forest resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such agricultural and forest resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

As detailed in the certified EIR, the approved Project is within the General Agriculture (A-2-4) Zoning District, with a General Plan Designation of Agriculture (AG) and is under Williamson Act Contract. The proposed modified Project is also under Williamson Act Contract, and its intended use is a compatible use permitted under the Williamson Act. The proposed Project modifications as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR does not change the finding in the certified EIR of no impact.

CONCLUSION

With respect to the above described agricultural and forest resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the

circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described agricultural and forest resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such agricultural and forest resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(c) Involve other changes in the existing environment that, due to their location or nature, could result in the conversion of farmland to nonagricultural use or conversion of forestland to non-forest use?

The certified EIR confirmed that the Project would be developed in accordance with General Plan policies, zoning codes, and Williamson Act contract provisions, all of which are intended to avoid premature conversion of agricultural lands and that the project would therefore not create new development pressures or result in changes to the environment that would result in the conversion of farmland to non-agricultural uses, and that such impacts were therefore less than significant. There is no change in the intention to be develop the modified project in accordance with General Plan policies, zoning codes, and Williamson Act contract provisions. The proposed Project modifications as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR does not change the finding in the certified EIR of a less-than-significant impact.

CONCLUSION

With respect to the above described agricultural and forest resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described agricultural and forest resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such agricultural and forest resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(d) Conflict with existing zoning for, or cause rezoning of forest land, timberland or timberland zoned Timberland Production?

The certified EIR confirmed that the project site is not in the vicinity of any forests or timberlands. There is no change in these circumstances. The proposed Project modifications

as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR does not change the finding in the certified EIR of a less-than-significant impact.

CONCLUSION

With respect to the above described agricultural and forest resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described agricultural and forest resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such agricultural and forest resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(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?

The certified EIR confirmed that all of the intended structures are in support of agricultural activities and would have no impact on the conversion of farmland or forest land to another use. There is no change in the intention to use all proposed structures to support agricultural activities. The proposed Project modifications as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR does not change the finding in the certified EIR of no impact.

CONCLUSION

With respect to the above described agricultural and forest resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described agricultural and forest resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such agricultural and forest resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

Cumulative Impacts

The certified EIR concluded that the impacts of the approved Project when combined with impacts of past, present, and reasonably foreseeable Projects would create a less-than-cumulatively considerable impact. The certified EIR found the approved Project as agricultural use and is consistent with the County's General Plan, as well as under the Williamson Act. The proposed modified Project, would support agricultural production and distribution and would not result in the conversion of agricultural lands to non-agricultural use. As stated previously, the approved Project and the proposed modified Project are west of Turlock's city limits next to the City's Westside Industrial Specific Plan (WISP). The WISP allows agricultural activity on lands that are designated for urban use until urban development is imminent. The WISP also contains mitigation measures to ensure farmland is not prematurely converted to other uses. The certified EIR concluded that the mitigated impacts of the approved Project on agricultural resources, when combined with the impacts of past, present, and reasonably foreseeable projects, was less than cumulatively considerable. As the above project specific analysis demonstrates, the proposed Project modifications as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR Project would not generate adverse cumulative impacts to agricultural resources beyond than those already disclosed in the certified EIR.

CONCLUSION

With respect to the above described agricultural and forest resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described agricultural and forest resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such agricultural and forest resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

3.3 - Air Quality

This section evaluates whether the impacts of the modified Project to air quality resources involve any of the standards in CEQA Guidelines Section 15162.

3.3.1 - SETTING

The environmental setting for air quality is the same as described in the certified EIR. The proposed Project, as modified, is located in the San Joaquin Valley Air Basin (SJVAB) and is governed by the regulations of the U.S. Environmental Protection Agency (USEPA), California

Air Resources Board (CARB), and the San Joaquin Valley Air Pollution Control District (SJVAPCD).

3.3.2 - IMPACT ANALYSIS

Modified Project Impacts

An Air Quality & Greenhouse Gas Impact Assessment of the proposed modified Project was prepared by VRPA Technologies (Appendix A). This section evaluates the potential for the proposed modified Project to result in new or substantially more adverse significant impacts to air quality in relation to impacts of the approved Project. The analysis is informed by the following questions as stated in the CEQA Initial Study Checklist:

Would the project:

(a) Conflict with or obstruct implementation of the applicable air quality plan?

The certified EIR concluded that, though the construction of the Project would generate less than the applicable SJVAPCD emission thresholds all criteria pollutants, the Project's operational emissions of NOx would exceed the SJVAPCD significance thresholds of ten tons per year. As a result, the approved Project may conflict with emissions inventories contained in regional air quality plans (AQPs) and result in a significant contribution to the region's air quality and control plans. The certified EIR found that this impact was significant and unavoidable and that no feasible or effective measures were available.

However, as detailed in below, an updated AQIA prepared for the modified project confirms that both the construction and operation of the modified Project, and their combination, will now generate less than the applicable SJVAPCD emission thresholds for NOx and all other criteria pollutants. As a result, the modified project will not create a conflict with or obstruct implementation of the applicable air quality plan.

Other circumstances under which the modified project is being developed also supports this conclusion. The AQIA details that, in addition to evaluating compliances with SJVAPCD emission thresholds for criteria pollutants, a primary way of determining consistency with projects with the AQPs' assumptions is determining consistency of the project with the applicable General Plan. This assures that a project's population density and land use are consistent with the growth assumptions used in the AQPs for the air basin.

As required by California law, the Stanislaus 2015 General Plans (General Plan) contains a Land Use Element that details the types and quantities of land use estimates will be needed for future growth, and that designates locations for land uses to regulate growth. Stanislaus Council of Governments (StanCOG) uses the growth projections and land use information in adopted general plans to estimate future average daily trips and then VMT, which are then provided to SJVAPCD to estimate future emissions in the AQPs. Existing and future pollutant emissions computed in the AQPs are based on land uses from area general plans. AQPs detail

the control measures and emission reductions required for reaching attainment of the air standards.

The Project is consistent with the currently adopted General Plan for Stanislaus County and is therefore consistent with the population growth and VMT applied in the plan. Therefore, the Project is consistent with the growth assumptions used in the applicable AQPs.

Because the modified project construction and operation will generate less than the applicable SJVAPCD emission thresholds for NOx and all other criteria pollutants, and is consistent with the currently adopted General Plan for Stanislaus County, and the population growth and VMT applied in the plan, the modified project will not create a conflict with or obstruct implementation of the applicable air quality plan. Therefore, no mitigation is needed.

The proposed Project modifications as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR would not result in obstruct or conflict with an applicable air quality plan.

CONCLUSION

With respect to the above described air quality impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described air quality impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such air quality impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(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?

The certified EIR analyzed the generated emissions of ozone and particulate matter from the proposed modified Project and its significant cumulative impacts. As noted above, that EIR confirmed that the operations of the approved Project would exceed NOx levels. This results in a considerable net increase of a criteria pollutant that is non-attainment status for the region. The certified EIR found that this impact was significant and unavoidable and that no feasible or effective measures were available.

As discussed below, an updated AQIA prepared for the modified project confirms that the construction and operation of the modified Project will now generate less than the applicable SJVAPCD emission thresholds for NOx and all other criteria pollutants. Therefore, based solely on this element of the modified project's impact, the modified project is making a reduced contribution to any cumulatively considerable net increase in criteria pollutants.

The following details other important circumstances under which the modified Project is being conducted. According to the AQIA for the proposed modified Project, the Stanislaus County area is nonattainment for federal and State air quality standards for ozone, in attainment of federal standards and nonattainment for State standards for $PM_{10,}$ and nonattainment for federal and State standards for $PM_{2.5}$. The SJVAPCD has prepared the 2016 and 2013 Ozone Plans, 2007 PM_{10} Maintenance Plan, and 2012 $PM_{2.5}$ Plan to achieve federal and State standards for improved air quality in the SJVAB regarding ozone and PM. Inconsistency with any of the plans would be considered a cumulatively adverse air quality impact. As discussed in Section 4.1.1, the Project is consistent with the currently adopted General Plan and is therefore consistent with the population growth and VMT applied in the plan. Therefore, the Project is consistent with the growth assumptions used in the 2016 and 2013 Ozone Plan, 2007 PM_{10} Maintenance Plan, and 2012 $PM_{2.5}$ Plan.

As discussed in Section 3.1 of the AQIA (Appendix A), the SJVAPCD has established thresholds of significance for determining environmental significance which are provided in Table 3-1, below.

Table 3-1
SJVAPCD Air Quality Thresholds of Significance

Project Type	Ozone Precursor Emissions (tons/year)					
	CO	NOx	ROG	SOx	PM_{10}	$PM_{2.5}$
Construction Emissions	100	10	10	27	15	15
Operational Emissions (Permitted Equipment and Activities)	100	10	10	27	15	15
Operational Emissions (non-Permitted Equipment and Activities	100	10	10	27	15	15

Source: SJVAPCD 2020

As noted in Tables 3-2 and 3-3 below, results of the analysis show that emissions generated from construction and operation of the Project will be less than the applicable SJVAPCD emission thresholds for criteria pollutants.

Table 3-2
Project Construction Emissions (tons/year)

Summary Report	CO	NOx	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2e
Project Construction Emissions	2.66	3.04	1.40	0.01	0.30	0.20	471.50
SJVAPCD Level of Significance	100	10	10	27	15	15	None
Does the Project Exceed Standard?	No	No	No	No	No	No	No

Source: Cal EEMOD

Table 3-3
Project Operational Emissions (tons/year)

Summary Report	CO	NOx	ROG	SOx	PM_{10}	$PM_{2.5}$	CO_2e
Project Operational Emissions	3.25	2.87	1.01	0.01	0.92	0.26	2059.11
SJVAPCD Level of Significance	100	10	10	27	15	15	None
Does the Project Exceed Standard?	No	No	No	No	No	No	No

Source: Cal EEMOD

Emissions generated during construction of the modified Project would be below SJVAPCD thresholds for all pollutants, and therefore would represent a less-than-significant impact. The emissions anticipated to be generated by the proposed modified Project and other facility upgrades would not result in substantially increased emissions compared with the approved Project, and such emissions will continue to be below SJVAPCD's thresholds.

Operational-period emissions for the modified Project were determined to be substantially below the SJVAPCD's significance thresholds. As explained above, the proposed modified Project would not result in substantially increased emissions compared with the approved Project, and such emissions will be below SJVAPCD's standards.

CONCLUSION

For the above stated reasons, the proposed Project modifications as described in Section 2.3-*Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR will not increase the Project's contribution to any 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. It therefore is not creating a new significant impact on such circumstance or providing a substantial increase in the severity of the previously identified significant impacts. Nor are there any changes in the relevant circumstances of the modified project that involve any new impacts or increase in the prior severity of such analyzed impacts. Nor have any new feasible mitigation measures concerning this impact been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(c) Expose sensitive receptors to substantial pollutant concentrations?

The certified EIR analyzed toxic air contaminants (TACs) in both the construction and operation phase of the Project. Diesel-exhaust generated by construction, in and of itself, would not be expected to create conditions where the probability of contracting cancer over a 70-year lifetime of exposure is greater than 10 in one million for nearby receptors. Operational TACs were addressed by providing recommendations to keep children and vulnerable populations safe from sources of air pollution. With the recommendations, the approved Project would not exceed the SJVAPCD threshold of 10 in one million for cancer risk.

According to the new AQIA, sensitive receptors refer to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). Land uses that have the greatest potential to attract these types of sensitive receptors include schools, parks, playgrounds, daycare centers, nursing homes, hospitals, and residential communities. From a health risk perspective, the Project is a Type A project, which is a project that has the potential to place sources of TACs in the vicinity of existing sensitive receptors.

Toxic emissions (diesel particulate matter) generated by the proposed Project was estimated for purposes of identifying potential impacts to existing sensitive receptors. A Health Risk Assessment (HRA) was also prepared with the AQIA (Appendix A). Results of the HRA indicated that the maximum predicted cancer risk, chronic health hazard, and acute health hazard for residences and on-site/off-site workplaces resulting from diesel particulate matter generated by the proposed Project are below the significance threshold of 10 in one million for cancer risks and 1.0 for non-cancer health risks. Therefore, the Project's health risk impacts are considered less than significant

CONCLUSION

With respect to the above described air quality impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described air quality impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such air quality impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(d) Expose sensitive receptors to substantial pollutant concentrations?

The certified EIR analyzed potential for odors from the Project impacting residential areas and other sensitive receptors. It confirmed that the projects land use types are not listed in Table 4-2 of the SJVAPCD's Guidelines for Assessing and Mitigating Air Quality Impacts (GAMAQI), which identifies land uses known to produce odors in the SJVAB. The GAMAQI was updated by SJVAPCD in 2015 and Table 4-2 was moved to become Table 6. However, that table in the GAMAQI continues to confirm that modified Projects land use types are not listed as land uses known to produce odors in the SJVAB. That Table 6 of the GAMAQI is detailed as Table 3-4 below.

Table 3-4
Screening Levels for Potential Odor Sources

Type of Facility	Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Compositing Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g. autobody shops)	1 mile
Food processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile

Source: SJVAPCD 2020

CONCLUSION

With respect to the above described air quality impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described air quality impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such air quality impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

Cumulative Impacts

The certified EIR concluded that the impacts of the approved Project, when combined with the impacts of past, present, and reasonably foreseeable projects, would contribute to the cumulatively considerable adverse effects on air quality. However, as the above analysis demonstrates, the modified Project's implementation will not create any new impacts or increase severity in such impacts. The modified project is therefore not increasing the severity of any contribution to cumulatively considerable adverse effects on air quality.

3.4 - Biological Resources

This section evaluates whether the impacts of the modified Project to biological resources involve any of the standards in CEQA Guidelines Section 15162.

3.4.1 - SETTING

The certified EIR discussed regulation that is normally applicable to biological resources, followed by a description of the physical setting of both the site and surrounding lands. An analysis was then provided to determine whether the impact(s) would be less than significant, significant without mitigation, or significant and unavoidable. Because the modified Project would be conducted at the same location as the approved Project, there would be no new biological resources impacted by the Project. The Project's adopted mitigation measures included requirement for subsequent field surveys prior to construction, and those adopted mitigations address any changes in the circumstances under which the modified Project is being conducted.

3.4.2 - IMPACT ANALYSIS

Modified Project Impacts

As in the certified EIR analysis, this Addendum evaluates the potential for the proposed modified Project to result in new or substantially more severe significant impacts to biological resources in relation to the following questions as stated in the CEQA Guidelines Appendix G Checklist:

Would the project:

(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?

The certified EIR confirmed that some special-status species could potentially be present on the Project site and be significantly impacted by the Project. However, given the marginal quality and disturbed condition of habitat on the Project site, implementation of the Project will not contribute to a significant loss of habitat.

Although the Project site does not contain habitat that would support special-status plant species due to the disturbed terrain and intensive agricultural production, the certified EIR confirmed that some special-status special could potentially occur, and adopted Mitigation Measures #3.4-1a through #3.4-1d to address potential impacts on Burrowing Owls, Swanson's Hawks, nesting raptors and nesting migratory birds, or impacts to San Joaquin Kit Foxes, respectively. Those adopted mitigation measures remain applicable.

CONCLUSION

With respect to the above described biological resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described biological resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such biological resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?

As noted in the certified EIR, riparian habitats are distinct communities located at the interface of aquatic and upland habitats. The ponding basin located on the Project site does support a very sparse layer of underdeveloped riparian species, but the lack of plant diversity and other riparian habitat elements, coupled with a high level of disturbance, precludes designating this feature as riparian habitat. There has been no change in these circumstances.

CONCLUSION

With respect to the above described biological resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described biological resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such biological resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool,

coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The certified EIR determined that there are no Waters of the United States, including wetlands, that would be regulated by the USACE on the Project site. There is one retention basin on the Project site, but it is used for irrigation storage and runoff, and so has an artificial inundation and drying regime. This feature is isolated and is unlikely to have a significant nexus with Waters of the United States. It does not meet the standard federal criteria for wetlands. The nearest documented wetland is a freshwater pond located approximately 0.28 miles southeast of the Project site. The cement-lined irrigation canal south of the Project site is likewise not considered to be a Waters of the United States because it is not known to connect to traditionally navigable waters. Accordingly, there are no impacts to wetlands or other waters protected under Section 404 of the Clean Water Act. There has been no change in these circumstances.

The certified EIR did, however, recommend that the RWQCB and the CDFW be consulted to verify jurisdictional status of the pond with those entities, but noted it was unlikely that either would claim jurisdiction given the fact that the basin lacks riparian habitat, does not support sensitive biological resources, and is devoid of any semblance of a wildlife community.

CONCLUSION

With respect to the above described biological resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described biological resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such biological resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(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?

The certified EIR confirms that the Project site is not considered a fish or wildlife movement corridor or nursery site. There is no change in this circumstance

CONCLUSION

With respect to the above described biological resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described biological resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such biological resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(e) Conflict with provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

The certified EIR confirmed that the Project site is not located within the boundaries of any adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan or any other local, regional, or State conservation plan. As such, no impact would occur. There is no change in this circumstance.

CONCLUSION

With respect to the above described biological resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described biological resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such biological resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

Cumulative Impacts

The certified EIR concluded that the impacts of the approved Project, when combined with the impacts of past, present, and reasonably foreseeable projects, would contribute to the cumulatively considerable adverse effects on biological resources. However, as the above

analysis demonstrates, the modified Project's implementation will not create any new impacts or increase severity in such impacts. The modified project is therefore not increasing the severity of any contribution to cumulatively considerable adverse effects on biological resources.

CONCLUSION

With respect to the above described biological resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described biological resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such biological resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

3.5 - Cultural Resources

This section evaluates whether the impacts of the modified Project to cultural resources involve any of the standards in CEQA Guidelines Section 15162. It is important to note that, at the time the certified EIR was drafted and circulated, Assembly Bill 52 (AB 52) was not in effect. Based on §15162, provided a subsequent EIR is not required there is no obligation to satisfy with the present requirements of AB 52 as the Project may rely on the previously certified EIR.

3.5.1 - SETTING

A CHRIS records search was prepared for the approved Project to identified potential resources in and around the Project site to determine if the approved Project would result in a significant impact on cultural resources. A significant impact could occur if evidence of a cultural resource appears on or within one mile of the approved Project site.

3.5.2 - IMPACT ANALYSIS

Modified Project Impacts

As in the certified EIR analysis, the cultural resources addendum evaluates the potential for the proposed modified Project the Avila & Sons Packing House Project and the potential for it to result in new or substantially more adverse significant impacts to cultural resources in relation to the following questions as stated in the CEQA Guidelines Appendix G Checklist:

Would the project:

(a) Cause a substantial adverse change in the significance of a historical or archaeological resource as defined in Section 15064.5?

(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

As noted in the certified EIR, a records search of historical and archaeological resources was completed on November 7, 2013, by the Central California Information Center (CCIC). According to CCIC records, the approved Project area has four possible extant buildings that were sixty years in age or older. However, these buildings were not evaluated to determine if they met the criteria to be deemed an historic resource. However, demolition of any existing buildings was not a part of the approved Project. There is no change in this circumstance of the Project.

The certified EIR included MM #3.5-1a-b. Although there is no record evidence of historical or archaeological sites on the Project site, there is the potential during ground disturbing activities to uncover historical resources. The certified EIR adopted MM #3.5-1a and b to mitigate that impact to a level of less than significant.

CONCLUSION

With respect to the above described cultural resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described cultural resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such cultural resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(c) Disturb any human remains, including those interred outside of formal cemeteries?

The certified EIR determined there is no evidence of human burials on the approved Project site. However, the potential of discovery during excavation and construction exists. The proposed modified Project does not change the finding in the certified EIR of less-than-significant impact with mitigation incorporated. Therefore, there is no change in this circumstance.

CONCLUSION

With respect to the above described cultural resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described cultural resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such cultural resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

Cumulative Impacts

The certified EIR concluded that the impacts of the approved Project when combined with impacts of past, present, and reasonably foreseeable projects to **not** create a cumulatively considerable impact. The above analysis demonstrates, the modified Project's implementation will not create any new impacts or increase severity in such impacts. The modified project is therefore not increasing the severity of any contribution to cumulatively considerable adverse effects on biological resources.

As the above analysis confirms, the modified Project has no different impacts than was identified in the certified EIR.

CONCLUSION

With respect to the above described cultural resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described cultural resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such cultural resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

3.6 - Energy

This section evaluates whether the impacts of the modified Project on energy resources involve any of the standards in CEQA Guidelines Section 15162.

3.6.1 - SETTING

The certified EIR included an evaluation of the Project's energy consumption standards, in accordance with CEQA Guidelines Section 15126.4, to evaluate whether there is any wasteful, inefficient, or unnecessary consumption of energy caused by the Project, in Section 6.0 *Other CEQA Requirements*. The certified EIR confirmed that neither the construction, transportation or other operational aspects of the Project involved any inefficient, wasteful or unnecessary energy consumption.

3.6.2 - IMPACT ANALYSIS

Modified Project Impacts

An energy memorandum was prepared by VRPA Technologies to evaluate the proposed modified Project for impacts on energy consumption (Appendix B) as well as the Preliminary Technical Report (Appendix C), to facilitate the evaluation of the potential for the proposed modified Project to result in new or substantially more adverse significant impacts on energy consumption in relation to the following questions as stated in the CEQA Guidelines Appendix G Checklist:

Would the project:

(a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?

Short-Term (Construction)

Short-term impacts are mainly related to the construction phase of an approved and modified Project and are recognized to be of brief duration. Energy impacts from construction are generally attributable to the manufacture and transportation of building materials, preparation of the site for grading activities, utility installation, paving, and building construction and architectural coating. As noted in Section 6.6 *Energy*, it was noted that the approved Project is subject to California Code of Regulations (CCR), Title 24 building standards. The Title 24 California Building Standards Code is a wide-ranging set of requirements for energy conservation and green design that apply to the structural, mechanical, electrical, and plumbing systems in a building. Similarly, the proposed modified Project is subject to all local, State and federal building codes and development standards related to energy efficiency and non-wasteful consumption of energy.

The operation of off-road equipment, trucks, and worker traffic would be the primary source of energy consumption during the construction of the Project. Energy consumption generated during the construction phase was estimated using CalEEMod Model defaults for construction equipment since the specific mix of construction equipment is not presently known for this Project. It should be noted that energy usage from construction of the Project would be temporary in nature and would cease upon completion of the Project.

Construction activities associated with the approved Project was estimated to consume 176,320 gallons of diesel. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in other parts of California. Therefore, the certified EIR determined that construction fuel consumption associated with the approved Project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region. The proposed modified Project is estimated to use 1,052 gallons of diesel fuel and 61 gallons of gasoline for the development/construction of the Project, considering the construction schedule and hours of use determined by CalEEMod. The significant reduction in the amount of fossil fuel is due to the improvements in fuel efficiencies over the past six years.

Vehicle Miles Traveled (VMT) estimates during the construction of the Project were also determined by data points in the CalEEMod program. Worker, vendor, and haul trips would result in 1,749 VMT for the duration of construction activities. As noted in Table 3-5 below, construction trips would account for approximately 83 gallons of motor vehicle fuel.

Table 3-5
Project Construction Energy Consumption

Activity	Variable	Consumption Rate	Total Consumption
Construction Equipment-Diesel	Equipment Use – hp-hr Hours of Use	0.05 gallons/hp-hr 150 hours	991 gallons (diesel)
Construction Worker VMT	VMT	VMT = 1,566 mpg = 25.73	61 gallons (gasoline)
Construction Vendor VMT	VMT	VMT = 183 mpg = 8.29	22 gallons (diesel)

Source: (KD Anderson & Associates, Inc., 2020)

Notes:
Hp-hr = horsepower per hour
VMT = Vehicle Miles Traveled
mpg = miles per gallon

Long-Term (Operational)

As noted previously, the Project includes the development and operation of a packing house facility. Table 3-6 provides an estimate of energy use for the proposed Project. Estimated electricity, natural gas, and motor vehicle gasoline consumption were derived from

estimates included in the CalEEMod program. As shown below, the Project would consume approximately 1,378,041 kWh of electricity, 3,211,950 Btu of natural gas, and 91,579 gallons of gasoline per year.

Table 3-6
Project Operational Energy Consumption

Land Use	Electricity (kWh/year)	Natural Gas (Btu/year)	Vehicle Gasoline (gallons/year)
Avila Packing House	1,378,300	3,211,950	91,579

Source: CalEEMod 2016.3.2/Emfac 2017

Notes:
kWh = kilowatt hours
Btu = British thermal units

As noted above, the Project is subject to CCR, Title 24 building standards. Compliance with Title 24 of the CCR would improve energy efficiency and consumption. As a result, construction of the Project will not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation.

Operation of the project would include the use of electricity and natural gas for office heating and cooling, lighting, appliances, and water heating. As discussed above, the Title 24 California Building Standards Code is a wide-ranging set of requirements for energy conservation and green design that apply to the structural, mechanical, electrical, and plumbing systems in a building. Compliance with applicable State and local codes would result the conservation of electricity and natural gas use and will not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation.

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 U.S. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the 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. The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has gradually increased from about 14.9 mpg in 1980 to 22.3 mpg in 2017 based on data provided by the U.S. Department of Transportation, National Highway Traffic Safety Administration,

Another component of energy consumption is the energy required to run the new electric water pump. According to the Preliminary Technical Report (Appendix C), at an average consumption of 3,590 gpd utilizing a peaking factor of 2.25 listed in §64554 of 22 CCR, Division 4, the total gpd comes to 8,0775. Assuming a submersible pump is capable of

producing 50 gpm between 100-200 feet of dynamic head the runtime per year comes out to 2.7 hours per day or 985.5 hours per year. Although there is energy being consumed to run the pump, it will be drawing a very minimal amount of electric power.

It is anticipated that vehicles used during Project operations would continue to become more fuel efficient over the life of the Project. Therefore, energy impacts related to fuel consumption during Project operations would be less than significant.

Based on the assessment above, the proposed Project modifications as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR will not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation. There is therefore no change in this circumstance from that evaluated in the certified EIR.

CONCLUSION

With respect to the above described energy resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described energy resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such energy resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(b) Conflict with or obstruct a state or local plan for renewable energy or energy deficiency?

As discussed above, the Project is subject to CCR, Title 24 building standards. Compliance with Title 24 of the CCR would improve energy efficiency and consumption. Therefore, the proposed Project modifications as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR would be consistent with applicable plans related to renewable energy and energy efficiency. As a result, the modified Project will not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

CONCLUSION

With respect to the above described energy resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects.

In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described energy resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such energy resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

Cumulative Impacts

The certified EIR did not evaluate the approved Project's impacts on energy consumption, because that certified EIR predated amendments to the CEQA Guidelines that made such evaluations mandatory. However, an evaluation of energy was prepared to evaluate the proposed modified Project for impacts on energy consumption (Appendix B). The analysis concluded that the impacts of the proposed modified Project when combined with impacts of past, present, and reasonably foreseeable projects would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation.

The proposed Project modifications will not create a significant impact on energy consumption. There is no change in this circumstance from the previously certified EIR.

CONCLUSION

With respect to the above described energy resource impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described energy resource impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such energy resource impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

3.7 - Geology and Soils

This section evaluates whether the impacts of the modified Project on geology and soils involve any of the standards in CEQA Guidelines Section 15162.

3.7.1 - SETTING

The certified EIR analyzed the regulation that is normally applicable to geological and soil resources as well as a description of the physical setting of both the site and surrounding lands. An analysis was then provided to determine whether the impact(s) would be less than significant, significant without mitigation, or significant and unavoidable. The below analysis confirms that there are no changes in these circumstances affecting the modified project.

Modified Project Impacts

This Addendum evaluates the potential for the proposed modified Project to result in new or substantially more adverse significant impacts to geology and soils in relation to the following questions as stated in the CEQA Guidelines Appendix G Checklist:

Would the project:

(a) Exposure of people and structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, ground failure, or landslide?

(b) Result in potential hazards due to construction on unstable soils?

The certified EIR analyzed whether the approved Project would expose people or structures to rupture of a known earthquake fault, strong seismic ground shaking, or seismic-related ground failure, landslides, or potential hazards due to construction on unstable soils. As discussed in the certified EIR, the approved Project is not located on a designated Alquist-Priolo Earthquake Fault Zone. Additionally, there are no known major or active faults nearby or crossing the approved Project site. Turlock has a low frequency shaking potential and minimal potential for seismic related ground failure. The approved Project does not contain any substantial slopes on the Project site or near the Project site. The risk for slope failure resulting from the long-term geologic cycle of uplift, mass wasting, and slope difference is unlikely. As stated in the certified EIR construction of the warehouse and road improvement will comply with Stanislaus County and the City of Turlock's building and road improvement regulations. Both the City of Turlock and the County of Stanislaus have based their regulations on State code, which provides building standards in earthquake-prone areas. There are no changes in the foregoing circumstances that impact the Project.

CONCLUSION

With respect to the above described geology and soils impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described geology and soils impact evaluation standards. No new information of substantial importance, which was

not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such geology and soils impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(c) Result in substantial soil erosion or the loss of topsoil?

(d) Result in potential hazards due to direct or indirect construction on expansive soils?

The certified EIR analyzed whether the approved Project would result in substantial soil erosion, the loss of topsoil, or result in potential hazards due to construction on expansive soils. As discussed in the certified EIR, the approved Project contains three different types of soil. The three different types are Dinuba sandy loam, Dinuba sandy loam deep, and Hanford sandy loam, all of which have low erosion potential.

Construction activities associated with the approved Project would involve grading and other infrastructural improvements. These activities and the disturbance of soil could result in exposing barren soils to sources of wind or water resulting in the potential for erosion and a loss of topsoil. The approved Project and the proposed modified Project will ensure to be in accordance with earth moving activities required by the County of Stanislaus and the City of Turlock. The proposed Project modifications do not impact any of these circumstances evaluated in the certified EIR.

CONCLUSION

With respect to the above described geology and soils impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described geology and soils impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such geology and soils impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

The certified EIR analyzed whether the approved Project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. As stated in the certified EIR, all wastewater would be disposed on site. A septic leach field system would be used in the disposal of wastewater. The proposed Project modifications do not impact any of these circumstances evaluated in the certified EIR.

CONCLUSION

With respect to the above described geology and soils impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described geology and soils impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such geology and soils impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature of paleontological or cultural value?

The certified EIR determined that there is a potential during excavation and construction that the discovery of a previously unidentified paleontological resources exists. The approved Project and the proposed modified Project has extensively been used for agricultural activities such as tilling, disking, driving equipment, and various other agricultural activities. Impacts on paleontological resources or geologic features can result either directly or indirectly from pre-construction activities and construction of a proposed Project. Direct impacts are those which result from the immediate disturbance of resources by vegetation removal, vehicle travel over the surface, earthmoving activities, excavation, or alteration of the setting of a resource. Indirect impacts are those which result from increased erosion due to Project site clearance and preparation, or from inadvertent damage or outright vandalism to exposed resource materials which could occur due to improved accessibility. Although there is no record or evidence of paleontological or geologic features on the Project site, implementation of MM #3.5-1a-b would reduce potential impacts to less-than-significant levels.

The proposed Project modifications do not impact any of these circumstances evaluated in the certified EIR.

CONCLUSION

With respect to the above described geology and soils impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described geology and soils impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such geology and soils impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

Cumulative Impacts

The certified EIR concluded that the impacts of the approved Project when combined with impacts of past, present, and reasonably foreseeable Projects to would not create a less than a cumulatively considerable impact. The certified EIR concluded that the impacts of the approved related to geology and soils would be site specific. Proposed structures constructed will follow the building code requirements. The approved Project would not cause an impact on geologic or soil resources. Cumulative impacts could occur in a seismic event if a potential hazard, such as a power plant or a dam, were located near a populated area and failed as a result of ground shaking. Currently there are no such facilities nor are there any such facilities planned within the development area of the approved Project site. As the above project specific analysis demonstrates, the proposed Project modifications as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR Project, there are no changes in the above described circumstances concerning the modified Project. The modified Project would therefore not generate adverse cumulative impacts to geologic or soil resources beyond than those already disclosed in the certified EIR.

CONCLUSION

With respect to the above described geology and soils impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described geology and soils impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such geology and soils impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result

in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

3.8 - Greenhouse Gas Emissions

This section evaluates whether the impacts of the modified Project on greenhouse gas emissions involve any of the standards in CEQA Guidelines Section 15162.

3.8.1 - SETTING

Greenhouse gas emissions result in impacts, which are global in nature. The environmental and regulatory settings related to greenhouse gas emissions set forth in the EIR adequately describe the setting for the proposed modified Project.

The certified EIR evaluated the approved Project's impacts on greenhouse gas emissions in the Air Quality Section. However, the AQIA prepared by VRPA Technologies evaluates the proposed modified Project for impacts to greenhouse gas emissions (Appendix A), which is now evaluated as a separate section under CEQA Appendix Checklist G guidelines.

3.8.2 - IMPACT ANALYSIS

Modified Project Impacts

As in the certified EIR, this Addendum evaluates the potential for the proposed modified Project to result in new or substantially more adverse significant impacts from greenhouse gas emissions in relation to the following questions as stated in the CEQA Guidelines Appendix G Checklist:

Would the project:

(a) Generate greenhouse gas emissions; either directly or indirectly, that may have a significant impact on the environment?

The SJVAPCD acknowledges the current absence of numerical thresholds and recommends a tiered approach to establish the significance of the GHG impacts on the environment:

i. If a project complies with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, then the project would be determined to have a less-than-significant individual and cumulative impact for GHG emissions;
ii. If a project does not comply with an approved GHG emission reduction plan or mitigation program, then it would be required to implement Best Performance Standards (BPS); and

iii. If a project is not implementing BPS, then it should demonstrate that its GHG emissions would be reduced or mitigated by at least 29 percent compared to Business as Usual (BAU).

If a local air district's guidance for addressing GHG impacts does not use numerical GHG emissions thresholds, at the lead agency's discretion, a neighboring air district's GHG threshold may be used to determine impacts. In December 2008, the South Coast Air Quality Management District (SCAQMD) Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency. The SCAQMD guidance identifies a threshold of 10,000 MTCO2eq./year for GHG for construction emissions amortized over a 30-year project lifetime, plus annual operation emissions. Though the Project is under SJVAPCD jurisdiction, the SCAQMD GHG threshold provides some perspective on the GHG emissions generated by the Project. Table 3-7 shows the yearly operational GHG emissions generated by the Project as determined by the CalEEMod model, which is approximately 80 percent less than the threshold identified by the SCAQMD.

Table 3-7
Project Operational Greenhouse Gas Emissions

Summary Report	CO_2e
Project Operational Emissions Per Year	2,075 MT/yr

Source: CalEEMod

The resulting permanent greenhouse gas increases related to Project operations would be within the greenhouse gas increases analyzed in the Stanislaus County General Plan EIR since the Project is consistent with the applicable zoning and general plan designations. There would be no increase in severity to the greenhouse gas impacts, and implementation of the proposed Project modifications as described in Section 2.3 - *Proposed Modified Project Characteristics.*

CONCLUSION

With respect to the above described greenhouse gas impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described greenhouse gas impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such greenhouse gas impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

California passed the California Global Warming Solutions Act of 2006. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. Under AB 32, CARB must adopt regulations by January 1, 2011 to achieve reductions in GHGs to meet the 1990 emission cap by 2020. On December 11, 2008, CARB adopted its initial Scoping Plan, which functions as a roadmap of CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan.

SB 375 requires MPOs to adopt a SCS or APS that will prescribe land use allocation in that MPO's regional transportation plan. CARB, in consultation with MPOs, has provided each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the STANCOG region, CARB set targets at five percent per capita decrease in 2020 and a ten (10) percent per capita decrease in 2035 from a base year of 2005. StanCOG's 2018 RTP/SCS, which was adopted in August 2018, projects that the Stanislaus County region would achieve the prescribed emissions targets.

Executive Order B-30-15 establishes a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. Executive Order B-30-15 requires MPO's to implement measures that will achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets.

The Project is consistent with the currently adopted General Plan for Stanislaus County and the adopted 2018 RTP/SCS and is therefore consistent with the population growth and VMT applied in those plan documents. Therefore, the Project is consistent with the growth assumptions used in the applicable AQP. It should also be noted that yearly GHG emissions generated by the Project (Table 9) are approximately 80 percent less than the threshold identified by the SCAQMD (see the discussion for Impact 4.2.1 above).

CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan. The current plan has identified new policies and actions to accomplish the State's 2030 GHG limit. Below is a list of applicable strategies in the Scoping Plan and the Project's consistency with those strategies.

- California Light-Duty Vehicle GHG Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs for long-term climate change goals.
    - The Project is consistent with this reduction measure. This measure cannot be implemented by a particular project or lead agency since it is a statewide measure. When this measure is implemented, standards would be applicable to light-duty vehicles that would access the Project. The Project would not conflict or obstruct this reduction measure.

- Energy Efficiency – Pursuit of comparable investment in energy efficiency from all retail providers of electricity in California. Maximize energy efficiency building and appliance standards.
  - The Project is consistent with this reduction measure. Though this measure applies to the State to increase its energy standards, the Project would comply with this measure through existing regulation. The Project would not conflict or obstruct this reduction measure.
- Low Carbon Fuel – Development and adoption of the low carbon fuel standard.
  - The Project is consistent with this reduction measure. This measure cannot be implemented by a particular project or lead agency since it is a statewide measure. When this measure is implemented, standards would be applicable to the fuel used by vehicles that would access the Project. The Project would not conflict or obstruct this reduction measure.

Based on the assessment above, the proposed Project modifications as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

CONCLUSION

With respect to the above described greenhouse gas impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described greenhouse gas impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such greenhouse gas impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

Cumulative Impacts

The EIR concluded that the impacts of the approved Project, combined with the cumulative contributions of greenhouse gases from other projects, would have a cumulatively considerable impact on greenhouse gas emissions. However, Table 3-7 above confirms that t the Project's operational greenhouse gas emissions is projected at 2,075 MT/year. This compares favorably to the analysis in the certified EIR which concluded that the project, with 2020 Regulations and mitigation measures, would result in 8,186.03 MT/year. Therefore, it can be concluded that the contribution of the Project to cumulative greenhouse gas impacts is not more severe than the Project analyzed in the certified EIR. cumulative

CONCLUSION

With respect to the above described greenhouse gas impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described greenhouse gas impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such greenhouse gas impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

3.9 - Hazards and Hazardous Materials

This section evaluates whether the impacts of the modified Project to potential hazards and hazardous materials impacts involve any of the standards in CEQA Guidelines Section 15162.

3.9.1 - SETTING

This section was prepared in part using information from the certified EIR.

3.9.2 - IMPACT ANALYSIS

Modified Project Impacts

As in the certified EIR analysis, this Addendum evaluates the potential for the proposed modified Project to result in new or substantially more severe significant impacts from hazards and hazardous materials in relation to the following questions as stated in the CEQA Guidelines Appendix G Checklist:

Would the Project:

(a) Create a significant hazard to the public or the environment through the routine transport use, or disposal of hazardous materials?

(b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

A Phase I and II ESA was completed by J House Environmental, Inc. for the approved Project in conformance with the American Society for Testing and Materials (ASTM [E1527-05]). The purpose of the assessment was to identify if "recognized environmental conditions", as

defined in ASTM E1527-05, or other potential environmental concerns exist at the proposed project site.

The Phase I and II ESA completed by J House Environmental Inc. concluded the following:

- Soil sampling at the site did not show the presence of chemical residues in concentrations that are considered to pose a significant health risk under the commercial/industrial land use scenario. Samples collected to provide characterization of the former orchard land and crop field areas show no detectable concentrations of OCPs. Samples collected from the support operations area show the presence of two OCPs as well as motor oil range petroleum hydrocarbons; however, reported concentrations are below human health screening levels for commercial/industrial land use. Reported arsenic and lead concentrations in samples collected from the site are below levels that would be considered to pose a significant adverse health risk to workers; and
- Although Phase II ESA sampling does not show the presence of chemical residues in soil in concentrations that are considered to pose a significant health risk under the commercial/industrial land use scenario, as an added precaution, J House Environmental Inc. recommends that the project proponent consider implementing the following risk management measure:
    - Work areas and areas with heavy foot traffic inside the eastern, unpaved portion of the barn/packing shed should be surfaced to reduce worker exposure to dust in this area, where concentrations of 4,4'-DDT (2,600 micrograms per kilogram [ug/kg]) and 4,4'-DDD (240 ug/kg) were detected in soil.

The certified EIR determined hazards that could jeopardize the health of workers and consumers who will be purchasing produce could become ill from disease carried by birds and/or rats and mice. However, with Mitigation Measure 3.8-2a and 3.8-2b incorporated, and compliance with the California Retail Food Code, impacts would be less than significant.

The modified Project would comply with these mitigation measures to ensure impacts are less than significant. Additionally, the modified Project would also have to submit a revised Hazardous Materials Business Plan to the Stanislaus County Environmental Resources Department for the 500-gallon fuel storage tank. Other chemicals such as fertilizers that exceed the thresholds listed before would also have to be included in the plan.

The proposed modified Project would not result in any changes to the setting analyzed in the certified EIR.

The proposed project modifications, as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR, would not result in additional impacts as a result of the accidental release of hazardous materials than what was already analyzed in the certified EIR.

CONCLUSION

With respect to the above described hazards and hazardous materials impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described hazards and hazardous materials impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such hazards and hazardous materials impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing school?

The certified EIR confirmed that the Project site is over two miles from the closest school and that therefore the above referenced impact was less than significant. There is no change in these circumstances concerning the modified Project.

CONCLUSION

With respect to the above described hazards and hazardous materials impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described hazards and hazardous materials impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such hazards and hazardous materials impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(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?

The certified EIR confirmed that the proposed project is not on the California Department of Toxic Substances Control's Cortese List. There are, however, 12 hazardous waste and substances sites listed within five miles of the proposed Project site. The closest to the proposed Project site is over a mile away, and on that basis the project impacts would be less than significant. There is no change in these circumstances affecting the modified project.

CONCLUSION

With respect to the above described hazards and hazardous materials impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described hazards and hazardous materials impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such hazards and hazardous materials impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(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?

The certified EIR confirmed that the proposed project site is over two miles away from the ALUC's planning boundary for the as shown on the Stanislaus County Airport Land Use Compatibility Plan The proposed Project site is therefore not within the ALUC's planning boundary, and the project impacts to these evaluation standards is less than significant. There is no change in these circumstances concerning the modified Project.

The proposed Project modifications as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR will not create new or revised mitigation measures beyond those included in the previously certified EIR. The proposed modified Project will not change the certified EIR's determination of a less-than-significant impact.

CONCLUSION

With respect to the above described hazards and hazardous materials impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant

environmental effects or a substantial increase in the severity of impacts related to the above described hazards and hazardous materials impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such hazards and hazardous materials impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(f) Impair implementation of a or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The certified EIR confirmed that Project would install improvements along North Washington Road, and traffic signalization improvements to accommodate access to and from the site onto N. Washington Road, and that the completion of those improvements will likely include flag men that will direct traffic. If further found that the construction could potentially interfere with emergency response equipment, and adopted a mitigation measure to address those circumstances. There is no change in these circumstances concerning the modified Project.

CONCLUSION

With respect to the above described hazards and hazardous materials impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described hazards and hazardous materials impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such hazards and hazardous materials impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires?

The certified EIR confirmed that the Project will comply with all requirements as outlined in local and County plans related to wildfires, and that the proposed Project site is clear of brush and tall grasses that would normally be fuels for fire. There is no change in these circumstances concerning the modified Project.

CONCLUSION

With respect to the above described hazards and hazardous materials impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described hazards and hazardous materials impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such hazards and hazardous materials impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

Cumulative Impacts

The certified EIR determined that impacts of the proposed modified Project, when combined with the impacts of past, present, and reasonably foreseeable Projects, would not create a less than a cumulatively considerable impact. As the above project specific analysis confirms, the modified Project would not generate adverse cumulative impacts to hazards and hazardous materials impact beyond than those already disclosed in the certified EIR.

CONCLUSION

With respect to the above described hazards and hazardous materials impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described hazards and hazardous materials impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such hazards and hazardous materials impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

3.10 - Hydrology and Water Quality

This section evaluates whether the impacts of the modified Project on hydrology and water quality involve any of the standards in CEQA Guidelines Section 15162.

3.10.1 - SETTING

The certified EIR provided an evaluation of the potential hydrology and water quality impacts that would be caused by implementation of the Project. The discussion starts with an overview of regulation that is normally applicable to the hydrology and water quality environmental factor, followed by a description of the physical setting of both the site and surrounding lands. There are no changes in such circumstances affecting the Project. This is confirmed by the analysis set forth below which is based on a Preliminary Technical Report prepared for the Project (Quality Service, Inc., 2019) and a Water Treatment proposal, which is included as Appendix C in this document.

3.10.2 - IMPACT ANALYSIS

Modified Project Impacts

As in the certified EIR analysis, this Addendum evaluates the potential for the proposed modified Project to result in new or substantially more severe significant impacts to hydrology and water quality in relation to the following questions as stated in the CEQA Guidelines Appendix G Checklist:

Would the project:

(a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

The certified EIR analyzed whether the approved Project would violate water quality standards or waste discharge requirements. A total of 33.9 acres would be disturbed. Consequently, the proposed project is subject to the requirements of the NPDES Permit adopted by the SWRCB. In order to be granted coverage, the applicant must submit a Notice of Intent to comply with the general permit along with a site plan map and fee to the State Water Resources Control Board (SWRCB) prior to starting construction. Additionally, as part of the NPDES process, the applicant must prepare a Storm Water Pollution Prevention Plan (SWPPP) to ensure storm water would be retained onsite. The SWPPP must include BMPs that, when implemented, prevent storm water quality degradation to the extent practical by preventing sediments and other pollutants from leaving the project site. The certified EIR concluded that the approved Project would be greater than the runoff under existing conditions due to a significant increase in impervious surfaces.

Wastewater would be recycled and used for irrigation. Septic leach field system would be used to dispose of wastewater from employee sinks and toilets.

The proposed modified Project would be subject to the same local, State and federal regulations regarding the handling of storm water to reduce impacts to water quality. Its arrangements regarding the conveyance of wastewater and the septic leach field system is also consistent with the original project.

CONCLUSION

With respect to the above described hydrology and water quality evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described hydrology and water quality impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such hydrology and water quality impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The certified EIR analyzed whether the approved Project would substantially deplete groundwater supplies or interfere significantly with groundwater recharge such that it may impede sustainable groundwater management of the basin. As stated previously, water would be obtained from two on-site wells until the number of employees has increased and reached the threshold designated by the state, at which time a public water system for on-site use will be installed. A public water system for on-site use only will be installed at Phase 1 when the number of employees reach the threshold as required by the State under California Health and Safety Code Section 116275(h). The source of the proposed public water system is groundwater. The residential well on the site does not meet the necessary water quality or local code requirements to quality as an approved public water system. Therefore, a new well will need to be drilled to meet construction code requirements and to produce a compliant water quality. After reviewing local hydrogeology and studying local well construction methods, it was determined that a new well can be drilled on the property so long as the well is constructed with the goal of improving water quality in the design of the well.

The new well is tentatively planned to have an 8 inch casing; a cement annular seal would be installed such that it extends past the Corcoran Clay layer and terminates in a deeper aquifer (anticipated to be a relatively thick clay layer that initiates the upper Turlock Lake Formation). A new water well will be drilled and used to supply potable water to the project. A public water system for on-site use only will be installed when the number of employees reach the threshold as required by the State under California Health and Safety Code Section 116275(h). The new water system will consist of an 8" well drilled to a depth of 480 feet, a 10 HP submersible pump, a 1,500-gallon hydropneumatics tank, and approximately 250 feet of distribution piping. If necessary, filtration equipment will be designed as a part of the improvements (Quality Service, Inc., 2019).

Based on this evidence, such a well could mitigate the chance of producing water contaminated anthropogenically (Quality Service, Inc., 2019). Based on the available information, arsenic and nitrate contamination is not anticipated. However, should contamination from arsenic that exceeds the EPA established limit for arsenic in potable water (10 parts per billion (ppb)) be observed during routine water quality testing, a water treatment system would be installed (see Appendix C). Based on the amount of anticipated water being used and filtration system manufacturer's data, it is anticipated that routine maintenance would be required between one to six years.

The approved Project estimated demand for employee use and washing produce would be at its highest during the months of October to May. The total usage of water for both employee usage and washing produce for the entire year would be 690,000 gallons or 2.12 acre-feet.

The 2008 Turlock Groundwater Management Plan estimated a groundwater storage decreased by 21,500 af/yr +/- between 1997 and 2006 in the Turlock Subbasin and that groundwater has decreased slightly in recent years (Quality Service, Inc., 2019). Although this basin is not considered to be critically overdrafted, it is recognized a new well would add to the basin's net outflow. The decrease in groundwater may be linked to land use types that rely on groundwater for supply. The slight decline in storage is likely to continue if urban or irrigated land uses are developed in areas dependent on groundwater. However, the plan notes groundwater storage will fluctuate seasonally, an alternating period of decline and recovery in groundwater levels are a response to this natural variation. Long-term declines in storage without recovery could be a concern. Monitoring the changes in groundwater conditions by local public agencies, will be essential to determine if additional management actions are required.

Therefore, measures will be taken during the Project design phase and routine operation of the water system to ensure that the system's impact is minimal. This can be accomplished by complying with the seven Basin Management Objectives (BMOS) established within the local Groundwater Basin Management Plan and working with the local Groundwater Sustainability Agency to comply with the sustainability plan. The system can help support the Basin Management Objectives primarily by building the proposed well responsibly (the deep annular seal that is recommended will prevent comingling of contaminants in the upper strata), considering water conservation in design and routine operation, and by monitoring and regulating their groundwater extraction. The system will be designed around the demand calculations that were furnished by the engineer, and safeguards (such as flow restrictions) will be implemented based on those figures so that excessive use is possible.

The largest inflow to the groundwater basin is deep percolation of irrigation water that plays an important role in maintaining groundwater storage. Surface water from the Turlock Irrigation District, and to a lesser extent, the Merced Irrigation District is used to supply more than half of the total irrigation water applied within the basin. Hence, under current conditions the continued use of surface water for agricultural irrigation is vital for sustaining recharge in the subbasin. Monitoring to track water levels of the Turlock subbasin by local jurisdictions will determine whether additional management actions will be required and

vital for sustaining recharge in the subbasin. The modified Project's potential impacts on these evaluation standards is therefore consistent with the impacts of the original Project.

CONCLUSION

With respect to the above described hydrology and water quality evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described hydrology and water quality impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such hydrology and water quality impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(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;

(ii) substantially increased the rate or amount of surface runoff in a manner which would result in flooding on-or off-site;

(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The approved Project site is relatively flat, due to the Project site's level terrain, it was determined the existing drainage patterns would not be altered in a manner that would result in substantial erosion, siltation or flooding on or off-site. Watercourses (streams/rivers) do not exist within, or near, the approved Project site. The approved Project would result in the addition of impervious surfaces in the form of a warehouse, a parking area, and other concrete and asphalted areas resulting in the addition of new impervious surfaces. The site would be graded and constructed to direct all run-off to the retention basin. Stormwater collected on-site would flow to the retention basin by a combination of surface scales, culverts, and sheet flow. Mitigation Measure MM #3.9-5 will assure that before stormwater is retained within the retention basin, and stormwater will be handled in accordance with BMPs.

The proposed modified Project would no longer have paved parking areas or interior circulation roads and would instead use gravel surfacing for parking and interior circulation.

The addition of gravel surfacing will reduce the number of impervious surfaces created and allow stormwater to percolate to ground during rain events. The construction of additional buildings will increase the number of impervious surfaces; however, the site will be graded to direct stormwater to the on-site retention basin and would adhere to these requirements to retain stormwater on-site. The modified Project's potential impacts on these evaluation standards is therefore consistent with the impacts of the original Project.

CONCLUSION

With respect to the above described hydrology and water quality evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described hydrology and water quality impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such hydrology and water quality impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

The approved Project site is located in Zone X, which is over 5 miles from the 100-year Flood Zone. This zone corresponds to areas outside the 100-year floodplain, areas of 100-year sheet flow flooding where average depths are less than one foot, areas of 100-year stream flooding where the contributing drainage area is less than one square mile, or areas protected from the 100-year flood by levees.

The Project is not located near a large body of water to be under threat of flooding due to seiches. Tsunamis are not a consideration as the proposed Project sites are over 150 miles away from the Pacific Ocean. The approved Project is not placing housing or other structures in flood, tsunami, or seiche zones. The modified Project's potential impacts on these evaluation standards is therefore consistent with the impacts of the original Project.

CONCLUSION

With respect to the above described hydrology and water quality evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described hydrology and

water quality impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such hydrology and water quality impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Sustainable groundwater management is overseen by the Turlock Groundwater Basin Association. Turlock is one of the many agencies that participate in the groundwater management activities in the Turlock Groundwater Basin. The local agencies within the Turlock Subbasin agree that the groundwater and surface waters within the Turlock Subbasin are vitally important resources that provide the foundation for maintaining current and future water needs.

The approved Project estimated demand for employee use and washing produce would be at its highest during the months of October to May. The total usage of water for both employee usage and washing produce for the entire year would be 690,000 gallons or 2.12 acre-feet. The proposed modified Project would not substantially increase the amount of water beyond what was previously analyzed in the certified EIR. The 2008 Turlock Groundwater Management Plan- Stanislaus County, estimated a groundwater storage decreased by 21,500 af/yr +/- between 1997 and 2006 in the Turlock Subbasin and that groundwater has decreased slightly in recent years. The decrease in groundwater may be linked to land use types that rely on groundwater for supply. The slight decline in storage is likely to continue if urban or irrigated land uses are developed in areas dependent on groundwater. However, the plan notes groundwater storage will fluctuate seasonally, an alternating period of decline and recovery in groundwater levels are a response to this natural variation. The modified Project's potential impacts on these evaluation standards is consistent with the impacts of the original Project.

CONCLUSION

With respect to the above described hydrology and water quality evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described hydrology and water quality impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such hydrology and water quality impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified

EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

Cumulative Impacts

The certified EIR determined that impacts of the approved Project, when combined with the impacts of past, present, and reasonably foreseeable projects, was a less than cumulatively considerable impact on hydrology and water quality. As the above project specific analysis confirms, the modified Project's impact on such resources is not different from the original Project.

CONCLUSION

With respect to the above described hydrology and water quality evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described hydrology and water quality impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such hydrology and water quality impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

3.11 - Land Use and Planning

This section evaluates whether the impacts of the modified Project on land use and planning involve any of the standards in CEQA Guidelines Section 15162.

3.11.1 - SETTING

The certified EIR provided an evaluation of the potential land use and planning impacts that would be caused by implementation of the proposed Project. The discussion starts with an overview of regulation that is normally applicable to the land use and planning environmental factor, followed by a description of the physical setting of both the site and surrounding lands. An analysis was then provided to determine whether the impact(s) would be less than significant, significant without mitigation, or significant and unavoidable. There are no changes in such circumstances affecting the Project.

3.11.2 - IMPACT ANALYSIS

Modified Project Impacts

As in the certified EIR analysis, this Addendum evaluates the potential for the proposed modified Project to result in new or substantially more severe significant impacts to land use and planning in relation to the following questions as stated in the CEQA Guidelines Appendix G Checklist:

Would the project:

(a) Physically divide an established community?

(b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The certified EIR analyzed whether the approved Project would divide an established community, or conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project adopted for the purpose of avoiding or mitigating an environmental effect. The approved Project was determined not to alter the physical arrangement of the surrounding communities. The approved Project is located in an area where similar uses already exist in Stanislaus County and the City of Turlock. As analyzed in the certified EIR, the approved Project is consistent with both the County's and City's various land use plans, policies, and regulations. The proposed Project modifications do not include a change in location or land use from the approved Project and therefore, would not change the circumstances under which the Project is being developed or the impacts of the modified project.

CONCLUSION

With respect to the above described land use and planning evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described land use and planning impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such land use and planning impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

Cumulative Impacts

The certified EIR concluded that the approved Project, did not conflict with any applicable land use plan, policy or regulation for the purpose of avoiding environmental impacts. On that basis, its impact would be less than cumulatively considerable. The above project specific analysis confirms that there are no different circumstances affecting the modified project.

CONCLUSION

With respect to the above described land use and planning evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described land use and planning impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such land use and planning impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

3.12 - Noise

This section evaluates whether the impacts of the modified Project on land use and planning involve any of the standards in CEQA Guidelines Section 15162.

3.12.1 - SETTING

The certified EIR includes an overview of regulation that is normally applicable to the noise environmental factor, followed by a description of the physical setting of both the site and surrounding lands. An analysis is then provided to determine whether the impact(s) would be less than significant, significant without mitigation, or significant and unavoidable. There are no changes in such circumstances affecting the Project.

3.12.2 - IMPACT ANALYSIS

Modified Project Impacts

As in the certified EIR analysis, this Addendum evaluates the potential for the proposed modified Project to result in new or substantially more severe significant impacts to noise in relation to the following questions as stated in the CEQA Guidelines Appendix G Checklist:

Would the project:

(a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

The certified EIR analyzed whether the approved Project would result in the exposure of persons to or generation of substantial temporary or permanent noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

The certified EIR had an analysis conducted on roadways near the Project site. The traffic noise levels along Washington Road and between the Project site and Main Street were found to be in the range of 60-65 dB Ldn. The approved Project would result in increased traffic noise along the roadways used by Project-generated traffic, indicating a significant noise impact.

The approved Project estimated the impact of traffic noise levels based on a total daily Project trip generation of 817 daily trips. Although the proposed modified Project would be reducing daily trips down to 153 total vehicle trips per day, the future noise levels along Washington Road between Main Street and the Project site would still exceed the local thresholds of significance for noise. However, because the modified Project will generate fewer trips, its impact on the noise quality is not more severe than the Project analyzed in the certified EIR.

CONCLUSION

With respect to the above described noise planning evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described noise impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such noise impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(b) Generation of excessive ground borne vibration or ground borne noise levels?

The certified EIR analyzed whether the approved Project would result in exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise. The nearest existing noise-sensitive land use is located 1,000 feet +/- north of the main construction site of the approved Project. It is anticipated that the vibration levels caused by a large bulldozer operating on the edge of the area to be disturbed during construction of the proposed Project at that nearest structure will be less than 0.089-inch-per-second PPV, and

other sensitive land uses located further away would experience even lower vibration levels, and that the Project's impacts would be less than significant. The modified Project's potential impacts on these evaluation standards is consistent with the impacts of the original Project.

CONCLUSION

With respect to the above described noise impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described noise impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such noise impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(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?

The Turlock Airpark is located approximately 4.0 miles southeast and the Modesto City - County Airport is approximately 9 miles north of the approved Project site. Additionally, the approved Project site is outside of an Airport Land Use Compatibility planning boundary. These circumstances are consistent with those for the Project as analyzed in the certified EIR.

CONCLUSION

With respect to the above described noise planning evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described noise impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such noise impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

CUMULATIVE IMPACTS

The certified EIR determined that impacts of the approved Project, when combined with the impacts of past, present, and reasonably foreseeable projects, would result in a cumulatively considerable contribution to noise impacts in the area, chiefly due to the noise impacts associated with the Project's traffic noise. As the above project specific analysis confirms, the actual trip generation from the modified project would be less than the original project. As a result, the modified Project would not create a more severe impact on noise than the Project analyzed in the certified EIR.

CONCLUSION

With respect to the above described noise planning evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described noise impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such noise impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

3.13 - Public Services

This section evaluates whether the impacts of the modified Project on public services involve any of the standards in CEQA Guidelines Section 15162.

3.13.1 - SETTING

The Public Services section of the certified EIR describes the affected environment and regulatory setting pertaining to fire and police protection, public schools, parks and recreation, and other public facilities. The document also analyzed impacts on fire and police protection, public schools, parks and recreation, and other public facilities that would result from implementation of the proposed Project, and the mitigation measures to reduce these impacts. At the time that the Public Services section was written for the certified EIR, the Public Services section also analyzed Utilities and Service Systems. To bring this Addendum up to present-day CEQA Initial Study Checklist Standards Public Services and Utilities and Service Systems will be analyzed separately. Additionally, the Public Services section from the certified EIR analyzed the Project's impacts on the demand for library services, public protection facilities, and paramedic services. These are analyzed as other public facilities under the current CEQA Initial Study Checklist and therefore will be discussed in this Addendum.

With respect to public services, the proposed modified Project would not result in any changes to the setting considered in the certified EIR. The certified EIR concluded that the approved Project would have no impact on schools, parks or other public facilities.

3.13.2 - IMPACT ANALYSIS

Modified Project Impacts

As in the EIR analysis, this Addendum evaluates the potential for the approved Project to result in new or substantially more adverse significant impacts to fire and police protection in relation to the following questions as stated in the CEQA Initial Study Checklist:

Would the project:

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

(i) Fire protection?

In order to implement the goals and objectives of the County's General Plan, and to mitigate the impacts caused by future development in the county, fire department facilities must be constructed. The Board of Supervisors has determined that an impact fee for county facilities that include the fire department are needed in order to finance these facilities and to pay for each development's fair share of the facilities' construction and acquisition costs. The certified EIR determined that adherence to the existing policies of the Stanislaus County General Plan and payment of fire-related development impact fees will ensure that additional fire protection services and personnel are provided in the future. The increase in fire protection resulting from construction of additional facilities such as the approve Project is a long-term objective that cannot be fully addressed in the timeframe needed to significantly improve response to the Project area in the short term. The Project would adhere to all pertinent building code standards related to fire prevention, including the use of a sprinkler system and fire-retardant materials, as required.

The further reduce impacts of the approved Project, Mitigation Measure #3.12-1 requires that the access to the site from Washington Road be provided with radio frequency gate opening devices in addition to the standard police/fire bypass keyway. This would allow for easy access by first responders in the event of an emergency. Implementation of this mitigation measure, in conjunction with payment of fire impact fees, and adherence to State and federal building codes and other local requirements will result in less-than-significant impacts from the Project to fire protection services. The modifications to the project would not result in increased need for fire services. There are therefore no changes in the above circumstances affecting the Project.

CONCLUSION

With respect to the above described public services evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described public services impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such public services impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

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

(ii) Police protection?

The certified EIR determined that the approved Project's adherence to Stanislaus County General Plan policies and the payment of Sheriff's Department facilities impact fees will ensure that adequate law enforcement protection and public protection facilities are provided to serve the Project area. The approved Project would not increase the population of residents in the Project area. It is not anticipated that the approved Project will require construction of new law enforcement facilities to support the Project. Therefore, there are no impacts to police protection associated with construction of new facilities as a result of the Project. The proposed modified Project would include up to 63 employees. However, the majority of these are current employees. New employees are likely to come from the nearby area, and would not need to relocate, and would not represent a significant increase in the area's population to warrant an increased burden on law enforcement. The modifications to the project would not result in increased need for law enforcement services. There are therefore no changes in the above circumstances affecting the Project.

CONCLUSION

With respect to the above described public services evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial

increase in the severity of impacts related to the above described public services impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such public services impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

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

(iii) Schools?

The approved Project was expected to employ up to 75 workers during its busiest season (June through September), with workers living in nearby Turlock, and was not anticipated to induce growth in the area, or require the construction of new homes or increase the need for City services. The approved Project will not adversely impact or require additional school facilities, and there is no impact to the demand for public schools resulting from the Project.

The proposed modified Project anticipates approximately 63 employees, many of whom are currently employed by the project proponent. New employees are likely to come from the nearby area and would not need to relocate. Therefore, it is not expected that the modified Project would impact local schools or require the construction of new educational facilities. The proposed Project modifications would not result in increased demand for schools. There are therefore no changes in the above circumstances affecting the Project.

CONCLUSION

With respect to the above described public services evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described public services impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such public services impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

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

(iv) Parks and Recreation?

The approved Project does not include the construction of residential uses that would require new parks. As noted above, the approved Project was expected to employ up to 75 workers during its busiest season (June through September), with workers living in nearby Turlock, and was not anticipated to induce growth in the area, or require the construction of new homes or increase the need for City services. The Project will not adversely impact or require additional park or recreational facilities, and there is no impact to the demand for public schools resulting from the Project.

The proposed modified Project anticipates approximately 63 employees, many of whom are currently employed by the project proponent. Therefore, it is not expected that the modified Project would impact parks or require the construction of new recreational facilities. There are therefore no changes in the above circumstances affecting the Project.

CONCLUSION

With respect to the above described public services evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described public services impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such public services impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

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

(v) Other public facilities?

The approved Project is not anticipated to induce growth in the area or require the construction of new homes or increase the need for other public facilities, such as libraries or paramedic services. As noted previously, the proposed modified Project would include up to 63 employees, most of which are current employees. New employees are likely to come from the nearby area, and would not need to relocate, and would not represent a significant increase in the area's population to warrant an increased burden on other public facilities. There are therefore no changes in the above circumstances affecting the Project.

CONCLUSION

With respect to the above described public services evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described public services impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such public services impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

Cumulative Impacts

The certified EIR concluded that the impacts of the approved Project, when combined with the impacts of past, present, and reasonably foreseeable projects, on the need for public facilities and public services, would be less than cumulatively considerable. As the above project specific analysis confirms, the impact of the modified project on such facilities and resources is no different than actual trip generation from the modified project would be less than the original project. As a result, the modified Project would not create a more severe impact on noise than the Project analyzed in the certified EIR.

CONCLUSION

With respect to the above described public services evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described public services impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such public services impact evaluation has been

identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

3.14 - Transportation and Traffic

This section evaluates whether the impacts of the modified Project on traffic involve any of the standards in CEQA Guidelines Section 15162. Based on the project's reduced impact on traffic, it recommends modifications to some of the previously adopted mitigation measures. For that reason, this Addendum should be distributed for public review and comment.

3.14.1 - SETTING

This section describes the existing transportation systems and traffic and potential effects from Project implementation on area roadways and transportation systems. The certified EIR descriptions and analysis in this section are based on a traffic impact study prepared by KD Anderson & Associates, Inc., dated October 15, 2013.

For this Addendum, a new traffic study was conducted by Ken Anderson, dated September 16, 2020. The new study found that impacts from the proposed modified Project would be less than significant with revised mitigation measures adopted.

3.14.2 - IMPACT ANALYSIS

Modified Project Impacts

As in the certified EIR analysis, this Addendum evaluates the potential for the proposed modified Project to result in new or substantially more severe significant impacts to transportation in relation to the following questions as stated in the CEQA Guidelines Appendix G Checklist:

The analysis in this section is based on a Traffic Impact Analysis prepared for the Project, and included as Appendix E (KD Anderson & Associates, Inc., 2020). The analysis of the proposed modified Project will also include an analysis of Vehicle Miles Travelled (VMT), per the 2020 CEQA guidelines.

The roadways providing the main circulation for the approved and proposed modified Project site include the following:

The Washington Road / Fulkerth Road intersection: is a rural access intersection for motorists along Fulkerth Road traveling between farmland to the west and SR 99 and Turlock to the east. This intersection is all-way stop controlled. All approaches are single lanes; however, Fulkerth Road is offset by about 12 feet on either side of Washington Road; Fulkerth Road west of Washington Road is shifted north of the west leg.

The Washington Road / Main Street intersection: provides access along a major east-west arterial (Main Street) through Stanislaus County extending from downtown Turlock east of SR 99 west to downtown Patterson. This intersection is within a rural area of the County and is all-way stop controlled. The Washington Road approaches are single lane while the Main Street approaches include a left turn lane and a through-right lane.

The Washington Road / Blue Diamond Growers intersection: provides access to the Blue Diamond Growers processing plant located on the east side of the intersection. The intersection includes southbound left turn and through lanes, northbound right turn and through lanes and a westbound lane providing access to both northbound and southbound Washington Road. The intersection is signalized with a dedicated left turn phase for southbound to eastbound movements.

Would the project:

(a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The Stanislaus County General Plan Circulation Element identifies goals, policies, and implementation measures that ensure compatibility between land use, infrastructure, and transportation modes. The Circulation Element serves to: (1) provide a system of roadways throughout the County which reflects land use needs; and (2) support a broad range of transportation modes. The Circulation Element uses Level of Service (LOS) as the measure of traffic service along a roadway or at an intersection for vehicles. It ranges from A to F, with LOS A being the best and LOS F being the worst. As a matter of policy, Stanislaus County strives to maintain LOS D or better for motorized vehicles on all roadway segments and a LOS of C or better for motorized vehicles at all roadway intersections.

The certified EIR analyzed the approved Project's impacts on area roadways. The analysis included existing traffic volumes, the approved Project and four other projects within the City of Turlock to arrive at an Existing Plus Approved Projects (EPAP) baseline. It was determined that no recommendations were made related to the approved Project for those intersections. However, cumulative impacts of the EPAP within the context of future traffic conditions occurring in the area required three mitigation measures to reduce impacts to less-than-significant levels. Those include: Mitigation Measure #3.13-1a, payment of Traffic Impact fees; #3.13-1b, payment of City of Turlock Capital Facility Development Fees that provides for the construction of Public Facilities and to purchase capital items to allow for City services; and #3.13-1c, the installation of half street improvements along the approved Project frontage to meet the future lane configurations along Washington Road. This will also include addition of a northbound left turn lane at the Washington Road/Blue Diamond/Project Access intersection, as well as traffic signal modifications to the existing signal. A residential driveway would also be constructed on Washington Road to provide access for the single-family residence that will remain. The certified EIR determined that with implementation of the recommended mitigation, impacts of the approved Project on roadways, intersections, streets, etc. would be less than significant.

The proposed modified Project has reduced the number of anticipated trips from what was originally analyzed. Additionally, four current projects in the City of Turlock were analyzed to determine the potential cumulative impacts of the modified Project on local roadways. The results of the new analysis are presented below. Existing Levels of Service are shown in Table 3-8.

Table 3-8
Existing Intersection Levels of Service

Intersection	Control	AM Peak Hour		PM Peak Hour		Meets Peak Hour Signal Warrants
		Avg Delay (Seconds)	LOS	Avg Delay (Seconds)	LOS	
1. Washington Rd/ Fulkerth Rd	All-Way Stop	8.8	A	10.0	A	No
2. Washington Rd/ Blue Diamond	Signal	5.7	B	4.1	A	N/A
3. Washington Rd/ W. Main St	Signal	13.6	A	15.9	B	N/A

N/A – not applicable

The certified EIR determined that the approved Project site would generate 817 daily trips with 114 a.m. peak hour trips and 87 p.m. peak hour trips. A LOS value was assigned for three scenarios: existing plus Project peak hour intersection LOS, existing plus Project roadway segment LOS, and existing plus approved projects. All scenarios resulted in a determination of LOS C or better. Although road segments would continue to operate above LOS thresholds, the Project would contribute to traffic volumes along Washington Road, resulting in the assignment of mitigation measures.

In the new traffic study for the proposed modified Project a traffic count was conducted at the Washington Road / Blue Diamond Growers intersection in July 2020. This count and the previously conducted 2013 traffic counts at the Fulkerth Road / Washington Road and W. Main Street / Washington Road intersections provide a basis to establish existing traffic volumes; the Covid-19 pandemic has reduced traffic volumes as a result of telecommuting and job losses. The intersection volumes were adjusted based on a review of historic data / model information growth percentages. Peak hour traffic from the Blue Diamond Growers plant and the Valley Milk plant were also included for each study intersection. All study intersections currently operate at LOS B conditions or better and are within adopted standards at all study locations. The Fulkerth Road / Washington Road intersection does not satisfy peak hour traffic signal warrant. A new 24-hour daily traffic count was conducted along Washington Road. The daily volume was adjusted using the historic data / model information and Blue Diamond Growers and Valley Milk plants. The segment currently operates at an acceptable Level of Service, at LOS C or better (KD Anderson & Associates, Inc., 2020). One of the most significant changes from the certified EIR to the proposed modified Project is the reduction in daily trips generated; whereas the certified EIR determined that the Project site would generate 817 daily trips, the proposed modified Project will be generating no more than 153 daily trips.

The Project intends to have a maximum of 63 employees at the site, with this amount occurring during the harvest period. It was assumed that 10 percent of employees may commute. Additionally, it was assumed that there may also be additional trips to and from the site on a daily basis by employees leaving the site for miscellaneous activities as well as trips by delivery and mail services, etc. This was also assumed to be 10 percent of the employee traffic.

Shipping trucks are those trucks hauling produce to various markets and distribution centers. A review of the past two years of truck bills of lading during the peak shipping months of July and August were reviewed to determine the number of trucks hauling produce during the mid-week. The number of daily trucks ranged from a low of two trucks at the beginning of harvest to a maximum of 48 trucks. The average rate over the 2017-2018 harvest period is 28 trucks per day. However, the applicant has stated they intend to have adequate produce for 35 trucks per day.

Field trucks, those trucks hauling produce from the fields to the packing house, are 15-ton trucks. According to the applicant they could haul up to about 825 tons of produce, or 55 trucks, to the packing house daily. Shipping trucks, meanwhile, are typically 20-ton trucks. Comparatively, for every four shipping trucks outbound, five field trucks bring produce in, a rate of 1.25:1. Applying this rate to the number of shipping trucks yields a daily field truck rate of 54 trucks (43 times 1.25). This corresponds to the rate provided by the applicant. Seasonal project-related trips generally begin about 6:00 a.m. with trucks leaving the site for the fields to pick up crops. Warehouse employees generally arrive between 7:00 a.m. and 8:00 a.m. as the first truck returning from the fields is projected to arrive at about 8:00 a.m. Field truck traffic is spread out throughout the day with the last inbound truck expected to arrive about 4:00 p.m. Shipping trucks transporting the product to distribution centers will generally depart the warehouse between 1:00 p.m. and 6:00 p.m. Shipping trucks were projected to arrive at the site beginning during the a.m. peak hour and queue on site until they are loaded and departing beginning at 1:00 p.m.

Table 3-9 presents the trip generation for the proposed modified Project. The modified Project is projected to create 306 daily trips, 82 a.m. peak hour trips and 89 p.m. peak hour trips.

Table 3-9
Project Trip Generation

		Trip Rate			Trips		
	Amount	Daily	AM Peak Hour	PM Peak Hour	Daily	AM Peak Hour	PM Peak Hour
Employees	63	126	63	63	126	63	63
Field Trucks	55	110	12	12	110	12	12
Shipping Trucks	35	70	7	14	70	7	14
			AM Peak Hour	PM Peak Hour		AM Peak Hour	PM Peak Hour

	In	Out	In	Out		In	Out	In	Out
Employees	90%	10%	10%	90%		57	6	6	57
Field Trucks	50%	50%	67%	33%		6	6	8	4
Shipping Trucks	50%	---	50%	50%		7	0	7	7
Net New Trips					**306**	**70**	**12**	**21**	**68**

*includes 10% reduction for employees carpooling and 10% additional traffic for off-site employee trips, delivers, mail, etc.

Although all study intersections and road segment will operate within accepted Level of Service threshold levels, the following modifications to the original certified EIR mitigation measures are identified below. Based on the new Traffic Impact Analysis, Mitigation Measure #3.13-1a would remain the same and require payment of the appropriate Traffic Impact fees. Mitigation Measure #3.13-1b would be eliminated as it is not associated with an identified Project impact. Mitigation Measure #3.13-1c would be modified to reflect the appropriate fair share of roadway improvements warranted based on the reduced traffic generation impact. This mitigation would require improvements at the Washington Road / Blue Diamond intersection traffic signal, which would reduce queuing and maintain an acceptable level of service on this roadway. With implementation of recommended mitigation measures as modified, impacts would be less than significant.

MITIGATION MEASURES

MM #3.13-1a: The Project shall pay the Traffic Impact Fees as set forth by Stanislaus County.

MM #3.13-1c: The application shall modify the existing Washington Road / Blue Diamond traffic signal by adding the fourth leg of the intersection. This shall require an encroachment permit from the City of Turlock.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The modified project has reduced the severity of the previously identified traffic impacts and this Addendum proposed the above described modifications to the adopted mitigation measures. The modified project, with the implementation of the modified mitigation measures specified above, will result in a less-than-significant impact on the County's adopted Level of Service criteria.

(b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3 Subdivision b?

The 2020 CEQA Guidelines Update includes new and revised provisions for analyzing the significance of transportation impacts. Specifically, CEQA Guidelines section 15064.3 states that Vehicle Miles Travelled (VMT) for land use projects "exceeding an applicable threshold of significance may indicate a significant impact." (14 CCR § 15064.3, subd. (b)(1).). This new metric took effect state-wide July 1, 2020. As a result of this new section, the significance threshold for transportation impacts in both CEQA Guidelines section 15064 and Appendix G are described in terms of VMT. The CEQA Guidelines generally state that projects that decrease VMT can be assumed to have a less-than-significant transportation impact. The

CEQA Guidelines do not provide any specific criteria on how to determine what level of project VMT would be considered a significant impact.

Certain types of projects as identified in statute, the CEQA Guidelines, or in OPR's Technical Advisory are presumed to have a less-than-significant impact on VMT and therefore a less-than-significant impact on transportation. Generally, the identified projects contribute to efficient land use patterns enabling higher levels of walking, cycling, and transit as well as lower average trip length. These projects include, for example, projects in transit priority areas, projects consisting of residential infill or those located in low VMT areas.

The proposed modified Project will construct a packing house used to receive, store, pack and ship produce to retailers in the western United States. As the Project requires hauling of produce from fields and then shipping the produce there are limited methods to reduce VMT. These include employer-related methods to reduce employee trips and can include methods to reduce and/or eliminate employee trips. The VMT discussion presented is not intended to pre-empt the County process of developing and adopting VMT guidelines. Rather, the discussion presented is intended to be a good-faith effort at disclosing and identifying the VMT impacts of the Avila Packing House project based on currently available data and guidance.

The proposed modified Project was evaluated for its impact on the VMT threshold. However, Stanislaus County has not yet adopted methods for estimating regional VMT or significance criteria for evaluating impacts based on VMT. Instead, their current strategy is to review each project separately due to the rural composition of the County. The County has acknowledged that it is generally accepted that the best places for farmland is in rural areas of the County with limited availability to reduce VMT other than employer-based programs.

In addition, it must be noted that CEQA Guidelines Section 15064.3(c) is clear that "[t]he provisions of [Section 15064.3] shall apply prospectively as described in [CEQA Guidelines] section 15007." CEQA Guidelines Section 15007(c) specifically states: "[i]f a document meets the content requirements in effect when the document is sent out for public review, the document shall not need to be revised to conform to any new content requirements in Guideline amendments taking effect before the document is finally approved." As noted above, the Guidelines changes with respect to VMTs took effect on July 1, 2020, while the Project's certified EIR adopted in 2012. As such, and in accordance with CEQA Guidelines Section 15064.3(c) and 15007(c), revisions to EIR are not required under CEQA in order to conform to the new requirements established by CEQA Guidelines Section 15064.3.

Once a project is approved, CEQA does not require that it be analyzed anew every time another discretionary action is required to implement the project. Quite the opposite, where an EIR has previously been prepared for a project, CEQA expressly prohibits agencies from requiring a subsequent or supplemental EIR except in specified circumstances. (Pub. Res. Code Section 21166.) Under CEQA, "Section 21166 comes into play precisely because in-depth review has already occurred, the time for challenging the sufficiency of the original EIR has long since expired, and the question is whether circumstances have changed enough to justify repeating a substantial portion of the process." (Citizens Against Airport Pollution

v. City of San Jose ("CAAP") (2014), 227 Cal.App.4th at 796.) Also, because at the time the EIR was certified, there was no CEQA requirement to analyze VMT and thus there is no need to analyze VMT impacts in connection with this Addendum. (A Local & Regional Monitor v. City of Los Angeles (1993) 12 Cal.App.4th 1773, 1801.)

Furthermore, the new VMT requirements set forth by CEQA Guidelines Section 15064.3 do not relate to a different type of impact, but merely a different way of analyzing transportation impacts. Because VMT impacts were known or should have been known, the adoption of the requirement to analyze VMT does not constitute significant new information requiring preparation of a subsequent or supplemental EIR. (Concerned Dublin Citizens v. City of Dublin (2013) 214 Cal.App.4th 1301, 1320).

CONCLUSION

In the case of the proposed Project, except for the reduced impact of the Project on LOS standards, there are no changed circumstances that would warrant additional analysis under Public Resources Code Section 21166. Even if an analysis were conducted utilizing the assumptions and methodologies for VMTs included in the EIR's evaluation of potential air quality effects, the results of such an analysis would show that the Project-related total VMTs are less than was assumed by the EIR, based on the reduction in traffic associated with the Project as compared to what was evaluated for the Project site by the EIR. Therefore, and based on the foregoing analysis, the Project would not result in any new impacts to VMT not already analyzed in the EIR, and the Project would not increase the severity of a significant impact as previously identified and analyzed in the EIR.

(c) Substantially increase hazards due to a geometric design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?

The modified project will not introduce new curves and/or hazardous intersections into the Project vicinity. No new design or features would be introduced that would result in transportation-related hazards or safety concerns. The proposed Project modification does not change these circumstances as analyzed in the EIR.

CONCLUSION

With respect to the above described traffic impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described traffic impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such described traffic impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not

increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(d) Result in inadequate emergency access?

The certified EIR determined that the approved Project has the potential to result in inadequate emergency access while road improvements are being constructed along North Washington Road. Mitigation Measure #3.13-5 requires that site plans be submitted to the Fire and Police Departments for review to ensure adequate emergency access. The proposed modified Project would comply with all local development standards related to site access, as well as implement Mitigation Measure #3.13-5. Therefore, there is no change in the severity of this previously identified impact.

CONCLUSION

With respect to the above described traffic impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described traffic impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such described traffic impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

Cumulative Impacts

As noted above, the Traffic Impact Analysis prepared for the proposed modified Project evaluated the near-term condition intended to consider the impact of this Project within the context of already approved and pending projects that add traffic on the adjacent roadway network. Even with the anticipated development of approved and pending projects, the LOS never declines to less than what the County has established as an acceptable threshold for LOS. The certified EIR concluded that the impacts of the approved Project, when combined with the impacts of past, present, and reasonably foreseeable projects, would not create a substantial cumulative adverse effect on traffic with the implementation of mitigation measures. Because the modified Project's direct impacts on traffic is less than the approved Project, the contribution of the modified Project to cumulative impacts would be less than the approved Project.

CONCLUSION

With respect to the above described traffic impact evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described traffic impact evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such described traffic impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

3.15 - Tribal Cultural Resources

This section evaluates whether the impacts of the modified Project on tribal cultural resources involve any of the standards in CEQA Guidelines Section 15162.

3.15.1 - SETTING

The certified EIR, published in June of 2015, was not required to provide an environmental impact analysis on Tribal Cultural Resources. This section is added to the Addendum, but the impacts were analyzed in the Cultural Resources section of the certified EIR. In addition, as noted above, in circumstances where this Project satisfies the standards of CEQA Guidelines Section 15162, there is no basis to impose new CEQA standards on Project, notwithstanding the adoption of new CEQA Guidelines.

3.15.2 - IMPACT ANALYSIS

Modified Project Impacts

Impacts to cultural resources was originally evaluated in the certified EIR in Section 3.5 - *Cultural Resources*. However, this Addendum will evaluate the potential for the proposed modified Project to result in new or substantially more severe significant impacts related specifically to Tribal Cultural Resources in relation to the following:

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), or,

(b) A resource determined by the lead agency, in its discretion 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?

As noted in the certified EIR, a records search of historical and archaeological resources was completed on November 7, 2013, by the Central California Information Center (CCIC). According to CCIC records, there is no record evidence of historical or archaeological sites on the Project site. However, there is the potential during ground disturbing activities to uncover tribal cultural resources. This impact is potentially significant, but can be mitigated to a less-than-significant level with implementation of MM #3.5-1a and b. According to Stanislaus County there are no local tribes requesting notification for consultation under AB 52. As a result, the modified Project would not create a more severe impact on noise than the Project analyzed in the certified EIR.

CONCLUSION

With respect to the above described Tribal Cultural Resources evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described Tribal Cultural Resources evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such Tribal Cultural Resources impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

Cumulative Impacts

As the above project specific analysis confirms, the impacts of the modified project on such Tribal Cultural Resource is not different than the project evaluated in the certified EIR. As a result, the modified Project would not create a more severe impact on noise than the Project analyzed in the certified EIR.

CONCLUSION

With respect to the above described Tribal Cultural Resources evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described Tribal Cultural Resources evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such Tribal Cultural Resources impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

3.16 - Utilities and Service Systems

This section evaluates whether the impacts of the modified Project on utilities and service systems involve any of the standards in CEQA Guidelines Section 15162.

3.16.1 - SETTING

Although Utilities and Services were not individually assessed in the certified EIR, Utilities and Service Systems were assessed in conjunction with the Public Services section. Utilities and Service Systems discusses the affected environment and regulatory setting pertaining to water, wastewater treatment, storm drainage facilities, and waste facilities.

With respect to Utilities and Service Systems, the proposed modified Project would not result in any changes to the setting considered in the certified EIR. The certified EIR concluded that the approved Project would have a less-than-significant impact on Utilities and Services.

3.16.2 - IMPACT ANALYSIS

Modified Project Impacts

This Addendum evaluates the potential for the modified Project to result in new or substantially more adverse significant impacts to water and wastewater treatment, storm drainage facilities, and waste facilities beyond those analyzed in the certified EIR. This analysis is based on the following questions as stated in the CEQA Initial Study Checklist:

Would the project:

(a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or

telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

The approved Project would use approximately 2.12 acre-feet of water per year for all combined purposes. Water would have been supplied from an existing water well. Wastewater resulting from the washing process will be applied to nearby fields, and will not require prior treatment. Wastewater generated from hand washing stations, restrooms, or other employee facilities would adhere to Stanislaus County requirements of both the Uniform Plumbing Code and the County Environmental Health Department for the installation and operation of an on-site, commercial septic system. The modified Project would not substantially increase the amount of water used during the operation of the facility. The modified Project will not require the construction or expansion of existing water or wastewater facilities. No other water sources exist or are proposed. Similar to the determination of the certified EIR, the proposed modified Project would have no impact.

As noted in Section 3.10- *Hydrology and Water Quality*, the approved Project is required to install and maintain a new or expanded retention basin, as the existing basin provides storage for 0.08 acres of water storage, and is subject to the requirements of the NPDES Permit adopted by the SWRCB. With the implementation of BMPs and other measures as required under the NPDES General Permit and the Phase I and II MS4 permits, the modified Project's stormwater impact is less than significant.

The proposed modified Project anticipates water used on site for washing purposes, as well as water used by employees for sanitation and cleaning will be supplied by a new well and a public water system. The source of the proposed public water system is groundwater. The existing residential well on the site does not meet the necessary water quality or local code requirements to quality as an approved public water system. Therefore, a new well will need to be fashioned to meet construction code requirements and to produce a compliant water quality. After reviewing local hydrogeology and studying local well construction methods, a new well can be drilled on the property so long as the well is constructed with the goal of improving water quality in the design of the well. A new water well will be drilled and used to supply potable water to the project. A public water system for on-site use only will be installed when the number of employees reach the threshold as required by the State under California Health and Safety Code Section 116275(h). The new water system will consist of an 8" well drilled to a depth of 480 feet, a 10 HP submersible pump, a 1,500-gallon hydropneumatics tank, and approximately 250 feet of distribution piping. If necessary, filtration equipment will be designed as a part of the improvements (Quality Service, Inc., 2019).

The Project will include construction of the facility and operation of the produce processing equipment. Construction activities are expected to generate debris typical of this activity. Solid waste from the Project would be taken to the Fink Road landfill near Crows Landing, or to the Stanislaus Resource Recovery Facility (SRRF), a waste-to-energy facility, adjacent to the landfill. The waste-to-energy facility reduces the volume of waste going into the landfill

by about 90 percent. Projections for the life of the landfill to 2029 for Class III waste (garbage) and 2043 for Class II (waste-to-energy). Up to approximately 0.5 cubic yards of organic waste (culls and pieces of produce) may be produced daily. This will be spread over the ground on the site, and periodically tilled into the soil. The Project will comply with State, federal, and local regulations regarding disposal of solid waste.

As previously noted in Section 3.6 – *Energy*, Table 3-6 provides an estimate of energy use for the proposed modified Project. Estimated electricity, natural gas, and motor vehicle gasoline consumption were derived from estimates included in the CalEEMod program. As shown below, the Project would consume approximately 1,378,041 kWh of electricity, 3,211,950 Btu of natural gas, and 91,579 gallons of gasoline per year. It is anticipated that the facility will not require the expansion of electrical or natural gas generating facilities. Telecommunication infrastructure is already installed and operational on the modified Project site, and therefore will not need to be expanded beyond current baseline levels.

The proposed Project modifications as would not generate the need for storm water drainage, electric power, natural gas, or telecommunications facilities or new solid waste facilities. As a result, the modified Project would not create a more severe impact on noise than the Project analyzed in the certified EIR.

CONCLUSION

With respect to the above described public utility evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described public utility evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such public utility impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(b) Have sufficient water supplies available to serve the project and reasonable foreseeable future development during normal, dry and multiple dry years?

As noted in Section 3.10- *Hydrology and Water Quality*, the modified Project will use a maximum of 1,000 gallons per day during the busiest seasons and approximately 335 gallons per day during the slower seasons. The total usage of water for both employee usage and washing produce for the entire year would be 690,000 gallons or 2.12 acre-feet, primarily for rinsing fruit and vegetables. Water would be extracted from an existing, on-site, agricultural well, which produces water at a rate of 800 GPM. Washing water may be used to irrigate the adjacent fields, so that less surface water would be needed for irrigation purposes.

The 2008 Turlock Groundwater Management Plan estimated a groundwater storage decreased by 21,500 af/yr +/- between 1997 and 2006 in the Turlock Subbasin and that groundwater has decreased slightly in recent years (Quality Service, Inc., 2019). Although this basin is not considered to be critically overdrafted, it is recognized a new well would add to the basin's net outflow. The decrease in groundwater may be linked to land use types that rely on groundwater for supply. The slight decline in storage is likely to continue if urban or irrigated land uses are developed in areas dependent on groundwater. However, the plan notes groundwater storage will fluctuate seasonally, an alternating period of decline and recovery in groundwater levels are a response to this natural variation. Long-term declines in storage without recovery could be a concern.

Therefore, measures will be taken during the Project design phase and routine operation of the water system to ensure that the system's impact is minimal. This can be accomplished by complying with the seven Basin Management Objectives (BMOS) established within the local Groundwater Basin Management Plan and working with the local Groundwater Sustainability Agency to comply with the sustainability plan. The system can help support the Basin Management Objectives primarily by building the proposed well responsibly (the deep annular seal that is recommended will prevent comingling of contaminants in the upper strata), considering water conservation in design and routine operation, and by monitoring and regulating their groundwater extraction. The system will be designed around the demand calculations that were furnished by the engineer, and safeguards (such as flow restrictions) will be implemented based on those figures so that excessive use is possible. Based on analysis provided in the Preliminary Technical Report (Appendix C) (Quality Service, Inc., 2019), there is sufficient groundwater available to serve the modified Project. As a result, the modified Project would not create a more severe impact on noise than the Project analyzed in the certified EIR.

CONCLUSION

With respect to the above described public utility evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described public utility evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such public utility impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

As noted in Section 3.10- *Hydrology and Water Quality*, the certified EIR indicated no domestic water or wastewater services are proposed. All water will be obtained from wells on site and disposed of on site. Water for processing of produce and other uses (e.g., employee sinks and toilets) will be obtained from private wells on the site. A septic leachfield system will be used to dispose of wastewater from employee sinks and toilets hat is designed in accordance with the County Environmental Health Department requirements. The proposed modified Project would expand the existing residential septic system to ensure that there is capacity for the estimated 63 employees. Wastewater generated from hand washing stations, restrooms, or other employee facilities would also adhere to Stanislaus County requirements to meet the Uniform Plumbing Code for the installation and operation of an on-site, commercial septic system. The modified Project will have a less-than-significant impact on the County's or nearby City's ability to serve existing wastewater users.

The proposed Project modification will not change the demand on the County's or City's wastewater treatment provider. As a result, the modified Project would not create a more severe impact on noise than the Project analyzed in the certified EIR.

CONCLUSION

With respect to the above described public utility evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described public utility evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such public utility impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the EIR.

(d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

The Project will include construction of the facility and operation of the produce processing equipment. Construction activities are expected to generate debris typical of this activity. Solid waste from the Project would be taken to the Fink Road landfill near Crows Landing, or to the Stanislaus Resource Recovery Facility (SRRF), a waste-to-energy facility, adjacent to the landfill. The waste-to-energy facility reduces the volume of waste going into the landfill by about 90 percent. Projections for the life of the landfill to 2029 for Class III waste (garbage) and 2043 for Class II (waste-to-energy). Up to approximately 0.5 cubic yards of organic waste (culls and pieces of produce) may be produced daily. This will be spread over the ground on the site, and periodically tilled into the soil. The Project will comply with State, federal, and local regulations regarding disposal of solid waste. The proposed Project would

not generate solid waste in excess of State or local infrastructure or impair the attainment of solid waste reduction goals.

The proposed Project modifications would not result in a generation of solid waste beyond what was anticipated in the certified EIR. As a result, the modified Project would not create a more severe impact on noise than the Project analyzed in the certified EIR.

CONCLUSION

With respect to the above described public utility evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described public utility evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such public utility impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

The proposed modified Project would generate solid waste during construction and operation similarly to that analyzed in the certified EIR. Common construction waste may include metals, masonry, plastic pipe, rocks, dirt, cardboard, or green waste related to land development. AB 341 requires Stanislaus County to attain a waste diversion goals of 75 percent by 2020 through reduction, recycling, or composting. In addition, as part of compliance with CALGreen requirements, The City of Turlock's disposal rate goal is 6.3 pounds per person per day and employment target is 21.2 pounds per employee per day. Although CalRecycle encourages composting of solid waste from agricultural facilities, there are no State requirements to compost culls and solid wastes strained from washing water at packing facilities.

Furthermore, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the project design. The proposed modified Project would be required to comply with all federal, State, and local statutes and regulations related to the handling and disposal of solid waste. Therefore, the proposed Project modifications as described in Section 2.3 - *Proposed Modified Project Characteristics* and Table 2-1 of this Addendum EIR would be in compliance with federal, State, and local management and reduction statutes and regulations related to solid waste. As a result, the Project would not create a more severe impact on public services than the Project analyzed in the certified EIR.

CONCLUSION

With respect to the above described public utility evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described public utility evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such public utility impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

Cumulative Impacts

The certified EIR concluded that the impacts of the approved Project, when combined with the impacts of past, present, and reasonably foreseeable projects, would not create a cumulatively substantial adverse effect on Utilities and Service Systems. The above project specific impacts of the modified Project confirm that the modified project would not create a more severe impact on noise than the Project analyzed in the certified EIR. Therefore, the contribution of the modified Project to cumulative impacts would not be greater than the approved Project.

CONCLUSION

With respect to the above described public utility evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described public utility evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such public utility impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

3.17 - Wildfire

This section evaluates whether the impacts of the modified Project on wildfire risks involve any of the standards in CEQA Guidelines Section 15162.

3.17.1 - SETTING

The certified EIR, which was published in June of 2015, did not provide an environmental impact analysis on Wildfire. Wildfire resources were not introduced to the Appendix G CEQA checklist until 2019. In addition, as noted above, in circumstances where this Project satisfies the standards of CEQA Guidelines Section 15162, there is no basis to impose new CEQA standards on Project, notwithstanding the adoption of new CEQA Guidelines

The approved Project is located at 1301 N. Washington Road, Turlock, California and consists of two parcels APN: 023-039-017, and -018 and is not in a high severity zone (Stanislaus County, 2015). Though not required as a matter of CEQA legal standards, this Addendum nevertheless sets forth an analysis of the wildfire risks to determine the level of significance the approved Project and the proposed modified Project will have on risks of wildfire.

3.17.2 - IMPACT ANALYSIS

Modified Project Impacts

This Addendum analyzes the potential for the approved Project and the proposed modified Project to result in new or substantially more severe significant impacts to wildfire risks by reference to the following questions as stated in the CEQA Guidelines Appendix G Checklist:

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?

According to the 2015 Stanislaus County General Plan, evacuation routes are available around existing roads. North Washington Road is east of the approved Project site and runs north and south. Fulkerth Road is north of the approved Project site and runs east to west of the approved Project. There are currently two access points on the approved Project site to North Washington Road. During Phase 1, installation of a driveway onto Washington Road will be added. Neither the approved Project nor the proposed modified Project will impair an emergency response plan or emergency evacuation plan. The approved Project impacts would be less than significant.

The proposed Project modifications does not have a change in location and the modified Project will still have access to North Washington Road. As a result, the Project would not create a more severe impact on wildfire risks than the Project analyzed in the certified EIR.

CONCLUSION

With respect to the above described wildfire risk evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no

substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described wildfire risk evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such wildfire risk impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

MITIGATION MEASURES

No new or revised mitigation measures are required beyond those included in the previously certified EIR.

(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?

Stanislaus County has identified several areas as State Responsibility Areas (SRA) and has the potential for wildland fires. The approved Project location is located in a Local Responsibility Area (LRA) and not in a SRA, according to the Stanislaus County State Responsibility Areas For Fire Protection Map (Stanislaus County, 2015).

Although the entire State of California is susceptible to fire hazard, some locations of California are more vulnerable than others and have been identified as Fire Hazard Severity Zones. Fire Hazard Severity Zones are broken-up into three categories: Moderate, High, and Very High. The approved Project site is not located in any three of these categories (California Department of Public Health , 2017).

The approved Project site is located in the Turlock Rural Fire Protection District. The Turlock Rural Fire Protection District encompasses south and west of the City of Turlock and stretches to the Stanislaus-Merced County line. A portion of the territory is located in the City of Turlock's Sphere of Influence (Stanislaus LAFCO, 2007). The nearest fire station is located at 690 West Canal Drive in Turlock and is 3.2 +/- miles away from the approved Project site.

As stated, the topography of the approved Project site is primarily flat and does not have sloped areas. The vegetation on the property consists mainly of cultivated vegetables and several trees of various sizes. The area is not in an SRA or Fire Hazard Severity Zone. The proposed modified Project would comply with all local and State building codes related to fire prevention and suppression. Therefore, the approved Project would have a less-than-significant impact.

The proposed project modifications do not have a change in location or alteration. As a result, the Project would not create a more severe impact on wildfire risks than the Project analyzed in the certified EIR.

CONCLUSION

With respect to the above described wildfire risk evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described wildfire risk evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such wildfire risk impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(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?

As noted in Section 3.8- *Hazards and Hazardous Materials*, the approved Project is in an agricultural area and already has sufficient infrastructure in place. The modified Project site is clear of brush and tall grasses which would normally be fuels for fire. If a fire would occur during operation of the proposed project, the closest responder would be the City of Turlock's Fire Station #2. Installation of roads, emergency water sources, power lines, and other utilities are not required at this time for the approved Project or the proposed modified Project. The proposed modified Project intends to install a driveway to access North Washington Road that will improve access for first responders and emergency vehicles. The proposed modified Project will not require the installation or maintenance of an associated infrastructure that may exacerbate fire risk or may result in temporary or ongoing impacts on the environment. Therefore, the approved Project would not have an impact.

The proposed Project modifications does not change the Project location. As a result, the Project would not create a more severe impact on wildfire risks than the Project analyzed in the certified EIR.

CONCLUSION

With respect to the above described wildfire risk evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described wildfire risk evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR

was certified, relevant to such wildfire risk impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

(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?

As previously stated in the certified EIR, the approved Project is flat and does not contain any slopes; therefore, the opportunity for slope failure is unlikely. The Project is located next to an irrigation canal to the south of the property. However, it is not located near a creek, stream, or river. As stated in 3.9 - *Geology and Soils*, of the certified EIR, drainage patterns will not be altered in a manner that would result in substantial erosion, siltation, or flooding on or off-site. Also, a SWPPP with the latest regulations will be prepared and will include BMPs. The site will be graded the minimum amount required to collect run-off into the retention basin. Therefore, the approved Project will not have a significant impact.

The proposed Project modifications does not change the Project location. As a result, the Project would not create a more severe impact on wildfire risks than the Project analyzed in the certified EIR.

CONCLUSION

With respect to the above described wildfire risk evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described wildfire risk evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such wildfire risk impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

Cumulative Impacts

The certified EIR determined that the approved Project, when combined with impacts of past, present, and reasonably foreseeable projects and the proposed modified Project, will not result in a substantial adverse change in the significance of a wildfire resource as noted in Section 3.8- *Hazards and Hazardous Materials.*

As previously stated, vegetation (wild plant life), climate, topography, and people are factors when addressing wildfires. The proposed modified Project site is on flat land, cultivating

vegetables (minimizing the amount of wild plant life), relatively close to a firehouse, and not listed in a Fire Hazard Severity Zone. The impacts on wildfire would be less than cumulatively considerable.

The above project specific impacts of the modified Project confirm that the modified project would not create a more severe impact on wildfire risk than the Project analyzed in the certified EIR. Therefore, the contribution of the modified Project to cumulative impacts would not be greater than the approved Project.

The certified EIR, which was published in June of 2015, did not provide an environmental impact analysis on Wildfire. Wildfire resources were not introduced to the Appendix G CEQA checklist until 2019. In addition, as noted above, in circumstances where this Project satisfies the standards of CEQA Guidelines Section 15162, there is no basis to impose new CEQA standards on Project, notwithstanding the adoption of new CEQA Guidelines

The approved Project is located at 1301 N. Washington Road, Turlock, California and consists of two parcels APN: 023-039-017, and -018 and is not in a high severity zone (Stanislaus County, 2015). Though not required as a matter of CEQA legal standards, this Addendum nevertheless sets forth an analysis of the wildfire risks to determine the level of significance the approved Project and the proposed modified Project will have on risks of wildfire.

3.17.3 - IMPACT ANALYSIS

Modified Project Impacts

This Addendum analyzes the potential for the approved Project and the proposed modified Project to result in new or substantially more severe significant impacts to wildfire risks by reference to the following questions as stated in the CEQA Guidelines Appendix G Checklist:

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

(c) Substantially impair an adopted emergency response plan or emergency evacuation plan?

According to the 2015 Stanislaus County General Plan, evacuation routes are available around existing roads. North Washington Road is east of the approved Project site and runs north and south. Fulkerth Road is north of the approved Project site and runs east to west of the approved Project. There are currently two access points on the approved Project site to North Washington Road. During Phase 1, installation of a driveway onto Washington Road will be added. Neither the approved Project nor the proposed modified Project will impair an emergency response plan or emergency evacuation plan. The approved Project impacts would be less than significant.

The proposed Project modifications does not have a change in location and the modified Project will still have access to North Washington Road. As a result, the Project would not create a more severe impact on wildfire risks than the Project analyzed in the certified EIR.

CONCLUSION

With respect to the above described wildfire risk evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described wildfire risk evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such wildfire risk impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

3.17.4 - IMPACT ANALYSIS

Modified Project Impacts

This Addendum analyzes the potential for the approved Project and the proposed modified Project to result in new or substantially more severe significant impacts to wildfire risks by reference to the following questions as stated in the CEQA Guidelines Appendix G Checklist:

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

(d) Substantially impair an adopted emergency response plan or emergency evacuation plan?

According to the 2015 Stanislaus County General Plan, evacuation routes are available around existing roads. North Washington Road is east of the approved Project site and runs north and south. Fulkerth Road is north of the approved Project site and runs east to west of the approved Project. There are currently two access points on the approved Project site to North Washington Road. During Phase 1, installation of a driveway onto Washington Road will be added. Neither the approved Project nor the proposed modified Project will impair an emergency response plan or emergency evacuation plan. The approved Project impacts would be less than significant.

The proposed Project modifications does not have a change in location and the modified Project will still have access to North Washington Road. As a result, the Project would not create a more severe impact on wildfire risks than the Project analyzed in the certified EIR.

3.18 - Growth Inducement

Section 15126.2(d) of the CEQA Guidelines requires analysis of potential growth-inducing effects of projects. Specifically, this section of CEQA is concerned with the way in which the proposed project could foster economic or population growth or the construction of additional housing. Relative to this analysis, the CEQA Guidelines states:

> Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are project which could remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristics of some projects which way encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. If must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

3.18.1 - SETTING

The proposed modified Project is at the same location as the approved Project. As such, the discussion of the regional, environment and regulatory setting for Growth Inducement is provided in detail in the certified EIR and applies to the proposed modified Project.

3.18.2 - IMPACT ANALYSIS

Differences between the certified EIR and approved Project to the Addendum and proposed modified Project is that previously the site was to be developed across three phases, and the existing barn will now be used as an agricultural shop building instead of as a packing shed, and not used in support of any of the Packing House Project activities. The modified Project will now include the development of new offices and a packing building, over seven phases. The conversion of the barn on the adjacent parcel to an agricultural shop building will be conducted as an activity distinct and separate from the development of the Packing House Project, but is included in the Project for environmental assessment purposes. The proposed modified Project would not increase population or provide additional jobs to the community.

3.18.3 - CUMULATIVE IMPACT – GROWTH INDUCEMENT

In Section 6.4- *Growth-Inducing Impacts*, the certified EIR noted that Section 15126.2(d) of the CEQA Guidelines requires a discussion of how the potential growth-inducing impacts of the proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Direct population growth occurs when a project would result in the construction of a substantial

amount of new housing or otherwise directly cause a substantial increase in a community's population. Indirect growth inducement occurs when a project would extend infrastructure to undeveloped areas, remove obstacles to population growth, or otherwise encourage activities that cause significant environmental effects. Induced growth is distinguished from the direct employment, population, or housing growth of a project. concluded that the impacts of the approved Project in combination with impacts of past, present, and reasonably foreseeable future projects would not create significant impacts related to growth inducement in the region. The approved Project would not result in the extension of urban infrastructure to an area that is currently not serviced because the project does not require or propose connection to urban infrastructure. In particular, potable water and sewer service would not be extended to the Project site. Similarly, the proposed modified Project would not directly or indirectly cause a growth inducement impact.

Overall, the proposed modified Project is consistent with the land use designations contained in the Stanislaus County General Plan and will not encourage growth that exceeds population projections. Growth inducement, as it pertains to CEQA and this document, generally denotes growth that is not planned for. Given that the proposed project is in compliance with County growth projections, it will not result in significant direct growth-inducing impacts. Therefore, no mitigation measures were determined to be necessary.

As noted above, the proposed modified Project will not create any significant and unavoidable project-level impacts related to growth inducement. The majority of lands within the vicinity are expected to remain in their present, developed state. In addition, other past, present, and reasonably foreseeable future projects in the vicinity are obligated to mitigate their own impacts related to growth inducement, therefore, no new or substantially more severe significant cumulative impacts related to growth inducement are expected as a result of the proposed modified Project.

The certified EIR, which was published in June of 2015, did not provide an environmental impact analysis on Wildfire. Wildfire resources were not introduced to the Appendix G CEQA checklist until 2019. In addition, as noted above, in circumstances where this Project satisfies the standards of CEQA Guidelines Section 15162, there is no basis to impose new CEQA standards on Project, notwithstanding the adoption of new CEQA Guidelines

The approved Project is located at 1301 N. Washington Road, Turlock, California and consists of two parcels APN: 023-039-017, and -018 and is not in a high severity zone (Stanislaus County, 2015). Though not required as a matter of CEQA legal standards, this Addendum nevertheless sets forth an analysis of the wildfire risks to determine the level of significance the approved Project and the proposed modified Project will have on risks of wildfire.

CONCLUSION

With respect to the above described growth inducing evaluation standards, there are no changes proposed by the Project modifications that involve new significant environmental effects or a substantial increase in the severity of previously identified effects. In addition, no substantial changes have occurred with respect to the circumstances under which the

Project is undertaken that involve new significant environmental effects or a substantial increase in the severity of impacts related to the above described growth inducing evaluation standards. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, relevant to such growth inducing impact evaluation has been identified. Therefore, with respect to this criteria, the modified Project would not result in any new impacts not already analyzed in the certified EIR, and the modified Project would not increase the severity of a significant impact as previously identified and analyzed in the certified EIR.

CHAPTER 4 - LIST OF PREPARERS

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CHAPTER 5 - REFERENCES

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APPENDIX A

AIR QUALITY AND GREENHOUSE GAS IMPACT ANALYSIS

Avila Packing House

Air Quality & Greenhouse Gas Impact Assessment
October 2020

Prepared by:
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Avila Packing House
Air Quality & Greenhouse Gas Impact Assessment

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Executive Summary

This Air Quality & Greenhouse Gas Impact Assessment has been prepared for the purpose of identifying potential project-specific or site-specific air quality impacts that may result from a proposed packing house facility. Dan Avila & Sons (Project Applicant) is proposing to develop a facility to receive, store, pack, and ship agricultural produce, commonly known in the agricultural sector as a packing house (Project) on a property identified as APN 023-039-017, an approximately 25.72-acre parcel located in unincorporated Stanislaus County (the "Packing House Parcel"). The Packing House Parcel is zoned A-2-40 (General Agriculture) Zoning District, with a General Plan Designation of Agriculture (AG).

The Stanislaus County is located in one of the most polluted air basins in the country – the San Joaquin Valley Air Basin (SJVAB). The surrounding topography includes foothills and mountains to the east and west. These mountain ranges direct air circulation and dispersion patterns. Temperature inversions can trap air within the Valley, thereby preventing the vertical dispersal of air pollutants. In addition to topographic conditions, the local climate can also contribute to air quality problems. Climate in Stanislaus County is classified as Mediterranean, with moist cool winters and dry warm summers.

Air quality within the Project area is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs.

IMPACTS

Short-Term (Construction) Emissions

Short-term impacts are mainly related to the construction phase of a project and are recognized to be short in duration. Construction air quality impacts are generally attributable to dust generated by equipment and vehicles. Table E-1 shows the estimated construction emissions that would be generated from the Project. Results of the analysis show that emissions generated from the construction phase of the Project will not exceed the San Joaquin Valley Air Pollution Control District (SJVAPCD) emission thresholds.

Table E-1
Project Construction Emissions (tons/year)

Summary Report	CO	NO_X	ROG	SO_X	PM_{10}	$PM_{2.5}$	CO2e
Project Construction Emissions	2.66	3.04	1.40	0.01	0.30	0.20	471.50
SJVAPCD Level of Significance	100	10	10	27	15	15	None
Does the Project Exceed Standard?	No	No	No	No	No	No	No

Source: CalEEMod

Long-Term Emissions

Long-Term emissions from the Project would be generated primarily by mobile source (vehicle) emissions from the Project site and area sources such as lawn maintenance equipment.

1. Localized Mobile Source Emissions – Ozone/Particulate Matter

Operational emissions associated with the Project are shown in Table E-2. Results indicate that the annual operational emissions from the Project will be less than the SJVAPCD emission thresholds for criteria pollutants.

Table E-2
Project Operational Emissions (tons/year)

Summary Report	CO	NO_X	ROG	SO_X	PM_{10}	$PM_{2.5}$	CO2e
Project Opeational Emissions	3.25	2.87	1.01	0.01	0.92	0.26	2059.11
SJVAPCD Level of Significance	100	10	10	27	15	15	None
Does the Project Exceed Standard?	No	No	No	No	No	No	No

Source: CalEEMod

2. Toxic Air Contaminants (TAC)

An evaluation of nearby land uses shows that the Project will not place sensitive receptors in the vicinity of existing toxic sources. Therefore, TAC's from sources in the study area will not significantly impact the Project. In addition, the Project will not generate TAC's that would have a significant impact on the environment or adjacent sensitive receptors.

3. Odors

The Project will not generate odorous emissions given the nature or characteristics of the Project. The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. The SJVAPCD has identified some common types of facilities that have been known to produce odors in the SJV Air Basin. The types of facilities that

are known to produce odors are not located within two (2) miles of the Project, nor are they consistent with the characteristics of the Project.

4. Naturally Occurring Asbestos (NOA)

Asbestos is a term used for several types of naturally occurring fibrous minerals found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California. Construction of the Project may cause asbestos to become airborne due to the construction activities that will occur on site. The Project would be required to submit a Dust Control Plan under the SJVAPCD's Rule 8021. Compliance with Rule 8021 would limit fugitive dust emissions from construction, demolition, excavation, extraction, and other earthmoving activities associated with the Project.

5. Greenhouse Gas Emissions

CARB, in consultation with MPOs, has provided each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the Stanislaus Council of Governments (StanCOG) region, CARB set targets at five (5) percent per capita decrease in 2020 and a ten (10) percent per capita decrease in 2035 from a base year of 2005. STANCOG's 2018 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which was adopted in August 2018, projects that the Stanislaus County region would achieve the prescribed emissions targets.

In 2009, the SJVAPCD adopted the following guidance documents applicable to projects within the San Joaquin Valley:

- ✓ Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009), and
- ✓ District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency (SJVAPCD 2009).

This guidance and policy are the reference documents referenced in the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts adopted in March 2015 (SJVAPCD 2015). Consistent with the District Guidance and District Policy above, SJVAPCD (2015) acknowledges the current absence of numerical thresholds, and recommends a tiered approach to establish the significance of the GHG impacts on the environment:

i. If a project complies with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, then the project would be determined to have a less than significant individual and cumulative impact for GHG emissions;
ii. If a project does not comply with an approved GHG emission reduction plan or mitigation

program, then it would be required to implement Best Performance Standards (BPS); and

iii. If a project is not implementing BPS, then it should demonstrate that its GHG emissions would be reduced or mitigated by at least 29 percent compared to Business as Usual (BAU).

In December 2008, the South Coast Air Quality Management District (SCAQMD) Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency. The SCAQMD guidance identifies a threshold of 10,000 MTCO2eq./year for GHG for construction emissions amortized over a 30-year project lifetime, plus annual operation emissions. Though the Project is under SJVAPCD jurisdiction, the SCAQMD GHG threshold provides some perspective on the GHG emissions generated by the Project. Table E-3 shows the yearly GHG emissions generated by the Project as determined by the CalEEMod model, which is approximately 80% less than the threshold identified by the SCAQMD.

Table E-3
Project Operational Greenhouse Gas Emissions

Summary Report	CO_2e
Project Operational Emissions Per Year	2,075 MT/yr

Source: CalEEMod

CEQA ENVIRONMENTAL CHECKLIST

In accordance with CEQA, when a proposed project is consistent with a General Plan for which an EIR has been certified, the effects of that project are evaluated to determine if they will result in project-specific significant adverse impacts on the environment. The criteria used to determine the significance of an air quality or greenhouse gas impact are based on the following thresholds of significance, which come from Appendix G of the CEQA Guidelines and the General Plan EIR.

1. Air Quality

The criteria used to determine the significance of an air quality impact are based on the following thresholds of significance, which come from Appendix G of the CEQA Guidelines. Accordingly, air quality impacts resulting from the Project are considered significant if the Project would:

- ✓ Conflict with or obstruct implementation of the applicable air quality plan?

The primary way of determining consistency with the air quality plan's (AQP's) assumptions is determining consistency with the applicable General Plan to ensure that the Project's population density and land use are consistent with the growth assumptions used in the AQPs for the air basin.

As required by California law, city and county General Plans contain a Land Use Element that details the types and quantities of land uses that the city or county estimates will be needed for future growth, and that designate locations for land uses to regulate growth. StanCOG uses the growth projections and land use information in adopted general plans to estimate future average daily trips and then VMT, which are then provided to SJVAPCD to estimate future emissions in the AQPs. Existing and future pollutant emissions computed in the AQP are based on land uses from area general plans. AQPs detail the control measures and emission reductions required for reaching attainment of the air standards.

The applicable General Plan for the project is the Stanislaus County 2015 General Plan, which was adopted in 2016. The Project is consistent with the currently adopted General Plan for Stanislaus County and is therefore consistent with the population growth and VMT applied in the plan. Therefore, the Project is consistent with the growth assumptions used in the applicable AQPs. As a result, the Project will not conflict with or obstruct implementation of any air quality plans. Therefore, no mitigation is needed.

- ✓ 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?

The Stanislaus County area is nonattainment for Federal and State air quality standards for ozone, in attainment of Federal standards and nonattainment for State standards for PM10, and nonattainment for Federal and State standards for PM2.5. The SJVAPCD has prepared the 2016 and 2013 Ozone Plans, 2007 PM10 Maintenance Plan, and 2012 PM2.5 Plan to achieve Federal and State standards for improved air quality in the SJVAB regarding ozone and PM. Inconsistency with any of the plans would be considered a cumulatively adverse air quality impact. As discussed in Section 4.1.1, the Project is consistent with the currently adopted General Plan for Stanislaus County and is therefore consistent with the population growth and VMT applied in the plan. Therefore, the Project is consistent with the growth assumptions used in the 2016 and 2013 Ozone Plan, 2007 PM10 Maintenance Plan, and 2012 PM2.5 Plan.

Project specific emissions that exceed the thresholds of significance for criteria pollutants would be expected to result in a cumulatively considerable net increase of any criteria pollutant for which the County is in non-attainment under applicable federal or state ambient air quality standards. It should be noted that a project isn't characterized as cumulatively insignificant when project emissions fall below thresholds of significance. As discussed in Section 3.1, the SJVAPCD has established thresholds of significance for determining environmental significance which are provided in Table 6.

As discussed above in Section 3.2 and 3.3, results of the analysis show that emissions generated from construction and operation of the Project will be less than the applicable SJVAPCD emission thresholds for criteria pollutants. Therefore, no mitigation is needed.

✓ Expose sensitive receptors to substantial pollutant concentrations?

Sensitive receptors refer to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). Land uses that have the greatest potential to attract these types of sensitive receptors include schools, parks, playgrounds, daycare centers, nursing homes, hospitals, and residential communities. From a health risk perspective, the Project is a Type A project in that it may potentially place toxic sources in the vicinity of existing sensitive receptors.

Based on the estimated concentrations from the Project, the Health Risk Assessment Standalone Tool Version 2 model calculated potential exposure levels to people through the various applicable pathways. The software uses the algorithms identified in the OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines.

Results of the HRA indicated that the maximum predicted cancer risk, chronic health hazard, and acute health hazard for residences and on-site/off-site workplaces are below the significance threshold of 10 in one million for cancer risks and 1.0 for non-cancer health risks. It should be noted that the Project does not generate TAC's associated with acute health hazards. As a result, the acute health hazard registered zero for all sensitive and site boundary receptors. Therefore,

TAC's from the Project will not significantly impact sensitive receptors in the vicinity of the Project. As a result, no mitigation is needed.

Short-Term Impacts

The annual emissions from the construction phase of the Project will be less than the applicable SJVAPCD emission thresholds for criteria pollutants. Therefore, construction emissions associated with the Project are considered less than significant.

Long-Term Impacts

Long-Term emissions from the Project are generated primarily by mobile source (vehicle) emissions from the Project site and area sources such as maintenance equipment. Emissions from long-term operations generally represent a project's most substantial air quality impact. Table E-2 summarizes the Project's operational impacts by pollutant. Results indicate that the annual operational emissions from the Project will be less than the SJVAPCD emission thresholds for criteria pollutants. Therefore, operational emissions associated with the Project are considered less than significant.

- ✓ Result in other emissions such as those leading to odors adversely affecting a substantial number of people?

The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. The SJVAPCD has identified some common types of facilities that have been known to produce odors in the SJV Air Basin. The types of facilities that are known to produce odors are shown in Table 5 along with a reasonable distance from the source within which, the degree of odors could possibly be significant. The Project will not generate odorous emissions given the nature or characteristics of the Project. Therefore, no mitigation is needed.

2. *Greenhouse Gas Emissions*

The criteria used to determine the significance of a greenhouse gas impact are based on the following thresholds of significance, which come from Appendix G of the CEQA Guidelines. Accordingly, greenhouse gas impacts resulting from the Project are considered significant if the Project would:

- ✓ Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The SJVAPCD acknowledges the current absence of numerical thresholds and recommends a tiered approach to establish the significance of the GHG impacts on the environment:

i. If a project complies with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, then the project would be determined to have a less than significant individual and cumulative impact for GHG emissions;
ii. If a project does not comply with an approved GHG emission reduction plan or mitigation program, then it would be required to implement Best Performance Standards (BPS); and
iii. If a project is not implementing BPS, then it should demonstrate that its GHG emissions would be reduced or mitigated by at least 29 percent compared to Business as Usual (BAU).

In the event that a local air district's guidance for addressing GHG impacts does not use numerical GHG emissions thresholds, at the lead agency's discretion, a neighboring air district's GHG threshold may be used to determine impacts. In December 2008, the South Coast Air Quality Management District (SCAQMD) Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency. The SCAQMD guidance identifies a threshold of 10,000 MTCO2eq./year for GHG for construction emissions amortized over a 30-year project lifetime, plus annual operation emissions. Though the Project is under SJVAPCD jurisdiction, the SCAQMD GHG threshold provides some perspective on the GHG emissions generated by the Project. Table E-3 shows the yearly GHG emissions generated by the Project as determined by the CalEEMod model, which is approximately 80% less than the threshold identified by the SCAQMD.

The resulting permanent greenhouse gas increases related to Project operations would be within the greenhouse gas increases analyzed in the Stanislaus County General Plan EIR since the Project meets the applicable zoning requirements. There would be no increase in severity to the greenhouse gas impacts, and implementation of the Project will not result in Project-specific or site-specific significant adverse impacts from greenhouse gas emissions within the Project study area. Therefore, no mitigation measures are needed.

✓ Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

California passed the California Global Warming Solutions Act of 2006. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. Under AB 32, CARB must adopt regulations by January 1, 2011 to achieve reductions in GHGs to meet the 1990 emission cap by 2020. On December 11, 2008, CARB adopted its initial Scoping Plan, which functions as a roadmap of CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan.

SB 375 requires MPOs to adopt a SCS or APS that will prescribe land use allocation in that MPO's regional transportation plan. CARB, in consultation with MPOs, has provided each affected

region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the STANCOG region, CARB set targets at five (5) percent per capita decrease in 2020 and a ten (10) percent per capita decrease in 2035 from a base year of 2005. StanCOG's 2018 RTP/SCS, which was adopted in August 2018, projects that the Stanislaus County region would achieve the prescribed emissions targets.

Executive Order B-30-15 establishes a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. Executive Order B-30-15 requires MPO's to implement measures that will achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets.

As required by California law, city and county General Plans contain a Land Use Element that details the types and quantities of land uses that the city or county estimates will be needed for future growth, and that designate locations for land uses to regulate growth. STANCOG uses the growth projections and land use information in adopted general plans to estimate future average daily trips and then VMT, which are then provided to SJVAPCD to estimate future emissions in the AQPs. The applicable General Plan for the project is Stanislaus County 2015 General Plan, which was adopted in 2016.

The Project is consistent with the currently adopted General Plan for Stanislaus County and the adopted 2018 RTP/SCS and is therefore consistent with the population growth and VMT applied in those plan documents. Therefore, the Project is consistent with the growth assumptions used in the applicable AQP. It should also be noted that yearly GHG emissions generated by the Project (Table 9) are approximately 80% less than the threshold identified by the SCAQMD (see the discussion for Impact 4.2.1 above).

CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan. The current plan has identified new policies and actions to accomplish the State's 2030 GHG limit. Below is a list of applicable strategies in the Scoping Plan and the Project's consistency with those strategies.

- California Light-Duty Vehicle GHG Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs for long-term climate change goals.

    - The Project is consistent with this reduction measure. This measure cannot be implemented by a particular project or lead agency since it is a statewide measure. When this measure is implemented, standards would be applicable to light-duty vehicles that would access the Project. The Project would not conflict or obstruct this reduction measure.

- Energy Efficiency – Pursuit of comparable investment in energy efficiency from all retail providers of electricity in California. Maximize energy efficiency building and appliance standards.

    - The Project is consistent with this reduction measure. Though this measure applies to the State to increase its energy standards, the Project would comply with this measure through existing regulation. The Project would not conflict or obstruct this reduction measure.

- Low Carbon Fuel – Development and adoption of the low carbon fuel standard.

    - The Project is consistent with this reduction measure. This measure cannot be implemented by a particular project or lead agency since it is a statewide measure. When this measure is implemented, standards would be applicable to the fuel used by vehicles that would access the Project. The Project would not conflict or obstruct this reduction measure.

Based on the assessment above, the Project will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Therefore, any impacts would be less than significant.

1.0 Introduction

Dan Avila & Sons (Project Applicant) is proposing to develop a facility to receive, store, pack, and ship agricultural produce, commonly known in the agricultural sector as a packing house (Project) on a property identified as APN 023-039-017, an approximately 25.72-acre parcel located in unincorporated Stanislaus County (the "Packing House Parcel"). The Packing House Parcel is zoned A-2-40 (General Agriculture) Zoning District, with a General Plan Designation of Agriculture (AG).

1.1 Description of the Region/Project

The Project Applicant proposes to develop 14.13 acres of the Packing House Parcel for the Packing House Project, to receive, store, pack and ship watermelons, sweet potatoes, beans, wheat, pumpkins, and squash. Below is a summary of improvements by phase and number of employees and trips associated with the Packing House Project:

- ✓ Phase 1 (2020) - Existing residence to be converted to an office for sales and human resources with the construction of the new Washington Road driveway.
- ✓ Phase 2 (2024) - 1st 15,000 sq. ft. packing building, improvements on the east and south sides of this building (30' tall eave). On-site vehicle traffic areas will be gravel surfaced.
- ✓ Phase 3 (2029) - 2nd 15,000 sq. ft. storage and packing building. All site work on the north and east sides of this building. On-site vehicle travel areas will be gravel surfaced.
- ✓ Phase 4 (2030) - 3,315 sq. ft., Office/breakroom/storage building (to replace temporary sales office).
- ✓ Phase 5 (2032) - 120,000 sq. ft. Floor slab for sorting, packing and shipping of agricultural products.
- ✓ Phase 6 (2034) - Roof to cover the Phase 5 floor slab.

The new facilities that constitute the Packing House Project (and the conversion of the existing residence on the Packing House Parcel into an office to support the Project) will be developed over six phases. Agricultural commodities handled at the Packing House will come from the fields on the site surrounding the Packing House, as well as from other sites farmed by the Project Applicant. Produce will be received in the center of the proposed packing house, which will be designed with areas for the receiving, sorting, packing, storing, and shipping.

This Air Quality & Greenhouse Gas Impact Assessment has been prepared for the purpose of identifying potential project-specific or site-specific air quality impacts that may result from the Project. Figures 1 and 2 show the location of the Project long with major roadways and highways.

The Stanislaus County is located in one of the most polluted air basins in the country – the San Joaquin Valley Air Basin (SJVAB). The surrounding topography includes foothills and mountains

to the east and west. These mountain ranges direct air circulation and dispersion patterns. Temperature inversions can trap air within the Valley, thereby preventing the vertical dispersal of air pollutants. In addition to topographic conditions, the local climate can also contribute to air quality problems. Climate in Stanislaus County is classified as Mediterranean, with moist cool winters and dry warm summers.

1.2 Regulatory

Air quality within the Project area is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies primarily responsible for improving the air quality within the Stanislaus County are discussed below along with their individual responsibilities.

1.2.1 *Federal Agencies*

✓ **U.S. Environmental Protection Agency (EPA)**

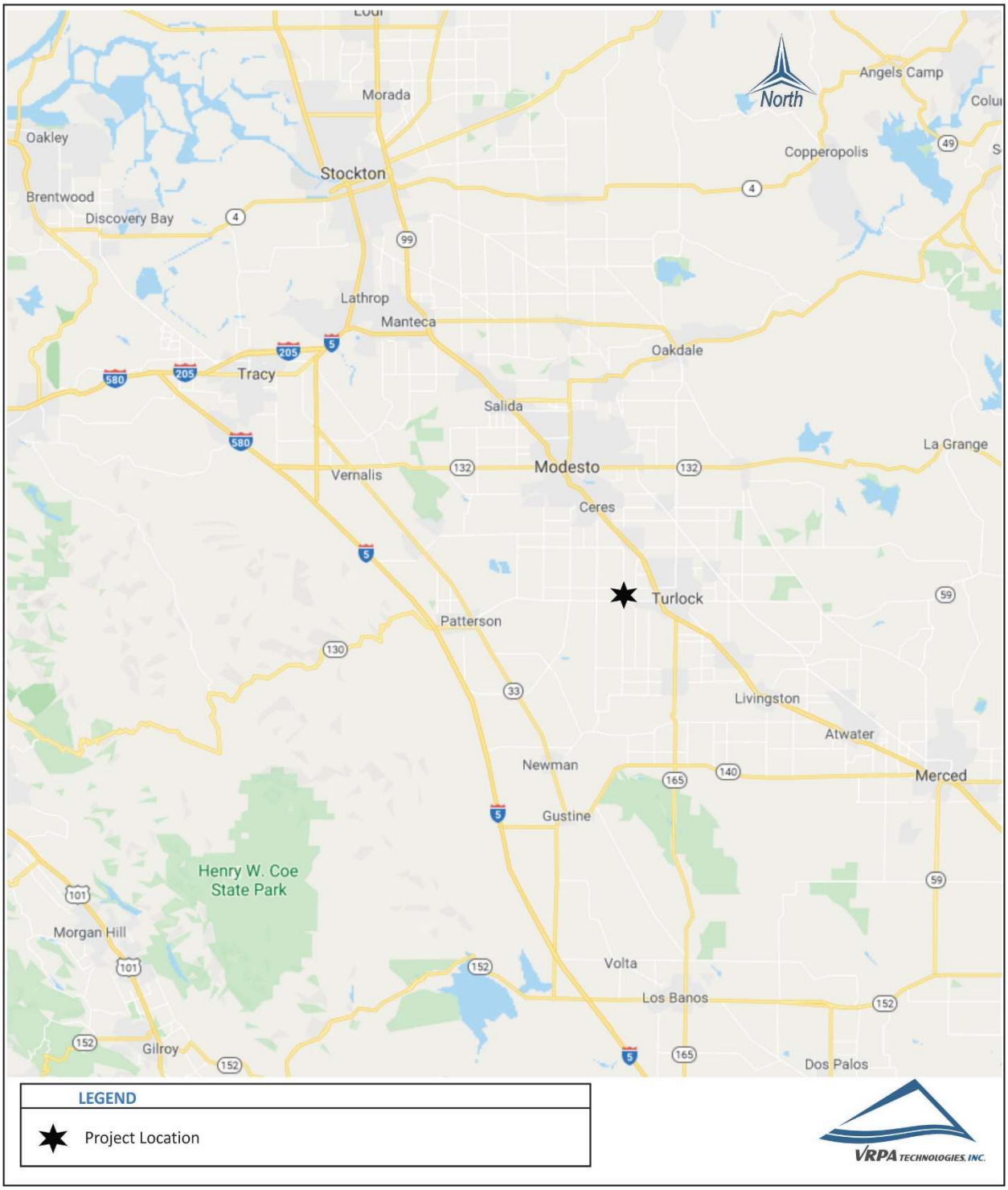
The Federal Clean Air Bill first adopted in 1967 and periodically amended since then, established federal ambient air quality standards. A 1987 amendment to the Bill set a deadline for the attainment of these standards. That deadline has since passed. The other Clean Air Act (CAA) Bill Amendments, passed in 1990, share responsibility with the State in reducing emissions from mobile sources. The U.S. Environmental Protection Agency (EPA) is responsible for enforcing the 1990 amendments.

The CAA and the national ambient air quality standards identify levels of air quality for six "criteria" pollutants, which are considered the maximum levels of ambient air pollutants considered safe, with an adequate margin of safety, to protect public health and welfare. The six criteria pollutants include ozone, carbon monoxide (CO), nitrogen dioxide, sulfur dioxide, particulate matter, and lead.

CAA Section 176(c) (42 U.S.C. 7506(c)) and EPA transportation conformity regulations (40 CFR 93 Subpart A) require that each new RTP and Transportation Improvement Program (TIP) be demonstrated to conform to the State Implementation Plan (SIP) before the RTP and TIP are approved by the Metropolitan planning organization (MPO) or accepted by the U.S. Department of Transportation (DOT). The conformity analysis is a federal requirement designed to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS). However, because the State Implementation Plan (SIP) for particulate matter 10 microns or less in diameter (PM10), particulate matter 2.5 microns or less in diameter (PM2.5), and Ozone address attainment of both the State and federal standards, for these pollutants, demonstrating conformity to the federal standards is also an indication of progress toward attainment of the State standards. Compliance with the State air quality standards is provided on the pages following this federal conformity discussion.

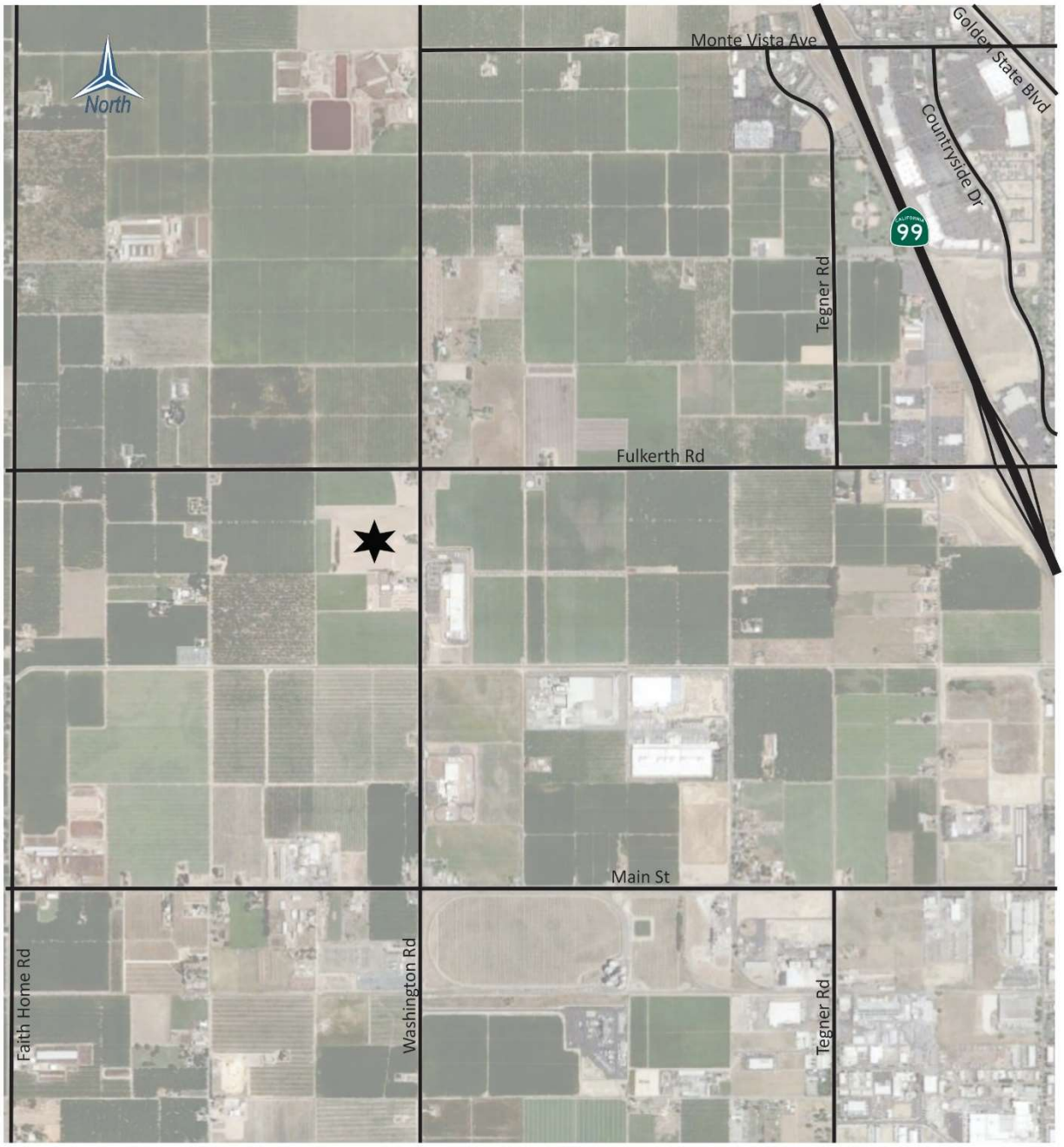
Avila Packing House
Regional Location

Figure 1



Avila Packing House
Project Location

Figure 2



The EPA approved San Joaquin Valley reclassification of the ozone (8-hour) designation to extreme nonattainment in the Federal Register on May 5, 2010, even though the San Joaquin Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard. In accordance with the CAA, EPA uses the design value at the time of standard promulgation to assign nonattainment areas to one of several classes that reflect the severity of the nonattainment problem; classifications range from marginal nonattainment to extreme nonattainment. In the Federal Register on October 26, 2015, the EPA revised the primary and secondary standard to 0.070 parts per million (ppm) to provide increased public health protection against health effects associated with long- and short-term exposures. The previous ozone standard was set in 2010 at 0.075 ppm.

Stanislaus County is located in a nonattainment area for the 8-hour ozone standard, 1997, 2006 and 2012 PM2.5 standards, and has a maintenance plan for PM10 standard.

1.2.2 *Federal Regulations*

✓ **State Implementation Plan (SIP)/ Air Quality Management Plans (AQMPs)**

To ensure compliance with the NAAQS, EPA requires states to adopt SIP aimed at improving air quality in areas of nonattainment or a Maintenance Plan aimed at maintaining air quality in areas that have attained a given standard. New and previously submitted plans, programs, district rules, state regulations, and federal controls are included in the SIPs. Amendments made in 1990 to the federal CAA established deadlines for attainment based on an area's current air pollution levels. States must enact additional regulatory programs for nonattainment's areas in order to adhere with the CAA Section 172. In California, the SIPs must adhere to both the NAAQS and the California Ambient Air Quality Standards (CAAQS).

To ensure that State and federal air quality regulations are being met, Air Quality Management Plans (AQMPs) are required. AQMPs present scientific information and use analytical tools to identify a pathway towards attainment of NAAQS and CAAQS. The San Joaquin Valley Air Pollution Control District (SJVAPCD) develops the AQMPs for the region where the Stanislaus Council of Governments (StanCOG) operates. The regional air districts begin the SIP process by submitting their AQMPs to the California Air Resources Board (CARB). CARB is responsible for revising the SIP and submitting it to EPA for approval. EPA then acts on the SIP in the Federal Register. The items included in the California SIP are listed in the Code of Federal Regulations Title 40, Chapter 1, Part 52, Subpart 7, Section 52.220.

✓ **Transportation Control Measures**

One particular aspect of the SIP development process is the assessment of available transportation control measures (TCMs) as a part of making progress towards clean air goals. TCMs are defined in Section 108(f)(1) of the CAA and are strategies designed to reduce vehicle miles traveled, vehicle idling, and associated air pollution. These goals are generally 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.

✓ **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 alternative fueled vehicles (AFVs). States are also required by the act to consider a variety of incentive programs to help promote AFVs.

1.2.3 *State Agencies*

✓ **California Air Resources Board (CARB)**

CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing its own air quality legislation called the California Clean Air Act (CCAA), adopted in 1988. CARB was created in 1967 from the merging of the California Motor Vehicle Pollution Control Board and the Bureau of Air Sanitation and its Laboratory.

CARB has primary responsibility in California to develop and implement air pollution control plans designed to achieve and maintain the NAAQS established by the EPA. Whereas CARB has primary responsibility and produces a major part of the SIP for pollution sources that are statewide in scope, it relies on the local air districts to provide additional strategies for sources under their jurisdiction. CARB combines its data with all local district data and submits the completed SIP to the EPA. The SIP consists of the emissions standards for vehicular sources and consumer products set by CARB, and attainment plans adopted by the Air Pollution Control Districts (APCDs) and Air Quality Management District's (AQMDs) and approved by CARB.

States may establish their own standards, provided the State standards are at least as stringent as the NAAQS. California has established California Ambient Air Quality Standards (CAAQS) pursuant to California Health and Safety Code (CH&SC) [§39606(b)] and its predecessor statutes.

The CH&SC [§39608] requires CARB to "identify" and "classify" each air basin in the State on a pollutant-by-pollutant basis. Subsequently, CARB designated areas in California as nonattainment based on violations of the CAAQSs. Designations and classifications specific to the SJVAB can be found in the next section of this document. Areas in the State were also

classified based on severity of air pollution problems. For each nonattainment class, the CCAA specifies air quality management strategies that must be adopted. For all nonattainment categories, attainment plans are required to demonstrate a five-percent-per-year reduction in nonattainment air pollutants or their precursors, averaged every consecutive three-year period, unless an approved alternative measure of progress is developed. In addition, air districts in violation of CAAQS are required to prepare an Air Quality Attainment Plan (AQAP) that lays out a program to attain and maintain the CCAA mandates.

CARB, in consultation with MPOs, has provided each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the Stanislaus Council of Governments (StanCOG) region, CARB set targets at five (5) percent per capita decrease in 2020 and a ten (10) percent per capita decrease in 2035 from a base year of 2005. StanCOG's 2018 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which was adopted in August 2018, projects that the Stanislaus County region would achieve the prescribed emissions targets.

Other CARB duties include monitoring air quality. CARB has established and maintains, in conjunction with local APCDs and AQMDs, a network of sampling stations (called the State and Local Air Monitoring [SLAMS] network), which monitor the present pollutant levels in the ambient air.

Stanislaus County is in the CARB-designated, SJVAB. A map of the SJVAB is provided in Figure 3. In addition to Stanislaus County, the SJVAB includes Fresno, Kern, Kings, Madera, Merced, San Joaquin, and Tulare Counties. Federal and State standards for criteria pollutants are provided in Table 1.

Avila Packing House
San Joaquin Valley Air Basin

Figure 3

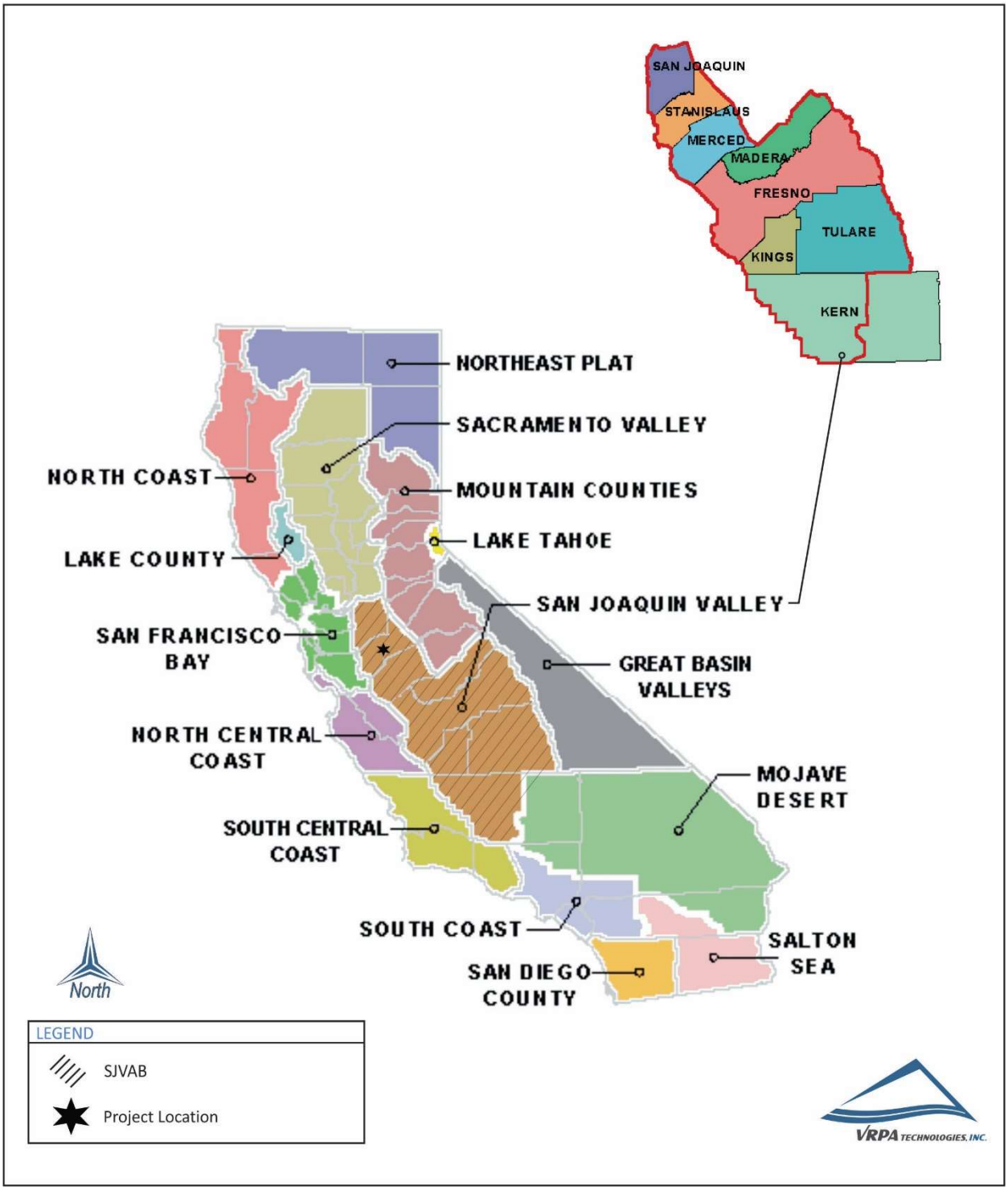


Table 1
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3) [8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	--	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10) [9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		--		
Fine Particulate Matter (PM2.5) [9]	24 Hour	--	--	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	--	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	--	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		--	--	
Nitrogen Dioxide (NO_2) [10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	--	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2) [11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	--	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	--		--	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for cetain areas) [11]	--	
	Annual Arithmetic Mean	--		0.030 ppm (for cetain areas) [11]	--	
Lead [12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	--	--	High Volume Sampler and Atomic Absorption
	Calendar Quarter	--		1.5 µg/m^3 (for certain areas) [11]	Same as Primary Standard	
	Rolling 3-Month Average	--		0.15 µg/m^3		
Visibility Reducing Particles [14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride [12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page ...

Footnotes:

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m3 to 12.0 µg/m3. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m3, as was the annual secondary standard of 15 µg/m3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO2 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. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

1.2.4 *State Regulations*

✓ **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, CARB's motor vehicle standards specify the allowable grams of pollutant per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner in which they are achieved.

✓ **California Clean Air Act**

The 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 CCAA establishes more stringent ambient air quality standards than those included in the Federal CAA. CARB is the agency responsible for administering the CCAA. CARB established ambient air quality standards pursuant to the CH&SC [§39606(b)], which are similar to the federal standards. The SJVAPCD is one of 35 AQMDs that have prepared air quality management plans to accomplish a five percent (5%) annual reduction in emissions documenting progress toward the State ambient air quality standards.

✓ **Tanner Air Toxics Act**

California regulates Toxic Air Contaminants (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 EPA's list of Hazardous Air Pollutants (HAPs) as 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 Technology (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).

These rules and standards provide for:

- More stringent emission standards for some new urban bus engines, beginning with 2002 model year engines.
- Zero-emission bus demonstration and purchase requirements applicable to transit agencies
- Reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule.

✓ **AB 1493 (Pavley)**

AB 1493 (Pavley) enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. Regulations adopted by CARB would apply to 2009 and later model year vehicles. CARB estimated that the regulation would reduce climate change emissions from light duty passenger vehicles by an estimated 18 percent in 2020 and by 27 percent in 2030 [Association of Environmental Professionals (AEP) 2007)]. In 2005, the CARB requested a waiver from U.S. EPA to enforce the regulation, as required under the CAA. Despite the fact that no waiver had ever been denied over a 40-year period, the then Administrator of the EPA sent Governor Schwarzenegger a letter in December 2007, indicating he had denied the waiver. On March 6, 2008, the waiver denial was formally issued in the Federal Register. Governor Schwarzenegger and several other states immediately filed suit against the federal government to reverse that decision. On January 21, 2009, CARB requested that EPA reconsider denial of the waiver. EPA scheduled a re-hearing on March 5, 2009. On June 30, 2009, EPA granted a waiver of CAA preemption to California for its greenhouse gas emission standards for motor vehicles beginning with the 2009 model year.

✓ **Assembly Bill 32 (California Global Warming Solutions Act of 2006)**

California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 required that statewide GHG emissions be reduced to 1990 levels by 2020. December 31, 2020 is the deadline for achieving the 2020 GHG emissions cap. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state reduces GHG emissions enough to meet the cap. AB 32 also includes guidance on instituting emissions reductions in an economically efficient manner, along with conditions

to ensure that businesses and consumers are not unfairly affected by the reductions. Using these criteria to reduce statewide GHG emissions to 1990 levels by 2020 would represent an approximate 25 to 30 percent reduction in current emissions levels. However, CARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other sectors that are not anticipated to significantly increase emissions.

CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan adopted in December of 2008. The current plan has identified new policies and actions to accomplish the State's 2030 GHG limit.

✓ **Senate Bill 375**

SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPO's regional transportation plan. CARB, in consultation with MPOs, has provided each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the Stanislaus Council of Governments (StanCOG) region, CARB set targets at five (5) percent per capita decrease in 2020 and a ten (10) percent per capita decrease in 2035 from a base year of 2005. StanCOG's 2018 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which was adopted in August 2018, projects that the Stanislaus County region would achieve the prescribed emissions targets.

This law also extends the minimum time period for the regional housing needs allocation cycle from five years to eight years for local governments located within an MPO that meets certain requirements. City or county land use policies (including general plans) are not required to be consistent with the regional transportation plan (and associated SCS or APS). However, new provisions of CEQA incentivize (through streamlining and other provisions) qualified projects that are consistent with an approved SCS or APS, categorized as "transit priority projects."

✓ **Executive Order B-30-15**

Executive Order B-30-15, which was signed by Governor Brown in 2016, establishes a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. Executive Order B-30-15 requires MPO's to implement measures that will achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets.

✓ **California Global Warming Solutions Act of 2006: emissions limit, or SB 32**

SB 32 is a California Senate bill expanding upon AB 32 to reduce greenhouse gas (GHG) emissions. The lead author is Senator Fran Pavley and the principal co-author is Assembly member Eduardo Garcia. SB 32 was signed into law on September 8, 2016, by Governor Brown. SB 32 sets into law the mandated reduction target in GHG emissions as written into Executive Order B-30-15. SB 32 requires that there be a reduction in GHG emissions to 40% below the 1990 levels by 2030. Greenhouse gas emissions include carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons. The California Air Resources Board (CARB) is responsible for ensuring that California meets this goal. The provisions of SB 32 were added to Section 38566 of the Health and Safety Code subsequent to the bill's approval. The bill went into effect January 1, 2017. SB 32 builds onto Assembly Bill (AB) 32 written by Senator Fran Pavley and Assembly Speaker Fabian Nunez passed into law on September 27, 2006. AB 32 required California to reduce greenhouse gas emissions to 1990 levels by 2020 and SB 32 continues that timeline to reach the targets set in Executive Order B-30-15. SB 32 provides another intermediate target between the 2020 and 2050 targets set in Executive Order S-3-05.

1.2.5 *Regional Agencies*

✓ **San Joaquin Valley Air Pollution Control District**

The SJVAPCD is the agency responsible for monitoring and regulating air pollutant emissions from stationary, area, and indirect sources within Stanislaus County and throughout the SJVAB. The District also has responsibility for monitoring air quality and setting and enforcing limits for source emissions. CARB is the agency with the legal responsibility for regulating mobile source emissions. The District is precluded from such activities under State law.

The District was formed in mid-1991 and prepared and adopted the San Joaquin Valley Air Quality Attainment Plan (AQAP), dated January 30, 1992, in response to the requirements of the State CCAA. The CCAA requires each non-attainment district to reduce pertinent air contaminants by at least five percent (5%) per year until new, more stringent, 1988 State air quality standards are met.

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 FCAA and CCAA.

The SJVAPCD has prepared the following State Implementation Plans to address ozone, PM-10 and PM2.5 that currently apply to non-attainment areas:

- The 2016 Ozone Plan (2008 standard) was adopted by SJVAPCD on June 16, 2016 and

subsequently adopted by ARB on July 21, 2016.

- The 2013 1-Hour Ozone Plan (revoked 1997 standard) was adopted by the SJVAPCD on September 19, 2013. EPA withdrew its approval of the plan due to litigation. The District plans to submit a "redesignation substitute" to EPA to maintain its attainment status for this revoked ozone standard.
- The 2007 PM-10 Maintenance Plan (as revised in 2015) was approved by EPA on July 8, 2016 (effective September 30, 2016).
- The 2012 PM2.5 Plan (as revised in 2015) was approved by EPA on August 16, 2016 (effective September 30, 2016).

The SJVAPCD Plans identified above represent SJVAPCD's plan to achieve both state and federal air quality standards. The regulations and incentives contained in these documents must be legally enforceable and permanent. These plans break emissions reductions and compliance into different emissions source categories.

The SJVAPCD also prepared the *Guide for Assessing and Mitigation Air Quality Impacts* (GAMAQI), dated March 19, 2015. 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.

1.2.6 *Regional Regulations*

The SJVAPCD has adopted numerous rules and regulations to implement its air quality plans. Following, are significant rules that will apply to the Project.

✓ **Regulation VIII – Fugitive PM10 Prohibitions**

Regulation VIII is comprised of District Rules 8011 through 8081, which are designed to reduce PM_{10} emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and track out, landfill operations, etc. The proposed Project will be required to comply with this regulation. Regulation VIII control measures are provided below:

1. *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, covered with a tarp or other suitable cover or vegetative ground cover.*

2. *All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.*
3. *All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.*
4. *When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.*
5. *All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. 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.*
6. *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.*
7. *Within urban areas, track out shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.*

✓ **Rule 8021 – Construction, Demolition, Excavation, and Other Earthmoving Activities**

District Rule 8021 requires owners or operators of construction projects to submit a Dust Control Plan to the District if at any time the project involves non-residential developments of five or more acres of disturbed surface area or moving, depositing, or relocating of more than 2,500 cubic yards per day of bulk materials on at least three days of the project. The proposed Project will meet these criteria and will be required to submit a Dust Control Plan to the District in order to comply with this rule.

✓ **Rule 4641 – 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.

✓ **Rule 9510 – Indirect Source Review (ISR)**

The purpose of this rule is to fulfill the District's emission reduction commitments in the PM10 and Ozone Attainment Plans, achieve emission reductions from construction activities, and to provide a mechanism for reducing emissions from the construction of and use of development projects through off-site measures. The rule is expected to reduce nitrogen oxides and particulates throughout the San Joaquin Valley by more than 10 tons per day.

1.2.7 *Local Plans*

✓ **Stanislaus County General Plan**

California State Law requires every city and county to adopt a comprehensive General Plan to guide its future development. The General Plan essentially serves as a "constitution for development"— the document that serves as the foundation for all land use decisions. The Stanislaus County 2015 General Plan includes various elements, including air quality and greenhouse gases, that address local concerns and provides goals and policies to achieve its development goals.

2.0 Environmental Setting

This section describes existing air quality within the San Joaquin Valley Air Basin and in Stanislaus County, including the identification of air pollutant standards, meteorological and topological conditions affecting air quality, and current air quality conditions. Air quality is described in relation to ambient air quality standards for criteria pollutants such as, ozone, carbon monoxide, and particulate matter. Air quality can be directly affected by the type and density of land use change and population growth in urban and rural areas.

2.1 Geographical Location

The SJVAB is comprised of eight counties: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare. Encompassing 24,840 square miles, the San Joaquin Valley is the second largest air basin in California. Cumulatively, counties within the Air Basin represent approximately 16 percent of the State's geographic area. The Air Basin is bordered by the Sierra Nevada Mountains on the east (8,000 to 14,492 feet in elevation), the Coastal Range on the west (4,500 feet in elevation), and the Tehachapi Mountains on the south (9,000 feet elevation). The San Joaquin Valley is open to the north extending to the Sacramento Valley Air Basin.

2.2 Topographic Conditions

Stanislaus County is located within the San Joaquin Valley Air Basin [as determined by the California Air Resources Board (CARB)]. Air basins are geographic areas sharing a common "air shed." A description of the Air Basin in the County, as designated by CARB, is provided in the paragraph below. Air pollution is directly related to the region's topographic features, which impact air movement within the Basin.

Wind patterns within the SJVAB result from marine air that generally flows into the Basin from the San Joaquin River Delta. The Coastal Range hinders wind access into the Valley from the west, the Tehachapi's prevent southerly passage of airflow, and the high Sierra Nevada Mountain Range provides a significant barrier to the east. These topographic features result in weak airflow that becomes restricted vertically by high barometric pressure over the Valley. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Most of the surrounding mountains are above the normal height of summer inversion layers (1,500-3,000 feet).

2.3 Climate Conditions

Stanislaus County is located in one of the most polluted air basins in the country. Temperature inversions can trap air within the Valley, thereby preventing the vertical dispersal of air pollutants. In addition to topographic conditions, the local climate can also contribute to air quality problems. Climate in Stanislaus County is classified as Mediterranean, with moist cool winters and dry warm summers.

Ozone, classified as a "regional" pollutant, often afflicts areas downwind of the original source of precursor emissions. Ozone can be easily transported by winds from a source area. Peak ozone levels tend to be higher in the southern portion of the Valley, as the prevailing summer winds sweep precursors downwind of northern source areas before concentrations peak. The separate designations reflect the fact that ozone precursor transport depends on daily meteorological conditions.

Other primary pollutants, carbon monoxide (CO), for example, may form high concentrations when wind speed is low. During the winter, Stanislaus County experiences cold temperatures and calm conditions that increase the likelihood of a climate conducive to high CO concentrations.

Precipitation and fog tend to reduce or limit some pollutant concentrations. Ozone needs sunlight for its formation, and clouds and fog block the required radiation. CO is slightly water-soluble, so precipitation and fog tends to "reduce" CO concentrations in the atmosphere. PM10 is somewhat "washed" from the atmosphere with precipitation. Precipitation in the San Joaquin Valley is strongly influenced by the position of the semi-permanent subtropical high-pressure belt located off the Pacific coast. In the winter, this high- pressure system moves southward, allowing Pacific storms to move through the San Joaquin Valley. These storms bring in moist, maritime air that produces considerable precipitation on the western, upslope side of the Coast Ranges. Significant precipitation also occurs on the western side of the Sierra Nevada. On the valley floor, however, there is some down slope flow from the Coast Ranges and the resultant evaporation of moisture from associated warming results in a minimum of precipitation. Nevertheless, the majority of the precipitation falling in the San Joaquin Valley is produced by those storms during the winter. Precipitation during the summer months is in the form of convective rain showers and is rare. It is usually associated with an influx of moisture into the San Joaquin Valley through the San Francisco area during an anomalous flow pattern in the lower layers of the atmosphere. Although the hourly rates of precipitation from these storms may be high, their rarity keeps monthly totals low.

Precipitation on the San Joaquin Valley floor and in the Sierra Nevada decreases from north to south. Stockton in the north receives about 20 inches of precipitation per year, Fresno in the center, receives about 10 inches per year, and Bakersfield at the southern end of the valley receives less than 6 inches per year. This is primarily because the Pacific storm track often passes through the northern part of the state while the southern part of the state remains protected by the Pacific High. Precipitation in the San Joaquin Valley Air Basin (SJVAB) is confined primarily to the winter months with some also occurring in late summer and fall. Average annual rainfall for the entire San Joaquin Valley is approximately 5 to 16 inches. Snowstorms, hailstorms, and ice storms occur infrequently in the San Joaquin Valley and severe occurrences of any of these are very rare.

The winds and unstable air conditions experienced during the passage of 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 San Joaquin Valley floor. This creates strong low-level temperature inversions and very stable air conditions. This situation leads to the San Joaquin Valley's famous Tule Fogs. The formation of natural fog is caused by local cooling of the atmosphere until it is saturated (dew point temperature). This type of fog, known as radiation fog is more likely to occur inland. Cooling may also be accomplished by heat radiation losses or by horizontal movement of a mass of air over a colder surface. This second type of fog, known as advection fog, generally occurs along the coast.

Conditions favorable to fog formation are also conditions favorable to high concentrations of CO and PM10. Ozone levels are low during these periods because of the lack of sunlight to drive the photochemical reaction. Maximum CO concentrations tend to occur on clear, cold nights when a strong surface inversion is present and large numbers of fireplaces are in use. A secondary peak in CO concentrations occurs during morning commute hours when a large number of motorists are on the road and the surface inversion has not yet broken.

The water droplets in fog, however, can act as a sink for CO and nitrogen oxides (NOx), lowering pollutant concentrations. At the same time, fog could help in the formation of secondary particulates such as ammonium sulfate. These secondary particulates are believed to be a significant contributor of winter season violations of the PM10 and PM2.5 standards.

2.4 Anthropogenic (Man-made) Sources

In addition to climatic conditions (wind, lack of rain, etc.), air pollution can be caused by anthropogenic or man-made sources. Air pollution in the SJVAB can be directly attributed to human activities, which cause air pollutant emissions. Human causes of air pollution in the Valley consist of population growth, urbanization (gas-fired appliances, residential wood heaters, etc.), mobile sources (i.e., cars, trucks, airplanes, trains, etc.), oil production, agriculture, and other socioeconomic activities. The most significant factors, which are accelerating the decline of air quality in the SJVAB, are the Valley's rapid population growth and its associated increases in traffic, urbanization, and industrial activity.

Carbon monoxide emissions overwhelmingly come from mobile sources in the San Joaquin Valley; on-road vehicles contributed 34 percent, while other mobile vehicles, such as trains, planes, and off-road vehicles, contribute another 20 percent in 2012 according to emission projections from the CARB. Motor vehicles account for significant portions of regional gaseous and particulate emissions. Local large employers such as industrial plants can also generate substantial regional gaseous and particulate emissions. In addition, construction and agricultural activities can generate significant temporary gaseous and particulate emissions (dust, ash, smoke, etc.).

Ozone is the result of a photochemical reaction between Oxides of nitrogen (NOx) and Reactive Organic Gases (ROG). Mobile sources contribute 84 percent of all NOx emitted from anthropogenic sources based on data provided in Appendix B of the Air District's 2016 Ozone

Plan. In addition, mobile sources contribute 26 percent of all the ROG emitted from sources within the San Joaquin Valley.

The principal factors that affect air quality in and around Stanislaus County are:

1. The sink effect, climatic subsidence and temperature inversions and low wind speeds
2. Automobile and truck travel
3. Increases in mobile and stationary pollutants generated by local urban growth

Automobiles, trucks, buses and other vehicles using hydrocarbon (HC) fuels release exhaust products into the air. Each vehicle by itself does not release large quantities; however, when considered as a group, the cumulative effect is significant.

Other sources may not seem to fit into any one of the major categories or they may seem to fit in a number of them. These could include agricultural uses, dirt roads, animal shelters; animal feed lots, chemical plants and industrial waste disposal, which may be a source of dust, odors, or other pollutants. For Stanislaus County, this category includes several agriculturally related activities, such as plowing, harvesting, dusting with herbicides and pesticides and other related activities. Finally, industrial contaminants and their potential to produce various effects depend on the size and type of industry, pollution controls, local topography, and meteorological conditions. Major sources of industrial emissions in Stanislaus County consist of agricultural production and processing operations, wine production, and marketing operations.

The primary contributors of PM10 emissions in the San Joaquin Valley are farming activities (22%) and road dust, both paved and unpaved (35%) in 2020 according to emission projections from the CARB. Fugitive windblown dust from “open” fields contributed 14 percent of the PM10.

The four major sources of air pollutant emissions in the SJVAB include industrial plants, motor vehicles, construction activities, and agricultural activities. Industrial plants account for significant portions of regional gaseous and particulate emissions. Motor vehicles, including those from large employers, generate substantial regional gaseous and particulate emissions. Finally, construction and agricultural activities can generate significant temporary gaseous and particulate emissions (dust, ash, smoke, etc.). In addition to these primary sources of air pollution, urban areas upwind from Stanislaus County, including areas north and west of the San Joaquin Valley, can cause or generate emissions that are transported into Stanislaus County. All four of the major pollutant sources affect ambient air quality throughout the Air Basin.

2.4.1 *Motor Vehicles*

Automobiles, trucks, buses and other vehicles using hydrocarbon fuels release exhaust products into the air. Each vehicle by itself does not release large quantities; however, when considered as a group, the cumulative effect is significant.

2.4.2 *Agricultural and Other Miscellaneous Activities*

Other sources may not seem to fit into any one of the major categories or they may seem to fit in a number of them. These could include agricultural uses, dirt roads, animal shelters, animal feed lots, chemical plants and industrial waste disposal, which may be a source of dust, odors, or other pollutants. For Stanislaus County, this category includes several agriculturally related activities, such as plowing, harvesting, dusting with herbicides and pesticides and other related activities.

2.4.3 *Industrial Plants*

Industrial contaminants and their potential to produce various effects depend on the size and type of industry, pollution controls, local topography, and meteorological conditions. Major sources of industrial emissions in Stanislaus County consist of agricultural production and processing operations, wine production, and marketing operations.

2.5 San Joaquin Valley Air Basin Monitoring

SJVAPCD and the CARB maintain numerous air quality monitoring sites throughout each County in the Air Basin to measure ozone, PM2.5, and PM10. It is important to note that the federal ozone 1-hour standard was revoked by the EPA and is no longer applicable for federal standards. The closest monitoring station to the Project is located at Turlock's S Minaret Street Monitoring Station. The station monitors particulates, ozone, carbon monoxide, and nitrogen dioxide. Monitoring data for the past three years is summarized in Table 2.

Table 3 identifies the Stanislaus County's attainment status. As indicated, the SJVAB is nonattainment for Ozone (1 hour and 8 hour) and PM. In accordance with the FCAA, EPA uses the design value at the time of standard promulgation to assign nonattainment areas to one of several classes that reflect the severity of the nonattainment problem; classifications range from marginal nonattainment to extreme nonattainment. The FCAA contains provisions for changing the classifications using factors such as clean air progress rates and requests from States to move areas to a higher classification.

On April 16, 2004 EPA issued a final rule classifying the SJVAB as extreme nonattainment for Ozone, effective May 17, 2004 (69 FR 20550). The (federal) 1-hour ozone standard was revoked on June 6, 2005. However, many of the requirements in the 1-hour attainment plan (SIP) continue to apply to the SJVAB. The current ozone plan is the (federal) 8-hour ozone plan adopted in 2007. The SJVAB was reclassified from a "serious" nonattainment area for the 8-hour ozone standard to "extreme" effective June 4, 2010.

Table 2
Maximum Pollutant Levels at Turlock's S Minaret Street Monitoring Station

Pollutant	Time Averaging	2016 Maximums	2017 Maximums	2018 Maximums	Standards National	Standards State
Ozone (O_3)	1 hour	0.102 ppm	0.114 ppm	0.108 ppm	-	0.09 ppm
Ozone (O_3)	8 hour	0.088 ppm	0.099 ppm	0.095 ppm	0.070 ppm	0.070 ppm
Nitrogen Dioxide (NO_2)	1 hour	47.2 ppb	58.6 ppb	67.2 ppb	100 ppb	0.18 ppm
Nitrogen Dioxide (NO_2)	Annual Average	9.0 ppb	9.0 ppb	9.0 ppb	0.053 ppm	0.030 ppm
Particulates (PM_{10})	24 hour	62.3 µg/m^3	111.7 µg/m^3	238.7 µg/m^3	150 µg/m^3	50 µg/m^3
Particulates (PM_{10})	Federal Annual Arithmetic Mean	29.8 µg/m^3	36.4 µg/m^3	36.8 µg/m^3	-	20 µg/m^3
Particulates ($PM_{2.5}$)	24 hour	53.6 µg/m^3	72.3 µg/m^3	187.3 µg/m^3	35 µg/m^3	-
Particulates ($PM_{2.5}$)	Federal Annual Arithmetic Mean	12.6 µg/m^3	12.7 µg/m^3	17.2 µg/m^3	12 µg/m^3	12 µg/m^3

Source: California Air Resources Board (ADAM) Air Pollution Summaries

Table 3
Stanislaus County Attainment Status

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone - 1 Hour	Revoked in 2005	Nonattainment/Severe
Ozone - 8 Hour	Nonattainment/Extreme [a]	No State Standard
PM10	Attainment	Nonattainment
PM2.5	Nonattainment	Nonattainment
Carbon Monoxide	Unclassified/Attainment	Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified/Attainment	Attainment
Lead (Particulate)	Unclassified/Attainment	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified

Source: ARB Website, 2020

a. Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).

Notes:

National Designation Categories

Non-Attainment Area: Any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.

Unclassified/Attainment Area: Any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant or meets the national primary or secondary ambient air quality standard for the pollutant.

State Designation Categories

Unclassified: A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or non-attainment.

Attainment: A pollutant is designated attainment if the State standard for that pollutant was not violated at any site in the area during a three-year period.

Non-attainment: A pollutant is designated non-attainment if there was at least one violation of a State standard for that pollutant in the area.

Non-Attainment/Transitional: A subcategory of the non-attainment designation. An area is designated non-attainment/transitional to signify that the area is close to attaining the standard for the pollutant.

2.6 Air Quality Standards

The FCAA, first adopted in 1963, and periodically amended since then, established National Ambient Air Quality Standards (NAAQS). A set of 1977 amendments determined a deadline for the attainment of these standards. That deadline has since passed. Other CAA amendments, passed in 1990, share responsibility with the State in reducing emissions from mobile sources.

In 1988, the State of California passed the CCAA (State 1988 Statutes, Chapter 568), which set forth a program for achieving more stringent California Ambient Air Quality Standards. The CARB implements State ambient air quality standards, as required in the CCAA, and cooperates with the federal government in implementing pertinent sections of the FCAA Amendments (FCAAA). Further, CARB regulates vehicular emissions throughout the State. The SJVAPCD regulates stationary sources, as well as some mobile sources. Attainment of the more stringent State PM10 Air Quality Standards is not currently required.

The 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 the NAAQS.

The SJVAPCD operates regional air quality monitoring networks that provide information on average concentrations of pollutants for which State or federal agencies have established ambient air quality standards. Descriptions of nine pollutants of importance in Stanislaus County follow.

2.6.1 *Ozone (1-hour and 8-hour)*

The most severe air quality problem in the Air Basin is the high level of ozone. Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. Here, ground level, or "bad" ozone, is an air pollutant that damages human health, vegetation, and many common materials. It is a key ingredient of urban smog. The troposphere extends to a level about 10 miles up, where it meets the second layer, the stratosphere. The stratospheric, or "good" ozone layer, extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

"Bad" ozone is what is known as a photochemical pollutant. It needs reactive organic gases (ROG), NOx, and sunlight. ROG and NOx are emitted from various sources throughout Tulare County. In order to reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors.

Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

Ozone is a regional air pollutant. It is generated over a large area and is transported and spread by wind. Ozone, the primary constituent of smog, is the most complex, difficult to control, and pervasive of the criteria pollutants. Unlike other pollutants, ozone is not emitted directly into the air by specific sources. Ozone is created by sunlight acting on other air pollutants (called precursors), specifically NOx and ROG. Sources of precursor gases to the photochemical reaction that form ozone number in the thousands. Common sources include consumer products, gasoline vapors, chemical solvents, and combustion products of various fuels. Originating from gas stations, motor vehicles, large industrial facilities, and small businesses such as bakeries and dry cleaners, the ozone-forming chemical reactions often take place in another location, catalyzed by sunlight and heat. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins. Approximately 50 million people lived in counties with air quality levels above the EPA's health-based national air quality standard in 1994. The highest levels of ozone were recorded in Los Angeles, closely followed by the San Joaquin Valley. High levels also persist in other heavily populated areas, including the Texas Gulf Coast and much of the Northeast.

While the ozone in the upper atmosphere absorbs harmful ultraviolet light, ground-level ozone is damaging to the tissues of plants, animals, and humans, as well as to a wide variety of inanimate materials such as plastics, metals, fabrics, rubber, and paints. Societal costs from ozone damage include increased medical costs, the loss of human and animal life, accelerated replacement of industrial equipment, and reduced crop yields.

- ✓ ***Health Effects***

  While ozone in the upper atmosphere protects the earth from harmful ultraviolet radiation, high concentrations of ground-level ozone can adversely affect the human respiratory system. Many respiratory ailments, as well as cardiovascular disease, are aggravated by exposure to high ozone levels. Ozone also damages natural ecosystems, such as: forests and foothill communities; agricultural crops; and some man-made materials, such as rubber, paint, and plastic. High levels of ozone may negatively affect immune systems, making people more susceptible to respiratory illnesses, including bronchitis and pneumonia. Ozone accelerates aging and exacerbates pre-existing asthma and bronchitis and, in cases with high concentrations, can lead to the development of asthma in active children. Active people, both children and adults, appear to be more at risk from ozone exposure than those with a low level of activity. Additionally, the elderly and those with respiratory disease are also considered sensitive populations for ozone.

  People who work or play outdoors are at a greater risk for harmful health effects from ozone. Children and adolescents are also at greater risk because they are more likely than adults to spend time engaged in vigorous activities. Research indicates that children under 12 years of age spend nearly twice as much time outdoors daily than adults. Teenagers spend at least twice as much time as adults in active sports and outdoor activities. In addition, children

inhale more air per pound of body weight than adults, and they breathe more rapidly than adults. Children are less likely than adults to notice their own symptoms and avoid harmful exposures.

Ozone is a powerful oxidant—it can be compared to household bleach, which can kill living cells (such as germs or human skin cells) upon contact. Ozone can damage the respiratory tract, causing inflammation and irritation, and it can induce symptoms such as coughing, chest tightness, shortness of breath, and worsening of asthmatic symptoms. Ozone in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. Exposure to levels of ozone above the current ambient air quality standard leads to lung inflammation and lung tissue damage and a reduction in the amount of air inhaled into the lungs.

The CARB found ozone standards in Stanislaus County nonattainment of Federal and State standards.

2.6.2 *Suspended PM (PM10 and PM2.5)*

Particulate matter pollution consists of very small liquid and solid particles that remain suspended in the air for long periods. Some particles are large or concentrated enough to be seen as soot or smoke. Others are so small they can be detected only with an electron microscope. Particulate matter is a mixture of materials that can include smoke, soot, dust, salt, acids, and metals. Particulate matter is emitted from stationary and mobile sources, including diesel trucks and other motor vehicles; power plants; industrial processes; wood-burning stoves and fireplaces; wildfires; dust from roads, construction, landfills, and agriculture; and fugitive windblown dust. PM10 refers to particles less than or equal to 10 microns in aerodynamic diameter. PM2.5 refers to particles less than or equal to 2.5 microns in aerodynamic diameter and are a subset of PM10. Particulates of concern are those that are 10 microns or less in diameter. These are small enough to be inhaled, pass through the respiratory system and lodge in the lungs, possibly leading to adverse health effects.

In the western United States, there are sources of PM10 in both urban and rural areas. Because particles originate from a variety of sources, their chemical and physical compositions vary widely. The composition of PM10 and PM2.5 can also vary greatly with time, location, the sources of the material and meteorological conditions. Dust, sand, salt spray, metallic and mineral particles, pollen, smoke, mist, and acid fumes are the main components of PM10 and PM2.5. In addition to those listed previously, secondary particles can also be formed as precipitates from chemical and photochemical reactions of gaseous sulfur dioxide (SO2) and NOx in the atmosphere to create sulfates (SO4) and nitrates (NO3). Secondary particles are of greatest concern during the winter months where low inversion layers tend to trap the precursors of secondary particulates.

The District's 2008 PM2.5 Plan built upon the aggressive emission reduction strategy adopted in

the 2007 Ozone Plan and strives to bring the valley into attainment status for the 1997 NAAQS for PM2.5. The District's 2012 PM2.5 Plan provides multiple control strategies to reduce emissions of PM2.5 and other pollutants that form PM2.5. The plan's comprehensive control strategy includes regulatory actions, incentive programs, technology advancement, policy and legislative positions, public outreach, participation and communication, and additional strategies.

✓ ***Health Effects***

PM10 and PM2.5 particles are small enough—about one-seventh the thickness of a human hair, or smaller—to be inhaled and lodged in the deepest parts of the lung where they evade the respiratory system's natural defenses. Health problems begin as the body reacts to these foreign particles. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis, and respiratory illnesses in children. Recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. Non-health-related effects include reduced visibility and soiling of buildings. PM10 can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. PM10 and PM2.5 can aggravate respiratory disease and cause lung damage, cancer, and premature death.

Although particulate matter can cause health problems for everyone, certain people are especially vulnerable to adverse health effects of PM10. These "sensitive populations" include children, the elderly, exercising adults, and those suffering from chronic lung disease such as asthma or bronchitis. Of greatest concern are recent studies that link PM10 exposure to the premature death of people who already have heart and lung disease, especially the elderly. Acidic PM10 can also damage manmade materials and is a major cause of reduced visibility in many parts of the United States.

The CARB found PM10 standards in Stanislaus County in attainment of Federal standards and nonattainment for State standards. The CARB found PM2.5 standards in Stanislaus County nonattainment of Federal and State standards.

2.6.3 *Carbon Monoxide (CO)*

Carbon monoxide (CO) is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. CO is an odorless, colorless, poisonous gas that is highly reactive. CO is a byproduct of motor vehicle exhaust, contributes more than two thirds of all CO emissions nationwide. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. These emissions can result in high concentrations of CO, particularly in local areas with heavy traffic congestion. Other sources of CO emissions include industrial processes and fuel combustion in sources such as boilers and incinerators. Despite an overall

downward trend in concentrations and emissions of CO, some metropolitan areas still experience high levels of CO.

✓ ***Health Effects***

CO enters the bloodstream and binds more readily to hemoglobin than oxygen, reducing the oxygen-carrying capacity of blood and thus reducing oxygen delivery to organs and tissues. The health threat from CO is most serious for those who suffer from cardiovascular disease. Healthy individuals are also affected but only at higher levels of exposure. At high concentrations, CO can cause heart difficulties in people with chronic diseases and can impair mental abilities. Exposure to elevated CO levels is associated with visual impairment, reduced work capacity, reduced manual dexterity, poor learning ability, difficulty performing complex tasks, and in prolonged, enclosed exposure, death.

The adverse health effects associated with exposure to ambient and indoor concentrations of CO are related to the concentration of carboxyhemoglobin (COHb) in the blood. Health effects observed may include an early onset of cardiovascular disease; behavioral impairment; decreased exercise performance of young, healthy men; reduced birth weight; sudden infant death syndrome (SIDS); and increased daily mortality rate.

Most of the studies evaluating adverse health effects of CO on the central nervous system examine high-level poisoning. Such poisoning results in symptoms ranging from common flu and cold symptoms (shortness of breath on mild exertion, mild headaches, and nausea) to unconsciousness and death.

The CARB found CO standards in Stanislaus County as unclassified/attainment of Federal standards and attainment for State standards.

2.6.4 *Nitrogen Dioxide (NO2)*

Nitrogen oxides (NOx) is a family of highly reactive gases that are primary precursors to the formation of ground-level ozone and react in the atmosphere to form acid rain. NOx is emitted from combustion processes in which fuel is burned at high temperatures, principally from motor vehicle exhaust and stationary sources such as electric utilities and industrial boilers. A brownish gas, NOx is a strong oxidizing agent that reacts in the air to form corrosive nitric acid, as well as toxic organic nitrates. EPA regulates only nitrogen dioxide (NO2) as a surrogate for this family of compounds because it is the most prevalent form of NOx in the atmosphere that is generated by anthropogenic (human) activities.[1]

✓ ***Health Effects***

NOx is an ozone precursor that combines with Reactive Organic Gases (ROG) to form ozone.

1 United States Environmental Protection Agency (EPA), Nitrogen Oxides (NOx). Why and How They Are Controlled, 456/F-99-006R, November 2019

See the ozone section above for a discussion of the health effects of ozone.

Direct inhalation of NOx can also cause a wide range of health effects. NOx can irritate the lungs, cause lung damage, and lower resistance to respiratory infections such as influenza. Short-term exposures (e.g., less than 3 hours) to low levels of nitrogen dioxide (NO2) may lead to changes in airway responsiveness and lung function in individuals with preexisting respiratory illnesses. These exposures may also increase respiratory illnesses in children. Long-term exposures to NO2 may lead to increased susceptibility to respiratory infection and may cause irreversible alterations in lung structure. Other health effects associated with NOx are an increase in the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO2 may lead to eye and mucus membrane aggravation, along with pulmonary dysfunction. NOx can cause fading of textile dyes and additives, deterioration of cotton and nylon, and corrosion of metals due to production of particulate nitrates. Airborne NOx can also impair visibility. NOx is a major component of acid deposition in California. NOx may affect both terrestrial and aquatic ecosystems. NOx in the air is a potentially significant contributor to a number of environmental effects such as acid rain and eutrophication in coastal waters. Eutrophication occurs when a body of water suffers an increase in nutrients that reduce the amount of oxygen in the water, producing an environment that is destructive to fish and other animal life.

NO2 is toxic to various animals as well as to humans. Its toxicity relates to its ability to combine with water to form nitric acid in the eye, lung, mucus membranes, and skin. Studies of the health impacts of NO2 include experimental studies on animals, controlled laboratory studies on humans, and observational studies.

In animals, long-term exposure to NOx increases susceptibility to respiratory infections, lowering their resistance to such diseases as pneumonia and influenza. Laboratory studies show susceptible humans, such as asthmatics, exposed to high concentrations of NO2, can suffer lung irritation and, potentially, lung damage. Epidemiological studies have also shown associations between NO2 concentrations and daily mortality from respiratory and cardiovascular causes as well as hospital admissions for respiratory conditions.

NOx contributes to a wide range of environmental effects both directly and when combined with other precursors in acid rain and ozone. Increased nitrogen inputs to terrestrial and wetland systems can lead to changes in plant species composition and diversity. Similarly, direct nitrogen inputs to aquatic ecosystems such as those found in estuarine and coastal waters can lead to eutrophication as discussed above. Nitrogen, alone or in acid rain, also can acidify soils and surface waters. Acidification of soils causes the loss of essential plant nutrients and increased levels of soluble aluminum, which is toxic to plants. Acidification of surface waters creates conditions of low pH and levels of aluminum that are toxic to fish and other aquatic organisms.

The CARB found NO2 standards in Stanislaus County as unclassified/attainment of Federal standards and attainment for State standards.

2.6.5 *Sulfur Dioxide (SO2)*

The major source of sulfur dioxide (SO2) is the combustion of high-sulfur fuels for electricity generation, petroleum refining and shipping. High concentrations of SO2 can result in temporary breathing impairment for asthmatic children and adults who are active outdoors. Short-term exposures of asthmatic individuals to elevated SO2 levels during moderate activity may result in breathing difficulties that can be accompanied by symptoms such as wheezing, chest tightness, or shortness of breath. Other effects that have been associated with longer-term exposures to high concentrations of SO2, in conjunction with high levels of PM, include aggravation of existing cardiovascular disease, respiratory illness, and alterations in the lungs' defenses. SO2 also is a major precursor to PM2.5, which is a significant health concern and a main contributor to poor visibility. In humid atmospheres, sulfur oxides can react with vapor to produce sulfuric acid, a component of acid rain.

The CARB found SO2 standards in the Stanislaus County as unclassified for Federal standards and attainment for State standards.

2.6.6 *Lead (Pb)*

Lead, a naturally occurring metal, can be a constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. Lead was used until recently to increase the octane rating in automobile fuel. Since the 1980s, lead has been phased out in gasoline, reduced in drinking water, reduced in industrial air pollution, and banned or limited in consumer products. Gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels; however, the use of leaded fuel has been mostly phased out. Since this has occurred the ambient concentrations of lead have dropped dramatically.

Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. It accumulates in the blood, bones, and soft tissues and can adversely affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause neurological impairments such as seizures, mental retardation, and behavioral disorders. Even at low doses, lead exposure is associated with damage to the nervous systems of fetuses and young children. Effects on the nervous systems of children are one of the primary health risk concerns from lead. In high concentrations, children can even suffer irreversible brain damage and death. Children 6 years old and under are most at risk, because their bodies are growing quickly.

The CARB found Lead standards in Stanislaus County as unclassified/attainment of Federal standards and attainment for State standards.

2.6.7 *Toxic Air Contaminants (TAC)*

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TAC) are another group of pollutants of concern. TAC are injurious in small quantities and are regulated despite

the absence of criteria documents. The identification, regulation and monitoring of TAC is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TAC are regulated on the basis of risk rather than specification of safe levels of contamination. The ten TAC are acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (diesel PM). Caltrans' guidance for transportation studies references the Federal Highway Administration (FHWA) memorandum titled "Interim Guidance on Air Toxic Analysis in NEPA Documents" which discusses emissions quantification of six "priority" compounds of 21 Mobile Source Air Toxics (MSAT) identified by the United States Environmental Protection Agency (USEPA). The six "priority" compounds are diesel exhaust (particulate matter and organic gases), benzene, 1,3-butadiene, acetaldehyde, formaldehyde, and acrolein.

Some studies indicate that diesel PM poses the greatest health risk among the TAC listed above. A 10-year research program (California Air Resources Board 1998) demonstrated that diesel PM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to diesel PM poses a chronic health risk. In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

Diesel PM differs from other TAC in that it is not a single substance but a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TAC, however, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. The CARB has made preliminary concentration estimates based on a diesel PM exposure method. This method uses the CARB emissions inventory's PM10 database, ambient PM10 monitoring data, and the results from several studies to estimate concentrations of diesel PM. Table 4 depicts the CARB Handbook's recommended buffer distances associated with various types of common sources.

Existing air quality concerns within Stanislaus County and the entire SJVAB 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. 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.

TABLE 4

Recommendations on Siting New Sensitive Land Uses Such As Residences, Schools, Daycare Centers, Playgrounds, or Medical Facilities*

SOURCE CATEGORY	ADVISORY RECOMMENDATIONS
Freeways and High-Traffic Roads [1]	- 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.
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 ARB 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 Perchloroethylene	- 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 perchloroethylene 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.

1: The recommendation to avoid siting new sensitive land uses within 500 feet of a freeway was identified in CARB's Air Quality and Land Use Handbook published in 2005. CARB recently published a technical advisory to the Air Quality and Land Use Handbook indicating that new research has demonstrated promising strategies to reduce pollution exposure along transportation corridors.

*Notes:
• These recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.
• Recommendations are based primarily on data showing that the air pollution exposures addressed here (i.e., localized) can be reduced as much as 80% with the recommended separation.
• The relative risk for these categories varies greatly (see Table 1-2). To determine the actual risk near a particular facility, a site-specific analysis would be required. Risk from diesel PM will decrease over time as cleaner technology phases in.
• These recommendations are designed to fill a gap where information about existing facilities may not be readily available and are not designed to substitute for more specific information if it exists. The recommended distances take into account other factors in addition to available health risk data (see individual category descriptions).
• Site-specific project design improvements may help reduce air pollution exposures and should also be considered when siting new sensitive land uses.
• This table does not imply that mixed residential and commercial development in general is incompatible. Rather it focuses on known problems like dry cleaners using perchloroethylene that can be addressed with reasonable preventative actions.
• A summary of the basis for the distance recommendations can be found in the ARB Handbook: Air Quality and Land Use Handbook: A Community Health Perspective.

Source: SJVAPCD 2020

2.6.8 *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.

The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. The SJVAPCD has identified some common types of facilities that have been known to produce odors in the SJVAB. The types of facilities that are known to produce odors are shown in Table 5 along with a reasonable distance from the source within which, the degree of odors could possibly be significant. The Project does not propose any uses that would be potential odor sources; however, the information presented in Table 5 will be used as a screening level analysis to determine if the Project would be impacted by existing odor sources in the study area. Such information is presented for informational purposes, but it is noted that the environment's effect on the Project, including exposure to potential odors, would not be an impact for CEQA purposes.

TABLE 5
Screening Levels for Potential Odor Sources

Type of Facility	Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Compositing Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g. auto body shops)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile

Source: SJVAPCD 2020

2.6.9 *Naturally Occurring Asbestos (NOA)*

Asbestos is a term used for several types of naturally-occurring fibrous minerals found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California. Asbestos is commonly found in ultramafic rock and near fault zones. The amount of asbestos that is typically present in these rocks ranges from less than 1% up to approximately 25% and sometimes more. It is released from ultramafic rock when it is broken or crushed. This can happen when cars drive over unpaved roads or driveways, which are surfaced with these rocks, when land is graded for building purposes, or at quarrying operations. Asbestos is also released naturally through weathering and erosion. Once released from the rock, asbestos can become airborne and may stay in the air for long periods of time. Asbestos is hazardous and can cause lung disease and cancer dependent upon the level of exposure. The longer a person is exposed to asbestos and the greater the intensity of the exposure, the greater the chances for a health problem.

The proposed Project's construction phase may cause asbestos to become airborne due to the construction activities that will occur on site. The Project would be required to submit a Dust Control Plan under the SJVAPCD's Rule 8021.

2.6.10 *Greenhouse Gas Emissions*

Gases that trap heat in the atmosphere are often called greenhouse gases. Some greenhouse gases such as carbon dioxide occur naturally and are emitted to the atmosphere through natural processes and human activities. Other greenhouse gases (e.g., fluorinated gases) are created and emitted solely through human activities. The principal greenhouse gases that enter the

atmosphere because of human activities are:

- ✓ **Carbon Dioxide (CO2):** Carbon dioxide enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and also as a result of other chemical reactions (e.g., manufacture of cement, asphalt paving, truck trips). Carbon dioxide is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.
- ✓ **Methane (CH4):** Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
- ✓ **Nitrous Oxide (N2O):** Nitrous oxide is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.
- ✓ **Fluorinated Gases:** Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are synthetic, powerful greenhouse gases that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances (i.e., CFCs, HCFCs, and halons). These gases are typically emitted in smaller quantities, but because they are potent greenhouse gases, they are sometimes referred to as High Global Warming Potential gases ("High GWP gases").

3.0 Air-Quality Impacts

3.1 Methodology

The impact assessment for air quality focuses on potential effects the Project might have on air quality within the Stanislaus County region. The SJVAPCD has established thresholds of significance for determining environmental significance. These thresholds separate a project's short-term emissions from its long-term emissions. The short-term emissions are mainly related to the construction phase of a project, which are recognized to be short in duration. The long-term emissions are primarily related to the activities that will occur indefinitely as a result of Project operations. Impacts will be evaluated both on the basis of CEQA Appendix G criteria and SJVAPCD significance criteria. The impacts to be evaluated will be those involving construction and operational emissions of criteria pollutants. The SJVAPCD has established thresholds for certain pollutants shown in Table 6.

Table 6
SJVAPCD Air Quality Thresholds of Significance

Project Type	Ozone Precursor Emissions (tons/year)					
	CO	NO_X	ROG	SO_X	PM_{10}	$PM_{2.5}$
Construction Emissions	100	10	10	27	15	15
Operational Emissions (Permitted Equipment and Activities)	100	10	10	27	15	15
Operational Emissions (Non-Permitted Equipment and Activities)	100	10	10	27	15	15

Source: SJVAPCD 2020

3.1.1 *CalEEMod*

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. The model quantifies direct emissions from construction and operations (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.

The model is an accurate and comprehensive tool for quantifying air quality impacts from land use projects throughout California. The model can be used for a variety of situations where an air quality analysis is necessary or desirable such as CEQA and NEPA documents, pre-project planning, compliance with local air quality rules and regulations, etc.

3.2 Short-Term Impacts

Short-term impacts are mainly related to the construction phase of a project and are recognized to be short in duration. Construction air quality impacts are generally attributable to dust and exhaust pollutants generated by equipment and vehicles. Fugitive dust is emitted both during construction activity and as a result of wind erosion over exposed earth surfaces. Clearing and earth moving activities do comprise major sources of construction dust emissions, but traffic and general disturbances of soil surfaces also generate significant dust emissions. Further, dust generation is dependent on soil type and soil moisture. Exhaust pollutants are the non-useable gaseous waste products produced during the combustion process. Engine exhaust contains CO, HC, and NOx pollutants which are harmful to the environment.

Adverse effects of construction activities cause increased dust-fall and locally elevated levels of total suspended particulate. Dust-fall can be a nuisance to neighboring properties or previously completed developments surrounding or within the Project area and may require frequent washing during the construction period.

PM10 emissions can result from construction activities of the Project. The SJVAPCD has determined that compliance with Regulation VIII and other control measures will constitute sufficient mitigation to reduce PM10 impacts to a level considered less-than significant for most development projects. Even with implementation of District Regulation VIII and District Rule 9510, large development projects may not be able to reduce project specific construction impacts below District thresholds of significance.

Ozone precursor emissions are also an impact of construction activities and can be quantified through calculations. Numerous variables factored into estimating total construction emission include: level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and amount of materials to be transported onsite or offsite. Additional exhaust emissions would be associated with the transport of workers and materials. Because the specific mix of construction equipment is not presently known for this Project, construction emissions were estimated using CalEEMod Model defaults for construction equipment.

Table 7 shows the CalEEMod estimated construction emissions that would be generated from construction of the Project. Results of the analysis show that emissions generated from construction of the Project will not exceed the SJVAPCD emission thresholds.

Table 7
Project Construction Emissions (tons/year)

Summary Report	CO	NO_X	ROG	SO_X	PM_{10}	$PM_{2.5}$	CO2e
Project Construction Emissions	2.66	3.04	1.40	0.01	0.30	0.20	471.50
SJVAPCD Level of Significance	100	10	10	27	15	15	None
Does the Project Exceed Standard?	No	No	No	No	No	No	No

Source: CalEEMod

3.3 Long-Term Emissions

Long-Term emissions from the Project would be generated primarily by mobile source (vehicle) emissions from the Project site and area sources such as lawn maintenance equipment.

3.3.1 *Localized Operational Emissions – Ozone/Particulate Matter*

Significance criteria have been established for criteria pollutant emissions as documented in Section 3.1. Operational emissions have been estimated for the Project using the CalEEMod Model and detailed results are included in Appendix A of this report.

Results of the CalEEMod analysis are shown in Table 8. Results indicate that the annual operational emissions from the Project will be less than the SJVAPCD emission thresholds for criteria pollutants.

Table 8
Project Operational Emissions (tons/year)

Summary Report	CO	NO_X	ROG	SO_X	PM_{10}	$PM_{2.5}$	CO2e
Project Opeational Emissions	3.25	2.87	1.01	0.01	0.92	0.26	2059.11
SJVAPCD Level of Significance	100	10	10	27	15	15	None
Does the Project Exceed Standard?	No	No	No	No	No	No	No

Source: CalEEMod

3.3.2 *Localized Operational Emissions*

✓ **Carbon Monoxide**

The SJVAPCD is currently in unclassified/attainment for Federal standards and attainment for State standards for CO. An analysis of localized CO concentrations is typically warranted to ensure that standards are maintained. The traffic analysis prepared for the Project demonstrates that adjacent study intersections will operate at LOS 'D' or better through the Cumulative Plus Project scenario. As a result, the overall CO concentrations at roadways and intersections in the study area would be less than significant.

✓ **Toxic Air Contaminants (TAC)**

The SJVAPCD's Guidance Document, Guidance for Assessing and Mitigating Air Quality Impacts – 2015, identifies the need for projects to analyze the potential for adverse air quality impacts to sensitive receptors. Sensitive receptors refer to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). Land uses that have the greatest potential to attract these types of sensitive receptors include schools, parks, playgrounds, daycare centers, nursing homes, hospitals, and residential communities. From a health risk perspective, the Project is a Type A project in that it may potentially place toxic sources in the vicinity of existing sensitive receptors.

The SJVAPCD's current thresholds of significance for TAC emissions from the operations of both permitted and non-permitted sources are presented below:

- Carcinogens: Maximally Exposed Individual risk equals or exceeds 10 in one million
- Chronic: Hazard Index equals or exceeds 1 for the Maximally Exposed Individual
- Acute: Hazard Index equals or exceeds 1 for the Maximally Exposed Individual

Carcinogenic (cancer) risk is expressed as cancer cases per one million. Noncarcinogenic (acute and chronic) hazard indices (HI) are expressed as a ratio of expected exposure levels to acceptable exposure levels.

These metrics are generally applied to the maximally exposed individual (MEI). There are separate MEIs for residential exposure (i.e., residential areas) and for worker exposure (i.e., off-site workplaces). Residential exposure is for a worst-case exposure duration of 24 hours a day, 350 days a year for 70 years. For off-site workplaces, the exposure is 8 hours a day, 245 days a year for 40 years.

CANCER RISK

Cancer risk is defined as the lifetime probability (chance) of developing cancer from exposure to a carcinogen, typically expressed as chances per million. Exposure to cancer-causing substances can be through direct inhalation or other pathway. The cancer risk associated with inhalation of a carcinogen can be estimated by multiplying the inhalation dose in units of milligram per kilogram-day (mg/kg-day) by an inhalation cancer potency factor [(mg/kg/day)-1].

For particulate-bound pollutants, exposure may be possible from indirect environmental pathways (non-inhalation pathways), such as deposition on the soil, followed by exposure through soil ingestion or absorption of the pollutant from soil adhered to the skin. Other ingestion pathways may be possible such as ingestion of crops grown in soil potentially affected by deposited air pollutants and transmittal of a dose to an infant by breast milk due to the mother's cumulative exposure. Non-inhalation cancer risk is calculated from cancer toxicity factors and exposure assumptions.

NON-CANCER RISK

Non-cancer health risk refers to both acute (short-term) and chronic (long-term) adverse health effects other than cancer that may be associated with exposure to air toxics. The commonly employed regulatory metric for assessing noncancer effects is the hazard index (HI), the ratio of the estimated exposure level of an air toxic compound to a scientifically derived reference exposure level (REL) for the same compound. RELs generally represent the highest exposure level where no adverse effect has been observed or the lowest exposure level where the onset of an adverse effect has been observed, with the inclusion of a safety factor ranging from 10 to 1000, depending on the source and quality of the scientific data.

If the reported concentration or dose of a given chemical is less than its REL, then the hazard index will be less than 1.0. When more than one chemical is considered, it is assumed that the effects are additive provided the associated chemicals are expected to have an adverse impact on the same target organ system (respiratory system, liver, etc). Thus, chemical specific hazard indices are summed to arrive at a hazard index for each target organ. For any organ system, a total hazard index exceeding 1.0 indicates a potential health effect.

ESTIMATE OF TOXIC EMISSIONS

As stated previously, the Project proposes to develop a facility to receive, store, pack, and ship agricultural produce, commonly known in the agricultural sector as a packing house. The principle sources or processes from the Project that have the potential to emit various TAC's include diesel emissions from Truck Traffic, Transportation Refrigeration Units (TRU's), and Truck Idling.

Cancer and non-cancer health risks are related to the exposure concentration, for example in grams/cubic meter, of various toxic air contaminants that will be generated on the Project site. Exposure occurs primarily via inhalation and to a smaller extent via ingestion, dermal exposure, etc.

The ambient concentration of various TACs at a given location depends on its emission rate, distance from the emission source, local wind speed and direction and local topography, land-use, etc. An air dispersion model that incorporates these variables and parameters was used to calculate the concentration of TACs in the vicinity of the Project.

- Diesel Particulate Matter Emissions

  Vehicle DPM emissions were estimated using emission factors for particulate matter less than 10µm in diameter (PM10) generated with the 2017 version of the Emission Factor model (EMFAC) developed by the ARB. EMFAC 2017 is a mathematical model that was developed to calculate emission rates from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the ARB to project changes in future emissions from on-road mobile sources. The most recent

version of this model, EMFAC 2017, incorporates regional motor vehicle data, information and estimates regarding the distribution of vehicle miles traveled (VMT) by speed, and number of starts per day.

Several distinct emission processes are included in EMFAC 2017. Emission factors calculated using EMFAC 2017 are expressed in units of grams per vehicle miles traveled (g/VMT) or grams per idle-hour (g/idle-hr), depending on the emission process. The emission processes and corresponding emission factor units associated with diesel particulate exhaust for this Project are presented below.

For this Project, annual average PM10 emission factors were generated by running EMFAC 2017 in EMFAC Mode for vehicles in Stanislaus County. The EMFAC model generates emission factors in terms of grams of pollutant emitted per vehicle activity and can calculate a matrix of emission factors at specific values of temperature, relative humidity, and vehicle speed. The model was run for speeds traveled in the vicinity of the Project. The vehicle travel speeds for each segment modeled are summarized below.

- Idling (15 minutes) – on-site loading/unloading and truck gate
- 10 miles per hour – on-site vehicle movement including driving and maneuvering

Tables 9 and 10 show the estimated emissions for the diesel operated vehicles that will operate on the Project site. Emissions calculations for TRU's are provided in Appendix B.

EXPOSURE ASSESSMENT

Cancer and non-cancer health risks are related to the exposure concentration, for example in grams/cubic meter, of various toxic air contaminants. Exposure occurs primarily via inhalation and to a smaller extent via ingestion, dermal exposure, etc.

The ambient concentration of various TACs at a given location depends on its emission rate, distance from the emission source, local wind speed and direction and local topography, land-use, etc. An air dispersion model that incorporates these variables and parameters was used to calculate the concentration of TACs in the vicinity of the proposed project.

- Dispersion Modeling

The modeling of emissions for this Project follows guidance from the SJVAPCD. The Health Risk Assessment Standalone Tool Version 2 model was used to estimate the dispersion of the TAC emissions from the Project. The model was then used to estimate cancer risks and non-cancer health hazards from the Project's TAC emissions.

The Project emission sources identified above were modeled using the parameters summarized in Tables 11. Table 11 shows the parameters for the modeling of all activities that will exist on-site.

- Sensitive Receptors

Health risks such as cancer risk, chronic hazard index, and acute hazard index were calculated for a variety of receptor locations. Receptors of primary interest are those at residential locations, at sensitive population locations, and at off-site worker locations. However, in order to get a more complete picture of the patterns of exposure, and for consistency with the HARP software, concentrations and risk are also calculated along the proposed Project's boundary. The receptors used to analyze project impacts include on-site and off-site worker locations and residences adjacent to the Project. Sensitive receptor locations are depicted in Figure 4.

- Meteorological Data

The meteorological data that was used in this HRA comes from the Merced station and is published by the District. The data from the Merced station, which is approximately 25 miles southeast of the Project site, includes five years of data from 2013 through 2017.

Table 9
Onsite On-Road Mobile Source Emissions

Pollutant	Vehicle Type	EMFAC Vehicle Class	Maximum Daily Trips (trips/day)	Total Annual Round-Trips (trips/yr)	Round-Trip Distance (miles)	Emission Factors (1) (gms/mile)	Emission Factors (lbs/VMT)	Annual Emissions (lbs/mile/yr)	Maximum Daily Emission Estimate (lbs/day)	Annual Average Emission Estimate (tons/yr)
ROG Exhaust	Product Trucks - Outside Sales	T7	90	25028	0.34	1.050	2.315E-03	57.9	0.071	0.0049
							Total ROG Emissions	**57.9**	**0.0708**	**0.0049**
TOG Exhaust	Product Trucks - Outside Sales	T7	90	25028	0.34	1.190	2.624E-03	65.7	0.080	0.0056
							Total TOG Emissions	**65.7**	**0.0803**	**0.0056**
SO_x Exhaust	Product Trucks - Outside Sales	T7	90	25028	0.34	0.028	6.173E-05	1.5	0.002	0.0001
							Total SO_x Emissions	**1.5**	**0.0019**	**0.0001**
CO Exhaust	Product Trucks - Outside Sales	T7	90	25028	0.34	2.850	6.283E-03	157.3	0.192	0.0134
							Total CO Emissions	**157.3**	**0.1923**	**0.0134**
NO_X Exhaust	Product Trucks - Outside Sales	T7	90	25028	0.34	12.570	2.771E-02	693.6	0.848	0.0590
							Total NO_X Emissions	**693.6**	**0.8480**	**0.0590**
CO_2 Exhaust	Product Trucks - Outside Sales	T7	90	25028	0.34	2997.776	6.609E+00	165,409.2	202.234	14.0598
							Total CO_2 Emissions	**165,409.2**	**202.2343**	**14.0598**
PM_{10} Exhaust	Product Trucks - Outside Sales	T7	90	25028	0.34	0.126	2.778E-04	7.0	0.009	0.0006
							Total PM_{10} Emissions	**7.0**	**0.0085**	**0.0006**
$PM_{2.5}$ Exhaust	Product Trucks - Outside Sales	T7	90	25028	0.34	0.120	2.646E-04	6.6	0.008	0.0006
							Total $PM_{2.5}$ Emissions	**6.6**	**0.0081**	**0.0006**

References:
(1) Emission Factors source: EMFAC2017 for Stanislaus County Year 2021, for speed distribution of 10 mph
Assumptions:
Maximum 90 daily truck trips (35 shipping/ 55 field trucks)

Table 10
Onsite On-Road Mobile Source Idling Emissions

Pollutant	Vehicle Type	EMFAC Vehicle Class	Maximum Daily Trips (trips/day)	Total Annual Round-Trips (trips/yr)	Idle Time per Trip [1] (hrs/trip)	Idle Emission Factors [2] (g/hr-veh)	Idle Emission Factors (lbs/hr-veh)	Maximum Daily Emission Estimate (lbs/day)	Annual Average Emission Estimate (tons/yr)
ROG	Product Trucks - Outside Sales	T7	90	25028	0.25	1.870	4.12E-03	0.093	0.0064
							Total ROG Emissions	**0.093**	**0.0064**
TOG	Product Trucks - Outside Sales	T7	90	25028	0.25	2.120	4.67E-03	0.105	0.0073
							Total TOG Emissions	**0.105**	**0.0073**
CO	Product Trucks - Outside Sales	T7	90	25028	0.25	22.620	4.99E-02	1.122	0.0780
							Total CO Emissions	**1.122**	**0.0780**
NO_X	Product Trucks - Outside Sales	T7	90	25028	0.25	26.840	5.92E-02	1.331	0.0926
							Total NO_X Emissions	**1.331**	**0.0926**
CO_2	Product Trucks - Outside Sales	T7	90	25028	0.25	4634.430	1.02E+01	229.886	15.9822
							Total CO_2 Emissions	**229.886**	**15.9822**
HC	Product Trucks - Outside Sales	T7	90	25028	0.25	0.086	1.90E-04	0.004	0.0003
							Total HC Emissions	**0.004**	**0.0003**
SO_X	Product Trucks - Outside Sales	T7	90	25028	0.25	0.044	9.70E-05	0.002	0.0002
							Total SO_X Emissions	**0.002**	**0.0002**
PM_{10}	Product Trucks - Outside Sales	T7	90	25028	0.25	0.036	8.02E-05	0.002	0.0001
							Total PM_{10} Emissions	**0.002**	**0.0001**
$PM_{2.5}$	Product Trucks - Outside Sales	T7	90	25028	0.25	0.035	7.72E-05	0.002	0.0001
							Total $PM_{2.5}$ Emissions	**0.002**	**0.0001**

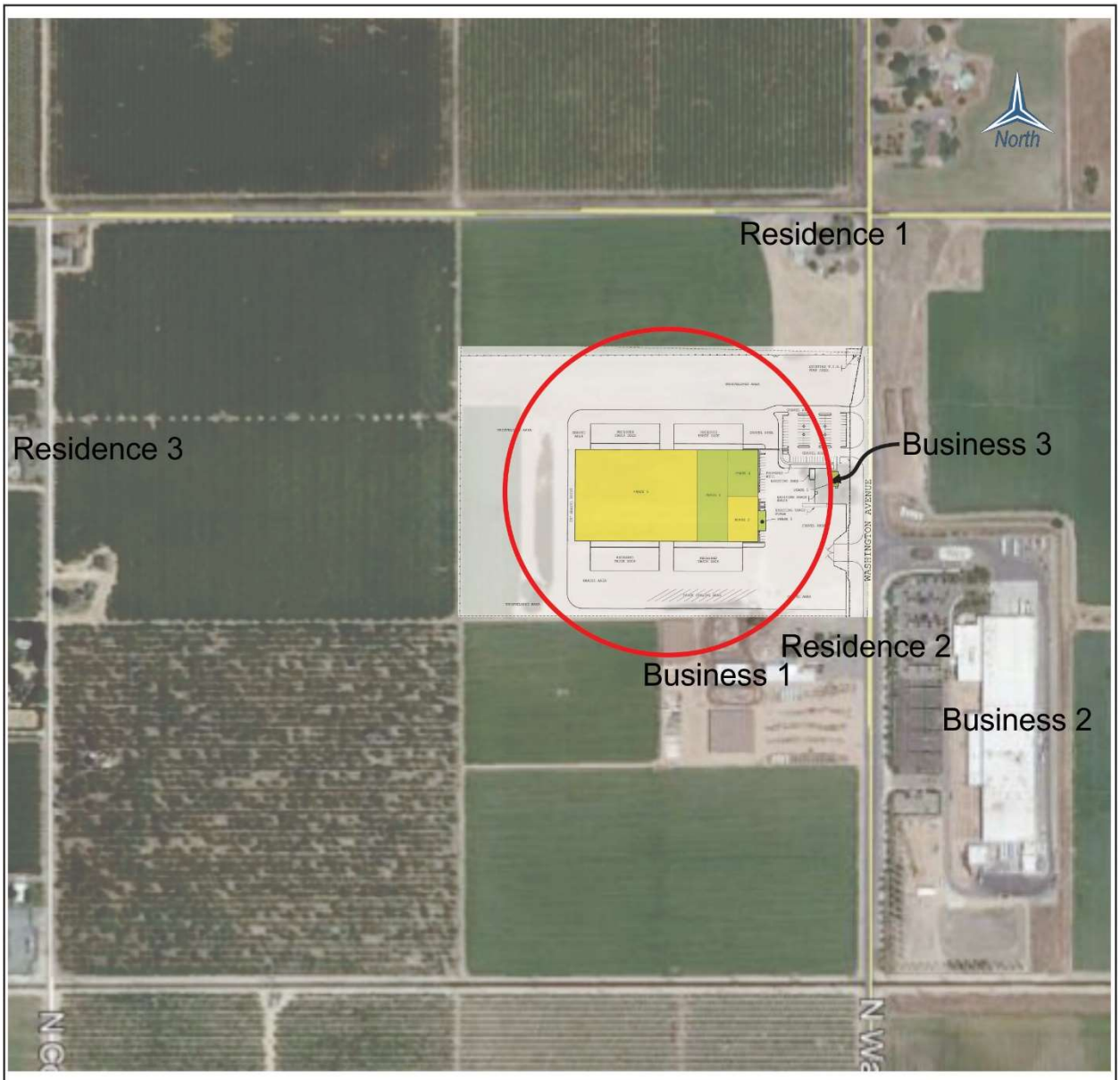
References:
(1) Assumes 15 minutes idle time
(2) Emission Factors source: EMFAC2017 for Stanislaus County Year 2021.
Assumptions:
Maximum 90 daily truck trips (35 shipping/ 55 field trucks)

Table 11
Project Emission Source Modeling Parameters

Source Name	Averaging Period	Source Type	Release Height (m)	Initial Vertical Dimension (m)	Initial Lateral Dimension (m)	Exit Temperature (k)	Exit Velocity (m/s)	Stack Diameter (m)	Release Type
On-road / On-site Trucks - Exhaust	All	Line	3.84	0.85	3.4				
On-road / On-site Trucks - Dust	All	Line	0	1.7	3.4				
Idling - Trucks	All	Point	3.84			366	51.71	0.1	Vertical
Truck Idling TRU	All	Point	3.84			366	51.71	0.1	Vertical

Avila Packing House
Sensitive Receptor Locations

Figure 4



RISK CHARACTERIZATION

Based on the estimated concentrations from the Project, the Health Risk Assessment Standalone Tool Version 2 model calculated potential exposure levels to people through the various applicable pathways. The software uses the algorithms identified in the OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines.

The maximum predicted lifetime excess cancer risk, chronic health hazard, and acute health hazard for the modeled sensitive receptors described above are shown in Table 12. Results of the HRA indicated that the maximum predicted cancer risk, chronic health hazard, and acute health hazard for residences and on-site/off-site workplaces are below the significance threshold of 10 in one million for cancer risks and 1.0 for non-cancer health risks. Therefore, the Projects health risk impacts are considered less than significant. It should be noted that the Project does not generate TAC's associated with acute health hazards. As a result, the acute health hazard registered zero for all sensitive and site boundary receptors.

Table 12
Maximum Human Health Risk Assessment Results

Sensitive Receptor	Type	Cancer Risk	Chronic HI	Acute Simple HI
1	Residence 1	7.90E-07	1.51E-04	0.00E+00
2	Residence 2	8.03E-06	1.53E-03	0.00E+00
3	Residence 3	5.00E-07	9.53E-05	0.00E+00
4	Business 1	6.44E-06	1.23E-03	0.00E+00
5	Business 2	3.97E-06	7.57E-04	0.00E+00
6	Business 3 - On-Site Sales Office	7.87E-06	1.50E-03	0.00E+00
7	Property Boundary Receptor	2.05E-06	3.91E-04	0.00E+00
8	Property Boundary Receptor	2.59E-06	4.94E-04	0.00E+00
9	Property Boundary Receptor	2.21E-06	4.22E-04	0.00E+00
10	Property Boundary Receptor	1.63E-06	3.11E-04	0.00E+00
11	Property Boundary Receptor	1.60E-06	3.04E-04	0.00E+00
12	Property Boundary Receptor	5.01E-06	9.55E-04	0.00E+00
13	Property Boundary Receptor	7.90E-06	1.51E-03	0.00E+00
14	Property Boundary Receptor	8.38E-06	1.60E-03	0.00E+00
15	Property Boundary Receptor	9.85E-06	1.88E-03	0.00E+00
16	Property Boundary Receptor	6.03E-06	1.15E-03	0.00E+00
17	Property Boundary Receptor	4.41E-06	8.41E-04	0.00E+00
18	Property Boundary Receptor	1.68E-06	3.20E-04	0.00E+00
19	Property Boundary Receptor	2.15E-06	4.10E-04	0.00E+00
20	Property Boundary Receptor	3.44E-06	6.55E-04	0.00E+00
21	Property Boundary Receptor	3.39E-06	6.46E-04	0.00E+00
22	Property Boundary Receptor	2.73E-06	5.20E-04	0.00E+00

✓ **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).

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.

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. Any project with the potential to frequently expose members of the public to objectionable odors should be deemed to have a significant impact.

The SJVAPCD requires that an analysis of potential odor impacts be conducted for the following two situations:

- Generators – projects that would potentially generate odorous emissions proposed to be located near existing sensitive receptors or other land uses where people may congregate, and
- Receivers – residential or other sensitive receptor projects or other projects built for the intent of attracting people locating near existing odor sources.

The Project will not generate odorous emissions given the nature or characteristics of the Project. The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. The SJVAPCD has identified some common types of facilities that have been known to produce odors in the SJV Air Basin. The types of facilities that are known to produce odors are shown in Table 5 above along with a reasonable distance from the source within which, the degree of odors could possibly be significant.

✓ **Naturally Occurring Asbestos (NOA)**

Asbestos is a term used for several types of naturally occurring fibrous minerals found in many parts of California. The most common type of asbestos is chrysotile, but other types

are also found in California. Construction of the Project may cause asbestos to become airborne due to the construction activities that will occur on site. The Project would be required to submit a Dust Control Plan under the SJVAPCD's Rule 8021. Compliance with Rule 8021 would limit fugitive dust emissions from construction, demolition, excavation, extraction, and other earthmoving activities associated with the Project.

✓ **Greenhouse Gas Emissions**

CARB, in consultation with MPOs, has provided each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the Stanislaus Council of Governments (StanCOG) region, CARB set targets at five (5) percent per capita decrease in 2020 and a ten (10) percent per capita decrease in 2035 from a base year of 2005. STANCOG's 2018 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which was adopted in August 2018, projects that the Stanislaus County region would achieve the prescribed emissions targets.

In 2009, the SJVAPCD adopted the following guidance documents applicable to projects within the San Joaquin Valley:

- ✓ Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009), and
- ✓ District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency (SJVAPCD 2009).

This guidance and policy are the reference documents referenced in the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts adopted in March 2015 (SJVAPCD 2015). Consistent with the District Guidance and District Policy above, SJVAPCD (2015) acknowledges the current absence of numerical thresholds, and recommends a tiered approach to establish the significance of the GHG impacts on the environment:

i. If a project complies with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, then the project would be determined to have a less than significant individual and cumulative impact for GHG emissions;
ii. If a project does not comply with an approved GHG emission reduction plan or mitigation program, then it would be required to implement Best Performance Standards (BPS); and
iii. If a project is not implementing BPS, then it should demonstrate that its GHG emissions would be reduced or mitigated by at least 29 percent compared to Business as Usual (BAU).

In the event that a local air district's guidance for addressing GHG impacts does not use numerical GHG emissions thresholds, at the lead agency's discretion, a neighboring air district's GHG threshold may be used to determine impacts. In December 2008, the South Coast Air Quality Management District (SCAQMD) Governing Board adopted the staff

proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency. The SCAQMD guidance identifies a threshold of 10,000 MTCO2eq./year for GHG for construction emissions amortized over a 30-year project lifetime, plus annual operation emissions. This threshold is often used by agencies, such as the California Public Utilities Commission, to evaluate GHG impacts in areas that do not have specific thresholds (CPUC 2015)[2]. Though the Project is under SJVAPCD jurisdiction, the SCAQMD GHG threshold provides some perspective on the GHG emissions generated by the Project. Table 13 shows the yearly GHG emissions generated by the Project as determined by the CalEEMod model, which is approximately 80% less than the threshold identified by the SCAQMD.

Table 13
Project Operational Greenhouse Gas Emissions

Summary Report	CO_2e
Project Operational Emissions Per Year	2,075 MT/yr

Source: CalEEMod

3.3.3 *Indirect Source Review*

The Project is subject to the SJVAPCD's ISR program, which is also known as Rule 9510. Rule 9510 and the Administrative ISR Fee Rule (Rule 3180) are the result of state requirements outlined in the California Health and Safety Code, Section 40604 and the State Implementation Plan (SIP). The purpose of the SJVAPCD's ISR program is to reduce emissions of NOx and PM10 from new projects. In general, new development contributes to the air-pollution problem in the Valley by increasing the number of vehicles and vehicle miles traveled.

Utilizing the ISR Fee Estimator calculator available on the SJVAPCD website, it was determined that the Project's total cost for emission reductions is $120,054.48 without implementation of emission reduction measures. The ISR Fee Estimator worksheets are included in Appendix C. The fee noted above may be reduced dependent upon the formal ISR review process.

2 California Public Utilities Commission (CPUC). 2015. Section 4.7, "Greenhouse Gases." Final Environmental Impact Report for the Santa Barbara County Reliability Project. May 2015. Accessed January 18, 2018. http://www.cpuc.ca.gov/environment/info/ene/sbcrp/SBCRP_FEIR.html.

4.0 Impact Determinations and Recommended Mitigation

In accordance with CEQA, when a proposed project is consistent with a General Plan for which an EIR has been certified, the effects of that project are evaluated to determine if they will result in project-specific significant adverse impacts on the environment. The criteria used to determine the significance of an air quality or greenhouse gas impact are based on the following thresholds of significance, which come from Appendix G of the CEQA Guidelines and the General Plan EIR. Accordingly, air quality or greenhouse gas impacts resulting from the Project are considered significant if the Project would:

Air Quality

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

Greenhouse Gas Emissions

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

4.1 Air Quality

4.1.1 *Conflict with or obstruct implementation of the applicable air quality plan*

The primary way of determining consistency with the air quality plan's (AQP's) assumptions is determining consistency with the applicable General Plan to ensure that the Project's population density and land use are consistent with the growth assumptions used in the AQPs for the air basin.

As required by California law, city and county General Plans contain a Land Use Element that details the types and quantities of land uses that the city or county estimates will be needed for future growth, and that designate locations for land uses to regulate growth. StanCOG uses the growth projections and land use information in adopted general plans to estimate future average daily trips and then VMT, which are then provided to SJVAPCD to estimate future emissions in

the AQPs. Existing and future pollutant emissions computed in the AQP are based on land uses from area general plans. AQPs detail the control measures and emission reductions required for reaching attainment of the air standards.

The applicable General Plan for the project is the Stanislaus County 2015 General Plan, which was adopted in 2016. The Project is consistent with the currently adopted General Plan for Stanislaus County and is therefore consistent with the population growth and VMT applied in the plan. Therefore, the Project is consistent with the growth assumptions used in the applicable AQPs. As a result, the Project will not conflict with or obstruct implementation of any air quality plans. Therefore, no mitigation is needed.

4.1.2 *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*

The Stanislaus County area is nonattainment for Federal and State air quality standards for ozone, in attainment of Federal standards and nonattainment for State standards for PM10, and nonattainment for Federal and State standards for PM2.5. The SJVAPCD has prepared the 2016 and 2013 Ozone Plans, 2007 PM10 Maintenance Plan, and 2012 PM2.5 Plan to achieve Federal and State standards for improved air quality in the SJVAB regarding ozone and PM. Inconsistency with any of the plans would be considered a cumulatively adverse air quality impact. As discussed in Section 4.1.1, the Project is consistent with the currently adopted General Plan for Stanislaus County and is therefore consistent with the population growth and VMT applied in the plan. Therefore, the Project is consistent with the growth assumptions used in the 2016 and 2013 Ozone Plan, 2007 PM10 Maintenance Plan, and 2012 PM2.5 Plan.

Project specific emissions that exceed the thresholds of significance for criteria pollutants would be expected to result in a cumulatively considerable net increase of any criteria pollutant for which the County is in non-attainment under applicable federal or state ambient air quality standards. It should be noted that a project isn't characterized as cumulatively insignificant when project emissions fall below thresholds of significance. As discussed in Section 3.1, the SJVAPCD has established thresholds of significance for determining environmental significance which are provided in Table 6.

As discussed above in Section 3.2 and 3.3, results of the analysis show that emissions generated from construction and operation of the Project will be less than the applicable SJVAPCD emission thresholds for criteria pollutants. Therefore, no mitigation is needed.

4.1.3 *Expose sensitive receptors to substantial pollutant concentrations*

Sensitive receptors refer to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). Land uses that have the greatest potential to attract these types of sensitive receptors

include schools, parks, playgrounds, daycare centers, nursing homes, hospitals, and residential communities. From a health risk perspective, the Project is a Type A project in that it may potentially place toxic sources in the vicinity of existing sensitive receptors.

Based on the estimated concentrations from the Project, the Health Risk Assessment Standalone Tool Version 2 model calculated potential exposure levels to people through the various applicable pathways. The software uses the algorithms identified in the OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines.

Results of the HRA indicated that the maximum predicted cancer risk, chronic health hazard, and acute health hazard for residences and on-site/off-site workplaces are below the significance threshold of 10 in one million for cancer risks and 1.0 for non-cancer health risks. It should be noted that the Project does not generate TAC's associated with acute health hazards. As a result, the acute health hazard registered zero for all sensitive and site boundary receptors. Therefore, TAC's from the Project will not significantly impact sensitive receptors in the vicinity of the Project. As a result, no mitigation is needed.

Short-Term Impacts

The annual emissions from the construction phase of the Project will be less than the applicable SJVAPCD emission thresholds for criteria pollutants as shown in Table 7. Therefore, construction emissions associated with the Project are considered less than significant.

Long-Term Impacts

Long-Term emissions from the Project are generated primarily by mobile source (vehicle) emissions from the Project site and area sources such as maintenance equipment. Emissions from long-term operations generally represent a project's most substantial air quality impact. Table 8 summarizes the Project's operational impacts by pollutant. Results indicate that the annual operational emissions from the Project will be less than the SJVAPCD emission thresholds for criteria pollutants. Therefore, operational emissions associated with the Project are considered less than significant.

4.1.4 *Result in other emissions such as those leading to odors adversely affecting a substantial number of people*

The SJVAPCD requires that an analysis of potential odor impacts be conducted for the following two situations:

- ✓ Generators – projects that would potentially generate odorous emissions proposed to be located near existing sensitive receptors or other land uses where people may congregate, and

- ✓ Receivers – residential or other sensitive receptor projects or other projects built for the intent of attracting people located near existing odor sources.

The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. The SJVAPCD has identified some common types of facilities that have been known to produce odors in the SJV Air Basin. The types of facilities that are known to produce odors are shown in Table 5 above along with a reasonable distance from the source within which, the degree of odors could possibly be significant. The Project will not generate odorous emissions given the nature or characteristics of the Project. Therefore, no mitigation is needed.

4.2 Greenhouse Gas Emissions

4.2.1 *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment*

The SJVAPCD acknowledges the current absence of numerical thresholds and recommends a tiered approach to establish the significance of the GHG impacts on the environment:

i. If a project complies with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, then the project would be determined to have a less than significant individual and cumulative impact for GHG emissions;
ii. If a project does not comply with an approved GHG emission reduction plan or mitigation program, then it would be required to implement Best Performance Standards (BPS); and
iii. If a project is not implementing BPS, then it should demonstrate that its GHG emissions would be reduced or mitigated by at least 29 percent compared to Business as Usual (BAU).

In the event that a local air district's guidance for addressing GHG impacts does not use numerical GHG emissions thresholds, at the lead agency's discretion, a neighboring air district's GHG threshold may be used to determine impacts. In December 2008, the South Coast Air Quality Management District (SCAQMD) Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency. The SCAQMD guidance identifies a threshold of 10,000 MTCO2eq./year for GHG for construction emissions amortized over a 30-year project lifetime, plus annual operation emissions. Though the Project is under SJVAPCD jurisdiction, the SCAQMD GHG threshold provides some perspective on the GHG emissions generated by the Project. Table 9 shows the yearly GHG emissions generated by the Project as determined by the CalEEMod model, which is approximately 80% less than the threshold identified by the SCAQMD.

The resulting permanent greenhouse gas increases related to Project operations would be within the greenhouse gas increases analyzed in the Stanislaus County General Plan EIR since the Project meets the applicable zoning requirements. There would be no increase in severity to the

greenhouse gas impacts, and implementation of the Project will not result in Project-specific or site-specific significant adverse impacts from greenhouse gas emissions within the Project study area. Therefore, no mitigation measures are needed.

4.2.2 *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases*

California passed the California Global Warming Solutions Act of 2006. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. Under AB 32, CARB must adopt regulations by January 1, 2011 to achieve reductions in GHGs to meet the 1990 emission cap by 2020. On December 11, 2008, CARB adopted its initial Scoping Plan, which functions as a roadmap of CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan.

SB 375 requires MPOs to adopt a SCS or APS that will prescribe land use allocation in that MPO's regional transportation plan. CARB, in consultation with MPOs, has provided each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the STANCOG region, CARB set targets at five (5) percent per capita decrease in 2020 and a ten (10) percent per capita decrease in 2035 from a base year of 2005. StanCOG's 2018 RTP/SCS, which was adopted in August 2018, projects that the Stanislaus County region would achieve the prescribed emissions targets.

Executive Order B-30-15 establishes a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. Executive Order B-30-15 requires MPO's to implement measures that will achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets.

As required by California law, city and county General Plans contain a Land Use Element that details the types and quantities of land uses that the city or county estimates will be needed for future growth, and that designate locations for land uses to regulate growth. STANCOG uses the growth projections and land use information in adopted general plans to estimate future average daily trips and then VMT, which are then provided to SJVAPCD to estimate future emissions in the AQPs. The applicable General Plan for the project is Stanislaus County 2015 General Plan, which was adopted in 2016.

The Project is consistent with the currently adopted General Plan for Stanislaus County and the adopted 2018 RTP/SCS and is therefore consistent with the population growth and VMT applied in those plan documents. Therefore, the Project is consistent with the growth assumptions used in the applicable AQP. It should also be noted that yearly GHG emissions generated by the Project (Table 9) are approximately 80% less than the threshold identified by the SCAQMD (see the discussion for Impact 4.2.1 above).

CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan. The current plan has identified new policies and actions to accomplish the State's 2030 GHG limit. Below is a list of applicable strategies in the Scoping Plan and the Project's consistency with those strategies.

- ✓ California Light-Duty Vehicle GHG Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs for long-term climate change goals.
  - The Project is consistent with this reduction measure. This measure cannot be implemented by a particular project or lead agency since it is a statewide measure. When this measure is implemented, standards would be applicable to light-duty vehicles that would access the Project. The Project would not conflict or obstruct this reduction measure.
- ✓ Energy Efficiency – Pursuit of comparable investment in energy efficiency from all retail providers of electricity in California. Maximize energy efficiency building and appliance standards.
  - The Project is consistent with this reduction measure. Though this measure applies to the State to increase its energy standards, the Project would comply with this measure through existing regulation. The Project would not conflict or obstruct this reduction measure.
- ✓ Low Carbon Fuel – Development and adoption of the low carbon fuel standard.
  - The Project is consistent with this reduction measure. This measure cannot be implemented by a particular project or lead agency since it is a statewide measure. When this measure is implemented, standards would be applicable to the fuel used by vehicles that would access the Project. The Project would not conflict or obstruct this reduction measure.

Based on the assessment above, the Project will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Therefore, any impacts would be less than significant.

APPENDIX A

CalEEMod Emissions Worksheets

Avila Packing House

Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	153.32	1000sqft	3.52	153,315.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	46
Climate Zone	3			**Operational Year**	2022
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 -

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2018	2022

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	0.1067	1.0156	0.7518	1.4400e-003	0.0876	0.0511	0.1387	0.0427	0.0476	0.0903	0.0000	127.2124	127.2124	0.0291	0.0000	127.9398
2021	1.2898	2.0281	1.9127	3.8800e-003	0.0660	0.0973	0.1632	0.0179	0.0914	0.1093	0.0000	341.9661	341.9661	0.0638	0.0000	343.5603
Total	**1.3965**	**3.0437**	**2.6645**	**5.3200e-003**	**0.1536**	**0.1483**	**0.3019**	**0.0606**	**0.1390**	**0.1996**	**0.0000**	**469.1785**	**469.1785**	**0.0929**	**0.0000**	**471.5000**

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	0.1067	1.0156	0.7518	1.4400e-003	0.0876	0.0511	0.1387	0.0427	0.0476	0.0903	0.0000	127.2123	127.2123	0.0291	0.0000	127.9396
2021	1.2898	2.0281	1.9127	3.8800e-003	0.0660	0.0973	0.1632	0.0179	0.0914	0.1093	0.0000	341.9658	341.9658	0.0638	0.0000	343.5600
Total	**1.3965**	**3.0437**	**2.6645**	**5.3200e-003**	**0.1536**	**0.1483**	**0.3019**	**0.0606**	**0.1390**	**0.1996**	**0.0000**	**469.1781**	**469.1781**	**0.0929**	**0.0000**	**471.4996**

	ROG	NOx	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	tons/yr										MT/yr					
Area	0.7055	1.0000e-005	1.4100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7400e-003	2.7400e-003	1.0000e-005	0.0000	2.9200e-003
Energy	0.0173	0.1575	0.1323	9.4000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	572.3657	572.3657	0.0214	6.8900e-003	574.9553
Mobile	0.2886	2.7110	3.1126	0.0139	0.8960	0.0126	0.9086	0.2410	0.0119	0.2528	0.0000	1,282.2796	1,282.2796	0.0794	0.0000	1,284.2647
Waste						0.0000	0.0000		0.0000	0.0000	38.5886	0.0000	38.5886	2.2805	0.0000	95.6016
Water						0.0000	0.0000		0.0000	0.0000	11.2476	55.8073	67.0548	1.1578	0.0278	104.2831
Total	**1.0114**	**2.8684**	**3.2463**	**0.0148**	**0.8960**	**0.0246**	**0.9205**	**0.2410**	**0.0239**	**0.2648**	**49.8362**	**1,910.4553**	**1,960.2915**	**3.5391**	**0.0347**	**2,059.1076**

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	0.7055	1.0000e-005	1.4100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7400e-003	2.7400e-003	1.0000e-005	0.0000	2.9200e-003
Energy	0.0173	0.1575	0.1323	9.4000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	572.3657	572.3657	0.0214	6.8900e-003	574.9553
Mobile	0.2886	2.7110	3.1126	0.0139	0.8960	0.0126	0.9086	0.2410	0.0119	0.2528	0.0000	1,282.2796	1,282.2796	0.0794	0.0000	1,284.2647
Waste						0.0000	0.0000		0.0000	0.0000	38.5886	0.0000	38.5886	2.2805	0.0000	95.6016
Water						0.0000	0.0000		0.0000	0.0000	11.2476	55.8073	67.0548	1.1578	0.0278	104.2831
Total	**1.0114**	**2.8684**	**3.2463**	**0.0148**	**0.8960**	**0.0246**	**0.9205**	**0.2410**	**0.0239**	**0.2648**	**49.8362**	**1,910.4553**	**1,960.2915**	**3.5391**	**0.0347**	**2,059.1076**

	ROG	NOx	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	Architectural Coating	Architectural Coating	10/16/2021	11/10/2021	5	18	
2	Building Construction	Building Construction	11/4/2020	9/21/2021	5	230	
3	Demolition	Demolition	9/18/2020	10/15/2020	5	20	
4	Grading	Grading	10/23/2020	11/3/2020	5	8	
5	Paving	Paving	9/22/2021	10/15/2021	5	18	
6	Site Preparation	Site Preparation	10/16/2020	10/22/2020	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 229,973; Non-Residential Outdoor: 76,658; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
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
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Generator Sets	1	8.00	84	0.74
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
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	64.00	25.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	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
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0659					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**1.0679**	**0.0137**	**0.0164**	**3.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

3.2 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	3.2000e-004	3.4300e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.4000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.8330	0.8330	2.0000e-005	0.0000	0.8336
Total	**4.8000e-004**	**3.2000e-004**	**3.4300e-003**	**1.0000e-005**	**9.3000e-004**	**1.0000e-005**	**9.4000e-004**	**2.5000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8330**	**0.8330**	**2.0000e-005**	**0.0000**	**0.8336**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0659					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**1.0679**	**0.0137**	**0.0164**	**3.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

3.2 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	3.2000e-004	3.4300e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.4000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.8330	0.8330	2.0000e-005	0.0000	0.8336
Total	**4.8000e-004**	**3.2000e-004**	**3.4300e-003**	**1.0000e-005**	**9.3000e-004**	**1.0000e-005**	**9.4000e-004**	**2.5000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8330**	**0.8330**	**2.0000e-005**	**0.0000**	**0.8336**

3.3 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0445	0.4029	0.3538	5.7000e-004		0.0235	0.0235		0.0221	0.0221	0.0000	48.6381	48.6381	0.0119	0.0000	48.9348
Total	**0.0445**	**0.4029**	**0.3538**	**5.7000e-004**		**0.0235**	**0.0235**		**0.0221**	**0.0221**	**0.0000**	**48.6381**	**48.6381**	**0.0119**	**0.0000**	**48.9348**

3.3 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9800e-003	0.0642	0.0110	1.5000e-004	3.4700e-003	3.4000e-004	3.8100e-003	1.0000e-003	3.3000e-004	1.3300e-003	0.0000	14.0386	14.0386	1.1900e-003	0.0000	14.0683
Worker	6.0300e-003	4.0900e-003	0.0433	1.1000e-004	0.0107	8.0000e-005	0.0108	2.8500e-003	8.0000e-005	2.9300e-003	0.0000	9.8811	9.8811	3.1000e-004	0.0000	9.8889
Total	**8.0100e-003**	**0.0683**	**0.0543**	**2.6000e-004**	**0.0142**	**4.2000e-004**	**0.0146**	**3.8500e-003**	**4.1000e-004**	**4.2600e-003**	**0.0000**	**23.9198**	**23.9198**	**1.5000e-003**	**0.0000**	**23.9572**

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	0.0445	0.4029	0.3538	5.7000e-004		0.0235	0.0235		0.0221	0.0221	0.0000	48.6380	48.6380	0.0119	0.0000	48.9347
Total	**0.0445**	**0.4029**	**0.3538**	**5.7000e-004**		**0.0235**	**0.0235**		**0.0221**	**0.0221**	**0.0000**	**48.6380**	**48.6380**	**0.0119**	**0.0000**	**48.9347**

3.3 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9800e-003	0.0642	0.0110	1.5000e-004	3.4700e-003	3.4000e-004	3.8100e-003	1.0000e-003	3.3000e-004	1.3300e-003	0.0000	14.0386	14.0386	1.1900e-003	0.0000	14.0683
Worker	6.0300e-003	4.0900e-003	0.0433	1.1000e-004	0.0107	8.0000e-005	0.0108	2.8500e-003	8.0000e-005	2.9300e-003	0.0000	9.8811	9.8811	3.1000e-004	0.0000	9.8889
Total	**8.0100e-003**	**0.0683**	**0.0543**	**2.6000e-004**	**0.0142**	**4.2000e-004**	**0.0146**	**3.8500e-003**	**4.1000e-004**	**4.2600e-003**	**0.0000**	**23.9198**	**23.9198**	**1.5000e-003**	**0.0000**	**23.9572**

3.3 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1787	1.6386	1.5581	2.5300e-003		0.0901	0.0901		0.0847	0.0847	0.0000	217.7390	217.7390	0.0525	0.0000	219.0523
Total	**0.1787**	**1.6386**	**1.5581**	**2.5300e-003**		**0.0901**	**0.0901**		**0.0847**	**0.0847**	**0.0000**	**217.7390**	**217.7390**	**0.0525**	**0.0000**	**219.0523**

3.3 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.1700e-003	0.2611	0.0429	6.5000e-004	0.0156	7.0000e-004	0.0163	4.4900e-003	6.7000e-004	5.1600e-003	0.0000	62.2492	62.2492	5.1500e-003	0.0000	62.3778
Worker	0.0249	0.0163	0.1763	4.7000e-004	0.0481	3.6000e-004	0.0484	0.0128	3.3000e-004	0.0131	0.0000	42.8318	42.8318	1.2400e-003	0.0000	42.8629
Total	**0.0321**	**0.2774**	**0.2192**	**1.1200e-003**	**0.0636**	**1.0600e-003**	**0.0647**	**0.0173**	**1.0000e-003**	**0.0183**	**0.0000**	**105.0810**	**105.0810**	**6.3900e-003**	**0.0000**	**105.2407**

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	0.1787	1.6386	1.5581	2.5300e-003		0.0901	0.0901		0.0847	0.0847	0.0000	217.7388	217.7388	0.0525	0.0000	219.0521
Total	**0.1787**	**1.6386**	**1.5581**	**2.5300e-003**		**0.0901**	**0.0901**		**0.0847**	**0.0847**	**0.0000**	**217.7388**	**217.7388**	**0.0525**	**0.0000**	**219.0521**

3.3 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.1700e-003	0.2611	0.0429	6.5000e-004	0.0156	7.0000e-004	0.0163	4.4900e-003	6.7000e-004	5.1600e-003	0.0000	62.2492	62.2492	5.1500e-003	0.0000	62.3778
Worker	0.0249	0.0163	0.1763	4.7000e-004	0.0481	3.6000e-004	0.0484	0.0128	3.3000e-004	0.0131	0.0000	42.8318	42.8318	1.2400e-003	0.0000	42.8629
Total	**0.0321**	**0.2774**	**0.2192**	**1.1200e-003**	**0.0636**	**1.0600e-003**	**0.0647**	**0.0173**	**1.0000e-003**	**0.0183**	**0.0000**	**105.0810**	**105.0810**	**6.3900e-003**	**0.0000**	**105.2407**

3.4 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**		**0.0166**	**0.0166**		**0.0154**	**0.0154**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2386**

3.4 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	4.6000e-004	4.8300e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1028	1.1028	3.0000e-005	0.0000	1.1037
Total	**6.7000e-004**	**4.6000e-004**	**4.8300e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.1028**	**1.1028**	**3.0000e-005**	**0.0000**	**1.1037**

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	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**		**0.0166**	**0.0166**		**0.0154**	**0.0154**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2385**

3.4 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	4.6000e-004	4.8300e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1028	1.1028	3.0000e-005	0.0000	1.1037
Total	**6.7000e-004**	**4.6000e-004**	**4.8300e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.1028**	**1.1028**	**3.0000e-005**	**0.0000**	**1.1037**

3.5 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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-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**	**0.0262**	**5.0900e-003**	**0.0313**	**0.0135**	**4.6900e-003**	**0.0182**	**0.0000**	**10.4235**	**10.4235**	**3.3700e-003**	**0.0000**	**10.5078**

3.5 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.8000e-004	1.9300e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4411	0.4411	1.0000e-005	0.0000	0.4415
Total	**2.7000e-004**	**1.8000e-004**	**1.9300e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4411**	**0.4411**	**1.0000e-005**	**0.0000**	**0.4415**

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-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**	**0.0262**	**5.0900e-003**	**0.0313**	**0.0135**	**4.6900e-003**	**0.0182**	**0.0000**	**10.4235**	**10.4235**	**3.3700e-003**	**0.0000**	**10.5078**

3.5 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.8000e-004	1.9300e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4411	0.4411	1.0000e-005	0.0000	0.4415
Total	**2.7000e-004**	**1.8000e-004**	**1.9300e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4411**	**0.4411**	**1.0000e-005**	**0.0000**	**0.4415**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8500e-003	0.0976	0.1103	1.7000e-004		5.2100e-003	5.2100e-003		4.8100e-003	4.8100e-003	0.0000	14.7336	14.7336	4.6300e-003	0.0000	14.8493
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.8500e-003**	**0.0976**	**0.1103**	**1.7000e-004**		**5.2100e-003**	**5.2100e-003**		**4.8100e-003**	**4.8100e-003**	**0.0000**	**14.7336**	**14.7336**	**4.6300e-003**	**0.0000**	**14.8493**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.5000e-004	4.9000e-004	5.2800e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2815	1.2815	4.0000e-005	0.0000	1.2825
Total	**7.5000e-004**	**4.9000e-004**	**5.2800e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2815**	**1.2815**	**4.0000e-005**	**0.0000**	**1.2825**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8500e-003	0.0976	0.1103	1.7000e-004		5.2100e-003	5.2100e-003		4.8100e-003	4.8100e-003	0.0000	14.7335	14.7335	4.6300e-003	0.0000	14.8493
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.8500e-003**	**0.0976**	**0.1103**	**1.7000e-004**		**5.2100e-003**	**5.2100e-003**		**4.8100e-003**	**4.8100e-003**	**0.0000**	**14.7335**	**14.7335**	**4.6300e-003**	**0.0000**	**14.8493**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.5000e-004	4.9000e-004	5.2800e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2815	1.2815	4.0000e-005	0.0000	1.2825
Total	**7.5000e-004**	**4.9000e-004**	**5.2800e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2815**	**1.2815**	**4.0000e-005**	**0.0000**	**1.2825**

3.7 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**

3.7 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.4000e-004	1.4500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3308	0.3308	1.0000e-005	0.0000	0.3311
Total	**2.0000e-004**	**1.4000e-004**	**1.4500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3308**	**0.3308**	**1.0000e-005**	**0.0000**	**0.3311**

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**

3.7 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.4000e-004	1.4500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3308	0.3308	1.0000e-005	0.0000	0.3311
Total	**2.0000e-004**	**1.4000e-004**	**1.4500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3308**	**0.3308**	**1.0000e-005**	**0.0000**	**0.3311**

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	0.2886	2.7110	3.1126	0.0139	0.8960	0.0126	0.9086	0.2410	0.0119	0.2528	0.0000	1,282.2796	1,282.2796	0.0794	0.0000	1,284.2647
Unmitigated	0.2886	2.7110	3.1126	0.0139	0.8960	0.0126	0.9086	0.2410	0.0119	0.2528	0.0000	1,282.2796	1,282.2796	0.0794	0.0000	1,284.2647

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	1,068.61	202.38	104.25	2,356,320	2,356,320
Total	1,068.61	202.38	104.25	2,356,320	2,356,320

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
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.516452	0.033212	0.173817	0.123150	0.022816	0.005352	0.027555	0.088301	0.001837	0.001119	0.004633	0.000845	0.000911

4.4 Fleet Mix

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	400.9638	400.9638	0.0181	3.7500e-003	402.5349
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	400.9638	400.9638	0.0181	3.7500e-003	402.5349
NaturalGas Mitigated	0.0173	0.1575	0.1323	9.4000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.4018	171.4018	3.2900e-003	3.1400e-003	172.4204
NaturalGas Unmitigated	0.0173	0.1575	0.1323	9.4000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.4018	171.4018	3.2900e-003	3.1400e-003	172.4204

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					
General Light Industry	3.21195e+006	0.0173	0.1575	0.1323	9.4000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.4018	171.4018	3.2900e-003	3.1400e-003	172.4204
Total		**0.0173**	**0.1575**	**0.1323**	**9.4000e-004**		**0.0120**	**0.0120**		**0.0120**	**0.0120**	**0.0000**	**171.4018**	**171.4018**	**3.2900e-003**	**3.1400e-003**	**172.4204**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	3.21195e+006	0.0173	0.1575	0.1323	9.4000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.4018	171.4018	3.2900e-003	3.1400e-003	172.4204
Total		**0.0173**	**0.1575**	**0.1323**	**9.4000e-004**		**0.0120**	**0.0120**		**0.0120**	**0.0120**	**0.0000**	**171.4018**	**171.4018**	**3.2900e-003**	**3.1400e-003**	**172.4204**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	1.3783e+006	400.9638	0.0181	3.7500e-003	402.5349
Total		**400.9638**	**0.0181**	**3.7500e-003**	**402.5349**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	1.3783e+006	400.9638	0.0181	3.7500e-003	402.5349
Total		**400.9638**	**0.0181**	**3.7500e-003**	**402.5349**

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	0.7055	1.0000e-005	1.4100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7400e-003	2.7400e-003	1.0000e-005	0.0000	2.9200e-003
Unmitigated	0.7055	1.0000e-005	1.4100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7400e-003	2.7400e-003	1.0000e-005	0.0000	2.9200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1066					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5988					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.3000e-004	1.0000e-005	1.4100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7400e-003	2.7400e-003	1.0000e-005	0.0000	2.9200e-003
Total	**0.7055**	**1.0000e-005**	**1.4100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.7400e-003**	**2.7400e-003**	**1.0000e-005**	**0.0000**	**2.9200e-003**

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					
Consumer Products	0.5988					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.3000e-004	1.0000e-005	1.4100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.7400e-003	2.7400e-003	1.0000e-005	0.0000	2.9200e-003
Architectural Coating	0.1066					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.7055**	**1.0000e-005**	**1.4100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.7400e-003**	**2.7400e-003**	**1.0000e-005**	**0.0000**	**2.9200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	67.0548	1.1578	0.0278	104.2831
Unmitigated	67.0548	1.1578	0.0278	104.2831

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	35.4529 / 0	67.0548	1.1578	0.0278	104.2831
Total		**67.0548**	**1.1578**	**0.0278**	**104.2831**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	35.4529 / 0	67.0548	1.1578	0.0278	104.2831
Total		**67.0548**	**1.1578**	**0.0278**	**104.2831**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	38.5886	2.2805	0.0000	95.6016
Unmitigated	38.5886	2.2805	0.0000	95.6016

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	190.1	38.5886	2.2805	0.0000	95.6016
Total		**38.5886**	**2.2805**	**0.0000**	**95.6016**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	190.1	38.5886	2.2805	0.0000	95.6016
Total		**38.5886**	**2.2805**	**0.0000**	**95.6016**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

APPENDIX B

Transportation Refrigeration Unit Emissions

Emissions Calculations For Truck Idling TRU

Houly scalar = 3600.0 sec / Event X Hr / 3600.0 sec = **1.000**

Yearly Scalar = 312 Days / Yr X Yr / 365 Days = **0.855**

g / sec = 36 Bhp / 36 X .02 g / Bhp X 12.0 #TRUs X Hr. / 3600.0 sec = **1.8 E-3 g / sec**

lb / Hr = 1.8 E-3 g / sec X 3600.0 sec / Hr X Lb / 453.5 g = **.01 lb / hr**

lb / Yr = .01 lb / hr X 365 Days / Yr X 2.0 Hr / Day = **10.43 lb / Yr**

Adjusted Emissions = 10.43 lb / Yr X 1.000 / Hr Scalar X 0.85479452 / Yr Scalar = **8.92 lb / Yr**

		Shipping Trucks				
November	7 months	3 trips per	212 Total D	6 days/wee	181 Days	543 Trips/yr
June throu	5 months	30 trips pe	153 Total D	6 days/wee	131 Days	3,930 trips/yr
					Total	**4,473** trips/yr
					Avg Trips per Day	**12**

APPENDIX C

ISR Fee Worksheets

Emissions Estimator Worksheet

9/20/2020

Applicant/Business Name:	**Avila Packing House**
Project Name:	**Avila Packing House**
Project Location:	**Stanislaus County / City of Turlock**
District Project ID No.:	

Project Construction Emissions

If applicant selected Construction Clean Fleet Mitigation Measure - Please select "Yes" from dropdown menu: No

			NOx					PM10					
Project Phase Name	ISR Phase	Construction Start Date	Unmitigated Baseline[1] (TPY)	Mitigated Baseline[2] (TPY)	Achieved On-site Reductions[3] (tons)	Required Off-site Reductions[4] (tons)	Emission Reductions Required by Rule[5]	Unmitigated Baseline[1] (TPY)	Mitigated Baseline[2] (TPY)	Achieved On-site Reductions[3] (tons)	Required Off-site Reductions[4] (tons)	Emission Reductions Required by Rule[5]
Avila Packing House	1	1/1/2021	3.0437	3.0437	0.0000	0.6087	0.6087	0.3019	0.3019	0.0000	0.1359	0.1359
	2				0.0000	0.0000	0.0000			0.0000	0.0000	0.0000
	3				0.0000	0.0000	0.0000			0.0000	0.0000	0.0000
	4				0.0000	0.0000	0.0000			0.0000	0.0000	0.0000
	5				0.0000	0.0000	0.0000			0.0000	0.0000	0.0000
	6				0.0000	0.0000	0.0000			0.0000	0.0000	0.0000
	7				0.0000	0.0000	0.0000			0.0000	0.0000	0.0000
	8				0.0000	0.0000	0.0000			0.0000	0.0000	0.0000
	9				0.0000	0.0000	0.0000			0.0000	0.0000	0.0000
	10				0.0000	0.0000	0.0000			0.0000	0.0000	0.0000
		Total	**3.0437**	**3.0437**	**0.0000**	**0.6087**	0.6087	**0.3019**	**0.3019**	**0.0000**	**0.1359**	0.1359

Total Achieved On-Site Reductions (tons)

ISR Phase	NOx	PM10
1	0.0000	0.0000
2	0.0000	0.0000
3	0.0000	0.0000
4	0.0000	0.0000
5	0.0000	0.0000
6	0.0000	0.0000
7	0.0000	0.0000
8	0.0000	0.0000
9	0.0000	0.0000
10	0.0000	0.0000
Total	**0.0000**	**0.0000**

Project Operations Emissions (Area + Mobile)

			NOx						PM10					
Project Phase Name	ISR Phase	Operation Start Date	Unmitigated Baseline[1] (TPY)	Mitigated Baseline[2] (TPY)	Achieved On-site Reductions[3] (tons)	Required Off-site Reductions[4] (tons)	Total Emission Reductions Required by Rule[6]	Average Annual Emission Reductions Required by Rule[7]	Unmitigated Baseline[1] (TPY)	Mitigated Baseline[2] (TPY)	Achieved On-site Reductions[3] (tons)	Required Off-site Reductions[4] (tons)	Total Emission Reductions Required by Rule[6]	Average Annual Emission Reductions Required by Rule[7]
Avila Packing House	1		2.8684	2.8684	0.0000	7.1710	7.1710	0.7171	0.9205	0.9205	0.0000	4.6025	4.6025	0.4603
	2				0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
	3				0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
	4				0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
	5				0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
	6				0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
	7				0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
	8				0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
	9				0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
	10				0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000
		Total	**2.8684**	**2.8684**	**0.0000**	**7.1710**	**7.1710**	**0.7171**	**0.9205**	**0.9205**	**0.0000**	**4.6025**	**4.6025**	**0.4603**

Total Required Off-Site Reductions (tons)

ISR Phase	NOx	PM10
1	7.7797	4.7384
2	0.0000	0.0000
3	0.0000	0.0000
4	0.0000	0.0000
5	0.0000	0.0000
6	0.0000	0.0000
7	0.0000	0.0000
8	0.0000	0.0000
9	0.0000	0.0000
10	0.0000	0.0000
Total	**7.7797**	**4.7384**

Notes:

TPY: Tons Per Year

[1] **Unmitigated Baseline:** The project's baseline emissions generated with no on-site emission reduction measures.

[2] **Mitigated Baseline:** The project's baseline emissions generated after on-site emisison reduction measures have been applied.

[3] **Achieved On-site Reductions:** The project's emission reductions achieved after on-site emission reduction measures have been applied.

[4] **Required Off-site Reductions:** The project's remaining emission reductions required by Rule 9510 if on-site emission reduction measures did not achieive the required rule reductions.

[5] **Emission Reductions Required by Rule:** The project's emission reductions required (20% NOx and 45% PM10) for construction from the unmitigated baseline.

[6] **Total Emission Reductions Required by Rule:** The project's emission reductions required (33.3% NOx and 50% PM10) for operations from the unmitigated baseline over a 10-year period.

[7] **Average Annual Emission Reductions Required by Rule:** The project's total emission reduction for operations required by Rule 9510 divided by 10 years.

Fee Estimator Worksheet

9/20/2020

Applicant/Business Name:	Avila Packing House
Project Name:	Avila Packing House
Project Location:	Stanislaus County / City of Turlock
District Project ID No.:	

NOTES:
(1) The start date for each ISR phase is shown in TABLE 1.
(2) If you have chosen a **ONE-TIME** payment for the project, then the total amount due for ALL PHASES is shown under TABLE 2.
(3) If you have chosen a **DEFERRED** payment schedule or would like to propose a **DEFERRED** payment schedule for the project, the total amount due for a specific year is shown in TABLE 3 according to the schedule in TABLE 1.
* If you have not provided a proposed payment date, the District sets a default invoice date of 60 days prior to start of the ISR phase.

If applicant selected Fee Deferral Schedule - Please select "Yes" from dropdown menu	Yes ▼

TABLE 1 - PROJECT INFORMATION

Project Phase Name	ISR Phase	Start Date per Phase	Scheduled Payment Date*
0	1	1/1/21	FALSE
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
TOTAL (tons)			

TABLE 2 - No Fee Deferral Schedule (FDS)

Pollutant	Required Offsite Reductions (tons)
NOx	7.7797
PM10	4.7384
NOx	0.0000
PM10	0.0000
NOx	0.0000
PM10	0.0000
NOx	0.0000
PM10	0.0000
NOx	0.0000
PM10	0.0000
NOx	0.0000
PM10	0.0000
NOx	0.0000
PM10	0.0000
NOx	0.0000
PM10	0.0000
NOx	0.0000
PM10	0.0000
NOx	0.0000
PM10	0.0000
NOx	0.0000
PM10	0.0000
NOx	7.7797
PM10	4.7384

TABLE 2 - NO FDS

2020
7.7797
4.7384
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
0.0000
7.7797
4.7384

TABLE 3 - APPROVED FEE DEFERRAL SCHEDULE (FDS) BY PAYMENT YEAR

2020	2021	2022	2023	2024	2025	2026	2027	2028
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Offsite Fee by Pollutant ($)	NOx	$72,740
	PM10	$42,697
Administrative Fee ($)		$4,617.48
Offsite Fee ($)		$115,437.00
Total Project Offsite Fee ($)		$120,054.48

$0	$0	$0	$0	$0	$0	$0	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
			$0.00					

Rule 9510 Fee Schedule ($/ton)		
Year	Nox	PM10
2020 and Beyond	$9,350	$9,011

APPENDIX B

ENERGY MEMORANDUM

October 1, 2020

Des Johnston, Senior Planner
QK, Inc.
2816 Park Avenue
Merced, CA 95348

Re: Energy Assessment for the Avila Packing House

Dear Mr. Johnston:

VRPA Technologies, Inc. (VRPA) prepared the following Energy Assessment for the proposed Avila Packing House facility which proposes to develop a facility to receive, store, pack, and ship agricultural produce. The packing house (Project) will be located on a property identified as APN 023-039-017, an approximately 25.72-acre parcel located in unincorporated Stanislaus County (the "Packing House Parcel"). The Packing House Parcel is zoned A-2-40 (General Agriculture) Zoning District, with a General Plan Designation of Agriculture (AG).

In accordance with CEQA, the effects of a project are evaluated to determine if they will result in significant adverse impacts on the environment. The criteria used to determine the significance of an energy impact are based on the following thresholds of significance, which come from Appendix G of the CEQA Guidelines. Accordingly, energy impacts resulting from the Project are considered significant if the Project would:

a) result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?
b) conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Energy is fundamental to the economy and the quality of life of the Stanislaus County region. The primary energy source for the U.S. is petroleum (also referred to as “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 since 1983; as of 2016, world consumption of oil had reached 96 million barrels per day by 2016 (IEA Oil Market Report). The world supply of oil is anticipated to peak (i.e., reach the point of maximum production) sometime between now and 2042, before beginning a terminal decline that will put a significant strain on the economy if not anticipated and mitigated. However, the timing of the peak depends on multiple, uncertain factors that will affect how quickly remaining oil is consumed, such as the amount of oil that still remains in the ground; how much of the amount in the ground can be extracted and produced based on technological, economic, and environmental feasibility; and future demand for oil.

California’s transportation sector is equally dependent upon oil, with petroleum-based fuels currently providing nearly all (96 percent) of California’s transportation energy needs (CEC 2018). Furthermore,

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www.vrpatechnologies.com

transportation-related activities represent almost half (48 percent) of California's petroleum-based fuel consumption. California refineries increasingly rely on imported petroleum products to meet this demand. In 2003 the CEC and ARB adopted a two-part strategy to reduce the state's petroleum demand: promoting improved vehicle efficiency and increasing the use of alternative fuels. In 2006, CEC and ARB set a goal that 20 percent of all transportation energy in 2020 comes from alternative fuels. State plans, programs, and regulations to implement this strategy are further discussed in the Regulatory Setting section below.

Similar to California and the U.S. as a whole, the Stanislaus County region relies primarily on oil to meet its transportation needs. Motor vehicles are the largest consumer of fuels in the region's transportation sector. After gasoline, diesel fuel is the most utilized transportation energy source. The primary consumers of diesel fuel in the transportation sector are heavy-duty trucks, with medium-duty trucks, buses, light-duty passenger cars, and railway locomotives accounting for remaining diesel fuel consumption.

Alternative fuels are defined as fuels not derived from petroleum, such as natural gas, ethanol, and electricity. However, like petroleum, alternative fuels like natural gas and ethanol (which is primarily composed of diesel fuel) are also nonrenewable, finite resources. Electricity is also considered nonrenewable when generated from natural gas or coal, but considered renewable when generated from sources like solar, hydroelectric, or wind energy. Most alternative fuel facilities in the region supply compressed natural gas (CNG) or electricity. The region's limited alternative fuel infrastructure severely constrains the use of alternative fuel passenger vehicles.

Although average fuel efficiency for autos and trucks has experienced some improvements during the last quarter-century, fuel consumption associated with the large increase in VMT has exceeded the fuel consumption reductions achieved by improved efficiency, and the total amount of annual fuel consumption has continued to increase. The equipment and vehicles involved in the construction of development projects also consume energy. Currently, construction equipment and vehicles are generally dependent on petroleum-based fuels.

Vehicle fuel consumption for Stanislaus County was provided in the StanCOG 2018 RTP/SCS. Table 1 shows that approximately 532 million gallons of fuel were consumed in the County in 2015. This equates to approximately 1.46 million gallons of fuel per day or 2.7 gallons of fuel per person per day, based on a 2015 countywide population of 540,794 people (StanCOG 2018).

Table 1
Madera County Vehicle Fuel Consumption

	2015 Annual Fuel Use (Millions of Gallons)	2015 Daily Fuel Use (Millions of Gallons)	2015 Daily Energy Use (Billions of Btu)	2015 Daily Per Capita Energy Use (Btu)
Gasoline	473.76	1.30	142.50	263,500.00
Diesel	58.28	0.16	20.35	37,632.99
Total	**532.04**	**1.46**	**162.85**	**301,132.99**

Source: StanCOG 2018 RTP/SCS

Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?

Short-Term (Construction)

Short-term impacts are mainly related to the construction phase of a project and are recognized to be short in duration. Energy impacts from Construction are generally attributable to the manufacture and transportation of building materials, preparation of the site for grading activities, utility installation, paving, and building construction and architectural coating. It should be noted that the Project is subject to California Code of Regulations (CCR), Title 24 building standards. The Title 24 California Building Standards Code is a wide-ranging set of requirements for energy conservation and green design that apply to the structural, mechanical, electrical, and plumbing systems in a building.

The operation of off-road equipment, trucks, and worker traffic would be the primary source of energy consumption during the construction of the Project. Energy consumption generated during the construction phase was estimated using CalEEMod Model defaults for construction equipment since the specific mix of construction equipment is not presently known for this Project. It should be noted that energy usage from construction of the Project would be temporary in nature and would cease upon completion of the Project.

The estimated consumption of diesel fuel, considering the construction schedule and hours of use determined by CalEEMod, is 991 gallons for the development/construction of the Project.

Vehicle Miles Traveled (VMT) estimates during the construction of the Project were also determined by data points in the CalEEMod program. Worker, vendor, and haul trips would result in 1,749 VMT for the duration of construction activities. As noted in Table 2 below, construction trips would account for approximately 83 gallons of motor vehicle fuel.

Long-Term

As noted previously, the Project includes the development of a packing house facility. Table 3 provides an estimate of energy use for the proposed Project. Estimated electricity, natural gas, and motor vehicle gasoline consumption were derived from estimates included in the CalEEMod program. As shown below, the Project would consume approximately 1,378,041 kWh of electricity, 3,211,950 Btu of natural gas, and 91,579 gallons of gasoline per year.

Table 2
Project Construction Energy Consumption

ACTIVITY	VARIABLE	CONSUMPTION RATE	TOTAL CONSUMPTION
Construction Equipment - Diesel	Equipment Use - hp-hr	0.05 gallons/hp-hr	991 gallons (diesel)
	Hours of Use	150 hours	
Construction Worker VMT	VMT	VMT = 1,566 mpg = 25.73	61 gallons (gasoline)
Construction Vendor VMT	VMT	VMT = 183 mpg = 8.29	22 gallons (diesel)

Source: CalEEMod 2016.3.2 / Emfac 2017
Notes:
hp-hr = horsepower per hour
VMT = Vehicle Miles Traveles
mpg = miles per gallon

Table 3
Project Operational Energy Consumption

LAND USE	ELECTRICITY USE (kWh/year)	NATURAL GAS (Btu/year)	VEHICLE GASOLINE (gallons/year)
Avila Packing House	1,378,300	3,211,950	91,579

Source: CalEEMod 2016.3.2 / Emfac 2017
Notes:
kWh = kilowatt hours
Btu = British thermal units

As noted above, the Project is subject to CCR, Title 24 building standards. Compliance with Title 24 of the CCR would improve energy efficiency and consumption. As a result, construction of the Project will not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.

Operation of the Project would include the use of electricity and natural Gas for office heating and cooling, lighting, appliances, and water heating. As discussed above, the Title 24 California Building Standards Code

is a wide-ranging set of requirements for energy conservation and green design that apply to the structural, mechanical, electrical, and plumbing systems in a building. As a result, the electricity and natural gas use will not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.

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 U.S. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the 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. The Energy Independence and Security Act of 2007 seeks to achieve energy security in the United States by increasing renewable fuel production, improving energy efficiency and performance, protecting consumers, improving vehicle fuel economy, and promoting research on greenhouse gas capture and storage. The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has gradually increased from about 14.9 mpg in 1980 to 22.3 mpg in 2017 based on data provided by the U.S. Department of Transportation, National Highway Traffic Safety Administration, Fleet Fuel Economy Performance Report, available at https://one.nhtsa.gov/cafe_pic/CAFE_PIC_fleet_LIVE.html.

The Project will result in an annual VMT increase of 2,356,320 considering CalEEMod calculations, which results in 91,579 gallons of gasoline per year as noted in Table 3 (assuming 25.73 mpg). However, new vehicles accessing the Project site would be in compliance with the federal fuel economy standards described above. As a result, fuel efficiency from vehicles accessing the site would increase over the life of the Project. Therefore, energy impacts related to fuel consumption during Project operations would be less than significant.

Based on the assessment above, the Project will not Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Therefore, any impacts would be less than significant.

Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

As discussed above, the Project is subject to CCR, Title 24 building standards. Compliance with Title 24 of the CCR would improve energy efficiency and consumption. Therefore, the Project would be consistent with applicable plans related to renewable energy and energy efficiency. As a result, the Project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

If you have any questions or require further information, please contact me at (559) 271-1200 extension 2.

Sincerely,

Jason Ellard, Transportation Engineer
VRPA Technologies, Inc.

APPENDIX C

PRELIMINARY TECHNICAL REPORT

QUALITY SERVICE, INC.
Water/Wastewater Operations & Construction
A General Contractor LIC # 834488
Email: info@qualityserviceinc.net
Telephone: (209) 838-7842
Fax: (209) 838-0699

Preliminary Technical Report

for the proposed:

Dan Avila & Sons
Water System

1301 North Washington Rd.
Turlock, CA 95380

To be Distributed to:

SWRCB Division of Drinking Water
District 10
Attention: Bhupinder Sahota
31 E. Channel St. Room 270,
Stockton CA 95814

Prepared By:
KEVEN JONES of
Quality Service, INC.
07/16/2019

Table of Contents

III. Summary Description

A. Proposed Water System

The purpose of this preliminary application packet is to detail and gain initial approval to proceed with the planning and formation of a new public water system at 1301 N. Washington Road, in Turlock, California. The assessor's parcel number is Book 023, Page 039, Parcel 017. It is located in the DWR South Central Region and under local jurisdiction of the Stanislaus County Department of Environmental Health. The public water system is intended to be formed to provide water to the site after civil improvements have been made. Dan Avila & Sons Company is preparing to construct a 300'x600' warehouse and a vegetable packing shed on the property for their vegetable production, packing, and distribution business. An existing structure on-site will be converted into an office and included as part of the proposed water system. The owners of Dan Avila & Sons Company are Dan and Lori Avila. Elwyn Heinen, P.E. and General Manager for Advanced Design Group, Inc. is the project's consulting engineer.

Water would be supplied to fixtures located in the warehouse and offices to serve up to 75 full or part-time employees, which meets the definition of a public water system.[1] Water would only be served to meet domestic demands for the business and is not planned to extend past the property line. The population served would not reside at the site, so it would legally be regarded a **non-transient, non-community public water system.**

B. Potential Contamination

The source for the proposed Avila and Sons public water system is groundwater. A 262' residential well is present on the property, but it has been determined to have no practical uses in meeting the domestic demand of the proposed entity; it does not meet the necessary water quality or local code requirements to qualify as an approved public water supply well in that it has a shallow bentonite annular seal and contains levels of Nitrate and Uranium above their respective state Maximum Contaminant Levels (See Attachment A.) However, the owner could still have use for the supply as an emergency fire supply or for landscape irrigation. This would just warrant proper backflow installation, where and if applicable, to ensure an appropriate level of cross-connection control.

[1] "Public water system" is defined as a water system that provides at least 25 people or 15 fixtures with water that is intended for human consumption (drinking, washing clothes/hands/dishes, cooking, oral hygiene, bathing, showering, etc.), at least 60 days out of the year.

Therefore, a new well will need to be fashioned to meet construction code requirements and to produce a compliant water quality. To do this, a test well will be drilled and sampled for water quality parameters in zones that have been targeted due to evidence that suggests they have potential for a desirable water quality (See Attachment A); the E-LOG and lithological data produced from this exploratory drilling will guide in designing and specifying the well's perforations and gravel pack. (Once this information is available, a plan for the final well construction will be drafted and submitted for review.) The test well will ultimately be reamed to the final bore-hole diameter but will be backfilled and capped under guidance of the local authority until the well is finalized or demolished. In general, the new well is tentatively planned to have an 8" casing; a cement annular seal would be installed such that it extends past the Corcoran Clay layer and terminates in a deeper aquitard (anticipated to be a relatively thick clay layer that initiates the upper Turlock Lake Formation).[2] Based on this evidence, such a well could mitigate the chance of producing water contaminated anthropogenically. Therefore, Nitrate is not regarded as a probable contaminant for the system.

In Attachment A, Uranium detections are shown to be erratic in the area; most other public water wells that have available uranium data seem to be compliant for the constituent. Well D was the only public well identified within a five-mile radius with concentrations of uranium similar to the domestic well for the N. Washington property; Well D was only 60' deep and also showed high nitrate levels. (This begs the question: could uranium, like nitrate, be associated with activity at the surface?) Some sources suggest that naturally-occurring uranium is mobilized in groundwater by nitrate (or more locally, bicarbonate)[3], while others suggest that uranium may be introduced via human activities, such as fertilizing with phosphorous minerals.[4] In either case, the available literature implies that the main mechanisms by which uranium is introduced into the groundwater supply are primarily associated with human activity at the surface. When this evidence is considered along with the fact that other public water wells in the area do not show elevated uranium, it is possible that the high uranium results could be associated with the N. Washington well's shallow annular seal. However, should nitrates and/or uranium be identified as contaminants after zone sampling, that the system will reconvene and submit an addendum to this report explaining what will be done to address the contaminants at that time.

[2] Actual lithology observed at the site may change the depth of annular seal, but the well will still be sealed past the Corcoran Clay layer, or to 200' (whichever is greater), with cement in accordance with the California Water Well Standards.

[3] Jurgens, B., Fram, M., Belitz, K., Burow, K. and Landon, M. (2018). *Effects of Groundwater Development on Uranium: Central Valley, California, USA*. [online] Ca.water.usgs.gov. Available at: https://ca.water.usgs.gov/pubs/2010/JurgensEtAl2010.pdf [Accessed 1 Dec. 2018].

[4] Smidt, Geerd A. *Mobility of Fertiliser-derived Uranium in Arable Soils and Its Contribution to Uranium Concentrations in Groundwater and Tap Water*. Bremen: Jacobs University, 20 Dec. 2011. PDF.

Arsenic persists as a well-recognized contaminant in the Turlock Subbasin, and the system is located in an area that is thought to be considered at a high risk for arsenic contamination. Though this is a valid concern for a new well at the site, it should be duly noted that Arsenic is frequently observed at levels below the maximum contaminant level in surrounding public water wells, and there are some trends in public well construction that may aid in the production of low-arsenic water (avoiding screening across multiple alternating sand and clay layers, for example – see Attachment A). Thus, there is no available evidence that precludes with certainty that a new public well on the property will produce contaminated water. However, based on the evidence, it seems reasonable to conclude that arsenic is the most likely contaminant to be witnessed at this location (with the proposed approach for source construction, at least). The applicant will proceed forward optimistically in hoping that a responsibly designed well will suffice as an approved source for the public supply but is realistic in that Arsenic treatment may be required to form this public water system. The owner is prepared to include filtration equipment as part of the civil improvements if a contaminant is identified in the new well.

In order to adequately discuss sources of contamination for the new well, the exact hydrogeology of the aquifer(s) and final construction specifications for the well would need to be known. This would allow for groundwater protection zones to be delineated, and thus a full drinking water source assessment to be produced. Such a document would describe hazardous activities in the area and identify potential sources of contamination. However, that is not in the scope of this preliminary report and would be more appropriate to assess once permissions have been granted and the source installed.

C. Physical facilities

The buildings to be served by the water system are shown in the on-site civil improvement plans produced by NorthStar Engineering Group, Inc. Attachment B, shows the proposed boundaries of the new public water system.

The physical facilities for the water system will consist of an 8” well, a 10HP submersible pump, a 1,500 gallon hydropneumatic tank (upsize to 2,000 gallons is acceptable), and roughly 250 ft of distribution piping. If necessary, filtration equipment will be designed as part of the improvements.

D. Class of Distribution

Since the population is less than one thousand (1,000) people, (and the sum of §64413.3 paragraphs (1) through (6) would be below 20, even with precautionary disinfection) the distribution system would be a Class D1. A Grade I Distribution operator would be required to make decisions about the system and perform operational activities as described in CCR 22 §63770. Mr. Avila has indicated that he would likely hire internal staff with the required certification but is aware that he may contract out for operational and managerial oversight. On-site maintenance staff will be hired and will help to maintain the physical piping and appurtenances (where applicable). Monitoring and reporting requirements will be managed by a combination of Mr. Avila's available staff and outside services.

Should water treatment be necessary as part of this improvement, the owner will either retain staff with the appropriate grade of Water Treatment certification or hire a third party with the appropriate grade of Water Treatment certification.

IV. Feasibility of Consolidation

A. Three Mile Radius Public Water System Query

- A radius search yielded record of eleven (11) public water systems within three miles of 1302 N. Washington Rd., Turlock, CA
- Seven (7) of these public water systems are currently inactive and were therefore not considered further.
- Two of the public water systems, Country Store Water System and Grizzly Rock Café, are classified at transient water systems; connecting them to the site would cause significant complications for the existing public water systems as it would change their legal classification – which would increase their monitoring costs at the very least. These systems are not regarded to have the appropriate service area (or capacities) to provide water to Avila & Sons.
- Chatom Elementary School was disregarded as, though they are within the three-mile radius as the bird flies, it would take *over* three miles of piping and asphalt work to bring pipe to Avila& Sons. This system is not consider to have the necessary service area or capacity to serve the site.
- The City of Turlock has several wells within reasonable distance of 1301 N. Washington. It was duly noted, however, that the LAFCO SOI (adopted September 26th, 2007) for the city does not include 1301 N. Washington Road. Regardless, this was found to be the most feasible source of consolidation as the discrepancy seemed manageable. The City of Turlock was contacted to see if such a union would be possible.

B. City of Turlock Outreach

1. Elwyn Heinen contacted Bhupinder Sahota with the Division of Drinking Water District 10 Office on 05/30/2018 to inquire about consolidation. Mr. Sahota indicated that it was possible for LAFCO to allow for connection to the property, and that a public water system was not necessary.
2. Mr. Heinen was referred to Michelle Fredrick with the State Water Resources Control Board for assistance and guidance regarding potential consolidation. Her initial response, on 05/30/2018, was that it was possible for LAFCO to allow an out-of-service area connection for the proposed project. She requested more information about the existing well's specifications and analytical data.
3. Quality Service, Inc. sampled the existing well for known contaminants pursuant to this request. Nitrates and Uranium were found at levels above their respective State Maximum Contaminant Levels. A report was generated 06/04/2018 detailing the results and advising for a new well.
4. Ms. Frederick received the information she requested and informed Mr. Heinen on 06/08/2018 to seek consolidation with the City of Turlock for the intended public water system; she explained the state had no authority of LAFCO.
5. Mr. Heinen corresponded with the City's Senior Civil Engineer, Anthony Orosco, on 06/20/2018 requesting his input about the water quality and expressing interest in consolidation. Mr. Orosco requested further investigation into water quality in the area and at different well depths.
6. After review of the local hydrogeology, a report was submitted documenting the presence of well construction within a two-mile radius from the intended construction site that featured desirable water quality. Local contaminants were identified, and trends in water quality were discussed.
7. After review of the report, Mr. Anthony Orosco requested information about the annual and peak flow water usage for the project on 07/20/2018. This information was furnished 07/25/2018.
8. Mr. Orosco supplied a letter on 08/13/2018 (Attachment C) expressing the City's unwillingness and inability to meet the additional demands. Mr. Orosco advised for a new well to be installed at the site as none of the evidence he was presented precluded the formation of a new public water system.

C. Assessment of Consolidation Feasibility

Out of the eleven (11) public water systems that were identified within a feasible distance from the property at 1301 N. Washington Rd., only one (1) water system was determined to be a possible source of water for the project. Many of the water systems found in the radius search were no longer active. Others were deemed not to be plausible due to the property being located too far outside of the service boundaries of the existing system, due to the existing system being too small to supply additional demands, or due to the legal complications that would arise in connecting with the existing system. The one (1) purveyor identified as a legitimate candidate for consolidation, The City of Turlock, was contacted directly. Advanced Design Group reached out to the City's Planning Department and requested a will-serve letter. The City refused to provide a will-serve letter and explained they could not justifiably accept the additional demand given the context of their mass conservation efforts. The City expressed significant opposition to an Out-of-Boundary Service Agreement and to consolidation with the planned improvements at 1031 N. Washington Rd. altogether. Therefore, consolidation with a larger supplier has been deemed to be simply not a rational option. Attachment K demonstrates the City's response when questioned about Managerial Consolidation.

V. 20 Year Supply Capacity

A. Proposed Demand

Mr. Elwyn Heinen of Advanced Design group provided the expected landscape, processing, domestic, and fire demand in an email on July 25th, 2018. This is enclosed herein as Attachment D and shows an anticipated average day demand of 3,590 gallons per day, which represents a normal annual usage of 1,310,350 gallons. In order to gain a better understanding of the peak dry-weather demands that may be witnessed, Quality Service Inc. identified a similarly-sized vegetable production facility (roughly 300' x 600' on a 10 acre parcel) that utilizes groundwater from an approved primary supply (8") well in the Turlock area; meter reading data (Attachment K) for 2016 yielded the highest demands.

11,950 gallons per day was identified as a reasonable maximum day during dry-hot conditions; this is a peak hourly demand of 1,120 gallons per hour, or 19 gallons per minute (assuming a peaking factor of 1.5 for both the MDD & PHD calculation). The well driller for the project asserts that an 8" well on the Washington property is likely to yield 75 – 150 gallons per minute. As such, the source should be sufficient to meet 20-year demands as no future growth is planned and the well's prospective yield is more than sufficient to account for dry-weather conditions. At this time, this is all that can be said of the sustainability of

the proposed well as considerations such as the potential for overdrafting can only be assessed once a yield for the well is determined.

B. Groundwater Sustainability

In the 2008 *Turlock Groundwater Basin Management Plan*, prepared by the Turlock Groundwater Basin Association, it was duly noted that reduction in water storage between 2002 and 2006 shows that the water balance has shifted out of equilibrium and represents net-loss (ES-4). More water is extracted than is introduced back in – meaning that the basin is no longer a sustainable resource. Though this basin is not considered to be critically overdrafted, the system's ownership recognizes that a new well would add to the basin's net outflow.

Therefore, measures will be taken during the design phase and routine operation of the water system to ensure that the system's impact is minimal. This can be accomplished by paying heed to the seven Basin Management Objectives (BMOS) established within the local Groundwater Basin Management Plan and working with the local Groundwater Sustainability Agency (when it forms) to comply with the sustainability plan that is developed. The system can help support the Basin Management Objectives primarily by building the proposed well responsibly (the deep annular seal that is recommended will prevent co-mingling of contaminants in the upper strata), taking pains to consider water conservation in design and routine operation, and by monitoring & regulating their groundwater extraction. The system will be designed around the demand calculations that were furnished by the engineer, and safeguards (such as flow restrictions) will be implemented based on those figures so that excessive use is not possible.

VI. Cost Comparison

A. Overview

The purpose of this section is to address each of the specific requirements listed in CCR Title 22, Division 5 for reporting the proposed cost to construct, operate, and maintain the proposed new public water system for 20 years. The following requirements were derived from Section V., "Cost of Proposed New Public Water System," of the 2019 Preliminary Technical Report Guidance Document:[5]

i. System engineering and design cost for construction and permitting, including pump tests, and a 50-foot source protection zone around the wells.

[5] SWRCB DDW. "Preliminary Technical Report Guidance." SWRCB, 2019. https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/permits/preliminary_water_system_technical_report.pdf

ii. Construction costs, backup electricity for pumps to maintain 40 psi minimum pressure at all times, proper construction of distribution systems, installation of meters, and adequate storage capacity.

iii. Electrical cost for equipment operation.

iv. Cost of as-builts maps.

v. Annual water treatment chemical monitoring costs.

vi. Ongoing raw water chemical monitoring sampling and analysis costs.

vii. Ongoing bacteriological monitoring sampling and analysis costs for treated and untreated water.

viii. Maintenance of bacteriological plans and emergency notification plans for notification of water quality emergencies.

ix. Required lead and copper monitoring costs and maintenance of a lead and copper plan.

x. Customer water quality complaint program.

xi. Flushing, valve and meter maintenance, and maintaining maps.

xii. Cross Connection Control Program and annual backflow device testing and maintenance.

xiii. Salary for licensed operator staff costs, including time for reports and inspections required by Division of Drinking Water Staff.

xiv. The cost to maintain written procedures for system maintenance.

xv. Annual Consumer Confidence report preparation and distribution costs.

xvi. Annual electronic report to State Water Resource Control Board Division of Drinking Water.

xvii. Records of the estimated life of all pumps, treatment, storage, and distribution system and an annual capital improvement plan to fund replacement.

xviii. Maintaining of business licenses and paying annual permit fees, and any State enforcement fees for actions resulting from water system non-compliance.

xix. Knowledgeable management staff costs to coordinate the above and maintain financial controls.

The following exceptions apply:

1. The report must contain a discussion of proposed rates based on the costs, per the second paragraph of Section V. of the guidance document. There will be no proposed rates since water is being provided to employees without charging a fee.
2. Costs for two wells do not need to be prepared since this is not a community public water system.
3. The cost for monitoring and maintaining plans for disinfectant and disinfection byproducts are not applicable for this system. Disinfection is not required as part of raw water production or for any of the possible treatment processes discussed herein and will be avoided so as to mitigate the need for hazardous material handling and storage.
4. Cost of planning studies for source capacity and permit amendments are not included herein as the system is not planning any additional growth.
5. Metering and billing staff costs are not applicable expenditures since there are no residences or consumers for which to bill for water usage. Potable water will be provided to employees without a fee.
6. The system will not utilize surface water as a source, so the cost of planning to meet surface water treatment rules and continuous surface water treatment plant installation and operation are not included here.
7. Cost of providing adequate facilities for staff and records is included as part of the building construction and is, therefore, not within the scope of this 20-year budget projection for the public water system.
8. Under direction of the SWRCB and the Stanislaus County Department of Environmental Resources, the cost for engineering, design, construction, and permitting must also prepare for treating three possible co-contaminants: Nitrate, Uranium, and Arsenic.

In order to compare costs for consolidating with the City of Turlock and owning a new public water system, the State Water Resource Control Board's Five Year Budget Projection / Capital Improvement Plan for noncommunity water systems was utilized. Five versions of this document were generated to compare each of the possibilities for the new system against consolidation with the City of Turlock, giving care to consider both dry-weather and average demands. These documents are included as Attachments E – I.[6]

[6] Please note that these documents represent estimated costs only and are not to be regarded as the actual or full construction costs involved with any of the projects as pricing will vary with time, the vendors selected, labor costs, and decisions made during the work. These costs may not be all-inclusive. All equipment pricing that is listed is for the proposed water supply infrastructure up to the property line and does not

B. Cost of a Groundwater System

1. System engineering costs are included in Attachment E under line 18. This information was provided by the consulting engineer for the project.
2. The cost of conducting a source capacity test according to 22 CCR §64554 is included under line item 13 in Attachment E.
3. A 50-foot source protection zone will be established at no cost by the following means:
    a. Positioning of the well on the property during design phase.
    b. The source is located on private property that will have controlled entry.
    c. Proper chemical and waste management practices will be employed to ensure that no hazardous materials are stored such that they may contaminate the well's protection zone.
    d. If determined to be a necessity to further protect the wellhead from traffic, vandalism, or hazards, the engineer will incorporate additional protection into the design phase (IE. planning for the installation of bollards, locked cabinets and valves, and/or fencing), the cost of which can only be feasibly estimated once the design has been generated.
4. Construction costs for the wellhead, including basic electrical controls, is included in line 15 of Attachment E.
5. Backup electricity for the pump, in the form of a 32kW standby generator is included under line 17 of Attachment E. This includes design and installation of foundational pad. This generator is small enough and there are options for natural gas and propane engines. As such, initial permitting and reporting requirements are anticipated to be negligible, so long as the equipment is installed and maintained according the manufacturer's guidelines. The cost for this ongoing maintenance and recordkeeping is included as part of the duties of the on-site, certified staff member responsible for the day-to-day maintenance and operations of the public water system – under line item 2 of attachment E.

include plumbing or modifications inside of buildings. The documents were prepared in a manner consistent with the level of care ordinarily exhibited by other members of the profession and are peer-reviewed. However, Quality Service, Inc. hereby limits liability for any potential losses that may occur due to changes in unit costs, plans/specifications, or pricing those not covered therein.

6. Construction of the distribution system, which includes the cost of one totalizing flow-meter and one 5,000 gallon pressure tank, is included under line 16 of Attachment E.

C. Power Consumption Costs

For an untreated groundwater system, the only power that will be required will go toward running the well pump. Since the specific construction details of the pump system cannot possibly be determined until the results of a test well have been evaluated, we will have to operate under assumptions in order to feasibly estimate power consumption costs. For the purpose of estimation, we will first need to identify how much water the system will need to provide each day.

1. MDD Calculation:

   The engineer has estimated an average-day demand of 3,590 gpd. A maximum daily demand is calculated thusly, utilizing the peaking factor of 2.25 listed in §64554 of 22 CCR, Division 4:

   $$3{,}590\ gpd * 2.25 = \ 8{,}077.5\ gpd$$

   Say a submersible pump capable of producing 50 gpm between 100-200 feet of dynamic head, such as the 5HP Grundfos 85s100-3, is selected for use for the water system. The runtime per year can then be calculated as follows:

   $$8{,}077.5\ gal\ \left(\frac{1\ min}{50\ gal}\right)\left(\frac{1\ hr}{60\ min}\right) = \frac{2.7hr}{day}$$

   $$2.7\ hr/day\ \left(\frac{365\ day}{1\ yr}\right)\ = 985.5\ hrs/yr$$

2. Estimating Power Consumption:

   The annual cost of power for running this theoretical pump system can then be determined if the power consumption of the pump and cost per kilowatt are known, in accordance with the energy consumption calculation published by Grundfos and included herein as Attachment N.

   Attachment M features the performance curves for the Grundfos 85s100-3 submersible pump, which shows the power consumption of the 5HP pump is around 2.0 kW at 50gpm. Attachment L shows the applicable small industrial service fees charged by the Turlock Irrigation District. The following is then calculated:

$$\left(\frac{\$0.0792}{kW}\right)(492.75hr)(2.0kW) = \$78.05\ \ (Summer\ Months)$$
$$\left(\frac{\$0.0601}{kW}\right)(492.75hr)(2.0kW) = \$59.23\ (Winter\ Months)$$
$$\frac{\$12.67}{mo}(6\ months)\ = \$76.02\ (Summer\ Months)$$
$$\frac{\$10.66}{mo}(6\ months) = \$63.96\ (Winter\ Months)$$
$$\$82.00/mo\ (12\ months)\ = \$984\ \ (Annual\ Customer\ Charge)$$

$$Total\ Estimated\ Annual\ Energy\ Consumption$$
$$= \$78.05 + \$59.23 + \$76.02 + \$63.96 + \$984.00 = \$1{,}261.26$$

Additional funds in the amount of approximately $200 per year is allocated to account for minor variances; this figure has been thusly rounded to $1,500 annually and is listed under line 4 of Attachment E.

3. The cost of as-built maps are included in the engineering and professional services estimated by Advanced Design Group, Inc. under line 21 of Attachments E-I.
4. Maintenance of the bacteriological sample siting plans and emergency notification plans will be handled by the on-site, certified staff responsible for day-to-day operation and maintenance. The cost of which is included under line item number 2. This same statement applies for requirements viii, xi, xii, xiv, xv, xvii, xviii, and xx above – the cost associated with each of these items is covered under line item 2 in Attachments E-I.
5. The cost for lead and copper sampling requirements is included within the cost of ongoing chemical monitoring for each of the applicable scenarios listed under Section E below.
6. For a small, non-transient non-community public water system, the Cross-Connection Control (CCC) Program will consist of an initial CCC Survey upon construction finalization. Any cross-connections will be identified at that time and the CCC Specialist will make recommendations as to the appropriate degree of protection necessary. The system ownership will develop a plan for correcting the deficiencies at that time. After all cross-connections have been eliminated or protected with the appropriate degree of protection, CCC surveys are recommended every 4-5 years unless the water system designates a user supervisor to oversee all plumbing repair, modification, and installation activities. The cost of this supervision and associated recordkeeping is included under line item 2 of the attachments. The cost of one (1) initial CCC survey is included under line item 16.

7. It is anticipated that a minimum of two (2) RPP backflow devices will be necessary. The cost of installation for these devices is included under line item 16 of the attachments. The cost of annual testing is anticipated to be no more that $100/test. This is included under miscellaneous costs, line item 11 of the attachments.
8. Annual permit fees are included under line item 5 of the attachments, along with fees associated for a maximum of one (1) possible enforcement action per year.

D. Treatment Costs

1. Cost of Arsenic Treatment:

   The cost of arsenic treatment includes the engineering, permitting, site work, foundational work, and the labor, equipment, and materials to install the final filtration system, the backwash tank, the piping, valves and any meters. Pricing is based on estimated cost and evaluated against historical actual costs for similar projects (between 10-50 gpm in sizing) to confirm accuracy.

   a. Permitting for the overall construction project is included in the initial cost of the treatment equipment (line item 17 in Attachment F). This reduces the cost of permitting the distribution system as there is some overlap, so this price change has been reflected in line item 15 of Attachment F.

      (i) This pricing is based on the cost of a direct filtration system with ferric-based adsorption media, which is recognized as a BAT for arsenic removal per 22 CCR §64447.2 Table 64447.2-A. This technology does not require the use of pre or post-treatment with chemicals.

   b. Expendables for the system would be limited majorly to the arsenic media, which may need to be exchanged up to every 5 or 6 years depending on the water quality. However, since the water quality of the final well installation is currently unknown – it is impossible to comment about the presence of interfering constituents, which may warrant more frequent media exchanges. As such, the recurring cost is set for 5 years based on the media exchange frequency provided by the manufacturers. This cost does include disposal fees and transportation to a Schedule C landfill based on the presumption that the solid waste generated will be found to be toxic.

c. Power requirements for the system will not be changed significantly if a simple valving manifold is utilized for the purpose of backwashing.[7] However, in the event the ownership desires automatic backwash and associated controls – the backup generator has been upgraded to a 38 kW unit (with no significant changes in the pricing) in line 17 of Attachment F.

2. Cost of Arsenic, Nitrate, and Uranium Treatment:

   a. The cost involved in treating these co-contaminants is made up of the engineering, permitting, site work, structural prep, and the labor, equipment, and materials to install a multi-stage ion exchange filtration system. Conveniently, all three of these contaminants may be removed by anion exchange technology, which is recognized as a BAT in 22 CCR §64447.2 and §64447.3 Tables 64447.2-A and 64447.3-A. Chromatographic peaking will occur with the listed contaminants, so redundancy is warranted.[8] There will need to be at least two filters (perhaps even two pairs of parallel filters) plumbed in series. Because nitrate is removed for compliance in this scenario, there will also be additional costs for continuous online analyzers and electrical controls in order to feasibly comply with local monitoring requirements. Construction costs will understandably be driven up by these factors. This estimated cost is listed under line item 19 of Attachment G.

   b. Permitting for the overall construction project is included in the initial cost of the treatment equipment (line item 17 in Attachment G). This reduces the cost of permitting the distribution system as there is some overlap, so this price change has been reflected in line item 15 of Attachment G.

   c. Expendables for the system would include salt for the brine generator and the ion-exchange resin itself.

      (i) The manufacturer has provided an estimated price per gallon for media exchange and disposal, which has been used to calculate the annual replacement cost. However, the anticipated replacement frequency is

[7] It is noted here that the backwash system would likely require a recirculation pump, such as a Grundfos CRE 10-1 1.5 HP, in order to recycle filter backwash water that is generated. Based on the estimated electrical demand this pump would pose (0.2 kW), there would be no significant changes in actual cost of electricity – this variance is adequately accounted for under line item 4.

[8] The media manufacturer may be able to recommend a mixed-bed ion exchange filtration system designed to mitigate the effects of chromatographic peaking. This could produce savings. However, this cannot feasibly be determined until design-phase of the project is initiated.

every 3-years. As such, this expense is listed every three years under line item 19 in Attachment G.

(ii) The budgetary expense for softener salt is listed under line item 6 of Attachment G. There are no other estimated costs for treatment chemicals since ion-exchange media does not warrant chemical injection to function. No reagents are anticipated to be necessary for the continuous analyzers typical of nitrate monitoring.

d. Power consumption would be increased due to additional controls required for automatic operation and monitoring for this system. As such, provision for a 38 kW standby generator is listed under line item 17 of Attachment G.

E. Chemical Monitoring Costs

1. Raw Water:

The initial chemical monitoring costs for an untreated groundwater system is listed under line item 12 of Attachment E. This covers monitoring for a non-transient non-community public water system in accordance with 22 CCR, Chapter 15:

- Initial general mineral and general physical panels
- Inorganic chemicals
- VOCs
- DBCP/EDB
- 1,2,3-Trichloropropane (quarterly)
- Radionuclide monitoring (quarterly, includes Uranium just in case)

The figure calculated for all of these requirements is listed under line item 12, column 2021 in Attachment E, as the initial chemical monitoring expense.

a. An annual budget of $500 is allotted under line item 8 in the attachments in order to cover sampling fees and travel time, annual nitrate sampling, and up to one (1) confirmation sampling event.

b. Ongoing chemical monitoring recurs every three years under line item 12, and is a budgetary figure that also covers six-year and nine-year samples to allow for variance in laboratory fees and additional sampling.

2. Treatment (Arsenic):

   In addition to the chemical monitoring budget described in subsection 1. above, if arsenic treatment was installed, the system would be required to collect quarterly source water arsenic samples and monthly treated effluent arsenic samples. The cost of this additional sampling is reflected under line item 8 in Attachment F.

3. Treatment (Arsenic, Nitrate, Uranium):

   In addition to the chemical monitoring in subsections 1. and 2. above, if the system also treated for nitrate and uranium, quarterly source water samples would be required for each of those constituent as well. Treated water nitrate monitoring would be enacted by means of continuous online analyzers, the record-keeping of which would fall under the duties of the certified staff member (see line item 2). Monthly uranium samples would be required in addition to arsenic. The cost of this additional sampling is reflected under line item 8 in Attachment G.

F. Microbiological Monitoring Costs:

1. Raw Water

   Based on 22 CCR §64421-64430, Table 64423-A, this water system would only be required to collect a single routine bacteriological sample from the distribution system.

   This cost analysis, which is listed under line item 7 of Attachment E, allows for a single routine bacteriological failure event during a given year, in accordance with the interim, revised total coliform rule. This would involve the following:

   a. Initial routine sample (1)
   b. Repeat sampling (4)
   c. Investigative OTHERS (4)
   d. Five ROUTINES (5), due in the next month.
   e. Drive time and sampling fee

2. Treatment:

   The cost of bacteriological monitoring will not foreseeably be altered by installation of an arsenic treatment system or treatment for arsenic, nitrate, and uranium since these processes are commonly designed without precautionary disinfection. It remains unchanged for line item 7 in the respective budget projection for each scenario.G.

G. Cost of Consolidation

The cost of consolidation is comprised of account opening fees, connection fees, a commodity rate, and additional offsite engineering/construction costs to make the physical connection. The additional construction fees could not feasibly be estimated without willing collaboration from the City of Turlock, however some speculations can be made to produce a very rough idea as to the initial construction costs. A one-time connection fee is about $8,193.00, which would bring the total cost in 2021 up to $30,120.98 under normal usage. Connection with city infrastructure would require crossing a public roadway – a notable increase in the up-front costs since traffic control and asphalt work would be required. Furthermore, given the likely impact to traffic during the work, a more detailed CEQA could be warranted, which would increase the cost of permitting. Based on historical findings, the pipeline itself would cost between $15-$20 per inch diameter of pipe, per lineal foot. Based on this information, a ballpark initial construction cost of between $100,000-$200,000 is considered to be a “safe” approximation but is entirely contingent upon the location of existing infrastructure and additional unforeseen requirements imposed on the construction (ie. pipe sizing, service stubs, backflow devices, hours of operation, overtime – etc.).

Based on the City of Turlock’s fee schedule (included herein as Attachment J), the annual fee would amount to about $1,800 before commodity charges are applied at a rate of $1.08 per 1,000 gallons. Applying this usage rate to the average demand presented in Attachment D, the commodity charges would cost roughly $1,415.18 per year (normal conditions). Applying it to the dry weather usage calculated in Section V. above would yield a theoretical dry-weather expense of $3,251.40 annually. However, this is an optimistic approximation of ongoing expenses for consolidation, at best.

This is not an exhaustive inventory of the expenses that would be imposed by permitting and constructing a connection with the City water supply, since there are factors that cannot feasibly be estimated without actually pursuing the project further. For example, the system could be held accountable for maintenance of the connecting pipeline since the connection would be outside of the City’s sphere of influence – this would increase fees for the property owner. The project could require municipal annexation of the property, which could also trickle downhill to the property owner to help fund. The system would still have to maintain and account for the on-site distribution infrastructure (including the backflow device), and staff time would still be allocated to handle payments of city bills and otherwise managing the water system.

What's more is that rate hikes are not uncommon; especially in light of recent legislature, such as the GSA, it is not likely that rates will stay this low, which means that taking the city's rate schedule at face value could be resulting in a drastic underestimation. In order to get a handle on how increasing water rates might affect the ongoing cost of consolidation, Attachment I was generated. It assumes the "worst-case" scenario of dry-weather conditions and a continued 16.6% rate hike, as is witnessed in the scheduled rate increases listed on the City of Turlock's fee schedule (see Attachment J). The pertinent findings of that attachment, along with the other extended budget projections and capital replacement plans, are summarized in Table A below.

H. Budget Projection Evaluation

Table A below summarizes the pertinent findings that are observed in attachments E – I.

Table A: Summary of Extended Budget Projection

Scenario	20-Year Total	Initial Expense	Average Ongoing Cost	Attachment
New Public Supply Well	**$934,204.34**	$164,250.45	$40,576.52	E
Arsenic Treatment	**$1,253,612.64**	$317,950.00	$49,245.40	F
Arsenic, Nitrate, and Uranium Treatment	**$1,621,977.86**	$415,750.45	$63,485.65	G
Ongoing Consolidation Costs	**$578,003.25**	>$100,000	$28,835.91	H
Ongoing Consolidation Costs (Adjusted for Rate Hikes)	**$1,060,531.49**	>$100,000	$54,135.49	I

What Table A demonstrates is that the cost of installing and operating a public supply well is more feasible than treating for multiple contaminants over a 20-year span by about 74%. However, as previously stated, evidence suggests that at least nitrate and uranium may feasibly be avoided by methodically testing the groundwater supply and developing the final well installation according to those findings. The most likely contaminant to be faced by the system is arsenic, which would see a 94% increase in initial construction costs when compared with installing a public supply well alone – but only a 34% increase in long-term costs

and only a 21% increase in average annual expenses (which is almost entirely made up from refurbishing the expendable media and the increased capital replacement costs).

It is clear that the cost of ongoing consolidation should, in theory, be significantly cheaper than arsenic treatment or installing a new public water supply well – in terms of both the initial and ongoing expenses. However, there are many variables that could end up increasing the initial construction costs. When the City's rate increases are accounted for, and considering that the ballpark cost of consolidation speculated herein was not exhaustive, it is clear that the ongoing expense of paying for city water is at least comparable to owning and operating a small arsenic treatment system – which is only 18% more costly in 20-year expenditure. If the system is able to install a well without having to treat the water, then a long-term cost savings of 12% could even be witnessed – based on the figures surmised in Table A.

I. Sustainability

These findings suggest that, over a twenty-year span, the most sustainable options for the water system will be to either install a new groundwater well without treatment, to consolidate, or to install a new groundwater well with arsenic treatment. It is clear that treating for multiple contaminants should be avoided if possible – however, in the end, the ongoing cost of treating for Arsenic, Nitrate, and Uranium can be compared to the cost of hiring a full-time salaried employee. While it should and may possibly be avoided over the course of the next 20 years with proper well testing and design, the ongoing costs of operating an anionic exchange facility for multiple contaminant removal is a feat which is not likely to be unsustainable for a business owner given this perspective.

With that said, and considering the opposition that has been presented regarding consolidation with the City, ownership for the proposed Avila & Sons small public water system is humbly requesting permission from the State Water Resources Control Board to proceed with forming a public water system as part of this construction project. The system will do so optimistically in its goal of finding potable groundwater at the site, but realistic in that arsenic treatment may be a necessary consequence of this endeavor. The system is prepared to construct and maintain an arsenic treatment system should the need arise in forming a public water system as part of this project, and has data to consider regarding in the unlikely event that avoiding multiple contaminants is impossible. The data does not suggest that supplying water at this site is unsustainable, rather reveals that careful planning in the construction and design phase will make a new public water system more sustainable in its day-to-day operation.

Attachment A:

Water Quality

and

Well Construction Data

QUALITY SERVICE, INC.
Water & Wastewater Operations/ Construction
A General Contractor LIC # 834488
Email: info@qualityserviceinc.net
Telephone: (209) 838-7842

07/19/2018

Advanced Design Group
1128 6th Street
Modesto, CA 95354
Att: Elwyn Heinen

Re: 1301 N. Washington Rd., Turlock CA, 95380 Project

Mr. Heinen:

Pursuant to your firm's request, we have investigated the water quality in public wells near the project site at 1301 N. Washington Rd., Turlock CA, 95380.

As stated previously, we cannot recommend even considering the current domestic well as a source for new public water system due to the age, construction methodology, and water quality of the source. The presence of contaminants in the well did not bode well for the creation of a new public water system. However, after reviewing available data on the local hydrogeology and studying local well construction methods, we are pleased to inform you that the evidence suggests that drilling a new well on the property, so long as it is constructed carefully (and possibly prefaced by zone sampling), is likely to produce water that may feasibly meet Title 22 requirements.

Please see the enclosed report, which presents technical information about the local aquifers and well construction methodologies that seem to be associated with elevated contaminants.

Sincerely,

Keven E. Jones

Compliance Specialist
Quality Service, Inc.
kjones@qualityserviceinc.net
1(209)838-7842

Water Quality and Well Construction Study

for the proposed:

Dan Avila & Sons
Public Water System

1301 N. Washington Road,
Turlock, CA 95380

To be Distributed to:

Advanced Design Group, Inc.
Attention: Elwyn Heinen
1128 6th Street,
Modesto, CA 95354

Prepared By:
KEVEN JONES of
Quality Service, INC.
07/19/2018

Table of Contents

I. Introduction

A. Background

TDS, arsenic, nitrates, and a variety of synthetic compounds have been identified as known contaminants in the City of Turlock and surrounding area. For this reason, it was decided that the domestic well at 1301 N. Washington Road should be tested to determine the presence or absence of likely groundwater contaminants; the results would therefore aide in assessing the feasibility of sourcing potable water on the property. The testing revealed that Nitrates and Uranium are present at the site in concentrations over the MCL, and that Arsenic was over 50% of the MCL in the well water. As such, further investigation was warranted to identify potential solutions.

Quality Service, Inc. subsequently researched public water wells within two miles of 1301 N. Washington Road; water quality results were analyzed alongside well construction specifications to determine if trends in construction methodologies exist that might be used to produce higher quality water in the area.

The purpose of this report is to reveal pertinent information about the local hydrogeology gained during through this study and to present an approach to installing a new groundwater source that might feasibly produce better water quality *en-situ*.

B. Sources

1. “California Well Standards, Combined,” California Department of Water Resources (2018).
2. “East San Joaquin Water Quality Coalition Groundwater Quality Trend Monitoring Workplan: Phase III – *Specific Network Wells,”* by Luhdorff & Scalmanini Consulting Engineers (2018).
3. GeoTracker GAMA
4. “Groundwater Information Sheet: Nitrate,” State Water Resources Control Board Division of Water Quality (rev. 2017).
5. “Groundwater Information Sheet: Radionuclides,” State Water Resources Control Board Division of Water Quality (rev. 2017).
6. “Hydrogeologic and Water Quality Assessment Report,” by Lawrence H. Ernst & Sean J. Spaeth (2016).
7. State Drinking Water Information System (SDWIS)

II. Local Hydrogeology

A. Overview

- The hydrogeology of the Turlock area can be generalized as having an unconfined, perched water table at the surface and five distinct zones (varying in degree of confinement) down to 600 feet below ground surface. Below this depth, water increases in TDS content such that it is not regarded as being useful for a public water supply. The general flow of the groundwater is to the southwest, and it is duly noted that the water quality is altered by chemical reactions occurring as it moves through the earth.[6]
- Though most of the available data is from wells in the northern portion of the city, what little has been evaluated in the southern end seems to be consistent enough to say that the trends established herein are fairly universal for the region – ie., the evidence seems to suggest that hydrogeology in the southwest fringe of the city should not be entirely dissimilar from the established trends.

B. Sources of Groundwater Contamination

- Arsenic and nitrate are both known contaminants of concern in the City.[6]
- It is thought that the unconfined aquifer system, closest to the ground surface, is especially susceptible to contamination;[6] surface water from precipitation, or perhaps human activity such as irrigation, pick up substances as it infiltrates the soil, and contaminants accumulate in the perched water table.
- Therefore, water in the uppermost aquifers (between +100 ft and -150 ft MSL) has been shown to reliably contain nitrates above the state MCL.[6] Higher nitrate levels in the groundwater supply results almost exclusively from human activity, such as septic systems, leaking sewage pipes, agricultural practices (applied fertilizers), and from some industrial processes.[4]
- Arsenic arises from natural origins and is common in groundwater throughout the Central Valley of California. This is due to the fact that there are deposits of arsenic-laden sediment, eroded from the Sierra Nevada Mountain Range, that were deposited in thin sheets in the valley. There are some trends that have been established about Arsenic in the area:[6]

- Arsenic has been associated with wells that have screens crossing multiple aquifers and clay layers (especially those alternating frequently with sand layers).
- Wells in the northwest portion of Turlock (west of Geer Road and north of West Main Street) tend to have elevated arsenic concentrations.
- Wells completed in the aquifer between elevations -220 and -320 ft MSL could have elevated arsenic.

- Information about uranium in the area is limited, but local wells generally do not seem to contain elevated levels of this chemical.[3]
- According to the State Water Resource Control Board Groundwater Information Sheet on Radionuclides, uranium is mainly a naturally occurring element found in specific types of all rocks (though there are some industrial applications, such as in nuclear reactors). However, two correlations are made within the document that relate elevated uranium in groundwater supplies with certain chemical phenomenon:[5]
  - Irrigation water containing bicarbonates can mobilize naturally occurring uranium in the soil and thereby increase concentrations in the groundwater.
  - Nitrate can similarly mobilize uranium into the groundwater supply.

C. Well Construction Data

- Well construction specifications were available for many wells that currently are or were active in the area. However, the selection was limited down to primarily three *active* public wells, as multiple laboratory results were readily available for review, the locations are close to the project site, and the construction specifications were all relevant. That being said, one active public source from a larger search radius (Well D) is listed additionally as it features relevant information about Uranium.

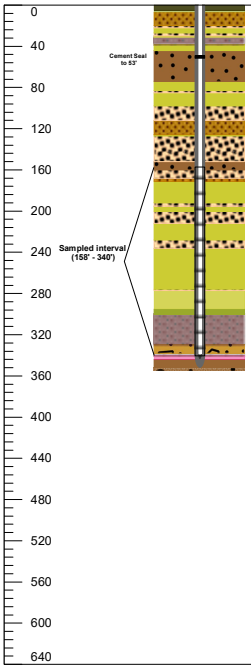
a. **Well A:** Located two miles away from the project site. This well features a 20-inch conductor casing and a sanitary seal installed down to 53 feet. The well then systematically reduces in diameter down to a 12” steel casing, with perforations between 158-340 feet.

b. **Well B:** Located two miles away from the project site. The well is relatively new (about 17 years old) and is sealed with cement down to 295 feet and filled with gravel to its finished depth of 430 feet. The casing is screened between 305-410ft.

Stratigraphic Columns of Wells used in Local Water Quality Study near 1301 North Washington Road

- Wells A, B, and C are located within a two-mile radius of 1301 North Washington Road. Well D is located 5 miles to the Southwest of 1301 North Washington Road.

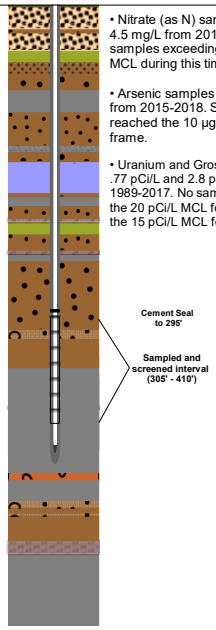
Well A



Well A Analytical Data

- Nitrate (as N) samples averaged 6.7 mg/L from 2015-2018 with no samples exceeding the 10 mg/L MCL during this time or in the history of this well.
- Arsenic samples averaged 8.4 µg/L from 2015-2018 with no samples exceeding the 10 µg/L in this period. Some samples in earlier years exceeded the MCL.
- Uranium and Gross Alpha averaged 2.4 pCi/L and 2.8 pCi/L from1989-2017. One sample of Gross Alpha was over the 15 pCi/L MCL and no samples of Uranium were over the 20 pCi/L MCL during this time.

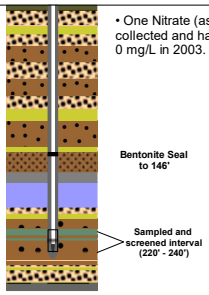
Well B



Well B Analytical Data

- Nitrate (as N) samples averaged 4.5 mg/L from 2015-2018 with no samples exceeding the 10 mg/L MCL during this time.
- Arsenic samples averaged 8.2 µg/L from 2015-2018. Some samples reached the 10 µg/L MCL in this time frame.
- Uranium and Gross Alpha averaged .77 pCi/L and 2.8 pCi/L from 1989-2017. No samples exceeded the 20 pCi/L MCL for Uranium or the 15 pCi/L MCL for Gross Alpha.

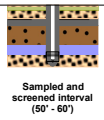
Well C



Well C Analytical Data

- One Nitrate (as N) sample was collected and had a result of 0 mg/L in 2003.

Well D



Well D Analytical Data

- Nitrate (as N) samples averaged 7.6 mg/L from 2015-2018. Results from 2002-2018 showed a steady increase and spiked up to the 10 mg/L MCL in recent years.
- Arsenic samples are available in the 3rd and 4th quarters of 2017 at 7.01 µg/L and 6.96 µg/L
- Six Uranium samples are available from 2007-2014 with an average of 19.5 pCi/L. The MCL of 20 pCi/L was exceeded in 2007, and spiked back up to 20 pCi/L in 2014.

Lithology Key

- Blue Clay
- Blue Sand
- Brown Clay
- Brown and Blue Clay
- Clay
- Clay and Gravel
- Coarse Sand
- Compacted Sand
- Fine Sand
- Gray Clay
- Gray Sand and Clay
- Hard Clay
- Hardpan
- Pink Clay
- Sand
- Sand and Clay
- Sand and Gravel
- Sand and Rock
- Sand, Gravel, and Clay
- Shale
- Silt
- Soft Clay
- Soil

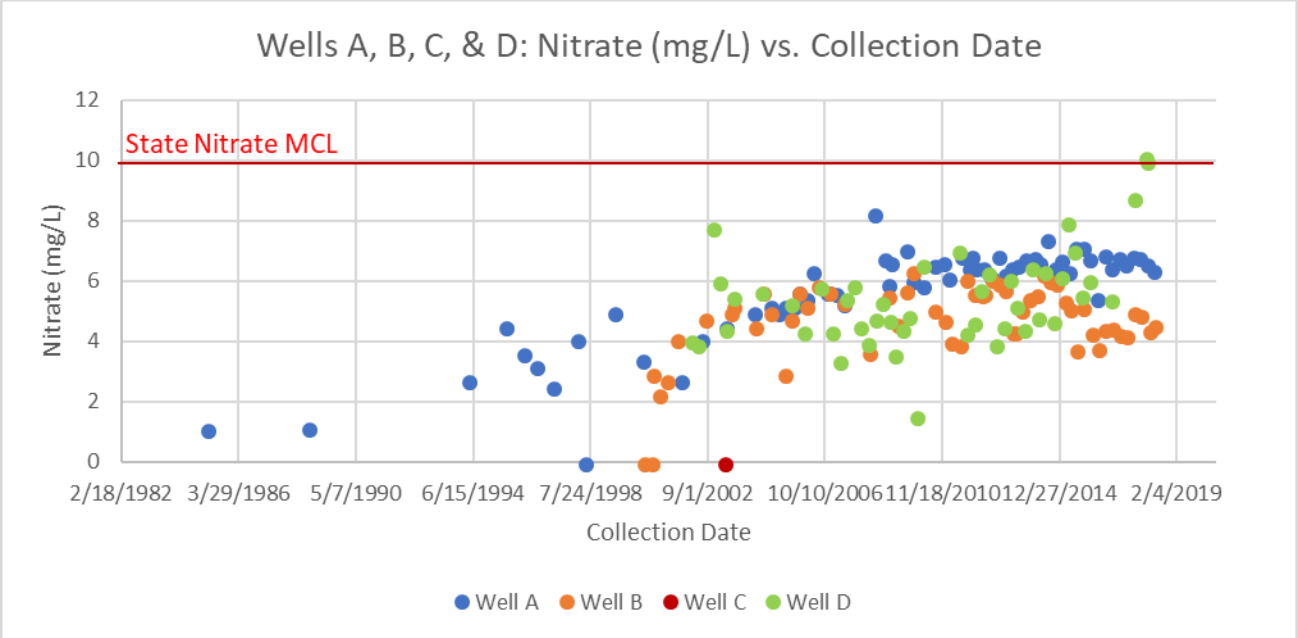
Quality Service, Inc.
2996 McHenry Avenue,
Escalon, CA, 95320
(209)838-7842
Info@qualityserviceinc.net

c. **Well C:** Installed for a very small public water system, this well is situated less than a mile away from the proposed site. It was finished at 240 feet, and has a bentonite seal about 146 feet deep. Screens are in place from 220 to 240 feet bgs.

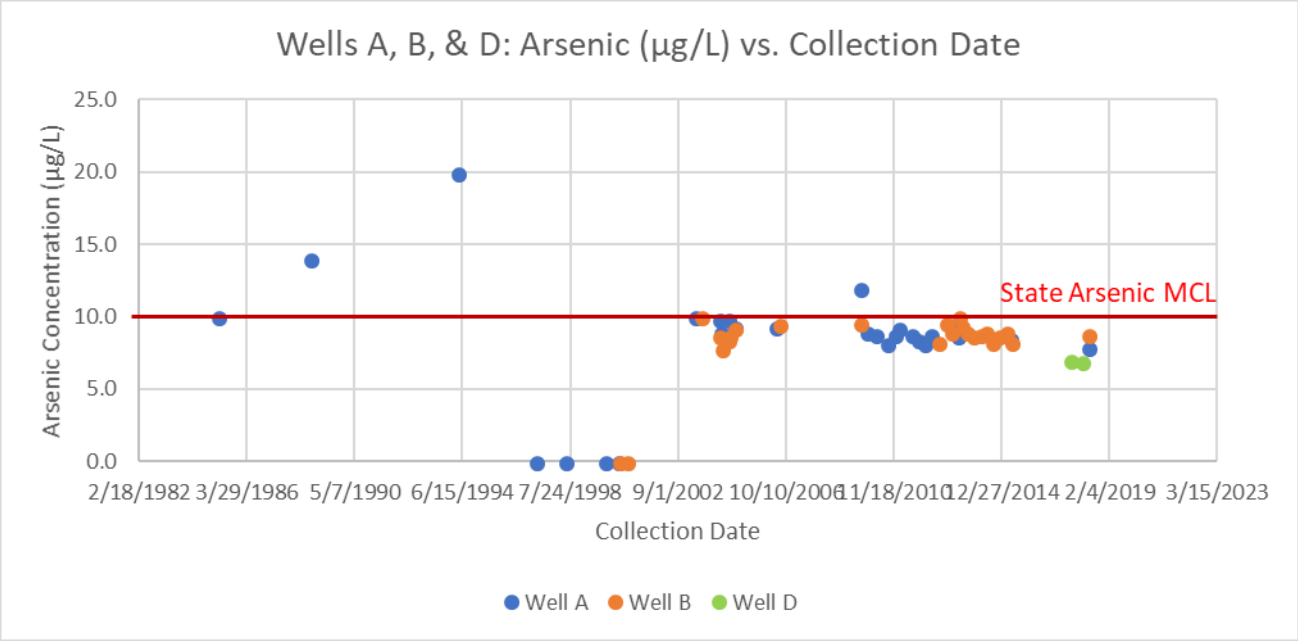
d. **Well D:** This well is about five miles away from the proposed project site, but is still generally in the southwest portion of the city. A well drillers log was unavailable for this site, but other sources indicate the finished depth was 60 feet with perforations from 50 feet to 60 feet.[2]

D. Local Water Quality Data

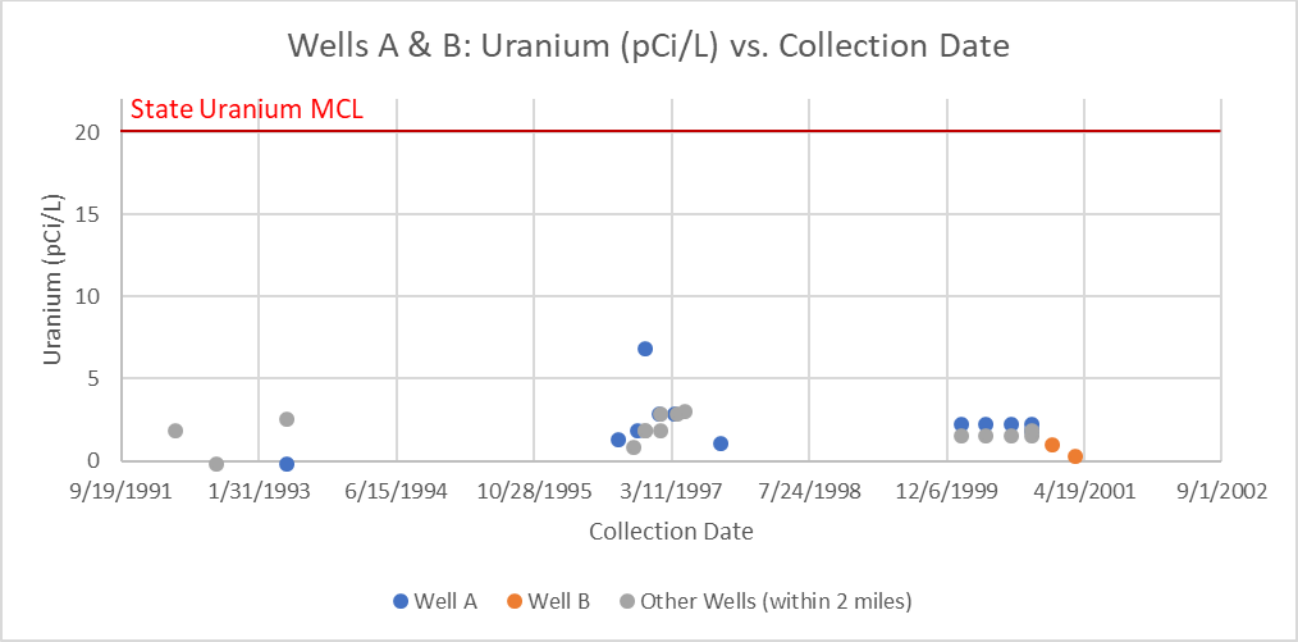
- 184 nitrate (as nitrogen) results from public wells within two miles of 1301 N. Washington Rd. were reviewed. The sample collection dates ranged from 1985 to present day. None of these results were above the maximum contaminant level (MCL) of 10 mg/L (though one sample was found to be 10.1 mg/L, which can be viewed as compliant). The average concentration from the results between 2015 – 2018 was found to be 4.7 mg/L.[3]
    - Well A averaged to be 6.7 mg/L for Nitrate (as N) between 2015-2018.
    - Well B averaged to 4.5 mg/L for Nitrate (as N) between 2015-2018.
    - Well C had a single nitrate result of 0 mg/L in 2003.
    - Well D had nitrate results available from 2002 – 2018. Results have been slowly increasing with time but spiked up to the MCL in the last two years. The average concentration from 2015-2018 was 7.6 mg/L.



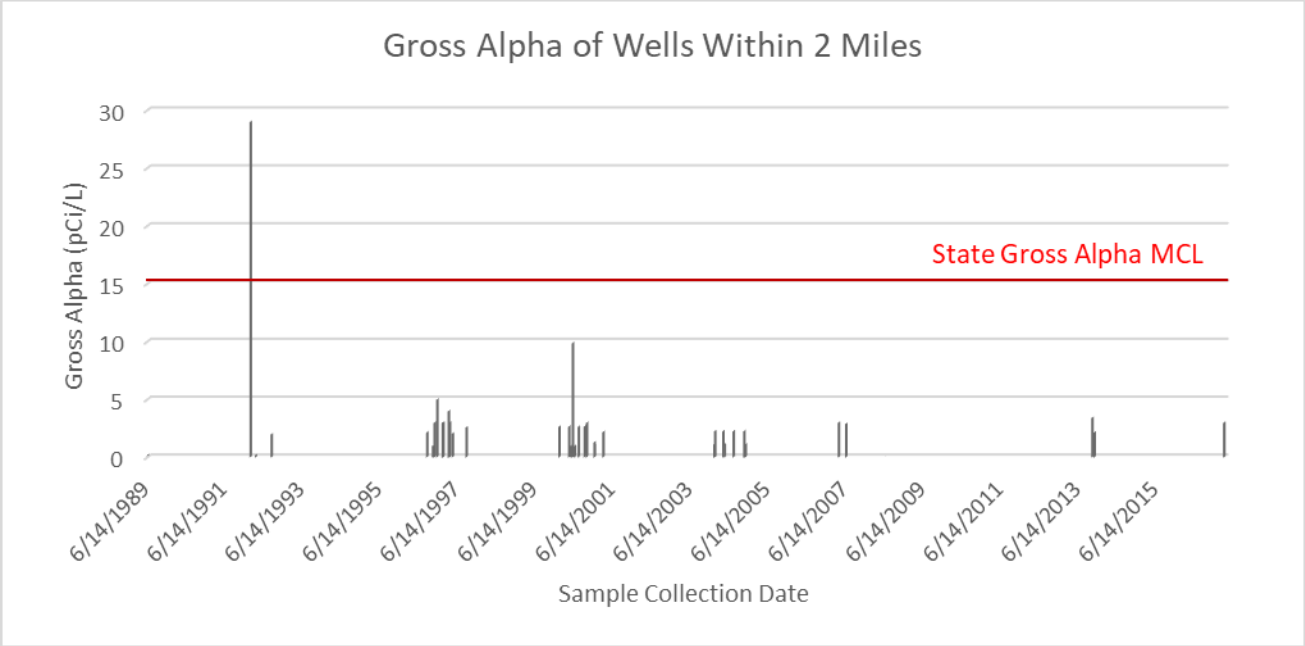
- 101 Arsenic results from the area were available to review. Collection dates ranged from 1985 to present day, but the majority of the results dated past the year 2000. In general, the results that were observed were high and many exceeded the state limit of 10 µg/L. 43 of the 101 analytics were at or above this MCL. Results between 2015 – 2018 had an average of 7.09 µg/L.
    - Well A featured an overall average arsenic concentration of 8.4 µg/L, and had a few spikes above the MCL in the past. Results were fairly consistent over the years otherwise.
    - Well B featured an overall average arsenic concentration of 8.2 µg/L, with occasional results near or at 10 µg/L. Results were overall fairly consistent but elevated.
    - Well D had samples from the third and fourth quarter of 2017 at 7.01µg/L and 6.96 µg/L, respectively.



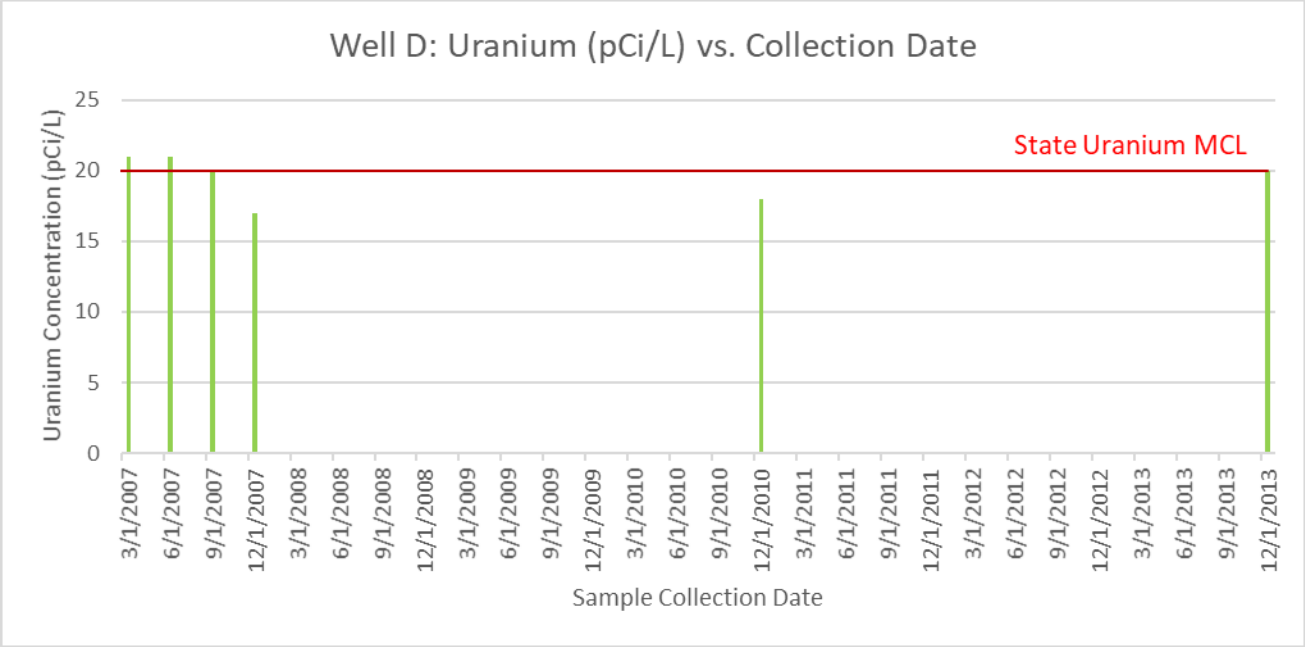
- In a two-mile radius, there were only 29 Uranium results available for review, all of which were older than 10 years. All results were significantly below the MCL of 20 pCi/L, averaging to be 2.08 pCi/L.



- As such, gross alpha results were also reviewed to attain a better overview of the alpha radioactivity in the area. 58 results were available, dating between 1989 – 2017. These results were low as well, with an overall average of 2.4 pCi/L. All results were below the MCL of 15 pCi/L, with the exception of a single result at 29 pCi/L.
    - Well A was found to have an average gross alpha of 2.8 pCi/L, and an average uranium concentration of 2.4 pCi/L.
    - Well B was found to have an average gross alpha of 2.4 pCi/L, and an average uranium concentration of 0.77 pCi/L.



- The search radius was widened to discern if the uranium results from the N. Washington domestic well was an isolated event (perhaps, then, a laboratory error), or if other wells in the Turlock area could have similar concentrations of the analyte. Well D was identified, since the uranium results were all similar to those found in the current well for the site.
    - Well D had available six uranium results collected between 2007 – 2014. The average was found to be 19.5 pCi/L. The MCL of 20 pCi/L was exceeded in 2007, and spiked back up to 20 pCi/L in 2014.



III. The N. Washington Domestic Well

A. Summary of Construction Specifications

1. The well was drilled to a completed depth of 262 feet.
2. A bentonite annular seal was installed down to 24ft.
3. The rest of the annular material is 6x12 filter pack.
4. Perforations were installed between 241-257 feet.

B. Summary of Water Quality Screening

1. The well was screened for possible contaminants on 05/08/2018.
2. Uranium was found at levels above the MCL.
3. Nitrate was found at levels above the MCL.

C. Analysis

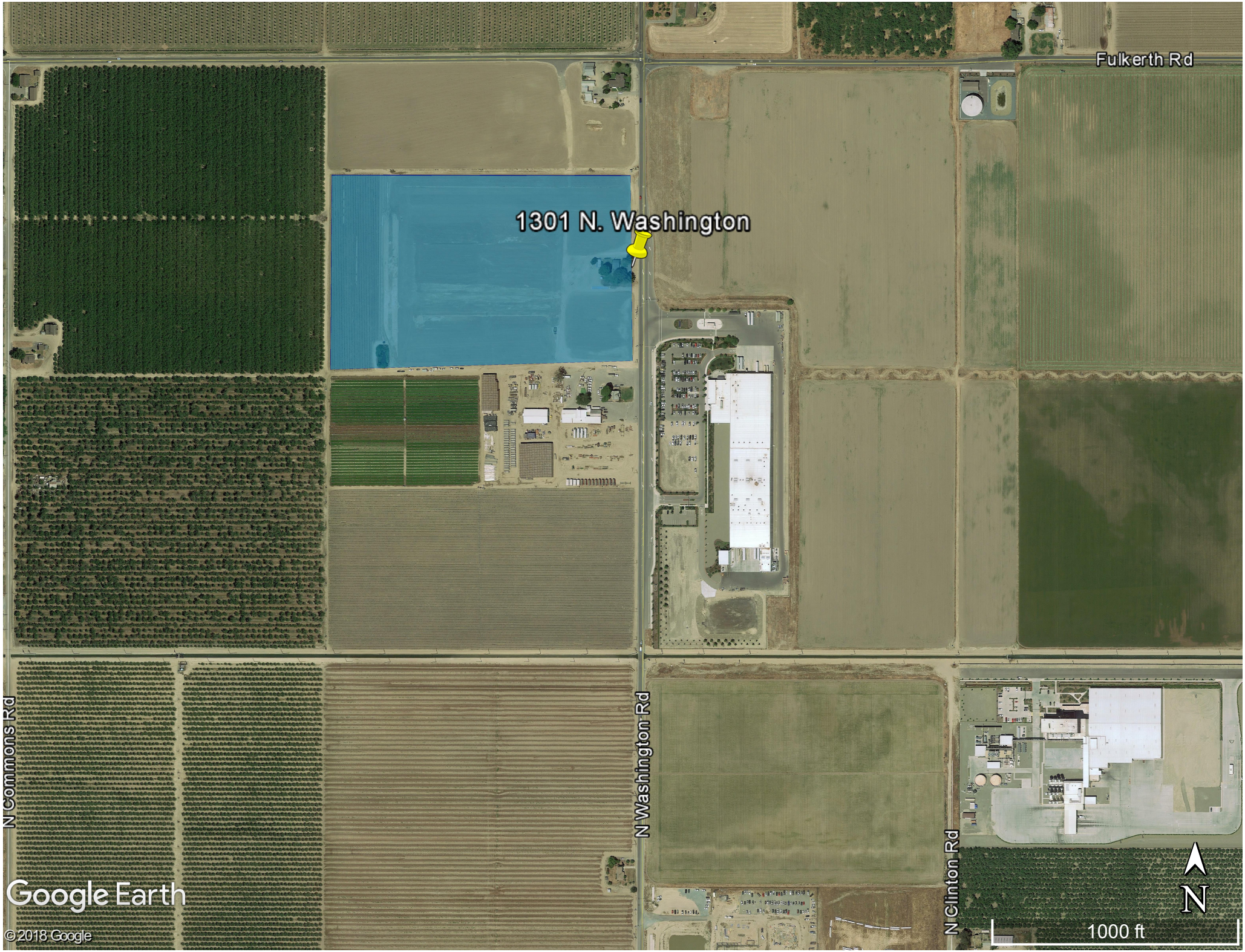
- Based on the data presented herein, the current domestic well is likely drawing water from aquifers under the influence of anthropogenic (related to human activity) contamination in the first two aquifer zones. This could help to explain both the nitrate and uranium levels.
- It is possible that Arsenic levels will remain elevated in a new well installation, as its presence is unpredictable. However, the evidence seems to suggest that there are construction methodologies that might aid in mitigating its presence.

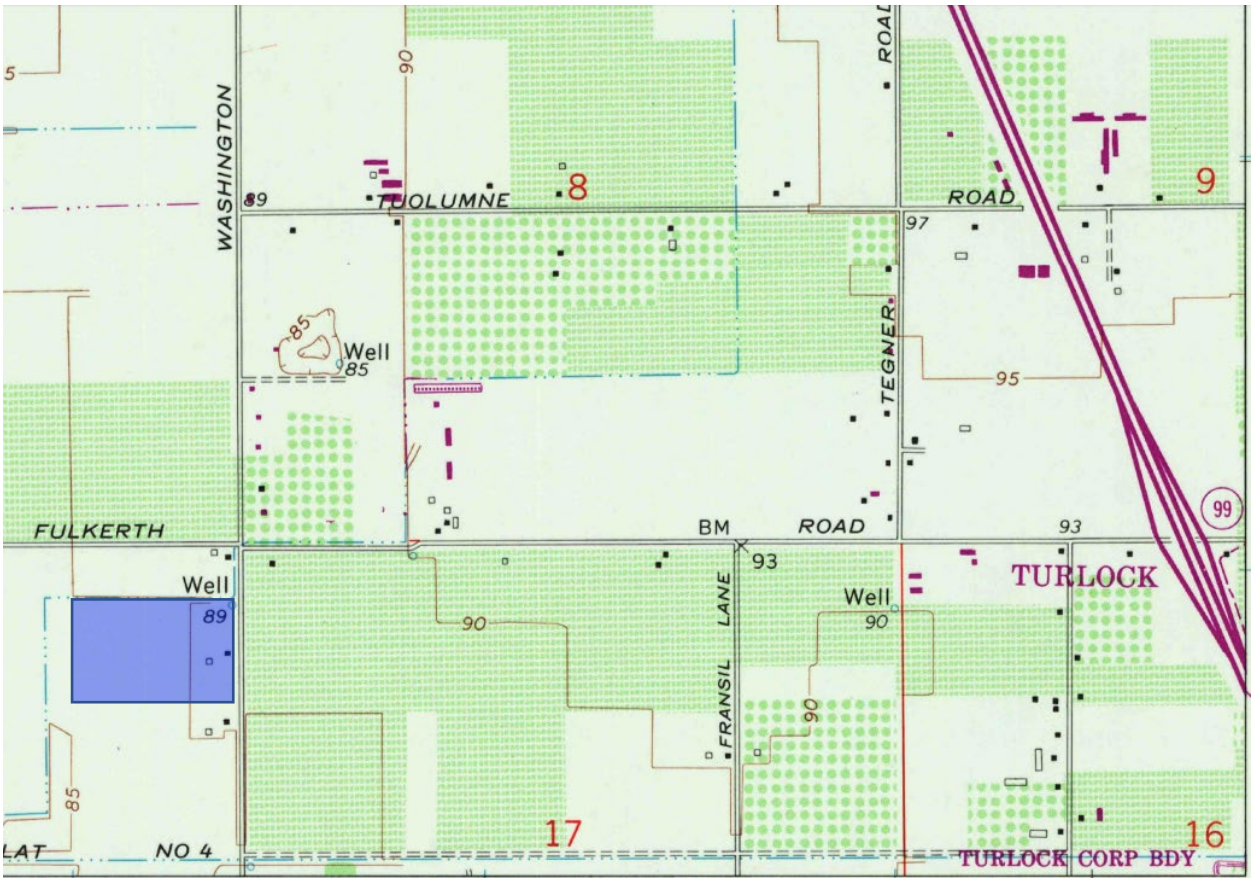
IV. Recommendations

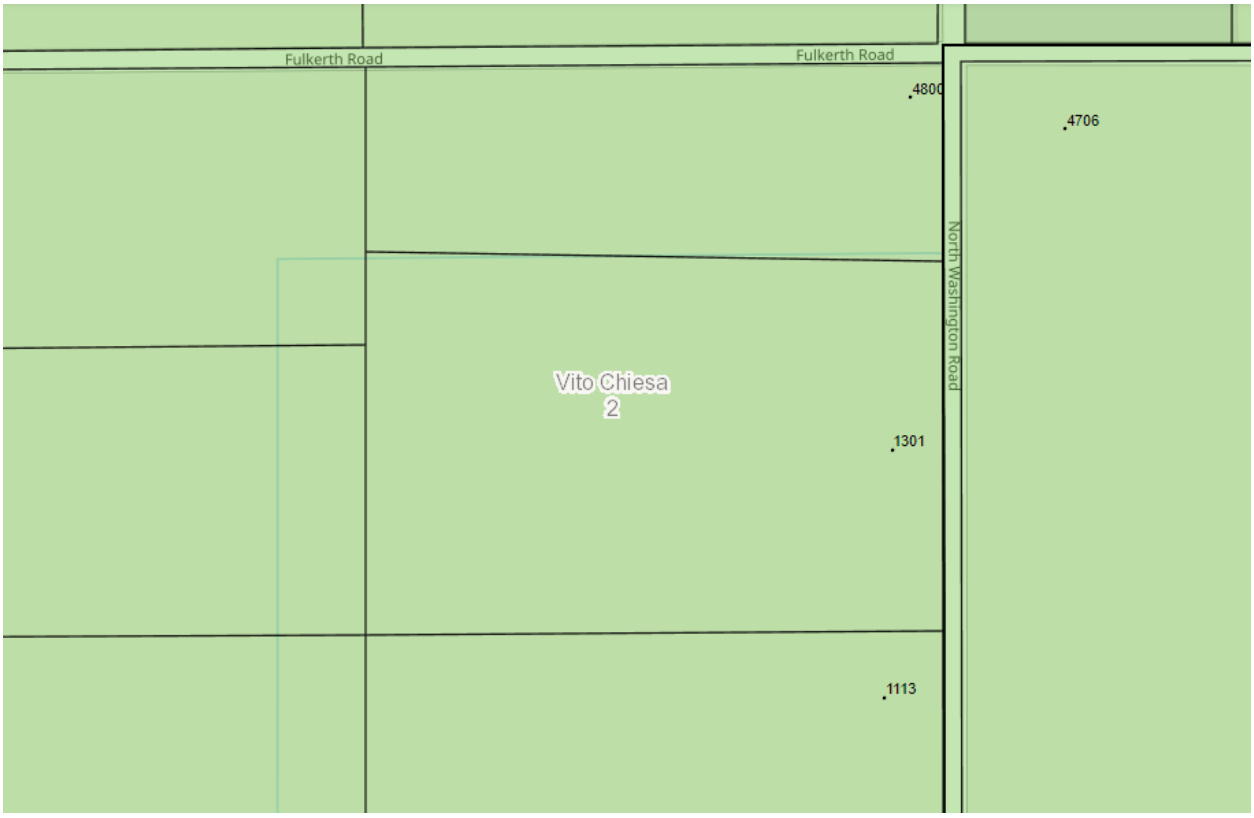
- What this evidence demonstrates is that, *with careful consideration given during design and construction*, a new well on the property could feasibly yield water that meets Title 22 standards. Nitrates were not over the state limit for public water wells within a mile or so of the property, Arsenic was high (sometimes over the MCL) but might be mitigated by avoiding certain geological features, and Uranium seems to be a rare occurrence in the area.
- Obviously, it would be an ideal scenario for the client to annex with the City of Turlock. If this cannot be arranged, then we recommend drilling a new well on the site (you might consider zone testing before/during drilling) by a company familiar with the local hydrogeology and experienced with regulations for public water systems. If a new well yields water that still doesn't meet water quality standards, then it could still be feasible to install equipment to treat the water. For example, the water might come back with a single constituent over the MCL (as opposed to several dissimilar ones). This might simplify the complexity of treating the water, and therefore keep costs within a manageable range for the project – it just depends on what is present.
- As such, it is our recommendation that your next step be to install a new well, keeping the goal of improved water quality in mind during the design phase. We'd happy to continue lending our assistance you if you'd like to proceed down this path. Just give us a call!

Attachment B:

Proposed Service Area


1301 N. Washington
Fulkerth Rd
N Commons Rd
N Washington Rd
N Clinton Rd
Google Earth
© 2018 Google
N
1000 ft


WASHINGTON
TUOLUMNE
8
9
ROAD
97
95
TEGNER
Well
85
FULKERTH
BM
ROAD
93
99
TURLOCK
Well
89
90
FRANSIL LANE
Well
90
17
16
NO 4
TURLOCK CORP BDY


Fulkerth Road
Fulkerth Road
4800
4706
North Washington Road
Vito Chiesa
2
1301
1113

Attachment C:

Letter From Office of the City Engineer

RE: Will Serve Letter

CITY OF TURLOCK INC. 1908

OFFICE OF THE CITY ENGINEER

DEVELOPMENT SERVICES

million acts of kindness

156 S. BROADWAY, SUITE 150 | TURLOCK, CALIFORNIA 95380 | PHONE (209)668-5520 | FAX (209)668-5563 | TDD (800)735-2929

August 13, 2018

Dan Avila
2718 Roberts Rd.
Ceres, CA 95307

RE: Request for Will Serve Letter and Out of Boundary Service Agreement with the City of Turlock to provide utility services to 1301 N Washington Road, APN: 023-039-017-000

Dear Mr. Avila,

The City of Turlock is in receipt of your request for the City of Turlock to provide out-of-boundary water services to your proposed development at the aforementioned property located outside the City limits. Since 2009, when the City received the first referral for the proposed project at 1301 N Washington Road the City has consistently expressed concerns about the proposed land use. The City questioned the appropriateness of the development on a property under the Williamson Act and raised concerns that the project could set a precedent for other similar developments on adjacent properties thereby contributing to the loss of prime farmland, increased traffic, worsening air quality, increased greenhouse gas emissions, and increased noise within the area.

The type and scale of this development is more appropriately located in urbanized areas that have been planned for such impacts and have the necessary infrastructure and public services to serve the demand. The proposed project was approved by the County with the expectation that the City would not provide water service, and the City has not planned to provide water to the property. If the necessary services cannot be provided on-site then the CEQA findings and the subsequent approval granted by Stanislaus County may need to be re-examined.

In rare instances the City of Turlock has provided out-of-boundary water connections to existing developments with health and safety concerns. However; this out-of-boundary connection would facilitate new development outside the City limits, outside the sphere of influence and outside of the General Plan study area and would be contrary to General Plan Policies.

In addition, in an effort to determine the feasibility of providing the requested water services, City staff have evaluated the current condition and capacity of the City's water system and reviewed the following documents submitted to the City related to the existing condition of the domestic well on the property and the potential for the construction of a new well:

1. Letter from Keven Jones of Quality Service, Inc., No Date, received June 20, 2018, reporting chemical test results from the existing domestic well on said property
2. Letter from Bruce H. Burton of the State Water Resources Control Board, dated July 2, 2018
3. Letter from Keven E. Jones of Water Quality, Inc., dated July 19, 2018
4. Water Quality and Well Construction Study by Water Quality, Inc. dated July 19, 2018

5. Email message from Elwyn V. Heinen of Advanced Design Group, Inc. dated July 25, 2018, reporting calculated and estimated water demands for the proposed development

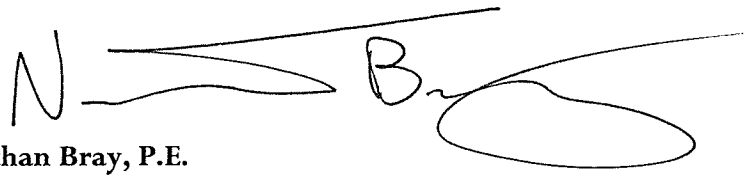
The submitted documents do not preclude the possibility or feasibility of the applicant installing a new well on the property to serve a public water system. Documents 1 and 2 refer to the infeasibility of the existing residential well as the water source for a public water system. Documents 3 and 4 relate to each other and affirm through data on nearby existing wells that suggests a new well on the property could serve as the source for a new public water system. Finally, document 5 provides estimated and calculated water demand information for the proposed development.

For informational purposes, the City's water supply has been severely reduced over the last several years (we have lost 6 wells from production in 4 years) and we are struggling to keep minimum pressures throughout the system. Currently, the City is in Stage 2 of our mandatory water conservation program and has implemented measures to limit water usage throughout the City.

The City's priority and obligation is to ensure we can continue to meet the demand for our current customers as well as to meet the needs of any new development within the City limits that has been planned for and analyzed in the General Plan and in the Urban Water Management Plan. Therefore, at this time staff is not in support of providing the proposed use with City water and has not planned to serve the property with City Water. Lastly, since the information provided does not preclude or prohibit the possibility or feasibility of constructing a new well on the property to serve as a public water system, the City recommends that you investigate the installation of a new well.

If you have any questions, I can be reached at NBray@turlock.ca.us or (209)668-2096.

Sincerely,



Nathan Bray, P.E.
Interim Development Services Director / City Engineer

Attachment D:

Engineer's Flow Calculations

Keven Jones

From: Advanced Design Group, Inc. <adgi@att.net>
Sent: Wednesday, July 25, 2018 9:00 AM
To: aorosco@turlock.ca.us
Cc: watermelonsrus@aol.com; Tom McCoy; Keven Jones
Subject: 1301 Washington Ave., Turlock

Email; July 25, 2018

City of Turlock
Municipal Services
Engineering Division
156 S. Broadway, Suite 150
Turlock, CA 95380
(209) 668-5520 Fax; (209) 668-5563

Project:

Title: __**Project's Permit Review**
Owner: ___Avila Dan J & Lori L____
Jobsite: ___1301 Washington Ave., Turlock, CA__
Assessor's Parcel: __Bk 023, Pg 039, Parcel 017
Jurisdiction: _Stanislaus County, **PLN2012-0017 / PLN2017-0141 / PLN2018-0056**
ADG's Project No. 18024

Attn: Mr. Anthony Orosco, 209 668 5599 ext 4486 aorosco@turlock.ca.us

This letter is to address/clarify/confirm several items of concern with respect to the design of the above project.

1. With regard to a response to your email directly below, please note the following;
   a. Just confirmed with the landscape architect that the maximum per day will be 90 gallons during irrigation days.
   b. Reconfirming 07/23/18 phone conversation with Mr. Dan Avila; for the project's process water demand go with 2000gals / day during processing days.
   c. The project is based upon 75 employees at 20gal/day usage is 1,500gallons during harvest schedule.
   d. Fire usage would be for emergency usage which we would address as not applicable, or we feel that you probably have a better number yourself to utilize to represent fire usage since you represent a water service.

2. Our calculations of the project's total water demand is as follows;
   a. Landscape; 90 gals.
   b. Processing; 2,000gals.
   c. Domestic; 1,500gals.
   d. Fire; 0gals.
   Total maximum water demand per day = 3,590gals.

3. Our estimate of the project's total annual water demand is as follows;
   a. Landscape; 16,500gals.
   b. Processing; 365,000gals.
   c. Domestic; 273,000gals.
   d. Fire; 0gals.
   Total maximum water demand per year = 654,500gals.

Attachment E:

Extended Budget Projection – New Well

FIVE YEAR BUDGET PROJECTION **(Formation of a Public Groundwater System - No Treatment)**

Noncommunity Water System INFLATION FACTOR (%) - 3.0

System Name: PWS I.D. Number: N/A

Avila & Sons Public Water System

LINE	EXPENSES	5-Year Budget Projection					15-Year Extended Budget Projection															20-YEAR TOTALS
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	
1	OPERATIONS & MAINTENANCE																					
2	Salaries and benefits	15200.00	15656.00	16125.68	16609.45	17107.73	17620.97	18149.59	18694.08	19254.91	19832.55	20427.53	21040.35	21671.57	22321.71	22991.36	23681.10	24391.54	25123.28	25876.98	26653.29	**408429.69**
3	Contract operation and maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
4	Power and other utilities	1500.00	1545.00	1591.35	1639.09	1688.26	1738.91	1791.08	1844.81	1900.16	1957.16	2015.87	2076.35	2138.64	2202.80	2268.88	2336.95	2407.06	2479.27	2553.65	2630.26	**40305.56**
5	Fees	1542.00	1588.26	1635.91	1684.99	1735.53	1787.60	1841.23	1896.47	1953.36	2011.96	2072.32	2134.49	2198.52	2264.48	2332.41	2402.39	2474.46	2548.69	2625.15	2703.91	**41434.12**
6	Treatment chemicals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
7	Coliform monitoring	1500.00	1545.00	1591.35	1639.09	1688.26	1738.91	1791.08	1844.81	1900.16	1957.16	2015.87	2076.35	2138.64	2202.80	2268.88	2336.95	2407.06	2479.27	2553.65	2630.26	**40305.56**
8	Chemical monitoring	500.00	515.00	530.45	546.36	562.75	579.64	597.03	614.94	633.39	652.39	671.96	692.12	712.88	734.27	756.29	778.98	802.35	826.42	851.22	876.75	**13435.19**
9	Transportation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
10	Materials, supplies, and parts	500.00	515.00	530.45	546.36	562.75	579.64	597.03	614.94	633.39	652.39	671.96	692.12	712.88	734.27	756.29	778.98	802.35	826.42	851.22	876.75	**13435.19**
11	Miscellaneous	350.00	360.50	371.32	382.45	393.93	405.75	417.92	430.46	443.37	456.67	470.37	484.48	499.02	513.99	529.41	545.29	561.65	578.50	595.85	613.73	**9404.63**
12	Up-Front & 3-Year Chemical Monitoring	3025.00	0.00	0.00	2000.00	0.00	0.00	0.00	2100.00	0.00	0.00	0.00	2200.00	0.00	0.00	0.00	2300.00	0.00	0.00	0.00	2400.00	**14025.00**
13	Source Capacity Test	2800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**2800.00**
14	Construction Project Permitting	20000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**20000.00**
15	New Well Construction	50000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**50000.00**
16	Distribution System Construction	43300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**43300.00**
17	Backup Generator (32kW)	15000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**15000.00**
18	Total Operation and Maintenance	$155,217.00	$21,724.76	$22,376.50	$25,047.80	$23,739.23	$24,451.41	$25,184.95	$28,040.50	$26,718.71	$27,520.28	$28,345.88	$31,396.26	$30,072.15	$30,974.31	$31,903.54	$35,160.65	$33,846.47	$34,861.86	$35,907.72	$39,384.95	**$711,874.94**
19																						**0.00**
20	GENERAL & ADMINISTRATIVE																					**0.00**
21	Engineering and professional services	750.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**750.00**
22	Depreciation and amortization	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
23	CIP Reserve (from Sheet 2, Column J Total)	5883.45	6059.95	6241.75	6429.00	6621.87	6820.53	7025.15	7235.90	7452.98	7676.57	7906.86	8144.07	8388.39	8640.04	8899.25	9166.22	9441.21	9724.45	10016.18	10316.67	**158090.50**
24	Insurance	2400.00	2472.00	2546.16	2622.54	2701.22	2782.26	2865.73	2951.70	3040.25	3131.46	3225.40	3322.16	3421.83	3524.48	3630.22	3739.12	3851.30	3966.83	4085.84	4208.41	**64488.90**
25		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
26		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
27	Total General and Administrative	$9,033.45	$8,531.95	$8,787.91	$9,051.55	$9,323.10	$9,602.79	$9,890.87	$10,187.60	$10,493.23	$10,808.02	$11,132.26	$11,466.23	$11,810.22	$12,164.53	$12,529.46	$12,905.35	$13,292.51	$13,691.28	$14,102.02	$14,525.08	**$223,329.40**
28																						**0.00**
29	TOTAL EXPENSES	$164,250.45	$30,256.71	$31,164.41	$34,099.35	$33,062.33	$34,054.20	$35,075.82	$38,228.10	$37,211.94	$38,328.30	$39,478.15	$42,862.49	$41,882.37	$43,138.84	$44,433.00	$48,065.99	$47,138.97	$48,553.14	$50,009.74	$53,910.03	**$935,204.34**

Report Prepared by: Kevan Lorey Date: 07/16/2019

Title: Compliance Specialist / Grade T2 & D2 Operator

SIMPLIFIED CAPITAL IMPROVEMENT PLAN

Date: 10/3/2018
System ID No.: N/A
System Name: Avila & Sons PWS
Service Connections: 1

*Enter information only in shaded cells

QTY	COMPONENT		UNIT COST	INSTALLED COST	AVG LIFE, YEARS	ANNUAL RESERVE	MONTHLY RESERVE	MONTHLY RESERVE PER CUSTOMER
	Drilled Well, 6", steel casing	Depth:	80	0	25	0.00	0.00	0.00
1	Drilled Well, 8", steel casing	Depth: 480	100	48000	30	1600.00	133.33	133.33
	Drilled Well, 12", steel casing	Depth:	200	0	25	0.00	0.00	0.00
1	Wellhead Electrical Controls		1500	1500	25	60.00	5.00	5.00
1	Submersible Pump, 10 HP		12000	12000	7	1714.29	142.86	142.86
	Submersible Pump, 3 HP		2000	0	7	0.00	0.00	0.00
	Submersible Pump, 5 HP		3500	0	7	0.00	0.00	0.00
	Booster Pump Station, 1.5 HP, complete		1300	0	5	0.00	0.00	0.00
	Booster Pump Station Electrical Controls		500	0	5	0.00	0.00	0.00
1	Pressure Tank	Gallons: 5000	2.5	12500	30	416.67	34.72	34.72
	Pressure Tank	Gallons:	1.5	0	10	0.00	0.00	0.00
	Storage Tank, Plastic	Gallons:	0.5	0	10	0.00	0.00	0.00
	Storage Tank, Redwood	Gallons:	1.3	0	40	0.00	0.00	0.00
	Storage Tank, Redwood	Gallons:	1.3	0	40	0.00	0.00	0.00
	Storage Tank, Steel	Gallons:	1.2	0	50	0.00	0.00	0.00
	Storage Tank, Steel	Gallons:	1.2	0	50	0.00	0.00	0.00
	Storage Tank, Steel	Gallons:	1.2	0	50	0.00	0.00	0.00
	Storage Tank, Concrete	Gallons:	1.5	0	80	0.00	0.00	0.00
1	Master Meter, 2"		2500	2500	5	500.00	41.67	41.67
	Master Meter, 3"			0	10	0.00	0.00	0.00
	Master Meter, 4"			0	10	0.00	0.00	0.00
	Hypochlorinator w/ Tank & Pump, Complete		800	0	10	0.00	0.00	0.00
	Pipe w/ sand bedding, 1" (Enter linear feet for quantity)		30	0	50	0.00	0.00	0.00
250	Pipe w/ sand bedding, 2" (Enter linear feet for quantity)		35	8750	50	175.00	14.58	14.58
	Pipe w/ sand bedding, 6" (Enter linear feet for quantity)		60	0	50	0.00	0.00	0.00
	Pipe w/ sand bedding, 8" (Enter linear feet for quantity)		45	0	50	0.00	0.00	0.00
	Pipe w/ sand bedding, 6" (Enter linear feet for quantity)		60	0	50	0.00	0.00	0.00
	Standpipe Hydrant, 1-1/2"		700	0	20	0.00	0.00	0.00
	Standpipe Hydrant		5000	0	20	0.00	0.00	0.00
3	Service Connections		1000	3000	20	150.00	12.50	12.50
2	Distribution Valve, 2"		150	300	10	30.00	2.50	2.50
2	RPP Backflow Device, 2"		1500	3000	10	300.00	25.00	25.00
	Distribution Valve, 8"		1200	0	20	0.00	0.00	0.00
	Distribution Valve		600	0	20	0.00	0.00	0.00
2	Air & Vacuum Relief Valve, Typical		375	750	20	37.50	3.13	3.13
1	Backup Generator		18000	18000	20	900.00	75.00	75.00
	TOTALS:			$110,300.00		$5,883.45	$490.29	$490.29

Report Prepared by (Title): _____ Date: 07/16/2019

NOTE: Installed costs are averages, and include all materials and contracted labor and equipment.

Attachment F:

Extended Budget Projection –

Well and Arsenic Treatment

FIVE YEAR BUDGET PROJECTION **(Formation of a Public Groundwater System With Arsenic Treatment)**

Noncommunity Water System INFLATION FACTOR (%) - 3.0

System Name: PWS I.D. Number: N/A

Avila & Sons Public Water System

LINE	EXPENSES	5-Year Budget Projection					15-Year Extended Budget Projection															*20-YEAR TOTALS*
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	
1	OPERATIONS & MAINTENANCE																					
2	Salaries and benefits	15200.00	15656.00	16125.68	16609.45	17107.73	17620.97	18149.59	18694.08	19254.91	19832.55	20427.53	21040.35	21671.57	22321.71	22991.36	23681.10	24391.54	25123.28	25876.98	26653.29	**408429.69**
3	Contract operation and maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
4	Power and other utilities	1500.00	1545.00	1591.35	1639.09	1688.26	1738.91	1791.08	1844.81	1900.16	1957.16	2015.87	2076.35	2138.64	2202.80	2268.88	2336.95	2407.06	2479.27	2553.65	2630.26	**40305.56**
5	Fees	1542.00	1588.26	1635.91	1684.99	1735.53	1787.60	1841.23	1896.47	1953.36	2011.96	2072.32	2134.49	2198.52	2264.48	2332.41	2402.39	2474.46	2548.69	2625.15	2703.91	**41434.12**
6	Treatment chemicals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
7	Coliform monitoring	1500.00	1545.00	1591.35	1639.09	1688.26	1738.91	1791.08	1844.81	1900.16	1957.16	2015.87	2076.35	2138.64	2202.80	2268.88	2336.95	2407.06	2479.27	2553.65	2630.26	**40305.56**
8	Chemical monitoring	1000.00	1030.00	1060.90	1092.73	1125.51	1159.27	1194.05	1229.87	1266.77	1304.77	1343.92	1384.23	1425.76	1468.53	1512.59	1557.97	1604.71	1652.85	1702.43	1753.51	**26870.37**
9	Transportation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
10	Materials, supplies, and parts	500.00	515.00	530.45	546.36	562.75	579.64	597.03	614.94	633.39	652.39	671.96	692.12	712.88	734.27	756.29	778.98	802.35	826.42	851.22	876.75	**13435.19**
11	Miscellaneous	350.00	360.50	371.32	382.45	393.93	405.75	417.92	430.46	443.37	456.67	470.37	484.48	499.02	513.99	529.41	545.29	561.65	578.50	595.85	613.73	**9404.63**
12	Up-Front & 3-Year Chemical Monitoring	3025.00	0.00	0.00	2000.00	0.00	0.00	0.00	2100.00	0.00	0.00	0.00	2200.00	0.00	0.00	0.00	2300.00	0.00	0.00	0.00	2400.00	**14025.00**
13	Source Capacity Test	2800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**2800.00**
14	Distribution System Permitting	10000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
15	New Well Construction	50000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**50000.00**
16	Distribution System Construction	43300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**43300.00**
17	Backup Generator (38kW)	15000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**15000.00**
18	Up-Front Cost of Arsenic Treatment	160000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**160000.00**
19	3-Year Arsenic Media Exchange		0.00	0.00	0.00	0.00	22000.00	0.00	0.00	0.00	0.00	23000.00	0.00	0.00	0.00	0.00	24000.00	0.00	0.00	0.00	0.00	**69000.00**
20	Total Operation and Maintenance	$305,717.00	$22,239.76	$22,906.95	$25,594.16	$24,301.99	$47,031.05	$25,781.98	$28,655.44	$27,352.10	$28,172.66	$52,017.84	$32,088.38	$30,785.03	$31,708.58	$32,659.84	$59,939.63	$34,648.82	$35,688.29	$36,758.93	$40,261.70	**$944,310.13**
21																						**0.00**
22	GENERAL & ADMINISTRATIVE																					**0.00**
23	Engineering and professional services	750.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**750.00**
24	Depreciation and amortization	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
25	CIP Reserve (from Sheet 2, Column J Total)	9083.00	9355.49	9636.15	9925.24	10223.00	10529.69	10845.58	11170.94	11506.07	11851.25	12206.79	12573.00	12950.19	13338.69	13738.85	14151.02	14575.55	15012.82	15463.20	15927.10	**244063.61**
26	Insurance	2400.00	2472.00	2546.16	2622.54	2701.22	2782.26	2865.73	2951.70	3040.25	3131.46	3225.40	3322.16	3421.83	3524.48	3630.22	3739.12	3851.30	3966.83	4085.84	4208.41	**64488.90**
27		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
28		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
29	Total General and Administrative	$12,233.00	$11,827.49	$12,182.31	$12,547.78	$12,924.22	$13,311.94	$13,711.30	$14,122.64	$14,546.32	$14,982.71	$15,432.19	$15,895.16	$16,372.01	$16,863.17	$17,369.07	$17,890.14	$18,426.84	$18,979.65	$19,549.04	$20,135.51	**$309,302.51**
30																						**0.00**
31	TOTAL EXPENSES	$317,950.00	$34,067.25	$35,089.27	$38,141.95	$37,226.20	$60,342.99	$39,493.28	$42,778.08	$41,898.42	$43,155.37	$67,450.03	$47,983.54	$47,157.04	$48,571.75	$50,028.91	$77,829.77	$53,075.67	$54,667.94	$56,307.97	$60,397.21	**$1,253,612.64**

Report Prepared by: Kevan Lacey Date: 07/16/2019

Title: Compliance Specialist / Grade T2 & D2 Operator

SIMPLIFIED CAPITAL IMPROVEMENT PLAN

Date: 10/3/2018
System ID No.: N/A
System Name: Avila & Sons PWS
Service Connections: 1

*Enter information only in shaded cells

QTY	COMPONENT		UNIT COST	INSTALLED COST	AVG LIFE, YEARS	ANNUAL RESERVE	MONTHLY RESERVE	MONTHLY RESERVE PER CUSTOMER
	Drilled Well, 6", steel casing	Depth:	80	0	25	0.00	0.00	0.00
1	Drilled Well, 8", steel casing	Depth: 480	100	48000	30	1600.00	133.33	133.33
	Drilled Well, 12", steel casing	Depth:	200	0	25	0.00	0.00	0.00
1	Wellhead Electrical Controls		1500	1500	25	60.00	5.00	5.00
1	Submersible Pump, 10 HP		12000	12000	7	1714.29	142.86	142.86
	Submersible Pump, 3 HP		2000	0	7	0.00	0.00	0.00
	Submersible Pump, 5 HP		3500	0	7	0.00	0.00	0.00
	Booster Pump Station, 1.5 HP, complete		1300	0	5	0.00	0.00	0.00
	Booster Pump Station Electrical Controls		500	0	5	0.00	0.00	0.00
1	Pressure Tank	Gallons: 5000	2.5	12500	30	416.67	34.72	34.72
	Pressure Tank	Gallons:	1.5	0	10	0.00	0.00	0.00
	Storage Tank, Plastic	Gallons:	0.5	0	10	0.00	0.00	0.00
	Storage Tank, Redwood	Gallons:	1.3	0	40	0.00	0.00	0.00
	Storage Tank, Redwood	Gallons:	1.3	0	40	0.00	0.00	0.00
	Storage Tank, Steel	Gallons:	1.2	0	50	0.00	0.00	0.00
	Storage Tank, Steel	Gallons:	1.2	0	50	0.00	0.00	0.00
	Storage Tank, Steel	Gallons:	1.2	0	50	0.00	0.00	0.00
	Storage Tank, Concrete	Gallons:	1.5	0	80	0.00	0.00	0.00
1	Master Meter, 2"		2500	2500	5	500.00	41.67	41.67
	Master Meter, 3"			0	10	0.00	0.00	0.00
	Master Meter, 4"			0	10	0.00	0.00	0.00
	Hypochlorinator w/ Tank & Pump, Complete		800	0	10	0.00	0.00	0.00
	Pipe w/ sand bedding, 1" (Enter linear feet for quantity)		30	0	50	0.00	0.00	0.00
250	Pipe w/ sand bedding, 2" (Enter linear feet for quantity)		35	8750	50	175.00	14.58	14.58
	Pipe w/ sand bedding, 6" (Enter linear feet for quantity)		60	0	50	0.00	0.00	0.00
	Pipe w/ sand bedding, 8" (Enter linear feet for quantity)		45	0	50	0.00	0.00	0.00
	Pipe w/ sand bedding, 6" (Enter linear feet for quantity)		60	0	50	0.00	0.00	0.00
	Standpipe Hydrant, 1-1/2"		700	0	20	0.00	0.00	0.00
	Standpipe Hydrant		5000	0	20	0.00	0.00	0.00
3	Service Connections		1000	3000	20	150.00	12.50	12.50
2	Distribution Valve, 2"		150	300	10	30.00	2.50	2.50
2	RPP Backflow Device, 2"		1500	3000	10	300.00	25.00	25.00
	Distribution Valve, 8"		1200	0	20	0.00	0.00	0.00
	Distribution Valve		600	0	20	0.00	0.00	0.00
2	Air & Vacuum Relief Valve, Typical		375	750	20	37.50	3.13	3.13
1	Backup Generator		18000	18000	20	900.00	75.00	75.00
1	Arsenic Treatment Equipment		160,000	160000	50	3200	266.666667	266.67
	TOTALS:			$270,300.00		$9,083.45	$756.95	$490.29

Report Prepared by (Title): Kevin Long Date: 07/16/2019

NOTE: Installed costs are averages, and include all materials and contracted labor and equipment.

Attachment G:

Extended Budget Projection –

Arsenic, Nitrate and Uranium Treatment

FIVE YEAR BUDGET PROJECTION **(Formation of a Public Groundwater System With Treatment for Arsenic, Nitrate, and Uranium)**

Noncommunity Water System INFLATION FACTOR (%) - 3.0

System Name: PWS I.D. Number: N/A

Avila & Sons Public Water System

LINE	EXPENSES	5-Year Budget Projection					15-Year Extended Budget Projection															20-YEAR TOTALS
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	
1	OPERATIONS & MAINTENANCE																					
2	Salaries and benefits	15200.00	15656.00	16125.68	16609.45	17107.73	17620.97	18149.59	18694.08	19254.91	19832.55	20427.53	21040.35	21671.57	22321.71	22991.36	23681.10	24391.54	25123.28	25876.98	26653.29	**408429.69**
3	Contract operation and maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
4	Power and other utilities	1500.00	1545.00	1591.35	1639.09	1688.26	1738.91	1791.08	1844.81	1900.16	1957.16	2015.87	2076.35	2138.64	2202.80	2268.88	2336.95	2407.06	2479.27	2553.65	2630.26	**40305.56**
5	Fees	1542.00	1588.26	1635.91	1684.99	1735.53	1787.60	1841.23	1896.47	1953.36	2011.96	2072.32	2134.49	2198.52	2264.48	2332.41	2402.39	2474.46	2548.69	2625.15	2703.91	**41434.12**
6	Treatment chemicals	5000.00	5150.00	5304.50	5463.64	5627.54	5627.54	5627.54	5627.54	5627.54	5627.54	5627.54	5627.54	5627.54	5627.54	5627.54	5627.54	5627.54	5627.54	5627.54	5627.54	**110958.84**
7	Coliform monitoring	1500.00	1545.00	1591.35	1639.09	1688.26	1738.91	1791.08	1844.81	1900.16	1957.16	2015.87	2076.35	2138.64	2202.80	2268.88	2336.95	2407.06	2479.27	2553.65	2630.26	**40305.56**
8	Chemical monitoring	2000.00	2060.00	2121.80	2185.45	2251.02	2318.55	2388.10	2459.75	2533.54	2609.55	2687.83	2768.47	2851.52	2937.07	3025.18	3115.93	3209.41	3305.70	3404.87	3507.01	**53740.75**
9	Transportation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
10	Materials, supplies, and parts	500.00	515.00	530.45	546.36	562.75	579.64	597.03	614.94	633.39	652.39	671.96	692.12	712.88	734.27	756.29	778.98	802.35	826.42	851.22	876.75	**13435.19**
11	Miscellaneous	350.00	360.50	371.32	382.45	393.93	405.75	417.92	430.46	443.37	456.67	470.37	484.48	499.02	513.99	529.41	545.29	561.65	578.50	595.85	613.73	**9404.63**
12	Up-Front & 3-Year Chemical Monitoring	3025.00	0.00	0.00	2000.00	0.00	0.00	0.00	2100.00	0.00	0.00	0.00	2200.00	0.00	0.00	0.00	2300.00	0.00	0.00	0.00	2400.00	**14025.00**
13	Source Capacity Test	2800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**2800.00**
14	Distribution System Permitting	10000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**10000.00**
15	New Well Construction	50000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**50000.00**
16	Distribution System Construction	43300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**43300.00**
17	Backup Generator (38kW)	15000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**15000.00**
18	Up-Front Cost of Multi-Contaminant Treat.	250000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**250000.00**
19	3-Year Anion Resin Media Exchange	0.00	0.00	0.00	40000.00	0.00	0.00	0.00	41200.00	0.00	0.00	0.00	42400.00	0.00	0.00	0.00	43600.00	0.00	0.00	0.00	44800.00	**212000.00**
20	Total Operation and Maintenance	$401,717.00	$28,419.76	$29,272.35	$72,150.52	$31,055.04	$31,817.86	$32,603.57	$76,712.85	$34,246.41	$35,104.98	$35,989.30	$81,500.16	$37,838.33	$38,804.66	$39,799.97	$86,725.14	$41,881.07	$42,968.68	$44,088.91	$41,600.00	**$1,264,296.59**
21																						**0.00**
22	GENERAL & ADMINISTRATIVE																					**0.00**
23	Engineering and professional services	750.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**750.00**
24	Depreciation and amortization	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
25	CIP Reserve (from Sheet 2, Column J Total)	10883.45	11209.95	11546.25	11892.64	12249.42	12616.90	12995.41	13385.27	13786.83	14200.43	14626.45	15065.24	15517.20	15982.71	16462.19	16956.06	17464.74	17988.68	18528.35	19084.20	**292442.38**
26	Insurance	2400.00	2472.00	2546.16	2622.54	2701.22	2782.26	2865.73	2951.70	3040.25	3131.46	3225.40	3322.16	3421.83	3524.48	3630.22	3739.12	3851.30	3966.83	4085.84	4208.41	**64488.90**
27		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
28		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
29	Total General and Administrative	$14,033.45	$13,681.95	$14,092.41	$14,515.18	$14,950.64	$15,399.16	$15,861.13	$16,336.97	$16,827.08	$17,331.89	$17,851.85	$18,387.40	$18,939.02	$19,507.19	$20,092.41	$20,695.18	$21,316.04	$21,955.52	$22,614.18	$23,292.61	**$357,681.28**
30																						**0.00**
31	TOTAL EXPENSES	$415,750.45	$42,101.71	$43,364.76	$86,665.71	$46,005.68	$47,217.02	$48,464.71	$93,049.82	$51,073.49	$52,436.87	$53,841.15	$99,887.56	$56,777.36	$58,311.85	$59,892.38	$107,420.33	$63,197.11	$64,924.20	$66,703.10	$64,892.61	**$1,621,977.86**

Report Prepared by: Kevan Lacey Date: 07/16/2019

Title: Compliance Specialist / Grade T2 & D2 Operator

SIMPLIFIED CAPITAL IMPROVEMENT PLAN

Date: 10/3/2018
System ID No.: N/A
System Name: Avila & Sons PWS
Service Connections: 1

*Enter information only in shaded cells

QTY	COMPONENT		UNIT COST	INSTALLED COST	AVG LIFE, YEARS	ANNUAL RESERVE	MONTHLY RESERVE	MONTHLY RESERVE PER CUSTOMER
	Drilled Well, 6", steel casing	Depth:	80	0	25	0.00	0.00	0.00
1	Drilled Well, 8", steel casing	Depth: 480	100	48000	30	1600.00	133.33	133.33
	Drilled Well, 12", steel casing	Depth:	200	0	25	0.00	0.00	0.00
1	Wellhead Electrical Controls		1500	1500	25	60.00	5.00	5.00
1	Submersible Pump, 10 HP		12000	12000	7	1714.29	142.86	142.86
	Submersible Pump, 3 HP		2000	0	7	0.00	0.00	0.00
	Submersible Pump, 5 HP		3500	0	7	0.00	0.00	0.00
	Booster Pump Station, 1.5 HP, complete		1300	0	5	0.00	0.00	0.00
	Booster Pump Station Electrical Controls		500	0	5	0.00	0.00	0.00
1	Pressure Tank	Gallons: 5000	2.5	12500	30	416.67	34.72	34.72
	Pressure Tank	Gallons:	1.5	0	10	0.00	0.00	0.00
	Storage Tank, Plastic	Gallons:	0.5	0	10	0.00	0.00	0.00
	Storage Tank, Redwood	Gallons:	1.3	0	40	0.00	0.00	0.00
	Storage Tank, Redwood	Gallons:	1.3	0	40	0.00	0.00	0.00
	Storage Tank, Steel	Gallons:	1.2	0	50	0.00	0.00	0.00
	Storage Tank, Steel	Gallons:	1.2	0	50	0.00	0.00	0.00
	Storage Tank, Steel	Gallons:	1.2	0	50	0.00	0.00	0.00
	Storage Tank, Concrete	Gallons:	1.5	0	80	0.00	0.00	0.00
1	Master Meter, 2"		2500	2500	5	500.00	41.67	41.67
	Master Meter, 3"			0	10	0.00	0.00	0.00
	Master Meter, 4"			0	10	0.00	0.00	0.00
	Hypochlorinator w/ Tank & Pump, Complete		800	0	10	0.00	0.00	0.00
	Pipe w/ sand bedding, 1" (Enter linear feet for quantity)		30	0	50	0.00	0.00	0.00
250	Pipe w/ sand bedding, 2" (Enter linear feet for quantity)		35	8750	50	175.00	14.58	14.58
	Pipe w/ sand bedding, 6" (Enter linear feet for quantity)		60	0	50	0.00	0.00	0.00
	Pipe w/ sand bedding, 8" (Enter linear feet for quantity)		45	0	50	0.00	0.00	0.00
	Pipe w/ sand bedding, 6" (Enter linear feet for quantity)		60	0	50	0.00	0.00	0.00
	Standpipe Hydrant, 1-1/2"		700	0	20	0.00	0.00	0.00
	Standpipe Hydrant		5000	0	20	0.00	0.00	0.00
3	Service Connections		1000	3000	20	150.00	12.50	12.50
2	Distribution Valve, 2"		150	300	10	30.00	2.50	2.50
2	RPP Backflow Device, 2"		1500	3000	10	300.00	25.00	25.00
	Distribution Valve, 8"		1200	0	20	0.00	0.00	0.00
	Distribution Valve		600	0	20	0.00	0.00	0.00
2	Air & Vacuum Relief Valve, Typical		375	750	20	37.50	3.13	3.13
1	Backup Generator		18000	18000	20	900.00	75.00	75.00
1	Ion-Exchange Treatment Equipment		250,000	250000	50	5000	416.666667	416.67

TOTALS: $360,300.00 $10,883.45 $906.95 $490.29

Report Prepared by (Title): Kevin Avila Date: 07/16/2019

NOTE: Installed costs are averages, and include all materials and contracted labor and equipment.

Attachment H:

Extended Budget Projection – Consolidation

FIVE YEAR BUDGET PROJECTION **(Consolidation with 2" service connections)**

Noncommunity Water System INFLATION FACTOR (%) - 3.0

System Name: PWS I.D. Number: N/A

Avila & Sons Public Water System

LINE	EXPENSES	5-Year Budget Projection 2021	2022	2023	2024	2025	15-Year Extended Budget Projection 2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	*20-YEAR TOTALS*
1	OPERATIONS & MAINTENANCE																					
2	Salaries and benefits	15200.00	15656.00	16125.68	16609.45	17107.73	17620.97	18149.59	18694.08	19254.91	19832.55	20427.53	21040.35	21671.57	22321.71	22991.36	23681.10	24391.54	25123.28	25876.98	26653.29	**408429.69**
3	Contract operation and maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
4	Power and other utilities (Commodity Charge)	1415.18	1457.64	1501.36	1546.41	1592.80	1640.58	1689.80	1740.49	1792.71	1846.49	1901.88	1958.94	2017.71	2078.24	2140.59	2204.80	2270.95	2339.08	2409.25	2481.53	**38026.42**
5	Fees (Capacity & Customer Charge)	1807.80	1862.03	1917.90	1975.43	2034.69	2095.74	2158.61	2223.37	2290.07	2358.77	2429.53	2502.42	2577.49	2654.82	2734.46	2816.49	2900.99	2988.02	3077.66	3169.99	**48576.26**
6	Treatment chemicals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
7	Coliform monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
8	Chemical monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
9	Transportation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
10	Materials, supplies, and parts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
11	Miscellaneous	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
12	Up-Front Connection Fee (8" only)	8193.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**8193.00**
13	8" Connection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
14	Total Operation and Maintenance	$26,615.98	$18,975.67	$19,544.94	$20,131.29	$20,735.23	$21,357.28	$21,998.00	$22,657.94	$23,337.68	$24,037.81	$24,758.94	$25,501.71	$26,266.76	$27,054.77	$27,866.41	$28,702.40	$29,563.47	$30,450.38	$31,363.89	$32,304.81	**$503,225.37**
15																						**0.00**
16	GENERAL & ADMINISTRATIVE																					**0.00**
17	Engineering and professional services	750.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**750.00**
18	Depreciation and amortization	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
19	CIP Reserve (from Sheet 2, Column J Total)	355.00	365.65	376.62	387.92	399.56	411.54	423.89	436.61	449.70	463.19	477.09	491.40	506.15	521.33	536.97	553.08	569.67	586.76	604.36	622.49	**9538.98**
20	Insurance	2400.00	2472.00	2546.16	2622.54	2701.22	2782.26	2865.73	2951.70	3040.25	3131.46	3225.40	3322.16	3421.83	3524.48	3630.22	3739.12	3851.30	3966.83	4085.84	4208.41	**64488.90**
21			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
22			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
23	Total General and Administrative	$3,505.00	$2,837.65	$2,922.78	$3,010.46	$3,100.78	$3,193.80	$3,289.61	$3,388.30	$3,489.95	$3,594.65	$3,702.49	$3,813.56	$3,927.97	$4,045.81	$4,167.18	$4,292.20	$4,420.97	$4,553.60	$4,690.20	$4,830.91	**$74,777.88**
24																						**0.00**
25	TOTAL EXPENSES	$30,120.98	$21,813.32	$22,467.72	$23,141.75	$23,836.00	$24,551.08	$25,287.62	$26,046.24	$26,827.63	$27,632.46	$28,461.43	$29,315.28	$30,194.74	$31,100.58	$32,033.59	$32,994.60	$33,984.44	$35,003.97	$36,054.09	$37,135.72	**$578,003.25**

Report Prepared by: Kevan Lacy Date: 07/16/2019

Title: Compliance Specialist / Grade T2 & D2 Operator

SIMPLIFIED CAPITAL IMPROVEMENT PLAN

Date: 10/3/2018
System ID No.: N/A
System Name: Avila & Sons PWS
Service Connections: 1

*Enter information only in shaded cells

QTY	COMPONENT			UNIT COST	INSTALLED COST	AVG LIFE, YEARS	ANNUAL RESERVE	MONTHLY RESERVE	MONTHLY RESERVE PER CUSTOMER
	Drilled Well, 6", steel casing	Depth:		80	0	25	0.00	0.00	0.00
	Drilled Well, 8", steel casing	Depth:	0	130	0	30	0.00	0.00	0.00
	Drilled Well, 12", steel casing	Depth:		200	0	25	0.00	0.00	0.00
	Wellhead Electrical Controls			1500	0	25	0.00	0.00	0.00
	Submersible Pump, 10 HP			12000	0	7	0.00	0.00	0.00
	Submersible Pump, 3 HP			2000	0	7	0.00	0.00	0.00
	Submersible Pump, 5 HP			3500	0	7	0.00	0.00	0.00
	Booster Pump Station, 25 HP, complete			14000	0	5	0.00	0.00	0.00
	Booster Pump Station Electrical Controls			900	0	5	0.00	0.00	0.00
	Pressure Tank	Gallons:	1500	2.5	0	30	0.00	0.00	0.00
	Pressure Tank	Gallons:		1.5	0	10	0.00	0.00	0.00
	Storage Tank, Plastic	Gallons:		0.5	0	10	0.00	0.00	0.00
	Storage Tank, Redwood	Gallons:		1.3	0	40	0.00	0.00	0.00
	Storage Tank, Redwood	Gallons:		1.3	0	40	0.00	0.00	0.00
	Storage Tank, Steel	Gallons:	150000	1.2	0	50	0.00	0.00	0.00
	Storage Tank, Steel	Gallons:		1.2	0	50	0.00	0.00	0.00
	Storage Tank, Steel	Gallons:		1.2	0	50	0.00	0.00	0.00
	Storage Tank, Concrete	Gallons:		1.5	0	80	0.00	0.00	0.00
	Master Meter, 2"			2500	0	5	0.00	0.00	0.00
	Master Meter, 3"				0	10	0.00	0.00	0.00
	Master Meter, 4"				0	10	0.00	0.00	0.00
	Hypochlorinator w/ Tank & Pump, Complete			800	0	10	0.00	0.00	0.00
	Pipe w/ sand bedding, 1" (Enter linear feet for quantity)			30	0	50	0.00	0.00	0.00
250	Pipe w/ sand bedding, 2" (Enter linear feet for quantity)			35	8750	50	175.00	14.58	14.58
	Pipe w/ sand bedding, 6" (Enter linear feet for quantity)			60	0	50	0.00	0.00	0.00
	Pipe w/ sand bedding, 8" (Enter linear feet for quantity)			45	0	50	0.00	0.00	0.00
	Pipe w/ sand bedding, 6" (Enter linear feet for quantity)			60	0	50	0.00	0.00	0.00
	Standpipe Hydrant, 1-1/2"			700	0	20	0.00	0.00	0.00
	Standpipe Hydrant			5000	0	20	0.00	0.00	0.00
3	Service Connections			1000	3000	20	150.00	12.50	12.50
2	Distribution Valve, 2"			150	300	10	30.00	2.50	2.50
	Distribution Valve, 6"			600	0	10	0.00	0.00	0.00
	Distribution Valve, 8"			1200	0	20	0.00	0.00	0.00
	Distribution Valve			600	0	20	0.00	0.00	0.00
	Air & Vacuum Relief Valve, Typical			375	0	20	0.00	0.00	0.00
	TOTALS:				$12,050.00		$355.00	$29.58	$29.58

Report Prepared by (Title): Kevin Lopez Date: 07/16/2019

NOTE: Installed costs are averages, and include all materials and contracted labor and equipment.

Attachment I:

Extended Budget Projection – Consolidation (Rate Adjusted)

FIVE YEAR BUDGET PROJECTION

Noncommunity Water System

(Consolidation with 2" service connections - Adjusted for 16.6% rate increase, Dry weather Cond.)

INFLATION FACTOR (%) - 3.0

CITY's RATE INCREASE (%) 16.6

System Name: PWS I.D. Number: N/A

Avila & Sons Public Water System

		5-Year Budget Projection					15-Year Extended Budget Projection															20-YEAR TOTALS
LINE	EXPENSES	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	
1	OPERATIONS & MAINTENANCE																					
2	Salaries and benefits	15200.00	15656.00	16125.68	16609.45	17107.73	17620.97	18149.59	18694.08	19254.91	19832.55	20427.53	21040.35	21671.57	22321.71	22991.36	23681.10	24391.54	25123.28	25876.98	26653.29	**408429.69**
3	Contract operation and maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
4	Power and other utilities (Commodity charge)	3251.40	3791.13	4420.46	5154.26	6009.86	7007.50	8170.75	9527.09	11108.59	12952.61	15102.75	17609.80	20533.03	23941.51	27915.80	32549.82	37953.10	44253.31	51599.36	60164.85	**403016.98**
5	Fees (Capacity & Customer Charge)	1807.80	2107.89	2171.13	2531.54	2951.78	3441.77	4013.10	4679.28	5456.04	6361.74	6552.59	7640.32	8908.62	10387.45	10699.07	12475.12	14545.99	16960.62	19776.08	23058.91	**166526.86**
6	Treatment chemicals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
7	Coliform monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
8	Chemical monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
9	Transportation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
10	Materials, supplies, and parts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
11	Miscellaneous	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
12	Up-Front Connection Fee (2" only)	8193.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**8193.00**
13		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
14	Total Operation and Maintenance	$28,452.20	$21,555.03	$22,717.27	$24,295.25	$26,069.37	$28,070.24	$30,333.44	$32,900.45	$35,819.53	$39,146.91	$42,082.87	$46,290.48	$51,113.21	$56,650.67	$61,606.24	$68,706.05	$76,890.62	$86,337.22	$97,252.43	$109,877.06	**$986,166.53**
15																						**0.00**
16	GENERAL & ADMINISTRATIVE																					**0.00**
17	Engineering and professional services	750.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	**751.00**
18	Depreciation and amortization	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
19	CIP Reserve (from Sheet 2, Column J Total)	355.00	365.65	376.62	387.92	399.56	411.54	423.89	436.61	449.70	463.19	477.09	491.40	506.15	521.33	536.97	553.08	569.67	586.76	586.76	586.76	**9485.65**
20	Insurance	2400.00	2472.00	2546.16	2622.54	2701.22	2782.26	2865.73	2951.70	3040.25	3131.46	3225.40	3322.16	3421.83	3524.48	3630.22	3739.12	3851.30	3966.83	3966.83	3966.83	**64128.31**
21			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
22		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
23	Total General and Administrative	$3,505.00	$2,837.65	$2,922.78	$3,010.46	$3,100.78	$3,193.80	$3,289.61	$3,388.30	$3,489.95	$3,594.65	$3,702.49	$3,813.56	$3,927.97	$4,045.81	$4,167.18	$4,292.20	$4,420.97	$4,553.60	$4,553.60	$4,554.60	**$74,364.96**
24																						**0.00**
25	TOTAL EXPENSES	$31,957.20	$24,392.68	$25,640.05	$27,305.71	$29,170.15	$31,264.04	$33,623.06	$36,288.75	$39,309.48	$42,741.56	$45,785.36	$50,104.04	$55,041.18	$60,696.48	$65,773.42	$72,998.25	$81,311.59	$90,890.81	$101,806.02	$114,431.65	**$1,060,531.49**

Report Prepared by: Kevan Lopez

Date: 07/16/2019

Title: Compliance Specialist / Grade T2 & D2 Operator

SIMPLIFIED CAPITAL IMPROVEMENT PLAN

Date: 10/3/2018
System ID No.: N/A
System Name: Avila & Sons PWS
Service Connections: 1

*Enter information only in shaded cells

QTY	COMPONENT			UNIT COST	INSTALLED COST	AVG LIFE, YEARS	ANNUAL RESERVE	MONTHLY RESERVE	MONTHLY RESERVE PER CUSTOMER
	Drilled Well, 6", steel casing	Depth:		80	0	25	0.00	0.00	0.00
	Drilled Well, 8", steel casing	Depth:	0	130	0	30	0.00	0.00	0.00
	Drilled Well, 12", steel casing	Depth:		200	0	25	0.00	0.00	0.00
	Wellhead Electrical Controls			1500	0	25	0.00	0.00	0.00
	Submersible Pump, 10 HP			12000	0	7	0.00	0.00	0.00
	Submersible Pump, 3 HP			2000	0	7	0.00	0.00	0.00
	Submersible Pump, 5 HP			3500	0	7	0.00	0.00	0.00
	Booster Pump Station, 25 HP, complete			14000	0	5	0.00	0.00	0.00
	Booster Pump Station Electrical Controls			900	0	5	0.00	0.00	0.00
	Pressure Tank	Gallons:	1500	2.5	0	30	0.00	0.00	0.00
	Pressure Tank	Gallons:		1.5	0	10	0.00	0.00	0.00
	Storage Tank, Plastic	Gallons:		0.5	0	10	0.00	0.00	0.00
	Storage Tank, Redwood	Gallons:		1.3	0	40	0.00	0.00	0.00
	Storage Tank, Redwood	Gallons:		1.3	0	40	0.00	0.00	0.00
	Storage Tank, Steel	Gallons:	150000	1.2	0	50	0.00	0.00	0.00
	Storage Tank, Steel	Gallons:		1.2	0	50	0.00	0.00	0.00
	Storage Tank, Steel	Gallons:		1.2	0	50	0.00	0.00	0.00
	Storage Tank, Concrete	Gallons:		1.5	0	80	0.00	0.00	0.00
	Master Meter, 2"			2500	0	5	0.00	0.00	0.00
	Master Meter, 3"				0	10	0.00	0.00	0.00
	Master Meter, 4"				0	10	0.00	0.00	0.00
	Hypochlorinator w/ Tank & Pump, Complete			800	0	10	0.00	0.00	0.00
	Pipe w/ sand bedding, 1" (Enter linear feet for quantity)			30	0	50	0.00	0.00	0.00
250	Pipe w/ sand bedding, 2" (Enter linear feet for quantity)			35	8750	50	175.00	14.58	14.58
	Pipe w/ sand bedding, 6" (Enter linear feet for quantity)			60	0	50	0.00	0.00	0.00
	Pipe w/ sand bedding, 8" (Enter linear feet for quantity)			45	0	50	0.00	0.00	0.00
	Pipe w/ sand bedding, 6" (Enter linear feet for quantity)			60	0	50	0.00	0.00	0.00
	Standpipe Hydrant, 1-1/2"			700	0	20	0.00	0.00	0.00
	Standpipe Hydrant			5000	0	20	0.00	0.00	0.00
3	Service Connections			1000	3000	20	150.00	12.50	12.50
2	Distribution Valve, 2"			150	300	10	30.00	2.50	2.50
	Distribution Valve, 6"			600	0	10	0.00	0.00	0.00
	Distribution Valve, 8"			1200	0	20	0.00	0.00	0.00
	Distribution Valve			600	0	20	0.00	0.00	0.00
	Air & Vacuum Relief Valve, Typical			375	0	20	0.00	0.00	0.00
	TOTALS:				$12,050.00		$355.00	$29.58	$29.58

Report Prepared by (Title): _____ Date: 07/16/2019

NOTE: Installed costs are averages, and include all materials and contracted labor and equipment.

Attachment J:

City of Turlock's Fee Schedule

The connection cost includes the installation of a water meter.

(a) House (lot) connection charge:

Water Service Size	Local Street 50 ft R/W	Collector Street 60 ft R/W	Arterial Street 100 ft R/W
* 1" or less	$ 2,250.00	$ 2,450.00	$ 3,500.00
* 1-1/2"	$ 3,000.00	$ 3,600.00	$ 4,200.00
* 2"	$3,150.00	$ 3,750.00	$ 4,350.00
Larger	**	**	**
* Note: Includes cost of meter **Note: Fee to be calculated based on estimated cost, to be determined after application is made.			

(1026-CS, Amended, 06/26/2004; 1019-CS, Added, 02/12/2004)

6-5-402 Connection fees.

(a) Fees on the following may be obtained from the City Engineer's office:

(1) Water capital charges – includes capital and fire hydrant (fire protection).

(i) Capital charges for water connections are based on the actual direct cost and adjusted quarterly based on the Engineering News Record Construction Cost Index for the San Francisco Area (ENR) of 615.36, as of March 1, 2004, to be adjusted quarterly.

Meter Size (in.)	Connection Fee per Meter Size	
1" or less	$	2,048.00
1-1/2"	$	6,554.00
2"	$	8,193.00
3"	$	18,434.00
4"	$	51,205.00
6"	$	102,410.00
8"	$	180,242.00
10"	$	286,748.00

(ii) For definition of low, medium, or high residential density see Article 2 of Chapter 9-3 TMC (TMC 9-3-201).

(2) Water front footage charges.

(i) Charges for water lines or assessment fees shall be based on the Engineering News Record Construction Cost Index for the San Francisco Area (ENR). The rate to be paid as of March 1, 2004, based on ENR Index of 615.36, to be adjusted quarterly, shall be:

(aa) Single-family dwelling: Twenty-Five and no/100ths ($25.00) Dollars per front foot of street frontage (for the purpose of this section, the frontage of corner lots shall be the sum of the two (2) frontages less one hundred (100') feet).

(ab) All other developments: Twenty-Five and no/100ths ($25.00) Dollars per front foot of street frontage of the property plus Twenty-Five and no/100ths ($25.00) Dollars per front foot of the property located adjacent to or abutting an alley, court, place, easement, or other non-street right-of-way in which there is an existing water line at the time of development.

(1223-CS, Amended, 10/13/2016; 1026-CS, Amended, 06/26/2004; 1019-CS, Added, 02/12/2004)

Article 5. Metered Services

6-5-501 Fees and charges. Revised 2/18

(a) All service connections shall be metered.

(b) Fees and Charges.

(1) Monthly water charges shall consist of the following three components: commodity charge, capacity charge, and a customer charge.

(2) Each service connection shall pay the fees and charges as set forth below:

Effective date >	3/1/2018	1/1/2019	1/1/2020	1/1/2021	1/1/2022
Commodity Charge, $ per 1,000 gallons					
Single-Family	$0.84	$1.00	$1.20	$1.47	$1.76
Multi Residential/ Commercial/Industrial/Institutional	$0.63	$0.75	$0.89	$1.08	$1.28
Landscape	$0.99	$1.20	$1.45	$1.78	$2.16
Capacity Charge, $ per meter per month					
1" or less	$28.00	$32.70	$38.10	$45.20	$52.70
1-1/2"	$56.00	$65.00	$76.00	$90.00	$105.00
2"	$90.00	$104.00	$122.00	$145.00	$169.00
3"	$196.00	$229.00	$267.00	$316.00	$369.00
4"	$336.00	$392.00	$457.00	$542.00	$633.00
6"	$700.00	$816.00	$952.00	$1,130.00	$1,318.00
8"	$1,344.00	$1,567.00	$1,829.00	$2,170.00	$2,531.00
10"	$2,128.00	$2,482.00	$2,895.00	$3,435.00	$4,008.00

Effective date >	3/1/2018	1/1/2019	1/1/2020	1/1/2021	1/1/2022
Customer Charge, $ per account per month	$3.50	$4.10	$4.75	$5.65	$6.55

(c) Inaccurate Meter. An inaccurate meter shall be charged as follows:

(1) Either an average of the three (3) following months' usage (after its repair); or

(2) The charge of the same month for the previous year, whichever is greater.

(d) Standby Charges (this rate is in addition to the water charges shown above). This charge is for customers who use the City water supply as a backup water source.

Size of Service	Effective July 1, 2007	Effective July 1, 2008
2"	$219.00	$230.00
4"	$655.00	$687.00
6"	$1,310.00	$1,374.00
8"	$2,293.00	$2,405.00

(1240-CS, Amended, 02/08/2018; 1194-CS, Amended, 04/08/2014; 1155-CS, Amended, 09/22/2011; 1101-CS, Amended, 11/08/2007; 1027-CS, Amended, 06/10/2004; 1019-CS, Added, 02/12/2004)

Article 6. Non-metered Services

6-5-601 Residences (apartments, mobile home parks, recreation rooms, etc.).

(a) Per living unit:

Number of Rooms	Charge Per Living Unit	Effective July 1, 2004	Effective July 1, 2005	Effective July 1, 2006	Effective July 1, 2007	Effective July 1, 2008
0-5 Rooms	$7.05	$9.35	$11.35	$13.30	$14.80	$15.55
6-8 Rooms	$7.90	$10.50	$12.70	$14.90	$16.55	$17.40
More than 8 Rooms	$8.70	$11.55	$14.00	$16.45	$18.25	$19.15

(b) Landscaping - based on square footage of lot:

Square Footage	Rate	Effective July 1, 2004	Effective July 1, 2005	Effective July 1, 2006	Effective July 1, 2007	Effective July 1, 2008
0 to 5,500 Square Feet	$5.55	$7.35	$8.95	$10.50	$11.65	$12.25

Attachment K:

Meter Readings for Comparable Public Water System

Weekly **Well**

Week	Date of Reading	No. Days	Meter Reading	Gallons Used	GPD	MDD	PHD	GPM at PHD	Initals
1	1/6/2016		7,036,500						BS
2	1/15/2016	9	7,057,600	21,100	2,344.4	3,516.7	219.8	3.7	BS
3	1/22/2016	7	7,076,000	18,400	2,628.6	3,942.9	246.4	4.1	BS
4	1/29/2016	7	7,098,300	22,300	3,185.7	4,778.6	298.7	5.0	BS
5	2/8/2016	10	7,118,200	19,900	1,990.0	2,985.0	186.6	3.1	BS
6	2/16/2016	8	7,136,100	17,900	2,237.5	3,356.3	209.8	3.5	BS
7	3/9/2016	22	7,178,700	42,600	1,936.4	2,904.5	181.5	3.0	BS
8	3/15/2016	6	7,193,100	14,400	2,400.0	3,600.0	225.0	3.8	BS
9	3/22/2016	7	7,208,300	15,200	2,171.4	3,257.1	203.6	3.4	BS
10	3/29/2016	7	7,223,300	15,000	2,142.9	3,214.3	200.9	3.3	BS
11	4/5/2016	7	7,240,300	17,000	2,428.6	3,642.9	227.7	3.8	BS
12	4/13/2016	8	7,302,000	61,700	7,712.5	11,568.8	723.0	12.1	BS
13	4/19/2016	6	7,334,200	32,200	5,366.7	8,050.0	503.1	8.4	BS
14	4/25/2016	6	7,376,500	42,300	7,050.0	10,575.0	660.9	11.0	BS
15	5/3/2016	8	7,420,600	44,100	5,512.5	8,268.8	516.8	8.6	BS
16	5/10/2016	7	7,463,500	42,900	6,128.6	9,192.9	574.6	9.6	BS
17	5/17/2016	7	7,504,200	40,700	5,814.3	8,721.4	545.1	9.1	BS
18	5/24/2016	7	7,556,800	52,600	7,514.3	11,271.4	704.5	11.7	BS
19	5/31/2016	7	7,606,700	49,900	7,128.6	10,692.9	668.3	11.1	BS
20	6/8/2016	8	7,672,700	66,000	8,250.0	12,375.0	773.4	12.9	BS
21	6/14/2016	6	7,714,200	41,500	6,916.7	10,375.0	648.4	10.8	BS
22	6/21/2016	7	7,764,800	50,600	7,228.6	10,842.9	677.7	11.3	BS
23	7/5/2016	14	7,868,600	103,800	7,414.3	11,121.4	695.1	11.6	BS
24	7/12/2016	7	7,933,800	65,200	9,314.3	13,971.4	873.2	14.6	BS
25	7/19/2016	7	8,009,600	75,800	10,828.6	16,242.9	1,015.2	16.9	BS
26	7/26/2016	7	8,067,200	57,600	8,228.6	12,342.9	771.4	12.9	BS
27	8/2/2016	7	8,132,900	65,700	9,385.7	14,078.6	879.9	14.7	BS
28	8/8/2016	6	8,204,600	71,700	11,950.0	17,925.0	1,120.3	18.7	BS
29	8/16/2016	8	8,285,200	80,600	10,075.0	15,112.5	944.5	15.7	BS
30	8/23/2016	7	8,354,200	69,000	9,857.1	14,785.7	924.1	15.4	BS
31	8/30/2016	7	8,425,500	71,300	10,185.7	15,278.6	954.9	15.9	BS
32	9/6/2016	7	8,498,800	73,300	10,471.4	15,707.1	981.7	16.4	BS
33	9/12/2016	6	8,562,000	63,200	10,533.3	15,800.0	987.5	16.5	BS
34	9/20/2016	8	8,645,200	83,200	10,400.0	15,600.0	975.0	16.3	BS
35	9/27/2016	7	8,723,300	78,100	11,157.1	16,735.7	1,046.0	17.4	BS
36	10/4/2016	7	8,791,200	67,900	9,700.0	14,550.0	909.4	15.2	BS
37	10/11/2016	7	8,826,800	35,600	5,085.7	7,628.6	476.8	7.9	BS
38	10/18/2016	7	8,889,800	63,000	9,000.0	13,500.0	843.8	14.1	BS
39	10/25/2016	7	8,906,000	16,200	2,314.3	3,471.4	217.0	3.6	BS
40	11/1/2016	7	8,925,000	19,000	2,714.3	4,071.4	254.5	4.2	BS
41	11/8/2016	7	8,941,100	16,100	2,300.0	3,450.0	215.6	3.6	BS
42	11/15/2016	7	8,968,400	27,300	3,900.0	5,850.0	365.6	6.1	BS
43	11/22/2016	7	9,005,400	37,000	5,285.7	7,928.6	495.5	8.3	BS
44	11/29/2016	7	9,026,600	21,200	3,028.6	4,542.9	283.9	4.7	BS
45	12/6/2016	7	9,046,400	19,800	2,828.6	4,242.9	265.2	4.4	BS
46	12/13/2016	7	9,065,400	19,000	2,714.3	4,071.4	254.5	4.2	BS
47	12/20/2016	7	9,087,300	21,900	3,128.6	4,692.9	293.3	4.9	BS
48	12/27/2016	7	9,107,800	20,500	2,928.6	4,392.9	274.6	4.6	BS

Total Gallons Used	2,071,300

Attachment L:

2019 TID Power Rates

WATER & POWER
Serving Central California since 1887

Schedule ID
Small Industrial Service – Demand Metered
35 to 499 kW
Effective January 1, 2015

Applicability
This schedule applies to: 1) commercial and industrial customers for general power use with a demand of 35 kW to 499 kW, and 2) other services where other Rate Schedules (other than those relating to customer generation) do not apply. This schedule is applicable on an annual basis only.

Character of Service
Alternating current; frequency of approximately 60 cycles; single- or three-phase; delivery will be made at such nominal voltage as customer selects from among those the District designates are available at the customer's premises.

Rates
The rates consist of the following Customer, Demand, Energy and Power Factor Charges:

	Per Meter Per Month
Customer Charge:	$ 82.00
Demand Charge:	
Billing demand, per kW:	
Winter Billing Months	$ 10.66
Summer Billing Months	$ 12.67
Energy Charge, per kWh:	
Winter Billing Months	$ 0.0601
Summer Billing Months	$ 0.0792
Power Factor Charge, per kVAr	$ 1.10

Minimum Charge
The minimum charge for each monthly billing period or portion thereof shall be the Customer Charge and Demand Charge.

Demand Determination
In order to maintain placement on this schedule, the customer must achieve a demand of 35 kW or higher, but not greater than 499kW, for three (3) consecutive months within a twelve (12) month period. If demand fails to equal or exceed the minimum kW requirement, the account will be placed on an appropriate commercial Rate Schedule. Whenever demand equals or exceeds 500 kW for three (3) consecutive months the customer will be placed on an appropriate industrial Rate Schedule.

New Customer - Based on customer provided data and the opinion of the District, the customer will be placed on an appropriate commercial or industrial Rate Schedule.

Special Conditions
1. Customer accounts billed under this schedule are subject to additional charges as stated in the Conditions and Surcharges.

2. For customers changing schedules between billing dates (except for time-of-use), the schedule in effect at the time of the end of the normal billing period will be used to compute the bill. For billings where a customer is changing from or to a time-of-use schedule, the first bill on the new rate schedule will be based on the meter readings taken on the opening meter reading date and the next regular meter reading date.

3. Any customer who reapplies for service within 12 months of canceling that same service must pay, before the new service will be provided, any Customer Charges, Demand Charges or Connected Load Charges (as applicable) that would have otherwise been payable between the cancellation date and the new service date. The maximum demand in kW will be calculated as 50 percent of the highest monthly maximum demand occurring during the past 11 months.

4. Winter billing months shall be the December through May bills. Summer billing months shall be the June through November bills.

5. The maximum demand in any month will be the maximum kW delivery metered during any 15-minute interval in the month, and will be used in computing the Demand Charge. The Demand or Connected Load Charge and Power Factor Charge (as applicable) shall be prorated on opening and closing bills where the billing period is greater or less than the average 30-day period.

6. For calculating the power factor, the District will determine the ratio between kilowatt and reactive kilovolt-ampere (kVAr) by means of installed instruments. In any billing period when a customer's maximum 15-minute reactive kVAr demand is in excess of 62% of maximum kilowatt demand in the current or previous 11 months, an additional charge for each reactive kVAr of such excess will be made. At the District's option, the power factor may be determined by means of periodic tests. If determined by tests, the resulting power factor will remain in effect until a new determination is made.

7. A discount of 2.5% will be applied to the Energy Charge when delivery is rendered at 12,000 volts. A discount of 6% will be applied to the Energy Charge when delivery is rendered at 69,000 volts or higher. Metering will be provided by the District on the primary side of customer owned transformers.

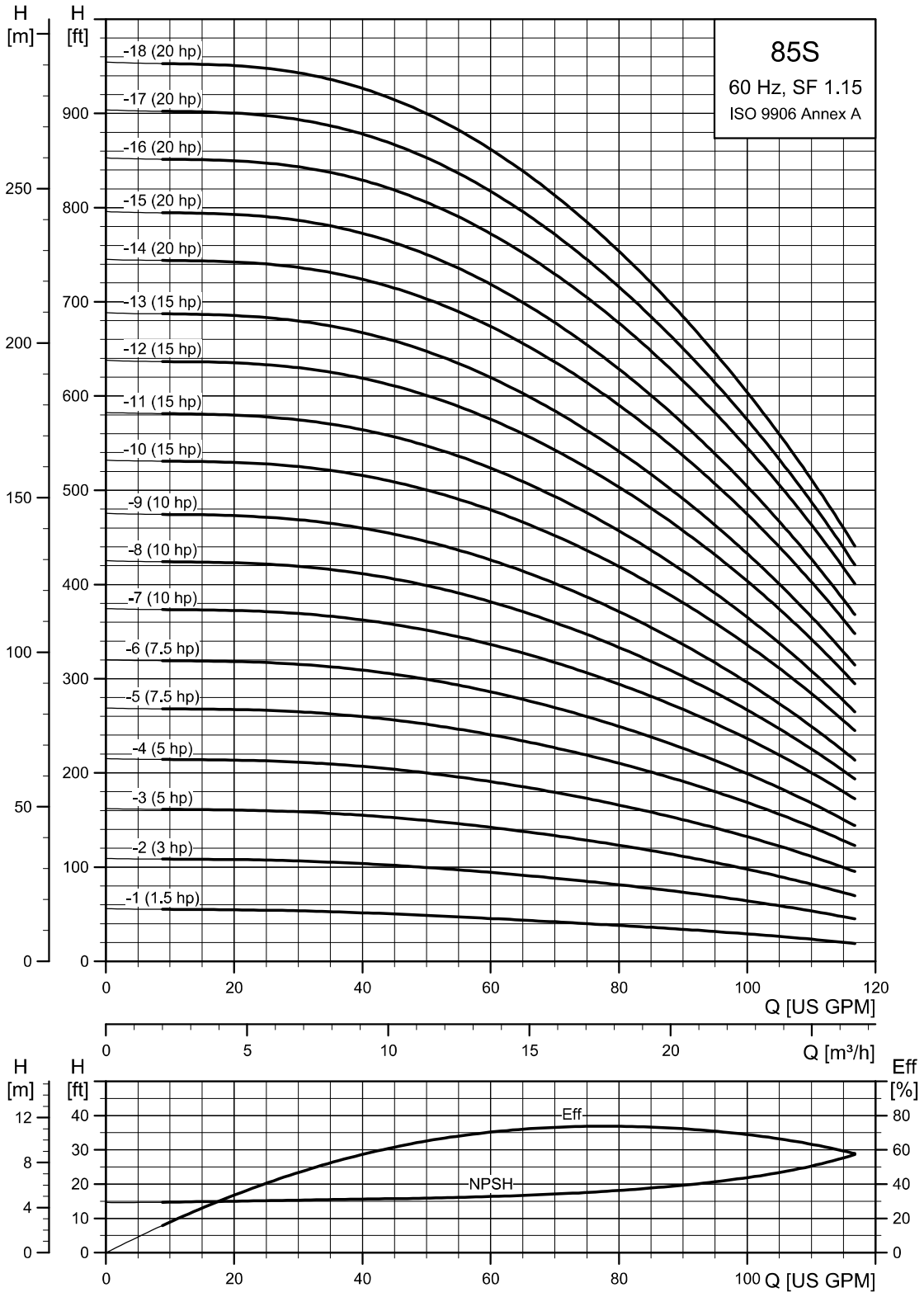
8. Nonprofit recreation fields and hulling machines that qualify and elect to be charged on a seasonal basis shall pay the Customer, Demand, Energy and Power Factor Charges for not less than six consecutive months in any 12-month period. The customer shall designate the consecutive months in which the Customer, Demand, Energy and Power Factor Charges shall apply. During the remaining months within the 12-month period, the customer will not be charged in months when energy consumption does not exceed a minimum threshold as established by the District for the purposes of testing equipment, otherwise Charges shall be as set forth within this Rate Schedule.

Revised Date: January 1, 2015

Attachment M:

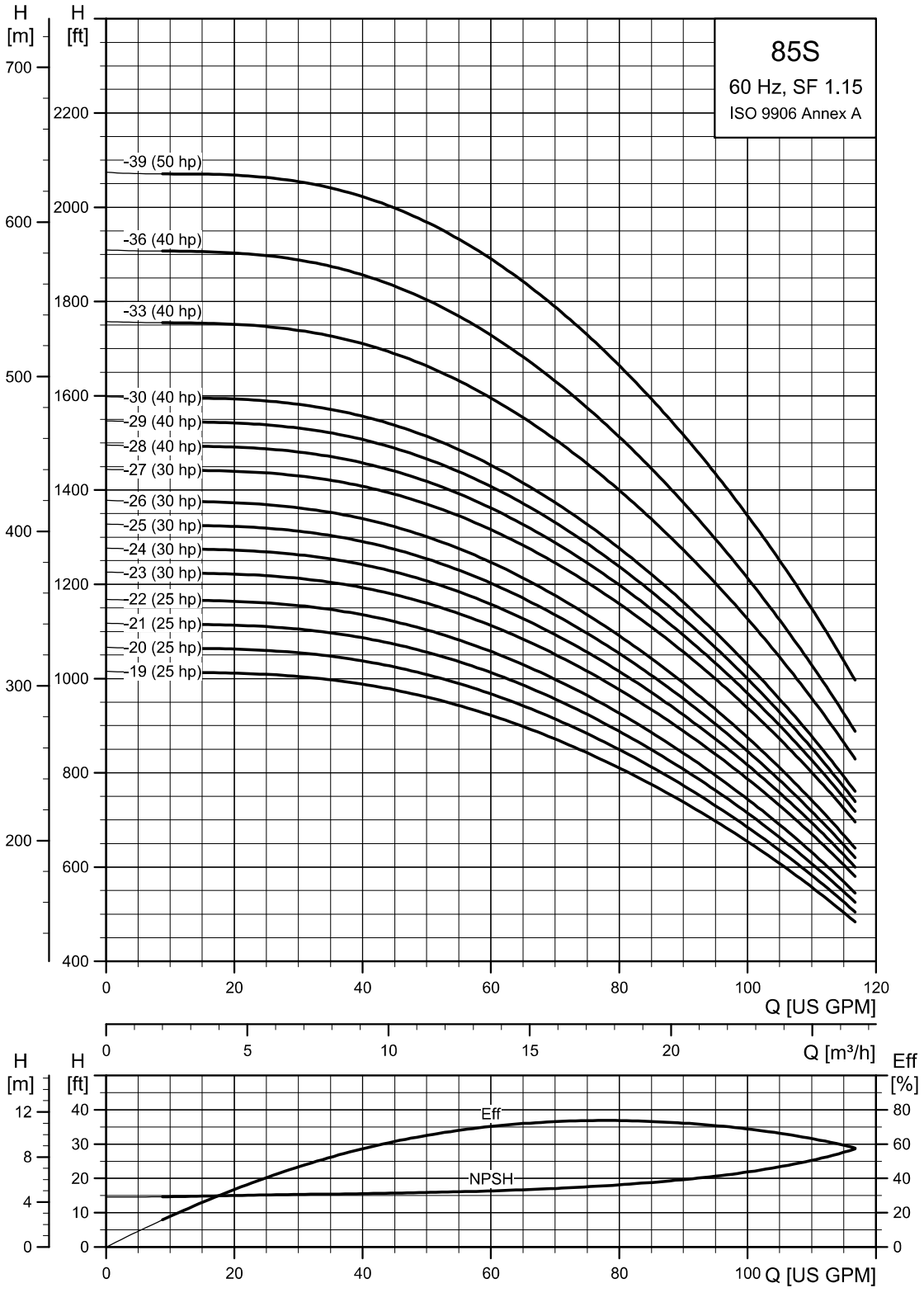
Grundfos 85s Performance Curves

85S (85 gpm)



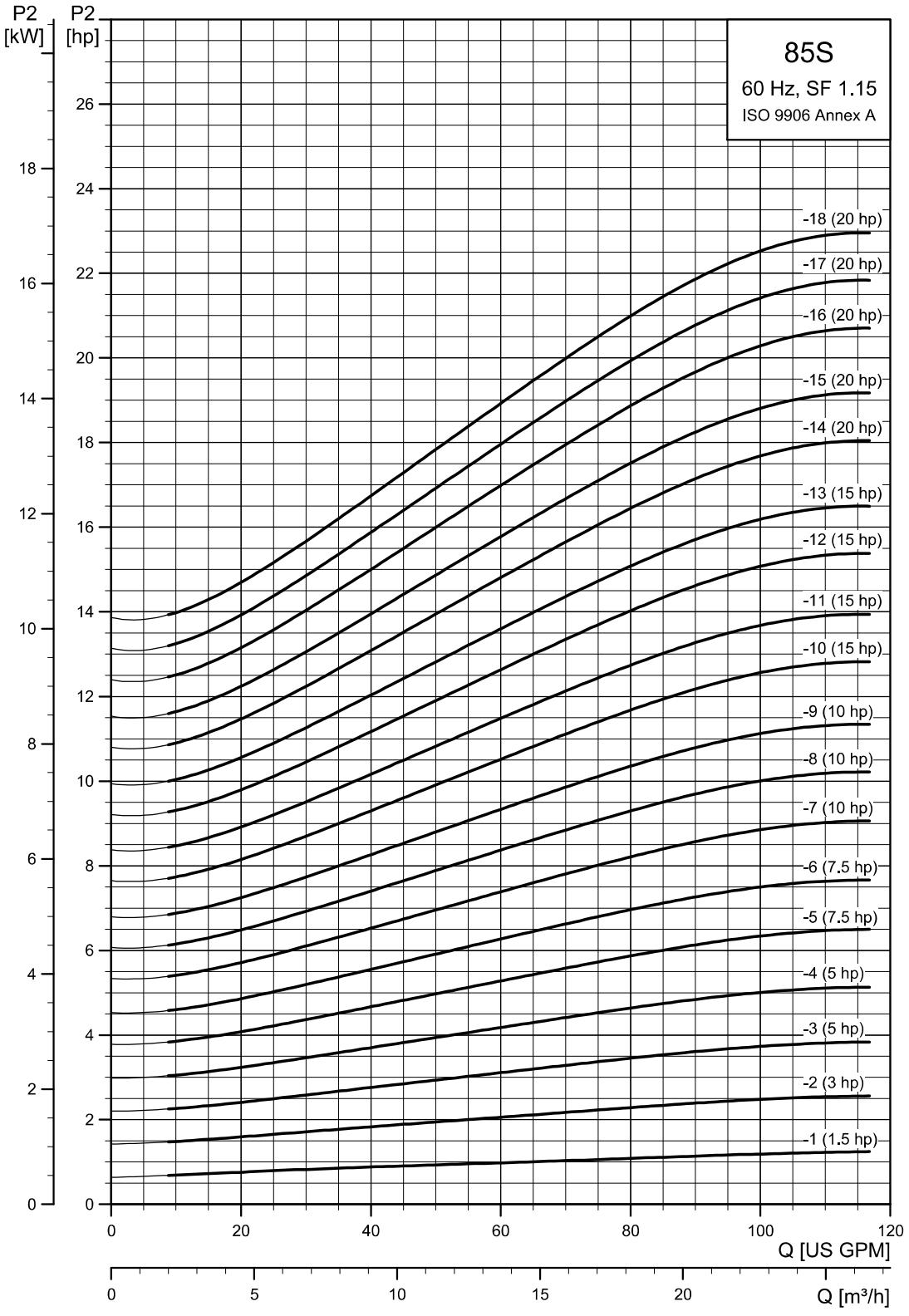
TM05 0235 1812

85S (85 gpm)



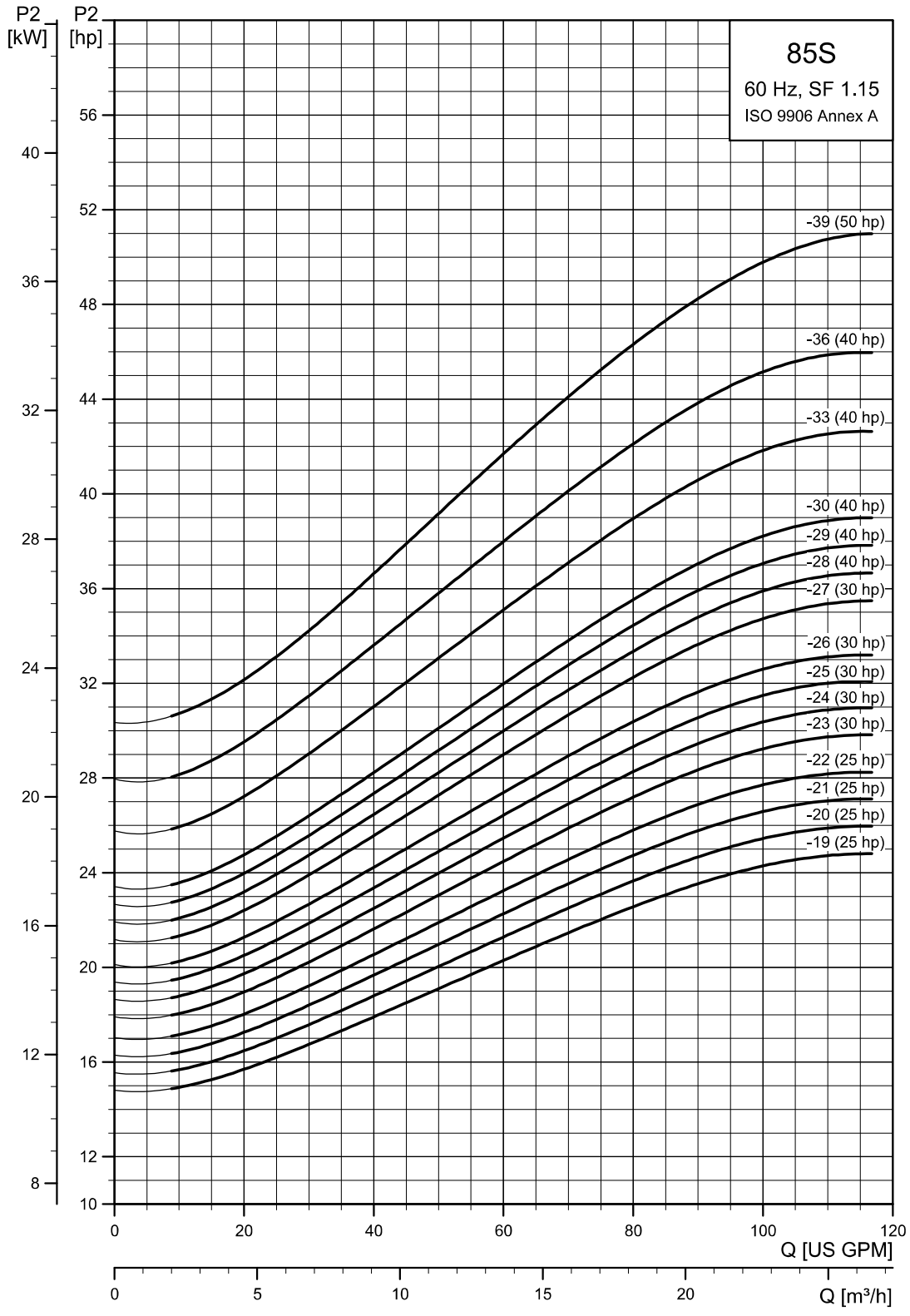
TM05 0236 1812

85S (85 gpm) pump power requirement (P2)



TM05 0237 1812

85S (85 gpm) pump power requirement (P2)



TM05 0238 1812

Attachment N:

Grundfos Energy Consumption Calculation

8. Energy consumption

Energy consumption of submersible pumps

The percentage distribution of service life costs of a submersible pump for water supply is:

5 % initial costs (pump)
85 % operating costs / energy consumption
10 % maintenance costs.

It is obvious that the highest savings can be achieved within energy consumption!

The annual energy consumption, E, of a submersible pump can be calculated as follows:

E = c x h x P_1 (EURO)

c = specific energy price (EURO/kWh)

h = operating hours/year (hours)

P_1 = power input of the submersible pump (kW).

Example: Calculation of the annual energy consumption of the submersible pump, type 625S-3.

625S-3 with MS 8000, 45 kW, 3 x 460 V, 60 Hz.

Duty point:
Flow rate: Q = 120 m^3/h

Total head: H = 102 m

Specific energy price: c = EURO 0.1/kWh
(consisting of day and night rate)

Operating hours/year: h = 3200.

$$P_1 = \frac{Q \times H \times \rho}{367 \times \eta_{pump} \times \eta_{motor}} \text{ in kW}$$

Q = m^3/h

H = m

Density ρ = kg/dm^3 (assumed 1)

367 = conversion factor

η_{motor} = (example 84.5 %, in equation 0.845)

η_{pump} = (not to be confused with the stage efficiency curve).

By showing the P_2/Q curve we make it easier for you to calculate the energy consumption.

$$P_1 = \frac{P_2}{\eta_{motor}}$$

P_2 = 26 kW (power requirement of 625S-3 pump at 20 m^3/h, from curve P_2 / Q on page 72).

Calculation of motor efficiency at duty point
As standard the SP 625S-3 is equipped with a 45 kW MS6 motor.

At duty point (Q = 120 m^3/h) the pump requires 44 kW, thus:

a motor load of 87 % (44 kW / 45 kW) and a power reserve of 2 %.

From the table on page 72 the motor efficiency can be read as:

84.6 % at a load of 75 %. ($\eta_{75\,\%}$)
85.6 % at a load of 100 %. ($\eta_{100\,\%}$)
The interpolated value in this example is
η_{motor} = 85.1 %, η_{motor} = 0.851.

$$P_1 = \frac{44}{0.851} = 51.7 \text{ kW}$$

E = 0.1 EURO/kWh x 3200 h x 51.7 kW.
The annual energy costs amount to EURO 16544.

The pay-off time, A, (months) is calculated as follows:

$$A = \frac{\text{Purchase price of energy} - \text{efficiency pump}}{\text{Energy savings/year}} \times 12$$

Cable sizing
In order to obtain an economical duty of the pump the voltage drop should be low.

Today large water works already size cables for a maximum voltage drop of 1 %).

The hydraulic resistance in the discharge pipe should be as low as possible.

Attachment O:

Memorandum of City Contact

(RE: Managerial Consolidation)

advanced
DESIGN GROUP, INC.

December 19, 2018

Environmental Resources
3800 Cornucopia Way
Suite C
Modesto, CA 95358-9492
(209) 525-6700
Fax: (209) 525-6774

Project:

Title: __**Project's Public Water System**
Owner: ___Avila Dan J & Lori L____
Jobsite: ___1301 Washington Ave., Turlock, CA__
Assessor's Parcel: __Bk 023, Pg 039, Parcel 017
Jurisdiction: _Stanislaus County, **PLN2012-0017 / PLN2017-0141 / PLN2018-0056 / PLN2018-0102**

ADG's Project No. 18024

Attn: Ms. Rachel Riess, 209 525 6720, rariess@envres.org

This letter is to address/clarify/confirm several items of concern with respect to the design of the above project. Please note the following:

1. Reconfirming 12/18/18 phone conversation with Mr. Anthony Orosco, Principal Civil Engineer, City of Turlock, 209 668 5599 ext 4486 aorosco@turlock.ca.us;
    a. With regard to Ms. Rachel Riess' 10/17/18 email request for additional confirmation of the City of Turlock's position with regard to the City's managerial consolidation of the project's public well system; Mr. Orosco re-confirmed the 08/13/18 letter from Mr. Nathan Bray in that the City will not consider managerial consolidation of the project's public well system voluntarily.

Please keep us informed at all times and contact us if you have any concerns / questions.

Sincerely,

Elwyn V. Heinen, P.E., General Manager
Advanced Design Group, Inc., 1128 6th Street, Modesto, CA 95354
209 577 3108, adgi@att.net

Cc: Mr. Anthony Orosco, 209 668 5599 ext 4486 aorosco@turlock.ca.us

1128 SIXTH STREET
MODESTO, CA 95354-2203
PHONE (209) 577-3108
FAX (209) 577-0872
EMAIL: adgi@att.net

DEPARTMENT OF ENVIRONMENTAL RESOURCES
3800 Cornucopia Way, Suite C, Modesto, CA 95358-9492
Phone: 209.525.6700 • Fax: 209.525.6774
www.stancounty.com

Stanislaus County
Striving to be the Best

Permit No. 20_____-_____

APPLICATION FOR WELL CONSTRUCTION OR DESTRUCTION

THIS PERMIT EXPIRES 1 YEAR FROM DATE ISSUED

Application is hereby made to the Stanislaus County Department of Environmental Resources (D.E.R.) for a permit to construct and/or destroy the work herein described. PLEASE NOTIFY THIS DEPARTMENT (USING PERMIT # AND D.W.R. WELL DRILLERS REPORT) WHEN WELL WORK IS COMPLETED.

Job Address/Location: 1301 N. Washington Ave City: Turlock, Ca

Distance & Direction from the Nearest Cross Streets: N. Washington & Fulkerth, Rd.

Property Owner's Name: Dan Avila Phone: (209) 495-3899

Mailing Address: 2718 Roberts Rd. City/State: Ceres, Ca

Water Agency: ☒ Yes ☐ No Water Agency Name: T.I.D.

Contractor's Name: Maselli's Drilling Inc. License #: 668622 Phone: 522-1928

Type of Work: ☒ New Well ☐ Destruction ☐ Other _____
If a new well, give number of new wells to be installed on property or in close proximity now or within 6 months 1

Intended Use: ☐ Agricultural ☐ Irrigation ☐ Industrial ☐ Domestic/Private ☒ Domestic/Public
☐ Cathodic Protection ☐ Geothermal ☐ Dewatering ☐ Other _____

Conveyance: Will water from this well be relocated from parcel of origin? ☐ Yes ☒ No
Will water from this well be relocated to out-of-county? ☐ Yes* ☒ No
*Provide water agency authorization

Existing Well Present: ☒ Yes ☐ No **Status:** ☒ Active ☐ To be destroyed ☐ Inactive

Community Service District: ☒ N/A ☐ Within C.S.D. of _____

Distance to Nearest: Septic tank 110'+ Disposal Field 110'+ Seepage Pit N/A Dry Well N/A
Pit Privy N/A Animal Enclosure N/A Other Well 100'
Dairy Lagoons N/A Dwellings 100'+ Property Lines 150'+

Construction Specifications: ☒ Drilled ☐ Cable Tool ☒ Gravel Pack ☒ Rotary ☐ Other
Diameter of Excavation 14" Diameter of Well Casing 8" Gauge of Casing 0.250
Estimated GPM 100 Estimated Finished Well Depth 460'
Sealing Material Concrete Grout Manufacturer _____ Grout name _____
Proposed Depth of Grout Seal _____ Proposed # of bags 11.8 Cement Sand Slurry
Seal Method: ☐ Free Fall ☒ Tremie Hose (Force) ☐ Tremie Hose (Gravity)

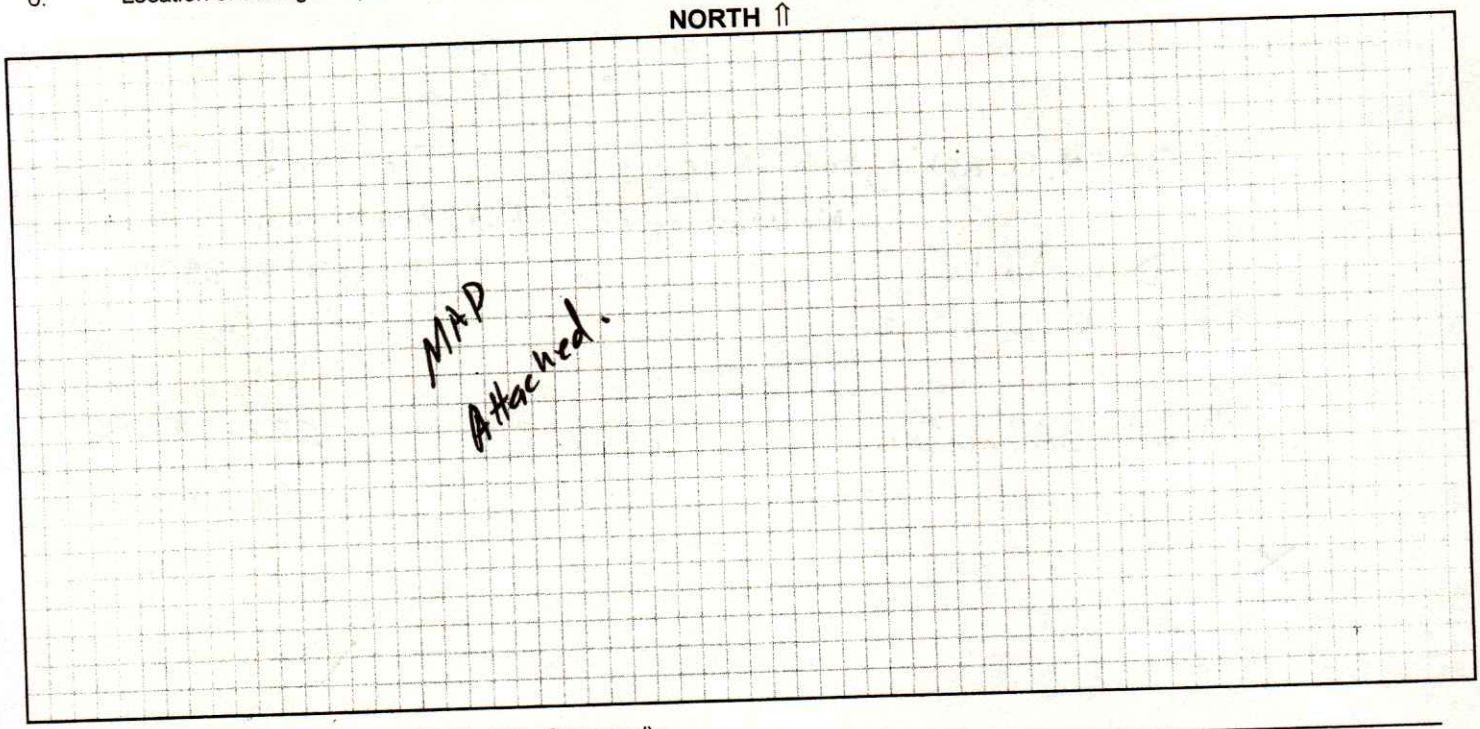
Destruction Specifications: Diameter of Well Casing _____ Proposed Depth of Grouting _____
Sealing Material _____ Grout Manufacturer _____ Grout name _____
Seal Method: ☐ Free Fall ☐ Tremie Hose (Force) ☐ Tremie Hose (Gravity)
Describe method if different than minimum state standards: _____

PLOT PLAN

(Indicate Distances in Feet)

1. Name of street and distance from nearest cross roads to well site.
2. Outline of the property, easements.
3. Outlines and locations of all existing and proposed structures, including covered areas such as patios, driveways, and walks.
4. Location of house sewer outlet, public sewer, sewage disposal system, or proposed sewage disposal system, proposed expansion of sewage disposal system, industrial waste pond, or any other possible source of contamination.
5. Location of other wells within radius of 300 feet on the property or adjoining property.
6. Location of sewage disposal system on adjoining property or within a radius of 100 ft. (private well) 150 ft. (public well).

NORTH ⇧



Written description of well location (if not visible from road): _____

I HEREBY CERTIFY THAT I HAVE PREPARED THIS APPLICATION AND THAT THE WORK WILL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LAWS OF THE STATE OF CALIFORNIA, THE ORDINANCES OF THE COUNTY OF STANISLAUS AND THE RULES AND REGULATIONS OF THE STANISLAUS COUNTY DEPARTMENT OF ENVIRONMENTAL RESOURCES (DER). DER WILL BE CONTACTED FOR INSPECTION OF ANNULAR SEAL INSTALLATION, AND AFTER WELL WORK HAS BEEN COMPLETED.

1. All existing wells within a 300 foot radius of the proposed new well(s) on the property or adjoining property have been located and so indicated.
2. Proposed well(s) will be located at least 50-150 feet from any sewage disposal system on property or adjoining property.
3. Submit well completion report on all wells drilled, as notice of well work completion.

SIGNED: _____ DATE: 6-22-19

(C57 CONTRACTOR AS AUTHORIZED REPRESENTATIVE)

D.E.R. USE ONLY

Latitude: _____ Longitude: _____ T. _____ R. _____ Sec. _____ A.P.N: _____

Plot Card Available: ☐ Yes ☐ No G.I.S. Information Available: ☐ Yes ☐ No

Actual Grout Seal Depth: _____ Actual Sealing Material Used: _____

Claimed Clay Layer Depth at: _____ Conditions of Approval: ☐ None ☐ Description: _____

HAZMAT Mitigation Review: _____ Date: _____

Resource Management Review: _____ Date: _____

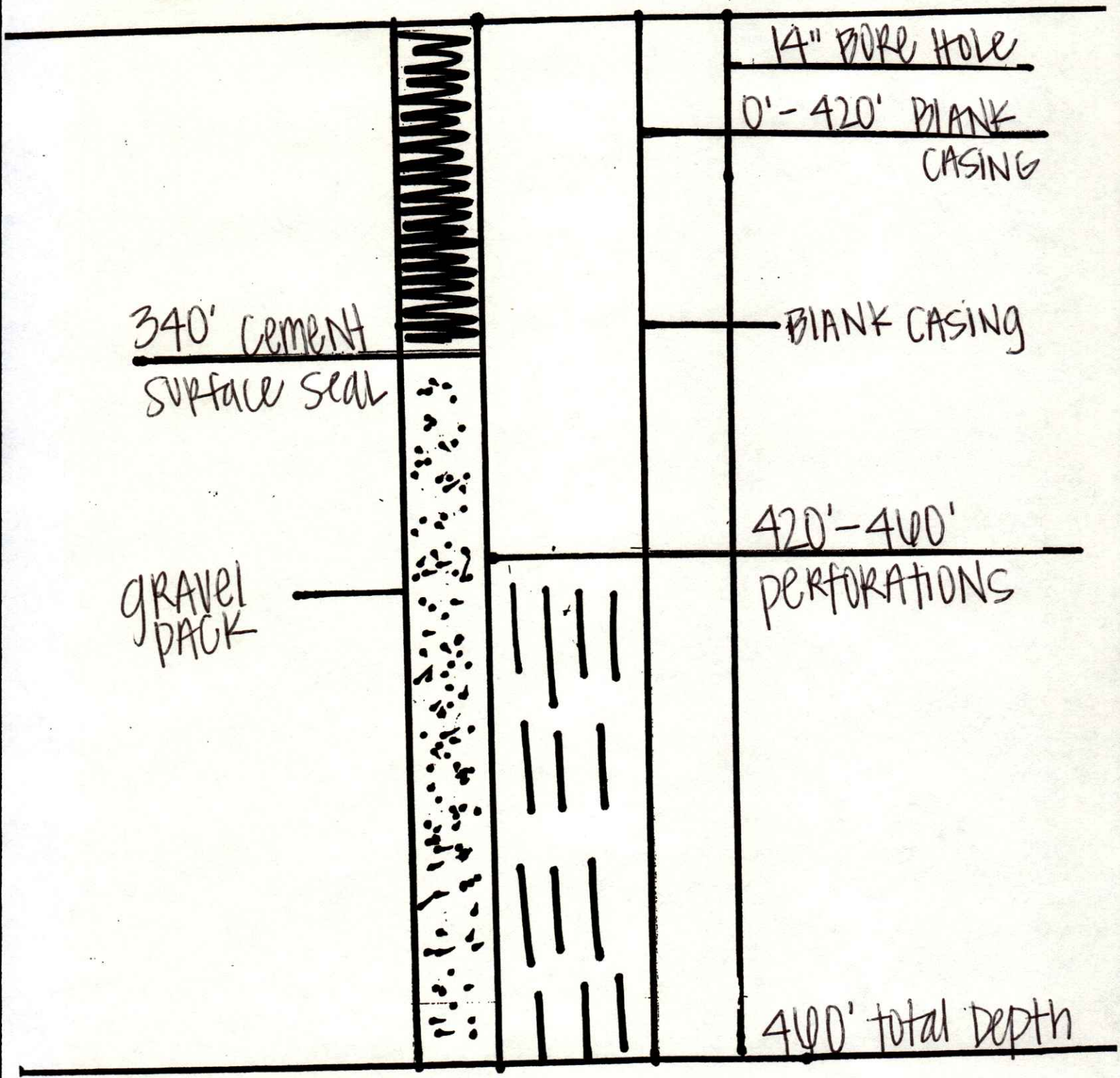
Permit Approval by: _____ Date: _____

Grout Seal inspected by: _____ Date: _____

Final Inspection by: _____ Date: _____

Revised (11/21/2014)

8" x 1/4" steel well



GeoAnalytical Laboratories, Inc.

2300 Maryann Drive
Turlock, CA 95381

Phone: (209) 669 - 0100
Fax: (209) 593 - 2212

Lab Report # F9H0814

Regulatory ☐Yes ☐No CC: ☐Yes ☐No

Regulator: ______

×Phone: (209) 613-2181 / 522-1928

Fax: ( )

×Original To: E-mail John@MusellisDrilling.com

C.C To: ______

×Client: Musellis Drilling

×Address: 119 Albers road

×City Modesto ×Zip 95357

CHAIN OF CUSTODY

☐ EDF ☐ EDT

☐ FIELD LOGS

Project ID: ______

Sampled By ×(Print Name) John Musellis ×(Signature) [signature]

×Date	×Time	Sample type: Grab	Sample type: Comp	Matrix	×Sample ID	Container Type	Container Size	No. Of Containers	Arsenic	Nitrate-N	17 Metals	Uranium	Lab ID #	Preservative
08/08/19	11:28 AM	X		DW	400-420	pl	250ml	2	X	X	X	X	-01	
08/08/19	2:30 PM	X		DW	350-360	pl	250ml	2	X	X	X	X	-02	

* Paid w/ card 8/8/19 $884.00

Temp 10.0°C LASER #1

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
[signature]	08/08/19	4:15 PM	[signature]	8/8/19	16:15
Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time

Preservative: 1 4°C 2 HCL 3 NaOH 4 $Na_2S_2O_3$ 5 HNO_3 6 H_2SO_4 7 Other ______

Matrix: DW Drinking Water WW Waste Water HWW Hazardous Waste (Water) S Soil/Solid

Bailers ______ 55 Gallon Drums ______ Pump Truck ☐ Time ______ Mileage ______

Turnaround Time ☐Standard ☐Silver Rush ☐Gold Rush ☐Platinum Rush ☐Other

Approved By: ______

GeoAnalytical Laboratories, Inc.

2300 Maryann Dr. Turlock, CA 95380 Phone (209) 669-0100 Fax (209) 593-2212
email: info@geoanalyticallab.com

Report # F9H0814

Date: 08/20/19

Date Rec'd: 08/08/19

Masellis Drilling
119 Albers Road
Modesto, CA 95357

CERTIFICATE OF ANALYSIS

Sampler: John Masellis

Sample ID: 400 - 420

Lab ID	Sample Date / Time	RL	Method	Analyte	Result	Units	Notes	Started
F9H0814-01	8/08/2019 11:28	6.0	200.8	Antimony	ND	ug/L		8/12/19 07:48
		2.00		Arsenic	**7.15**	ug/L		8/12/19 07:48
		100		Barium	**207**	ug/L		8/12/19 07:48
		1.0		Beryllium	ND	ug/L		8/12/19 07:48
		1.0		Cadmium	ND	ug/L		8/12/19 07:48
		10.0		Chromium	ND	ug/L		8/12/19 07:48
		1.00		Cobalt	ND	ug/L		8/12/19 07:48
		50.0		Copper	ND	ug/L		8/12/19 07:48
		5.00		Lead	ND	ug/L		8/12/19 07:48
		1.0		Mercury	ND	ug/L		8/12/19 07:48
		5.00		Molybdenum	ND	ug/L		8/12/19 07:48
		10.0		Nickel	ND	ug/L		8/12/19 07:48
		5.0		Selenium	ND	ug/L		8/12/19 07:48
		10.0		Silver	ND	ug/L		8/12/19 07:48
		1.0		Thallium	ND	ug/L		8/12/19 07:48
		3.00		Vanadium	**53.5**	ug/L		8/12/19 07:48
		50.0		Zinc	ND	ug/L		8/12/19 07:48
		0.40	300.0	Nitrate as N	**0.73**	mg/L		8/ 8/19 16:00

Sample ID: 350 - 360

Lab ID	Sample Date / Time	RL	Method	Analyte	Result	Units	Notes	Started
F9H0814-02	8/08/2019 14:30	6.0	200.8	Antimony	ND	ug/L		8/12/19 07:48
		2.00		Arsenic	**9.77**	ug/L		8/12/19 07:48
		100		Barium	**129**	ug/L		8/12/19 07:48
		1.0		Beryllium	ND	ug/L		8/12/19 07:48
		1.0		Cadmium	ND	ug/L		8/12/19 07:48
		10.0		Chromium	ND	ug/L		8/12/19 07:48
		1.00		Cobalt	ND	ug/L		8/12/19 07:48
		50.0		Copper	ND	ug/L		8/12/19 07:48
		5.00		Lead	ND	ug/L		8/12/19 07:48
		1.0		Mercury	ND	ug/L		8/12/19 07:48
		5.00		Molybdenum	ND	ug/L		8/12/19 07:48
		10.0		Nickel	ND	ug/L		8/12/19 07:48
		5.0		Selenium	ND	ug/L		8/12/19 07:48
		10.0		Silver	ND	ug/L		8/12/19 07:48
		1.0		Thallium	ND	ug/L		8/12/19 07:48
		3.00		Vanadium	**64.8**	ug/L		8/12/19 07 48
		50.0		Zinc	ND	ug/L		8/12/19 07:48
		0.40	300.0	Nitrate as N	**0.98**	mg/L		8/ 8/19 16 00

Fatima Myers
Chemist

Donna Keller
Laboratory Director

Certification # 2585

GeoAnalytical Laboratories, Inc.

2300 Maryann Dr. Turlock, CA 95380 Phone (209) 669-0100 Fax (209) 593-2212
email: info@geoanalyticallab.com

Report # F9H0814

Date: 08/20/19

Masellis Drilling
119 Albers Road
Modesto, CA 95357

Date Rec'd: 08/08/19

CERTIFICATE OF ANALYSIS

Sampler: John Masellis

Sample ID: 400 - 420

Lab ID	Sample Date / Time	RL	Method	Analyte	Result	Units	Notes	Started
F9H0814-01	8/08/2019 11:28	0.670	200.8	Uranium	**0.682**	pCi/L		8/12/19 07:48

Sample ID: 350 - 360

Lab ID	Sample Date / Time	RL	Method	Analyte	Result	Units	Notes	Started
F9H0814-02	8/08/2019 14:30	0.670	200.8	Uranium	**0.863**	pCi/L		8/12/19 07:48

Fatima Myers
Chemist

Donna Keller
Laboratory Director

Certification # 2585

GeoAnalytical Laboratories, Inc.

2300 Maryann Dr. Turlock, CA 95380 Phone (209) 669-0100 Fax (209) 593-2212
email: info@geoanalyticallab.com

Report # F9H0814

Date: 08/20/19

Masellis Drilling
119 Albers Road
Modesto, CA 95357

Date Rec'd: 08/08/19

Inorganic Chemistry - Quality Control
GeoAnalytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch F002642 - 300.0 - NO PREP				**Prepared & Analyzed: 08/06/19**						
Blank (F002642-BLK1)										
Nitrate as N	ND	0.40	mg/L							
LCS (F002642-BS1)										
Nitrate as N	9.27	0.40	mg/L	10.00		93	85-115			
LCS Dup (F002642-BSD1)										
Nitrate as N	9.22	0.40	mg/L	10.00		92	85-115	0.6	20	
Matrix Spike (F002642-MS1)	**Source: F9H0606-01**									
Nitrate as N	27.1	0.40	mg/L	20.00	6.80	101	85-115			
Matrix Spike Dup (F002642-MSD1)	**Source: F9H0606-01**									
Nitrate as N	27.0	0.40	mg/L	20.00	6.80	101	85-115	0.2	20	
Batch F002702 - 200.8 - NONE				**Prepared & Analyzed: 08/12/19**						
Blank (F002702-BLK1)										
Antimony	ND	6.0	ug/L							
Arsenic	ND	2.00	"							
Barium	ND	100	"							
Beryllium	ND	1.0	"							
Cadmium	ND	1.0	"							
Chromium	ND	10.0	"							
Cobalt	ND	1.00	"							
Copper	ND	50.0	"							
Lead	ND	5.00	"							
Mercury	ND	1.0	"							
Molybdenum	ND	5.00	"							
Nickel	ND	10.0	"							
Selenium	ND	5.0	"							
Silver	ND	10.0	"							
Thallium	ND	1.0	"							
Vanadium	ND	3.00	"							
Zinc	ND	50.0	"							

GeoAnalytical Laboratories, Inc.

2300 Maryann Dr. Turlock, CA 95380 Phone (209) 669-0100 Fax (209) 593-2212
email: info@geoanalyticallab.com

Report # F9H0814

Date: 08/20/19

Masellis Drilling
119 Albers Road
Modesto, CA 95357

Date Rec'd: 08/08/19

Inorganic Chemistry - Quality Control
GeoAnalytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch F002702 - 200.8 - NONE				**Prepared & Analyzed: 08/12/19**						
LCS (F002702-BS1)										
Antimony	6.0	6.0	ug/L	6.250		97	85-115			
Arsenic	12.4	2.00	"	12.50		99	85-115			
Barium	24.3	100	"	25.00		97	90-110			
Beryllium	6.0	1.0	"	6.250		96	85-115			
Cadmium	12.6	1.0	"	12.50		101	85-115			
Chromium	24.6	10.0	"	25.00		99	85-115			
Cobalt	24.8	1.00	"	25.00		99	90-110			
Copper	25.2	50.0	"	25.00		101	85-115			
Lead	25.6	5.00	"	25.00		102	85-115			
Mercury	1.3	1.0	"	1.250		103	85-115			
Molybdenum	6.37	5.00	"	6.250		102	90-110			
Nickel	25.5	10.0	"	25.00		102	85-115			
Selenium	12.8	5.0	"	12.50		103	85-115			
Silver	12.7	10.0	"	12.50		102	85-115			
Thallium	6.3	1.0	"	6.250		101	85-115			
Uranium	12.8	1.0	"	12.50		102	80-120			
Vanadium	12.1	3.00	"	12.50		97	90-110			
Zinc	25.6	50.0	"	25.00		102	85-115			
LCS Dup (F002702-BSD1)										
Antimony	6.0	6.0	ug/L	6.250		96	85-115	1	10	
Arsenic	12.5	2.00	"	12.50		100	85-115	0.6	10	
Barium	23.6	100	"	25.00		94	90-110	3	10	
Beryllium	6.0	1.0	"	6.250		96	85-115	0.06	10	
Cadmium	12.4	1.0	"	12.50		99	85-115	1	10	
Chromium	24.1	10.0	"	25.00		96	85-115	2	10	
Cobalt	24.4	1.00	"	25.00		97	90-110	2	10	
Copper	25.1	50.0	"	25.00		101	85-115	0.2	20	
Lead	25.4	5.00	"	25.00		102	85-115	0.7	10	
Mercury	1.3	1.0	"	1.250		104	85-115	0.5	10	
Molybdenum	6.29	5.00	"	6.250		101	90-110	1	10	
Nickel	24.9	10.0	"	25.00		100	85-115	2	10	
Selenium	12.3	5.0	"	12.50		99	85-115	4	10	
Silver	12.4	10.0	"	12.50		99	85-115	3	10	
Thallium	6.3	1.0	"	6.250		101	85-115	0.4	10	
Uranium	12.7	1.0	"	12.50		101	80-120	1	20	
Vanadium	12.0	3.00	"	12.50		96	90-110	0.5	10	
Zinc	25.8	50.0	"	25.00		103	85-115	0.8	20	

GeoAnalytical Laboratories, Inc.

2300 Maryann Dr. Turlock, CA 95380 Phone (209) 669-0100 Fax (209) 593-2212
email: info@geoanalyticallab.com

Report # F9H0814

Date: 08/20/19

Masellis Drilling
119 Albers Road
Modesto, CA 95357

Date Rec'd: 08/08/19

Inorganic Chemistry - Quality Control
GeoAnalytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch F002702 - 200.8 - NONE				**Prepared & Analyzed: 08/12/19**						
Duplicate (F002702-DUP1)		**Source: F9G0216-01**								
Antimony	0.05	6.0	ug/L		0.05			10	10	
Arsenic	1.16	2.00	"		1.11			4	10	
Barium	39.0	100	"		38.7			0.6	10	
Beryllium	ND	1.0	"		ND				200	
Cadmium	ND	1.0	"		ND				10	
Chromium	34.9	10.0	"		34.2			2	10	
Cobalt	0.052	1.00	"		0.053			1	200	
Copper	1.84	50.0	"		1.83			0.9	20	
Lead	ND	5.00	"		ND				20	
Mercury	0.05	1.0	"		0.07			41	20	QR-03
Molybdenum	1.44	5.00	"		1.43			1	200	
Nickel	0.668	10.0	"		0.655			2	200	
Selenium	2.7	5.0	"		3.1			16	200	
Silver	ND	10.0	"		ND				200	
Thallium	ND	1.0	"		ND				200	
Uranium	4.6	1.0	"		4.6			1	20	
Vanadium	7.96	3.00	"		8.00			0.5	200	
Zinc	3.58	50.0	"		2.86			22	10	QR-03
Matrix Spike (F002702-MS1)		**Source: F9G0216-01**								
Antimony	6.1	6.0	ug/L	6.250	0.05	96	90-110			
Arsenic	12.5	2.00	"	12.50	1.11	91	80-120			
Barium	56.6	100	"	25.00	38.7	71	70-130			
Beryllium	5.9	1.0	"	6.250	ND	95	90-110			
Cadmium	11.2	1.0	"	12.50	ND	90	90-110			
Chromium	54.6	10.0	"	25.00	34.2	82	80-120			
Cobalt	20.7	1.00	"	25.00	0.053	83	90-110			QM-07
Copper	21.8	50.0	"	25.00	1.83	80	80-120			
Lead	23.9	5.00	"	25.00	ND	95	85-115			
Mercury	1.2	1.0	"	1.250	0.07	91	90-110			
Molybdenum	6.82	5.00	"	6.250	1.43	86	90-110			QM-07
Nickel	21.0	10.0	"	25.00	0.655	81	90-110			QM-07
Selenium	13.8	5.0	"	12.50	3.1	86	90-110			QM-07
Silver	10.9	10.0	"	12.50	ND	87	80-120			
Thallium	5.9	1.0	"	6.250	ND	95	90-110			
Uranium	17.4	1.0	"	12.50	4.6	102	80-120			
Vanadium	19.1	3.00	"	12.50	8.00	89	90-110			QM-07
Zinc	24.9	50.0	"	25.00	2.86	88	80-120			

GeoAnalytical Laboratories, Inc.

2300 Maryann Dr. Turlock, CA 95380 Phone (209) 669-0100 Fax (209) 593-2212
email: info@geoanalyticallab.com

Report # F9H0814

Date: 08/20/19

Masellis Drilling
119 Albers Road
Modesto, CA 95357

Date Rec'd: 08/08/19

Inorganic Chemistry - Quality Control
GeoAnalytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch F002702 - 200.8 - NONE				**Prepared & Analyzed: 08/12/19**						
Matrix Spike Dup (F002702-MSD1)		**Source: F9G0216-01**								
Antimony	6.5	6.0	ug/L	6.250	0.05	103	90-110	7	10	
Arsenic	13.3	2.00	"	12.50	1.11	97	80-120	6	10	
Barium	57.2	100	"	25.00	38.7	74	70-130	1	10	
Beryllium	6.4	1.0	"	6.250	ND	103	90-110	8	10	
Cadmium	11.8	1.0	"	12.50	ND	95	90-110	5	10	
Chromium	55.1	10.0	"	25.00	34.2	84	80-120	0.9	10	
Cobalt	22.0	1.00	"	25.00	0.053	88	90-110	6	10	QM-07
Copper	22.8	50.0	"	25.00	1.83	84	80-120	5	20	
Lead	25.4	5.00	"	25.00	ND	101	85-115	6	10	
Mercury	1.3	1.0	"	1.250	0.07	98	90-110	7	10	
Molybdenum	7.27	5.00	"	6.250	1.43	93	90-110	6	10	
Nickel	22.6	10.0	"	25.00	0.655	88	90-110	7	10	QM-07
Selenium	14.1	5.0	"	12.50	3.1	87	90-110	2	10	QM-07
Silver	11.3	10.0	"	12.50	ND	90	80-120	4	10	
Thallium	6.3	1.0	"	6.250	ND	100	90-110	6	10	
Uranium	18.0	1.0	"	12.50	4.6	107	80-120	4	20	
Vanadium	21.0	3.00	"	12.50	8.00	104	90-110	9	10	
Zinc	25.7	50.0	"	25.00	2.86	91	80-120	3	20	

GeoAnalytical Laboratories, Inc.

2300 Maryann Dr. Turlock, CA 95380 Phone (209) 669-0100 Fax (209) 593-2212

email: info@geoanalyticallab.com

Report # F9H0814

Date: 08/20/19

Date Rec'd: 08/08/19

Masellis Drilling
119 Albers Road
Modesto, CA 95357

Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
RL	Reporting Limit
NA	Not Applicable
>AL	Greater than establish Action Levels
>MCL	Greater than establish Maximum Contaminant Levels

State of California

Well Completion Report

Form DWR 188 Incomplete 6/23/2020

WCR2020-007805

Owner's Well Number | Date Work Began: 08/08/2019 | Date Work Ended: 08/09/2019

Local Permit Agency: Stanislaus County Department of Environmental Resources

Secondary Permit Agency | Permit Number: 19-123 | Permit Date: 07/15/2019

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: DAN AVILA

Mailing Address: 2718 ROBERTS RD

City: CERES State: CA Zip: 95307

Planned Use and Activity

Activity: Drill and Destroy

Planned Use: Destruction

Well Location

Address: 1301 N WASHINGTON AVE

City: TURLOCK Zip: 95380 County: Stanislaus

Latitude: 37 Deg. 18 Min. 6.3683 Sec. N

Longitude: -120 Deg. 32 Min. 29.6375 Sec. W

Dec. Lat.: 37.301769 Dec. Long.: -120.541566

Vertical Datum: Horizontal Datum: WGS84

Location Accuracy: Unknown Location Determination Method: Other

APN: 023-039-017

Township: 07 S

Range: 13 E

Section: 28

Baseline Meridian: Mount Diablo

Ground Surface Elevation: 86

Elevation Accuracy: Unknown

Elevation Determination Method: Digital Aerial Photo

Borehole Information

Orientation: Vertical Specify:

Drilling Method: Direct Rotary Drilling Fluid: Bentonite

Total Depth of Boring: 480 Feet

Total Depth of Completed Well: Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: (Feet) Date Measured:

Estimated Yield*: (GPM) Test Type:

Test Length: (Hours) Total Drawdown: (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	3	TOP SOIL
3	30	BROWN SAND
30	38	BROWN CLAY
38	45	BROWN SAND
45	48	BROWN CLAY
48	58	BROWN SAND
58	65	BROWN CLAY
65	71	BROWN SAND
71	87	BROWN CLAY
87	177	BROWN SAND
177	180	BLUE SAND
180	191	BLUE CLAY
191	197	BLUE SAND
197	201	BROWN CLAY
201	206	BROWN SAND

206	208	BROWN SHALE
208	223	GRAY CLAY
223	228	BROWN SAND
228	237	BROWN CLAY
237	243	BROWN SAND
243	245	BROWN CLAY
245	261	BROWN SAND
261	264	BROWN CLAY
264	267	BROWN SAND
267	287	BROWN CLAY
287	289	SAND
289	304	CLAY
304	305	SAND
305	318	CLAY
318	320	SAND
320	326	CLAY
326	330	SAND
330	350	CLAY
350	362	BLACK SAND
362	371	BROWN CLAY
371	373	BLACK SAND
373	376	CLAY
376	377	SAND
377	388	CLAY
388	419	SHALE
419	423	SAND
423	448	CLAY
448	456	SAND
456	480	SHALE

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	20	Bentonite	High Solids		
20	480	Other Fill	See description.		

Destruction Details:
TEST HOLE ONLY- DRILLED AND SEALED 20 FT BENTONITE SEAL

Other Observations:
WATER SAMPLES DONE AT 350-360 FT AND 400-420 FT.

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	480	14

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: MASELLIS DRILLING INC (Person, Firm or Corporation)

119 ALBERS ROAD	MODESTO	CA	95357
Address	City	State	Zip

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 06/22/2020 (Date Signed) | 668622 (C-57 License Number)

Attachments

Image_01105.pdf - Permit

Image_01104.pdf - Permit

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:




Proposal

Proposal No. VC20200292
September 24, 2020

Prepared for:
Dan Avila
Att: Mr. Elwyn V. Heinen
1301 Washington Rd
Turlock, CA 95380

Project:
Budgetary Arsenic Reduction System

Prepared by:
Vince Cheek
Lambert Water Conditioning Inc. "Culligan"
900 Reno Avenue
Modesto, CA 95351
Phone: 209-521-7241
Email: vcheek@lambertwater.com

Lambert Water Conditioning Inc. (Culligan) is pleased to provide Dan Avila with this proposal for water treatment equipment. All equipment and media contained in this proposal are tested and certified under NSF/ANSI 61. This proposal has been designed based on information provided by Advance Design Group and has not been verified by Culligan. This proposal will be amended based on changes required by Stanislaus County Department of Environmental Resources and/or the State of California. A revised proposal will be provided if modifications are required.

Arsenic

The EPA established limit for Arsenic in potable water is 10 parts per billion (ppb). The water analysis for the test Well showed 7-9 ppb.

The equipment proposed utilize a media which absorbs the dissolved Arsenic. When the media is exhausted, the unit is taken offline, and the media replaced. The exhausted media is approved for disposal in a landfill in the U.S.

The design of the system will be to operate the two units (A and B) in series with a lead/lag configuration. Arsenic levels in the effluent of the lead bed A must be regularly monitored. When the lead bed A is exhausted and Arsenic leakage reaches a predetermined level, it is taken off line for rebedding, and the lag bed B now operates alone until bed A can be returned to service with new media as the lag bed. This mode of operation has two benefits:

1. Greater usage can be achieved from the media in the lead bed because it does not have to be taken offline as soon as Arsenic leakage reaches an unsafe level.

2. Monitoring of the Arsenic level after the lead bed becomes less critical as it is not necessary to catch it at the exact moment where it begins leaking an unsafe level of Arsenic. The lag bed will provide for a safe operating condition.

Operating Criteria

Design flow rate 34 gallons per minute (gpm)

Operation is 9 hours per day, 7 days per week

Arsenic level 7–9 parts per billion (ppb)

Scope of Proposal

This proposal's scope of work includes:

1) Design and build of equipment at Culligan's Commercial-Industrial facility in Libertyville, IL.

2) Delivery of equipment to installation site

3) Placement of equipment, manifold assembly, loading of media, connecting communication cables

4) Startup of system including, initial backwash, electronic control programming

5) Plumbing of filters to be done by customer and therefore is not part of this proposal

Pricing

Quantity	Description	Dealer Price
2	Model CTM-AF-36 Arsenic Filter w/ 36" Tank, CTM Valve, and GBE Control	$62,993.00

Pricing Notes

- All prices quoted are in U.S. Dollars.
- Price includes equipment, delivery, freight, setup (not plumbing), sales tax.
- The proposal and the rates provided herein are subject to final site environmental and financial due diligence by Lambert Water.
- This proposal supersedes all previous proposals and correspondence.
- Lead time for equipment delivery and installation is approximately 15 working days from date approved purchase order and down payment is received.

Items and Work provided by Customer

- Provide sufficient area and access for equipment setup at designated location
- Plumbing of arsenic filters at designated location.
- Provide standard 3" drain at arsenic filters location
- Provide 2 standard 110v duplex electrical outlet within 8 feet of arsenic filters location

Validity:

- 90 days from the date of this proposal

Payment Terms

- Purchase Order (equipment will not be ordered without purchase order number)
- 50% down to place order, 25% up on delivery & set up, 25% net 20 days from date of final invoice post completion of Culligan's scope of work as outlined

General Conditions

- Issuance of a Valid Purchase Order to Culligan represents Customer's understanding and agreement with all the terms and conditions listed in this proposal.
- Culligan's proposal is based upon supply of the equipment models noted in this proposal. Materials and services not specifically described/itemized in this proposal are not included in the quoted total price and are to be supplied by the installing contractor/purchaser.
- Culligan reserves the right to re-evaluate the pricing quoted prior to order acceptance if a purchase order is received after the validity date stated in this proposal. Any pricing adjustments required shall be based on a published materials cost index specific to the materials proposed.

Terms and Conditions

Acceptance

These terms and conditions govern your purchase of Equipment ("Equipment") from Culligan (" or "Seller") and any accompanying services, as referenced in the Proposal VC20200292, as well your purchase order ("Order"), and you agree to be bound by the terms and conditions stated herein. Whether these terms are included in an offer or an acceptance by Culligan, such offer or acceptance is conditioned on your assent to these terms. Culligan rejects all additional or different terms, including terms in any of your forms or documents. The Order, the Proposal and these terms and conditions (collectively referred to herein as the "Contract") comprise the entire Contract between you and Culligan and may be amended only by a written agreement signed by both parties. No promise, statement or representation, oral, written, or otherwise, by any employee, agent, subcontractor or authorized representative (collectively, a "Representative") of Culligan will (a) be binding upon Culligan, or (b) relieve you of your obligations herein, unless it appears in the Contract. Waiver of any provision of the Contract shall not be deemed to constitute a continuing waiver.

Installation

You authorize Culligan or a Culligan Representative to: (a) enter premises under your control to install and/or service the Equipment, and (b) do work on, or make changes to, your premises to order to install and/or service the Equipment, whenever Culligan considers it necessary or convenient to accomplish the purpose of this Order. The Order includes issues that must be corrected and/or updated prior to installation. You agree to resolve, and pay for the resolution of, such issues prior to the scheduled installation date. The installation and/or service of Equipment does not include any repairs to your electrical and/or plumbing systems, including without limitation replacement of gate valves or draining down of pressure tanks. Anything that would be considered a repair to your electrical or plumbing system will be billed as an extra expense at regular and customary rates. Culligan or its Representative reserves the right to decline to make repairs and to refer you to a licensed electrician or plumber.

Use & Maintenance

The Equipment is not for use with influent water which is (a) microbiologically unsafe, or (b) of unknown quality without adequate treatment and/or disinfection. You must maintain the Equipment according to manufacturer instructions using manufacturer-authorized service parts, including replacement of filters and other components. If your water quality, water consumption, water pressure or flow rate change, or if maintenance of the

Equipment is affected by external factors such as sand or sediment or an inadequate water supply, different or additional Equipment may be required, and this Equipment should not be used if such quality, consumption, pressure, flow rate change or external factors are outside of specified ranges. You are responsible for all maintenance of and repairs to the Equipment arising from damage due to (a) your misuse or negligence, (b) theft, (c) unreasonable wear and use (including without limitation repair or alteration by unauthorized persons and relocation from the original site of installation), or (d) any other event beyond Culligan's control.

Warranty

Culligan warrants to you that for a period of one (1) year on parts and ninety (90) days on labor, both beginning from the date of shipment: (i) the Equipment shall materially conform to the description in the Equipment section; and (ii) the Equipment shall be free from defects in material and workmanship. If you give Culligan written notice of a breach of this warranty occurring during the stated warranty period for a part comprising the Equipment, Culligan shall, at its sole option and as your exclusive remedy, repair or replace the subject parts or refund the purchase price. If Culligan determines that any claimed breach is not, in fact, covered by this warranty, you shall pay Culligan its then customary charges for any repair or replacement made by Culligan. *The warranty provided herein is conditioned on You* (a) providing Culligan with written notice of a breach (or a potential breach) of warranty within 60 days of discovery of such breach, (b) operating and maintaining the Equipment in accordance with Culligan's instructions, (c) not making any unauthorized repairs or alterations, and (d) not being in default of any payment obligation to Culligan. Culligan's warranty does not cover damage caused by chemical action or abrasive material, misuse or improper installation (unless such improper installation was done by Culligan). The warranties set forth in this section are your sole and exclusive warranties. CULLIGAN DISCLAIMS ALL OTHER WARRANTIES OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Limitation of Liability

Notwithstanding anything else to the contrary, Culligan shall not be liable for any consequential, incidental, special, punitive or indirect damages, and Culligan's total liability arising at any time from the sale or use of the Equipment shall not exceed the purchase price paid for the Equipment. These limitations apply whether the liability is based on contract, tort, strict liability or any other theory, including, without limitation, loss of data or its use, loss of profits, loss of business, or other economic damages, even if advised of the possibility of such loss or damage. **Cancellation** If you cancel or suspend your Order for any reason other than Culligan's breach, you shall pay Culligan within ten (10) business days for all work performed prior to cancellation or suspension, as well as any other direct costs incurred by Culligan as a result of such cancellation or suspension.

Changes

Culligan shall not implement any changes in the scope of work described in the Order unless you and Culligan agree in writing to the details of the change and also agree in writing to any resulting price, schedule or other contractual modifications. This includes any changes necessitated by a change in applicable law occurring after the effective date of any contract including these terms.

Liens & Insurance

Title to the Equipment and risk of loss shall pass to you at the time the Equipment is delivered to the carrier for shipment. Prior to full payment of the purchase price, you shall not permit any lien, encumbrance or security interest to attach to the Equipment or be levied upon the Equipment under legal process, or dispose of the Equipment or permit anything to be done that may impair the value of the Equipment. After title to the Equipment passes to you but prior to full payment of the purchase price, you must insure the Equipment against risk of loss or damage, including extended coverage, theft and such other casualties, in an amount equal to full replacement value.

Defaults & Remedies

Any of the following events will constitute an event of default under this Order: (a) your failure to pay any amount when due; (b) your failure to perform any covenant or obligation in this Order; (c) your giving any untrue or misleading representation or warranty or furnishing any untrue or misleading financial information; (d) your refusal to accept delivery of all or a portion of the Equipment, or rejection of all or a portion of the Equipment upon delivery; (e) your business failure, or failure or inability to pay debts in the ordinary course or as they become due, or insolvency within the meaning of the federal bankruptcy laws or state insolvency laws or otherwise; (f) the commission of any act of bankruptcy, assignment for the benefit of creditors, composition of creditors or commencement of any proceedings, whether voluntary or involuntary, under any federal or state bankruptcy, reorganization or insolvency laws; or (g) the attachment or garnishment of, or levy or execution upon, your assets, property, business or income, or the appointment of a receiver or trustee of or for any part of your assets, property or business. Upon the occurrence of any event of default, Culligan shall have all the rights and remedies available under the Illinois Uniform Commercial Code or other applicable law and all rights provided in this agreement, all of which shall be cumulative. Without limiting the generality of the foregoing, upon the occurrence of any such event of default, Culligan shall have the right not to continue to perform service activities as described in this Order.

Indemnity

You shall pay, hold harmless, indemnify and defend Culligan from and against any loss, liability, claims, suits and costs caused by, arising out of, or relating to any damage to property or injury or death of persons arising out of the unloading, storage, application, handling, use, disposal or service of the Equipment by Culligan or its Representative or affiliates except for that portion of damages attributable to the negligence of Culligan or its Representative. Your indemnity obligation will survive the expiration, termination or cancellation of this Order.

Force Majeure

Under no circumstances shall either party be liable for any breach (except for breach of payment obligations) caused by extreme weather or other act of God, strike or other labor shortage or disturbance, fire, accident, war or civil disturbance, delay of carriers, failure of normal sources of supply, act of government or any other cause beyond such party's reasonable control.

Waiver

The failure of either party to enforce at any time or for any period of time any of the provisions of this Contract will not be construed to be a waiver of such provisions or of its right thereafter to enforce such provision and each and every provision thereafter.

General Provisions

All notices, requests, demands and other communications under this Contract shall be in writing and shall be deemed duly given (a) if transmitted by facsimile, upon telephone confirmation of receipt of the transmission, (b) if sent by overnight courier, one business day after delivery to said courier, or (c) if mailed by first-class mail, postage prepaid, three business days after mailing, to you at the address on this Order and to Culligan, Attn: General Counsel, 900 Reno Avenue, Modesto, CA 95351, or such other address designated in writing from time to time. No course of dealing or performance, usage of trade or failure to enforce any term shall be used to modify the Agreement. If any of the provisions of this Order are held by a court of competent jurisdiction to be invalid, illegal, or unenforceable, the provisions shall remain in effect to the extent allowed by law and the validity, legality, and enforceability of the remaining provisions shall in no way be affected or impaired thereby. You may not assign or permit any other transfer of the Contract without Culligan's prior written consent. This Contract shall be governed by and construed in accordance with the laws of the State of Illinois.

Proposal Acceptance

You understand that this Proposal has been issued based upon the information provided by you, and currently available to Lambert Water Conditioning Inc. at the time of proposal issuance. Any changes or discrepancies in site conditions (including, but not limited to, system feed characteristics, changes in Environmental Health and Safety (EH&S) conditions, and/or newly discovered EH&S concerns); Your financial standing, Your requirements, or any other relevant changes, or discrepancy in, the factual basis upon which this proposal was created, may lead to changes in the offering, including, but not limited to, changes in pricing, warranties, quoted specifications, or terms and conditions.

We have read and agree to this Proposal, VC20200292 dated 9/24/2020, and the terms and conditions within.

Dan Avila

Accepted _____ _____ _____

Signature Title Date

Accepted _____

Printed Name

Dan Avila Purchase Order Number

_____

Lambert Water Conditioning Inc.

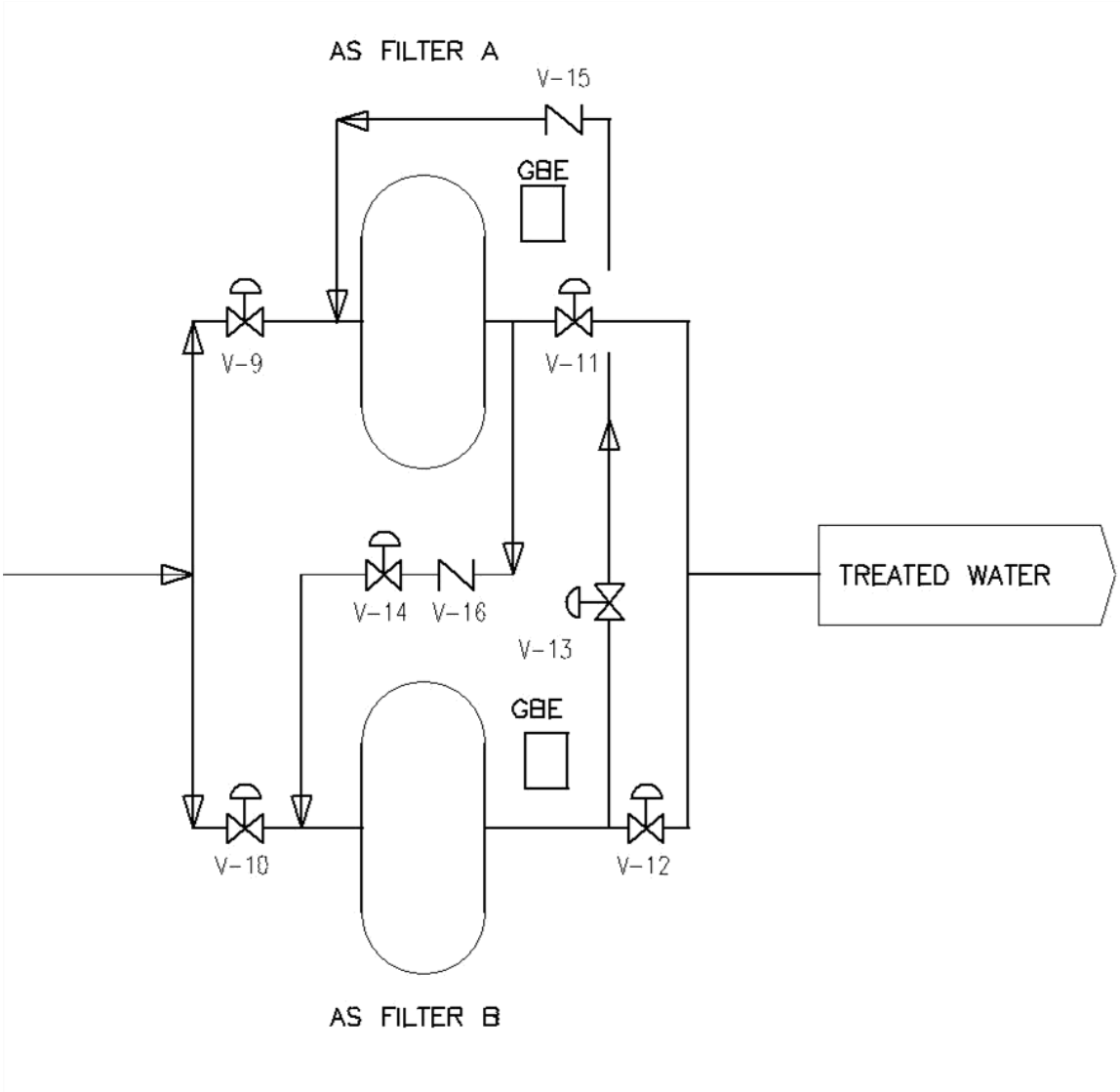
Accepted _____ _____ _____

Signature Title Date

Accepted _____

Printed Name

CTM-AF-36” ARSENIC FILTERS



ARSENIC FILTERS — VALVE SEQUENCE CHART

	VALVE NO.							
SYSTEM STATUS	V9	V10	V11	V12	V13	V14	V15	V16
A—LEAD, B—LAG	O			O		O		0
B—LEAD, A—LAG		O	O		O		O	

O = OPEN

KEY

TRUE UNION CHECK VALVE

TRUE UNION BALL VALVE

CTM Arsenic Filter System Design Data

Filtration System Selected is: CTM-AF-36

The CTM will provide (Each Unit):

Design Flow, gpm	: 34 gpm @ 3.8 psi
Total Media Volume (Bay oxide E33) ft^3	: 18
Empty Bed Contact Time, min	: 6.7
Tank Size, in.	: 36 x 72
Tank Area, ft^2	: 7.08
Freeboard, in.	: 36

Reconditioning Data (Each Unit):

Backwash Flow Req'd, gpm	: 70
Recond Water Req'd, gals	: 2220
Total Regen Time, min	: 22

System Requirements:

Operating Press. psi	: 35-125
Operating Temp., °F	: 40 - 120
Voltage	: 120 / 24 Volts AC, 50 / 60 Hz, 1 Ph
Full Load, Amps	: < 1
Pipe Conn, in NPT...	
Inlet	: 2
Outlet	: 2
Drain	: 2
Weight, lbs...	
Shipping	: 1132
Operating	: 2108
Overall Dimensions, in....	
Width x Height x Depth	: 36 x 100 x 36

Additional Notes:

INTEGRATED WATER SYSTEM SOLUTIONS
APU & MODULAR SYSTEM APPLICATIONS
GFO Adsorption Media – Arsenic Reduction

AdEdge Water Technologies, LLC.'s Bayoxide® E33 media is the industry standard for arsenic reduction that reduces up to 99% of total arsenic, including both arsenic (III) and arsenic (V). It is also effective in reducing other heavy metals such as lead, antimony and others. This revolutionary new iron-based granular adsorption media is the standard in the industry showing consistently higher capacities than other commercially available adsorption media. The product has been utilized in over 12 USEPA Arsenic Demonstration projects and hundreds of public water systems throughout the world. AdEdge's product is ideal for integrated water system solutions, commercial installations, remediation, and residential POE systems to meet the new EPA arsenic standard of 10 ppb. Developed in the mid-nineties, this ferric oxide-based (GFO) product has been successfully used more than any other product in large-scale drinking water applications since 1999. It has become the premier product of choice for commercial drinking water treatment systems for reliable, cost-effective, proven reduction of arsenic.

FEATURES & BENEFITS

✓ Removal of up to 99% of total Arsenic in water, including As (III) & As (V) with no wasting of water.	✓ NSF 61 product listing (see AdEdge for listing site/product details) ✓ Effective over broad water chemistry.
✓ Spent media discarded as non-hazardous solid waste.	✓ Simple application for commercial applications for arsenic removal.
✓ Reliable performance, low maintenance ✓ Adaptable add-on to water softening or other existing equipment.	✓ 2 - 2.5 times lighter than other iron-based media; easily backwashable; arsenic not released or discharged in backwash water.
✓ Effective for reducing antimony, lead, and other heavy metals.	✓ Imparts no harmful chemicals into the treated product water. ✓ No salt, chemicals or regeneration needed

TECHNICAL SPECIFICATIONS

E33 provides cost effective centralized arsenic treatment with a typical life of 6-48 months before replacement in most cases. The media exhibits high operating capacity across a wide range of pH, influent arsenic concentrations and flow rates. It is simple to apply in standard pressure vessels with flow rates ranging from 10-600 gallons per minute. Once the media is exhausted, E33 can be discarded as a non-hazardous waste (specific state requirements should be consulted). Media is easy to handle and can be stored and shipped dry.

Physical Properties	E33 Media
Matrix	Iron Oxide Composite
Physical Form	Dry granular media
Color	Amber
Particle Size Distribution	10x35 or 14x18 mesh
Moisture Content	< 15% by wt.
Packaged	Dry

Bayoxide® E33

AdEdge Water Technologies, LLC.
5152 Belle Wood Court Buford, GA 30518
Toll Free: (866) 8ADEDGE Fax: (678) 835-0057 www.adedgetechnologies.com

Arsenic Removal Performance (POE)	
Arsenic concentration range [1,2]	10 – 100+ ppb
Arsenic species reduced [1]	As (III) and As (V)
Removal efficiency	Up to 99%
Estimated media life [2]	6-36 months (typ)
Expected life bed volumes [2]	site specific
Spent media disposal [3]	Non-hazardous waste
Empty bed contact time	3-4 minutes typical

Water Quality & Application Notes:

1. Typical arsenic concentrations iin U.S. < 50 ppb; Consult AdEdge for applications above 100 ppb; Capacity for As (V) > As (III).
2. Actual bed volumes based on water quality.
3. Reference US EPA TCLP protocol
4. Water > 8.3 pH may require pH adjustment for best results. CO_2 gas, HCl or H_2SO_4 may be used; Consult AdEdge
5. For all applications, complete AdEdge Site Profile sheet to pre-qualify site for proper use;
6. Pre-treat for sulfides, organics, or tannins if present prior to adsorption.
7. Water quality in Table below is best results.

Parameter	Value [1]
pH range [2]	5.5 - 8.5
Arsenic [3]	< 300 ug/L
Iron	< 0.3 mg/L
Manganese	< 0.05 mg/L
Phosphate	< 0.5 mg/L
Silica	< 30 mg/L
Sulfate	< 100 mg/L
Sulfides	< detect mg/L
TSS	< 5 mg/L
Fluoride	< 1 mg/L
Hardness	< 300 mg/L
Turbidity	< 5 NTU

Use of E33 media in typical Adsorption Package Units (APU) and Modular System installations).

Notes:
--Media life based on gallon usage and water profile; will vary by individual site based on water quality and usage
--AdEdge recommends effluent testing and monitoring program to determine media breakthrough.

AdEdge Water Technologies, LLC.
5152 Belle Wood Court, Buford, GA 30518 U.S.A.
Toll Free (866) 8ADEDGE
FAX: (678) 835-0057
www.adedgetechnologies.com

APPENDIX D

PHASES I AND II OF THE ENVIRONMENTAL SITE ASSESSMENT

Phase I/Phase II Environmental Site Assessment

Avila & Sons
North Washington Road Warehouse Project
Stanislaus County, California

December 2013

J House Environmental, Inc.
Site Assessment ✧ Remediation ✧ Safety Risk Analysis

J House Environmental, Inc.
Site Assessment ✧ Remediation ✧ Safety Risk Analysis

December 9, 2013

Mr. Randy Chafin, Principal Planner
Quad Knopf, Inc.
735 Sunrise Avenue, Suite 100
Roseville, CA 95661

PHASE I/PHASE II ENVIRONMENTAL SITE ASSESSMENT
AVILA & SONS NORTH WASHINGTON ROAD WAREHOUSE PROJECT
STANISLAUS COUNTY, CALIFORNIA

Dear Mr. Chafin:

J House Environmental, Inc. is pleased to present this Phase I/Phase II Environmental Site Assessment (ESA) for the Avila & Sons North Washington Road warehouse project site. The approximately 61.7-acre project site (APN 023-039-017 and 023-039-018) is located on the west side of North Washington Road, south of Fulkerth Road, in an unincorporated portion of Stanislaus County just west of the City of Turlock.

The Phase I/Phase II ESA identifies and addresses several potential environmental concerns at the subject property. The items of potential concern and conclusions regarding each item are as follows:

- The project site has been used for agricultural production since at least 1946. Due to the lengthy period of site use as orchard land and for growing irrigated row crops, organochlorine pesticides (OCPs) and lead and arsenical-based pesticides may have been applied and chemical residues may be present. Phase II soil sampling has been conducted to evaluate whether chemical residues associated with orchard land and/or irrigated crop field production are present in soil in concentrations that could pose a health risk. Results of the Phase II soil sampling do not show the presence of OCPs, lead or arsenic in concentrations above human health screening levels established for commercial/industrial land use.

- Two areas in the eastern portion of the site have been used for agricultural support facilities, including dwellings, barns, outbuildings and equipment storage areas, since at least 1946. Support operations conducted during this period may have included farm equipment maintenance and fueling as well as agricultural chemical storage and mixing. Due to the lengthy period of use of this area for support activities, petroleum products, pesticides and other materials may have been released and chemical residues may be present. Phase II soil sampling has been conducted to evaluated whether chemical residues associated with agricultural support operations are present in soil in concentrations that could pose a health risk. Results of the Phase II soil sampling do not

show the presence of OCPs, lead, arsenic or petroleum hydrocarbon residues in concentrations above human health screening levels established for commercial/industrial land use. However, as an added precaution, J House Environmental, Inc. recommends that the project proponent consider surfacing work areas and heavy foot traffic areas inside the eastern, unpaved portion of the barn/packing shed, where concentrations of 4,4'-DDT and 4,4'-DDD were detected in soil, to reduce worker exposure to dust and minimize any potential risk in this area.

- The northeastern portion of the project site is presently used for agricultural support operations, including agricultural chemical storage and mixing and farm equipment storage, maintenance, repair, fueling and washing. At the time of the site inspection, areas where chemicals were being stored and/or handled appeared generally clean and well maintained. With implementation of the warehouse project, storage and use of agricultural chemicals and petroleum products will continue. Activities involving the storage and/or use of agricultural chemicals and petroleum products will need to be conducted in accordance with any applicable Stanislaus County or State regulatory standards to ensure that operations do not pose a risk of release of hazardous materials. During project development and implementation, any required permits or notifications for agricultural chemical and petroleum product handling and use at the site should be obtained from the appropriate regulatory agencies.

- Due to the age of the structures at the project site, asbestos containing materials (ACMs) and surfaces painted with lead-based paint may be present. During project development and implementation and prior to any demolition or renovation activities that could disturb suspect ACMs and painted surfaces, material testing should be conducted to ensure worker safety and confirm proper disposal methods for any demolition debris.

If you have any questions regarding this report, please contact me at (530) 885-7801.

Sincerely,

Jackie House

Jackie House PG, CEG, CHG
Principal Geologist

Phase I/Phase II Environmental Site Assessment

Avila & Sons North Washington Road Warehouse Project
Stanislaus County, California

December 9, 2013

Prepared for:

Quad Knopf, Inc.
735 Sunrise Avenue, Suite 100
Roseville, CA 95661

Prepared by:

J House Environmental, Inc.
371 Nevada Street, #7366
Auburn, CA 95604

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PHASE I/PHASE II ENVIRONMENTAL SITE ASSESSMENT
AVILA & SONS NORTH WASHINGTON ROAD WAREHOUSE PROJECT
STANISLAUS COUNTY, CALIFORNIA

1.0 INTRODUCTION

This report presents a Phase I/Phase II Environmental Site Assessment (ESA) for the approximately 61.7-acre Avila & Sons warehouse project site (APN 023-039-017 and 023-039-018). The project site is located on the west side of North Washington Road, south of Fulkerth Road, in an unincorporated portion of Stanislaus County just west of the City of Turlock (Figure 1, Figure 2).

2.0 SITE DESCRIPTION

The subject property is an approximately 61.7-acre rectangular shaped site (APN 023-039-017 and 023-039-018) located within Section 18, Township 5 South, Range 10 East, Mount Diablo Base and Meridian (M.D.B.&M.). An assessor's parcel map that covers the subject property is included in Appendix A.

The site is currently used for agricultural purposes. Cultivated fields encompass the southern and northwestern portions of the site. The northeastern portion of the site is used for agricultural support operations. A number of structures, including two dwellings, a barn, a pole barn (frame structure), a storage structure and a few small outbuildings, are located in the eastern portion of the support operations area. A runoff basin is located in the northwestern portion of the site, at the boundary between the support operations area and the northwestern crop field. Potable water is provided by an onsite domestic well located adjacent to one of the dwellings in the eastern portion of the support operations area; irrigation water is provided by an onsite irrigation well located at the northeastern corner of the subject property. Two onsite septic systems located in the dwelling areas are utilized for sewage disposal.

The project site is located within an area primarily characterized by agricultural land and rural residences. North Washington Road is located adjacent to the eastern site boundary; an irrigation water canal is located adjacent to the southern site boundary. The area immediately east of the subject property, across North Washington Road, is developed with a Blue Diamond Growers processing facility.

3.0 PHYSICAL SETTING

The subject property is located at an elevation of approximately 85 feet above mean sea level. The topography in the project area is relatively flat, with a very slight southwestward slope.

The project site is located in the San Joaquin Valley, within the Great Valley Geomorphic Province. Regional geologic maps indicate that the project site and surrounding areas are underlain by the Quarternary Modesto Formation, which is characterized by arkosic alluvium (Wagner, D.L., et. al., 1991). The Modesto Formation is typically comprised of interbedded gravel, sand, silt and clay.

The predominant soil types at the project site are Dinuba sandy loam, 0 to 1 percent slopes; Dinuba sandy loam, deep, 0 to 1 percent slopes; and Hanford sandy loam, 8 to 15 percent slopes, as mapped by the U.S. Department of Agriculture, Natural Resources Conservation Service. The Dinuba sandy loams are moderately well drained soils formed in alluvial material derived from granitic rock sources. The Hanford sandy loam is a well drained soil derived from igneous rock sources.

The subject property is located within the San Joaquin Valley Groundwater Basin, Turlock Subbasin, as defined by the California Department of Water Resources (DWR). Historic groundwater levels recorded by DWR for wells in the project area indicate that depths to groundwater have fluctuated between approximately 10 and 23 feet below ground surface (bgs). The direction of groundwater flow in the project area, as mapped by DWR, is generally westward.

4.0 PHASE I ENVIRONMENTAL SITE ASSESSMENT

The Phase I ESA has been prepared in general conformance with the American Society for Testing and Materials (ASTM) "*Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*" (E1527-05). The purpose of the Phase I ESA is to identify if "recognized environmental conditions", as defined in ASTM E1527-05, or other potential environmental concerns exist at the subject property. The term "recognized environmental conditions" refers to the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. The term is not intended to include "de minimis conditions" that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

The scope of work for the Phase I ESA included the following:

- Obtain and review historic aerial photographs of the subject property and surrounding areas;
- Obtain and review historic maps of the subject property and surrounding areas;
- Conduct an environmental regulatory agency database search of the subject property and surrounding areas within ASTM-specified search radii;
- Perform a field inspection of the subject property and a reconnaissance of surrounding areas and photograph the inspected areas to document site conditions; and
- Interview the property owner and persons familiar with the site use history.

4.1 Site Use History

The historic use of the subject property and surrounding areas has been evaluated in this Phase I ESA through review of aerial photographs, review of historic maps, review of historic records and

interviews with the property owner and persons familiar with the site use history. The information obtained is presented in the following subsections.

4.1.1 Aerial Photograph Review

Twelve aerial photographs with coverage of the subject property and surrounding areas have been obtained and reviewed. The photos are presented in Appendix B. A description of features observed on the photos follows.

1946 photo; 1"=500': The majority of the project site appears to be in agricultural production with row crops. Two areas in the eastern portion of the site are developed with structures. What appears to be a dwelling and an outbuilding are visible in each of the two developed areas. Irrigation canals are visible along the northern and southern property boundaries. A lineation that appears to be an unpaved road is visible extending from the northern property boundary southward, toward the northernmost developed area. Areas immediately surrounding the site appear to be in agricultural production. Agricultural fields, irrigation ditches, roads and several small structures are visible in areas surrounding the subject property.

1957 photo; 1"=500': The project site and surrounding areas appear similar to that depicted on the 1946 photo. The lineation visible on the 1946 photo in the area extending from the northern property line southward, is no longer visible. Additional outbuildings are visible within the developed areas noted on the 1946 photo. The developed areas have been expanded westward with cleared land.

1967 photo; 1=500': The project site and surrounding areas appear similar to that shown on the 1957 photo. An unpaved road is visible extending between the two developed areas in the eastern portion of the site. Additional outbuildings are visible within the developed areas in the eastern portion of the subject property. Several additional structures are visible in surrounding areas south and southeast of the site.

1984 photo; 1"=500': The southeastern portion of the site appears to be planted with orchard trees. Due to the poor resolution of the photo, it is difficult to determine if the remainder of the site is under production with row crops or if it has also been converted to orchard land. The two developed areas appear similar to that shown on the 1967 photo. Areas surrounding the subject property appear similar to that shown on the 1967 photo.

1987 photo; 1"=500': The majority of the project site, as well as adjoining properties to the north and west, appear to have been converted to orchard land. However, due to the poor resolution of the photo, details are difficult to discern.

1998 photos (2); 1"=500': The majority of the project site is planted with orchard trees. The two developed areas in the eastern portion of the site appear similar to that shown on the 1987 photo. The irrigation canal that was visible along the northern boundary of the project site on earlier photos is no longer visible. Adjacent properties to the south, west and north are in production as orchard land.

2005 photo; 1"=500': The project site and surrounding areas appear similar to that shown on the 1998 photos.

2006 photo; 1"=500': The northern portion of the subject property has been cleared of orchard trees. The developed areas in the eastern portion of the site appear similar to that shown on the 2005 photo. Areas surrounding the project site appear generally similar to that shown on earlier photos.

2009 photo; 1"=500': The majority of the project site appears to be under cultivation with row crops. All of the orchard trees have been removed from the subject property. An outbuilding that was visible in the southernmost developed area on earlier photos appears to have been removed and replaced with a new outbuilding. Areas surrounding the project site appear similar to that shown on the 2006 photo.

2010 photo; 1"=500': The project site and surrounding areas appear similar to that shown in the 2009 photo.

2012 photo; 1"=500': The southern and northwestern portions of the project site are under cultivation with row crops. A large area in the northeastern portion of the site has been cleared. Parked vehicles and farm equipment are visible in the cleared area. The cleared area surrounds the two developed areas in the eastern portion of the site, visible on earlier photos. The two developed areas appear generally similar to that shown on the 2010 photo. One outbuilding visible in the northernmost developed area on earlier photos appears to have been removed. Additional outbuildings are visible in the southernmost developed area noted on earlier photos. A runoff basin is visible in the photo in the northwestern portion of the site, at the boundary between the support operations area and the northwestern crop field. Property located east of the site, across North Washington Road, appears to have been cleared and graded in preparation for development. Other surrounding properties appear generally similar to that shown in the 2010 photo.

4.1.2 Historic Map Review

Six historic topographic maps with coverage of the subject property and surrounding areas have been obtained and reviewed. The maps are presented in Appendix C. A description of features observed on the maps is presented below. A search for Sanborn Fire Insurance Maps was conducted; results indicate no coverage available in the project area. Documentation of the Sanborn Map search is included in Appendix C.

1916 topo: Two structures are shown in the eastern portion of the project site, along the current alignment of North Washington Road. The remainder of the site appears vacant. A water canal is depicted along the northeastern boundary of the site. An unpaved road and a water canal are depicted along the southern boundary of the site. Areas surrounding the subject property generally appear vacant. Several paved and unpaved roads, water canals, and widely spaced small structures are shown in the project area.

1941 topo: The project site and surrounding areas appear generally similar to that depicted on the 1916 map. Two additional structures are shown in the eastern portion of the project site, adjacent to the structures depicted on the 1916 map. Several additional structures and paved and unpaved roads are shown in areas surrounding the subject property.

1953 topo: The project site and surrounding areas appear generally similar to that shown on the 1941 map. The water canal depicted along the northeastern boundary of the site on the 1941 map is

shown extending across the entire northern boundary of the subject property. The road depicted adjacent to the water canal along the southern boundary of the site on the 1941 map is no longer shown. Orchard land and farm land are shown in areas surrounding the site.

1969 topo: The project site and surrounding areas appear generally similar to that shown on the 1953 map. A water well is depicted in the northeast corner of the subject property. Additional areas surrounding the project site are depicted as orchard land and farm land.

1976 topo: The project site and surrounding areas appear similar to that shown on the 1969 map. A few additional structures are shown in surrounding areas.

1987 topo: The project site and surrounding areas appear similar to that shown on the 1976 topographic map. Several additional structures are shown in areas surrounding the site.

Sanborn Maps: A search for Sanborn Fire Insurance Maps was conducted; results indicate no coverage available in the project area.

4.1.3 Records Review

A City Directory search was conducted for the project site and surrounding areas. Directories for the years 1964 through 2013 were reviewed to identify recorded land use. The records show individual occupants at the subject property and nearby surrounding properties. Based on the listings, it does not appear that any industrial or manufacturing operations have been located on the project site or surrounding areas. The City Directory search results are presented in Appendix D.

The Stanislaus County Assessor's Office was contacted to obtain property information for the site. Records indicate that the dwelling located in the northern portion of the site (APN 023-039-017) is a 900 square foot, two bedroom, one bath structure that was constructed in 1920. The dwelling located in the southern portion of the site (APN 023-039-018) was reportedly constructed in 1908 and is a 1427 square foot, three bedroom, one bath structure.

4.1.4 Interviews

Mr. Dan Avila, the current property owner, was interviewed to obtain information regarding current and past use of the project site. Mr. Avila acquired the parcels that comprise the subject property in 2009 and 2010. Since the time of acquisition, Mr. Avila has used the property for agricultural production of sweet potatoes and watermelon. Support activities conducted on the site include farm equipment storage, maintenance, repair, fueling and washing, as well as agricultural chemical storage and mixing. Mr. Avila indicated that the crop fields on the subject property are routinely treated with agricultural chemicals, including miticides, worm insecticides and fungicides. The chemicals are applied to the fields using air boom sprayers. Pesticide storage and use at the site is conducted under permit from Stanislaus County and periodic pesticide use reports are submitted, as required. A domestic water supply well, an irrigation water supply well and two septic systems are in use on the subject property. During his period of ownership, Mr. Avila constructed a pole barn in the eastern portion of the site and removed a barn from the eastern portion of the site.

According to Mr. Avila, prior to his acquisition the subject property was used as an almond orchard. Small scale dairy operations were also conducted in the eastern portion of the site. Mr.

Avila indicated that a milking barn and a corral were formerly located behind (west of) the northernmost dwelling. Mr. Avila believes that this area was used for very limited dairy operations (fewer than 10 to 15 cows) from pre-1960 through the 1980s. Mr. Avila indicated that dairy feed stations were formerly located behind (west of) the southernmost dwelling and the barn located in this area was formerly used for milking operations. Mr. Avila believes that this area was used for very limited dairy operations in early years, and was expanded to accommodate approximately 100 dairy cows by approximately 2007-2008. According to Mr. Avila, cow manure was spread on the agricultural fields and no waste pits or waste ponds were associated with the former dairy operations.

Mr. Avila is not aware of any existing or former underground storage tanks or aboveground storage tanks, or any existing or former waste pits, waste sumps, waste disposal areas or waste burn areas at the site. According to Mr. Avila, no chemical spills or environmental cleanups have occurred at the site and no environmental liens or land use restrictions are associated with the subject property. Mr. Avila is not aware of any signs of contamination or other environmental concerns at the site and he indicates that no environmental assessments (e.g. Phase I environmental site assessment) have previously been conducted for the subject property.

4.2 Site Inspection Observations

A site inspection and area reconnaissance was conducted by Ms. Jackie House on November 18, 2013. Photographs taken during the site inspection are presented in Appendix E. Mr. Dan Avila accompanied Ms. House during part of the site inspection and provided information regarding site use practices. A summary of observations made during inspection of the site and surrounding areas is presented in the following subsections. Figure 3 shows features noted during the site inspection. The objective of the site inspection is to identify whether there are any visible indications of "recognized environmental conditions" at the site; the site inspection does not address regulatory compliance or permitting issues for current site operations.

4.2.1 Project Site

At the time of the site inspection, the crop fields in the southern and northwestern portions of the site were fallow. The runoff basin located at the edge of the northwestern crop field area contained water and runoff was observed entering the basin from a drainage pipe. The runoff basin area appeared clean; no trash or debris was noted in the area of the runoff basin and there was no sheen noted on the water surface.

The northeastern portion of the subject property was being used for agricultural support operations at the time of the site inspection. The irrigation well was observed at the northeastern corner of the site. An irrigation water lift station was observed at the southwestern corner of the operations area. Three pole-mounted transformers were observed along North Washington Road and one pole-mounted transformer was observed adjacent to the irrigation water lift station. No staining or signs of leakage were noted beneath the pole-mounted transformers.

The dwelling located in the northern portion of the operations area was not occupied at the time of the site inspection. Several pieces of office furniture (desks, tables, etc.) were observed stored inside the dwelling. The dwelling and surrounding areas appeared clean and well maintained. A

recently installed truck scale was noted within the unpaved driveway south of the dwelling. A portable generator located adjacent to the domestic water supply well behind (west of) the dwelling was in operation at the time of the inspection; Mr. Avila indicated that the generator was being used to operate the well pump, since the electrical service had been temporarily shut off.

Three outbuildings were located west of the domestic supply well and unoccupied dwelling at the time of the site inspection. An approximately 500 square-foot wood-framed structure with a dirt floor was being used for agricultural chemical storage. Chemical containers were segregated by type and stored on wooden pallets within this structure. The storage area appeared clean and well maintained. No stains or signs of chemical release were noted on the dirt floor beneath the stored chemicals. A small wood-framed structure with a concrete slab floor, located adjacent to the agricultural chemical storage building, was being used to store various small domestic items and hardware (folding chairs, bolts, hoses, etc.) at the time of the site inspection. A small concrete block structure with a concrete slab floor, located approximately 100 feet southwest of the agricultural chemical storage building, was empty at the time of the site inspection. No signs of hazardous material release were noted in these outbuildings at the time of the site inspection. Mr. Avila indicated that these outbuildings had been present for a lengthy period of time and that a barn and corral structure, which he removed, had also been located in this area. Mr. Avila believes that the former barn and corral structure were used in association with very limited, small-scale dairy operations (fewer than 10 to 15 cows). No staining, soil discoloration or signs of chemical release were noted on the ground surface in the area of the former barn.

Two east-west trending breaks in slope in the graded ground surface were observed in the area west of the outbuildings and former barn. Mr. Avila indicated that this area was used for truck loading. Several metal loading platforms were observed along the breaks in slope. Irrigation pipes, packing crates, irrigation hoses and open slat truck trailers were stored south of the truck loading area at the time of the site inspection. No indications of hazardous material release were noted in these areas.

The dwelling located in the southern portion of the operations area was occupied by a tenant at the time of the site inspection. An asphalt-paved area surrounding the dwelling was being used for parking. The dwelling and surrounding asphalt-paved area appeared clean and well maintained. Only a few very minor oil stains were observed on the asphalt surface.

At the time of the site inspection, the unpaved area adjacent to the northwestern edge of the asphalt pavement was being used for farm equipment washing. A pressure washer was being used to rinse off a tractor, a plow and other equipment. No detergents were being used. Runoff from the wash area flowed toward the northwest, where it ponded beneath stored truck trailers. A very slight hydrocarbon sheen was observed on some of the runoff.

The unpaved area immediately west of the asphalt pavement was being used for storage of various items at the time of the site inspection. Irrigation pipe, spare parts, irrigation hoses and scrap wood were stored on the ground surface, on wooden pallets and in packing crates. Three propane tanks (approximately 300-gallon capacity each) and a large (approximately 10,000-gallon capacity) steel tank were being stored in this area. Mr. Avila indicated that the large steel tank had not been used at the subject property and was being temporarily stored for possible future use. Mr. Avila indicated that a feed station for dairy cows was formerly located west of this unpaved storage area. Mr. Avila believes that the former feed station area was initially used in association with very

limited dairy operations (fewer than 10 to 15 cows) and that dairy operations in this area were expanded to accommodate approximately 100 cows by 2007-2008. No staining, soil discoloration or signs of chemical release were noted on the ground surface in the unpaved storage area and former feed station area located west of the asphalt pavement.

An approximately 8000 square foot barn/packing shed located at the southwestern edge of the asphalt paved area contained machinery used for produce packing and a variety of stored items at the time of the site inspection. The easternmost portion of this structure encompasses the wooden barn and outbuilding visible on historic aerial photographs dated 1946 and 1957. The westernmost portion of this structure is comprised of more recent wood-framed sheet metal additions that are visible on aerial photographs dated 2009 and later. The older, eastern portion of the structure has a dirt floor. At the time of the site inspection, this portion of the structure was vacant. There were no signs of staining or chemical release on the dirt floor. The newer, western portion of the structure has a concrete slab floor. At the time of the site inspection, a produce packing machine with a conveyor was set up on the concrete slab floor along the south wall of this portion of the building. Mr. Avila indicated that this packaging machinery was not currently in use. What appeared to be a small hydraulic oil leak was observed adjacent to a pump/reservoir mounted on the packing machine. An approximately 5’ by 7’ area of the concrete floor in this area appeared stained and wet with oil. Mr. Avila indicated that he had not been aware of this leak and stated that the concrete floor would be cleaned and the equipment would be repaired to prevent any further leakage. The staining and apparent leakage was confined to the concrete slab portion of the barn and did not extend onto unpaved surfaces. Items stored on the concrete floor in the northwestern portion of the barn/packing shed included cardboard produce packing boxes, used tires, PVC pipe segments, tools, metal fencing segments, used vehicle parts (engine and transmission stored on wooden pallets) and a grease drum stored on a wooden pallet. Only a few very small stains were visible on the concrete floor in the area of these stored items.

A small wooden shed with a dirt floor, located just west of the barn/packing shed, contained an air compressor at the time of inspection. This area appeared clean and well maintained. No staining, soil discoloration or signs of chemical release were noted on the ground surface in the unpaved air compressor shed.

An approximately 6,000 square foot pole barn, located west of the barn/packing shed and air compressor shed, was being used for farm equipment storage, repair and maintenance at the time of the site inspection. This structure is comprised of an aluminum roof supported by steel poles overlying unpaved ground. Mr. Avila indicated that this structure was only recently constructed. Equipment stored in this covered area at the time of the site inspection included approximately fifteen forklifts. Several large pieces of farm machinery (tractors, loaders, etc.) were being worked on by a mechanic in this area at the time of the site inspection. Several 55 gallon drums of oils and lubricants, a large plastic crate containing used oil filters and used containers and an approximately 400-gallon waste oil tank were observed stored on wooden pallets in the covered, unpaved pole barn area. According to the onsite farm mechanic, the waste oil tank is periodically emptied by a licensed contractor, American Valley Waste Oil. Minor staining was observed on some of the wooden pallet surfaces, however no stains or signs of leakage were observed on the underlying and surrounding unpaved ground surfaces.

The area south of the barn/packing shed and pole barn was being used as an equipment yard at the time of the site inspection. Mr. Avila indicated that this area had only recently been converted from a crop field area to an equipment yard. Equipment stored in this unpaved yard area included approximately 20 tractors, harvesting machinery, plows and disking machinery, empty trailer mounted mix tanks, wooden packing crates, trailer mounted portable toilets, used tires and wheels, scrap wood, metal storage containers and a variety of small parts and supplies. According to Mr. Avila, farm equipment fueling takes place in this yard; a trailer mounted fuel tank is brought onsite for fueling operations. At the time of the site inspection, the equipment yard appeared clean and well maintained. A few very small oil stains were visible on the unpaved ground surface beneath stored machinery.

4.2.2 Surrounding Areas

The areas surrounding the project site are primarily characterized by agricultural land and rural residences. Agricultural fields and a residence are located immediately north of the subject property. Orchard land is located immediately west of the site. An irrigation water canal is located adjacent to the southern site boundary and orchard land is located further south, across the canal. North Washington Road is located adjacent to the eastern site boundary and a Blue Diamond Growers processing facility is located further east, across North Washington Road. At the time of the site inspection, there was no notable surface staining, stressed vegetation or other obvious evidence of hazardous material discharge or evidence of the presence of recognized environmental conditions in areas adjoining the project site.

4.3 Regulatory Research

A regulatory agency database search was conducted to identify if any hazardous material handling locations or known contamination sites are present in the project area, as determined based on search distances set forth in ASTM E1527-05. Environmental Data Resources, Inc. (EDR) conducted the search of federal, state and local regulatory agency databases. The EDR Report is presented in Appendix F.

The subject property and surrounding properties are not listed in any of the regulatory agency databases searched by EDR. No hazardous waste disposal sites or hazardous material release sites are identified in the project area in the EDR report.

The EDR report identifies several “orphan” sites that were not mapped due to inadequate address information. Based on each site’s likely and relative location and the databases on which the properties were listed, none of the “orphan” sites are expected to pose a significant adverse impact to the project site. Therefore, this data gap is not considered significant.

4.4 Phase I Findings and Recommendations

Results of the Phase I ESA indicate several potential environmental concerns at the subject property. A description of the items of potential concern and recommended actions to address these items are presented in this section.

Phase II soil sampling is recommended to address two potential environmental concerns, as listed below. The recommended Phase II sampling will provide data to evaluate whether chemical

residues associated with historic site operations are present in soil in concentrations that could pose a health risk.

- The project site has been used for agricultural production since at least 1946. Due to the lengthy period of site use as orchard land and for growing irrigated row crops, organochlorine pesticides and lead and arsenical-based pesticides may have been applied and chemical residues may be present.

- Two areas in the eastern portion of the site have been used for agricultural support facilities, including dwellings, barns, outbuildings and equipment storage areas, since at least 1946. Support operations conducted during this period may have included farm equipment maintenance and fueling as well as agricultural chemical storage and mixing. Due to the lengthy period of use of this area for support activities, petroleum products, pesticides and other materials may have been released and chemical residues may be present.

It is recommended that the following two additional potential environmental concerns be addressed during project development and implementation.

- The northeastern portion of the project site is presently used for agricultural support operations, including agricultural chemical storage and mixing and farm equipment storage, maintenance, repair, fueling and washing. At the time of the site inspection, the areas where chemicals were being stored and/or handled appeared generally clean and well maintained. With implementation of the warehouse project, storage and use of agricultural chemicals and petroleum products will continue. Activities involving the storage and/or use of agricultural chemicals and petroleum products will need to be conducted in accordance with any applicable Stanislaus County or State regulatory standards to ensure that operations do not pose a risk of release of hazardous materials.

- Due to the age of the structures at the project site, asbestos containing materials (ACMs) and surfaces painted with lead-based paint may be present. Prior to any demolition or renovation activities that could disturb suspect ACMs and painted surfaces, material testing should be conducted to ensure worker safety and confirm proper disposal methods for any demolition debris.

The Phase I ESA has been prepared in general accordance with ASTM E1527-05 "*Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*." The work performed for this Phase I ESA was conducted in a manner consistent with the standards of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation, expressed or implied, and no warranty or guarantee is included or intended in this report. This report does not warrant against: operations or conditions which were not in evidence from visual observations or historical information obtained; conditions that could only be determined by physical sampling or other intrusive investigation techniques; or locations other than the client-provided addresses and/or legal parcel description.

The investigations performed as part of this assessment should not be construed to be complete characterizations of overall environmental regulatory compliance, or of conditions above or below grade. J House Environmental, Inc. makes no guarantees as to the accuracy or completeness of

information obtained from others. It is possible that information exists beyond the scope of this investigation or that was not provided to J House Environmental, Inc. Additional data subsequently provided, discovered or produced may alter findings or conclusions made in the Phase I ESA report. The findings presented in this report are based on the information reasonably available and observed conditions at the subject property at the time of preparation of this assessment. Any reliance on this document shall be consistent and in keeping with the limitations expressed in J House Environmental, Inc.'s proposal, and subject to project work scope limitations.

5.0 PHASE II ENVIRONMENTAL SITE ASSESSMENT

The Phase II ESA presents results of soil sampling conducted to address two potential environmental concerns identified based on the Phase I assessment:

- The project site has been used for agricultural production since at least 1946. Due to the lengthy period of site use as orchard land and for growing irrigated row crops, organochlorine pesticides and lead and arsenical-based pesticides may have been applied and chemical residues may be present.

- Two areas in the eastern portion of the site have been used for agricultural support facilities, including dwellings, barns, outbuildings and equipment storage areas, since at least 1946. Support operations conducted during this period may have included farm equipment maintenance and fueling as well as agricultural chemical storage and mixing. Due to the lengthy period of use of this area for support activities, petroleum products, pesticides and other materials may have been released and chemical residues may be present.

A description of the Phase II sampling activities and results and a discussion of Phase II findings and recommendations is presented in the following subsections.

5.1 Sampling Activities

The Phase II sampling was conducted by Ms. Jackie House, Professional Geologist (PG#4221), of J House Environmental, Inc. on November 26, 2013. Figure 4 shows the soil sampling locations. Soil sampling was conducted in accordance with standard procedures set forth by federal and state regulatory agencies. Each soil sample was collected using a pre-cleaned disposable plastic scoop. Samples were transferred from the sampling scoop directly into a glass sample container that was sealed, initialed, labeled with the time and date of collection and a unique sample identification number and then placed in an ice chest for delivery to the laboratory under chain-of-custody (COC) protocol. Since only pre-cleaned disposable sampling equipment was used, no field decontamination was required.

5.1.1 Agricultural Production

The potential presence of chemical residues in soil associated with use of the subject property for agricultural production was evaluated by collecting samples from six representative locations (S1 through S6; see Figure 4), in areas that have been used for orchard land and irrigated crops. At each sampling location, a near-surface soil sample was collected at 0.5 feet below ground surface (bgs). The soil samples were submitted to California Laboratory Services (CLS) under COC documentation. Three composite samples were formed from the six discrete near-surface samples

(two discrete samples from adjacent grid locations per composite), and the composite samples were analyzed by EPA Method 8081A for organochlorine pesticides (OCPs). Three discrete near-surface samples, one from each of the three composite groups, were analyzed for arsenic by EPA Method 6020 and for lead by EPA Method 6010B.

5.1.2 Support Operations

The potential presence of chemical residues in soil associated with agricultural support operations at the site was evaluated by collecting samples from eight representative locations (S7 through S14, see Figure 4). The sampling locations were chosen to provide characterization of areas that appear to have been used for support operations for a lengthy period of time and where historic agricultural chemical and/or petroleum product handling would be expected to have been the greatest. The representative areas where sampling was conducted are: the former barn location in the northern portion of the operations area (S7 and S8); the outbuilding in the northern portion of the operations area that is currently used for agricultural chemical storage (S9 and S10); the outdoor storage area at the western edge of the asphalt pavement in the southern portion of the operations area (S11 and S12); and the eastern, unpaved portion of the barn/packing shed located in the southern portion of the operations area (S13 and S14).

At each sampling location, a near-surface soil sample was collected at 0.5 feet bgs. The soil samples were submitted to CLS under COC documentation. Four composite samples were formed from the eight discrete near-surface samples (two discrete samples from adjacent locations per composite), and the composite samples were analyzed by EPA Method 8081A for OCPs, by EPA Method 8015M for diesel range and motor oil range petroleum hydrocarbons (TPHd+mo) and by EPA Method 8260B for gasoline range petroleum hydrocarbons and benzene/toluene/ ethylbenzene/xylene (TPHg+BTEX). Four discrete near-surface samples, one from each of the four composite groups, were analyzed for arsenic by EPA Method 6020 and for lead by EPA Method 6010B.

5.2 Sampling Results

Results of sampling completed to address two items of potential environmental concern at the subject property are presented in this section. Tables 1 through 3 present results of the laboratory analyses. Laboratory reports are presented in Appendix G.

5.2.1 Agricultural Production

Laboratory analysis of composite soil samples from former orchard land and crop field areas at the site shows no detectable concentrations of OCPs. The reported concentrations of arsenic and lead in the discrete samples collected from former agricultural field areas are well below human health screening levels set forth for commercial/industrial land use by the California Environmental Protection Agency.

5.2.2 Support Operations

OCPs were detected in samples collected from two locations within the support operations area at the site. The composite soil sample from the eastern, unpaved portion of the barn/packing shed located in the southern portion of the operations area (S13, S14 composite) shows the presence of

4,4'-DDT (2,600 micrograms per kilogram [ug/kg]) and 4,4'-DDD (240 ug/kg). The composite soil sample from the outbuilding in the northern portion of the operations area that is currently used for agricultural chemical storage (S9, S10 composite) shows the presence of 4,4'-DDT (890 ug/kg). The reported 4,4'-DDT and 4,4'-DDD concentrations are below the California Human Health Screening Levels (CHHSLs) established for commercial/industrial land use by the California Office of Environmental Health Hazard Assessment.

Motor oil range petroleum hydrocarbons (TPH-mo) were detected in soil samples collected in the support operations area, in concentrations ranging from 11 to 650 milligrams per kilogram (mg/kg). No other petroleum hydrocarbon residues were detected in the support operations area samples. The reported concentrations of motor oil range petroleum hydrocarbons are well below the human health screening level set forth for commercial/industrial land use by the California Regional Water Quality Control Board (RWQCB, 2008).

The reported concentrations of arsenic and lead in the discrete samples collected from the support operations area are below human health screening levels set forth for commercial/industrial land use by the California Environmental Protection Agency.

5.3 Phase II Findings and Recommendations

Results of the Phase II ESA sampling do not show the presence of chemical residues in soil at the site in concentrations that are considered to pose a significant health risk under the commercial/ industrial land use scenario. Samples collected to provide characterization of the former orchard land and crop field areas show no detectable concentrations of OCPs. Samples collected from the support operations area show the presence of two OCPs (4,4'-DDT and 4,4'-DDD) as well as motor oil range petroleum hydrocarbons; however reported concentrations are below human health screening levels for commercial/industrial land use. Reported arsenic and lead concentrations in samples collected from the site are below levels that would be considered to pose a significant adverse health risk to workers.

Although Phase II ESA sampling does not show the presence of chemical residues in soil in concentrations that are considered to pose a significant health risk under the commercial/industrial land use scenario, as an added precaution, J House Environmental, Inc. recommends that the project proponent consider implementing the following risk management measure:

- Work areas and areas with heavy foot traffic inside the eastern, unpaved portion of the barn/packing shed should be surfaced to reduce worker exposure to dust in this area, where concentrations of 4,4'-DDT and 4,4'-DDD were detected in soil.

6.0 SUMMARY AND CONCLUSIONS

The Phase I/Phase II ESA identifies and addresses several potential environmental concerns at the subject property. A description of the items of potential environmental concern and conclusions regarding each item are presented below:

- The project site has been used for agricultural production since at least 1946. Due to the lengthy period of site use as orchard land and for growing irrigated row crops, organochlorine pesticides and lead and arsenical-based pesticides may have been applied

and chemical residues may be present. Phase II soil sampling has been conducted to evaluate whether chemical residues associated with orchard land and/or irrigated crop field production are present in soil in concentrations that could pose a health risk. Results of the Phase II soil sampling do not show the presence of OCPs, lead or arsenic in concentrations above human health screening levels established for commercial/industrial land use.

- Two areas in the eastern portion of the site have been used for agricultural support facilities, including dwellings, barns, outbuildings and equipment storage areas, since at least 1946. Support operations conducted during this period may have included farm equipment maintenance and fueling as well as agricultural chemical storage and mixing. Due to the lengthy period of use of this area for support activities, petroleum products, pesticides and other materials may have been released and chemical residues may be present. Phase II soil sampling has been conducted to evaluated whether chemical residues associated with agricultural support operations are present in soil in concentrations that could pose a health risk. Results of the Phase II soil sampling do not show the presence of OCPs, lead, arsenic or petroleum hydrocarbon residues in concentrations above human health screening levels established for commercial/industrial land use. However, as an added precaution, J House Environmental, Inc. recommends that the project proponent consider surfacing work areas and heavy foot traffic areas inside the eastern, unpaved portion of the barn/packing shed, where concentrations of 4,4'-DDT and 4,4'-DDD were detected in soil, to reduce worker exposure to dust and minimize any potential risk in this area.

- The northeastern portion of the project site is presently used for agricultural support operations, including agricultural chemical storage and mixing and farm equipment storage, maintenance, repair, fueling and washing. At the time of the site inspection, areas where chemicals were being stored and/or handled appeared generally clean and well maintained. With implementation of the warehouse project, storage and use of agricultural chemicals and petroleum products will continue. Activities involving the storage and/or use of agricultural chemicals and petroleum products will need to be conducted in accordance with any applicable Stanislaus County or State regulatory standards to ensure that operations do not pose a risk of release of hazardous materials. During project development and implementation, any required permits or notifications for agricultural chemical and petroleum product handling and use at the site should be obtained from the appropriate regulatory agencies.

- Due to the age of the structures at the project site, asbestos containing materials (ACMs) and surfaces painted with lead-based paint may be present. During project development and implementation and prior to any demolition or renovation activities that could disturb suspect ACMs and painted surfaces, material testing should be conducted to ensure worker safety and confirm proper disposal methods for any demolition debris.

Ms. Jackie House, Principal Geologist prepared this Phase I/II Environmental Site Assessment. Ms. House has over 30 years of experience in the environmental consulting field, focusing on hazardous waste site investigation and remediation. Ms. House is a California Professional Geologist and Certified Engineering Geologist and has conducted numerous Phase I and Phase II assessments over the past 25 years. Ms. House's declarations are set forth below.

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 40 CFR Section 312.10 and in ASTM E1527-05.

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history and setting of the subject property in accordance with the standards and practices set forth in 40 CFR Part 312 and in ASTM E1527-05.

Jackie House

Jackie House, PG, CEG, CHG

7.0 REFERENCES

California Department of Water Resources, Groundwater Data and Monitoring: South Central Region, Turlock Subbasin 5-22.03, www.water.ca.gov/groundwater/data_and_monitoring/south_central_region.cfm

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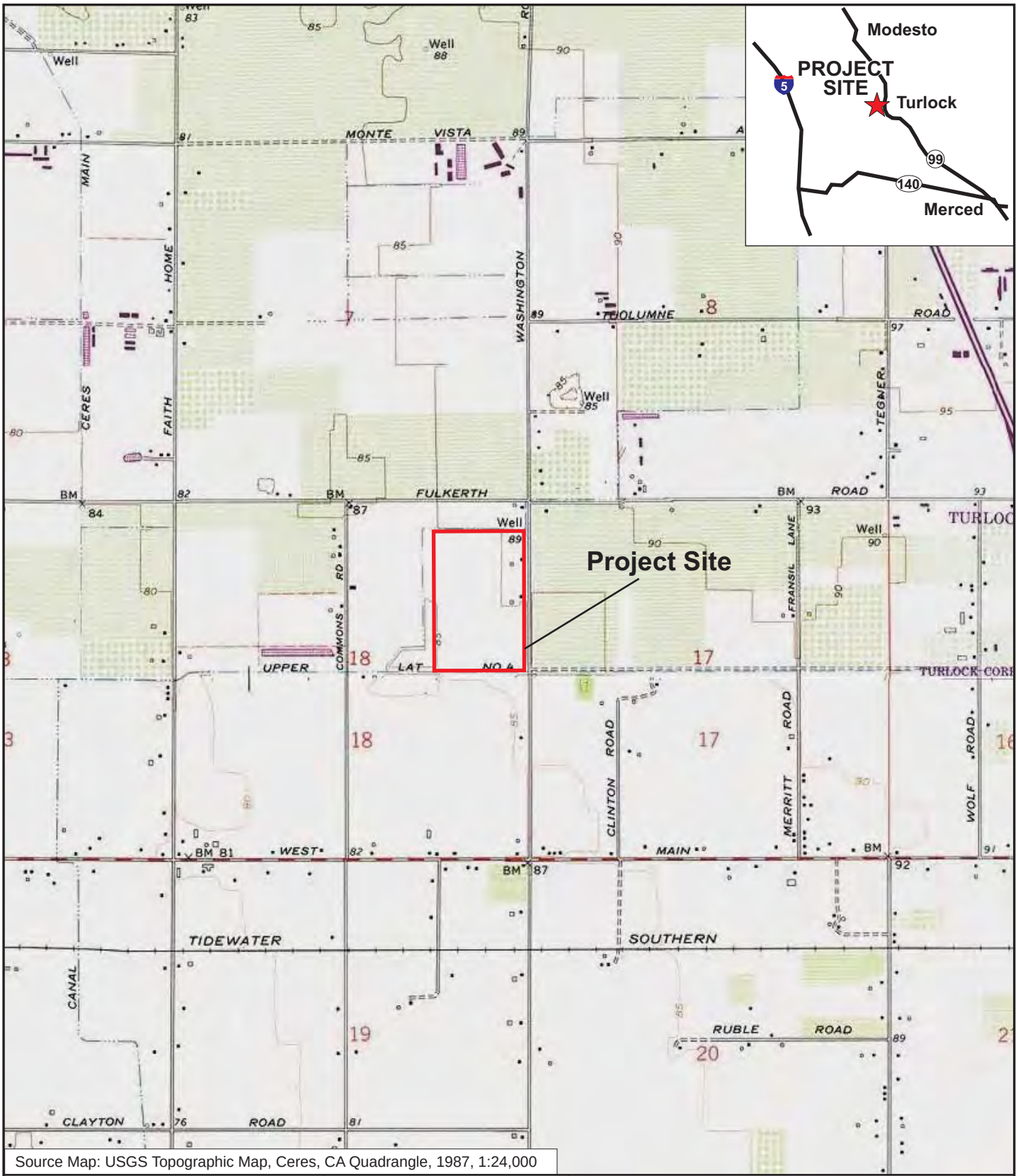
Wagner, D.L., Bortugno, E.J., and McJunkin, R.D., California Geological Survey Regional Geologic Map No. 5A, Geologic Map of the San Francisco-San Jose Quadrangle, 1:250,000 scale, 1991.

FIGURES



Source Map: USGS Topographic Map, Ceres, CA Quadrangle, 1987, 1:24,000

J House Environmental, Inc.
Site Assessment ✧ Remediation ✧ Safety Risk Analysis

(530) 885-7801 • Fax (530) 885-7895
371 Nevada Street #7366 • Auburn, CA 95604

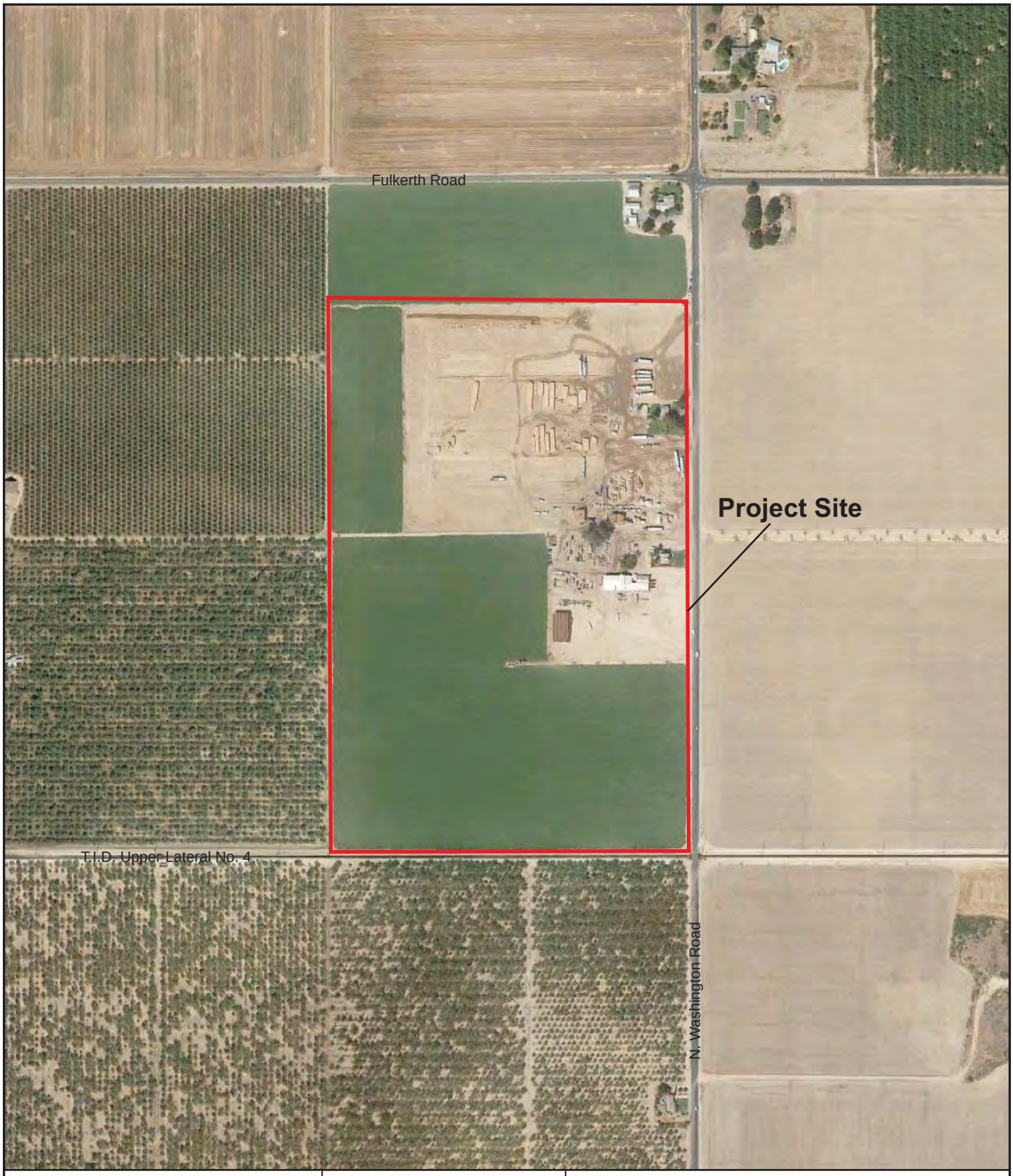
0 2000
Scale in Feet

Figure 1

VICINITY MAP

Avila & Sons North Washington Road Warehouse Project
Stanislaus County, California

Map Date: 11-20-13



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0 500
Scale in Feet

Figure 2

SITE MAP

Avila & Sons North Washington Road Warehouse Project
Stanislaus County, California

Map Date: 11-20-13

J House Environmental, Inc.
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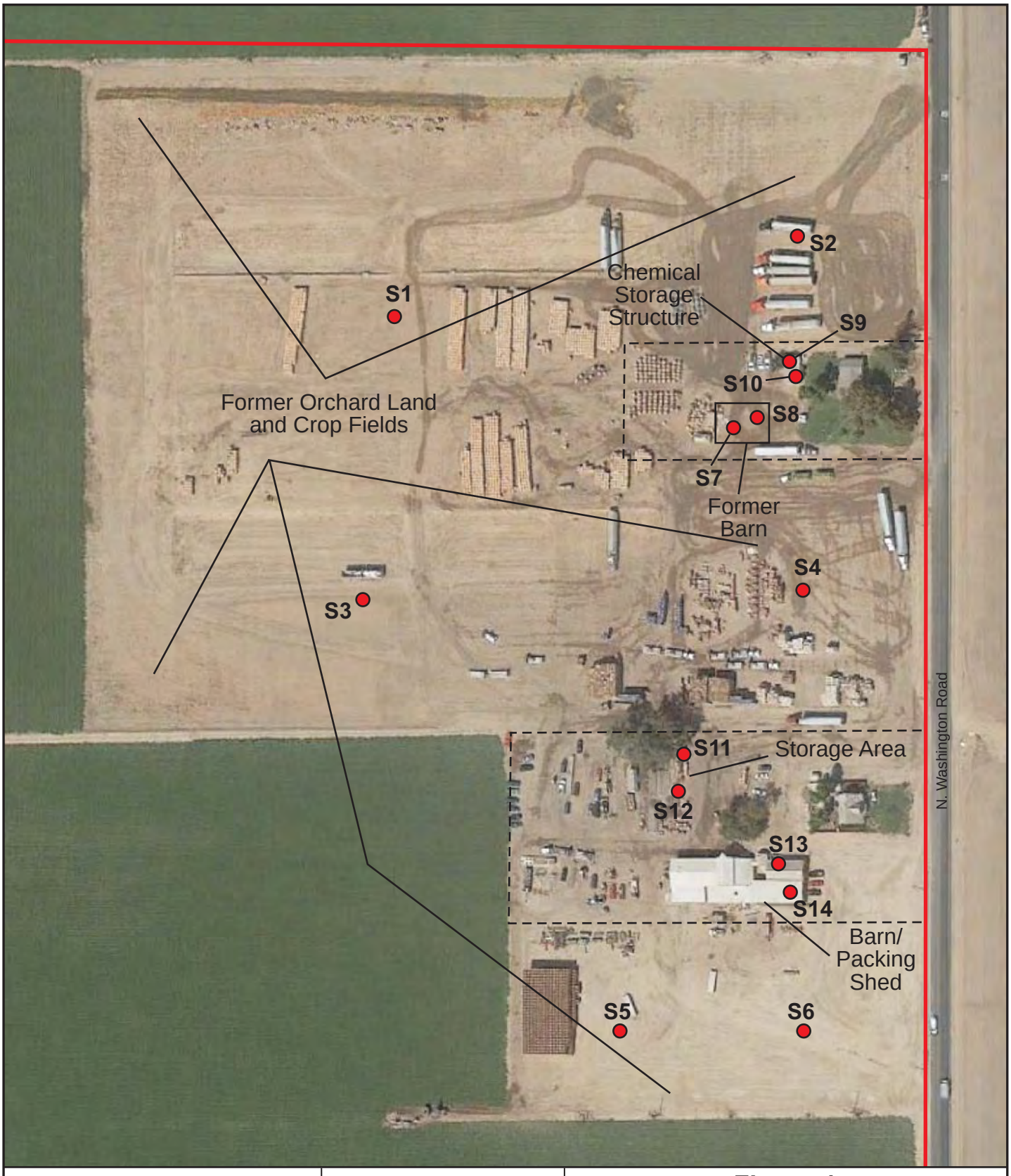
Scale in Feet

Figure 3

OPERATIONS AREA MAP

Avila & Sons North Washington Road Warehouse Project
Stanislaus County, California

Map Date: 12-8-13



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0 170
Scale in Feet

Figure 4

SOIL SAMPLING LOCATIONS

Avila & Sons North Washington Road Warehouse Project
Stanislaus County, California

Map Date: 12-8-13

TABLES

TABLE 1

RESULTS OF SOIL SAMPLE ANALYSIS FOR OCPs

Results (ug/kg)	***Agricultural Production Areas***			***Support Operations Areas***				**CHHSL (ug/kg)**
	S1, S2 Composite 0.5 feet, bgs	**S3, S4 Composite 0.5 feet, bgs**	**S5, S6, Composite 0.5 feet, bgs**	**S7, S8 Composite 0.5 feet, bgs**	**S9, S10 Composite 0.5 feet, bgs**	**S11, S12 Composite 0.5 feet, bgs**	**S13, S14 Composite 0.5 feet, bgs**	
Aldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**130**
Alpha-BHC	<10	<10	<10	<10	<10	<10	<10	
Beta-BHC	<50	<50	<50	<50	<50	<50	<50	
Gamma-BHC (Lindane)	<50	<50	<50	<50	<50	<50	<50	**2,000**
Delta-BHC	<50	<50	<50	<50	<50	<50	<50	
Chlordane	<100	<100	<100	<100	<100	<100	<100	**1,700**
4,4'-DDD	<75	<75	<75	<75	<75	<75	**240**	**9,000**
4,4'-DDE	<75	<75	<75	<75	<75	<75	<75	**6,300**
4,4'-DDT	<75	<75	<75	<75	**890**	<75	**2,600**	**6,300**
Dieldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**130**
Endosulfan I	<75	<75	<75	<75	<75	<75	<75	
Endosulfan II	<75	<75	<75	<75	<75	<75	<75	
Endosulfan sulfate	<75	<75	<75	<75	<75	<75	<75	
Endrin	<75	<75	<75	<75	<75	<75	<75	**230,000**
Endrin aldehyde	<75	<75	<75	<75	<75	<75	<75	
Heptachlor	<25	<25	<25	<25	<25	<25	<25	**520**
Heptachlor epoxide	<10	<10	<10	<10	<10	<10	<10	
Methoxychlor	<75	<75	<75	<75	<75	<75	<75	**3,800,000**
Mirex	<50	<50	<50	<50	<50	<50	<50	**120**
Toxaphene	<100	<100	<100	<100	<100	<100	<100	**1,800**

Notes:
OCPs – Organochlorine pesticide analysis by EPA Method 8081A.
Laboratory data sheets presented in Appendix G.
bgs – below ground surface
ug/kg – micrograms per kilogram
CHHSL – California Human Health Screening Level – Commercial/Industrial Land Use (California Office of Environmental Health Hazard Assessment, January 2005)

TABLE 2

RESULTS OF SOIL SAMPLE ANALYSIS FOR ARSENIC AND LEAD

Sample Location	Depth (feet, bgs)	Arsenic (mg/kg)	Lead (mg/kg)
Agricultural Production Areas			
S1	0.5	**1.4**	**4.0**
S3	0.5	<1.0	**2.9**
S5	0.5	<1.0	**3.8**
Support Operations Areas			
S7	0.5	**5.9**	**18**
S9	0.5	<1.0	**130**
S11	0.5	<1.0	**19**
S13	0.5	<1.0	**42**
Screening Level		**12**	**320**

Notes:
Arsenic analysis by EPA Method 6020.
Lead analysis by EPA Method 6010B.
Laboratory data sheets are presented in Appendix G.
bgs – below ground surface
mg/kg – milligrams per kilogram
Screening level for arsenic based on the DTSC risk management level of 12 mg/kg.
Screening level for lead based on Commercial/Industrial Land Use CHHSL (California Office of Environmental Health Hazard Assessment, September 2009)

TABLE 3

RESULTS OF SOIL SAMPLE ANALYSIS FOR PETROLEUM HYDROCARBON RESIDUES

Sample Location	Depth (feet, bgs)	TPHd (mg/kg)	TPHmo (mg/kg)	TPHg (mg/kg)	BTEX (ug/kg)
Support Operations Areas					
S7, S8 composite	0.5	<1.0	**11**	<0.20	ND
S9, S10 composite	0.5	<1.0	**240**	<0.20	ND
S11, S12 composite	0.5	<1.0	**35**	<0.20	ND
S13, S14 composite	0.5	<10	**650**	<0.20	ND
Screening Level		**83**	**2500**	**83**	

Notes:
TPHd, TPHmo – Diesel range and motor oil range petroleum hydrocarbon analysis by EPA Method 8015M.
TPHg - Gasoline range petroleum hydrocarbon analysis by EPA Method 8260M.
BTEX –Benzene, toluene, ethylbenzene, xylene analysis by EPA Method 8260B.
Laboratory data sheets are presented in Appendix G.
bgs – below ground surface
mg/kg – milligrams per kilogram
ug/kg – micrograms per kilogram
ND – not detected at the laboratory reporting limits shown on the data sheets in Appendix G; reporting limits range from 5.0 to 10.0 ug/kg, depending upon individual compound.
Screening levels for petroleum hydrocarbons based on Commercial/Industrial Land Use Environmental Screening Level for Shallow Soils (California Regional Water Quality Control Board, 2008, Table A)

APPENDIX A

ASSESSOR'S PARCEL MAP

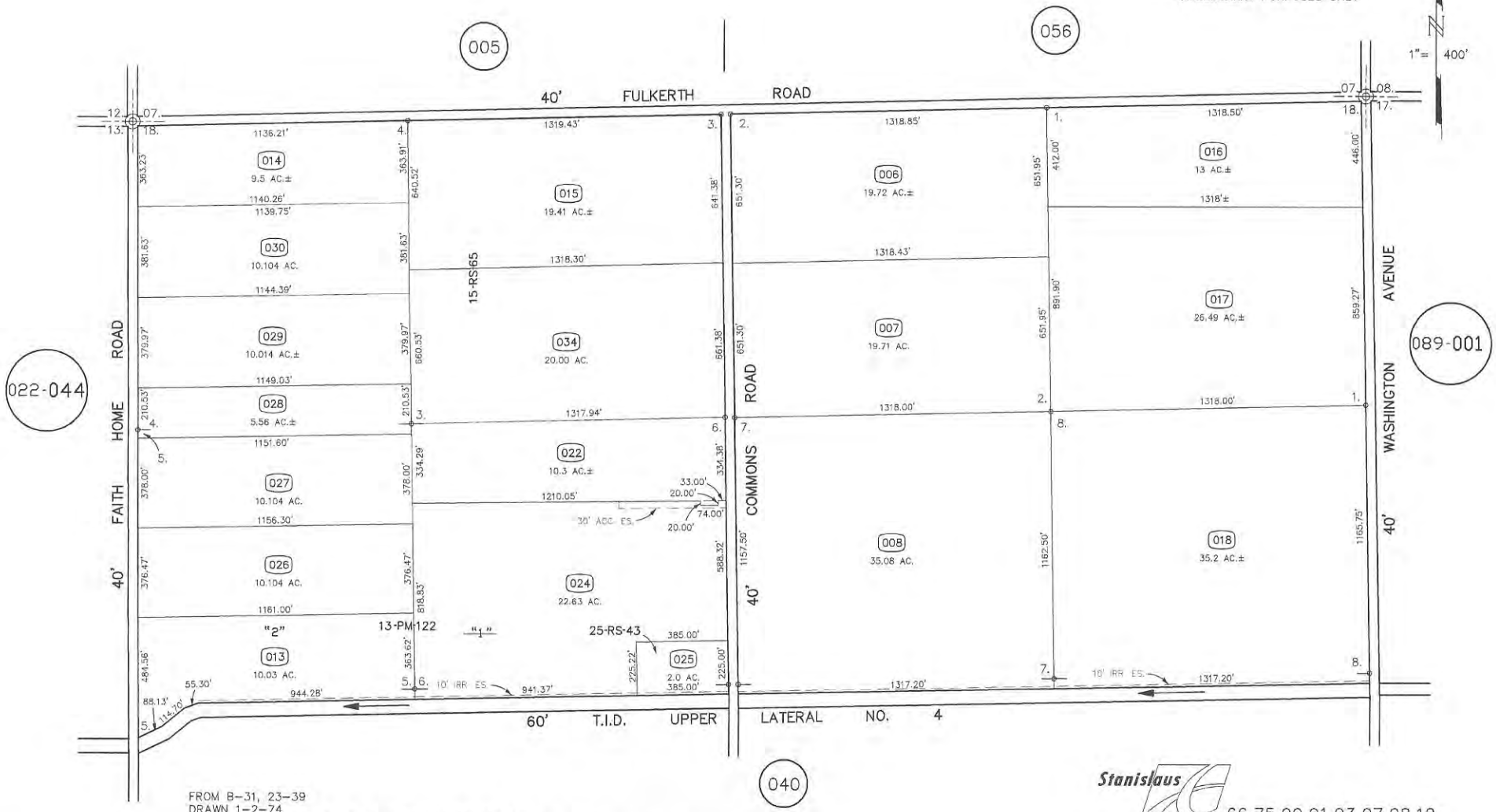
N 1/2 SECTION 18 T.5S. R.10E. M.D.B.& M.

CURTIS TRACT LTS. 1 – 8 (04M24)

079 001 023 – 039

THIS MAP FOR ASSESSMENT PURPOSES ONLY

1"= 400'



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Stanislaus County Assessor

66,75,00,01,03,07,08,12

023 – 039

APPENDIX B

HISTORIC AERIAL PHOTOGRAPHS

Avila & Sons North Washington Road Site
1301 North Washington Road
Turlock, CA 95380

Inquiry Number: 3781724.5
November 14, 2013

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Date EDR Searched Historical Sources:

Aerial Photography November 14, 2013

Target Property:

1301 North Washington Road

Turlock, CA 95380

Year	***Scale***	***Details***	***Source***
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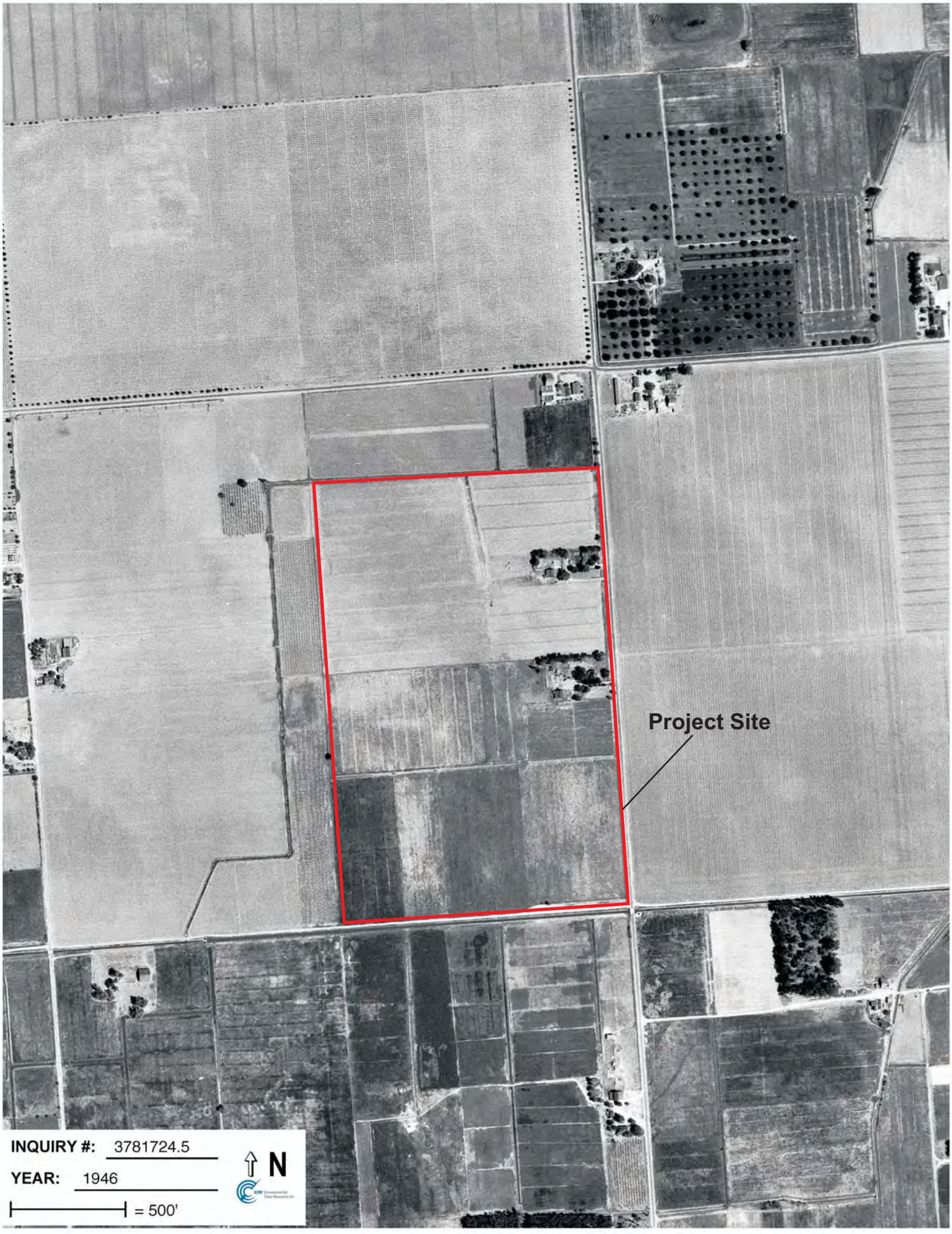
1967	Aerial Photograph. Scale: 1"=500'	Flight Year: 1967	USGS
1984	Aerial Photograph. Scale: 1"=500'	Flight Year: 1984	WSA
1987	Aerial Photograph. Scale: 1"=500'	Flight Year: 1987	USGS
1998	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1998	EDR
1998	Aerial Photograph. Scale: 1"=500'	Flight Year: 1998	USGS
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	EDR
2006	Aerial Photograph. Scale: 1"=500'	Flight Year: 2006	EDR
2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	EDR
2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	EDR
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	EDR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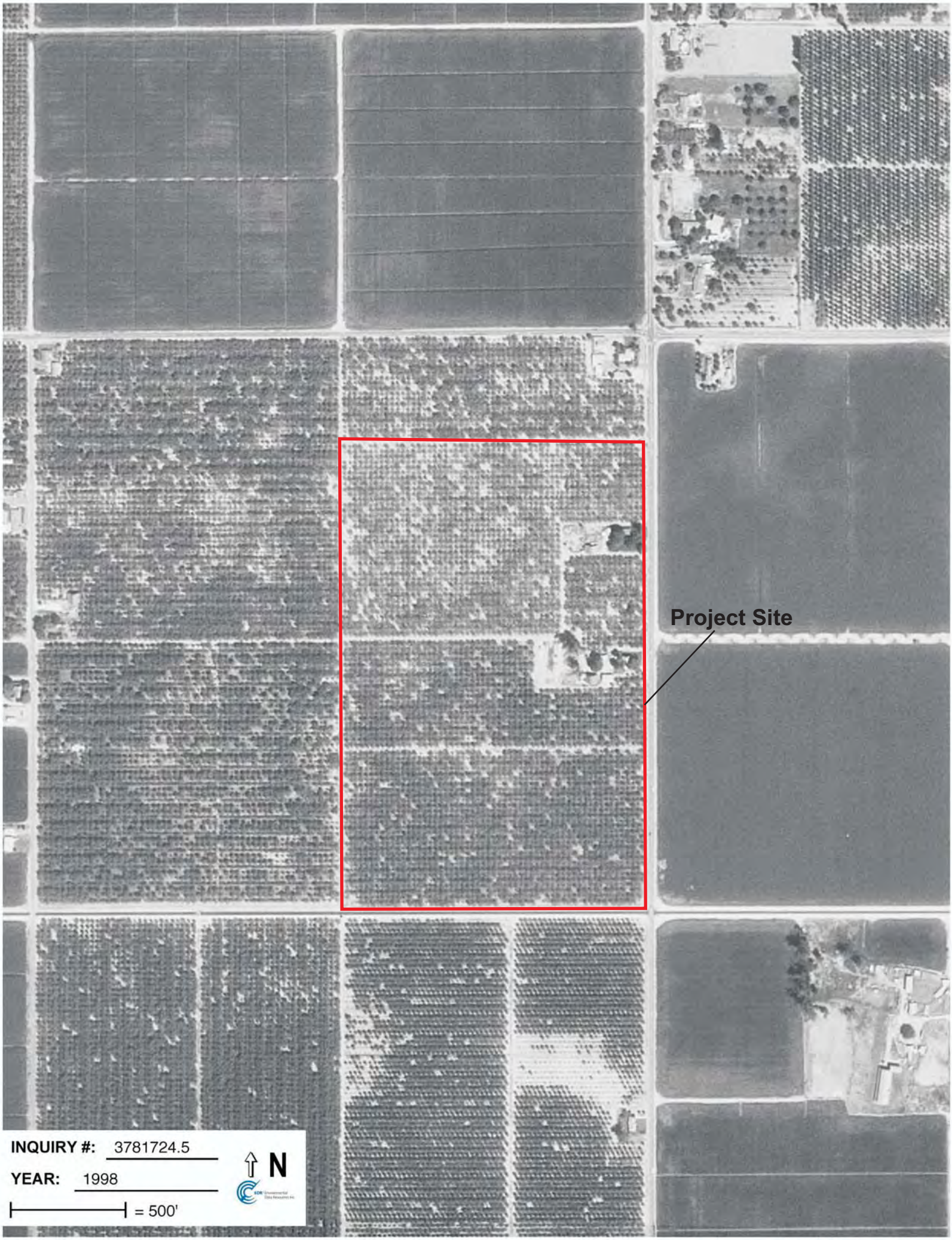
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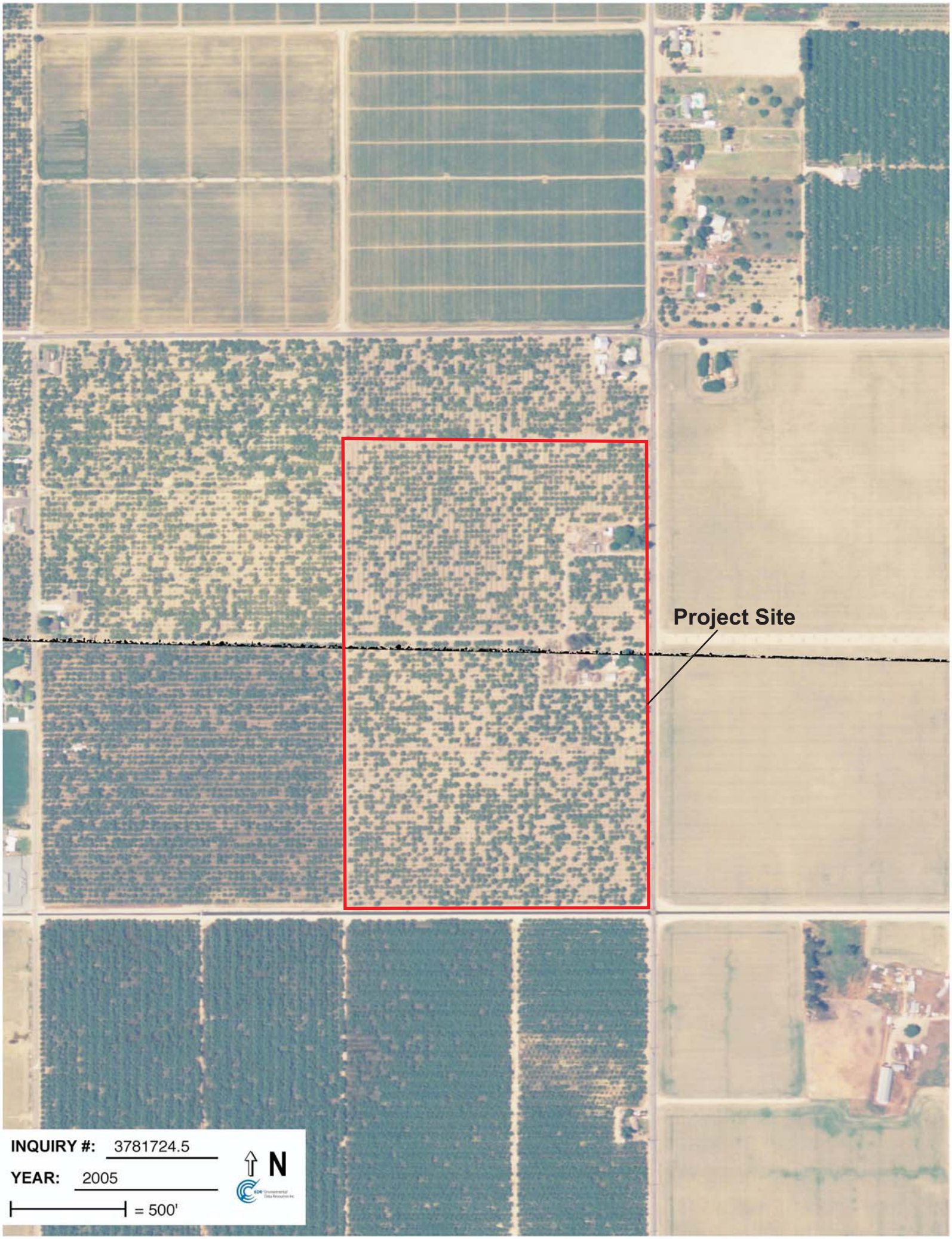
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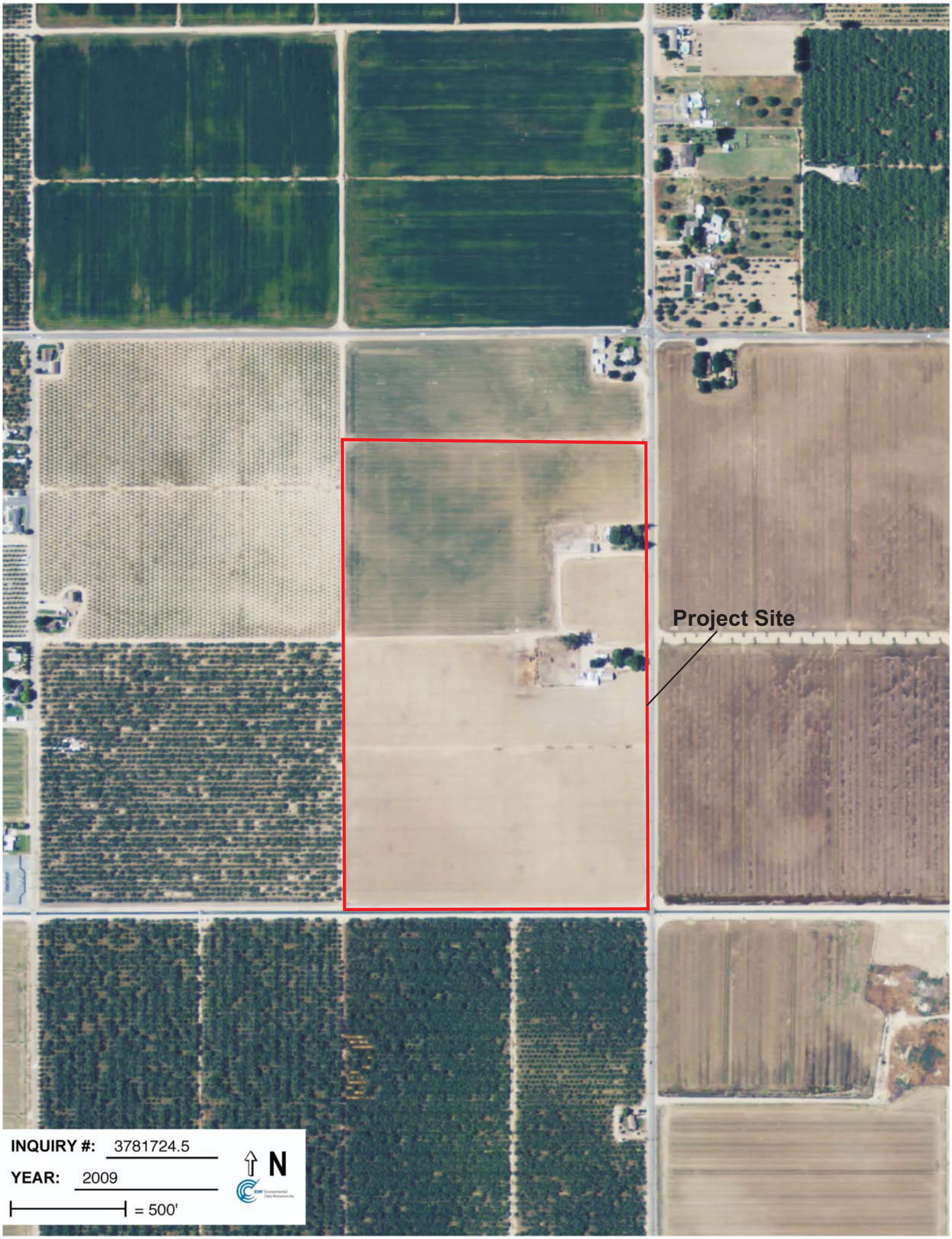
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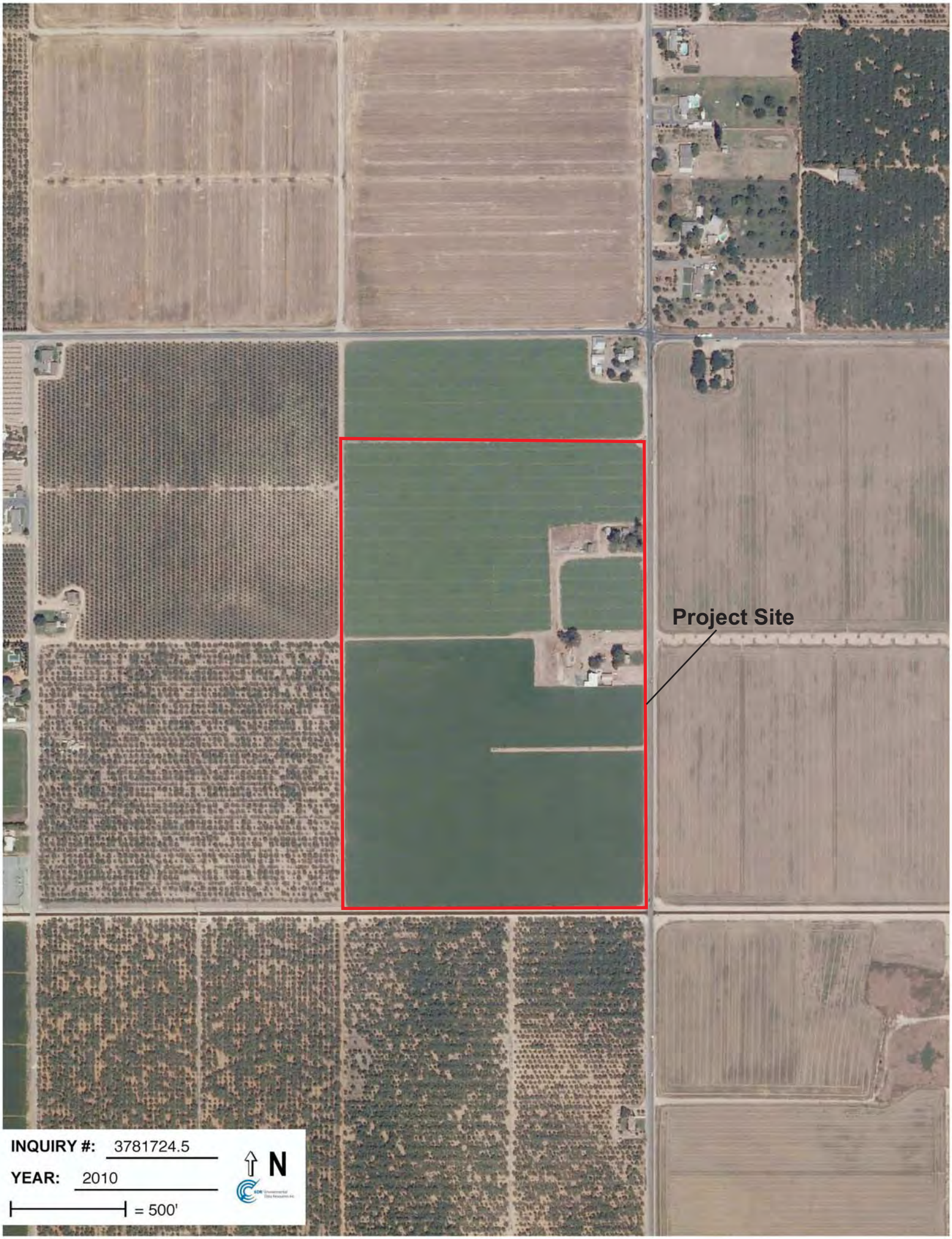
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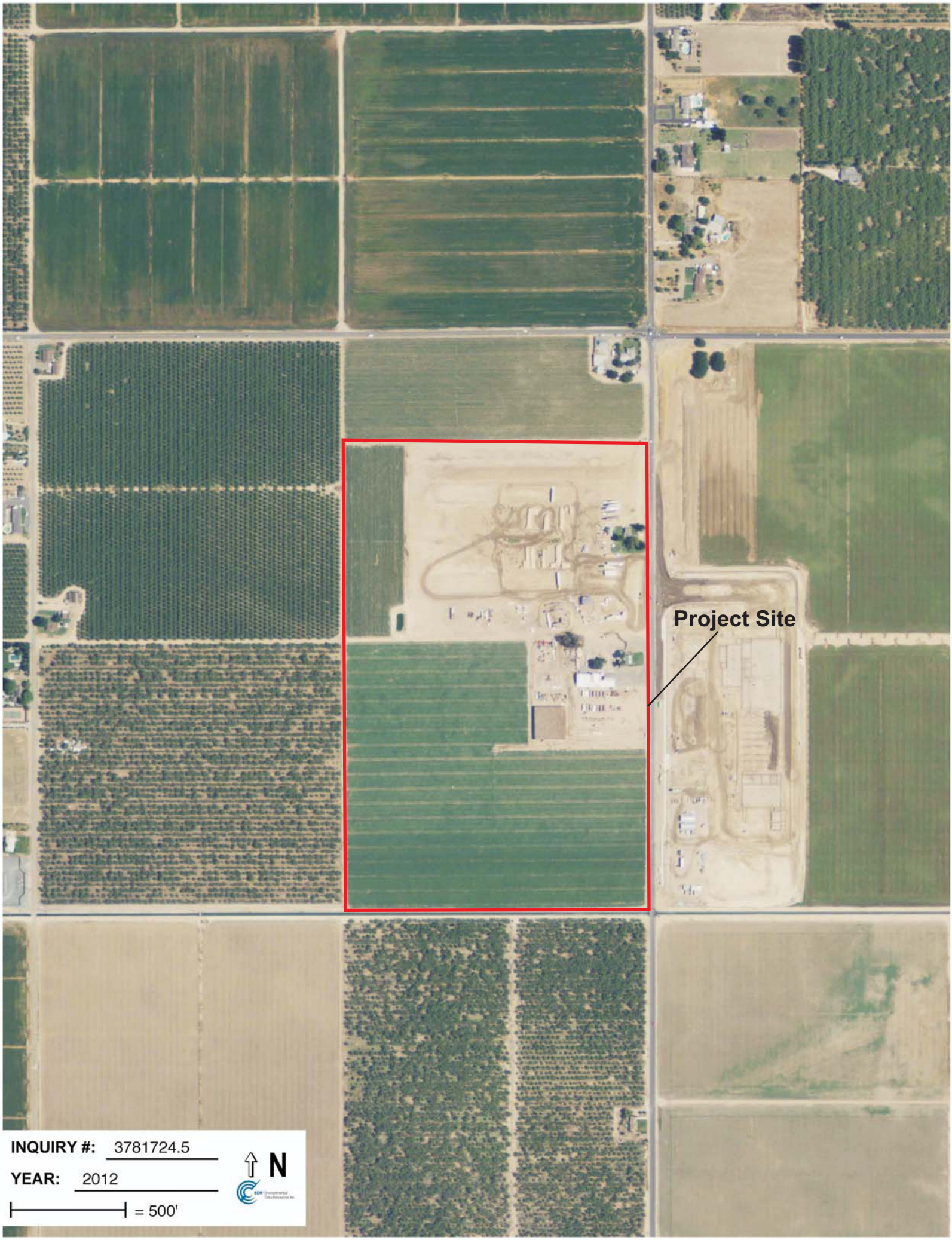
Project Site
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YEAR: 2012
= 500'
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APPENDIX C

HISTORIC MAPS

Avila & Sons North Washington Road Site
1301 North Washington Road
Turlock, CA 95380

Inquiry Number: 3781724.4
November 11, 2013

EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

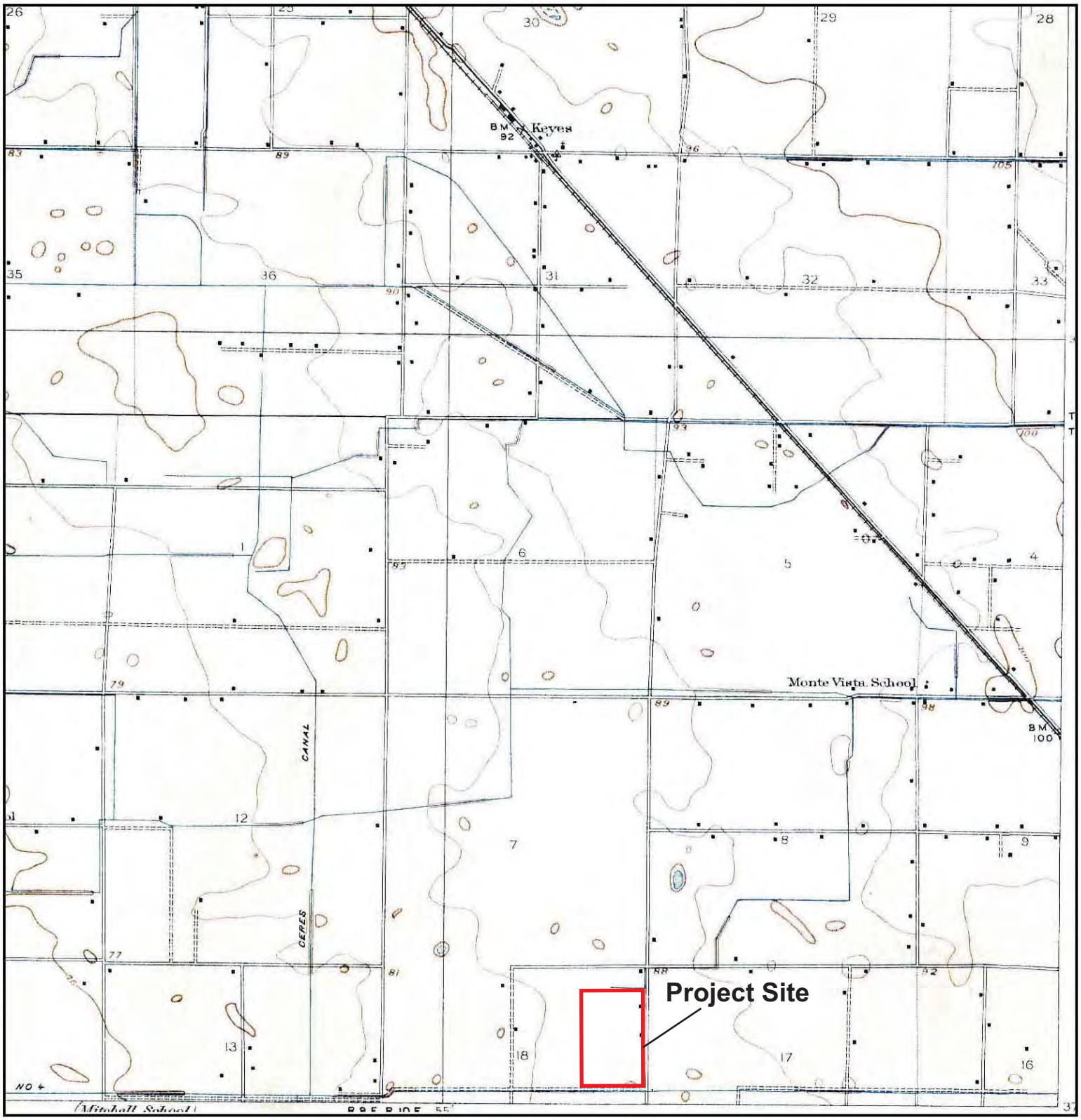
440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

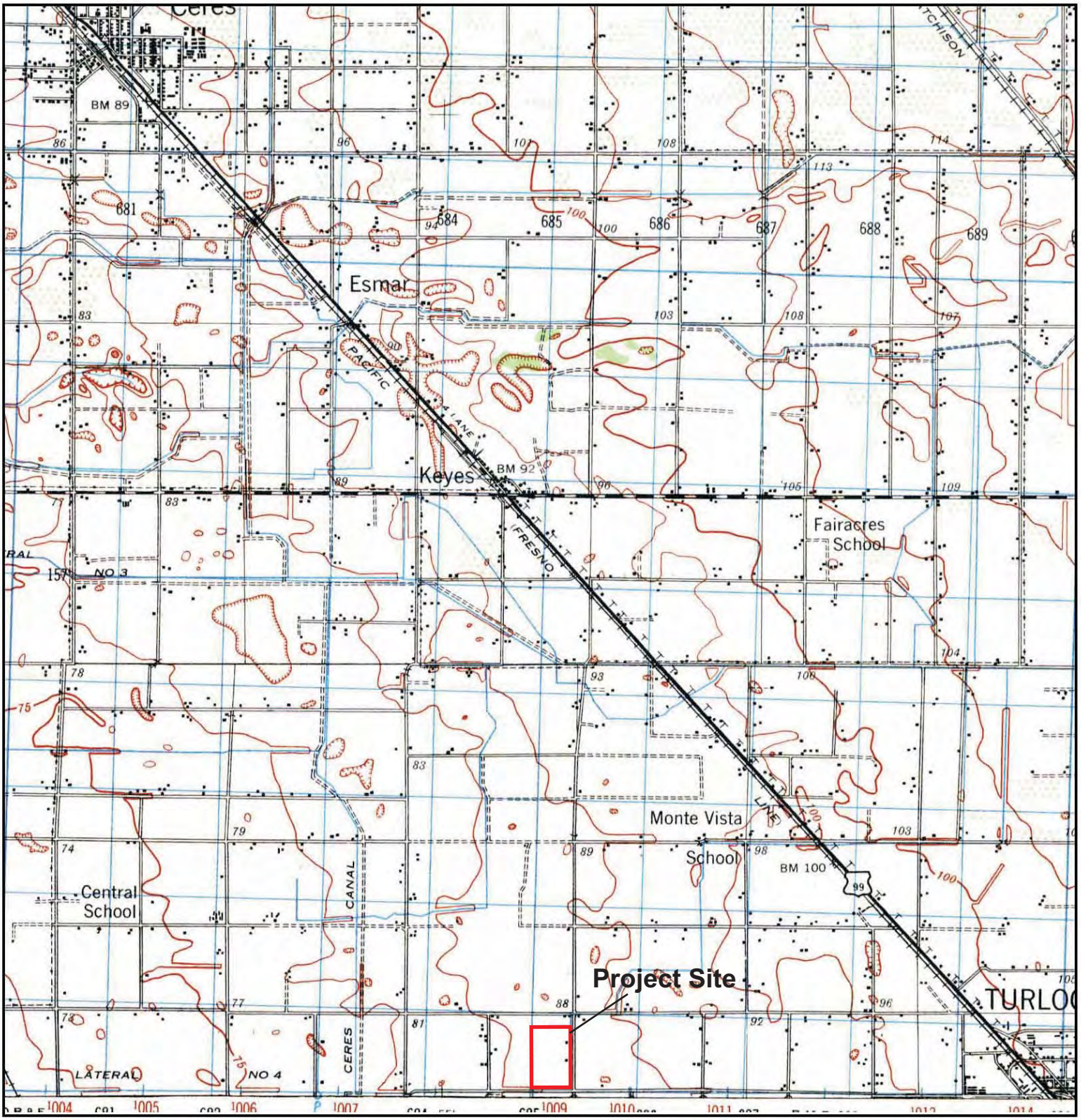
Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Historical Topographic Map



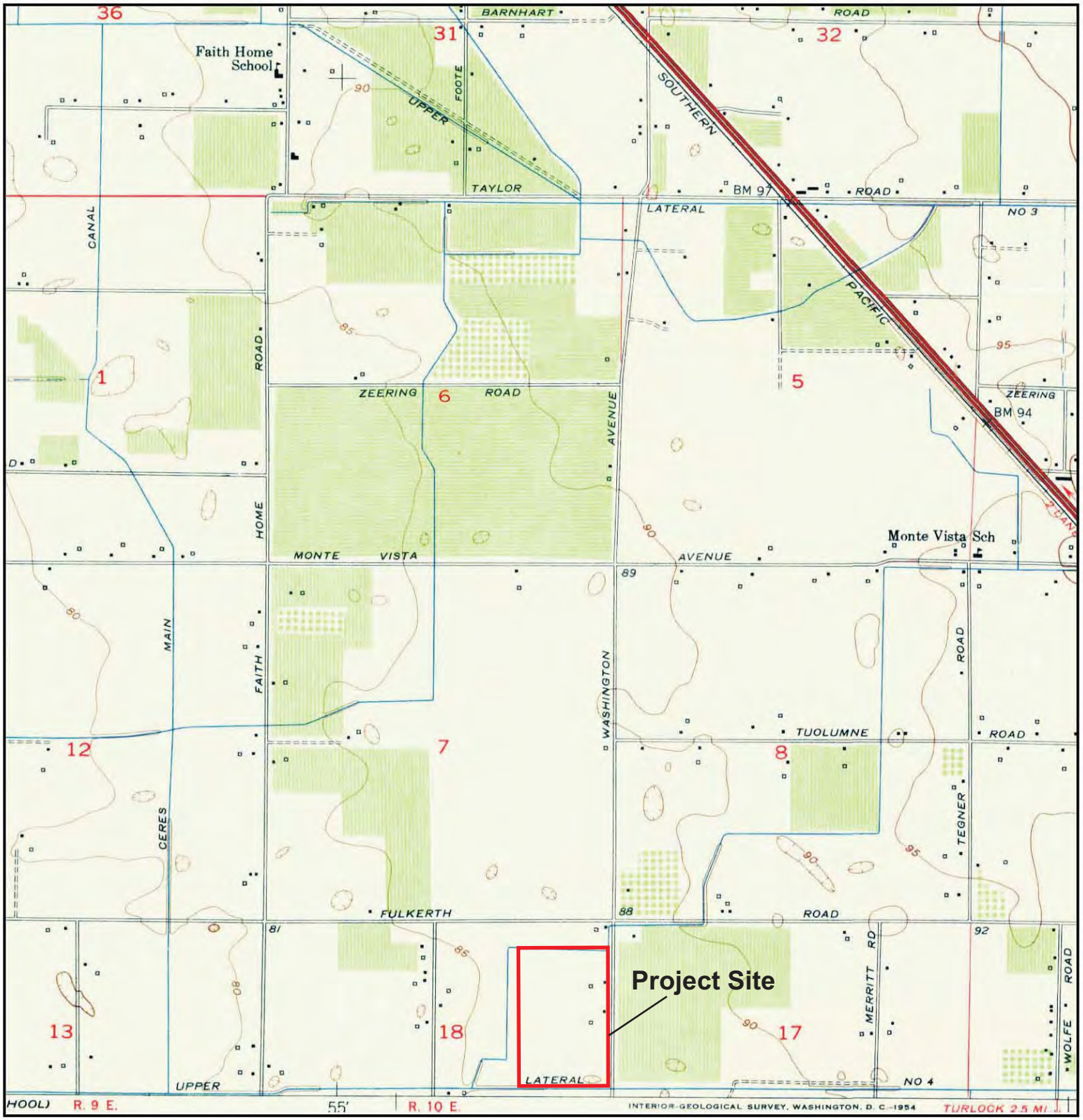
N	TARGET QUAD NAME: CERES MAP YEAR: 1916 SERIES: 7.5 SCALE: 1:31680	SITE NAME: Avila & Sons North Washington Road Site ADDRESS: 1301 North Washington Road Turlock, CA 95380 LAT/LONG: 37.5038 / -120.9062	CLIENT: J House Environmental CONTACT: Jackie House INQUIRY#: 3781724.4 RESEARCH DATE: 11/11/2013

Historical Topographic Map



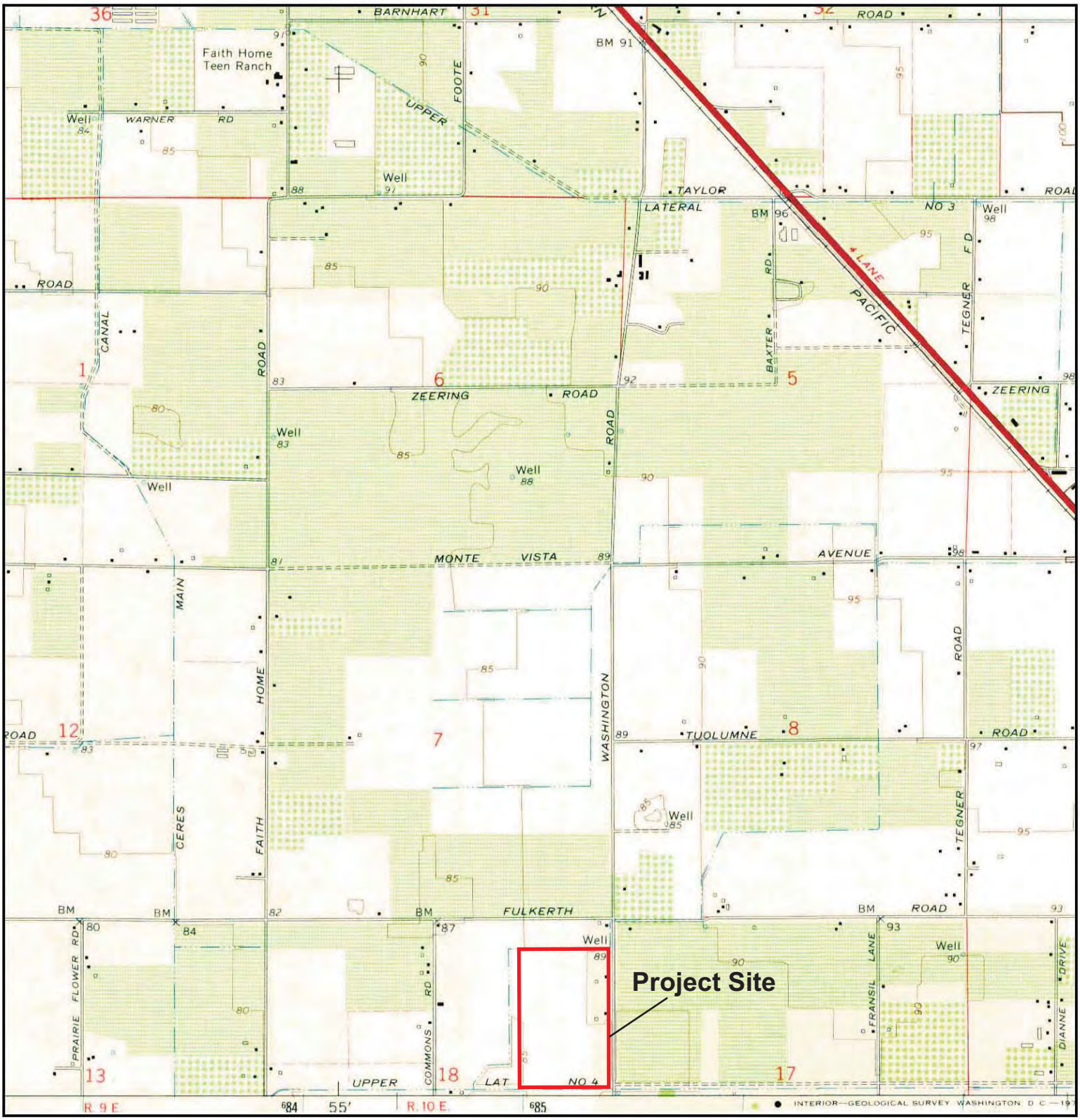
N			
	TARGET QUAD NAME: MODESTO EAST MAP YEAR: 1941 SERIES: 15 SCALE: 1:50000	SITE NAME: Avila & Sons North Washington Road Site ADDRESS: 1301 North Washington Road Turlock, CA 95380 LAT/LONG: 37.5038 / -120.9062	CLIENT: J House Environmental CONTACT: Jackie House INQUIRY#: 3781724.4 RESEARCH DATE: 11/11/2013

Historical Topographic Map



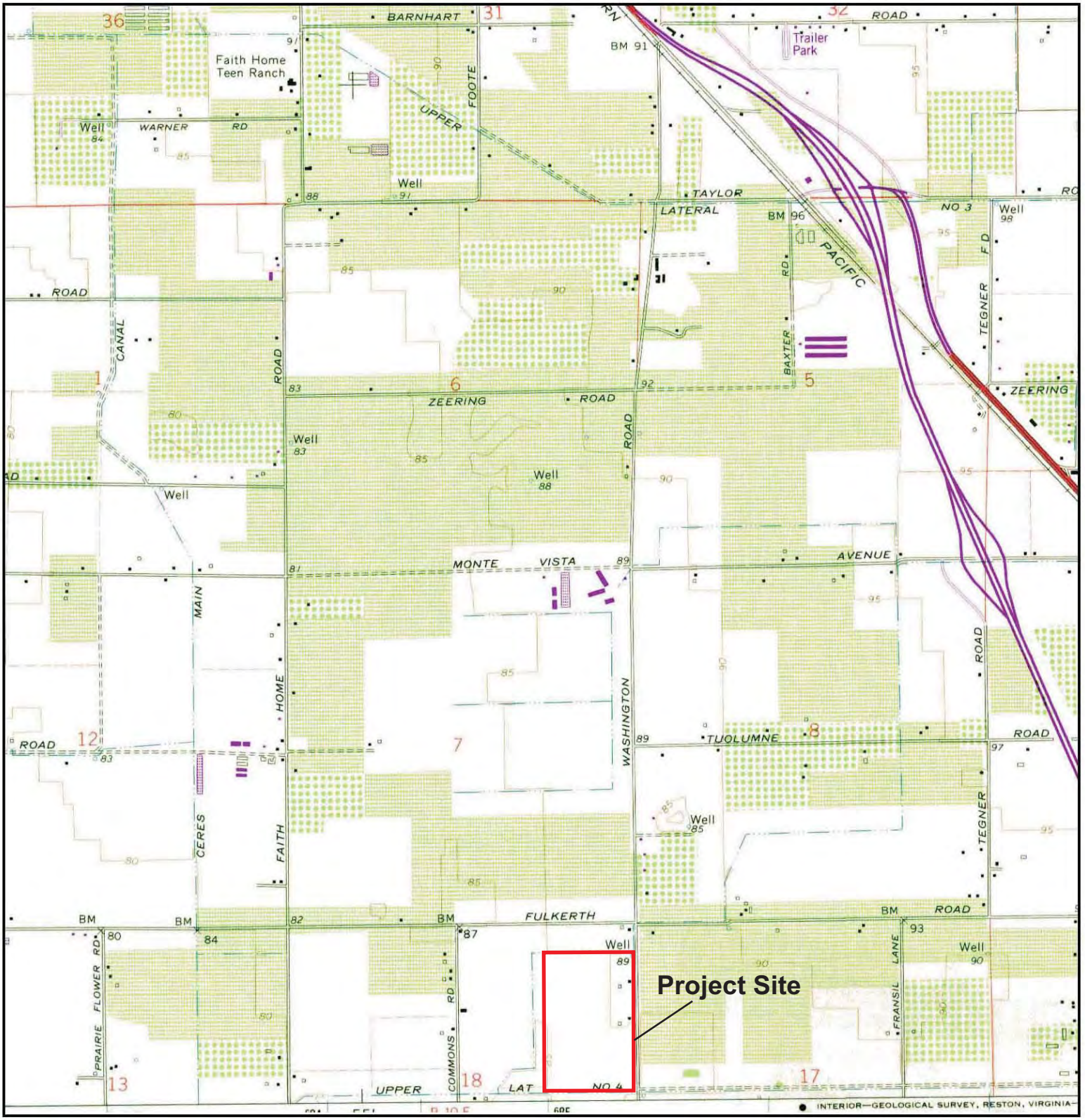
N	TARGET QUAD NAME: CERES MAP YEAR: 1953 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Avila & Sons North Washington Road Site ADDRESS: 1301 North Washington Road Turlock, CA 95380 LAT/LONG: 37.5038 / -120.9062	CLIENT: J House Environmental CONTACT: Jackie House INQUIRY#: 3781724.4 RESEARCH DATE: 11/11/2013

Historical Topographic Map



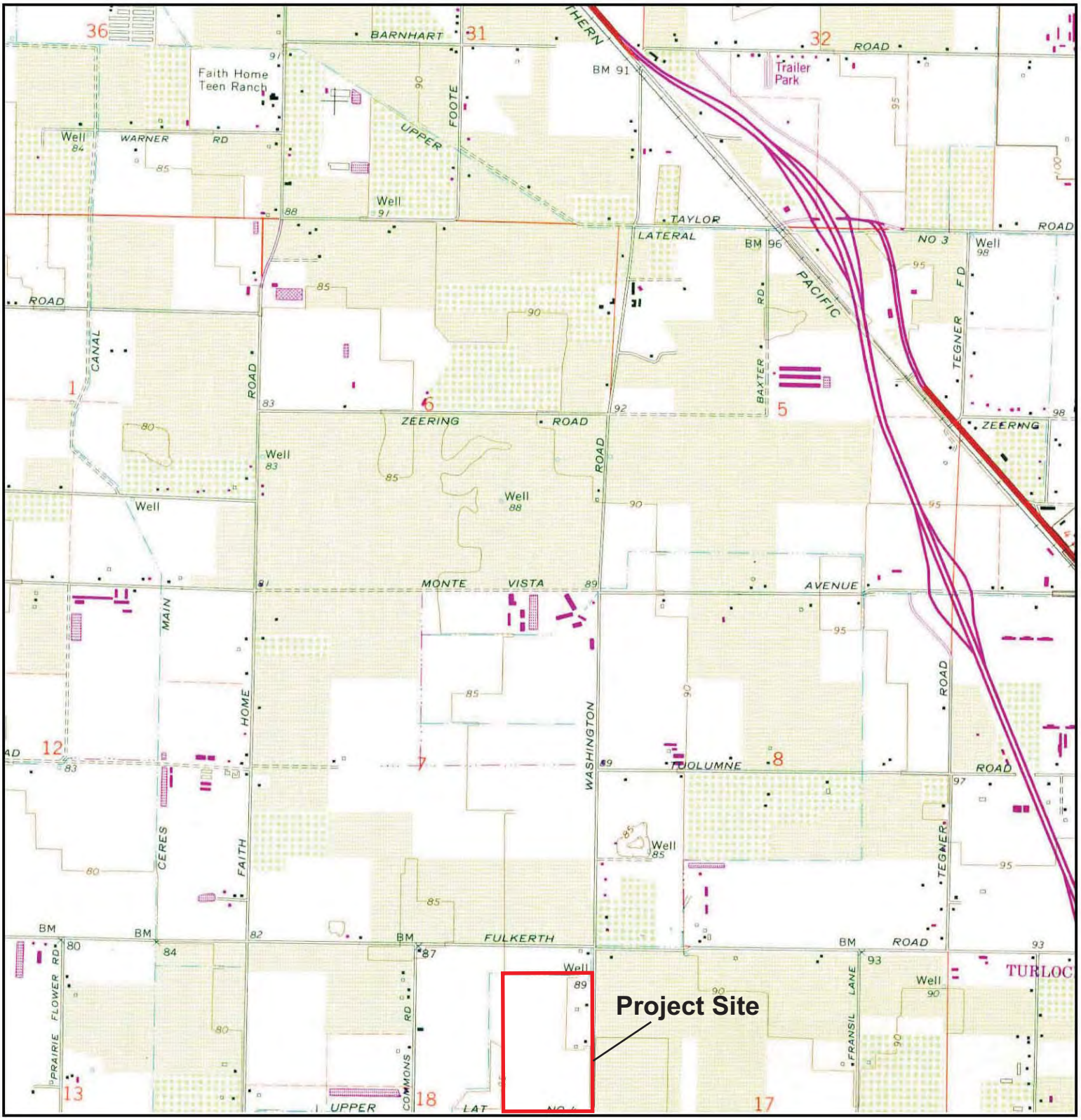
N	TARGET QUAD NAME: CERES MAP YEAR: 1969 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Avila & Sons North Washington Road Site ADDRESS: 1301 North Washington Road Turlock, CA 95380 LAT/LONG: 37.5038 / -120.9062	CLIENT: J House Environmental CONTACT: Jackie House INQUIRY#: 3781724.4 RESEARCH DATE: 11/11/2013

Historical Topographic Map



N	TARGET QUAD NAME: CERES MAP YEAR: 1976 PHOTOREVISED FROM :1969 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Avila & Sons North Washington Road Site ADDRESS: 1301 North Washington Road Turlock, CA 95380 LAT/LONG: 37.5038 / -120.9062	CLIENT: J House Environmental CONTACT: Jackie House INQUIRY#: 3781724.4 RESEARCH DATE: 11/11/2013

Historical Topographic Map



N	TARGET QUAD NAME: CERES MAP YEAR: 1987 PHOTOREVISED FROM :1969 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Avila & Sons North Washington Road Site ADDRESS: 1301 North Washington Road Turlock, CA 95380 LAT/LONG: 37.5038 / -120.9062	CLIENT: J House Environmental CONTACT: Jackie House INQUIRY#: 3781724.4 RESEARCH DATE: 11/11/2013

Avila & Sons North Washington Road Site
1301 North Washington Road
Turlock, CA 95380

Inquiry Number: 3781724.3
November 11, 2013

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

11/11/13

Site Name:
Avila & Sons North Washington
1301 North Washington Road
Turlock, CA 95380

Client Name:
J House Environmental
251 Auburn Ravine Road
Auburn, CA 95603

EDR Inquiry # 3781724.3

Contact: Jackie House

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by J House Environmental were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: Avila & Sons North Washington Road Site
Address: 1301 North Washington Road
City, State, Zip: Turlock, CA 95380
Cross Street:
P.O. # 1150
Project: Avila & Sons
Certification # 9FCD-4423-9EB2

Sanborn® Library search results
Certification # 9FCD-4423-9EB2

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✓ Library of Congress
- ✓ University Publications of America
- ✓ EDR Private Collection

The Sanborn Library LLC Since 1866™

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APPENDIX D

CITY DIRECTORY ABSTRACT

Avila & Sons North Washington Road Site
1301 North Washington Road
Turlock, CA 95380

Inquiry Number: 3781724.6
November 15, 2013

The EDR-City Directory Image Report

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	*Target Street*	*Cross Street*	*Source*
2013	☑	☑	Cole Information Services
2008	☑	☑	Cole Information Services
2003	☑	☑	Cole Information Services
1999	☑	☑	Cole Information Services
1991	☑	☑	Polk's City Directory
1986	☑	☑	Polk's City Directory
1981	☑	☑	Polk's City Directory
1975	☑	☑	Polk's City Directory
1970	☑	☑	Polk's City Directory
1964	☐	☐	Polk's City Directory

RECORD SOURCES

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FINDINGS

TARGET PROPERTY STREET

1301 North Washington Road
Turlock, CA 95380

Year	*CD Image*	*Source*	
N WASHINGTON RD			
2013	pg A1	Cole Information Services	
2008	pg A4	Cole Information Services	
2003	pg A7	Cole Information Services	
1999	pg A10	Cole Information Services	
1991	pg A13	Polk's City Directory	
1986	pg A17	Polk's City Directory	
1981	pg A20	Polk's City Directory	
1975	pg A23	Polk's City Directory	
1970	pg A26	Polk's City Directory	
1964	-	Polk's City Directory	Street not listed in Source

FINDINGS

CROSS STREETS

Year	*CD Image*	*Source*	
FULKERTH RD			
2013	pg. A2	Cole Information Services	
2008	pg. A5	Cole Information Services	
2003	pg. A8	Cole Information Services	
1999	pg. A11	Cole Information Services	
1991	pg. A14	Polk's City Directory	
1986	pg. A18	Polk's City Directory	
1981	pg. A21	Polk's City Directory	
1975	pg. A24	Polk's City Directory	
1970	pg. A27	Polk's City Directory	
1964	-	Polk's City Directory	Street not listed in Source
N COMMONS RD			
2013	pg. A3	Cole Information Services	
2008	pg. A6	Cole Information Services	
2003	pg. A9	Cole Information Services	
1999	pg. A12	Cole Information Services	
1991	pg. A15	Polk's City Directory	
1991	pg. A16	Polk's City Directory	
1986	pg. A19	Polk's City Directory	
1981	pg. A22	Polk's City Directory	
1975	pg. A25	Polk's City Directory	
1970	pg. A28	Polk's City Directory	
1964	-	Polk's City Directory	Street not listed in Source

City Directory Images

Target Street	Cross Street	Source
✓	-	Cole Information Services

N WASHINGTON RD 2013

125	MARIA WIGGAN
431	OCCUPANT UNKNOWN
607	LEONARD HANSEN
1113	OCCUPANT UNKNOWN
1301	ANDREW AVILA
1600	KAREN ACCURSO
1706	OSCAR AVILA
1720	JACQUELINE MOYAR
1800	JOSEPH MICHELENA
1830	ALBERT ALLEN
1930	NORMAN TEEPLE
2030	BROOKS RUSHING

Target Street	Cross Street	Source
-	✓	Cole Information Services

FULKERTH RD 2013

4313	DEREK ALVERNAZ
4315	OCCUPANT UNKNOWN
4591	TIM RUSHING
4706	OCCUPANT UNKNOWN
4800	TALIAH LEWALLEN
5825	JEREMY KIRKPATRICK
6000	BEN ZAMARONI

Target Street	Cross Street	Source
-	✓	Cole Information Services

N COMMONS RD 2013

106	OCCUPANT UNKNOWN
825	JUSTIN TRAMEL
1001	NANCY SANTOS
1018	OCCUPANT UNKNOWN
1101	OCCUPANT UNKNOWN
1130	BEN HAGER
1307	OCCUPANT UNKNOWN
1325	OCCUPANT UNKNOWN
1419	GEORGE SOLKAH
1518	GILBERT OLIVEIRA

Target Street	Cross Street	Source
✓	-	Cole Information Services

N WASHINGTON RD 2008

125	ROXANE ESTRADA
431	ADAM CROWELL
607	MICHELLE HANSEN
1000	GERALD LOPES
1113	DEANNE RUSHING
1301	JEAN JONES
1519	OCCUPANT UNKNOWN
1600	ACCURSO J AUGUSTUS
	JAMES ACCURSO
1706	OSCAR AVILA
1720	JACQUELINE MOYAR
1800	JOSEPH MICHELENA
1830	ALBERT ALLEN
1930	NORMAN TEEPLE
2030	BROOKS RUSHING

Target Street	Cross Street	Source
-	✓	Cole Information Services

FULKERTH RD 2008

4313	OCCUPANT UNKNOWN
4315	OCCUPANT UNKNOWN
4591	TIM RUSHING
4706	JOSE PEREZ
4800	MICHAEL MCCAULEY
6000	MICHAEL PAYAN

Target Street	Cross Street	Source
-	✓	Cole Information Services

N COMMONS RD 2008

106	OCCUPANT UNKNOWN
825	SIDNEY HAYS
1001	NANCY SANTOS
1018	STEVEN MARSHALL
1101	OCCUPANT UNKNOWN
1130	BEN HAGER
1307	ALEX SANTIAGO
1325	RAUL GOIS
1419	GEORGE SOLKAH
	GEORGE SOLKAH
1518	GILBERT OLIVEIRA

Target Street	Cross Street	Source
✓	-	Cole Information Services

N WASHINGTON RD 2003

125	ROXANE ESTRADA
431	MICHAEL CROWELL
1113	KENNETH RUSHING
1519	OCCUPANT UNKNOWN
1600	J ACCURSO
1706	OSCAR AVILA
1720	J MOYAR
1800	GERALD LOPES
	GERALD LOPES
1830	ALBERT ALLEN
1930	NORMAN TEEPLE
2030	BROOKS RUSHING

Target Street	Cross Street	Source
-	✓	Cole Information Services

FULKERTH RD 2003

4313	MIKE ALVERNAZ
4315	FLORENCIO GERALDES
4591	OCCUPANT UNKNOWN
4706	JOSE PEREZ
4800	WILLIAM MCCAULEY
5825	DAVID KIRKPATRICK
6000	MICHAEL PAYAN

Target Street	Cross Street	Source
-	✓	Cole Information Services

N COMMONS RD 2003

106	CARLOS OCHOA
825	BEATRIZ TORRES
1001	MELVIN SANTOS
1018	STEVEN MARSHALL
1101	LONE OAK NURSERY
	OCCUPANT UNKNOWN
1130	BEN HAGER
1307	ALEX SILVEIRA
1325	OCCUPANT UNKNOWN
1419	GEORGE SOLKAH
	GEORGE SOLKAH
1518	GILBERT OLIVEIRA

Target Street	Cross Street	Source
✓	-	Cole Information Services

N WASHINGTON RD 1999

125	ROXANNE ESTRADA
1000	GERALD LOPES
1113	ROSENDO MEDINA
1201	OCCUPANT UNKNOWN
1301	JEAN JONES
1344	OCCUPANT UNKNOWN
1400	OCCUPANT UNKNOWN
1600	JAMES ACCURSO
1706	OCCUPANT UNKNOWN
	OSCAR AVILA
1800	JOSEPH MICHELENA
	OCCUPANT UNKNOWN
1830	ALBERT ALLEN
1930	NORMAN TEEPLE
2030	BROOKS RUSHING

Target Street	Cross Street	Source
-	✓	Cole Information Services

FULKERTH RD 1999

4591	TIM RUSHING
4800	JOSE PEREZ
6000	MIKE PAYAN

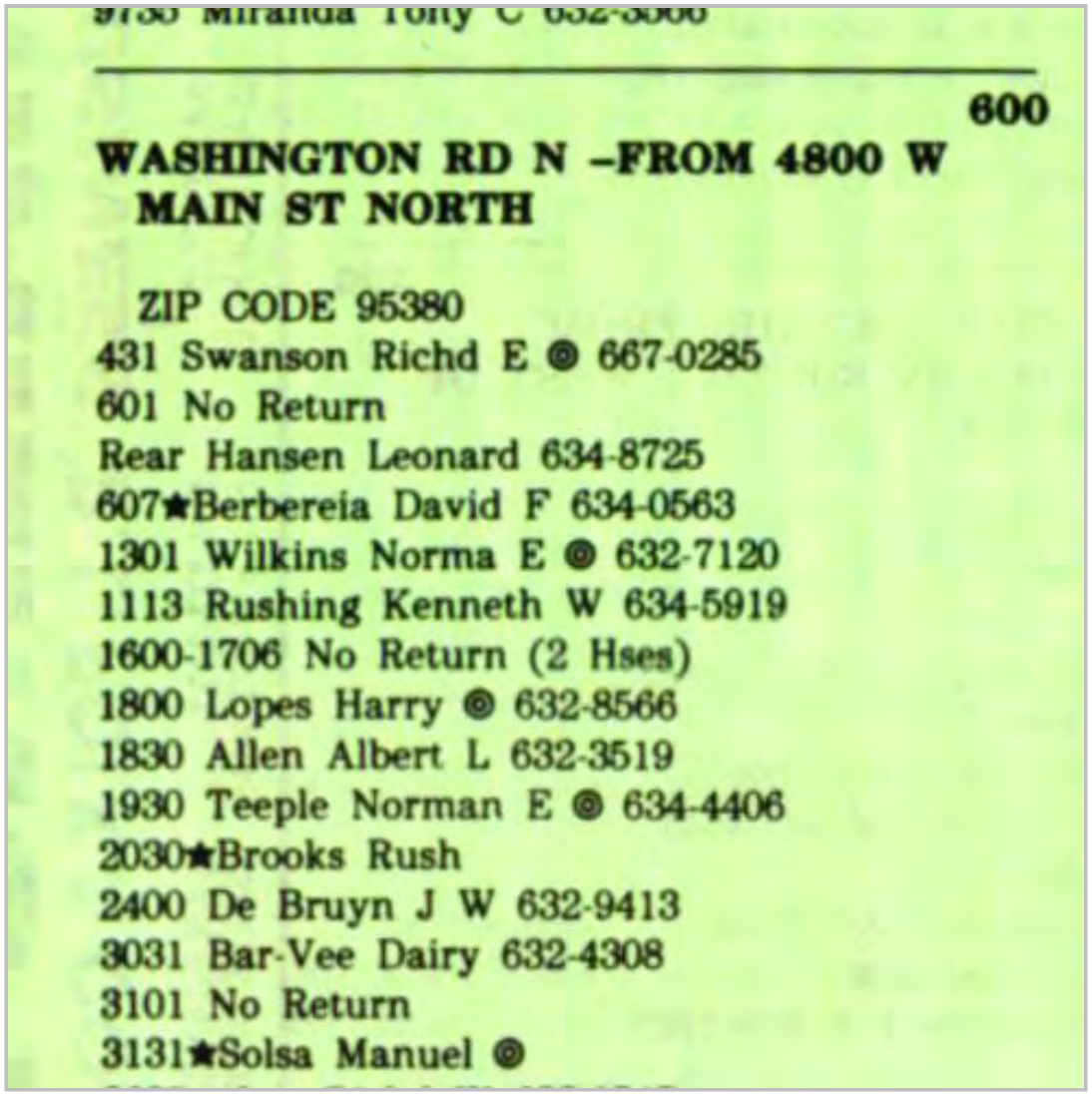
Target Street	Cross Street	Source
-	✓	Cole Information Services

N COMMONS RD 1999

224	OCCUPANT UNKNOWN
401	OCCUPANT UNKNOWN
543	OCCUPANT UNKNOWN
649	OCCUPANT UNKNOWN
1018	STEVEN MARSHALL
1101	OCCUPANT UNKNOWN
1325	OCCUPANT UNKNOWN
1518	GILBERT OLIVEIRA

Target Street	Cross Street	Source
✓	-	Polk's City Directory

N WASHINGTON RD 1991



9735 Miranda Tony C 632-3066

600

WASHINGTON RD N –FROM 4800 W MAIN ST NORTH

ZIP CODE 95380

431 Swanson Richd E ◎ 667-0285
601 No Return
Rear Hansen Leonard 634-8725
607★Berbereia David F 634-0563
1301 Wilkins Norma E ◎ 632-7120
1113 Rushing Kenneth W 634-5919
1600-1706 No Return (2 Hses)
1800 Lopes Harry ◎ 632-8566
1830 Allen Albert L 632-3519
1930 Teeple Norman E ◎ 634-4406
2030★Brooks Rush
2400 De Bruyn J W 632-9413
3031 Bar-Vee Dairy 632-4308
3101 No Return
3131★Solsa Manuel ◎

Target Street	Cross Street	Source
-	✓	Polk's City Directory

FULKERTH RD 1991

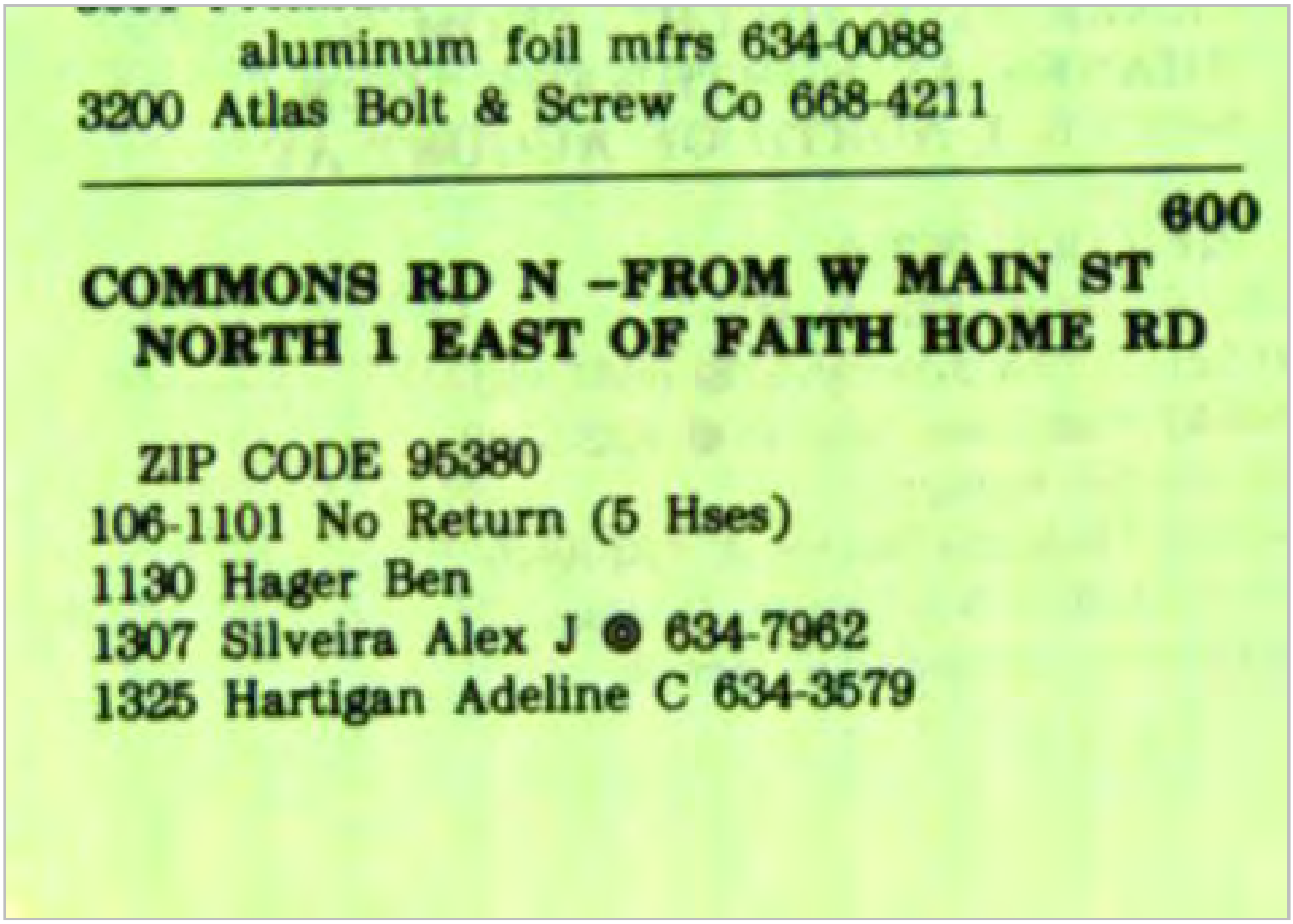
2100 Arnold Laura Mrs 632-5638
2140★Fairbairn Greg 668-0185
2160 Kids Kount day care 634-0705
Root Richard L ◎ 634-0705
2190-2260 No Return (2 Hses)
2290★Shook Cal B

600

2618 Martins Carlos S Jr
3130 Johnson Allen elec contr ◎ 667-5623
4313 Alvernaz Mike M 632-3562
4315 Rouge
4706 Gonzales Jose 668-7909
4800 Mc Cauley Wm M ◎ 632-5650
5825 No Return
6000★Galas Chris A 632-6222
8130 Rose Anthony T ◎ 634-5075
8612 Peterson Danny 668-4296
8812-10003 No Return (3 Hses)
10007 Bettencourt Clement ◎ 634-0361
10100 No Return
10218 Jemdale Holstein dairies 632-0610
Matney Dale D ◎ 632-0610
10230 Vacant
10542-10907 No Return (3 Hses)

Target Street	Cross Street	Source
-	✓	Polk's City Directory

N COMMONS RD 1991



aluminum foil mfrs 634-0088
3200 Atlas Bolt & Screw Co 668-4211

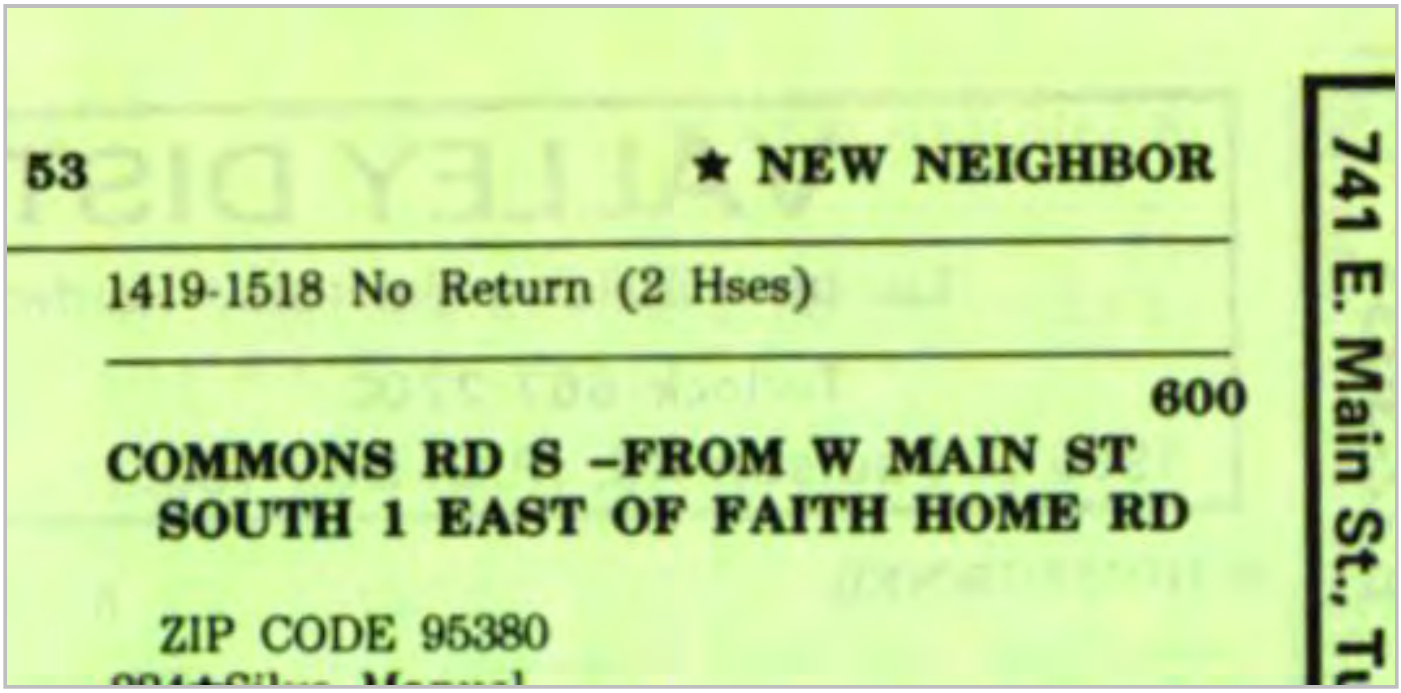
600

COMMONS RD N –FROM W MAIN ST
NORTH 1 EAST OF FAITH HOME RD

ZIP CODE 95380
106-1101 No Return (5 Hses)
1130 Hager Ben
1307 Silveira Alex J ◉ 634-7962
1325 Hartigan Adeline C 634-3579

Target Street	Cross Street	Source
-	✓	Polk's City Directory

N COMMONS RD 1991


53 ★ NEW NEIGHBOR

1419-1518 No Return (2 Hses)

600

COMMONS RD S –FROM W MAIN ST
SOUTH 1 EAST OF FAITH HOME RD

ZIP CODE 95380

741 E. Main St., Tu

Target Street	Cross Street	Source
✓	-	Polk's City Directory

N WASHINGTON RD 1986

N WARING RD (DEN)—Contd

70 Collier L M 632-6287
73 Janzen Paul F 634-8235
77 Henkins Henry 632-9435
78 Deffenbaugh Howard E 668-1326
80 Sappenfield Ruby V
83 No Return
84 Reed Erma M Mrs 632-5060
85 London Virgil 667-1271
86 Dearinger Jim 632-6883
89 Ellerd Early 668-8246
90★Streng Jerry 632-8218
91 Noble John W ◎
92 Wingett Dorothy M Mrs ◎ 634-5135
93 Noble Danl M 632-9707
94 Panter Evelyn M Mrs ◎ 634-0703
95 Braswell Ora ◎ 632-1202
96 Vacant
97 Robinson Clarence Y ◎ 667-7300
98★Lawrence Wm E 634-2524
99 Mc Laury Leroy 632-0468
100 Randell Ann ◎ 668-8354
101 Serrian Peter A ◎ 634-1012
102 Surber Lawrence ◎ 634-4249
3601 No Return
3931 Perry Francis ◎ 634-4785
ZEERING RD INTERSECTS
4007 Ruether Bob C ◎ 632-1473
4101 Wade Cray ◎ 634-5119
4125 Lawrence Desma ◎ 632-7068
4319 Streeter Michl M ◎
4532 Baptista James D ◎ 668-2188

400

WARING RD S (DENAIR)—FROM WHITMORE AV SOUTH 1 WEST OF LESTER RD

ZIP CODE 95316
SERVICE RD INTERSECTS
GRAYSON RD INTERSECTS
3015 No Return
3119 No Return
3225 Filippi Bruno E ◎
3330 Reynolds
3431 Carlton Hal S
3607 Evans Elvin E 883-4646
3612 Rampone G V
3636 Trogdon Livia
3818 Rampone Randy C 883-2264
3825 Ringer Opal G ◎ 883-2159
3919 Castro Ernest P ◎ 883-2142
5201 Hamilton Jay S ◎ 883-2688
5419 Ownby Tim ◎ 883-2237
5506 Walton Laura ◎ 634-6722
5607★Swain James W 668-2202
5649★Harris Chas M 634-3865
5731 Sevick Ken 634-7852
5819 No Return
5843 No Return
5955★Nixon Michl L ◎ 667-9209

600

WARNER RD E —FROM GEER RD EAST 2 SOUTH OF KEYES RD

ZIP CODE 95380
412 Casey John Jr 667-6506

600

WASHINGTON RD N —FROM 4800 W MAIN ST NORTH

ZIP CODE 95380
431 Swanson Richd E ◎ 667-0285
601★Silviera Manuel 632-5606
607 No Return
1301★Wesley G L 667-7039
1113★Rushing Kennith 634-2190
1600 No Return
1706 No Return
1800 Lopes Harry ◎ 632-8566
1830★Allen Albert 632-3519
1930 Teeple Norman E ◎ 634-4406
2400 De Bruyn J W 632-9413
3031 Bar-Vee Dairy 632-4308
3131 Borges Tony 632-3685
3625 No Return
4113 Bratton Douglas ◎ 632-3570
4218 Mollard Brian 667-5924
4412 Turlock Mosquito Abatement District 634-1234
4501 Binford Paul ◎ 668-7799
4637 Malik Norman R ◎ 634-7051

500

WASHINGTON RD N (HILMAR)—FROM W RIVERSIDE AV NORTH 2 WEST OF N COLUMBUS RD

ZIP CODE 95324
4901 Ingels Robt A ◎ 667-1177
5271 Brown Richd C ◎ 634-1065
TURNER RD INTERSECTS
5930 Danbom Luther ◎ 632-3384
5936 No Return
CRANE RD INTERSECTS
6725★Barcelos Joe
6743 Barker Albert M ◎ 632-7084
6816 Diniz Maria S 632-4208
6825 Rodriguez A 634-6543
WILLIAMS AV INTERSECTS
7265 Danbom Paul R ◎ 632-1985
7286 Youngborg Donald A ◎ 634-7000
GEER RD INTERSECTS
7689 Fanelli Phil ◎ 668-1174
7738 Danbom Philip ◎ 632-3431
7960 Oates Herbert C Jr ◎
BLOSS AV INTERSECTS
8175 Zimmerman Frank ◎
8344 Faragosa Joe ◎ 634-2156
8463 Pearson Art ◎ 632-0504
8549 Erlandson Wesley M ◎ 634-5033
8601 Hanson Olga 667-9117
8608 Minturn Saml ◎ 634-7182
8658 Erlandson Brothers cattle buyers 632-6470
8827 Seward Ralph ◎ 667-1335
AUGUST AV INTERSECTS
9133 No Return
9257 Vacant
9375 Sherman Robt 634-5385
9433 Sherman Donald ◎ 667-0582
SHORT ST INTERSECTS
9735 Miranda Tony C ◎ 632-3566

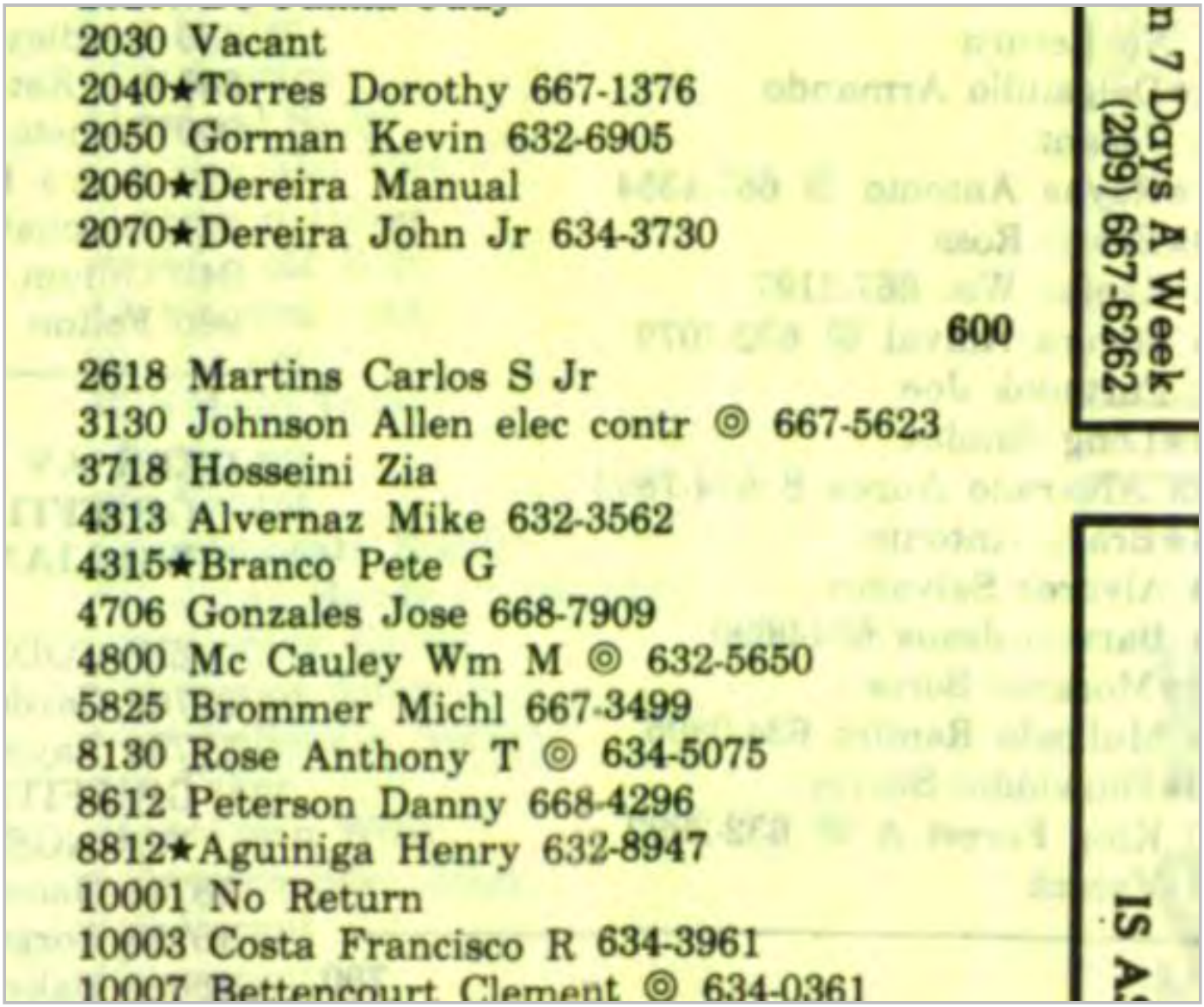
600

WASHINGTON RD S —FROM 4800 W MAIN ST SOUTH

ZIP CODE 95380
543 No Return
719 Ackerman Otto ◎ 634-4892
806 No Return
807 No Return
1201 Damas Mary C Mrs ◎ 632-3406
1318 Nunes John L 667-6584
1500 Nunes Joe 668-0875
1624 Erb Wm L 632-7128
2312 No Return
3206 Bates Betty E ◎ 667-6066
3431 Silva Manuel B 632-7913
3701 Strickler Edw A ◎ 632-4992
3825★Andre Joe ◎
4007 Andre Joaquin ◎ 634-0988
4201 Vacant
4312 Adney Clarence ◎ 668-9091
4400 Hickman Terry ◎ 668-8500

Target Street	Cross Street	Source
-	✓	Polk's City Directory

FULKERTH RD 1986



2030 Vacant
2040★Torres Dorothy 667-1376
2050 Gorman Kevin 632-6905
2060★Dereira Manual
2070★Dereira John Jr 634-3730

600

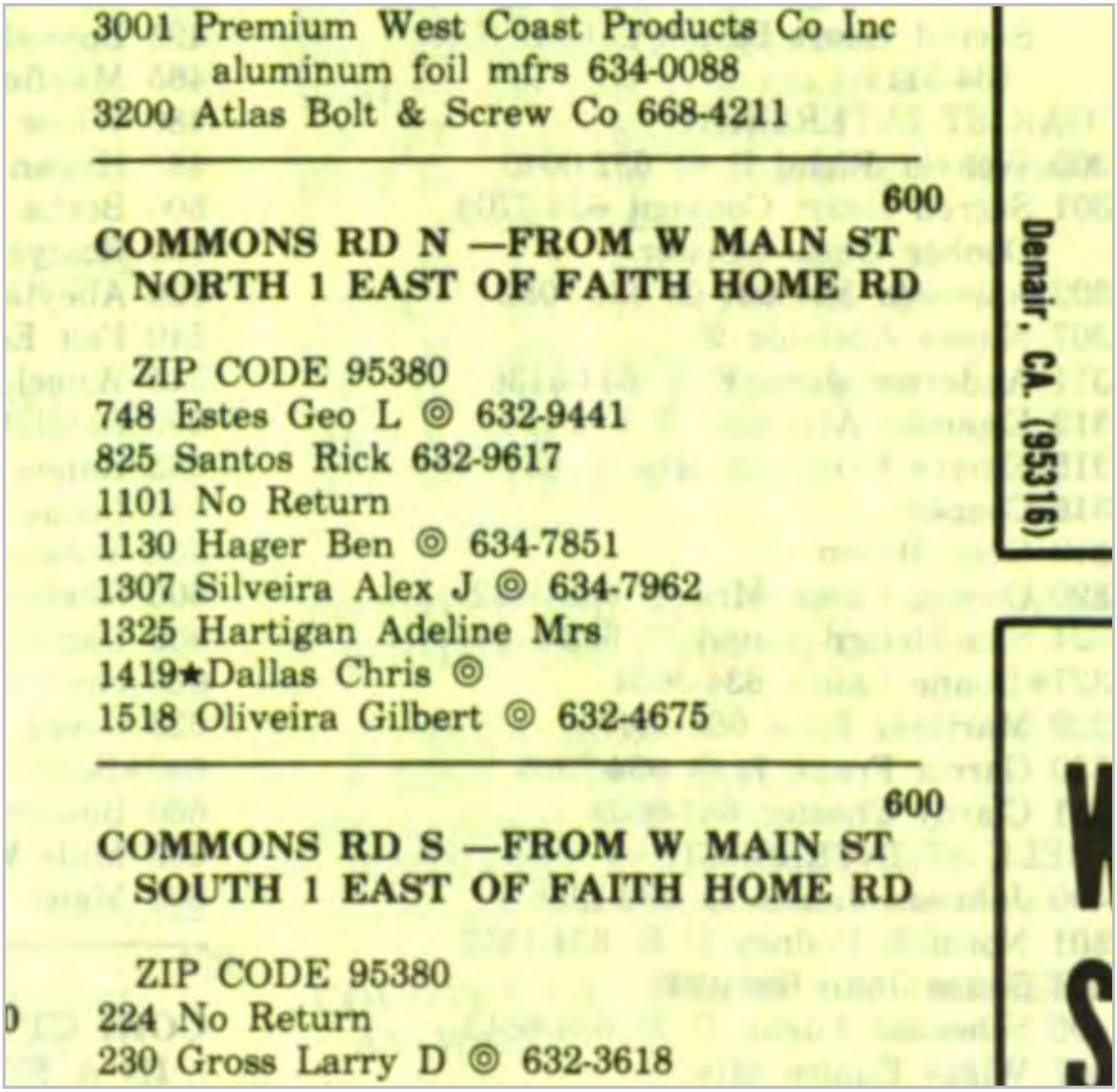
2618 Martins Carlos S Jr
3130 Johnson Allen elec contr ◎ 667-5623
3718 Hosseini Zia
4313 Alvernaz Mike 632-3562
4315★Branco Pete G
4706 Gonzales Jose 668-7909
4800 Mc Cauley Wm M ◎ 632-5650
5825 Brommer Michl 667-3499
8130 Rose Anthony T ◎ 634-5075
8612 Peterson Danny 668-4296
8812★Aguiniga Henry 632-8947
10001 No Return
10003 Costa Francisco R 634-3961
10007 Bettencourt Clement ◎ 634-0361

n 7 Days A Week
(209) 667-6262

IS A

Target Street	Cross Street	Source
-	✓	Polk's City Directory

N COMMONS RD 1986



3001 Premium West Coast Products Co Inc
aluminum foil mfrs 634-0088
3200 Atlas Bolt & Screw Co 668-4211

600
COMMONS RD N —FROM W MAIN ST
NORTH 1 EAST OF FAITH HOME RD

ZIP CODE 95380
748 Estes Geo L ◎ 632-9441
825 Santos Rick 632-9617
1101 No Return
1130 Hager Ben ◎ 634-7851
1307 Silveira Alex J ◎ 634-7962
1325 Hartigan Adeline Mrs
1419★Dallas Chris ◎
1518 Oliveira Gilbert ◎ 632-4675

600
COMMONS RD S —FROM W MAIN ST
SOUTH 1 EAST OF FAITH HOME RD

ZIP CODE 95380
224 No Return
230 Gross Larry D ◎ 632-3618

Denair, CA. (95316)

Target Street	Cross Street	Source
✓	-	Polk's City Directory

N WASHINGTON RD 1981

412 Casey John J 632-3011

600

WASHINGTON RD N —FROM 4800 W MAIN ST NORTH

ZIP CODE 95380

431 Swanson Richd E ◎ 667-0285
607 Mattos Jack R ◎ 634-7119
1301 French Wm A 634-5916
1600 No Return
1706 Vacant
1830 Allen Al L 632-3519
3031 Bar-Vee Dairy 632-4308
3625 Alvis Richd W 632-1848
4113 Bratton Douglas ◎ 632-3570
4218 Millard Brian 632-4765
4412 Turlock Mosquito Abatement District 634-1234
4501 Koshara Nathaniel 667-0665
4637 Malik Norman R ◎ 634-7051
5624 No Return
5836 No Return

500

WASHINGTON RD N (HILMAR)—FROM W RIVERSIDE AV NORTH 2 WEST OF N COLUMBUS RD

Target Street	Cross Street	Source
-	✓	Polk's City Directory

FULKERTH RD 1981

300

FRONTAGE RD (KEYES)—FROM FAITH HOME RD SOUTHEAST 1 SOUTH OF ESMAIL AV

ZIP CODE 95328
5380 Trailer Court
Spaces
1 De Witt Charles 634-2711
2 Fortner Nancy
3★Barnes Jessie
4 Owens R E ◎ 632-4943
5 Burkett Bill ◎ 634-7519
5424 Vacant
LIZZIE AV INTERSECTS
5454 Reed Cecil
CHRISTINE AV INTERSECTS
5520 No Return
MARTHA AV INTERSECTS
JENNIE AV INTERSECTS
5625 No Return
5626 Keyes Launderette
5658 Nunes Beacon Service gas sta 529-2298

204

FULKERTH RD —FROM 128 HIGHWAY 99 WEST

ZIP CODE 95380
1101 Mid-Cal Metals & Scrap buy & sell metals 634-0491
1301 B & C Shop Rentals contrs equip 634-4931
Turlock Concrete Pipe Inc 634-4931
Turlock Irrigation Constn 634-4931
Turlock Ready Mix Inc 634-4931
Turlock Rock Co Inc 634-4931
1319 Genseal Frank 634-8771
1712 Vacant
1800 No Return
1870 No Return
1880 No Return
1890 No Return
1900★Wood Danl
1910★Reyes Mike 632-5635
1920★Meyers Alford L 632-9265
1960 Strickland Riley
1970 Vacant
1980 Wade Martin
1990★Canelmilla Robt 667-5179
2000 Mc Kibbin Debbi
2010 No Return
2020 Harrill Mike
2030 Vulyak Donald A 632-4025
2040 Vacant
2060★Vaughn Linda 667-6434
2070 No Return

600

2618 Bettencourt David A
3718 Lewis L L
4313 Alvernay Mike 632-3562
4800 Mc Cauley Wm M ◎ 632-5650
5825 Brommer Alvin C ◎ 632-0355
7531 Wente Douglas G
8130 Rose Anthony T ◎ 634-5075
8612★Peterson Danny
8812 Perez
10001 Diaz Joe 537-2392
10003★Pacheco
10007 Gioletti Ronald ◎ 537-1257
10100 Ashley Bruce 634-5712
10218★Matney Dale ◎
10542 Gioletti Jenny Mrs ◎ 634-3863
10907 Alves Steve Jr 634-7132
11204 Lucas Norman E ◎ 634-5725
11207★Vernez D
11313 Alvernaz Geo ◎ 537-0636
11506★Pacheco
11606 Pacheco Larry 632-9388

212

FULLERTON DR —FROM 3700 FOSSBERG EAST TO N OLIVE AV

ZIP CODE 95380
405 Vacant
440 Pay Jeffery
480 No Return
500 Grvarigis Abrahan
540 No Return
555 Ismaily John
580 Babakhni Mani ◎ 667-5455
600 Youhan Edw
620 Vasconcellos David
635 Pirabou Vayodia
640 Anderson Robt
660★Baker Clay ◎
66s No Return
680 Gilbert Tom
695 Domingo
700 Vacant
705 No Return
725 Adams Jess
745 No Return
760 Vacant
765 Vieira Tim
785 Huntington Bill

209

G ST —FROM 800 S 1ST ST SOUTHWEST

ZIP CODE 95380
110 Lopes Francisco 632-7352
112 Vacant
115 Olson Ted 632-7842
121 Mirand Alberta
123★Roberts Betty
123½★Roberts Dennis
124 Goularte John ◎ 632-8103
125 Silvera Anival ◎
131 Furtado Angelina Mrs
132 Domingues M E
132½ No Return
134 Mendez Isabell 634-2294

Target Street	Cross Street	Source
-	✓	Polk's City Directory

N COMMONS RD 1981

3200 Atlas Bolt & Screw Co 668-4211
2901 Middleton Packaging 632-2384

600

COMMONS RD N —FROM W MAIN ST NORTH 1 EAST OF FAITH HOME RD

ZIP CODE 95380
748 Estes Geo L 632-9441
825 Scritchfield O Kenneth ◎ 634-5776
1101 Enos Arth F ◎
1130 Hager Ben 634-7851
1307 Silveira Alex J ◎ 634-7962
1325 Coleman
1419 Crowder Gary ◎ 537-1397
1518 Oliveira Gilbert ◎ 632-4675

600

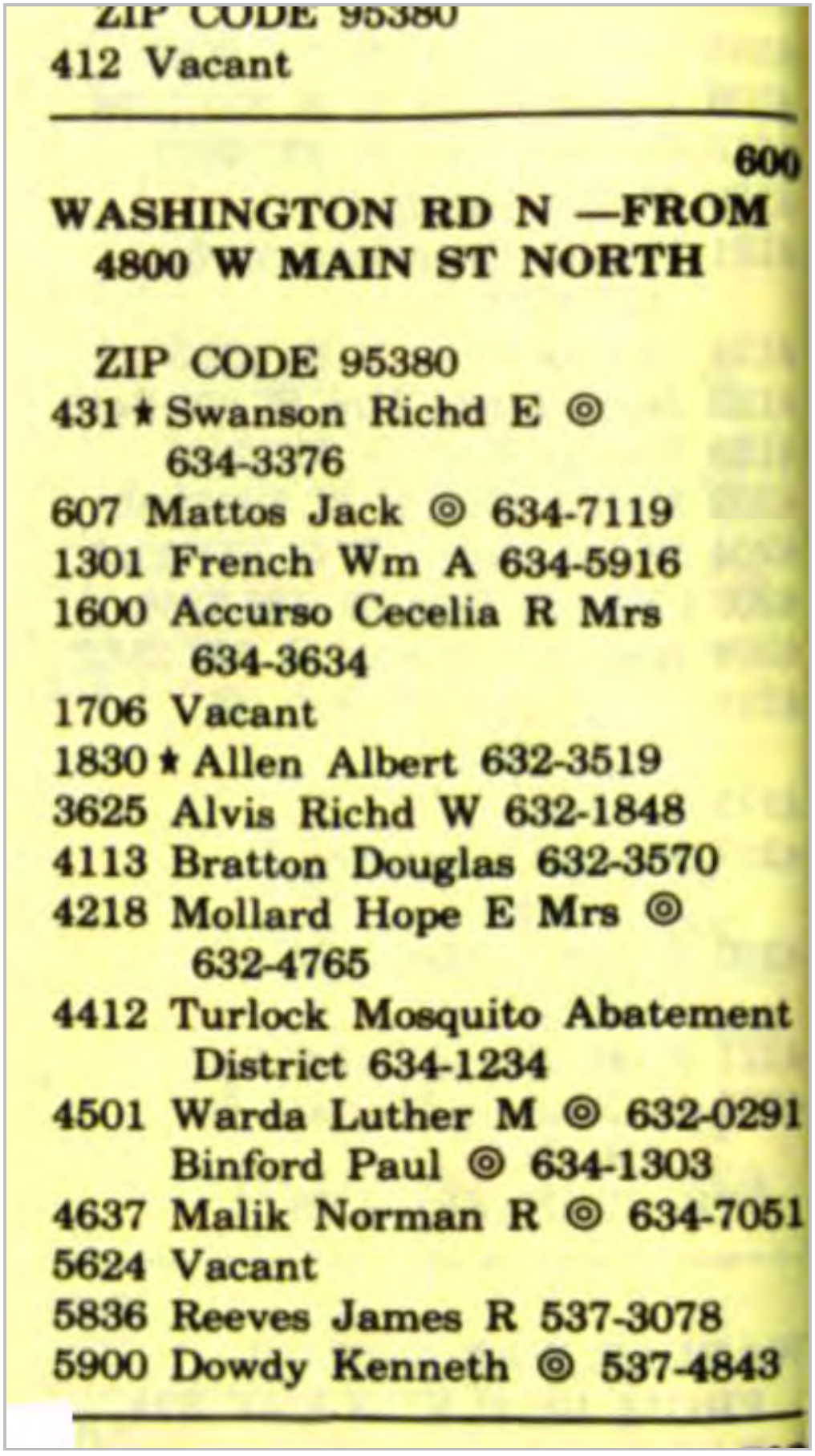
COMMONS RD S —FROM W MAIN ST SOUTH 1 EAST OF FAITH HOME RD

ZIP CODE 95380
224 Toste John ◎

Real Estate Brokerage

Target Street	Cross Street	Source
✓	-	Polk's City Directory

N WASHINGTON RD 1975



ZIP CODE 95380
412 Vacant

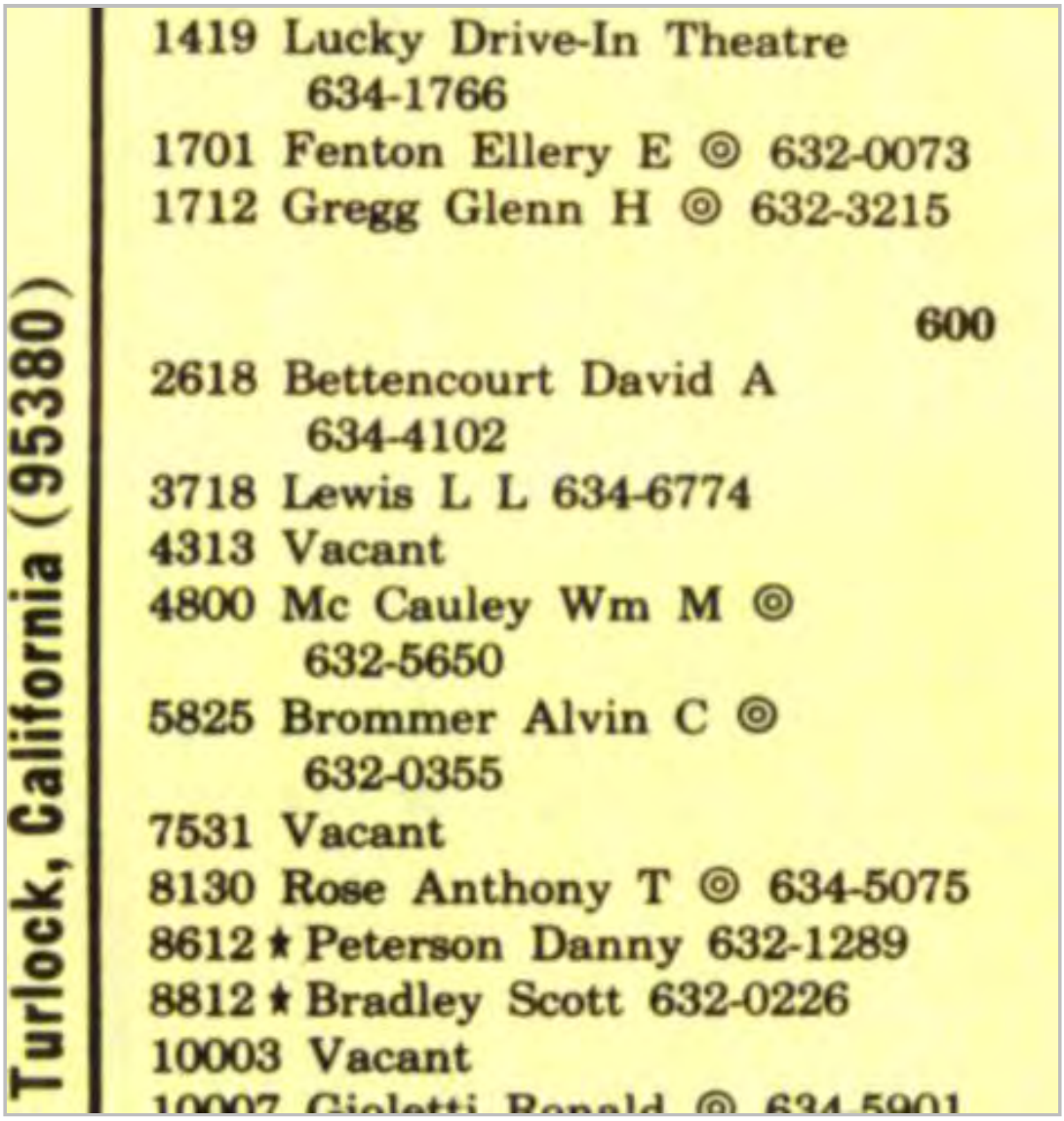
600

WASHINGTON RD N —FROM 4800 W MAIN ST NORTH

ZIP CODE 95380
431 ★ Swanson Richd E ◎ 634-3376
607 Mattos Jack ◎ 634-7119
1301 French Wm A 634-5916
1600 Accurso Cecelia R Mrs 634-3634
1706 Vacant
1830 ★ Allen Albert 632-3519
3625 Alvis Richd W 632-1848
4113 Bratton Douglas 632-3570
4218 Mollard Hope E Mrs ◎ 632-4765
4412 Turlock Mosquito Abatement District 634-1234
4501 Warda Luther M ◎ 632-0291
Binford Paul ◎ 634-1303
4637 Malik Norman R ◎ 634-7051
5624 Vacant
5836 Reeves James R 537-3078
5900 Dowdy Kenneth ◎ 537-4843

Target Street	Cross Street	Source
-	✓	Polk's City Directory

FULKERTH RD 1975



Turlock, California (95380)

1419 Lucky Drive-In Theatre
634-1766
1701 Fenton Ellery E ◎ 632-0073
1712 Gregg Glenn H ◎ 632-3215

600

2618 Bettencourt David A
634-4102
3718 Lewis L L 634-6774
4313 Vacant
4800 Mc Cauley Wm M ◎
632-5650
5825 Brommer Alvin C ◎
632-0355
7531 Vacant
8130 Rose Anthony T ◎ 634-5075
8612 ★ Peterson Danny 632-1289
8812 ★ Bradley Scott 632-0226
10003 Vacant
10007 Gioletti Ronald ◎ 634-5901

Target Street	Cross Street	Source
-	✓	Polk's City Directory

N COMMONS RD 1975

9880 Langille Jack
JOHNSON AV INTERSECTS

600

COMMONS RD N —FROM W MAIN ST NORTH 1 EAST OF FAITH HOME RD

ZIP CODE 95380

748 Vacant
1101 Enos Arth F ◎ 632-0941
1130 Vacant
1307 Silveira Alex J ◎ 634-7962
1325 Weeden Darwin J 632-0506
1419 ★ Crocder Gary ◎
1518 Oliveira Gilbert ◎ 632-4675

600

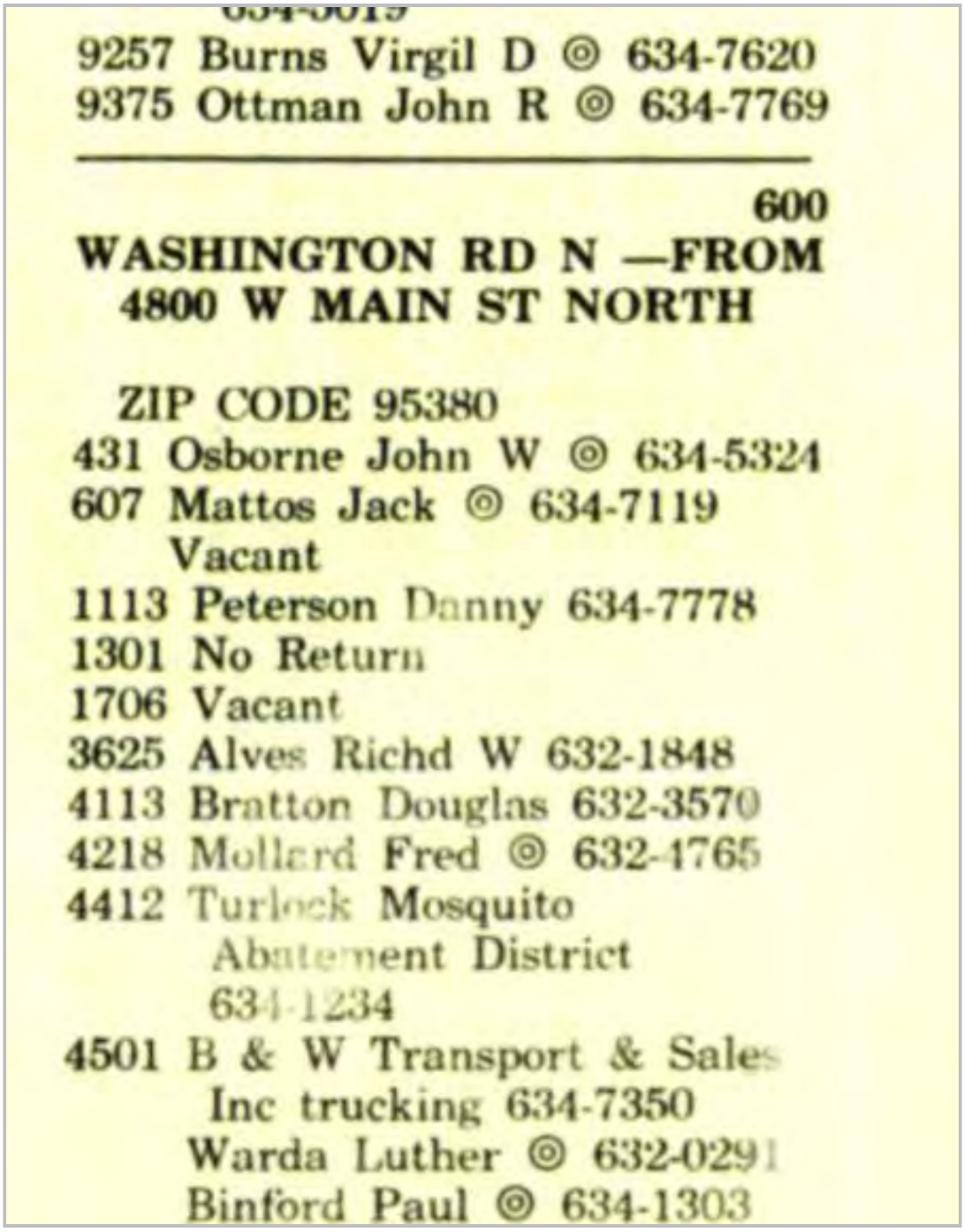
COMMONS RD S —FROM W MAIN ST SOUTH 1 EAST OF FAITH HOME RD

ZIP CODE 95380

425 Vacant

Target Street	Cross Street	Source
✓	-	Polk's City Directory

N WASHINGTON RD 1970



9257 Burns Virgil D ◎ 634-7620
9375 Ottman John R ◎ 634-7769

600
WASHINGTON RD N —FROM
4800 W MAIN ST NORTH

ZIP CODE 95380
431 Osborne John W ◎ 634-5324
607 Mattos Jack ◎ 634-7119
Vacant
1113 Peterson Danny 634-7778
1301 No Return
1706 Vacant
3625 Alves Richd W 632-1848
4113 Bratton Douglas 632-3570
4218 Mollard Fred ◎ 632-4765
4412 Turlock Mosquito
Abatement District
634-1234
4501 B & W Transport & Sales
Inc trucking 634-7350
Warda Luther ◎ 632-0291
Binford Paul ◎ 634-1303

Target Street	Cross Street	Source
-	✓	Polk's City Directory

FULKERTH RD 1970

FULKERTH RD—Contd

1713 Longo W C ◎ 632-0655

600

2400 No Return
2618 Vacant
3718 Lewis L L 634-6774
4313 Azevedo Adrian V 632-5686
Azevedo Victor 632-5686
4706 Marshall Rose ◎ 634-6485
4800 Mc Cauley Wm M ◎
632-5650
5825 Brommer Alvin C ◎
632-0355
7531 No Return
8130 Vacant
10003 Aguiar Tony 634-5051
10007 Gioletti Ronald ◎
634-5901
10100 Morrow Joseph W ◎
634-3911
10542 Gioletti Tony 634-3863
10907 Carvalho A J 634-5741

Target Street	Cross Street	Source
-	✓	Polk's City Directory

N COMMONS RD 1970

9558 Ahlem Clarence N ◎
632-3474
9597 Rohn Raymond ◎ 632-1924
9866 Vacant

600

COMMONS RD N —FROM W MAIN ST NORTH 1 EAST OF FAITH HOME RD

ZIP CODE 95380
748 Hayes Vernon E 632-0920
1101 Enos Arth F ◎ 632-0941
1130 Commons Darry O ◎
634-7031
1307 Wianand Clarence W ◎
632-3297
1325 Vacant
1419 Marshall Thos ◎ 632-3290
1518 Oliveira Gilbert ◎ 632-4675

600

COMMONS RD S —FROM W MAIN ST SOUTH 1 EAST OF FAITH HOME RD

ZIP CODE 95380
425 Hodapp Gordon V ©

APPENDIX E

SITE INSPECTION PHOTOS

Photo 1: View northeast across fallow agricultural fields toward operations area.

Photo 2: Runoff basin at edge of northwestern crop field.

Photo 3: Dwelling and outbuildings in northern portion of operations area.

Photo Date: 11-18-13

Photo 4: Agricultural chemicals stored inside structure in northern portion of operations area.

Photo 5: Truck loading area.

Photo 6: View west across southern portion of operations area.

Photo Date: 11-18-13

Photo 7: Farm equipment wash area.

Photo 8: Storage area west of asphalt pavement in southern portion of operations area.

Photo 9: Eastern portion of barn/ packing shed with dirt floor.

Photo Date: 11-18-13

Photo 10: Produce packing machinery along south wall inside western portion of barn/packing shed.

Photo 11: Hydraulic oil leak at packing machinery.

Photo 12: Stored items inside northwestern portion of barn/packing shed.

Photo Date: 11-18-13

Photo 13: Equipment stored in eastern portion of pole barn.

Photo 14: Stored oils and lubricants in western portion of pole barn.

Photo 15: Waste oil tank in pole barn.

Photo Date: 11-18-13

Photo 16: Equipment yard in southern portion of operations area.

Photo 17: Harvesting machinery stored in southeastern portion of equipment yard.

Photo 18: Tractors stored in southwestern portion of equipment yard.

Photo Date: 11-18-13

APPENDIX F

EDR REPORT

Avila & Sons North Washington Road Site
1301 North Washington Road
Turlock, CA 95380

Inquiry Number: 3781724.2s
November 11, 2013

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

1301 NORTH WASHINGTON ROAD
TURLOCK, CA 95380

COORDINATES

Latitude (North):	37.5038000 - 37° 30' 13.68''
Longitude (West):	120.9062000 - 120° 54' 22.32''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	685077.1
UTM Y (Meters):	4152617.8
Elevation:	87 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	37120-E8 CERES, CA
Most Recent Revision:	1987
South Map:	37120-D8 HATCH, CA
Most Recent Revision:	1973

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2012
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL---------- National Priority List

EXECUTIVE SUMMARY

Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

CERCLIS ---------- Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ---------- Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ---------- CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls
LUCIS ---------- Land Use Control Information System

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR ---------- EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

LUST ---------- Geotracker's Leaking Underground Fuel Tank Report

SLIC ---------- Statewide SLIC Cases
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST ---------- Active UST Facilities
AST ---------- Aboveground Petroleum Storage Tank Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land
FEMA UST ---------- Underground Storage Tank Listing

State and tribal voluntary cleanup sites

VCP ---------- Voluntary Cleanup Program Properties
INDIAN VCP ---------- Voluntary Cleanup Priority Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

ODI ---------- Open Dump Inventory
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
WMUDS/SWAT ---------- Waste Management Unit Database
SWRCY ---------- Recycler Database
HAULERS ---------- Registered Waste Tire Haulers Listing
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL ---------- Clandestine Drug Labs
HIST Cal-Sites ---------- Historical Calsites Database
SCH ---------- School Property Evaluation Program
Toxic Pits ---------- Toxic Pits Cleanup Act Sites
CDL ---------- Clandestine Drug Labs
US HIST CDL ---------- National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CA FID UST ---------- Facility Inventory Database
HIST UST ---------- Hazardous Substance Storage Container Database
SWEEPS UST ---------- SWEEPS UST Listing

Local Land Records

LIENS 2 ---------- CERCLA Lien Information
LIENS ---------- Environmental Liens Listing
DEED ---------- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---------- Hazardous Materials Information Reporting System

CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators
DOT OPS	Incident and Accident Data
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
US MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System
RMP	Risk Management Plans
CA BOND EXP. PLAN	Bond Expenditure Plan
UIC	UIC Listing
NPDES	NPDES Permits Listing
Cortese	"Cortese" Hazardous Waste & Substances Sites List
HIST CORTESE	Hazardous Waste & Substance Site List
CUPA Listings	CUPA Resources List
Notify 65	Proposition 65 Records
DRYCLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List
ENF	Enforcement Action Listing
HAZNET	Facility and Manifest Data
EMI	Emissions Inventory Data
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
HWT	Registered Hazardous Waste Transporter Database
HWP	EnviroStor Permitted Facilities Listing
Financial Assurance	Financial Assurance Information Listing
LEAD SMELTERS	Lead Smelter Sites
2020 COR ACTION	2020 Corrective Action Program List
US AIRS	Aerometric Information Retrieval System Facility Subsystem
PRP	Potentially Responsible Parties
WDS	Waste Discharge System
EPA WATCH LIST	EPA WATCH LIST
US FIN ASSUR	Financial Assurance Information
PCB TRANSFORMER	PCB Transformer Registration Database

PROC Certified Processors Database
MWMP Medical Waste Management Program Listing

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP EDR Proprietary Manufactured Gas Plants
EDR US Hist Auto Stat EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners EDR Exclusive Historic Dry Cleaners

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

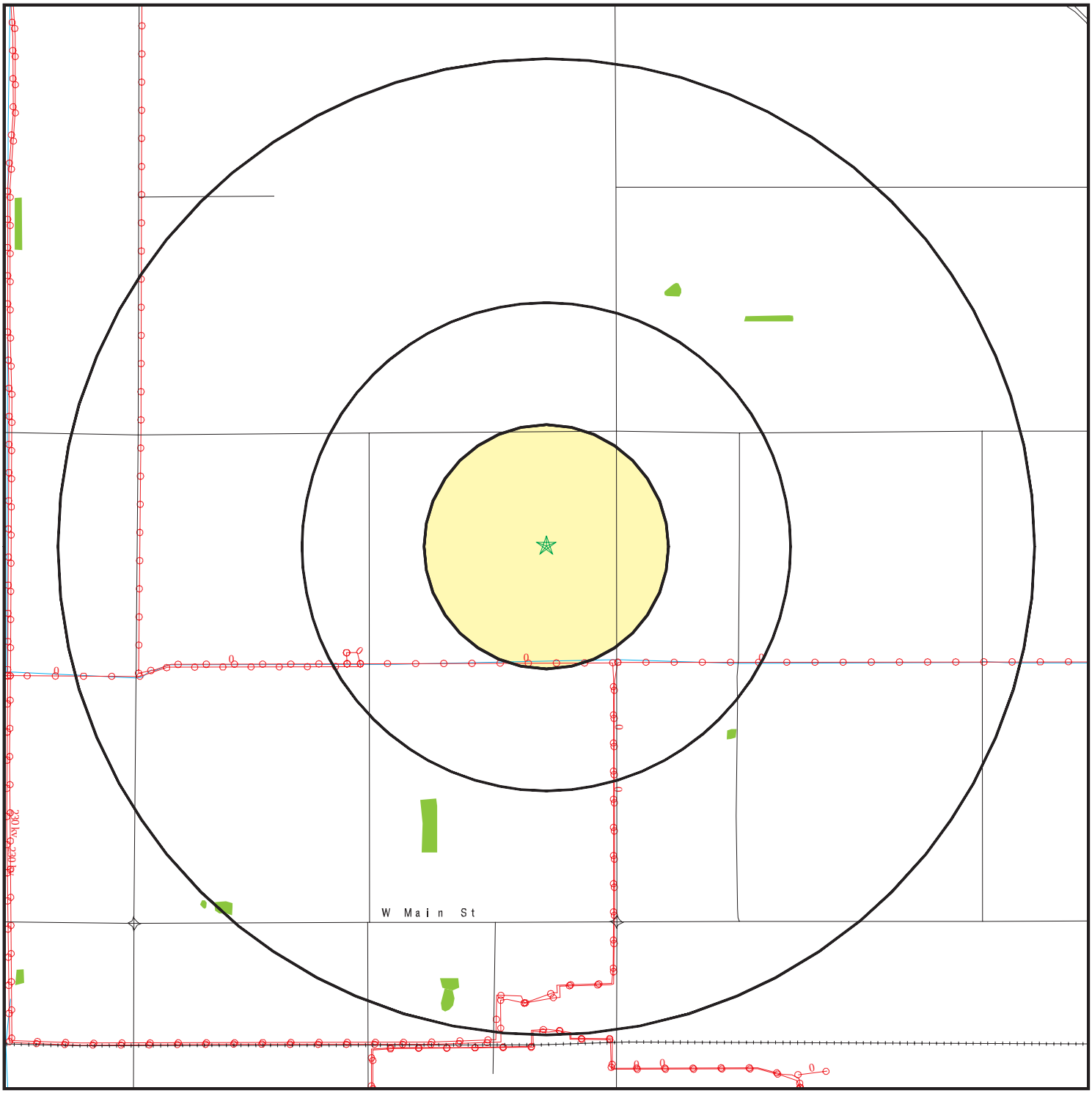
Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 8 records.

Site Name	Database(s)
SILVA, G.J. & SONS INC #2	HIST CORTESE
COUNTRY SIDE SHELL	UST
ERNEST PROUTY & SONS INC	AST
10 MINUTE LUBE AND OIL	AST
NORTH TURLOCK #2 LLC	HAZNET
TARGET NO 1304	RCRA-SQG, FINDS
VALLEY WOOD PRESERVING, INCORPORAT	SLIC
460 MOFFET ROAD	US CDL

OVERVIEW MAP - 3781724.2s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

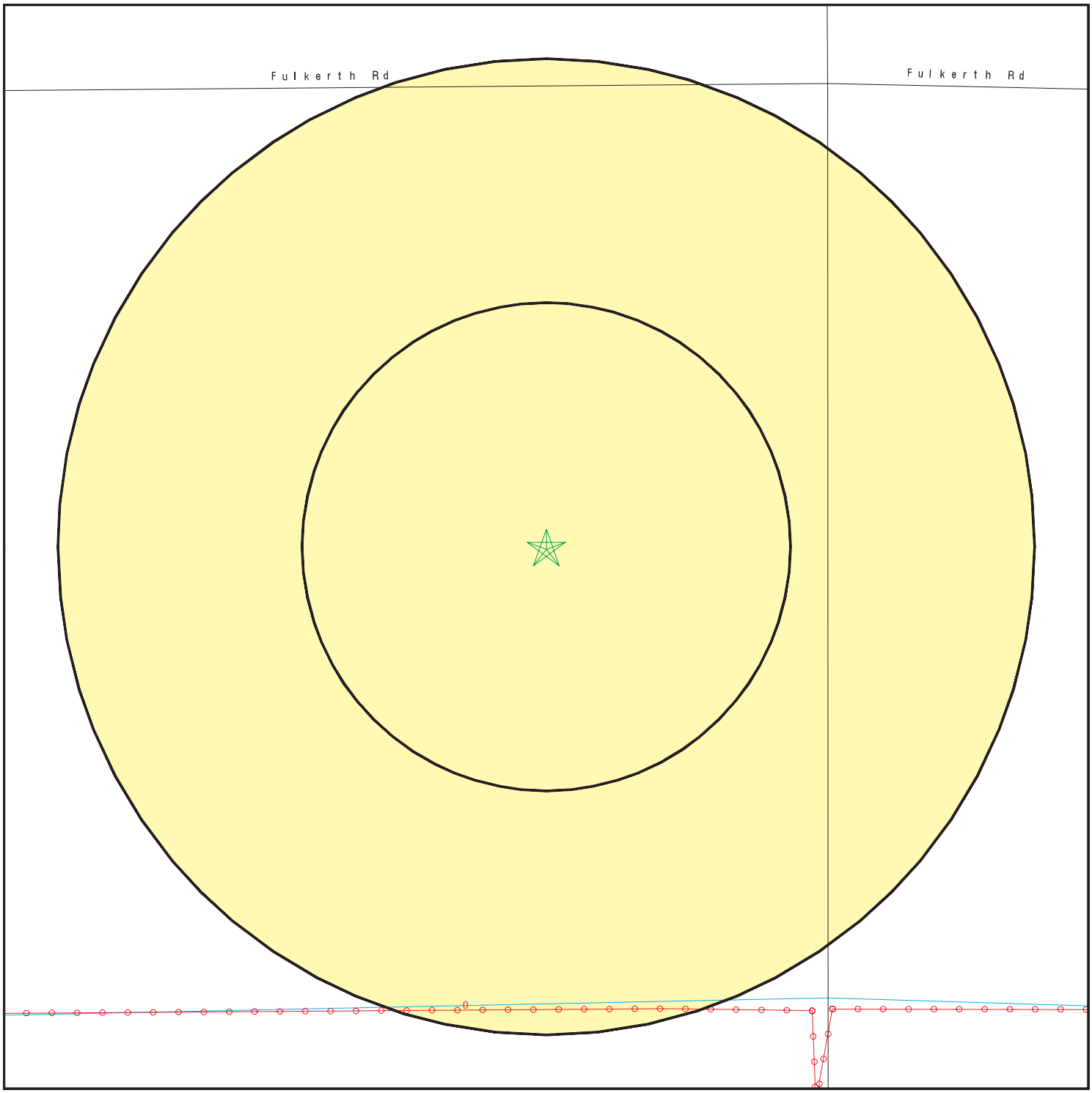
0 1/4 1/2 1 Miles

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Avila & Sons North Washington Road Site ADDRESS: 1301 North Washington Road Turlock CA 95380 LAT/LONG: 37.5038 / 120.9062	CLIENT: J House Environmental CONTACT: Jackie House INQUIRY #: 3781724.2s DATE: November 11, 2013 5:32 pm

DETAIL MAP - 3781724.2s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- Areas of Concern

0 1/16 1/8 1/4 Miles

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Avila & Sons North Washington Road Site ADDRESS: 1301 North Washington Road Turlock CA 95380 LAT/LONG: 37.5038 / 120.9062	CLIENT: J House Environmental CONTACT: Jackie House INQUIRY #: 3781724.2s DATE: November 11, 2013 5:33 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SLIC	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
SWEEPS UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
LIENS	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
Cortese	0.500		0	0	0	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
HWT	0.250		0	0	NR	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PROC	0.500		0	0	0	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250		0	0	NR	NR	NR	0
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

NO SITES FOUND

Count: 8 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
TURLOCK	U003783199	COUNTRY SIDE SHELL	23001 FULKERTH RD.	95380	UST
TURLOCK	A100345725	ERNEST PROUTY & SONS INC	6219 N GEER RD		AST
TURLOCK	S106230531	VALLEY WOOD PRESERVING, INCORPORAT	2013, 2031 GOLDEN STATE BLVD S		SLIC
TURLOCK	A100345494	10 MINUTE LUBE AND OIL	437 GOLDEN STATE BLVD	95380	AST
TURLOCK	1012197813	460 MOFFET ROAD	460 MOFFET ROAD		US CDL
TURLOCK	S112935536	NORTH TURLOCK #2 LLC	2313 MONTE VISTA AVE	95380	HAZNET
TURLOCK	1004676264	TARGET NO 1304	MONTE VISTA AVE AND HWY 99		RCRA-SQG, FINDS
TURLOCK	S105027131	SILVA, G.J. & SONS INC #2	3107 PRAIRIA FLOWER		HIST CORTESE

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 05/09/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 11/11/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 05/09/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 11/11/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 05/09/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 11/11/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 05/29/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 72

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 11/11/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 10/09/2012
Date Made Active in Reports: 12/20/2012
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/11/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 05/29/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 72

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 11/11/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 06/17/2013
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 104

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 06/17/2013
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 104

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 70

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/15/2013
Next Scheduled EDR Contact: 09/02/2013
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/17/2013
Date Made Active in Reports: 02/15/2013
Number of Days to Update: 29

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 10/01/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 09/05/2013
Date Data Arrived at EDR: 09/05/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/06/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 09/05/2013
Date Data Arrived at EDR: 09/05/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/06/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/19/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 50

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 29

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 10/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 10/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 08/27/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 66

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 70

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 07/29/2013
Date Data Arrived at EDR: 07/30/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 94

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 03/01/2013
Date Data Arrived at EDR: 03/01/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/27/2012
Date Data Arrived at EDR: 08/28/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 49

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 59

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 91
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 184
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/01/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

State and tribal registered storage tank lists

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 29
Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 10/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21
Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/05/2013
Date Data Arrived at EDR: 02/06/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 65
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/21/2013
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 45
Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 07/29/2013
Date Data Arrived at EDR: 08/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 92

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 02/28/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 43

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 34

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 70

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 91

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 09/28/2012
Date Data Arrived at EDR: 11/07/2012
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 156

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/01/2014
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/17/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 09/05/2013
Date Data Arrived at EDR: 09/05/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/06/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/28/2012
Date Data Arrived at EDR: 10/02/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 14

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 10/01/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/24/2013
Date Data Arrived at EDR: 06/25/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/24/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39
Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137
Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: No Update Planned

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30
Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/19/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 28
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 04/26/2013
Date Made Active in Reports: 05/16/2013
Number of Days to Update: 20
Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 10/01/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52
Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 08/06/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 22

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 09/04/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Quarterly

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 09/05/2013
Date Data Arrived at EDR: 09/05/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/06/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 09/03/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 37

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/06/2013
Date Data Arrived at EDR: 04/25/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 11/01/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 06/14/2013
Date Data Arrived at EDR: 06/17/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 65

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 09/11/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/11/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 55

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 10/01/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 03/12/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 06/25/2013
Number of Days to Update: 55

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/30/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 29

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 10/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 29

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 10/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 07/11/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 11/06/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 03/13/2013
Number of Days to Update: 15

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 08/07/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 57

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 06/11/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 143

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/13/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/28/2013
Next Scheduled EDR Contact: 09/09/2013
Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 09/05/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 28

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/05/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/31/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 44

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/30/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/24/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/20/2011
Date Data Arrived at EDR: 11/10/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 10/09/2014
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2013
Date Data Arrived at EDR: 07/17/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 107

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/22/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 91

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 09/30/2013
Date Data Arrived at EDR: 10/09/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 03/08/2013
Date Data Arrived at EDR: 03/21/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 111

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 09/11/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/08/2012
Date Data Arrived at EDR: 05/25/2012
Date Made Active in Reports: 07/10/2012
Number of Days to Update: 46

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 08/26/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Biennially

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 08/19/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 50

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Quarterly

UIC: UIC Listing
A listing of underground control injection wells.

Date of Government Version: 08/21/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 30
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 09/17/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Varies

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 07/05/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 08/26/2013
Number of Days to Update: 52
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 10/01/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: No Update Planned

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 35
Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/24/2012
Data Release Frequency: Annually

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 08/09/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 56

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 07/16/2013
Date Made Active in Reports: 08/26/2013
Number of Days to Update: 41

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 10/15/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 06/25/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 58

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 09/27/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 10/21/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/04/2013
Date Data Arrived at EDR: 03/15/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/27/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Quarterly

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 11/01/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/19/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 28
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 08/29/2013
Date Data Arrived at EDR: 09/13/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 31
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 09/11/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 10/15/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010
Date Data Arrived at EDR: 01/03/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 77
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 09/13/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 07/15/2013
Date Data Arrived at EDR: 07/16/2013
Date Made Active in Reports: 08/12/2013
Number of Days to Update: 27
Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/15/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/28/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 44

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/27/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/12/2013
Date Data Arrived at EDR: 08/20/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 49

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 08/15/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 08/08/2013
Date Made Active in Reports: 08/27/2013
Number of Days to Update: 19

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/25/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/29/2013
Date Data Arrived at EDR: 02/14/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 09/24/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 11/11/2011
Date Data Arrived at EDR: 05/18/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/16/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: N/A

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 04/15/2013
Date Data Arrived at EDR: 07/03/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 72

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 10/04/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Quarterly

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)
The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 01/23/2013
Date Data Arrived at EDR: 01/30/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-5962
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 01/23/2013
Date Data Arrived at EDR: 01/30/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-5962
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Annually

EPA WATCH LIST: EPA WATCH LIST
EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/07/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Proprietary Historic Dry Cleaners - Cole

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Auto Stat: EDR Proprietary Historic Gas Stations - Cole

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 07/25/2013
Date Data Arrived at EDR: 07/26/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 14

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 07/25/2013
Date Data Arrived at EDR: 07/26/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 25

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 06/20/2013
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 61

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 20

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 07/24/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 16

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/20/2013
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 39

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 10/04/2013
Next Scheduled EDR Contact: 11/25/2013
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 46

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 01/09/2013
Date Data Arrived at EDR: 01/10/2013
Date Made Active in Reports: 02/25/2013
Number of Days to Update: 46

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 46

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 07/16/2013
Date Made Active in Reports: 07/24/2013
Number of Days to Update: 8

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 08/09/2013
Date Data Arrived at EDR: 08/09/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 13

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 08/09/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 07/26/2013
Date Data Arrived at EDR: 08/09/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 13

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing

Kern County Sites and Tanks Listing.

Date of Government Version: 08/31/2010
Date Data Arrived at EDR: 09/01/2010
Date Made Active in Reports: 09/30/2010
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/22/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 42

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/23/2013
Date Data Arrived at EDR: 01/25/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 33

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/21/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 03/28/2013
Date Data Arrived at EDR: 06/17/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 65

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/22/2013
Date Data Arrived at EDR: 07/22/2013
Date Made Active in Reports: 08/26/2013
Number of Days to Update: 35

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/22/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 07/17/2013
Next Scheduled EDR Contact: 11/04/2013
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/30/2013
Date Data Arrived at EDR: 02/21/2013
Date Made Active in Reports: 03/25/2013
Number of Days to Update: 32
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/21/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 07/31/2013
Date Data Arrived at EDR: 08/01/2013
Date Made Active in Reports: 08/27/2013
Number of Days to Update: 26
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/21/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/28/2003
Date Data Arrived at EDR: 10/23/2003
Date Made Active in Reports: 11/26/2003
Number of Days to Update: 34
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 07/15/2013
Date Data Arrived at EDR: 07/18/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 33
Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 09/20/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/18/2013
Number of Days to Update: 24
Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 11/26/2012
Date Data Arrived at EDR: 11/28/2012
Date Made Active in Reports: 01/21/2013
Number of Days to Update: 54
Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 08/23/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 42

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 09/04/2013
Date Data Arrived at EDR: 09/05/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 39

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 09/11/2013
Date Data Arrived at EDR: 09/12/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 32

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 05/29/2013
Date Data Arrived at EDR: 05/30/2013
Date Made Active in Reports: 07/15/2013
Number of Days to Update: 46

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 56

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 56

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 56

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 08/22/2013
Date Data Arrived at EDR: 08/22/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 49

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 08/20/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 07/18/2013
Date Data Arrived at EDR: 07/18/2013
Date Made Active in Reports: 07/24/2013
Number of Days to Update: 6

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 07/18/2013
Date Data Arrived at EDR: 07/18/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 33

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 05/03/2013
Date Data Arrived at EDR: 07/08/2013
Date Made Active in Reports: 07/24/2013
Number of Days to Update: 16

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 05/03/2013
Date Data Arrived at EDR: 07/08/2013
Date Made Active in Reports: 08/23/2013
Number of Days to Update: 46

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 09/03/2013
Date Data Arrived at EDR: 09/03/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 37

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Quarterly

Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2012
Date Data Arrived at EDR: 11/06/2012
Date Made Active in Reports: 11/30/2012
Number of Days to Update: 24
Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 09/25/2013
Date Data Arrived at EDR: 09/27/2013
Date Made Active in Reports: 10/18/2013
Number of Days to Update: 21
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 08/26/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 44
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 07/02/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 08/23/2013
Number of Days to Update: 49
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/13/2013
Next Scheduled EDR Contact: 09/30/2013
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 29
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28
Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 09/03/2013
Date Data Arrived at EDR: 09/04/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 36
Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22
Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 09/03/2013
Date Data Arrived at EDR: 09/06/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 38
Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 09/03/2013
Next Scheduled EDR Contact: 12/16/2013
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 08/14/2013
Date Data Arrived at EDR: 08/16/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 53

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 08/22/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 44

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 09/09/2013
Date Data Arrived at EDR: 09/10/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 34

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 08/22/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 09/18/2013
Date Data Arrived at EDR: 09/20/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 27

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 09/18/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/18/2013
Number of Days to Update: 24

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 07/05/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 47

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/02/2013
Date Data Arrived at EDR: 07/05/2013
Date Made Active in Reports: 08/12/2013
Number of Days to Update: 38

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/30/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 09/10/2013
Next Scheduled EDR Contact: 12/23/2013
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/14/2013
Date Data Arrived at EDR: 01/16/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 42

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 08/19/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 44

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 05/28/2013
Date Data Arrived at EDR: 06/24/2013
Date Made Active in Reports: 08/12/2013
Number of Days to Update: 49
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 08/29/2013
Date Data Arrived at EDR: 09/18/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 28
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 06/24/2013
Date Data Arrived at EDR: 06/26/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 55
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 09/23/2013
Next Scheduled EDR Contact: 01/08/2014
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/05/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 17
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/19/2013
Next Scheduled EDR Contact: 12/02/2013
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/07/2013
Date Made Active in Reports: 09/10/2013
Number of Days to Update: 34

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 11/07/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 07/24/2013
Date Made Active in Reports: 08/19/2013
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/21/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 08/05/2013
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/23/2013
Next Scheduled EDR Contact: 12/09/2013
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 08/09/2013
Date Made Active in Reports: 09/27/2013
Number of Days to Update: 49

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/16/2013
Next Scheduled EDR Contact: 12/30/2013
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data

Source: Rextag Strategies Corp.
Telephone: (281) 769-2247
U.S. Electric Transmission and Power Plants Systems Digital GIS Data

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

AVILA & SONS NORTH WASHINGTON ROAD SITE
1301 NORTH WASHINGTON ROAD
TURLOCK, CA 95380

TARGET PROPERTY COORDINATES

Latitude (North):	37.5038 - 37° 30' 13.68''
Longitude (West):	120.9062 - 120° 54' 22.32''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	685077.1
UTM Y (Meters):	4152617.8
Elevation:	87 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	37120-E8 CERES, CA
Most Recent Revision:	1987
South Map:	37120-D8 HATCH, CA
Most Recent Revision:	1973

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

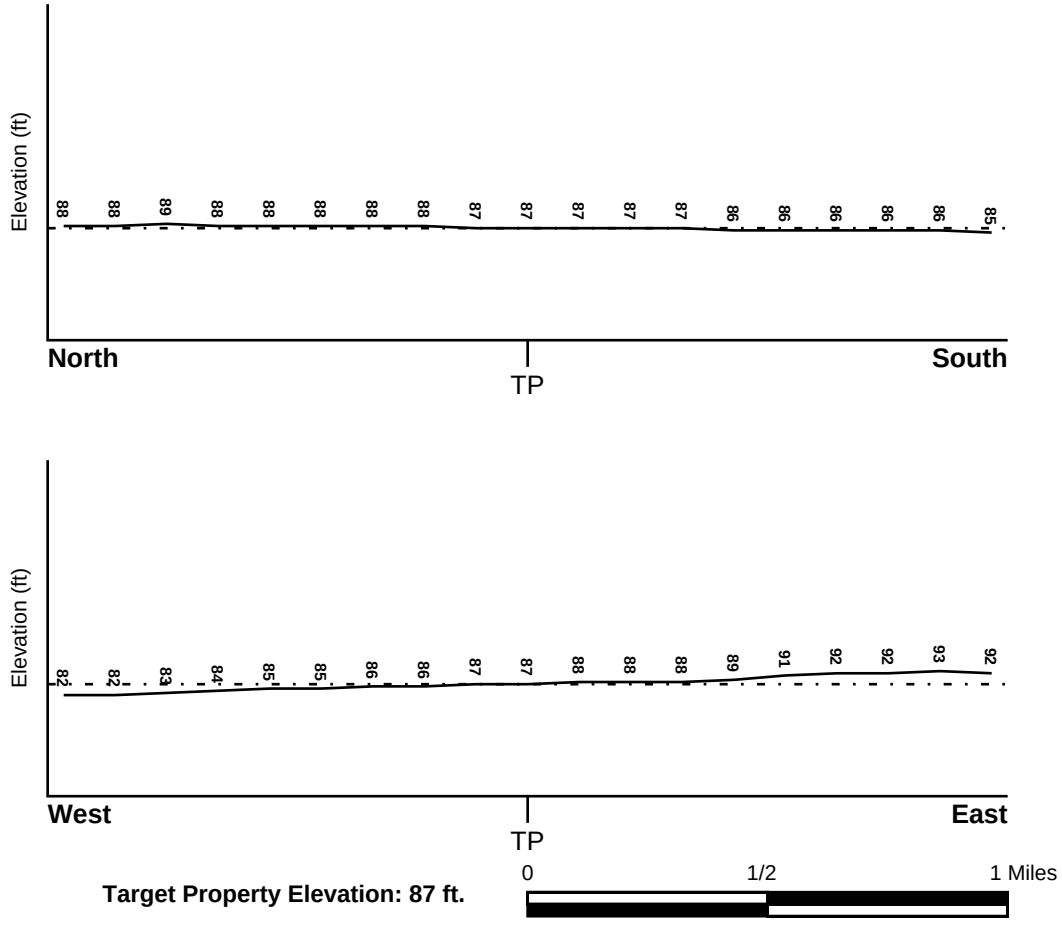
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General WSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
STANISLAUS, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 06099C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
CERES	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

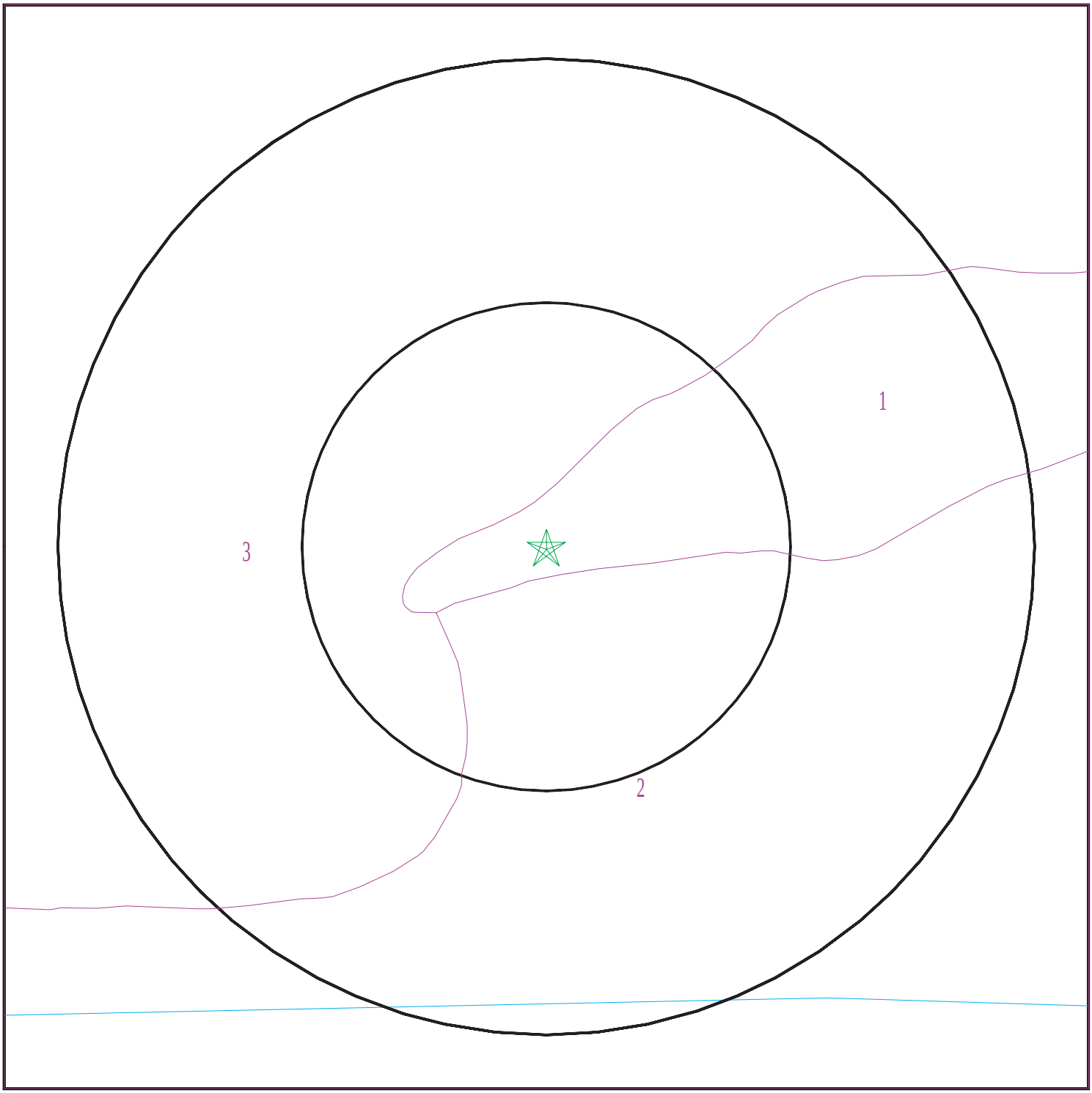
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 3781724.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Avila & Sons North Washington Road Site	CLIENT:	J House Environmental
ADDRESS:	1301 North Washington Road Turlock CA 95380	CONTACT:	Jackie House
		INQUIRY #:	3781724.2s
LAT/LONG:	37.5038 / 120.9062	DATE:	November 11, 2013 5:34 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Hanford

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 6.1
2	11 inches	59 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 6.1

Soil Map ID: 2

Soil Component Name: Dinuba

Soil Surface Texture: sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 6.6
2	9 inches	40 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 6.6
3	40 inches	59 inches	stratified very fine sand to silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9

Soil Map ID: 3

Soil Component Name: Dinuba

Soil Surface Texture: sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 6.6
2	9 inches	29 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 6.6
3	29 inches	59 inches	stratified very fine sand to silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A5	USGS40000183522	1/2 - 1 Mile NE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

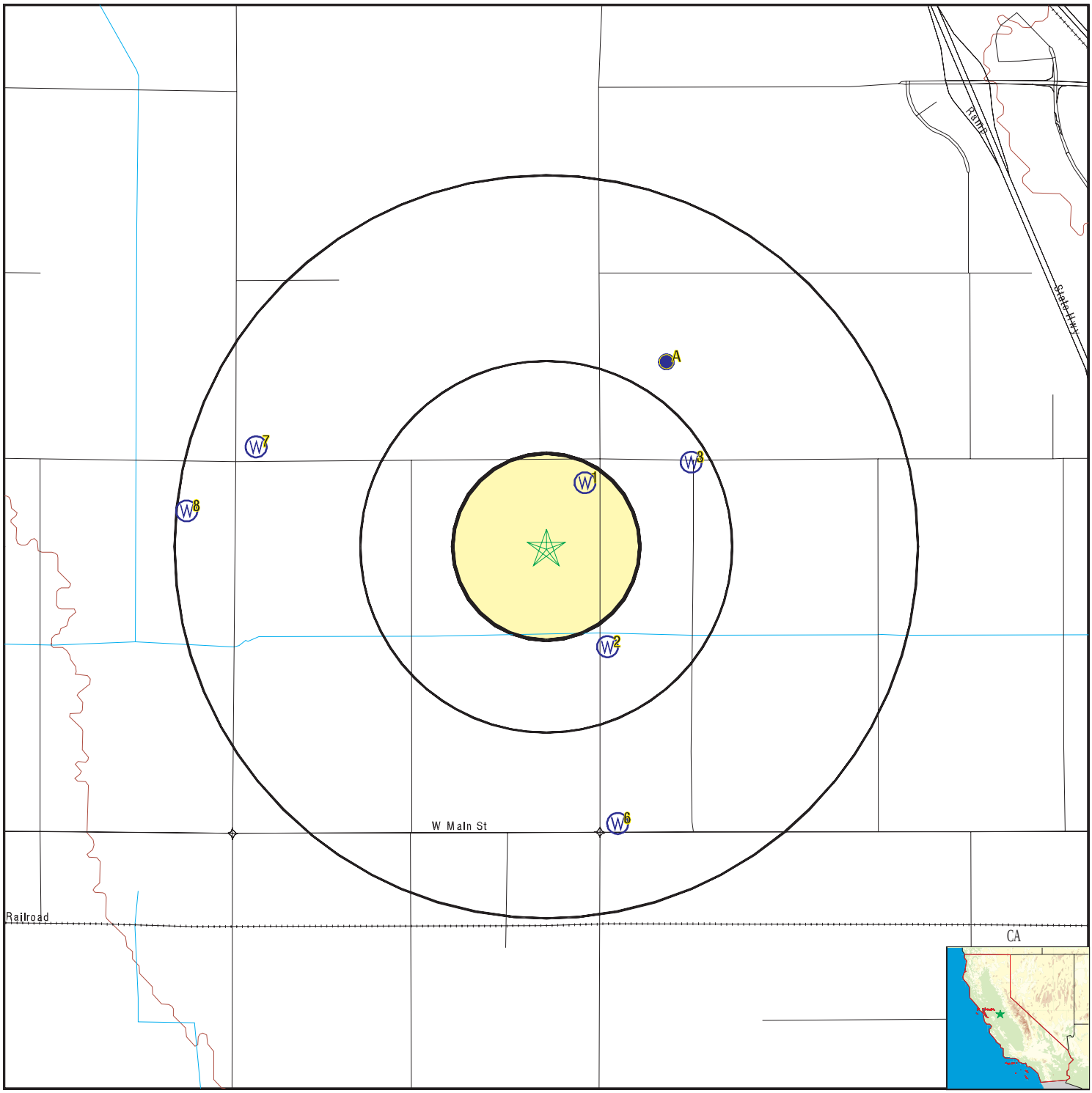
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CADW50000029142	1/8 - 1/4 Mile NNE
2	CADW50000029116	1/4 - 1/2 Mile SSE
3	CADW50000029152	1/4 - 1/2 Mile ENE
A4	CADW50000029178	1/2 - 1 Mile NNE
6	CADW50000029081	1/2 - 1 Mile SSE
7	CADW50000029159	1/2 - 1 Mile WNW
8	CADW50000029139	1/2 - 1 Mile West

PHYSICAL SETTING SOURCE MAP - 3781724.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME: Avila & Sons North Washington Road Site	CLIENT: J House Environmental
ADDRESS: 1301 North Washington Road Turlock CA 95380	CONTACT: Jackie House
LAT/LONG: 37.5038 / 120.9062	INQUIRY #: 3781724.2s DATE: November 11, 2013 5:34 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
1 **NNE** **1/8 - 1/4 Mile** **Higher**	**CA WELLS**	**CADW50000029142**

Latitude :	37.5063		
Longitude :	120.9043		
Site code:	375063N1209043W001	Casgem sta:	05S10E18A001M
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	50		
Basin cd:	5-22.03	Basin desc:	Turlock
Org unit n:	South Central Region Office	Site id:	CADW50000029142

	Database	EDR ID Number
2 **SSE** **1/4 - 1/2 Mile** **Higher**	**CA WELLS**	**CADW50000029116**

Latitude :	37.4999		
Longitude :	120.9032		
Site code:	374999N1209032W001	Casgem sta:	05S10E17M001M
Local well:	12	Casgem s 1:	Other
County id:	50		
Basin cd:	5-22.03	Basin desc:	Turlock
Org unit n:	South Central Region Office	Site id:	CADW50000029116

	Database	EDR ID Number
3 **ENE** **1/4 - 1/2 Mile** **Higher**	**CA WELLS**	**CADW50000029152**

Latitude :	37.5071		
Longitude :	120.8991		
Site code:	375071N1208991W001	Casgem sta:	05S10E17C001M
Local well:	Priv	Casgem s 1:	Unknown
County id:	50		
Basin cd:	5-22.03	Basin desc:	Turlock
Org unit n:	South Central Region Office	Site id:	CADW50000029152

	Database	EDR ID Number
A4 **NNE** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**CADW50000029178**

Latitude :	37.511		
Longitude :	120.9007		
Site code:	375110N1209007W001	Casgem sta:	05S10E08M001M
Local well:	36	Casgem s 1:	Unknown
County id:	50		
Basin cd:	5-22.03	Basin desc:	Turlock
Org unit n:	South Central Region Office	Site id:	CADW50000029178

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A5
NE
1/2 - 1 Mile
Higher

FED USGS **USGS40000183522**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-373040120535601		
Monloc name:	005S010E08M001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18040005	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	37.511045
Longitude:	-120.899929	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	90.00
Vert measure units:	feet	Vertacc measure val:	5.
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Central Valley aquifer system		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19240101	Welldepth:	45
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

6
SSE
1/2 - 1 Mile
Higher

CA WELLS **CADW50000029081**

Latitude :	37.493		
Longitude :	120.9027		
Site code:	374930N1209027W001	Casgem sta:	05S10E17N001M
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	50		
Basin cd:	5-22.03	Basin desc:	Turlock
Org unit n:	South Central Region Office	Site id:	CADW50000029081

7
WNW
1/2 - 1 Mile
Lower

CA WELLS **CADW50000029159**

Latitude :	37.5077		
Longitude :	120.9204		
Site code:	375077N1209204W001	Casgem sta:	05S10E07N001M
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	50		
Basin cd:	5-22.03	Basin desc:	Turlock
Org unit n:	South Central Region Office	Site id:	CADW50000029159

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

		Database	EDR ID Number
8 **West** **1/2 - 1 Mile** **Lower**		**CA WELLS**	**CADW50000029139**

Latitude :	37.5052		
Longitude :	120.9238		
Site code:	375052N1209238W001	Casgem sta:	05S09E13A001M
Local well:	Priv	Casgem s 1:	Unknown
County id:	50		
Basin cd:	5-22.03	Basin desc:	Turlock
Org unit n:	South Central Region Office	Site id:	CADW50000029139

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
95380	8	0

Federal EPA Radon Zone for STANISLAUS County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 95380

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.100 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Health Services
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

APPENDIX G

LABORATORY REPORTS

CALIFORNIA LABORATORY SERVICES

3249 Fitzgerald Road Rancho Cordova, CA 95742

December 05, 2013

CLS Work Order #: CWK1124
COC #: 105701,02

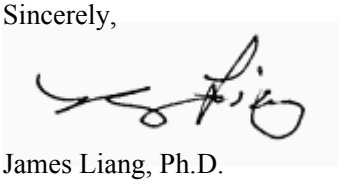
Jackie House
J House Environmental, Inc.
371 Nevada Street, # 7366
Auburn, CA 95604

Project Name: Avila & Sons

Enclosed are the results of analyses for samples received by the laboratory on 11/26/13 15:41. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



James Liang, Ph.D.
Laboratory Director

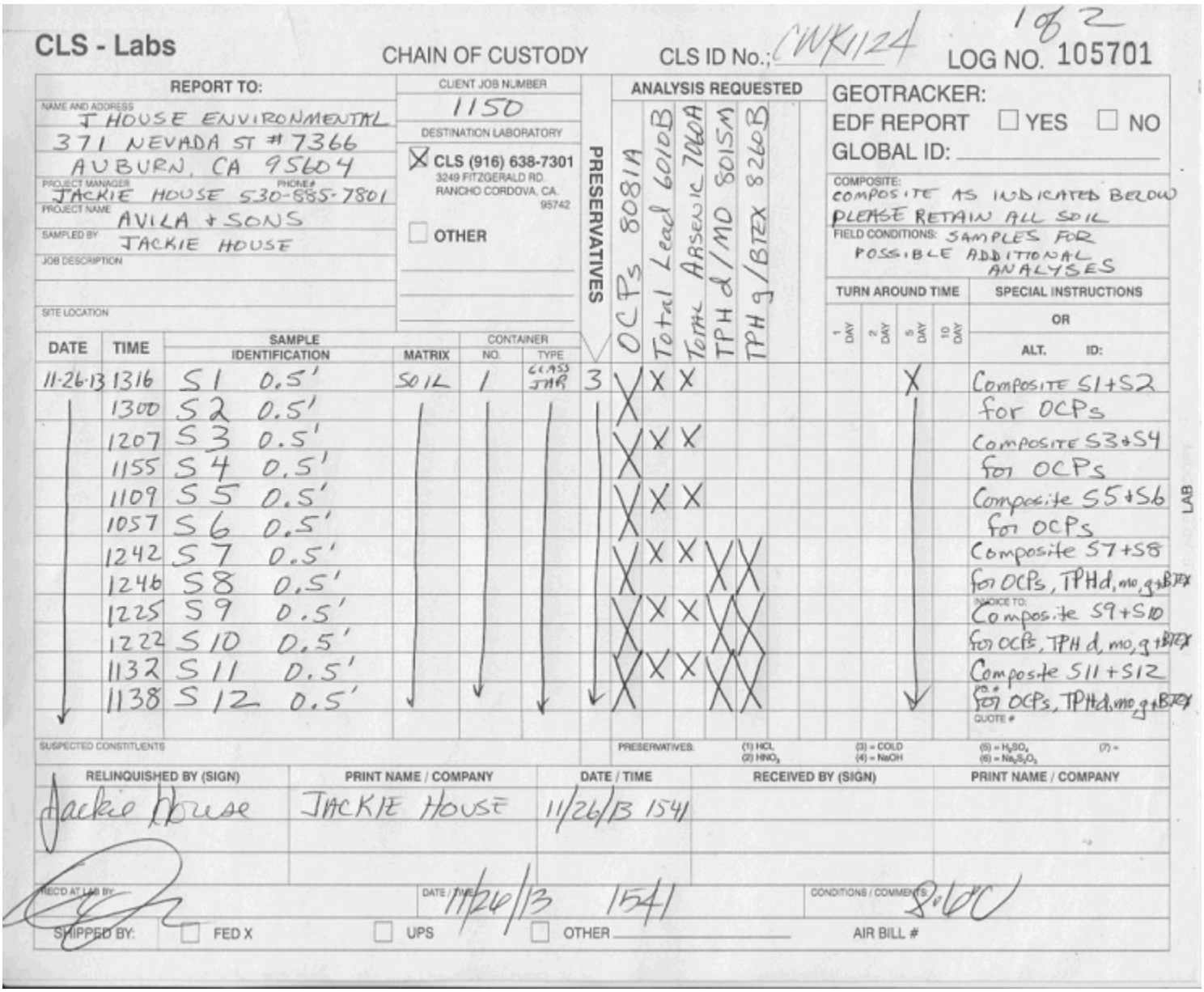
CA DOHS ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES

J House Environmental, Inc.
371 Nevada Street, # 7366
Auburn, CA 95604

Project: Avila & Sons
Project Number: 1150
Project Manager: Jackie House

CLS Work Order #: CWK1124
COC #: 105701,02



CLS - Labs

CHAIN OF CUSTODY

CLS ID No.: CWK1124 1 of 2

LOG NO. 105701

REPORT TO:
NAME AND ADDRESS: J HOUSE ENVIRONMENTAL
371 NEVADA ST #7366
AUBURN, CA 95604
PROJECT MANAGER: JACKIE HOUSE PHONE# 530-885-7801
PROJECT NAME: AVILA & SONS
SAMPLED BY: JACKIE HOUSE
JOB DESCRIPTION:
SITE LOCATION:

CLIENT JOB NUMBER: 1150
DESTINATION LABORATORY:
☒ CLS (916) 638-7301
3249 FITZGERALD RD.
RANCHO CORDOVA, CA.
95742
☐ OTHER

PRESERVATIVES

ANALYSIS REQUESTED: OCPs 8081A; Total Lead 6010B; Term. Arsenic 7060A; TPH d/MO 8015M; TPH g/BTEX 8260B

GEOTRACKER:
EDF REPORT ☐ YES ☐ NO
GLOBAL ID:

COMPOSITE: COMPOSITE AS INDICATED BELOW
PLEASE RETAIN ALL SOIL
FIELD CONDITIONS: SAMPLES FOR POSSIBLE ADDITIONAL ANALYSES

TURN AROUND TIME: 1 DAY; 2 DAY; 5 DAY; 10 DAY
SPECIAL INSTRUCTIONS: OR ALT. ID:

DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	CONTAINER TYPE		OCPs	Lead	Arsenic	TPH d/MO	TPH g/BTEX	5 DAY	ALT. ID:
11-26-13	1316	S1 0.5'	SOIL	1	GLASS JAR	3	X	X	X			X	Composite S1+S2 for OCPs
	1300	S2 0.5'					X	X	X				Composite S3+S4 for OCPs
	1207	S3 0.5'					X	X	X				Composite S5+S6 for OCPs
	1155	S4 0.5'					X	X	X				Composite S7+S8 for OCPs, TPHd, mo, g+BTEX
	1109	S5 0.5'					X	X	X	X	X		Composite S9+S10 for OCPs, TPH d, mo, g+BTEX
	1057	S6 0.5'					X	X	X	X	X		Composite S11+S12 for OCPs, TPHd, mo, g+BTEX
	1242	S7 0.5'					X	X	X	X	X		
	1246	S8 0.5'					X	X	X	X	X		
	1225	S9 0.5'					X	X	X	X	X		
	1222	S10 0.5'					X	X	X	X	X		
	1132	S11 0.5'					X	X	X	X	X		
	1138	S12 0.5'					X			X	X	X	

LAB

SUSPECTED CONSTITUENTS:

PRESERVATIVES: (1) HCL (2) HNO_3 (3) = COLD (4) = NaOH (5) = H_2SO_4 (6) = $Na_2S_2O_3$ (7) =

INVOICE TO:
QUOTE #

RELINQUISHED BY (SIGN)	PRINT NAME / COMPANY	DATE / TIME	RECEIVED BY (SIGN)	PRINT NAME / COMPANY
Jackie House	JACKIE HOUSE	11/26/13 1541		

RECD AT LAB BY: DATE / TIME 11/26/13 1541 CONDITIONS / COMMENTS: 2.6°C

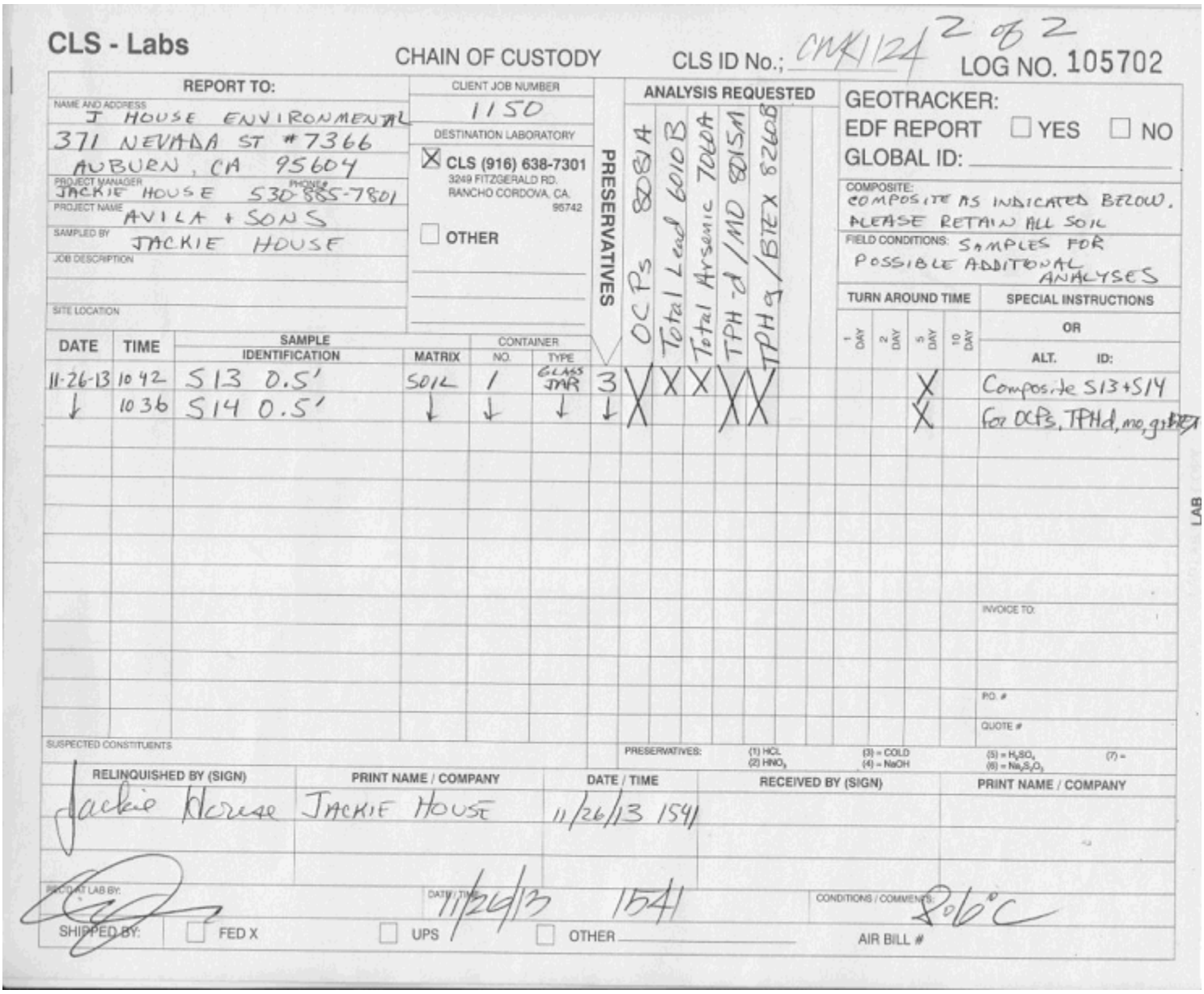
SHIPPED BY: ☐ FED X ☐ UPS ☐ OTHER AIR BILL #

CALIFORNIA LABORATORY SERVICES

J House Environmental, Inc.
371 Nevada Street, # 7366
Auburn, CA 95604

Project: Avila & Sons
Project Number: 1150
Project Manager: Jackie House

CLS Work Order #: CWK1124
COC #: 105701,02



CLS - Labs

CHAIN OF CUSTODY

CLS ID No.: CWK1124 2 of 2

LOG NO. 105702

REPORT TO:
NAME AND ADDRESS: J HOUSE ENVIRONMENTAL
371 NEVADA ST #7366
AUBURN, CA 95604
PROJECT MANAGER: JACKIE HOUSE PHONE: 530 885-7801
PROJECT NAME: AVILA & SONS
SAMPLED BY: JACKIE HOUSE
JOB DESCRIPTION:
SITE LOCATION:

CLIENT JOB NUMBER: 1150
DESTINATION LABORATORY:
☒ CLS (916) 638-7301
3249 FITZGERALD RD.
RANCHO CORDOVA, CA. 95742
☐ OTHER

PRESERVATIVES

ANALYSIS REQUESTED: OCPs 8081A; Total Lead 6010B; Total Arsenic 7060A; TPH d /MD 8015M; TPH g /BTEX 8260B

GEOTRACKER:
EDF REPORT ☐ YES ☐ NO
GLOBAL ID:

COMPOSITE: COMPOSITE AS INDICATED BELOW, PLEASE RETAIN ALL SOIL
FIELD CONDITIONS: SAMPLES FOR POSSIBLE ADDITIONAL ANALYSES

TURN AROUND TIME: 1 DAY; 2 DAY; 5 DAY X; 10 DAY
SPECIAL INSTRUCTIONS: OR ALT. ID:

DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	CONTAINER TYPE	PRESERVATIVES	5 DAY	SPECIAL INSTRUCTIONS
11-26-13	1042	S13 0.5'	SOIL	1	GLASS JAR	3	X	Composite S13+S14
↓	1036	S14 0.5'	↓	↓	↓	↓	X	for OCPs, TPHd, mo, gBTEX

INVOICE TO:
P.O. #
QUOTE #
SUSPECTED CONSTITUENTS

PRESERVATIVES: (1) HCL (2) HNO_3 (3) = COLD (4) = NaOH (5) = H_2SO_4 (6) = $Na_2S_2O_3$ (7) =

RELINQUISHED BY (SIGN)	PRINT NAME / COMPANY	DATE / TIME	RECEIVED BY (SIGN)	PRINT NAME / COMPANY
Jackie House	JACKIE HOUSE	11/26/13 1541		

RECEIVED AT LAB BY: DATE / TIME: 11/26/13 1541 CONDITIONS / COMMENTS: 2.6°C

SHIPPED BY: ☐ FED X ☐ UPS ☐ OTHER AIR BILL #

LAB

J House Environmental, Inc.
371 Nevada Street, # 7366
Auburn, CA 95604

Project: Avila & Sons
Project Number: 1150
Project Manager: Jackie House

CLS Work Order #: CWK1124
COC #: 105701,02

Extractable Petroleum Hydrocarbons by EPA Method 8015M

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Composite S7 & S8 @ 0.5' (CWK1124-12) Soil	**Sampled: 11/26/13 12:42**		**Received: 11/26/13 15:41**						
Diesel	ND	1.0	mg/kg	1	CW07857	11/27/13	11/27/13	EPA 8015M	
Motor Oil	**11**	1.0	"	"	"	"	"	"	
Surrogate: o-Terphenyl		*101 %*	*65-135*		*"*	"	*"*	*"*	
Composite S9 & S10 @ 0.5' (CWK1124-15) Soil	**Sampled: 11/26/13 12:22**		**Received: 11/26/13 15:41**						
Diesel	ND	5.0	mg/kg	5	CW07857	11/27/13	11/27/13	EPA 8015M	
Motor Oil	**240**	5.0	"	"	"	"	"	"	
Surrogate: o-Terphenyl		*101 %*	*65-135*		*"*	"	*"*	*"*	
Composite S11 & S12 @ 0.5' (CWK1124-18) Soil	**Sampled: 11/26/13 11:32**		**Received: 11/26/13 15:41**						
Diesel	ND	1.0	mg/kg	1	CW07857	11/27/13	11/27/13	EPA 8015M	
Motor Oil	**35**	1.0	"	"	"	"	"	"	
Surrogate: o-Terphenyl		*87 %*	*65-135*		*"*	"	*"*	*"*	
Composite S13 & S14 @ 0.5' (CWK1124-21) Soil	**Sampled: 11/26/13 10:36**		**Received: 11/26/13 15:41**						
Diesel	ND	10	mg/kg	10	CW07857	11/27/13	11/27/13	EPA 8015M	
Motor Oil	**650**	10	"	"	"	"	"	"	
Surrogate: o-Terphenyl		*75 %*	*65-135*		*"*	"	*"*	*"*	

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CLS Work Order #: CWK1124
COC #: 105701,02

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S1 @ 0.5' (CWK1124-01) Soil Sampled: 11/26/13 13:16 Received: 11/26/13 15:41									
Arsenic	**1.4**	1.0	mg/kg	10	CW07885	11/27/13	11/27/13	EPA 6020	
Lead	**4.0**	2.5	"	"	"	"	"	EPA 6010B	A-COM
S3 @ 0.5' (CWK1124-04) Soil Sampled: 11/26/13 12:07 Received: 11/26/13 15:41									
Arsenic	ND	1.0	mg/kg	10	CW07885	11/27/13	11/27/13	EPA 6020	
Lead	**2.9**	2.5	"	"	"	"	"	EPA 6010B	A-COM
S5 @ 0.5' (CWK1124-07) Soil Sampled: 11/26/13 11:09 Received: 11/26/13 15:41									
Arsenic	ND	1.0	mg/kg	10	CW07885	11/27/13	11/27/13	EPA 6020	
Lead	**3.8**	2.5	"	"	"	"	"	EPA 6010B	A-COM
S7 @ 0.5' (CWK1124-10) Soil Sampled: 11/26/13 12:42 Received: 11/26/13 15:41									
Arsenic	**5.9**	1.0	mg/kg	10	CW07885	11/27/13	11/27/13	EPA 6020	
Lead	**18**	2.5	"	"	"	"	"	EPA 6010B	A-COM
S9 @ 0.5' (CWK1124-13) Soil Sampled: 11/26/13 12:25 Received: 11/26/13 15:41									
Arsenic	ND	1.0	mg/kg	10	CW07885	11/27/13	11/27/13	EPA 6020	
Lead	**130**	2.5	"	"	"	"	"	EPA 6010B	A-COM
S11 @ 0.5' (CWK1124-16) Soil Sampled: 11/26/13 11:32 Received: 11/26/13 15:41									
Arsenic	ND	1.0	mg/kg	10	CW07885	11/27/13	11/27/13	EPA 6020	
Lead	**19**	2.5	"	"	"	"	"	EPA 6010B	A-COM
S13 @ 0.5' (CWK1124-19) Soil Sampled: 11/26/13 10:42 Received: 11/26/13 15:41									
Arsenic	ND	1.0	mg/kg	10	CW07885	11/27/13	11/27/13	EPA 6020	
Lead	**42**	2.5	"	"	"	"	"	EPA 6010B	A-COM

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CLS Work Order #: CWK1124
COC #: 105701,02

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Composite S1 & S2 @ 0.5' (CWK1124-03) Soil Sampled: 11/26/13 13:00 Received: 11/26/13 15:41									**PestD**
Aldrin	ND	5.0	µg/kg	5	CW07909	12/02/13	12/03/13	EPA 8081A	
alpha-BHC	ND	10	"	"	"	"	"	"	
beta-BHC	ND	50	"	"	"	"	"	"	
delta-BHC	ND	50	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	50	"	"	"	"	"	"	
Chlordane-technical	ND	100	"	"	"	"	"	"	
4,4´-DDD	ND	75	"	"	"	"	"	"	
4,4´-DDE	ND	75	"	"	"	"	"	"	
4,4´-DDT	ND	75	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	75	"	"	"	"	"	"	
Endosulfan II	ND	75	"	"	"	"	"	"	
Endosulfan sulfate	ND	75	"	"	"	"	"	"	
Endrin	ND	75	"	"	"	"	"	"	
Endrin aldehyde	ND	75	"	"	"	"	"	"	
Heptachlor	ND	25	"	"	"	"	"	"	
Heptachlor epoxide	ND	10	"	"	"	"	"	"	
Methoxychlor	ND	75	"	"	"	"	"	"	
Mirex	ND	50	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*73 %*		*46-139*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*92 %*		*52-141*	"	"	"	"	
Composite S3 & S4 @ 0.5' (CWK1124-06) Soil Sampled: 11/26/13 11:55 Received: 11/26/13 15:41									**PestD**
Aldrin	ND	5.0	µg/kg	5	CW07909	12/02/13	12/03/13	EPA 8081A	
alpha-BHC	ND	10	"	"	"	"	"	"	
beta-BHC	ND	50	"	"	"	"	"	"	
delta-BHC	ND	50	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	50	"	"	"	"	"	"	
Chlordane-technical	ND	100	"	"	"	"	"	"	

J House Environmental, Inc.
371 Nevada Street, # 7366
Auburn, CA 95604

Project: Avila & Sons
Project Number: 1150
Project Manager: Jackie House

CLS Work Order #: CWK1124
COC #: 105701,02

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Composite S3 & S4 @ 0.5' (CWK1124-06) Soil	**Sampled: 11/26/13 11:55**	**Received: 11/26/13 15:41**							**PestD**
4,4´-DDD	ND	75	µg/kg	5	CW07909	"	12/03/13	EPA 8081A	
4,4´-DDE	ND	75	"	"	"	"	"	"	
4,4´-DDT	ND	75	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	75	"	"	"	"	"	"	
Endosulfan II	ND	75	"	"	"	"	"	"	
Endosulfan sulfate	ND	75	"	"	"	"	"	"	
Endrin	ND	75	"	"	"	"	"	"	
Endrin aldehyde	ND	75	"	"	"	"	"	"	
Heptachlor	ND	25	"	"	"	"	"	"	
Heptachlor epoxide	ND	10	"	"	"	"	"	"	
Methoxychlor	ND	75	"	"	"	"	"	"	
Mirex	ND	50	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*92 %*	*46-139*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*90 %*	*52-141*		"	"	"	"	
Composite S5 & S6 @ 0.5' (CWK1124-09) Soil	**Sampled: 11/26/13 11:55**	**Received: 11/26/13 15:41**							**PestD**
Aldrin	ND	5.0	µg/kg	5	CW07909	12/02/13	12/03/13	EPA 8081A	
alpha-BHC	ND	10	"	"	"	"	"	"	
beta-BHC	ND	50	"	"	"	"	"	"	
delta-BHC	ND	50	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	50	"	"	"	"	"	"	
Chlordane-technical	ND	100	"	"	"	"	"	"	
4,4´-DDD	ND	75	"	"	"	"	"	"	
4,4´-DDE	ND	75	"	"	"	"	"	"	
4,4´-DDT	ND	75	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	75	"	"	"	"	"	"	
Endosulfan II	ND	75	"	"	"	"	"	"	

J House Environmental, Inc.
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Project: Avila & Sons
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CLS Work Order #: CWK1124
COC #: 105701,02

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Composite S5 & S6 @ 0.5' (CWK1124-09) Soil	**Sampled: 11/26/13 11:55**	**Received: 11/26/13 15:41**							**PestD**
Endosulfan sulfate	ND	75	µg/kg	5	CW07909	"	12/03/13	EPA 8081A	
Endrin	ND	75	"	"	"	"	"	"	
Endrin aldehyde	ND	75	"	"	"	"	"	"	
Heptachlor	ND	25	"	"	"	"	"	"	
Heptachlor epoxide	ND	10	"	"	"	"	"	"	
Methoxychlor	ND	75	"	"	"	"	"	"	
Mirex	ND	50	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*88 %*		*46-139*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*97 %*		*52-141*	"	"	"	"	
Composite S7 & S8 @ 0.5' (CWK1124-12) Soil	**Sampled: 11/26/13 12:42**	**Received: 11/26/13 15:41**							
Aldrin	ND	5.0	µg/kg	5	CW07909	12/02/13	12/03/13	EPA 8081A	
alpha-BHC	ND	10	"	"	"	"	"	"	
beta-BHC	ND	50	"	"	"	"	"	"	
delta-BHC	ND	50	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	50	"	"	"	"	"	"	
Chlordane-technical	ND	100	"	"	"	"	"	"	
4,4´-DDD	ND	75	"	"	"	"	"	"	
4,4´-DDE	ND	75	"	"	"	"	"	"	
4,4´-DDT	ND	75	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	75	"	"	"	"	"	"	
Endosulfan II	ND	75	"	"	"	"	"	"	
Endosulfan sulfate	ND	75	"	"	"	"	"	"	
Endrin	ND	75	"	"	"	"	"	"	
Endrin aldehyde	ND	75	"	"	"	"	"	"	
Heptachlor	ND	25	"	"	"	"	"	"	
Heptachlor epoxide	ND	10	"	"	"	"	"	"	
Methoxychlor	ND	75	"	"	"	"	"	"	

J House Environmental, Inc.
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CLS Work Order #: CWK1124
COC #: 105701,02

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Composite S7 & S8 @ 0.5' (CWK1124-12) Soil Sampled: 11/26/13 12:42 Received: 11/26/13 15:41									
Mirex	ND	50	µg/kg	5	CW07909	"	12/03/13	EPA 8081A	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*96 %*		*46-139*		*"*	*"*	*"*	*"*
Surrogate: Decachlorobiphenyl		*107 %*		*52-141*		*"*	*"*	*"*	*"*
Composite S9 & S10 @ 0.5' (CWK1124-15) Soil Sampled: 11/26/13 12:22 Received: 11/26/13 15:41									
Aldrin	ND	5.0	µg/kg	5	CW07909	12/02/13	12/03/13	EPA 8081A	
alpha-BHC	ND	10	"	"	"	"	"	"	
beta-BHC	ND	50	"	"	"	"	"	"	
delta-BHC	ND	50	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	50	"	"	"	"	"	"	
Chlordane-technical	ND	100	"	"	"	"	"	"	
4,4´-DDD	ND	75	"	"	"	"	"	"	
4,4´-DDE	ND	75	"	"	"	"	"	"	
4,4´-DDT	**890**	750	"	50	"	"	"	"	
Dieldrin	ND	5.0	"	5	"	"	"	"	
Endosulfan I	ND	75	"	"	"	"	"	"	
Endosulfan II	ND	75	"	"	"	"	"	"	
Endosulfan sulfate	ND	75	"	"	"	"	"	"	
Endrin	ND	75	"	"	"	"	"	"	
Endrin aldehyde	ND	75	"	"	"	"	"	"	
Heptachlor	ND	25	"	"	"	"	"	"	
Heptachlor epoxide	ND	10	"	"	"	"	"	"	
Methoxychlor	ND	75	"	"	"	"	"	"	
Mirex	ND	50	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*104 %*		*46-139*		*"*	*"*	*"*	*"*
Surrogate: Decachlorobiphenyl		*111 %*		*52-141*		*"*	*"*	*"*	*"*

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Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Composite S11 & S12 @ 0.5' (CWK1124-18) Soil	**Sampled: 11/26/13 11:32**		**Received: 11/26/13 15:41**						**PestD**
Aldrin	ND	5.0	µg/kg	5	CW07909	12/02/13	12/03/13	EPA 8081A	
alpha-BHC	ND	10	"	"	"	"	"	"	
beta-BHC	ND	50	"	"	"	"	"	"	
delta-BHC	ND	50	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	50	"	"	"	"	"	"	
Chlordane-technical	ND	100	"	"	"	"	"	"	
4,4´-DDD	ND	75	"	"	"	"	"	"	
4,4´-DDE	ND	75	"	"	"	"	"	"	
4,4´-DDT	ND	750	"	50	"	"	"	"	
Dieldrin	ND	5.0	"	5	"	"	"	"	
Endosulfan I	ND	75	"	"	"	"	"	"	
Endosulfan II	ND	75	"	"	"	"	"	"	
Endosulfan sulfate	ND	75	"	"	"	"	"	"	
Endrin	ND	75	"	"	"	"	"	"	
Endrin aldehyde	ND	75	"	"	"	"	"	"	
Heptachlor	ND	25	"	"	"	"	"	"	
Heptachlor epoxide	ND	10	"	"	"	"	"	"	
Methoxychlor	ND	75	"	"	"	"	"	"	
Mirex	ND	50	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*138 %*		*46-139*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*122 %*		*52-141*	"	"	"	"	
Composite S13 & S14 @ 0.5' (CWK1124-21) Soil	**Sampled: 11/26/13 10:36**		**Received: 11/26/13 15:41**						
Aldrin	ND	5.0	µg/kg	5	CW07909	12/02/13	12/03/13	EPA 8081A	
alpha-BHC	ND	10	"	"	"	"	"	"	
beta-BHC	ND	50	"	"	"	"	"	"	
delta-BHC	ND	50	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	50	"	"	"	"	"	"	
Chlordane-technical	ND	100	"	"	"	"	"	"	

J House Environmental, Inc.
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CLS Work Order #: CWK1124
COC #: 105701,02

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Composite S13 & S14 @ 0.5' (CWK1124-21) Soil	**Sampled: 11/26/13 10:36**		**Received: 11/26/13 15:41**						
4,4´-DDD	**240**	150	µg/kg	10	CW07909	"	12/03/13	EPA 8081A	
4,4´-DDE	ND	75	"	5	"	"	"	"	
4,4´-DDT	**2600**	1500	"	100	"	"	"	"	
Dieldrin	ND	5.0	"	5	"	"	"	"	
Endosulfan I	ND	75	"	"	"	"	"	"	
Endosulfan II	ND	75	"	"	"	"	"	"	
Endosulfan sulfate	ND	75	"	"	"	"	"	"	
Endrin	ND	75	"	"	"	"	"	"	
Endrin aldehyde	ND	75	"	"	"	"	"	"	
Heptachlor	ND	25	"	"	"	"	"	"	
Heptachlor epoxide	ND	10	"	"	"	"	"	"	
Methoxychlor	ND	75	"	"	"	"	"	"	
Mirex	ND	50	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*93 %*	*46-139*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*127 %*	*52-141*		*"*	*"*	*"*	*"*	

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TPH-Gasoline by GC/MS

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Composite S7 & S8 @ 0.5' (CWK1124-12) Soil Sampled: 11/26/13 12:42 Received: 11/26/13 15:41									
Gasoline	ND	0.20	mg/kg	1	CW07894	11/27/13	11/27/13	EPA 8260M	
Surrogate: Toluene-d8		*90 %*		*65-135*		"	"	"	"
Composite S9 & S10 @ 0.5' (CWK1124-15) Soil Sampled: 11/26/13 12:22 Received: 11/26/13 15:41									
Gasoline	ND	0.20	mg/kg	1	CW07894	11/27/13	11/27/13	EPA 8260M	
Surrogate: Toluene-d8		*92 %*		*65-135*		"	"	"	"
Composite S11 & S12 @ 0.5' (CWK1124-18) Soil Sampled: 11/26/13 11:32 Received: 11/26/13 15:41									
Gasoline	ND	0.20	mg/kg	1	CW07894	11/27/13	11/27/13	EPA 8260M	
Surrogate: Toluene-d8		*89 %*		*65-135*		"	"	"	"
Composite S13 & S14 @ 0.5' (CWK1124-21) Soil Sampled: 11/26/13 10:36 Received: 11/26/13 15:41									
Gasoline	ND	0.20	mg/kg	1	CW07894	11/27/13	11/27/13	EPA 8260M	
Surrogate: Toluene-d8		*92 %*		*65-135*		"	"	"	"

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CLS Work Order #: CWK1124
COC #: 105701,02

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Composite S7 & S8 @ 0.5' (CWK1124-12) Soil Sampled: 11/26/13 12:42 Received: 11/26/13 15:41									
Benzene	ND	5.0	µg/kg	1	CW07894	11/27/13	11/27/13	EPA 8260B	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Surrogate: Toluene-d8		*90 %*	*60-140*		"	"	"	"	
Composite S9 & S10 @ 0.5' (CWK1124-15) Soil Sampled: 11/26/13 12:22 Received: 11/26/13 15:41									
Benzene	ND	5.0	µg/kg	1	CW07894	11/27/13	11/27/13	EPA 8260B	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Surrogate: Toluene-d8		*92 %*	*60-140*		"	"	"	"	
Composite S11 & S12 @ 0.5' (CWK1124-18) Soil Sampled: 11/26/13 11:32 Received: 11/26/13 15:41									
Benzene	ND	5.0	µg/kg	1	CW07894	11/27/13	11/27/13	EPA 8260B	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Surrogate: Toluene-d8		*89 %*	*60-140*		"	"	"	"	
Composite S13 & S14 @ 0.5' (CWK1124-21) Soil Sampled: 11/26/13 10:36 Received: 11/26/13 15:41									
Benzene	ND	5.0	µg/kg	1	CW07894	11/27/13	11/27/13	EPA 8260B	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Surrogate: Toluene-d8		*92 %*	*60-140*		"	"	"	"	

J House Environmental, Inc.
371 Nevada Street, # 7366
Auburn, CA 95604

Project: Avila & Sons
Project Number: 1150
Project Manager: Jackie House

CLS Work Order #: CWK1124
COC #: 105701,02

Extractable Petroleum Hydrocarbons by EPA Method 8015M - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CW07857 - CA LUFT - orb shaker										
Blank (CW07857-BLK1)				Prepared: 11/26/13 Analyzed: 11/27/13						
Diesel	ND	1.0	mg/kg							
Motor Oil	ND	1.0	"							
Surrogate: o-Terphenyl	*0.478*		*"*	*0.500*		*96*	*65-135*			
LCS (CW07857-BS1)				Prepared: 11/26/13 Analyzed: 11/27/13						
Diesel	51.6	1.0	mg/kg	50.0		103	65-135			
Surrogate: o-Terphenyl	*0.570*		*"*	*0.500*		*114*	*65-135*			
LCS Dup (CW07857-BSD1)				Prepared: 11/26/13 Analyzed: 11/27/13						
Diesel	50.6	1.0	mg/kg	50.0		101	65-135	2	30	
Surrogate: o-Terphenyl	*0.554*		*"*	*0.500*		*111*	*65-135*			
Matrix Spike (CW07857-MS1)	**Source: CWK1063-01**			Prepared: 11/26/13 Analyzed: 11/27/13						
Diesel	47.2	1.0	mg/kg	50.0	ND	94	59-138			
Surrogate: o-Terphenyl	*0.579*		*"*	*0.500*		*116*	*65-135*			
Matrix Spike Dup (CW07857-MSD1)	**Source: CWK1063-01**			Prepared: 11/26/13 Analyzed: 11/27/13						
Diesel	48.8	1.0	mg/kg	50.0	ND	98	59-138	3	37	
Surrogate: o-Terphenyl	*0.611*		*"*	*0.500*		*122*	*65-135*			

J House Environmental, Inc.
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Auburn, CA 95604

Project: Avila & Sons
Project Number: 1150
Project Manager: Jackie House

CLS Work Order #: CWK1124
COC #: 105701,02

Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CW07885 - EPA 3050B										
Blank (CW07885-BLK1)				Prepared & Analyzed: 11/27/13						
Lead	ND	0.25	mg/kg							
Arsenic	ND	0.10	"							
LCS (CW07885-BS1)				Prepared & Analyzed: 11/27/13						
Lead	5.04	0.25	mg/kg	5.00		101	75-125			
Arsenic	4.73	0.10	"	5.00		95	75-125			
Matrix Spike (CW07885-MS1)	**Source: CWK1135-01**			Prepared & Analyzed: 11/27/13						
Lead	10.6	2.5	mg/kg	5.00	5.30	107	75-125			
Arsenic	7.78	1.0	"	5.00	2.47	106	75-125			
Matrix Spike Dup (CW07885-MSD1)	**Source: CWK1135-01**			Prepared & Analyzed: 11/27/13						
Lead	16.2	2.5	mg/kg	5.00	5.30	218	75-125	41	30	QM-5
Arsenic	7.60	1.0	"	5.00	2.47	103	75-125	2	30	

J House Environmental, Inc.
371 Nevada Street, # 7366
Auburn, CA 95604

Project: Avila & Sons
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Project Manager: Jackie House

CLS Work Order #: CWK1124
COC #: 105701,02

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CW07909 - LUFT-DHS GCNV										
Blank (CW07909-BLK1)				Prepared: 12/02/13 Analyzed: 12/03/13						
Aldrin	ND	1.0	µg/kg							
alpha-BHC	ND	2.0	"							
beta-BHC	ND	10	"							
delta-BHC	ND	10	"							
gamma-BHC (Lindane)	ND	10	"							
Chlordane-technical	ND	20	"							
4,4´-DDD	ND	15	"							
4,4´-DDE	ND	15	"							
4,4´-DDT	ND	15	"							
Dieldrin	ND	1.0	"							
Endosulfan I	ND	15	"							
Endosulfan II	ND	15	"							
Endosulfan sulfate	ND	15	"							
Endrin	ND	15	"							
Endrin aldehyde	ND	15	"							
Heptachlor	ND	5.0	"							
Heptachlor epoxide	ND	2.0	"							
Methoxychlor	ND	15	"							
Mirex	ND	10	"							
Toxaphene	ND	20	"							
Surrogate: Tetrachloro-meta-xylene	*7.32*		*"*	*8.33*		*88*	*46-139*			
Surrogate: Decachlorobiphenyl	*8.48*		*"*	*8.33*		*102*	*52-141*			
LCS (CW07909-BS1)				Prepared: 12/02/13 Analyzed: 12/03/13						
Aldrin	13.0	1.0	µg/kg	16.7		78	47-132			
gamma-BHC (Lindane)	12.9	10	"	16.7		78	56-133			
4,4´-DDT	14.4	15	"	16.7		87	46-137			
Dieldrin	14.0	1.0	"	16.7		84	44-143			
Endrin	11.4	15	"	16.7		68	30-147			
Heptachlor	14.2	5.0	"	16.7		85	33-148			
Surrogate: Tetrachloro-meta-xylene	*6.71*		*"*	*8.33*		*81*	*46-139*			

J House Environmental, Inc.
371 Nevada Street, # 7366
Auburn, CA 95604

Project: Avila & Sons
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Project Manager: Jackie House

CLS Work Order #: CWK1124
COC #: 105701,02

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CW07909 - LUFT-DHS GCNV										
LCS (CW07909-BS1)				Prepared: 12/02/13 Analyzed: 12/03/13						
Surrogate: Decachlorobiphenyl	*8.07*		*µg/kg*	*8.33*		*97*	*52-141*			
LCS Dup (CW07909-BSD1)				Prepared: 12/02/13 Analyzed: 12/03/13						
Aldrin	13.9	1.0	µg/kg	16.7		83	47-132	7	30	
gamma-BHC (Lindane)	14.0	10	"	16.7		84	56-133	8	30	
4,4´-DDT	14.7	15	"	16.7		88	46-137	2	30	
Dieldrin	14.5	1.0	"	16.7		87	44-143	4	30	
Endrin	12.5	15	"	16.7		75	30-147	10	30	
Heptachlor	14.6	5.0	"	16.7		88	33-148	3	30	
Surrogate: Tetrachloro-meta-xylene	*7.04*		*"*	*8.33*		*84*	*46-139*			
Surrogate: Decachlorobiphenyl	*8.00*		*"*	*8.33*		*96*	*52-141*			
Matrix Spike (CW07909-MS1)		**Source: CWK1124-15**		Prepared: 12/02/13 Analyzed: 12/03/13						
Aldrin	14.9	5.0	µg/kg	16.7	ND	89	47-138			
gamma-BHC (Lindane)	15.9	50	"	16.7	ND	95	38-144			
4,4´-DDT	1060	75	"	16.7	885	NR	41-157			QM-4X
Dieldrin	22.9	5.0	"	16.7	ND	137	46-155			
Endrin	ND	75	"	16.7	ND		34-149			A-COMa
Heptachlor	16.3	25	"	16.7	ND	98	36-155			
Surrogate: Tetrachloro-meta-xylene	*18.1*		*"*	*20.8*		*87*	*46-139*			
Surrogate: Decachlorobiphenyl	*21.5*		*"*	*20.8*		*103*	*52-141*			
Matrix Spike Dup (CW07909-MSD1)		**Source: CWK1124-15**		Prepared: 12/02/13 Analyzed: 12/03/13						
Aldrin	13.3	5.0	µg/kg	16.7	ND	80	47-138	11	35	
gamma-BHC (Lindane)	13.9	50	"	16.7	ND	84	38-144	13	35	
4,4´-DDT	912	75	"	16.7	885	160	41-157	15	35	QM-4X
Dieldrin	20.8	5.0	"	16.7	ND	125	46-155	10	35	
Endrin	ND	75	"	16.7	ND		34-149		35	A-COMa
Heptachlor	14.7	25	"	16.7	ND	88	36-155	10	35	
Surrogate: Tetrachloro-meta-xylene	*16.0*		*"*	*20.8*		*77*	*46-139*			
Surrogate: Decachlorobiphenyl	*20.3*		*"*	*20.8*		*98*	*52-141*			

J House Environmental, Inc.
371 Nevada Street, # 7366
Auburn, CA 95604

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TPH-Gasoline by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CW07894 - EPA 5030 Soil MS										
Blank (CW07894-BLK1)				Prepared & Analyzed: 11/27/13						
Gasoline	ND	0.20	mg/kg							
Surrogate: Toluene-d8	*0.0281*		*"*	*0.0300*		*94*	*65-135*			
LCS (CW07894-BS1)				Prepared & Analyzed: 11/27/13						
Gasoline	4.38	0.20	mg/kg	4.00		109	65-135			
Surrogate: Toluene-d8	*0.0279*		*"*	*0.0300*		*93*	*65-135*			
LCS Dup (CW07894-BSD1)				Prepared & Analyzed: 11/27/13						
Gasoline	4.37	0.20	mg/kg	4.00		109	65-135	0.1	30	
Surrogate: Toluene-d8	*0.0282*		*"*	*0.0300*		*94*	*65-135*			

J House Environmental, Inc.
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Project: Avila & Sons
Project Number: 1150
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CLS Work Order #: CWK1124
COC #: 105701,02

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CW07894 - EPA 5030 Soil MS										
Blank (CW07894-BLK1)				Prepared & Analyzed: 11/27/13						
Benzene	ND	5.0	µg/kg							
Ethylbenzene	ND	5.0	"							
Toluene	ND	5.0	"							
Xylenes (total)	ND	10	"							
Surrogate: Toluene-d8	*28.1*		*"*	*30.0*		*94*	*60-140*			
LCS (CW07894-BS1)				Prepared & Analyzed: 11/27/13						
Methyl tert-butyl ether	20.5	5.0	µg/kg	20.0		103	60-140			
Benzene	20.6	5.0	"	20.0		103	60-140			
Surrogate: Toluene-d8	*27.9*		*"*	*30.0*		*93*	*60-140*			
LCS Dup (CW07894-BSD1)				Prepared & Analyzed: 11/27/13						
Methyl tert-butyl ether	19.5	5.0	µg/kg	20.0		98	60-140	5	30	
Benzene	20.9	5.0	"	20.0		104	60-140	1	30	
Surrogate: Toluene-d8	*28.2*		*"*	*30.0*		*94*	*60-140*			
Matrix Spike (CW07894-MS1)	**Source: CWK1124-12**			Prepared & Analyzed: 11/27/13						
Methyl tert-butyl ether	18.8	5.0	µg/kg	20.0	ND	94	60-140			
Benzene	18.9	5.0	"	20.0	ND	94	60-140			
Surrogate: Toluene-d8	*27.5*		*"*	*30.0*		*92*	*60-140*			
Matrix Spike Dup (CW07894-MSD1)	**Source: CWK1124-12**			Prepared & Analyzed: 11/27/13						
Methyl tert-butyl ether	17.2	5.0	µg/kg	20.0	ND	86	60-140	9	30	
Benzene	15.9	5.0	"	20.0	ND	79	60-140	17	30	
Surrogate: Toluene-d8	*28.1*		*"*	*30.0*		*94*	*60-140*			

J House Environmental, Inc.	Project: Avila & Sons	
371 Nevada Street, # 7366	Project Number: 1150	**CLS Work Order #: CWK1124**
Auburn, CA 95604	Project Manager: Jackie House	COC #: 105701,02

Notes and Definitions

QM-5	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
PestD	The percent breakdown of DDT in the ending QC standard was outside the method criteria, which implies that the DDT result could be biased low and DDE/DDD results biased high.
A-COMa	The spike recovery was not available for the MS and/or MSD due to matrix interference. The LCS and LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable..
A-COM	Run by ICP-MS (EPA6020)
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

APPENDIX E

TRAFFIC IMPACT ANALYSIS

TRAFFIC IMPACT ANALYSIS

FOR

AVILA PACKING HOUSE

Stanislaus County, California

Prepared For:

QK
P.O. Box 3699
Visalia, CA 93278

Prepared By:

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September 16, 2020

5600-54

Avila Packing House 9-16-20.rpt

TRAFFIC IMPACT ANALYSIS FOR
AVILA PACKING HOUSE
Stanislaus County, California

TABLE OF CONTENTS

TRAFFIC IMPACT ANALYSIS FOR
AVILA PACKING HOUSE
Stanislaus County, California

EXECUTIVE SUMMARY

- **Project Description.** The Avila Packing House project will construct a packing house to receive, store, pack and ship watermelons, sweet potatoes, beans, wheat, pumpkins and squash. The project will be constructed on six phases over a 14 year period. The warehouse will be constructed on a 28± acre parcel. An existing 996 square foot residence conversion to office space will be Phase 1 while subsequent phases include construction of packing houses, and employee facilities.

  The site is bounded by Fulkerth Road to the north, the Turlock Irrigation District (TID) Lateral #4 to the south and Washington Road to the east. Washington Road is also the western boundary of the City of Turlock and the City's Westside Industrial Specific Plan (WISP).

  Growing fields for the produce warehouse are located generally north and south of the site as far south as Stevinson and Merced / Atwater and as far north as Ceres. The majority of the growing fields are located to the south. Produce will be shipped north and south with about half shipped to Los Angeles and the remainder shipped north between Sacramento, the Bay Area, Oregon and Washington. When available, ITE *Trip Generation* is typically used to establish trip rates for development sites. The project is inconsistent with the ITE definition which is described as the storage of materials. Packing houses receive and process produce prior to distribution to market whereas the warehouse use is defined as to store materials. Due to the specific use proposed, project information was provided by the applicant to determine project trips.

- **Existing Setting.** The location of the project is in Stanislaus County west of the City of Turlock along Washington Road, about midway between Fulkerth Road and the TID Lateral #4. Full access will be provided along Washington Road. The proposed access will involve adding a fourth leg to the existing signalized intersection of Washington Road and the Blue Diamond access. Three intersections and one road segment were studied for this analysis. These included Washington Road at Fulkerth Road, Washington Road at W. Main Street, Washington Road at the Blue Diamond driveway and Washington Road, between Fulkerth Road and W. Main Street.

  Stanislaus County employs Level of Service (LOS) C as the minimum standard in rural areas outside of community boundaries, while LOS D is acceptable in urban areas. The City of Turlock 2012 General Plan Update indicates that LOS D is the city's minimum standard. Since the study intersections and roadway segment are within the City's Sphere of Influence the most recently published City guidelines were used as the threshold levels.

Access to the site will be via a single driveway on Washington Road. The project driveway will be opposite the Blue Diamond Growers processing plant access driveway located on the east side of Washington Road. This intersection is currently a signalized tee intersection and will be modified to provide full access to and from the site.

Each of the study intersections and the roadway segment currently operate above acceptable LOS threshold levels. No recommendations are made.

- **Existing plus Project Specific Impacts.** The addition of the proposed project will contribute to the traffic volumes along Washington Road. All intersections and road segments will continue to operate above the LOS thresholds. The following recommended improvements are identified under this planning horizon:

  1. **Pay County Traffic Impact Fees.** The project should pay the Traffic Impact Fees as set forth by Stanislaus County.

  2. **Modify Washington Road / Blue Diamond Traffic Signal.** The applicant shall modify the existing traffic signal by adding the fourth leg of the intersection. This will require an encroachment permit from the City of Turlock.

- **Existing Plus Approved Projects (EPAP) Setting.** The analysis of the near-term condition is intended to consider the impact of this project within the context of growth occurring as a result of recently approved and pending projects. The EPAP volumes were determined based upon the traffic generated by the approved and foreseeable pending projects in the project vicinity. Both Stanislaus County and City of Turlock Planning Departments were contacted to identify any projects in the vicinity that could add background traffic to the roadway system.

  Four near-term projects were identified by Stanislaus County and City of Turlock Planning staff. The traffic generated from these projects was added to the existing traffic to arrive at a EPAP baseline.

  Lane configurations are projected to remain in their current configurations.

  Each of the study intersections and the roadway segment will continue to operate above acceptable LOS threshold levels. No recommendations are made.

- **EPAP plus Project Specific Impacts.** The addition of the proposed project will contribute to the traffic volumes along the surrounding roadways. Each of the study intersections and the study roadway segment will continue to operate within accepted Stanislaus County and City of Turlock level of service standards.

  No recommended improvements are identified.

- **Cumulative Setting.** The analysis of long term conditions is intended to consider the impact of this project within the context of growth through 2035. Year 2035 daily traffic volume forecasts were based upon both the 2016 Stanislaus County General Plan Circulation Element and the 2012 City of Turlock General Plan Update Circulation Element.

  Roads throughout the project vicinity are projected to be expanded by 2035 as part of the Westside Industrial Specific Plan (WISP) and the STANCOG) 2018 Regional Transportation Plan (RTP). Washington Road will be widened to a four-lane expressway. The Washington Road / Fulkerth Road intersection will be signalized and include left, through and right lanes along the northbound and southbound approaches while the eastbound and westbound approaches will include a left and a through-right lane. The Washington Road / W. Main Street intersection will include one left, two through and 1 right lane for the northbound and southbound approaches and one left lane, a through lane and a right lane for the eastbound and westbound approaches. The resulting Levels of Service at the study locations will remain within adopted level of service thresholds for both intersections and the roadway segment.

  No recommendations are made.

- **Cumulative plus Project Specific Impacts.** The addition of the proposed project will contribute to the traffic volumes along the surrounding roadways. Each of the study intersections and the study roadway segment will continue to operate within accepted Stanislaus County and City of Turlock level of service standards. The project access intersection will also continue to operate within accepted level of service thresholds.

  No additional recommended improvements are identified.

- **Queuing.** A queuing analysis was conducted at each of the intersections in the existing and 2035 scenarios. Left turn lanes and side street approaches where left turn lanes are not present were evaluated. A 95% confidence level was assumed, meaning that the forecast queue length should be exceeded only 5% of the time. Under Existing conditions, the worst queue occurs at the Washington Road / W. Main Street intersection where a four vehicle occurs along southbound Washington Road. The queue lengthens to five vehicles under Existing plus Project conditions. Queues at the remaining intersections are two vehicles.

  In the EPAP conditions the longest queue will continue to occur on the southbound approach of the Washington Road / W. Main Street intersection with a queue of four vehicles along the southbound approach. This queue will lengthen to five vehicles under EPAP Plus Project conditions. Queues at the remaining intersections are two vehicles.

  During Cumulative buildout conditions the longest queues will occur at the Main Street / Washington Road intersection with 10 vehicles projected to queue in the southbound left turn lane and an 11 vehicles queue in the eastbound left turn lane. The queues in the eastbound and westbound left turn lanes at the Washington Road / Fulkerth Road intersection is projected to be six vehicles and eight vehicles, respectively. The longest queues at the Washington Road / Blue Diamond driveway is projected to be three vehicles in the

southbound left turn lane and four vehicles in the westbound left turn lane. In the Cumulative plus Project scenario the queue in the southbound left turn lane at the Main Street / Washington Road intersection will lengthen to 11 vehicles while the remaining queues in this intersection will remain the same length as Cumulative No Project conditions. The westbound left turn lane the at Washington Road / Fulkerth Road intersection will lengthen to nine vehicles while the remaining turn lane approaches will remain the same. Queues at the Washington Road / Blue Diamond driveway intersection will remain at four westbound vehicles and three southbound vehicles, while the project queues will be two vehicles in both northbound left turn lane and eastbound left turn lane.

TRAFFIC IMPACT ANALYSIS FOR
AVILA & SONS PACKING HOUSE
Stanislaus County, California

INTRODUCTION

This report summarizes KD Anderson & Associates analysis of the traffic impacts associated with the **Avila & Sons Packing House** project located in Stanislaus County on the west side of Washington Road. The site is bounded by Fulkerth Road to the north, the Turlock Irrigation District (TID) Lateral #4 to the south and Washington Road to the east. Washington Road is also the western boundary of the City of Turlock and the City's Westside Industrial Specific Plan (WISP).

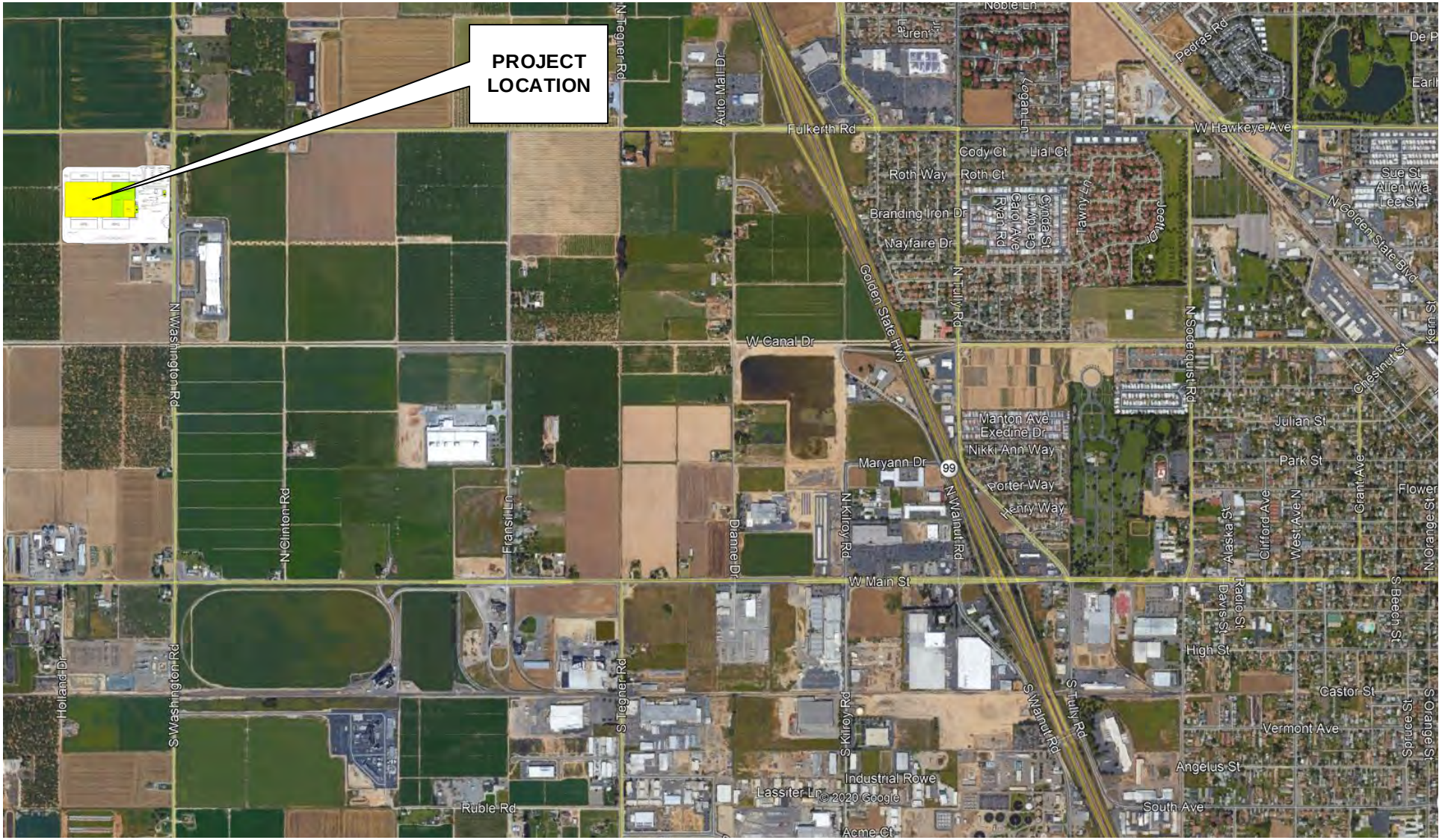
A traffic impact analysis was prepared by KD Anderson & Associates, Inc. in 2013 for the site and had similar packing house characteristics. That project was proposed for completion in three phases.

Access to the site will be via a single driveway on Washington Road. The project driveway will be the fourth leg of a signalized intersection that provides access to the Blue Diamond Growers processing plant access road located on the east side of Washington Road. The project location is shown in Figure 1.

The 2018 CEQA Guidelines Update includes new and revised provisions for analyzing the significance of transportation impacts. Specifically, CEQA Guidelines section 15064.3 was adopted, effective December 28, 2018, and states that Vehicle Miles Travelled (VMT) for land use projects "exceeding an applicable threshold of significance may indicate a significant impact." (14 CCR § 15064.3, subd. (b)(1).). This new metric took effect state-wide July 1, 2020. As a result of this new section, the significance threshold for transportation impacts in both CEQA Guidelines section 15064 and Appendix G (Environmental Checklist Form) are described in terms of VMT rather than LOS.

- A project must still be evaluated individually and cumulatively to determine whether the project is consistent with the local agency's General Plan. The project was evaluated under Existing and Existing plus Approved Projects condition, i.e., existing plus near term condition which included local projects previously approved by Stanislaus County and Turlock. Cumulatively, it was analyzed under future conditions which may include either a list of past, present and probably future projects producing related or cumulative impacts or a summary of projections contained in an adopted local, regional or statewide plan or related planning document. For this project, the 3-County model and the City of Turlock travel demand model were used as the basis to establish Cumulative No Project conditions.

The Level of Service (LOS) analysis was evaluated for General Plan consistency and to identify feasible improvements to meet the General Plan Vehicle LOS Standard. Vehicle LOS is used to identify potential improvement projects that may be included in conditions of approval for the project entitlements.



VICINITY MAP

KD Anderson & Associates, Inc.
Transportation Engineers

5600-54 RA 9/16/2020

figure 1

Project Description

The proposed project will develop a facility on a 25.72-acre parcel to receive, store, pack and ship watermelons, sweet potatoes, beans, wheat, pumpkin and squash. The facility is referred to as a Packing House. The parcel is zoned A-2-40, General Agriculture in a General Plan 'Agricultural' designation.

The project will be completed in six phases over 14 years as described below:

Phase 1 – Convert existing 996 square foot (sf) residence to office space (Completion 2020)

Phase 2 – Construct 15,000 sf long packing house (Completion 2024)

Phase 3 – Construct 15,000 sf long packing house (Completion 2029)

Phase 4 – Construct 3,315 sf office/breakroom/storage building (Completion 2030)

Phase 5– Construction 120,000 sf floor slab for sorting, packing and shipping of agricultural products. (Completion 2032)

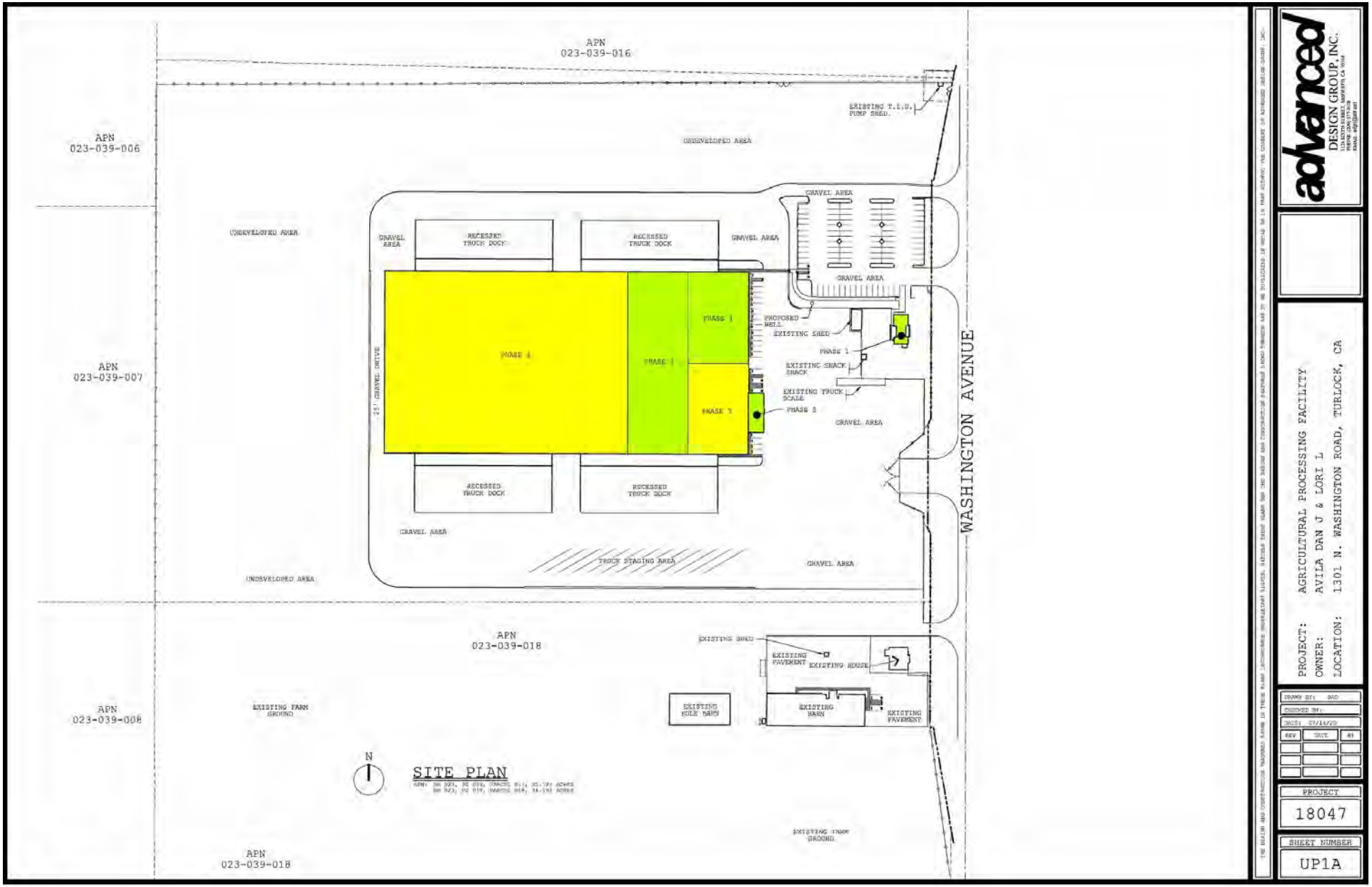
Phase 6 – Construct roof over Phase 5 for sorting, packing and shipping; walls are not proposed. (Completion 2034)

Parking is identified for both employees and truck traffic. Employee parking is identified along the east side of the packing house facility and in the northeast corner of the parcel with a truck staging area on the south side of the packing house. Truck docking bays will be provided at the packing house.

The parcel directly south of the packing house parcel is approximately 34.19-acres, and the applicant intends to conduct site improvements in support of the packing house. All improvements on the 34-acre parcel will be through ministerial permitting and include conversion of an existing barn to a shop building for maintenance and repair of equipment. While not included as part of the Packing House project it is included as part of the overall description. The remainder of the site will be used as growing fields.

The packing house will be used for receiving, storing, packing and shipping harvested crops including watermelons, sweet potatoes, beans, wheat, pumpkins and squash. The project is expected to have a maximum of 63 employees on site at any time. The facilities are planned to be operational throughout the year.

Access to the site will be via a single driveway on Washington Road. The project driveway will be opposite the Blue Diamond Growers processing plant access driveway located on the east side of Washington Road. This intersection is currently a signalized tee intersection and will provide full access to and from the site. The preliminary project layout is shown in Figure 2.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023-039-018
EXISTING T.I.D. PUMP SHED.
UNDEVELOPED AREA
GRAVEL AREA
RECESSED TRUCK DOCK
PHASE 4
PHASE 3
PHASE 2
PHASE 1
PROPOSED WELL
EXISTING SHED
EXISTING SNACK SHACK
EXISTING TRUCK SCALE
25' GRAVEL DRIVE
TRUCK STAGING AREA
WASHINGTON AVENUE
EXISTING POLE BARN
EXISTING BARN
EXISTING PAVEMENT
EXISTING HOUSE
EXISTING FARM GROUND
N
SITE PLAN
PROJECT: AGRICULTURAL PROCESSING FACILITY
OWNER: AVILA DAN J & LORI L
LOCATION: 1301 N. WASHINGTON ROAD, TURLOCK, CA
PROJECT
18047
SHEET NUMBER
UP1A

SITE PLAN

EXISTING SETTING

Study Area

The limits of this analysis were identified based on input received from Stanislaus County and the City of Turlock. The project analysis is focused on three intersections including Washington Road at W. Main Street south of the project, Washington Road at Fulkerth Road north of the site and the access intersection at Blue Diamond Growers. The traffic impact analysis also considered the operational characteristics along Washington Road between W. Main Street and Fulkerth Road. The text that follows describes the characteristics of each facility.

Study Area Roadways

Washington Road is a north south two-lane roadway that traverses Stanislaus County on the west side of Turlock. The City of Turlock's Sphere of Influence extends to the west side of Washington Road. The road extends from Taylor Road in the north to Riverside Avenue southwest of Hilmar. In the project vicinity the roadway is generally a two-lane rural road with full access. Mid-week traffic counts conducted in June 2013 showed that Washington Road had an Average Daily Traffic (ADT) volume of about 2,880 vehicles per day (vpd). A new ADT count was conducted in July 2020 with a recorded volume of 2,028 vpd. The decrease in traffic is a result of the Covid-19 pandemic. Truck classification counts conducted in May 2010 along Washington Road showed that about 2.5% of the daily trips were 3+ axle trucks while about 10% of the daily trips were 2 axle trucks. This was prior to construction of the Blue Diamond Growers plant constructed in 2012/13 and the Valley Milk plant constructed in 2017. It is assumed that the percentage of truck traffic relative to overall roadway traffic has not changed with construction of these sites.

Study Area Intersections

The quality of traffic flow is often governed by the operation of major intersections. Intersections selected for evaluation in consultation with Stanislaus County staff include:

1. Washington Road / Fulkerth Road (all-way stop)
2. Washington Road / W. Main Street (traffic signal)
3. Washington Road / Blue Diamond Growers (traffic signal)

The **Washington Road / Fulkerth Road intersection** is a rural access intersection for motorists along Fulkerth Road traveling between farmland to the west and SR 99 and Turlock to the east. This intersection is all-way stop controlled. All approaches are single lanes; however, Fulkerth Road is offset by about 12' on either side of Washington Road; Fulkerth Road west of Washington Road is shifted north of the west leg.

The Washington Road / West Main Street intersection provides access along a major east-west arterial (W. Main Street) through Stanislaus County extending from downtown Turlock east of SR 99 west to downtown Patterson. This intersection is within a rural area of the County and is signalized with protected left turn lanes along W. Main Street. The Washington Road approaches are single lane with permitted movements under the signalized condition.

The Washington Road / Blue Diamond Growers intersection provides access to the Blue Diamond Growers processing plant located on the east side of the intersection. The intersection includes a left turn lane and through lane along the southbound approach, a right turn lane and through lane along the northbound approach and left and right turn lanes exiting Blue Diamond Growers. The intersection is signalized with a protected left turn phase for southbound to eastbound movements.

Alternative Transportation Modes

Transit Facilities. Transit in the project vicinity is offered by two providers, Stanislaus Regional Transit and Turlock Transit.

Stanislaus Regional Transit (StaRT) provides both fixed route service and demand responsive service. Two routes travel along W. Main Street; however, neither route has an identified stop near the Washington Road intersection. The two routes include Route 45E which operates between Veterans Memorial Park in Patterson and Central Park in Turlock east of SR 99 and the C Route which provides commuter service between the Roger K. Fall Transit Center in Turlock and the Dublin BART Station.

The Route 45E operates Monday through Friday between 6:15 a.m. and 8:18 p.m. with eight fixed route round trips between Patterson and Turlock. On Saturday four round trips operate departing Patterson at 7:15 a.m. and the last bus arriving in Turlock at 6:08 p.m.

The C route includes a single run Monday through Friday leaving Turlock at 4:15 a.m. with a single return trip departing Dublin at 4:45 a.m.

Turlock Transit – Turlock Transit provides public transportation services to the cities of Turlock and Denair. Six routes are operated in their fixed route system; however, none of the routes extend west of SR 99. Paratransit service and Dial-a-Ride (DAR) service is available from Turlock Transit. The service area for DAR extends to Washington Road (Area 2) and is available to anyone.

Pedestrian / Bicycle Circulation

Facilities that are dedicated to pedestrians and bicycles are limited in the rural areas of Stanislaus County outside of developed urban areas. This is the case in the vicinity of the Avila Packing House site. Washington Road is a rural roadway without sidewalk or bike facilities along the

roadway, except along the project frontages of Blue Diamond Growers and Valley Milk. At these two locations sidewalk and bike lanes are present. However, outside of these locations bicyclists ride with motor vehicular traffic along Washington Road while pedestrians walk along the roadway shoulders.

Although existing facilities are limited bicycle lanes are being installed on major streets as development occurs. Figure 5-3 of the City of Turlock General Plan Update indicates that Class II bike lanes are to be developed west of SR 99 along Fulkerth Road and W. Main Street to Washington Road. Bike lanes will also be provided along Washington Road, extending north and south of the study area.

The General Plan notes that an eight-foot sidewalk should be provided along commercial and industrial streets. This is expected to occur as projects are constructed and frontage improvements installed.

Measure of Significance / Level of Service

Level of Service. The quality of traffic flow through intersections and on individual roadway segments is described in terms of operating Level of Service.

"Level of Service (LOS)" is a qualitative measure of traffic operating conditions whereby a letter grade "A" through "F", corresponding to progressively worsening operating conditions, is assigned to an intersection or roadway segment. Table 1 presents the characteristics associated with each LOS grade.

TABLE 1
LEVEL OF SERVICE DEFINITION

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.
Sources: Highway Capacity Manual, 6th Edition.			

The *Highway Capacity Manual, 6th Edition* presents methodologies for calculating practical capacity and Level of Service at intersections. At signalized intersections and intersections controlled by all-way stop signs, traffic conditions are described in terms of the average length of the delays experienced by all motorists. Intersection configuration, traffic volumes and traffic signal timing are all factors that enter into determination of the length of average delay and the resulting Level of Service. One other factor that was considered in the HCM analysis was the increased percentage of truck traffic along the study roadways as these roads provide access for agricultural and shipping facilities. The 'Heavy Vehicle' percentage was increased to a minimum of 10% to account for added truck traffic.

The delays experienced at intersections controlled by side street stop signs are different. Motorists waiting to turn must yield the right of way to through traffic, and the length of delays can vary on each approach to the intersection.

A traffic impact is considered significant if it renders an unacceptable Level of Service on a street segment or at a signalized intersection, or if it worsens already unacceptable conditions on a street segment or at a signalized intersection. Local jurisdictions adopt minimum Level of Service standards for use in traffic studies and environmental impact reports. Stanislaus County employs LOS D as the minimum standard along roadway segments and LOS C or better at roadway intersections.

The City of Turlock 2012 General Plan Update indicates that LOS D is the city's minimum standard. Since the study intersections are within the City's Sphere of Influence the most recently published City guidelines were used as the threshold levels; however, level of service is shown for both agencies. As part of the 2012 General Plan Update the City now uses SB 375, the Complete Streets legislation to determine roadway planning improvements. Level of service continues to be used for traffic analyses to determine timing of new improvements.

Roadway Segment Level of Service. The quality of traffic flow can also be described in general terms based on the daily traffic volume occurring on individual roadway segments. Agencies typically make use of general Level of Service thresholds that equate daily traffic volume to peak hour Level of Service. Table 2 presents the facility classification guidelines for Stanislaus County and the City of Turlock.

TABLE 2
ROADWAY SEGMENT LEVEL OF SERVICE DEFINITIONS

Street Classification	Lanes	Daily Traffic Volume at LOS				
		LOS A	LOS B (v/c < 0.45)	LOS C (v/c<0.60)	LOS D (v/c < 0.90)	LOS E (v/c <1.00)
Collector	2	700 (8,000)	1,900 (9,000)	3,400 (10,000)	5,900 (11,000)	10,000 (12,000)
Arterial	2	1,400 (10,000)	3,800 (12,000)	6,800 (13,000)	10,800 (15,000)	20,000 (16,000)
	4	9,000 (20,000)	15,000 (23,000)	21,000 (26,000)	25,200 (29,000)	30,000 (32,000)
Expressway	4	‡ (23,000)	‡ (27,000)	‡ (31,000)	‡ (35,000)	‡ (38,000)
	6	‡ (35,000)	‡ (40,000)	‡ (46,000)	‡ (52,000)	‡ (57,000)

x – Stanislaus County (vehicles / day/ lane) (x) - City of Turlock criteria (2012 GPU)

‡ - no information available

Vehicle Miles Traveled (VMT) Significance Threshold. The CEQA Guidelines and the California Governor's Office of Planning and Research (OPR) document *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning and Research 2018) encourage all public agencies to develop and publish thresholds of significance to assist with determining when a project would have significant transportation impacts based on the new metric of VMT, rather than operating Level of Service (LOS). The CEQA Guidelines generally state that projects that decrease VMT can be assumed to have a less than significant transportation impact. The CEQA Guidelines do not provide any specific criteria on how to determine what level of project VMT would be considered a significant impact.

Certain types of projects as identified in statute, the CEQA Guidelines, or in OPR's Technical Advisory are presumed to have a less than significant impact on VMT and therefore a less than significant impact on transportation. Generally, the identified projects contribute to efficient land use patterns enabling higher levels of walking, cycling, and transit as well as lower average trip length. These projects include, for example, projects in transit priority areas, projects consisting of residential infill or those located in low VMT areas.

Caltrans references OPR's December 2018 *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which identifies projects and areas presumed to have a less than significant transportation impact. Those include:

1. Residential, office, or retail projects within a Transit Priority Area, where a project is within a ½ mile of an existing or planned major transit stop or an existing stop along a high-quality transit corridor.

    a. A major transit stop is defined as a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods (Pub. Resources Code, § 21064.3).

    b. A high-quality transit corridor is defined as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours (Pub. Resources Code, § 21155).

2. An area pre-screened by an agency as having low residential or office VMT:

    a. An area where existing residential projects exhibit VMT per capita 15 percent or more below city or regional average.

    b. An area where existing office projects exhibit VMT per capita 15 percent or more below regional average.

3. Residential projects composed of 100 percent or near-100 percent affordable housing located in any infill location. Additionally, per OPR's Technical Advisory, "Lead agencies may develop

their own presumption of less than significant impact for residential projects (or residential portions of mixed use projects) containing a particular amount of affordable housing, based on local circumstances and evidence. Furthermore, a project which includes any affordable residential units may factor the effect of the affordability on VMT into the assessment of VMT generated by those units."

4. A locally-serving retail project (such a project typically reduces vehicle travel by providing a more proximate shopping destination, i.e., better accessibility).

5. Mixed-use projects composed entirely of the above low-VMT project types.

6. In any area of the state, absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than significant transportation impact.

However, a land use project near transit may have a significant impact on VMT if it:

1. Has a floor area ratio less than 0.75.
2. Includes more parking than required by the local permitting agency.
3. Is inconsistent with the region's Sustainable Communities Strategy (i.e., development is outside region's development footprint, or in area specified as open space).
4. Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

In very limited situations, analysis or mitigation may be appropriate in low VMT areas to address specific multimodal access management issues directly caused by the project such as issues related to line of sight caused by the placement of a driveway. These situations are to be determined based on the details of development proposals and their setting and will be addressed in future guidance.

Should a project not meet the minimum screening thresholds a VMT analysis should be conducted. The OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning and Research 2018) identifies a threshold of 15 percent below the baseline for determining the significance of VMT impacts associated with residential and office land use developments. Locally-serving retail projects, such as a project that reduces vehicle travel by providing a more proximate shopping destination, i.e., better accessibility is considered to have a less than significant transportation impact.

Stanislaus County has not yet adopted methods for estimating regional VMT or significance criteria for evaluating impacts based on VMT. Instead, their current strategy is to review each project separately due to the rural composition of the County. The County has acknowledged that it is generally accepted that the best places for farmland is in rural areas of the County with limited availability to reduce VMT other than employer-based programs.

Existing Intersection Levels of Service. A new traffic count was conducted at the Washington Road / Blue Diamond Growers intersection in July 2020. This count and the previously conducted 2013 traffic counts at the Fulkerth Road / Washington Road and W. Main Street / Washington Road intersections provide a basis to establish existing traffic volumes; the Covid-19 pandemic has reduced traffic volumes as a result of telecommuting and job losses. The intersection volumes were adjusted based on a review of historic data / model information growth percentages. Peak hour traffic from the Blue Diamond Growers plant and the Valley Milk plant were also included for each study intersection.

Figure 3 presents the Existing traffic conditions while Table 3 summarizes the results of Level of Service for each study intersection. Level of Service calculations are provided in the Appendix. All study intersections currently operate at LOS B conditions or better and are within adopted standards at all study locations. The Fulkerth Road / Washington Road intersection does not satisfy peak hour traffic signal warrant.

TABLE 3
EXISTING INTERSECTION LEVELS OF SERVICE

Intersection	Control	AM Peak Hour		PM Peak Hour		Meets Peak Hour Signal Warrants
		Avg Delay (Seconds)	LOS	Avg Delay (Seconds)	LOS	
1. Washington Rd / Fulkerth Rd	All-Way Stop	8.8	A	10.0	A	No
2. Washington Rd / Blue Diamond	Signal	5.7	B	4.1	A	N/A
3. Washington Rd / W. Main St	Signal	13.6	A	15.9	B	N/A

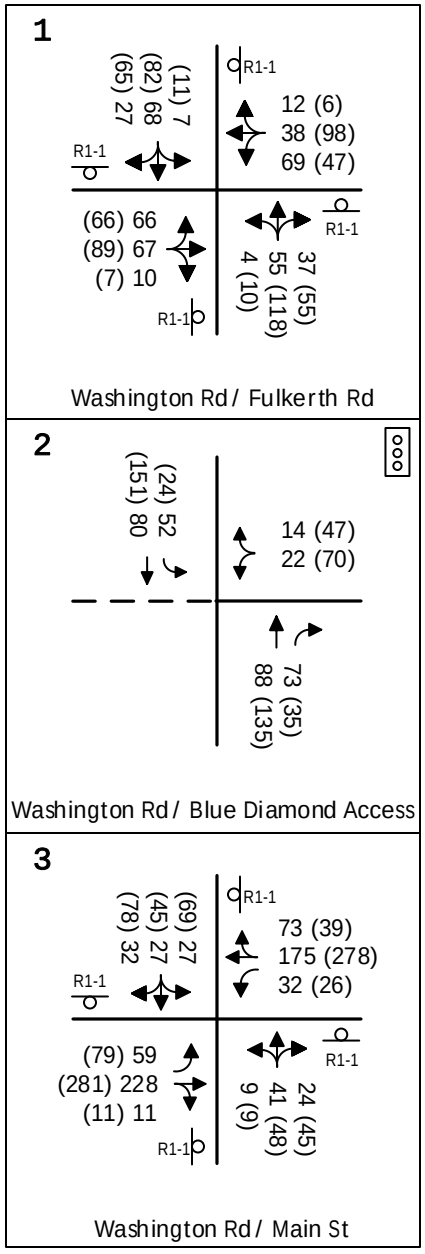
N/A – not applicable

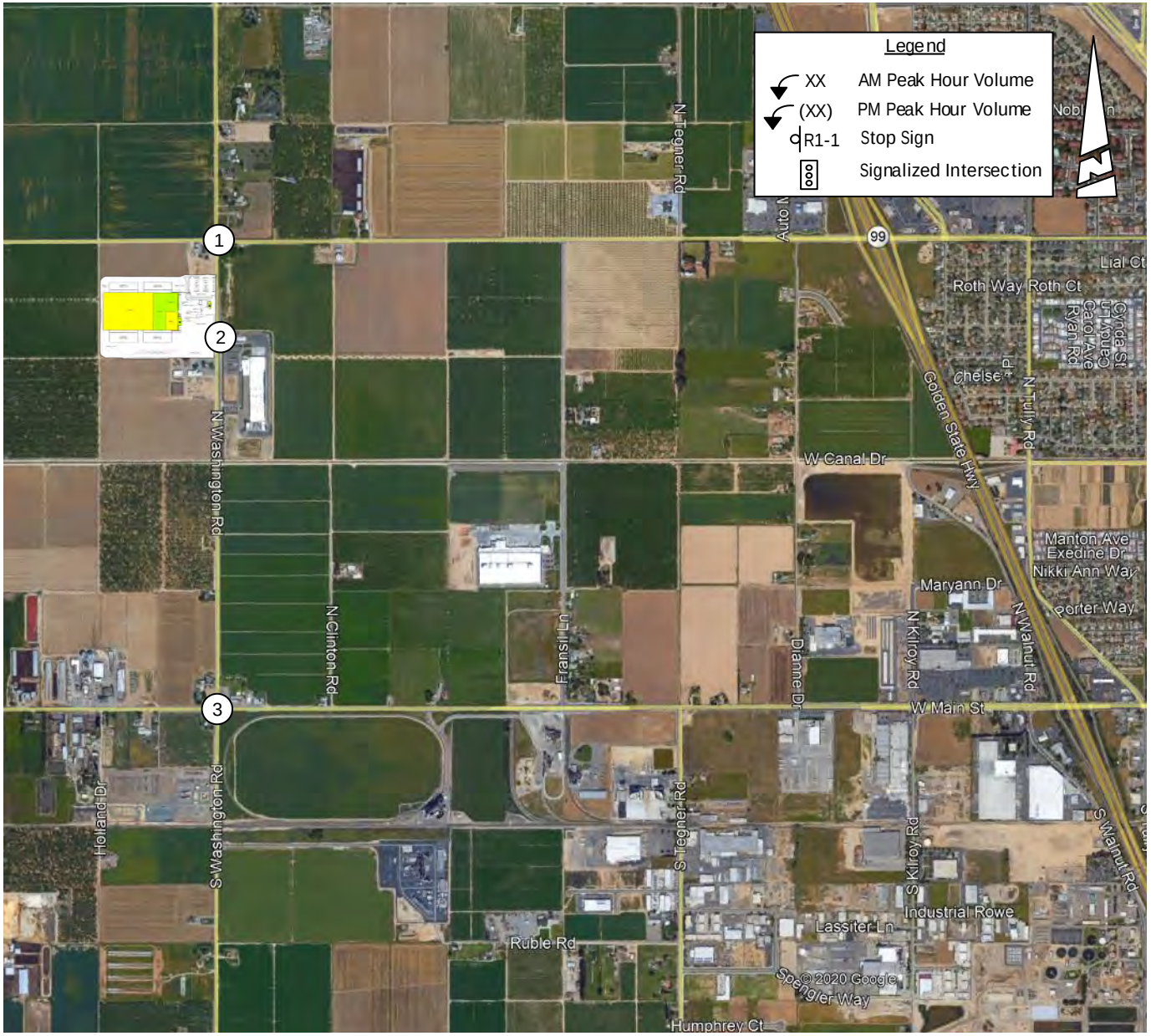
Existing Roadway Segment Levels of Service. A new 24-hour daily traffic count was conducted along Washington Road. The daily volume was adjusted using the historic data / model information and Blue Diamond Growers and Valley Milk plants noted in the previous section. Table 4 summarizes the Level of Service for the Washington Road study segment. The segment currently operates at an acceptable Level of Service, at LOS C or better.

TABLE 4
EXISTING LEVELS OF SERVICE BASED ON DAILY TRAFFIC VOLUMES

Street	Location		Class	Lanes	Daily Volume	LOS
	From	To				
Washington Road	W. Main Street	Fulkerth Road	Arterial	2	3,861	C / A

Sources: Stanislaus County Circulation Element / City of Turlock General Plan Update





EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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5600-54 RA 9/16/2020

figure 3

PROJECT IMPACTS

To evaluate the impacts of the proposed project on traffic conditions in the project area it is necessary to identify the volume of traffic accompanying the project and to superimpose this traffic onto the current and projected background conditions.

The adequacy of site access is dependent on the physical characteristics of the adjoining street system, as well as the amount of traffic generated by the proposed project. The amount of additional traffic on a particular section of the street network is dependent upon two factors:

I. Trip Generation, the number of new trips generated by the project, and
II. Trip Distribution and Assignment, the specific routes that the new traffic takes.

Trip generation is determined by identifying the type and size of land use being developed. Recognized sources of trip generation data may then be used to calculate the total number of trip ends.

Project Characteristics

Trip Generation. The proposed project will construct an 180,000 square foot warehouse to be used to store, package and ship produce to primarily distribution centers in Los Angeles, northern California and Oregon. Some produce is also shipped to Las Vegas NV, Boise ID and Phoenix AZ.

The Institute of Transportation Engineers (ITE) publishes trip generation rates for a variety of land uses including Warehouses. ITE describes a warehouse as "primarily devoted to the storage of materials, but it may also include office and maintenance areas." Other warehouse land uses identified by ITE include high-cube transload and short-term storage warehouse, high cube fulfillment center warehouse, high-cube parcel hub warehouse and high-cube cold storage warehouse. A high-cube warehouse (HCW) is a building that typically has at least 200,000 gross square feet of floor area, has a ceiling height of 24 feet or more, and is used primarily for the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. A typical HCW has a high level of on-site automation and logistics management. As the project is a packing house with produce stored in the short term, the site is not adequately described by ITE.

To determine trip generation rates for the project, information was provided by the applicant regarding the three primary trip generators for the project, employees, shipping trucks and field trucks.

The applicant intends to have a maximum of 63 employees at the site, with this amount occurring during the harvest period. It was assumed that 10% of employees may commute. Additionally, it was assumed that there may also be additional trips to and from the site on a daily basis by employees leaving the site for miscellaneous activities as well as trips by delivery and mail services, etc. This was also assumed to be 10% of the employee traffic.

Shipping trucks are those trucks hauling produce to various markets and distribution centers. A review of the past two years of truck bills of lading during the peak shipping months of July and August were reviewed to determine the number of trucks hauling produce during the mid-week. The number of daily trucks ranged from a low of 2 trucks at the beginning of harvest to a maximum of 48 trucks. The average rate over the 2017-2018 harvest period is 28 trucks per day. However, the applicant has stated they intend to have adequate produce for 35 trucks per day.

Field trucks, those trucks hauling produce from the fields to the packing house, are 15-ton trucks. According to the applicant they could haul up to about 825 tons of produce, or 55 trucks, to the packing house daily. Shipping trucks, meanwhile, are typically 20-ton trucks. Comparatively, for every four shipping trucks outbound, five field trucks bring produce in, a rate of 1.25:1. Applying this rate to the number of shipping trucks yields a daily field truck rate of 54 trucks (43 times 1.25). This corresponds to the rate provided by the applicant.

Seasonal project trips generally begin about 6:00 a.m. with trucks leaving the site for the fields to pick up crops. Warehouse employees generally arrive between 7:00 a.m. and 8:00 a.m. as the first truck returning from the fields is projected to arrive at about 8:00 a.m. Field truck traffic is spread out throughout the day with the last inbound truck expected to arrive about 4:00 p.m. Shipping trucks transporting the product to distribution centers will generally depart the warehouse between 1:00 p.m. and 6:00 p.m. Shipping trucks were projected to arrive at the site beginning during the a.m. peak hour and queue on site until they are loaded and departing beginning at 1:00 p.m.

Table 5 presents the trip generation for the proposed project. The project is projected to create 306 daily trips, 82 a.m. peak hour trips and 89 p.m. peak hour trips.

TABLE 5
PROJECT TRIP GENERATION

		Trip Rate			Trips				
	Amount	**Daily**	**AM Peak Hour**	**PM Peak Hour**	**Daily**	**AM Peak Hour**		**PM Peak Hour**	
Employees	63	126	63	63	126	63		63	
Field Trucks	55	110	12	12	110	12		12	
Shipping Trucks	35	70	7	14	70	7		14	
			AM Peak Hour		**PM Peak Hour**			**AM Peak Hour**		**PM Peak Hour**	
			In	**Out**	**In**	**Out**		**In**	**Out**	**In**	**Out**
Employees			90%	10%	10%	90%		57	6	6	57
Field Trucks			50%	50%	67%	33%		6	6	8	4
Shipping Trucks			50%	---	50%	50%		7	0	7	7
						Net New Trips	**306**	**70**	**12**	**21**	**68**

* includes 10% reduction for employees carpooling and 10% additional traffic for off-site employee trips, deliveries, mail, etc.

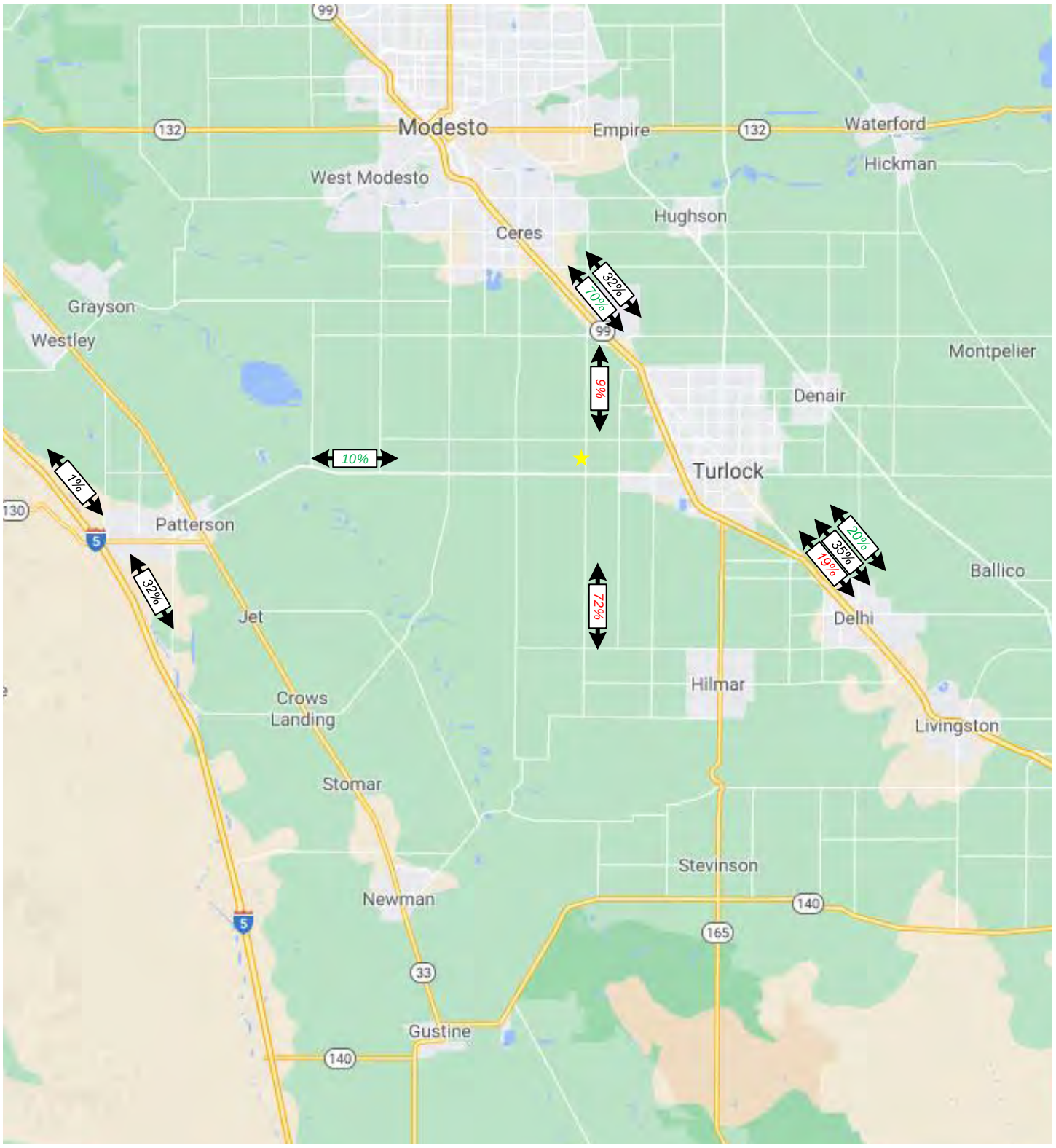
Trip Distribution & Trip Assignment

The distribution of project traffic was determined based on information provided by the applicant with regard to projected operations. The location of the growing fields, directions of produce shipments and employee trips were all considered in developing the distribution and trip assignment. Figure 4 provides locations of each of the growing fields that are used by the packing house. Most of the acreage is located south of the warehouse. Field truck routing is via SR 99 and Washington Road. The remaining growing fields are located to the north with access along Washington Road. Outbound product distribution will access SR 99 and I-5. Based on shipping logs about 64% of traffic is south towards Los Angeles while 36% is north, towards San Francisco and Sacramento. Employee trips are expected to be distributed north, south, east and west. Table 6 and Figure 4 present the projected trip distribution.

Trucks hauling produce are expected to arrive and depart via SR 99 and I-5. Trucks traveling along SR 99 will arrive via both the SR 99 / Fulkerth Road interchange and the SR 99 / W. Main Street interchange while trucks using I-5 will travel along W. Main Street. "Project Only" trips are presented in Figure 5.

TABLE 6
PROJECT TRIP DISTRIBUTION

Route	% Distribution		
	Employees	Field Trucks	Shipping
North to / from Grayson via Washington Rd	0%	9%	0%
North to / from SR 99	70%	0%	32%
South to / from SR 99	20%	19%	35%
South to / from Stevinson via Washington Rd	0%	72%	0%
East to / from Turlock	0%	0%	0%
West to / from Patterson	10%	0%	33%
Total	100%	100%	100%



Legend

XX Employees Trip Distribution Percentage

XX Field Trucks Trip Distribution Percentage

XX Shipping Trip Distribution Percentage

NORTH

N.T.S.

TRIP DISTRIBUTION PERCENTAGES

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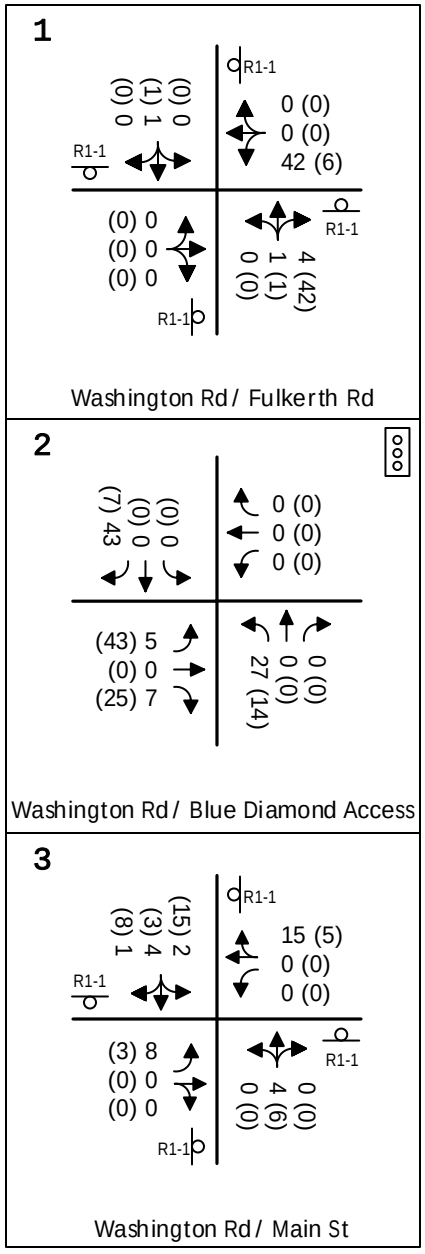
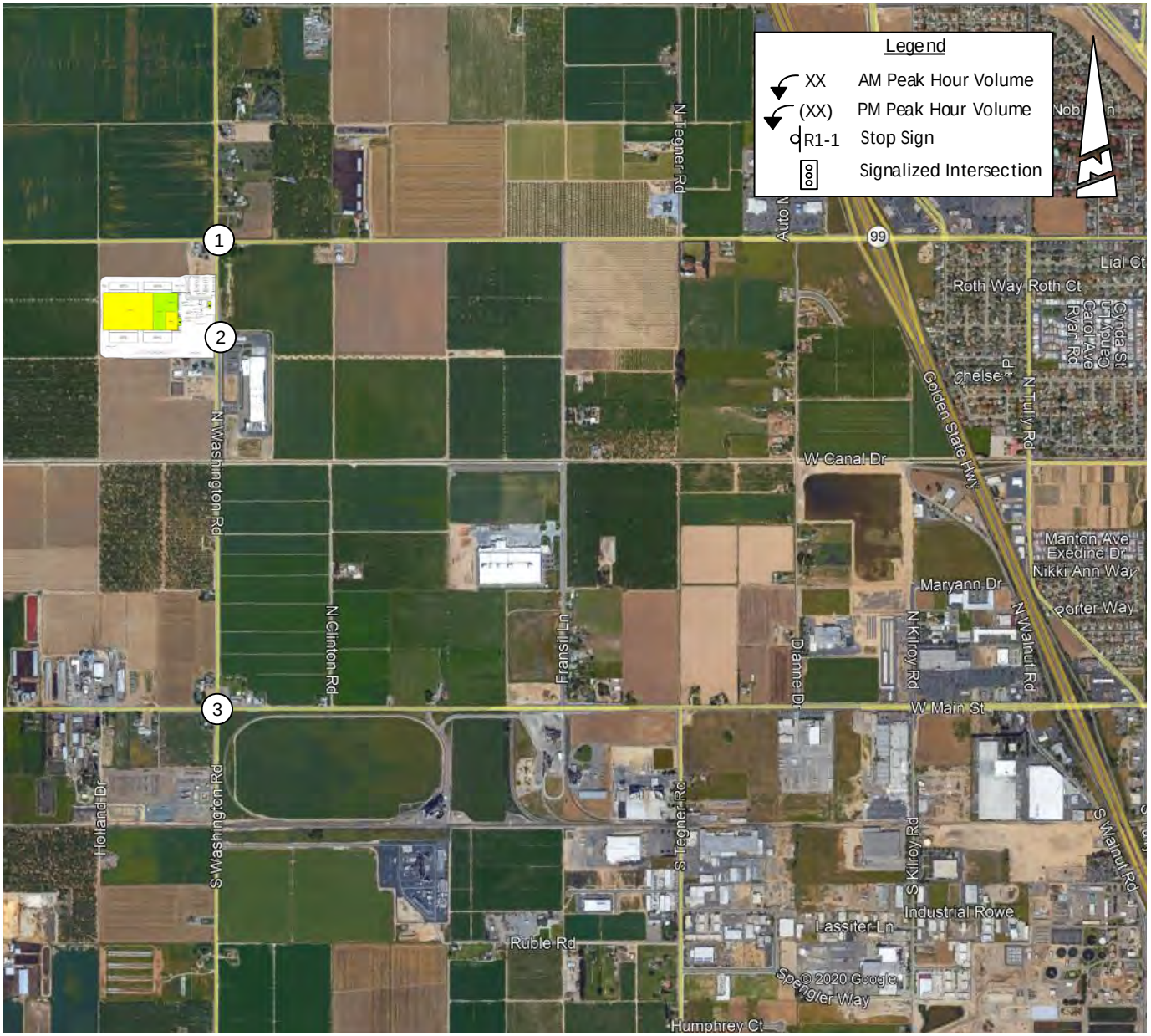
figure 4





PROJECT ONLY TRAFFIC VOLUMES AND LANE CONFIGURATIONS

Existing Plus Project Conditions

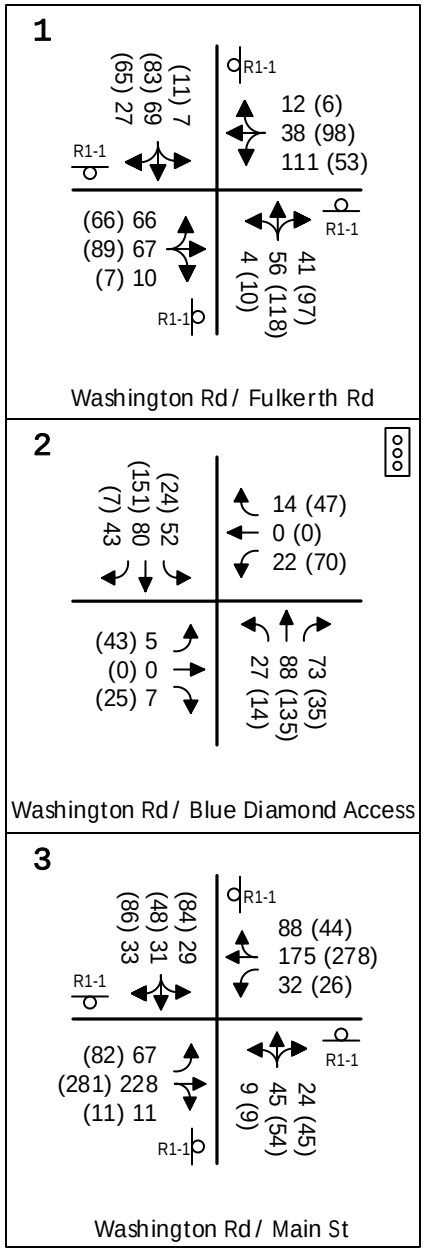
Vehicle Miles Traveled. As noted earlier, Stanislaus County has yet to adopt VMT criteria to analyze land use projects. All projects are being considered individually, based on the proposed use. The proposed project will construct a packing house used to receive, store, pack and ship produce to retailers in the western United States. As the project requires hauling of produce from fields and then shipping the produce there are limited methods to reduce VMT. These include employer-related methods to reduce employee trips and can include methods to reduce and/or eliminate employee trips.

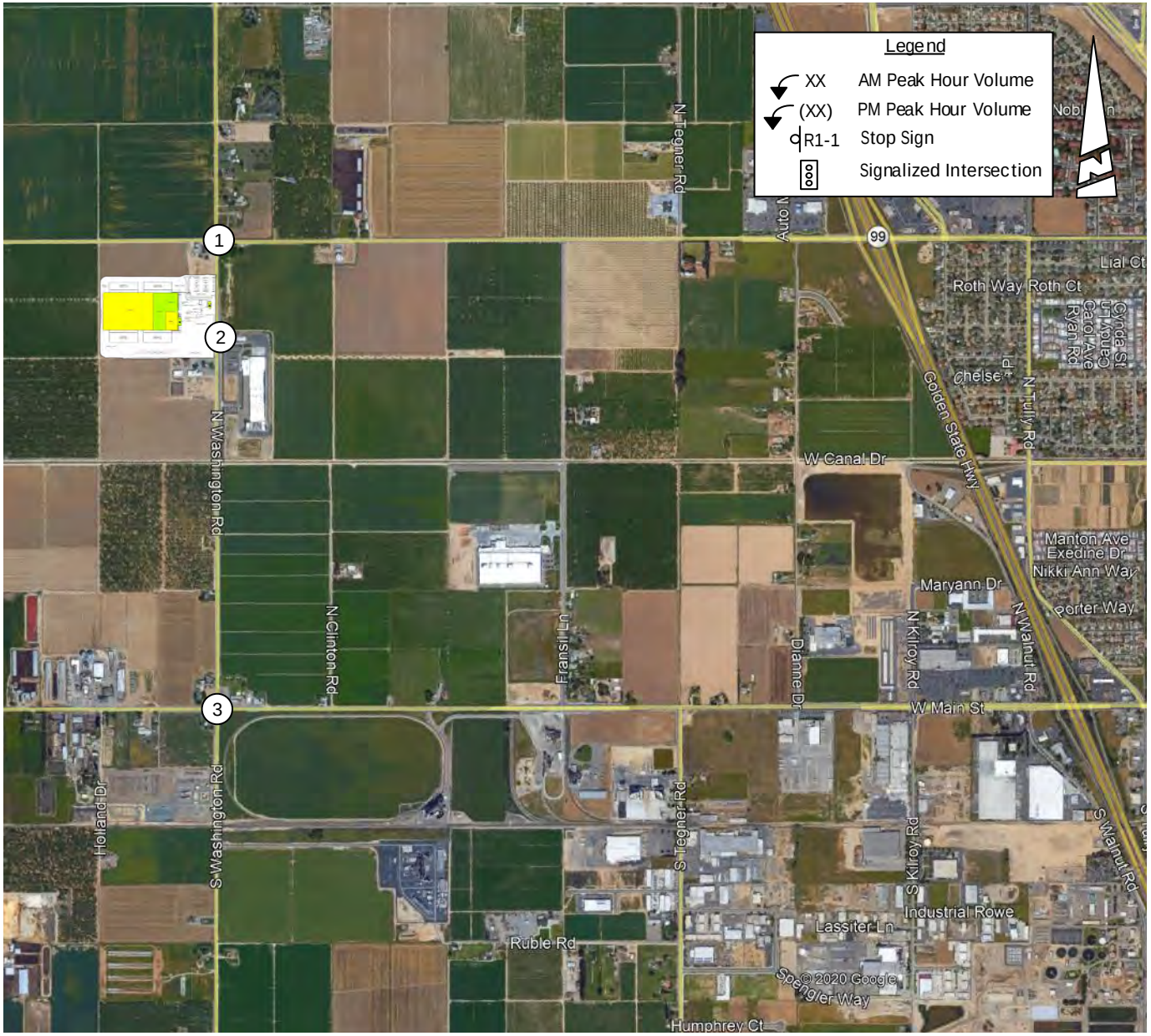
The VMT discussion presented is not intended to pre-empt the County process of developing and adopting VMT guidelines. Rather, the discussion presented is intended to be a good-faith effort at disclosing and identifying the VMT impacts of the Avila Packing House project based on currently available data and guidance.

Traffic Volumes. The impacts of developing the project uses on the project site have been identified by superimposing project traffic onto existing background conditions. Figure 6 displays the "Existing Plus Project" traffic volumes at each study intersection in both a.m. and p.m. peak hours.

Intersection Levels of Service. Levels of Service under these conditions are presented in Table 7. All intersections will continue to operate at Levels of Service that are within the significance thresholds adopted by the City of Turlock. The Fulkerth Road / Washington Road intersection does not satisfy peak hour traffic signal warrant.

Existing Plus Project Roadway Segment Levels of Service. Table 8 summarizes the Level of Service along Washington Road. The segment is projected to operate at LOS C or better condition with the project.





EXISTING PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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Transportation Engineers
5600-54 RA 9/16/2020

figure 6

TABLE 7
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION LEVELS OF SERVICE

Intersection	Control	AM Peak Hour		PM Peak Hour		AM plus Project Peak Hour		PM plus Project Peak Hour		Meets Peak Hour Signal Warrants
		Avg Delay (Seconds)	LOS	Avg Delay (Seconds)	LOS	Avg Delay (Seconds)	LOS	Avg Delay (Seconds)	LOS	
1. Washington Rd / Fulkerth Rd	All-Way Stop	8.8	A	10.0	A	9.1	A	10.5	B	No
2. Washington Rd / Blue Diamond	Signal	5.7	B	4.1	A	10.7	B	11.1	B	N/A
3. Washington Rd / W. Main St	Signal	13.6	A	15.9	B	13.9	B	16.5	B	N/A

TABLE 8
EXISTING PLUS PROJECT
ROADWAY SEGMENT LEVELS OF SERVICE

Roadway	Location		Class	Lanes	Standard		Existing Conditions		Existing + Project Conditions	
	From	To			LOS	Daily Volume Threshold	LOS	Daily Volume	LOS	Daily Volume
Washington Road	W. Main Street	Fulkerth Road	Arterial	2	C/D	9,200 / 15,000	C / A	3,861	C / A	4,047

Sources: Stanislaus County Circulation Element / City of Turlock General Plan Update

EXISTING PLUS APPROVED PROJECTS (EPAP)

The analysis of the near-term (EPAP) condition is intended to consider the impact of this project within the context of already approved and pending projects that adds traffic on the adjacent roadway network. The volumes were determined based upon a review of approved and foreseeable pending projects in the project vicinity. Both Stanislaus County and City of Turlock Planning Departments were contacted to identify any projects in the vicinity that could add background traffic to the roadway system.

Approved / Foreseeable Projects Descriptions

County planning staff did not identify any near-term projects while City of Turlock staff identified four approved and / or foreseeable projects within the project vicinity. These projects potentially have an effect on the study roadways and intersections. These included:

1) CUP 2017-01, 2218 / 250 W. Main Street -This project includes construction of a 7,000 restaurant and an 18,200 square foot banquet hall in two buildings in the southwest quadrant of the West Main Street / Kilroy Avenue.

2) MDP 2018-14, 2110 W. Main Street – This project includes a 3,366 square foot drive-through car wash, an 1,00 square foot auto repair business and a 4-vehicle fueling position gas station. This project is located just east of CUP 2017-01.

3) MDP 2020-01, 812 Fransil Lane – The Elum Industrial Campus is a 9.6-acre property located in the Westside Industrial Specific Plan area. The first parcel being developed is Parcel 4, a 32,705 square foot manufacturing building with associated office space.

4) MDP 2020-02, 528 Dianne Drive – The Turlock Self-Storage site is a 78,484 square foot self-storage facility on a 3.28-acre parcel in the WISP. The project will include 478 storage units, an office and a caretaker unit.

These projects were added to existing traffic volumes to arrive at an Existing Plus Approved Projects (EPAP) baseline condition.

EPAP Traffic Volumes and Roadway Improvements

Stanislaus County and City of Turlock Capital Improvement Programs were reviewed to identify near-term roadway improvements to be accounted for in the EPAP scenarios. STANCOG identified a Tier 1 City of Turlock project that would be open to traffic by 2022. This is the widening of Fulkerth Road between Washington Road and Tegner Road; however, in reviewing the City's 2017-2022 Five-Year Capital Improvement Program no near-term projects were identified. No improvements are assumed to the local roadway facilities and the lane configurations and traffic controls at the study intersections are projected to remain as they currently exist. Figure 7 displays the EPAP traffic volumes and lane configurations for each study intersection.

EPAP Roadway Segment Levels of Service. Table 9 summarizes the Level of Service under 2015 conditions for the Washington Road study segment. The segment will continue to operate at an LOS B or better condition.

EPAP Intersection Levels of Service. Table 10 displays the a.m. and p.m. peak hour Levels of Service at each study intersection in the EPAP 'No Project' conditions. Each of the three intersections is projected to operate within acceptable LOS thresholds, at LOS C or better.

The Washington Road / W. Main Street intersection will operate at an acceptable level of service, at an overall LOS C condition in the p.m. peak hour. This intersection will also meet the peak hour signal warrant using total volume criteria. This indicates that the traffic volumes may begin to experience short term delays during peak periods. Since the intersection operates at an overall LOS C condition, no recommendations are made to improve the intersection.

EPAP Plus Project Traffic Volumes and Levels of Service

EPAP plus Project Intersection Levels of Service. Figure 8 displays the EPAP plus Project traffic volumes with the lane configurations for each study intersection. Table 9 displays the a.m. and p.m. peak hour Levels of Service at each study intersection in this time frame. All intersection are projected to operate within acceptable LOS thresholds, at LOS B or better. The Fulkerth Road / Washington Road intersection does not satisfy peak hour traffic signal warrant.

EPAP plus Project Roadway Segment Levels of Service. Table 10 summarizes the Level of Service along the Washington Road study segment under the EPAP plus Project condition. The segment will continue to operate within acceptable Level of Service thresholds, operating at an LOS B condition.

TABLE 9
AM / PM PEAK HOUR INTERSECTION LEVELS OF SERVICE
EPAP PLUS PROJECT CONDITIONS

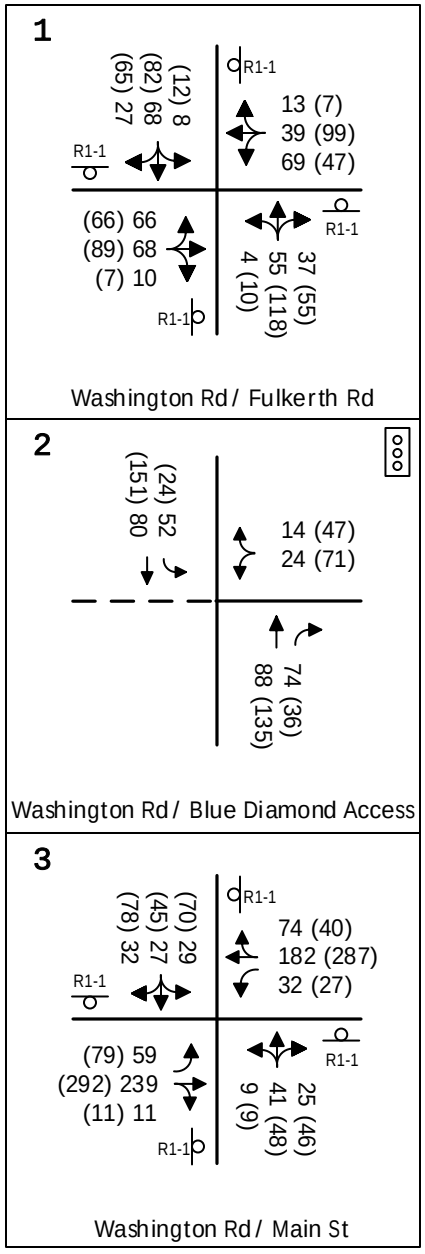
Location	Control	EPAP AM Peak Hour		EPAP PM Peak Hour		EPAP + Project AM Peak Hour		EPAP + Project PM Peak Hour		Meets Peak Hour Signal Warrants
		Average Delay (Seconds)	LOS	Average Delay (Seconds)	LOS	Average Delay (Seconds)	LOS	Average Delay (Seconds)	LOS	
1. Washington Rd / Fulkerth Rd	All-Way Stop	8.8	A	10.0	A	9.1	A	10.5	B	No
2. Washington Rd / Blue Diamond	Signal	5.7	A	4.1	A	10.7	B	11.1	B	N/A
3. Washington Rd / W. Main St	Signal	13.8	B	16.1	B	14.0	B	16.7	B	N/A

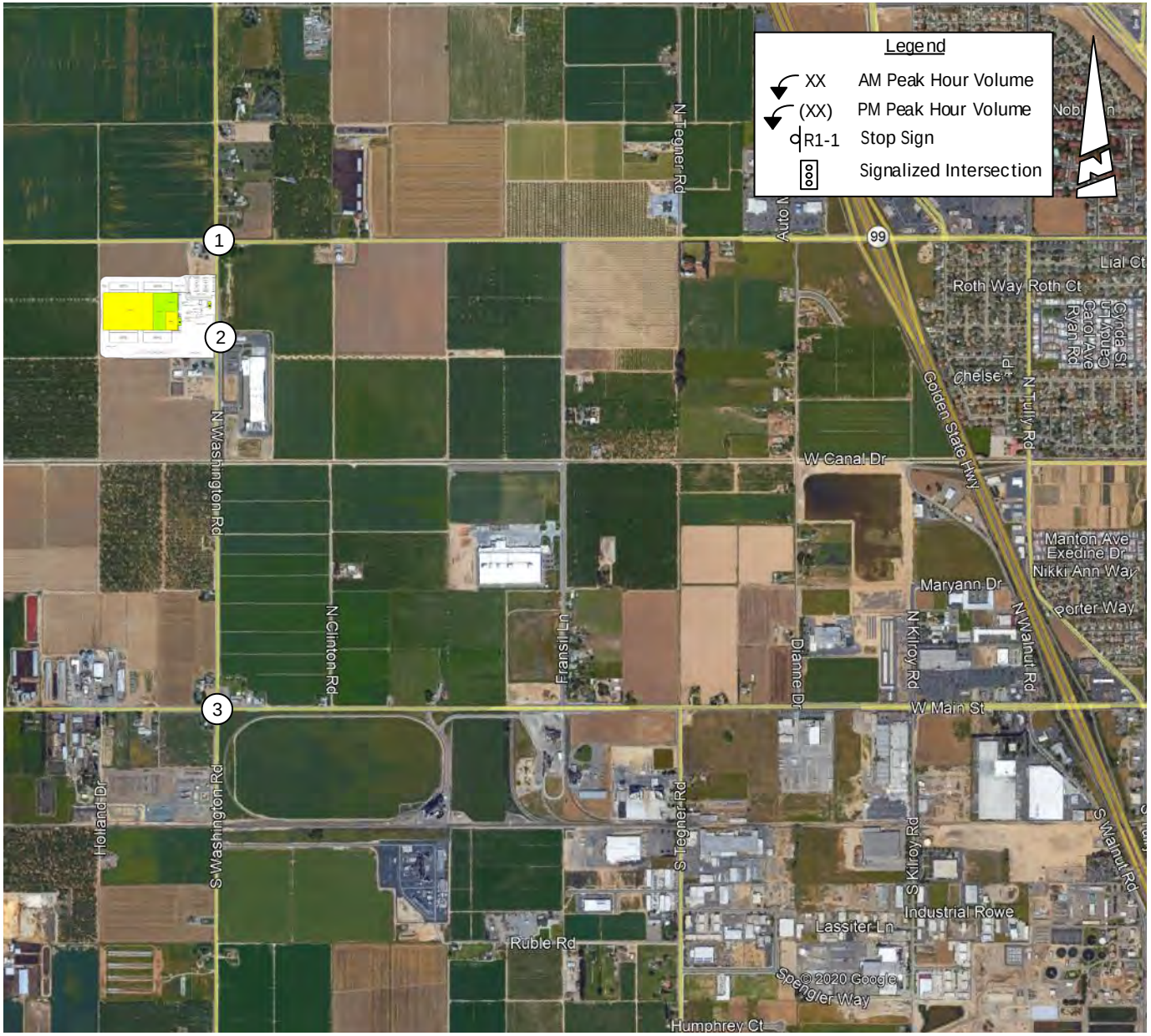
* - meets warrant without and with project (p.m. only)

TABLE 10
EPAP AVERAGE DAILY TRAFFIC
ROADWAY SEGMENT LEVELS OF SERVICE

Roadway	Location		Class	Lanes	Standard		EPAP Conditions		EPAP + Project Conditions	
	From	To			LOS	Daily Volume Threshold	LOS	Daily Volume	LOS	Daily Volume
Washington Road	W. Main Street	Fulkerth Road	Arterial	2	C/D	9,200 / 15,000	B / A	4,116	B / A	4,302

Sources: Stanislaus County Circulation Element / City of Turlock General Plan Update



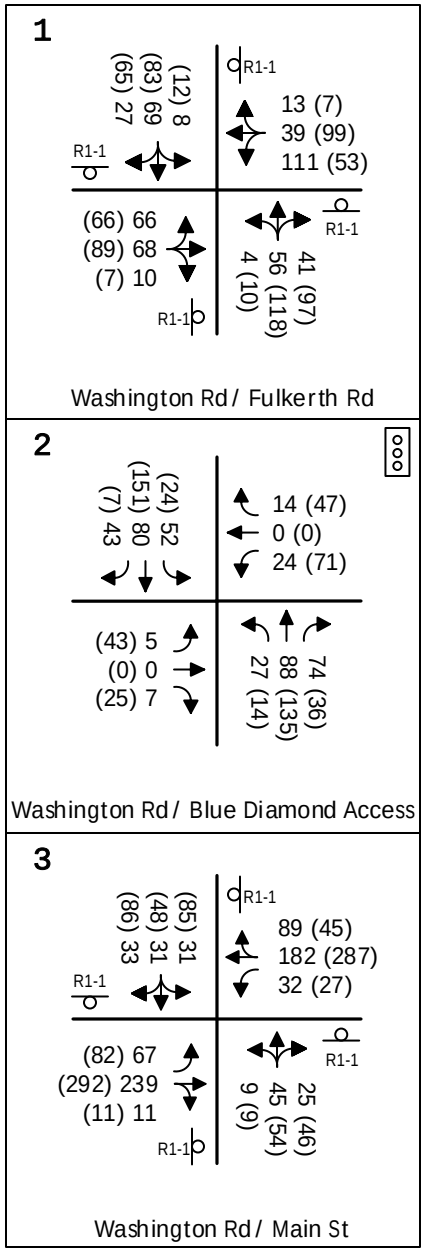


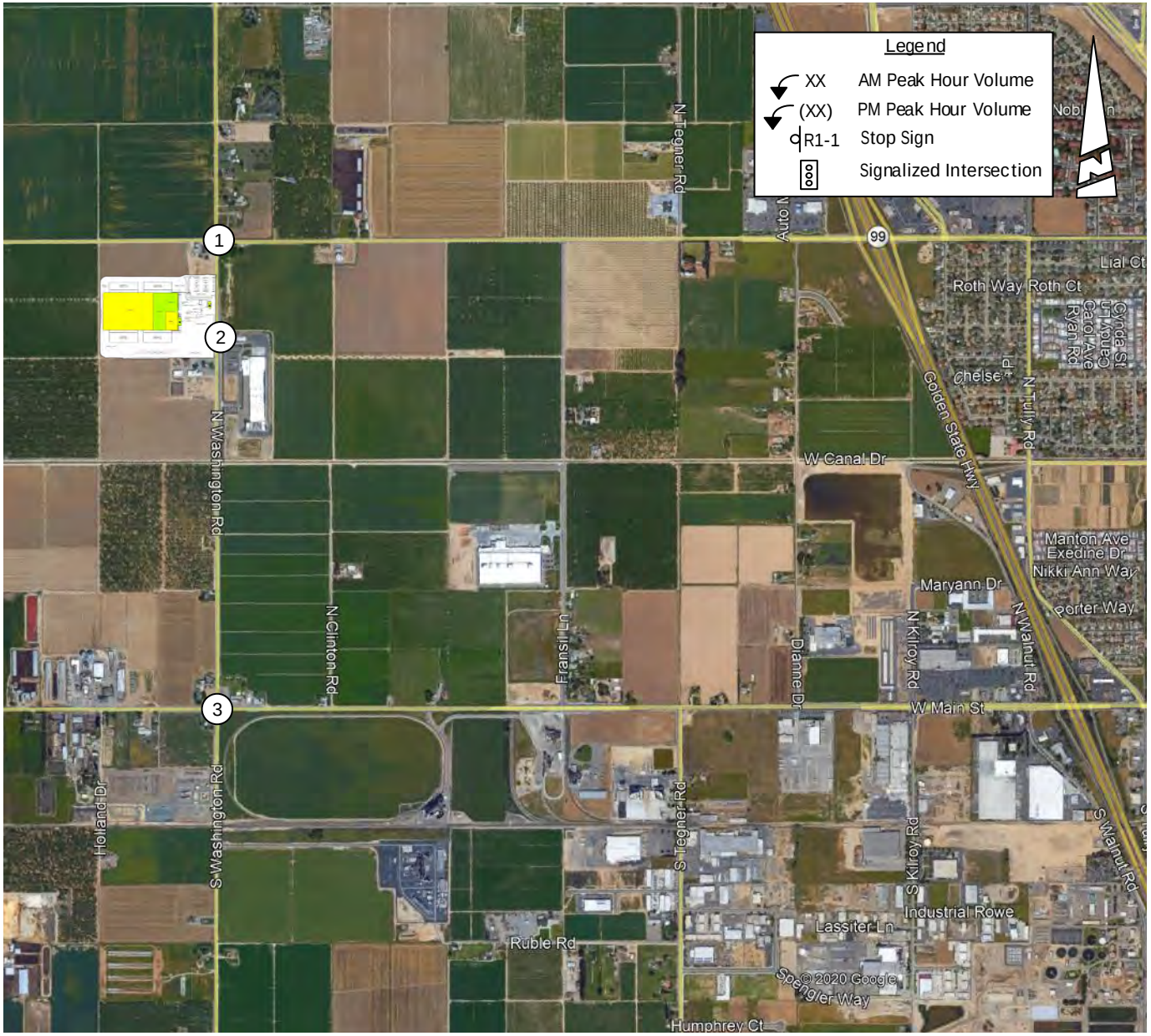
EXISTING PLUS APPROVED PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

5600-54 RA 9/16/2020

figure 7





EPAP PLUS PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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5600-54 RA 9/16/2020

figure 8

CUMULATIVE TRAFFIC IMPACTS

The traffic impacts associated with the Avila Packing House project was also evaluated within the context of future traffic conditions occurring in this area of Stanislaus County. Cumulative traffic was based upon both the 2016 Stanislaus County General Plan Circulation Element and the 2012 City of Turlock General Plan Update Circulation Element.

Year 2035 Forecasts

Future traffic within Stanislaus County is part of the "3-County travel demand model", a macroscopic model including San Joaquin, Stanislaus and Merced counties. Future volumes along roadway segments within the county were developed using this model. The project is located at the west end of the City of Turlock, with the City limits along Washington Road. Consequently, the City's travel model developed as part of the City's 2012 General Plan Update was used to project roadway segments within the City.

The development of future year intersection turning movement traffic volumes requires that the turning movements at each intersection "balance". To achieve the balance, inbound traffic volumes must equal the outbound traffic volumes, and the volumes must be distributed among the various left-turn, through, and right-turn movements at each intersection. The "balancing" of future year intersection turning movement traffic volumes was conducted using methods described in the Transportation Research Board's (TRB's) National Cooperative Highway Research Program (NCHRP) Report 255, *Highway Traffic Data for Urbanized Area Project Planning and Design*. The NCHRP 255 method applies the desired peak hour directional volumes to the intersection turning movement volumes, using an iterative process to balance and adjust the resulting forecasts to match the desired peak hour directional volumes. Figure 9 presents the projected turning movements during both a.m. and p.m. peak hours under the cumulative conditions.

Road Conditions. The Stanislaus Council of Governments (STANCOG) 2018 Regional Transportation Plan (RTP) identifies three Tier 1 projects in the project vicinity. Identified City of Turlock projects include widening of Fulkerth Road from 2-lanes to 4-lanes east of Washington Road, Washington Road from 2-lanes to 4-lanes between Linwood Avenue and Fulkerth Road. Identified Stanislaus County projects include widening of W. Main Street to 3 lanes between Mitchell Road and Washington Road.

The 2017 WISP identifies the following intersection configurations:

Washington Road / Fulkerth Road (signalized)

Northbound – 1 Left, 1 Through, 1 Right
Southbound – 1 Left, 1 Through, 1 Right
Eastbound – 1 Left, 1 Through-Right
Westbound – 1 Left, 1 Through-Right

Washington Road / W. Main Street

Northbound – 1 Left, 2 Through, 1 Right
Southbound – 1 Left, 2 Through, 1 Right
Eastbound – 1 Left, 1 Through, 1 Right
Westbound – 1 Left, 1 Through, 1 Right

The Washington Road / Blue Diamond intersection is projected to have the following lane geometry:

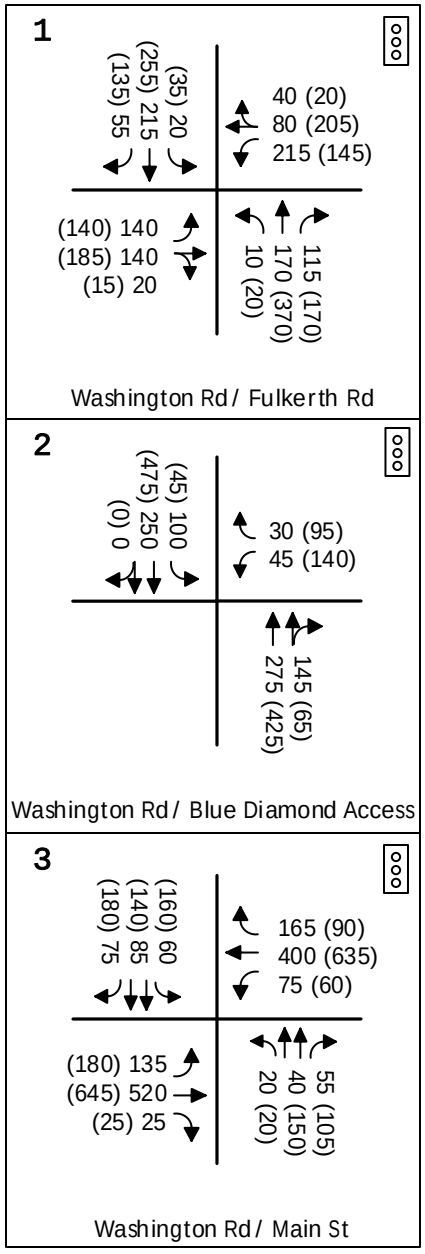
Northbound – 1 Left, 1 Through, 1 Through-Right
Southbound – 1 Left, 1 Through, 1 Through-Right
Eastbound – 1 Left-Through-Right
Westbound – 1 Left-Through-Right

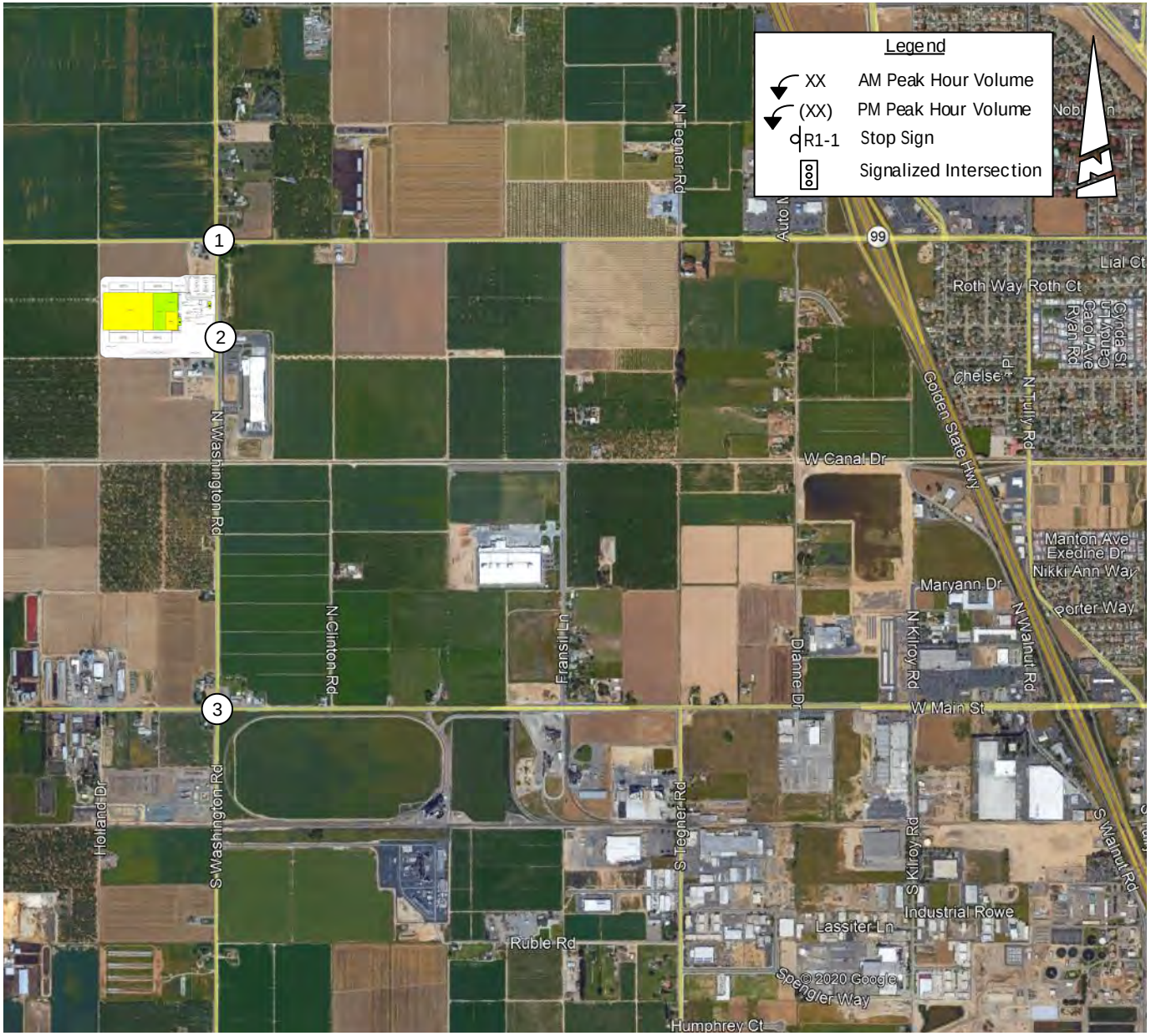
Cumulative Intersection Levels of Service Levels of Service. Cumulative No Project traffic volumes are shown in Figure 9. Cumulative intersection Levels of Service are shown in Table 11. The projected Levels of Service during the a.m. and p.m. peak hours are within the adopted City of Turlock threshold at all study locations with intersections operating at LOS D or better.

Cumulative Roadway Segment Levels of Service. Table 12 summarizes the Level of Service for the Washington Road study segment. The segment is projected to have a daily volume of 12,100 vehicles. The segment will operate at LOS A.

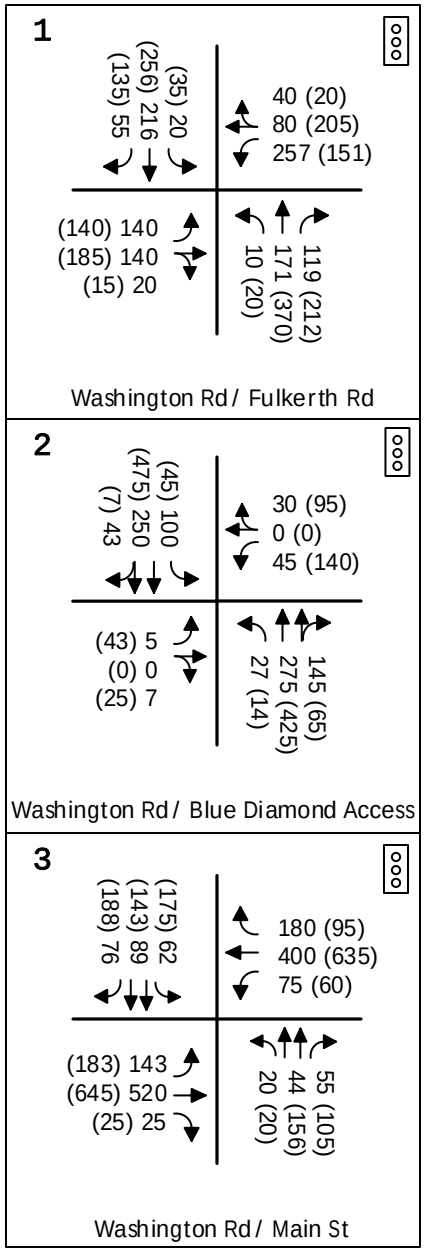
Cumulative Plus Project Intersection Levels of Service Levels of Service. Trips generated by the proposed project were superimposed onto background year Cumulative volumes to create the Cumulative Plus Project conditions shown in Figure 10. Table 11 displays the a.m. and p.m. peak hour Levels of Service at each study intersection in this time frame. All intersections will continue to operate within the adopted City of Turlock threshold, at LOS D or better.

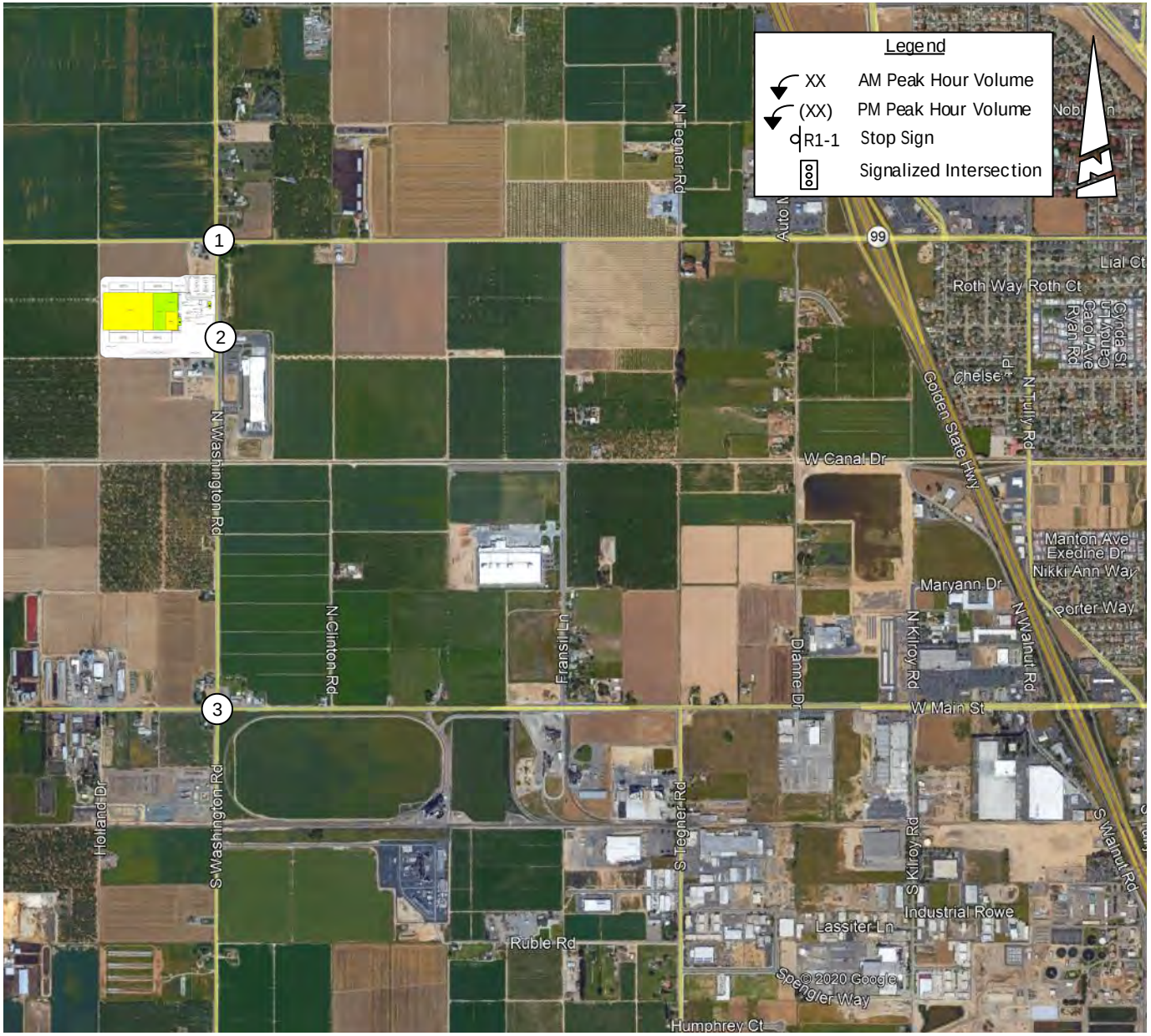
Cumulative Plus Project Roadway Segment Levels of Service. Table 12 summarizes the Level of Service for the Washington Road study segment. Under 'plus Project' conditions the segment is projected to have a daily volume of 12,286 vpd. This segment will continue to operate at LOS A.





CUMULATIVE NO PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS





CUMULATIVE PLUS PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

TABLE 11
AM / PM PEAK HOUR INTERSECTION LEVELS OF SERVICE
CUMULATIVE PLUS PROJECT CONDITIONS

Location	Control	Cumulative AM Peak Hour		Cumulative PM Peak Hour		Cumulative + Project AM Peak Hour		Cumulative + Project PM Peak Hour	
		Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS
1. Washington Rd / Fulkerth Rd	Signal*	23.6	C	27.9	C	25.9	C	28.1	C
2. Washington Rd / Blue Diamond	Signal	5.6	A	4.0	A	11.9	B	13.3	B
3. Washington Rd / W. Main St	Signal	27.2	C	41.6	D	27.7	C	43.8	D

* - signalized based on WISP improvements

TABLE 12
CUMULATIVE PLUS PROJECT
ROADWAY SEGMENT LEVELS OF SERVICE

Roadway	Location		Class	Lanes	Standard		Cumulative Conditions		Cumulative + Project Conditions	
	From	To			LOS	Daily Volume Threshold	LOS	Daily Volume	LOS	Daily Volume
Washington Road	W. Main Street	Fulkerth Road	Expressway	4	C/D	na / 35,000	na / A	12,100	na / A	12,286

Sources: Stanislaus County Circulation Element / City of Turlock General Plan Update
na – not available

ACCESS AND CIRCULATION

While the preceding analysis is a reasonable indicator of the project's relative impacts to the study area street system, it is important to consider the adequacy of site access and internal circulation within the context of peak period conditions.

Queuing

The quality of traffic flow can also be affected by queuing at signalized intersections. For this study, the lengths of peak period queues have been identified and compared to available storage in order to determine whether spillover from turn lanes can affect adjoining travel or extend through adjacent intersections. 95th percentile queue lengths have been calculated as a byproduct of the Synchro analysis. Those locations where the 95th percentile queue exceeds the available storage have also been noted.

Table 13 shows the projected queues under the Existing, EPAP and Cumulative scenarios. Under Existing condition queues are generally two vehicles or less in both a.m. and p.m. peak hours at the Washington Road / Fulkerth Road intersection.

At the Washington Road / W. Main Street intersection the queues are up to four vehicles on the south and east approaches and two or less on the north and west approaches. At the Washington Road / Blue Diamond intersection the queues are less than two vehicles for the southbound left turn lane and the westbound leg.

In the Existing plus Project scenario queues will lengthen by up to an additional vehicle along some approaches. The longest queue at the Washington Road / Fulkerth Road intersection will remain two vehicles while at the Washington Road / W. Main Street intersection the southbound approach will have a queue of up to five vehicles. Queues at the Washington Road / Blue Diamond intersection will change as the project leg is added to the west. Queues to and from the project site are projected to be up to two vehicles.

The EPAP scenario will have queues similar to the Existing No Project condition. The longest queues will continue to occur along the southbound approach of the Main Street / Washington Road intersection with four vehicles.

In the EPAP plus Project scenario queues the longest queues occur at the Washington Road / W. Main Street intersection with the southbound approach lengthening to five vehicles. Queues at the Washington Road / Fulkerth Road intersection will remain at up to two vehicles. The queues at the Washington Road / Blue Diamond intersection will remain constant with up to two vehicles queues in any of the turn lanes.

In the Cumulative No Project scenario a signal is identified at the Washington Road / Fulkerth Road intersection. This intersection will include turn lanes along each of the approaches. Queues in the north and south approaches are projected to be two or fewer vehicles. The

eastbound left turn lane is projected to have queues of up to six vehicles while the westbound left turn lane will have a queue of up to 8 vehicles. The queues at the Washington Road/ W. Main Street intersection are projected to lengthen in the eastbound left turn lane to 11 vehicles in the p.m. peak hour while the westbound approach will be five vehicles. The northbound and southbound left lanes are projected to be two vehicles and 10 vehicles. Queues at the Washington Road / Blue Diamond access intersection are projected to lengthen to four vehicles along the westbound approach during the p.m. peak hour while the southbound left turn lane queue will be 3 vehicles.

In the Cumulative plus Project scenario the westbound left turn lane will lengthen to nine vehicles at the Washington Road / Fulkerth Road intersection; the remaining turn lanes will have the same queues as the No Project conditions. At the Washington Road / W. Main Street intersection, the queue for southbound left turns will increase to 11 vehicles; the remaining turn lanes will have queues similar to the No Project scenario. Queues in the southbound left turn lane at the Washington Road / Blue Diamond intersection are projected to be up to three vehicles while the westbound left turn queue will be four vehicles. Queues into and out of the project site are projected to be two vehicles.

TABLE 13
PROJECTED QUEUES (VEHICLES)

Location	Existing		EPAP		Cumulative	
	No Project	Plus Project	No Project	Plus Project	No Project	Plus Project
1. Washington Rd / Fulkerth Rd						
NB Left*	< 25 / (28)	< 25 / (35)	< 25 / (28)	< 25 / (38)	< 25 / 29	< 25 / 29
SB Left*	< 25 / < 25	< 25 / < 25	< 25 / < 25	< 25 / 25	26 / 44	26 / 44
EB Left*	< 25 / 25	< 25 / 28	< 25 / 25	< 25 / 28	124 / 149	124 / 149
WB Left*	< 25 / < 25	< 25 / 28	< 25 / < 25	< 25 / 28	184 / 157	229 / 165
2. Washington Rd / Blue Diamond / Avila Packing						
NB Left	--- / ---	<25 / < 25	--- / ---	<25 / <25	--- / ---	29 / <25
SB Left	34 / < 25	35 / < 25	34 / < 25	35 / < 25	66 / 43	70 / 42
EB Left	--- / ---	< 25 / 31	--- / ---	<25 / 31	--- / ---	< 25 / 33
WB Left	< 25 / 45	< 25 / 45	< 25 / 46	< 25 / 46	39 / 93	39 / 89
3. Washington Rd / W. Main St						
NB Left*	47 / 49	49 / 52	47 / 49	49 / 52	26 / 45	26 / 45
SB Left*	51 / 98	56 / 115	53 / 99	57 / 116	64 / 255	67 / 285
EB Left	50 / 79	56 / 82	51 / 79	57 / 82	145 / 267	154 / 272
WB Left	33 / 31	34 / 31	33 / 31	34 / 31	85 / 116	85 / 116

AM (PM)
--- – not applicable
* through lane under Existing scenario

RECOMMENDATIONS / RECOMMENDED IMPROVEMENTS

Existing Conditions

All intersections and roadway segments operate at acceptable Levels of Service. No recommendations are made.

Existing plus Project

All study intersections and road segments will operate within accepted Level of Service threshold levels. The following improvements are identified under this planning horizon:

1. **Pay County Traffic Impact Fees.** The project should pay the Traffic Impact Fees as set forth by Stanislaus County.

2. **Modify Washington Road / Blue Diamond Traffic Signal.** The applicant shall modify the existing traffic signal by adding the fourth leg of the intersection. This will require an encroachment permit from the City of Turlock.

EPAP Conditions

All intersections and roadway segments will continue to operate at acceptable Levels of Service. No recommendations are made.

EPAP plus Project

All study intersections and road segments will continue to operate within accepted Level of Service threshold levels. No additional recommended improvements are identified.

Cumulative Conditions

All intersections and roadway segments will continue to operate at acceptable Levels of Service. No recommendations are made.

Cumulative plus Project

All study intersections and road segments will continue to operate within accepted Level of Service threshold levels. No additional recommended improvements are identified.

REFERENCES

1. *Stanislaus County General Plan*, Stanislaus County, August 2016
2. *Westside Industrial Specific Plan,* City of Turlock, November, 2006
3. *Westside Industrial Specific Plan Traffic / Circulation Study,* Omni Means, June 2003
4. Turlock General Plan – *Draft Environmental Impact Report,* June 2012
5. *Highway Capacity Manual*, Transportation Research Board, 6th Edition, 2016
6. California MUTCD, 2012 Edition
7. E-mail correspondence, Adrienne Werner, City of Turlock Planning Division, August 2020
8. E-mail correspondence, Andrew Malizia, Stanislaus County City of Turlock Planning Division, August 2020

APPENDICES

Prepared by National Data & Surveying Services

N Washington Rd & Blue Diamond Entrance

Peak Hour Turning Movement Count

ID: 20-80100-001
City: Turlock

Day: Tuesday
Date: 07/28/2020

PEAK HOURS

AM: 08:00 AM - 09:00 AM
NOON: NONE
PM: 04:15 PM - 05:15 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SOUTHBOUND — N Washington Rd

AM	0	66	4	0	88	AM
NOON	0	0	0	0	0	NOON
PM	0	143	3	0	132	PM

EASTBOUND — Blue Diamond Entrance

AM	NOON	PM	
0	0	0	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
AM	NOON	PM	

WESTBOUND — Blue Diamond Entrance

PM	NOON	AM	
9	0	5	0
0	0	0	0
3	0	1	0
0	0	0	0
7	0	5	
PM	NOON	AM	

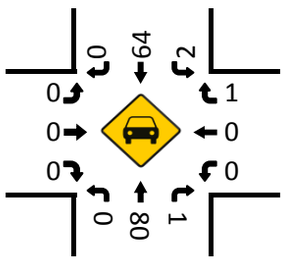
CONTROL: Signalized

TEV	160	0	285
	AM	NOON	PM
PHF	0.80		0.89

NORTHBOUND — N Washington Rd

PM	146	0	0	123	4	PM
NOON	0	0	0	0	0	NOON
AM	67	0	0	83	1	AM

Cars (AM)



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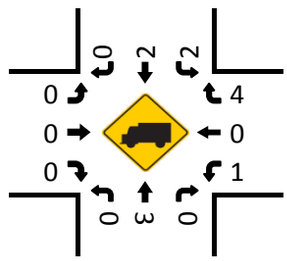
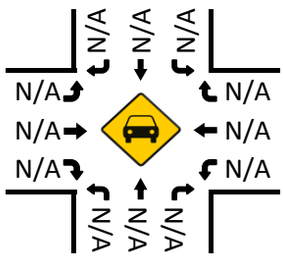


Cars (NOON)



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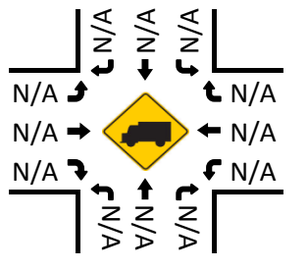

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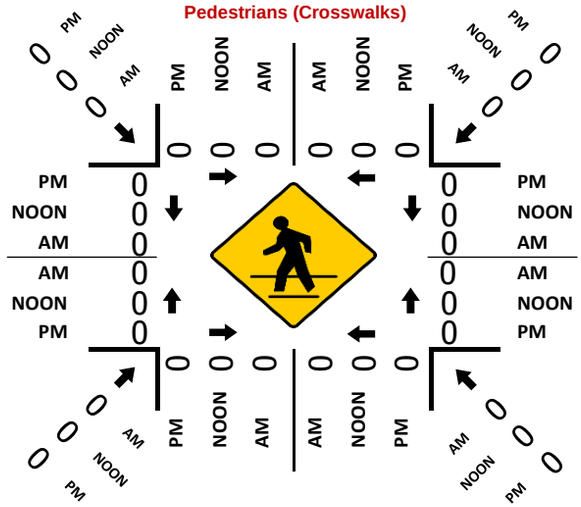

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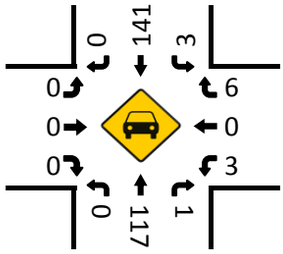

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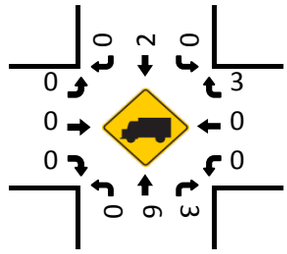


National Data & Surveying Services

Intersection Turning Movement Count

Location: N Washington Rd & Blue Diamond Entrance
City: Turlock
Control: Signalized

Project ID: 20-80100-001
Date: 7/28/2020

Total

NS/EW Streets:	N Washington Rd				N Washington Rd				Blue Diamond Entrance				Blue Diamond Entrance				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	19	1	0	1	6	0	0	0	0	0	0	1	0	1	0	29
7:15 AM	0	15	4	0	3	10	0	0	0	0	0	0	1	0	0	0	33
7:30 AM	0	11	0	0	7	8	0	0	0	0	0	0	1	0	2	0	29
7:45 AM	0	20	1	0	4	14	0	0	0	0	0	0	1	0	0	0	40
8:00 AM	0	15	0	0	1	20	0	0	0	0	0	0	1	0	1	0	38
8:15 AM	0	16	0	0	0	10	0	0	0	0	0	0	0	0	2	0	28
8:30 AM	0	29	0	0	1	18	0	0	0	0	0	0	0	0	2	0	50
8:45 AM	0	23	1	0	2	18	0	0	0	0	0	0	0	0	0	0	44
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	148	7	0	19	104	0	0	0	0	0	0	5	0	8	0	291
APPROACH %'s :	0.00%	95.48%	4.52%	0.00%	15.45%	84.55%	0.00%	0.00%					38.46%	0.00%	61.54%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	83	1	0	4	66	0	0	0	0	0	0	1	0	5	0	160
PEAK HR FACTOR :	0.000	0.716	0.250	0.000	0.500	0.825	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.625	0.000	0.800
		0.724				0.833								0.750			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	32	0	0	0	36	0	0	0	0	0	0	1	0	3	0	72
4:15 PM	0	23	1	0	0	35	0	0	0	0	0	0	0	0	1	0	60
4:30 PM	0	37	1	0	1	34	0	0	0	0	0	0	0	0	3	0	76
4:45 PM	0	32	1	0	1	32	0	0	0	0	0	0	1	0	2	0	69
5:00 PM	0	31	1	0	1	42	0	0	0	0	0	0	2	0	3	0	80
5:15 PM	0	24	0	0	1	35	0	0	0	0	0	0	0	0	0	0	60
5:30 PM	0	30	0	0	2	28	0	0	0	0	0	0	0	0	2	0	62
5:45 PM	0	25	0	0	0	27	0	0	0	0	0	0	1	0	2	0	55
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	234	4	0	6	269	0	0	0	0	0	0	5	0	16	0	534
APPROACH %'s :	0.00%	98.32%	1.68%	0.00%	2.18%	97.82%	0.00%	0.00%					23.81%	0.00%	76.19%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	123	4	0	3	143	0	0	0	0	0	0	3	0	9	0	285
PEAK HR FACTOR :	0.000	0.831	1.000	0.000	0.750	0.851	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.750	0.000	0.891
		0.836				0.849								0.600			

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Washington Rd & Blue Diamond Entrance
City: Turlock
Control: Signalized

Project ID: 20-80100-001
Date: 7/28/2020

Cars

NS/EW Streets:	N Washington Rd				N Washington Rd				Blue Diamond Entrance				Blue Diamond Entrance				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	17	1	0	1	4	0	0	0	0	0	0	1	0	1	0	25
7:15 AM	0	13	2	0	1	10	0	0	0	0	0	0	1	0	0	0	27
7:30 AM	0	11	0	0	6	7	0	0	0	0	0	0	1	0	2	0	27
7:45 AM	0	20	1	0	3	14	0	0	0	0	0	0	1	0	0	0	39
8:00 AM	0	15	0	0	1	20	0	0	0	0	0	0	0	0	0	0	36
8:15 AM	0	15	0	0	0	10	0	0	0	0	0	0	0	0	0	0	25
8:30 AM	0	27	0	0	0	16	0	0	0	0	0	0	0	0	1	0	44
8:45 AM	0	23	1	0	1	18	0	0	0	0	0	0	0	0	0	0	43
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	141	5	0	13	99	0	0	0	0	0	0	4	0	4	0	266
APPROACH %'s :	0.00%	96.58%	3.42%	0.00%	11.61%	88.39%	0.00%	0.00%					50.00%	0.00%	50.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	80	1	0	2	64	0	0	0	0	0	0	0	0	1	0	148
PEAK HR FACTOR :	0.00	0.741	0.250	0.000	0.500	0.800	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.841
		0.750				0.786								0.250			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	32	0	0	0	34	0	0	0	0	0	0	1	0	3	0	70
4:15 PM	0	23	0	0	0	34	0	0	0	0	0	0	0	0	1	0	58
4:30 PM	0	34	0	0	1	33	0	0	0	0	0	0	0	0	1	0	69
4:45 PM	0	30	1	0	1	32	0	0	0	0	0	0	1	0	2	0	67
5:00 PM	0	30	0	0	1	42	0	0	0	0	0	0	2	0	2	0	77
5:15 PM	0	24	0	0	0	35	0	0	0	0	0	0	0	0	0	0	59
5:30 PM	0	29	0	0	0	27	0	0	0	0	0	0	0	0	1	0	57
5:45 PM	0	25	0	0	0	27	0	0	0	0	0	0	1	0	2	0	55
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	227	1	0	3	264	0	0	0	0	0	0	5	0	12	0	512
APPROACH %'s :	0.00%	99.56%	0.44%	0.00%	1.12%	98.88%	0.00%	0.00%					29.41%	0.00%	70.59%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	117	1	0	3	141	0	0	0	0	0	0	3	0	6	0	271
PEAK HR FACTOR :	0.00	0.860	0.250	0.000	0.750	0.839	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.750	0.000	0.880
		0.868				0.837								0.563			

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Washington Rd & Blue Diamond Entrance
City: Turlock
Control: Signalized

Project ID: 20-80100-001
Date: 7/28/2020

HT

NS/EW Streets:	N Washington Rd				N Washington Rd				Blue Diamond Entrance				Blue Diamond Entrance				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4
7:15 AM	0	2	2	0	2	0	0	0	0	0	0	0	0	0	0	0	6
7:30 AM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3
8:30 AM	0	2	0	0	1	2	0	0	0	0	0	0	0	0	1	0	6
8:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	7	2	0	6	5	0	0	0	0	0	0	1	0	4	0	25
APPROACH %'s :	0.00%	77.78%	22.22%	0.00%	54.55%	45.45%	0.00%	0.00%					20.00%	0.00%	80.00%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	3	0	0	2	2	0	0	0	0	0	0	1	0	4	0	12
PEAK HR FACTOR :	0.000	0.375	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.500	0.000	0.500
		0.375				0.333								0.625			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	3	1	0	0	1	0	0	0	0	0	0	0	0	2	0	7
4:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	3
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	1	0	0	2	1	0	0	0	0	0	0	0	0	1	0	5
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	7	3	0	3	5	0	0	0	0	0	0	0	0	4	0	22
APPROACH %'s :	0.00%	70.00%	30.00%	0.00%	37.50%	62.50%	0.00%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	6	3	0	0	2	0	0	0	0	0	0	0	0	3	0	14
PEAK HR FACTOR :	0.00	0.500	0.750	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.500
		0.563				0.500								0.375			

Prepared by National Data & Surveying Services

VOLUME

Washington Rd S/O Blue Diamond Entrance

Day: Tuesday
Date: 7/28/2020

City: Turlock
Project #: CA20_80101_001

DAILY TOTALS	NB	SB	EB	WB	Total
	1,551	1,622	0	0	3,173

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	2		4						6		**12:00**	24		26						50	
00:15	1		2						3		**12:15**	28		30						58	
00:30	1		1						2		**12:30**	32		27						59	
00:45	1	5	2	9					3	14	**12:45**	23	107	24	107					47	214
01:00	1		2						3		**13:00**	26		26						52	
01:15	1		0						1		**13:15**	28		32						60	
01:30	1		1						2		**13:30**	18		28						46	
01:45	1	4	0	3					1	7	**13:45**	31	103	27	113					58	216
02:00	1		3						4		**14:00**	32		32						64	
02:15	0		5						5		**14:15**	20		25						45	
02:30	2		1						3		**14:30**	28		37						65	
02:45	0	3	4	13					4	16	**14:45**	36	116	26	120					62	236
03:00	3		0						3		**15:00**	24		27						51	
03:15	4		3						7		**15:15**	39		31						70	
03:30	0		1						1		**15:30**	27		33						60	
03:45	1	8	6	10					7	18	**15:45**	28	118	31	122					59	240
04:00	2		4						6		**16:00**	32		35						67	
04:15	0		1						1		**16:15**	28		37						65	
04:30	6		6						12		**16:30**	43		31						74	
04:45	6	14	2	13					8	27	**16:45**	30	133	36	139					66	272
05:00	7		4						11		**17:00**	32		44						76	
05:15	9		7						16		**17:15**	23		35						58	
05:30	18		11						29		**17:30**	32		27						59	
05:45	16	50	6	28					22	78	**17:45**	22	109	32	138					54	247
06:00	10		12						22		**18:00**	33		30						63	
06:15	4		18						22		**18:15**	28		30						58	
06:30	9		21						30		**18:30**	23		17						40	
06:45	17	40	14	65					31	105	**18:45**	14	98	25	102					39	200
07:00	18		8						26		**19:00**	21		21						42	
07:15	17		9						26		**19:15**	13		10						23	
07:30	12		10						22		**19:30**	15		15						30	
07:45	20	67	16	43					36	110	**19:45**	10	59	14	60					24	119
08:00	16		22						38		**20:00**	9		23						32	
08:15	17		10						27		**20:15**	13		17						30	
08:30	26		19						45		**20:30**	5		17						22	
08:45	27	86	19	70					46	156	**20:45**	7	34	7	64					14	98
09:00	19		20						39		**21:00**	13		19						32	
09:15	22		24						46		**21:15**	14		8						22	
09:30	30		22						52		**21:30**	13		8						21	
09:45	28	99	19	85					47	184	**21:45**	15	55	9	44					24	99
10:00	27		22						49		**22:00**	5		9						14	
10:15	20		20						40		**22:15**	5		8						13	
10:30	32		30						62		**22:30**	7		12						19	
10:45	23	102	30	102					53	204	**22:45**	2	19	10	39					12	58
11:00	29		22						51		**23:00**	2		4						6	
11:15	18		30						48		**23:15**	3		2						5	
11:30	31		28						59		**23:30**	1		6						7	
11:45	34	112	34	114					68	226	**23:45**	4	10	7	19					11	29
TOTALS		590		555						**1145**	**TOTALS**		961		1067						**2028**
SPLIT %		51.5%		48.5%						**36.1%**	**SPLIT %**		47.4%		52.6%						**63.9%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,551	1,622	0	0	3,173

AM Peak Hour	11:45	11:15			**11:30**	**PM Peak Hour**	16:00	16:15			**16:15**
AM Pk Volume	118	118			**235**	**PM Pk Volume**	133	148			**281**
Pk Hr Factor	0.868	0.868			**0.864**	**Pk Hr Factor**	0.773	0.841			**0.924**
7 - 9 Volume	153	113	0	0	**266**	**4 - 6 Volume**	242	277	0	0	**519**
7 - 9 Peak Hour	08:00	08:00			**08:00**	**4 - 6 Peak Hour**	16:00	16:15			**16:15**
7 - 9 Pk Volume	86	70	0	0	**156**	**4 - 6 Pk Volume**	133	148	0	0	**281**
Pk Hr Factor	0.796	0.795	0.000	0.000	**0.848**	**Pk Hr Factor**	0.773	0.841	0.000	0.000	**0.924**

ALL TRAFFIC DATA

City of Turlock
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7352-001 Washington Road-Fulkerth Road.ppd
Date : 6/11/2013

Unshifted Count = All Vehicles

	Washington Road Southbound					Fulkerth Road Westbound					Washington Road Northbound					Fulkerth Road Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Ped Total
07:00	2	12	6	0	20	7	21	0	0	28	2	11	8	0	21	7	10	1	0	18	87	0
07:15	0	12	9	0	21	11	8	1	0	20	2	16	5	0	23	11	13	0	0	24	88	0
07:30	0	12	13	0	25	9	22	1	0	32	1	6	7	0	14	19	18	1	0	38	109	0
07:45	1	9	4	0	14	11	8	0	0	19	1	14	5	0	20	11	19	1	0	31	84	0
Total	3	45	32	0	80	38	59	2	0	99	6	47	25	0	78	48	60	3	0	111	368	0
08:00	1	12	13	0	26	2	15	1	0	18	0	7	11	0	18	17	19	0	0	36	98	0
08:15	0	11	6	0	17	7	11	3	0	21	0	9	12	0	21	10	14	0	0	24	83	0
08:30	0	11	10	0	21	4	6	1	0	11	0	15	10	0	25	11	16	2	0	29	86	0
08:45	1	12	8	0	21	4	3	0	0	7	1	11	6	0	18	7	17	0	0	24	70	0
Total	2	46	37	0	85	17	35	5	0	57	1	42	39	0	82	45	66	2	0	113	337	0
16:00	0	14	18	0	32	22	19	1	0	42	1	19	10	0	30	7	29	2	0	38	142	0
16:15	0	12	13	0	25	9	26	4	0	39	0	23	5	0	28	13	16	1	0	30	122	0
16:30	0	11	9	0	20	4	21	2	0	27	1	24	22	0	47	7	18	2	0	27	121	0
16:45	0	16	15	0	31	7	26	0	0	33	1	22	11	0	34	13	23	0	0	36	134	0
Total	0	53	55	0	108	42	92	7	0	141	3	88	48	0	139	40	86	5	0	131	519	0
17:00	2	8	16	0	26	11	26	1	0	38	0	24	6	0	30	9	24	0	0	33	127	0
17:15	2	19	7	0	28	6	25	1	0	32	0	22	4	0	26	10	21	2	0	33	119	0
17:30	1	24	20	0	45	10	23	0	0	33	2	21	11	0	34	15	24	2	0	41	153	0
17:45	3	12	15	0	30	8	35	0	0	43	2	16	10	0	28	13	16	2	0	31	132	0
Total	8	63	58	0	129	35	109	2	0	146	4	83	31	0	118	47	85	6	0	138	531	0
Grand Total	13	207	182	0	402	132	295	16	0	443	14	260	143	0	417	180	297	16	0	493	1755	0
Apprch %	3.2%	51.5%	45.3%			29.8%	66.6%	3.6%			3.4%	62.4%	34.3%			36.5%	60.2%	3.2%				
Total %	0.7%	11.8%	10.4%		22.9%	7.5%	16.8%	0.9%		25.2%	0.8%	14.8%	8.1%		23.8%	10.3%	16.9%	0.9%		28.1%	100.0%	

AM PEAK HOUR	Washington Road Southbound					Fulkerth Road Westbound					Washington Road Northbound					Fulkerth Road Eastbound					
START TIME	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	Total
Peak Hour Analysis From 07:15 to 08:15																					
Peak Hour For Entire Intersection Begins at 07:15																					
07:15	0	12	9		21	11	8	1		20	2	16	5		23	11	13	0		24	88
07:30	0	12	13		25	9	22	1		32	1	6	7		14	19	18	1		38	109
07:45	1	9	4		14	11	8	0		19	1	14	5		20	11	19	1		31	84
08:00	1	12	13		26	2	15	1		18	0	7	11		18	17	19	0		36	98
Total Volume	2	45	39		86	33	53	3		89	4	43	28		75	58	69	2		129	379
% App Total	2.3%	52.3%	45.3%			37.1%	59.6%	3.4%			5.3%	57.3%	37.3%			45.0%	53.5%	1.6%			
PHF	.500	.938	.750		.827	.750	.602	.750		.695	.500	.672	.636		.815	.763	.908	.500		.849	.869

PM PEAK HOUR	Washington Road Southbound					Fulkerth Road Westbound					Washington Road Northbound					Fulkerth Road Eastbound					
START TIME	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	16	15		31	7	26	0		33	1	22	11		34	13	23	0		36	134
17:00	2	8	16		26	11	26	1		38	0	24	6		30	9	24	0		33	127
17:15	2	19	7		28	6	25	1		32	0	22	4		26	10	21	2		33	119
17:30	1	24	20		45	10	23	0		33	2	21	11		34	15	24	2		41	153
Total Volume	5	67	58		130	34	100	2		136	3	89	32		124	47	92	4		143	533
% App Total	3.8%	51.5%	44.6%			25.0%	73.5%	1.5%			2.4%	71.8%	25.8%			32.9%	64.3%	2.8%			
PHF	.625	.698	.725		.722	.773	.962	.500		.895	.375	.927	.727		.912	.783	.958	.500		.872	.871

ALL TRAFFIC DATA

City of Turlock
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7352-002 Washington Road-Main Street.ppd
Date : 6/11/2013

Unshifted Count = All Vehicles

	Washington Road Southbound					Main Street Westbound					Washington Road Northbound					Main Street Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Ped Total
07:00	1	5	10	0	16	5	34	2	0	41	2	9	4	0	15	9	45	0	0	54	126	0
07:15	1	2	8	0	11	3	26	3	0	32	2	12	6	0	20	7	30	1	0	38	101	0
07:30	2	7	7	0	16	10	46	2	0	58	1	8	2	0	11	6	61	7	0	74	159	0
07:45	2	4	7	0	13	5	38	1	0	44	4	7	8	0	19	11	62	0	0	73	149	0
Total	6	18	32	0	56	23	144	8	0	175	9	36	20	0	65	33	198	8	0	239	535	0
08:00	2	5	6	0	13	5	35	3	0	43	4	8	3	0	15	10	47	4	0	61	132	0
08:15	1	5	8	0	14	0	35	4	0	39	3	6	5	0	14	7	37	2	0	46	113	0
08:30	1	6	10	0	17	9	47	0	0	56	0	5	4	0	9	13	50	3	0	66	148	0
08:45	1	7	9	0	17	2	29	2	0	33	1	10	6	0	17	10	48	0	0	58	125	0
Total	5	23	33	0	61	16	146	9	0	171	8	29	18	0	55	40	182	9	0	231	518	0
16:00	1	15	21	0	37	5	69	2	0	76	5	9	6	0	20	18	73	6	0	97	230	0
16:15	5	7	14	0	26	7	53	4	0	64	2	7	11	0	20	10	62	5	0	77	187	0
16:30	2	4	12	0	18	5	64	2	0	71	2	14	6	0	22	22	58	2	0	82	193	0
16:45	4	10	9	0	23	5	66	2	0	73	0	6	7	0	13	23	58	0	0	81	190	0
Total	12	36	56	0	104	22	252	10	0	284	9	36	30	0	75	73	251	13	0	337	800	0
17:00	2	5	12	0	19	12	56	4	0	72	2	6	9	0	17	15	65	2	0	82	190	0
17:15	3	9	11	0	23	7	73	5	0	85	3	10	7	0	20	14	58	1	0	73	201	0
17:30	4	21	13	0	38	8	56	5	0	69	4	8	5	0	17	16	60	2	0	78	202	0
17:45	7	6	12	0	25	9	53	2	0	64	1	7	6	0	14	18	56	1	0	75	178	0
Total	16	41	48	0	105	36	238	16	0	290	10	31	27	0	68	63	239	6	0	308	771	0
Grand Total	39	118	169	0	326	97	780	43	0	920	36	132	95	0	263	209	870	36	0	1115	2624	0
Apprch %	12.0%	36.2%	51.8%			10.5%	84.8%	4.7%			13.7%	50.2%	36.1%			18.7%	78.0%	3.2%				
Total %	1.5%	4.5%	6.4%		12.4%	3.7%	29.7%	1.6%		35.1%	1.4%	5.0%	3.6%		10.0%	8.0%	33.2%	1.4%		42.5%	100.0%	

AM PEAK HOUR	Washington Road Southbound					Main Street Westbound					Washington Road Northbound					Main Street Eastbound					
START TIME	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
07:30	2	7	7		16	10	46	2		58	1	8	2		11	6	61	7		74	159
07:45	2	4	7		13	5	38	1		44	4	7	8		19	11	62	0		73	149
08:00	2	5	6		13	5	35	3		43	4	8	3		15	10	47	4		61	132
08:15	1	5	8		14	0	35	4		39	3	6	5		14	7	37	2		46	113
Total Volume	7	21	28		56	20	154	10		184	12	29	18		59	34	207	13		254	553
% App Total	12.5%	37.5%	50.0%			10.9%	83.7%	5.4%			20.3%	49.2%	30.5%			13.4%	81.5%	5.1%			
PHF	.875	.750	.875		.875	.500	.837	.625		.793	.750	.906	.563		.776	.773	.835	.464		.858	.869

PM PEAK HOUR	Washington Road Southbound					Main Street Westbound					Washington Road Northbound					Main Street Eastbound					
START TIME	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	Total
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	1	15	21		37	5	69	2		76	5	9	6		20	18	73	6		97	230
16:15	5	7	14		26	7	53	4		64	2	7	11		20	10	62	5		77	187
16:30	2	4	12		18	5	64	2		71	2	14	6		22	22	58	2		82	193
16:45	4	10	9		23	5	66	2		73	0	6	7		13	23	58	0		81	190
Total Volume	12	36	56		104	22	252	10		284	9	36	30		75	73	251	13		337	800
% App Total	11.5%	34.6%	53.8%			7.7%	88.7%	3.5%			12.0%	48.0%	40.0%			21.7%	74.5%	3.9%			
PHF	.600	.600	.667		.703	.786	.913	.625		.934	.450	.643	.682		.852	.793	.860	.542		.869	.870

ALL TRAFFIC DATA

City of Turlock
All Vehicles on Unshifted
Nothing on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 13-7352-003 Washington Road-Construction Access.ppd
Date : 6/11/2013

Unshifted Count = All Vehicles

	Washington Road Southbound					Construction Access Westbound					Washington Road Northbound					Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Ped Total
07:00	2	17	0	0	19	0	0	1	0	1	0	21	1	0	22	0	0	0	0	0	42	0
07:15	5	19	0	0	24	0	0	0	0	0	0	21	2	0	23	0	0	0	0	0	47	0
07:30	9	13	0	0	22	0	0	1	0	1	0	13	4	0	17	0	0	0	0	0	40	0
07:45	7	15	0	0	22	1	0	0	0	1	0	19	0	0	19	0	0	0	0	0	42	0
Total	23	64	0	0	87	1	0	2	0	3	0	74	7	0	81	0	0	0	0	0	171	0
08:00	3	10	0	0	13	0	0	0	0	0	0	19	3	0	22	0	0	0	0	0	35	0
08:15	2	17	0	0	19	0	0	1	0	1	0	21	0	0	21	0	0	0	0	0	41	0
08:30	2	13	0	0	15	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	36	0
08:45	0	17	0	0	17	0	0	1	0	1	0	20	0	0	20	0	0	0	0	0	38	0
Total	7	57	0	0	64	0	0	2	0	2	0	81	3	0	84	0	0	0	0	0	150	0
16:00	1	36	0	0	37	0	0	1	0	1	0	31	0	0	31	0	0	0	0	0	69	0
16:15	0	25	0	0	25	2	0	2	0	4	0	25	0	0	25	0	0	0	0	0	54	0
16:30	0	16	0	0	16	2	0	11	0	13	0	36	0	0	36	0	0	0	0	0	65	0
16:45	0	22	0	0	22	0	0	3	0	3	0	32	0	0	32	0	0	0	0	0	57	0
Total	1	99	0	0	100	4	0	17	0	21	0	124	0	0	124	0	0	0	0	0	245	0
17:00	1	18	0	0	19	1	0	3	0	4	0	25	0	0	25	0	0	0	0	0	48	0
17:15	0	26	0	0	26	0	0	4	0	4	0	23	1	0	24	0	0	0	0	0	54	0
17:30	0	34	0	0	34	1	0	1	0	2	0	31	0	0	31	0	0	0	0	0	67	0
17:45	0	22	0	0	22	1	0	2	0	3	0	24	0	0	24	0	0	0	0	0	49	0
Total	1	100	0	0	101	3	0	10	0	13	0	103	1	0	104	0	0	0	0	0	218	0
Grand Total	32	320	0	0	352	8	0	31	0	39	0	382	11	0	393	0	0	0	0	0	784	0
Apprch %	9.1%	90.9%	0.0%			20.5%	0.0%	79.5%			0.0%	97.2%	2.8%			0.0%	0.0%	0.0%				
Total %	4.1%	40.8%	0.0%		44.9%	1.0%	0.0%	4.0%		5.0%	0.0%	48.7%	1.4%		50.1%	0.0%	0.0%	0.0%		0.0%	100.0%	

AM PEAK HOUR	Washington Road Southbound					Construction Access Westbound					Washington Road Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	Total
Peak Hour Analysis From 07:00 to 08:00																					
Peak Hour For Entire Intersection Begins at 07:00																					
07:00	2	17	0		19	0	0	1		1	0	21	1		22	0	0	0		0	42
07:15	5	19	0		24	0	0	0		0	0	21	2		23	0	0	0		0	47
07:30	9	13	0		22	0	0	1		1	0	13	4		17	0	0	0		0	40
07:45	7	15	0		22	1	0	0		1	0	19	0		19	0	0	0		0	42
Total Volume	23	64	0		87	1	0	2		3	0	74	7		81	0	0	0		0	171
% App Total	26.4%	73.6%	0.0%			33.3%	0.0%	66.7%			0.0%	91.4%	8.6%			0.0%	0.0%	0.0%			
PHF	.639	.842	.000		.906	.250	.000	.500		.750	.000	.881	.438		.880	.000	.000	.000		.000	.910

PM PEAK HOUR	Washington Road Southbound					Construction Access Westbound					Washington Road Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	LEFT	THRU	RIGHT		APP.TOTAL	Total
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	1	36	0		37	0	0	1		1	0	31	0		31	0	0	0		0	69
16:15	0	25	0		25	2	0	2		4	0	25	0		25	0	0	0		0	54
16:30	0	16	0		16	2	0	11		13	0	36	0		36	0	0	0		0	65
16:45	0	22	0		22	0	0	3		3	0	32	0		32	0	0	0		0	57
Total Volume	1	99	0		100	4	0	17		21	0	124	0		124	0	0	0		0	245
% App Total	1.0%	99.0%	0.0%			19.0%	0.0%	81.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.250	.688	.000		.676	.500	.000	.386		.404	.000	.861	.000		.861	.000	.000	.000		.000	.888

Prepared by NDS/ATD

Volumes for: Tuesday, June 18, 2013 City: Turlock Project #: 13-7353-001

Location: Washington Road between Main Street and Fulkerth Road.

Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	1	24			4	31				
12:15	2	21			4	30				
12:30	1	18			3	16				
12:45	1	23	5	86	2	23	13	100	18	186
1:00	0	32			1	27				
1:15	0	19			0	25				
1:30	1	22			0	24				
1:45	1	27	2	100	2	22	3	98	5	198
2:00	0	26			1	16				
2:15	1	19			4	16				
2:30	0	20			1	28				
2:45	1	28	2	93	3	33	9	93	11	186
3:00	0	27			1	24				
3:15	2	31			1	27				
3:30	1	19			1	37				
3:45	1	31	4	108	3	22	6	110	10	218
4:00	1	25			5	25				
4:15	2	23			3	24				
4:30	3	22			5	31				
4:45	2	29	8	99	8	28	21	108	29	207
5:00	9	33			7	24				
5:15	4	33			5	34				
5:30	8	27			13	30				
5:45	10	26	31	119	15	25	40	113	71	232
6:00	11	33			12	31				
6:15	13	16			13	23				
6:30	17	24			15	18				
6:45	15	24	56	97	24	21	64	93	120	190
7:00	21	20			14	19				
7:15	17	13			17	15				
7:30	27	11			27	17				
7:45	30	13	95	57	20	20	78	71	173	128
8:00	19	10			18	15				
8:15	27	13			13	14				
8:30	24	12			19	8				
8:45	26	8	96	43	15	15	65	52	161	95
9:00	29	3			12	15				
9:15	28	8			16	17				
9:30	14	6			16	8	0			
9:45	25	4	96	21	13	9	57	49	153	70
10:00	18	3			16	5				
10:15	21	5			15	11				
10:30	16	2			16	7				
10:45	26	8	81	18	21	4	68	27	149	45
11:00	31	5			22	5				
11:15	29	3			18	4				
11:30	26	2			22	4				
11:45	27	1	113	11	28	2	90	15	203	26
Total	589	852	589	852	514	929	514	929	1103	1781
Combined Total	1441		1441		1443		1443		2884	
AM Peak	11:00 AM				11:30 AM					
Vol.	113				111					
P.H.F.	0.911				0.895					
PM Peak		4:45 PM				2:45 PM				
Vol.		122				121				
P.H.F.		0.970				0.818				
Percentage	40.9%	59.1%			35.6%	64.4%				

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	66	67	10	69	38	12	4	55	37	7	68	27
Future Vol, veh/h	66	67	10	69	38	12	4	55	37	7	68	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	72	73	11	75	41	13	4	60	40	8	74	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	8.9	8.5	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	46%	58%	7%
Vol Thru, %	57%	47%	32%	67%
Vol Right, %	39%	7%	10%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	96	143	119	102
LT Vol	4	66	69	7
Through Vol	55	67	38	68
RT Vol	37	10	12	27
Lane Flow Rate	104	155	129	111
Geometry Grp	1	1	1	1
Degree of Util (X)	0.136	0.207	0.174	0.146
Departure Headway (Hd)	4.682	4.793	4.83	4.749
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	765	748	741	754
Service Time	2.719	2.83	2.868	2.788
HCM Lane V/C Ratio	0.136	0.207	0.174	0.147
HCM Control Delay	8.5	9.1	8.9	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.8	0.6	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	22	14	88	73	52	80
Future Volume (veh/h)	22	14	88	73	52	80
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1530	1530	1752	1530	1530	1752
Adj Flow Rate, veh/h	24	15	96	79	57	87
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	25	25	10	25	25	10
Cap, veh/h	0	0	541	400	99	1175
Arrive On Green	0.00	0.00	0.31	0.31	0.07	0.67
Sat Flow, veh/h	0		1752	1296	1457	1752
Grp Volume(v), veh/h	0.0		96	79	57	87
Grp Sat Flow(s),veh/h/ln			1752	1296	1457	1752
Q Serve(g_s), s			0.8	0.9	0.7	0.3
Cycle Q Clear(g_c), s			0.8	0.9	0.7	0.3
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			541	400	99	1175
V/C Ratio(X)			0.18	0.20	0.58	0.07
Avail Cap(c_a), veh/h			1651	1221	974	3337
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh			5.0	5.0	8.9	1.1
Incr Delay (d2), s/veh			0.2	0.2	5.2	0.0
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.0	0.0	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			5.1	5.3	14.1	1.2
LnGrp LOS			A	A	B	A
Approach Vol, veh/h			175			144
Approach Delay, s/veh			5.2			6.3
Approach LOS			A			A

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	7.1	12.6				19.7
Change Period (Y+Rc), s	5.8	6.5				6.5
Max Green Setting (Gmax), s	13.2	18.6				37.6
Max Q Clear Time (g_c+I1), s	2.7	2.9				2.3
Green Ext Time (p_c), s	0.1	0.5				0.4

Intersection Summary	
HCM 6th Ctrl Delay	5.7
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	228	11	32	175	73	9	41	24	27	27	32
Future Volume (veh/h)	59	228	11	32	175	73	9	41	24	27	27	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	64	248	12	35	190	79	10	45	26	29	29	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	112	443	21	69	284	118	139	117	63	190	70	70
Arrive On Green	0.07	0.27	0.27	0.04	0.24	0.24	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1668	1657	80	1668	1175	489	134	968	521	387	578	582
Grp Volume(v), veh/h	64	0	260	35	0	269	81	0	0	93	0	0
Grp Sat Flow(s),veh/h/ln	1668	0	1737	1668	0	1664	1624	0	0	1547	0	0
Q Serve(g_s), s	1.2	0.0	4.3	0.7	0.0	4.8	0.0	0.0	0.0	0.2	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	4.3	0.7	0.0	4.8	1.5	0.0	0.0	1.7	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.29	0.12		0.32	0.31		0.38
Lane Grp Cap(c), veh/h	112	0	464	69	0	402	319	0	0	330	0	0
V/C Ratio(X)	0.57	0.00	0.56	0.50	0.00	0.67	0.25	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	415	0	1081	365	0	985	800	0	0	776	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.9	0.0	10.4	15.5	0.0	11.3	13.4	0.0	0.0	13.5	0.0	0.0
Incr Delay (d2), s/veh	4.5	0.0	1.1	5.6	0.0	1.9	0.4	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.1	0.3	0.0	1.2	0.4	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.4	0.0	11.5	21.0	0.0	13.3	13.8	0.0	0.0	14.0	0.0	0.0
LnGrp LOS	B	A	B	C	A	B	B	A	A	B	A	A
Approach Vol, veh/h		324			304			81			93	
Approach Delay, s/veh		13.0			14.1			13.8			14.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	10.5	7.2	15.3	10.5	8.0	14.5
Change Period (Y+Rc), s	6.5	5.8	6.5	6.5	5.8	6.5
Max Green Setting (Gmax), s	14.0	7.2	20.5	14.0	8.2	19.5
Max Q Clear Time (g_c+I1), s	3.5	2.7	6.3	3.7	3.2	6.8
Green Ext Time (p_c), s	0.2	0.0	1.1	0.2	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	13.6
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	66	89	7	47	98	6	10	118	55	11	82	65
Future Vol, veh/h	66	89	7	47	98	6	10	118	55	11	82	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	72	97	8	51	107	7	11	128	60	12	89	71
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	10	10	9.7
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	41%	31%	7%
Vol Thru, %	64%	55%	65%	52%
Vol Right, %	30%	4%	4%	41%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	183	162	151	158
LT Vol	10	66	47	11
Through Vol	118	89	98	82
RT Vol	55	7	6	65
Lane Flow Rate	199	176	164	172
Geometry Grp	1	1	1	1
Degree of Util (X)	0.277	0.257	0.24	0.238
Departure Headway (Hd)	5.009	5.264	5.265	4.985
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	710	674	673	713
Service Time	3.096	3.361	3.363	3.075
HCM Lane V/C Ratio	0.28	0.261	0.244	0.241
HCM Control Delay	10	10.2	10	9.7
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	1.1	1	0.9	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	70	47	135	35	24	151
Future Volume (veh/h)	70	47	135	35	24	151
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1530	1530	1752	1530	1530	1752
Adj Flow Rate, veh/h	76	51	147	38	26	164
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	25	25	10	25	25	10
Cap, veh/h	0	0	604	447	49	1176
Arrive On Green	0.00	0.00	0.34	0.34	0.03	0.67
Sat Flow, veh/h	0		1752	1296	1457	1752
Grp Volume(v), veh/h	0.0		147	38	26	164
Grp Sat Flow(s),veh/h/ln			1752	1296	1457	1752
Q Serve(g_s), s			1.2	0.4	0.3	0.7
Cycle Q Clear(g_c), s			1.2	0.4	0.3	0.7
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			604	447	49	1176
V/C Ratio(X)			0.24	0.09	0.53	0.14
Avail Cap(c_a), veh/h			1735	1284	677	3063
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh			4.6	4.4	9.4	1.2
Incr Delay (d2), s/veh			0.2	0.1	8.6	0.1
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.0	0.0	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			4.8	4.5	18.0	1.2
LnGrp LOS			A	A	B	A
Approach Vol, veh/h			185			190
Approach Delay, s/veh			4.8			3.5
Approach LOS			A			A

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	6.5	13.3				19.8
Change Period (Y+Rc), s	5.8	6.5				6.5
Max Green Setting (Gmax), s	9.2	19.6				34.6
Max Q Clear Time (g_c+I1), s	2.3	3.2				2.7
Green Ext Time (p_c), s	0.0	0.6				0.8

Intersection Summary	
HCM 6th Ctrl Delay	4.1
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	281	11	26	278	39	9	48	45	69	45	78
Future Volume (veh/h)	79	281	11	26	278	39	9	48	45	69	45	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	86	305	12	28	302	42	10	52	49	75	49	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	128	511	20	56	394	55	111	159	136	202	89	116
Arrive On Green	0.08	0.31	0.31	0.03	0.26	0.26	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1668	1674	66	1668	1505	209	66	837	714	419	469	609
Grp Volume(v), veh/h	86	0	317	28	0	344	111	0	0	209	0	0
Grp Sat Flow(s),veh/h/ln	1668	0	1740	1668	0	1714	1618	0	0	1497	0	0
Q Serve(g_s), s	2.0	0.0	6.2	0.7	0.0	7.4	0.0	0.0	0.0	2.7	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.0	6.2	0.7	0.0	7.4	2.4	0.0	0.0	5.1	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.12	0.09		0.44	0.36		0.41
Lane Grp Cap(c), veh/h	128	0	532	56	0	449	406	0	0	407	0	0
V/C Ratio(X)	0.67	0.00	0.60	0.50	0.00	0.77	0.27	0.00	0.00	0.51	0.00	0.00
Avail Cap(c_a), veh/h	259	0	806	217	0	751	812	0	0	777	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.9	0.0	11.8	19.0	0.0	13.6	14.1	0.0	0.0	15.1	0.0	0.0
Incr Delay (d2), s/veh	5.9	0.0	1.1	6.8	0.0	2.8	0.4	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.8	0.3	0.0	2.1	0.6	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.8	0.0	12.8	25.8	0.0	16.4	14.4	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	C	A	B	C	A	B	B	A	A	B	A	A
Approach Vol, veh/h		403			372			111			209	
Approach Delay, s/veh		15.2			17.1			14.4			16.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	14.1	7.1	18.7	14.1	8.9	17.0
Change Period (Y+Rc), s	6.5	5.8	6.5	6.5	5.8	6.5
Max Green Setting (Gmax), s	18.0	5.2	18.5	18.0	6.2	17.5
Max Q Clear Time (g_c+I1), s	4.4	2.7	8.2	7.1	4.0	9.4
Green Ext Time (p_c), s	0.3	0.0	1.2	0.7	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	15.9
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	66	67	10	111	38	12	4	56	41	7	69	27
Future Vol, veh/h	66	67	10	111	38	12	4	56	41	7	69	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	72	73	11	121	41	13	4	61	45	8	75	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.2	9.5	8.7	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	46%	69%	7%
Vol Thru, %	55%	47%	24%	67%
Vol Right, %	41%	7%	7%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	143	161	103
LT Vol	4	66	111	7
Through Vol	56	67	38	69
RT Vol	41	10	12	27
Lane Flow Rate	110	155	175	112
Geometry Grp	1	1	1	1
Degree of Util (X)	0.146	0.211	0.238	0.152
Departure Headway (Hd)	4.793	4.878	4.896	4.88
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	745	734	732	732
Service Time	2.843	2.925	2.941	2.929
HCM Lane V/C Ratio	0.148	0.211	0.239	0.153
HCM Control Delay	8.7	9.2	9.5	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.8	0.9	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	7	22	0	14	27	88	73	52	80	43
Future Volume (veh/h)	5	0	7	22	0	14	27	88	73	52	80	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1530	1752	1752	1530	1752	1752	1530	1752	1530	1530	1752	1752
Adj Flow Rate, veh/h	5	0	8	24	0	15	29	96	79	57	87	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	25	10	10	25	10	10	25	10	25	25	10	10
Cap, veh/h	314	0	88	320	0	88	53	465	344	93	363	196
Arrive On Green	0.06	0.00	0.06	0.06	0.00	0.06	0.04	0.27	0.27	0.06	0.34	0.34
Sat Flow, veh/h	1144	0	1485	1151	0	1485	1457	1752	1296	1457	1070	578
Grp Volume(v), veh/h	5	0	8	24	0	15	29	96	79	57	0	134
Grp Sat Flow(s),veh/h/ln	1144	0	1485	1151	0	1485	1457	1752	1296	1457	0	1648
Q Serve(g_s), s	0.1	0.0	0.1	0.6	0.0	0.3	0.5	1.2	1.3	1.1	0.0	1.6
Cycle Q Clear(g_c), s	0.4	0.0	0.1	0.7	0.0	0.3	0.5	1.2	1.3	1.1	0.0	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	314	0	88	320	0	88	53	465	344	93	0	560
V/C Ratio(X)	0.02	0.00	0.09	0.08	0.00	0.17	0.55	0.21	0.23	0.61	0.00	0.24
Avail Cap(c_a), veh/h	635	0	504	630	0	488	599	1284	950	687	0	1384
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	12.4	12.8	0.0	12.5	13.3	8.0	8.0	12.8	0.0	6.6
Incr Delay (d2), s/veh	0.0	0.0	0.4	0.1	0.0	0.9	8.7	0.2	0.3	6.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.2	0.2	0.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.7	0.0	12.9	12.9	0.0	13.4	22.0	8.2	8.4	19.1	0.0	6.9
LnGrp LOS	B	A	B	B	A	B	C	A	A	B	A	A
Approach Vol, veh/h		13			39			204			191	
Approach Delay, s/veh		12.8			13.1			10.2			10.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	13.9		6.5	5.5	16.0		6.5				
Change Period (Y+Rc), s	5.8	6.5		* 4.8	4.5	6.5		* 4.8				
Max Green Setting (Gmax), s	13.2	20.5		* 9.5	11.5	23.5		* 9.2				
Max Q Clear Time (g_c+I1), s	3.1	3.3		2.4	2.5	3.6		2.7				
Green Ext Time (p_c), s	0.1	0.6		0.0	0.0	0.5		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	228	11	32	175	88	9	45	24	29	31	33
Future Volume (veh/h)	67	228	11	32	175	88	9	45	24	29	31	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	73	248	12	35	190	96	10	49	26	32	34	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	122	464	22	69	272	138	134	123	61	188	75	67
Arrive On Green	0.07	0.28	0.28	0.04	0.25	0.25	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1668	1657	80	1668	1097	555	126	1008	500	392	613	548
Grp Volume(v), veh/h	73	0	260	35	0	286	85	0	0	102	0	0
Grp Sat Flow(s),veh/h/ln	1668	0	1737	1668	0	1652	1633	0	0	1553	0	0
Q Serve(g_s), s	1.4	0.0	4.3	0.7	0.0	5.3	0.0	0.0	0.0	0.4	0.0	0.0
Cycle Q Clear(g_c), s	1.4	0.0	4.3	0.7	0.0	5.3	1.6	0.0	0.0	2.0	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.34	0.12		0.31	0.31		0.35
Lane Grp Cap(c), veh/h	122	0	487	69	0	410	319	0	0	330	0	0
V/C Ratio(X)	0.60	0.00	0.53	0.51	0.00	0.70	0.27	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	405	0	1054	355	0	953	782	0	0	758	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.2	0.0	10.3	15.9	0.0	11.6	13.7	0.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	4.6	0.0	0.9	5.6	0.0	2.2	0.4	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.1	0.3	0.0	1.3	0.4	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	0.0	11.2	21.5	0.0	13.7	14.2	0.0	0.0	14.4	0.0	0.0
LnGrp LOS	B	A	B	C	A	B	B	A	A	B	A	A
Approach Vol, veh/h		333			321			85			102	
Approach Delay, s/veh		13.1			14.6			14.2			14.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	10.6	7.2	16.0	10.6	8.3	14.9
Change Period (Y+Rc), s	6.5	5.8	6.5	6.5	5.8	6.5
Max Green Setting (Gmax), s	14.0	7.2	20.5	14.0	8.2	19.5
Max Q Clear Time (g_c+I1), s	3.6	2.7	6.3	4.0	3.4	7.3
Green Ext Time (p_c), s	0.2	0.0	1.1	0.2	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	66	89	7	53	98	6	10	118	97	11	83	65
Future Vol, veh/h	66	89	7	53	98	6	10	118	97	11	83	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	72	97	8	58	107	7	11	128	105	12	90	71
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.6	10.5	10.7	9.9
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	41%	34%	7%
Vol Thru, %	52%	55%	62%	52%
Vol Right, %	43%	4%	4%	41%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	225	162	157	159
LT Vol	10	66	53	11
Through Vol	118	89	98	83
RT Vol	97	7	6	65
Lane Flow Rate	245	176	171	173
Geometry Grp	1	1	1	1
Degree of Util (X)	0.344	0.269	0.261	0.249
Departure Headway (Hd)	5.066	5.509	5.507	5.189
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	712	653	654	693
Service Time	3.091	3.538	3.536	3.217
HCM Lane V/C Ratio	0.344	0.27	0.261	0.25
HCM Control Delay	10.7	10.6	10.5	9.9
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	1.5	1.1	1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	0	25	70	0	47	14	135	35	24	151	7
Future Volume (veh/h)	43	0	25	70	0	47	14	135	35	24	151	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1530	1752	1752	1530	1752	1752	1530	1752	1530	1530	1752	1752
Adj Flow Rate, veh/h	47	0	27	76	0	51	15	147	38	26	164	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	25	10	10	25	10	10	25	10	25	25	10	10
Cap, veh/h	359	0	202	378	0	202	29	449	332	47	519	25
Arrive On Green	0.14	0.00	0.14	0.14	0.00	0.14	0.02	0.26	0.26	0.03	0.31	0.31
Sat Flow, veh/h	1107	0	1485	1131	0	1485	1457	1752	1296	1457	1656	81
Grp Volume(v), veh/h	47	0	27	76	0	51	15	147	38	26	0	172
Grp Sat Flow(s),veh/h/ln	1107	0	1485	1131	0	1485	1457	1752	1296	1457	0	1737
Q Serve(g_s), s	1.2	0.0	0.5	1.9	0.0	0.9	0.3	2.0	0.7	0.5	0.0	2.2
Cycle Q Clear(g_c), s	2.1	0.0	0.5	2.4	0.0	0.9	0.3	2.0	0.7	0.5	0.0	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	359	0	202	378	0	202	29	449	332	47	0	544
V/C Ratio(X)	0.13	0.00	0.13	0.20	0.00	0.25	0.53	0.33	0.11	0.55	0.00	0.32
Avail Cap(c_a), veh/h	710	0	674	726	0	659	367	1266	937	402	0	1372
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.4	0.0	11.3	12.3	0.0	11.5	14.4	9.0	8.5	14.2	0.0	7.8
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.3	0.0	0.6	14.2	0.4	0.2	9.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.1	0.4	0.0	0.3	0.2	0.4	0.1	0.2	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.6	0.0	11.6	12.6	0.0	12.1	28.6	9.4	8.6	23.7	0.0	8.1
LnGrp LOS	B	A	B	B	A	B	C	A	A	C	A	A
Approach Vol, veh/h		74			127			200			198	
Approach Delay, s/veh		12.2			12.4			10.7			10.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	14.1		8.9	5.1	15.8		8.9				
Change Period (Y+Rc), s	5.8	6.5		* 4.8	4.5	6.5		* 4.8				
Max Green Setting (Gmax), s	8.2	21.5		* 14	7.5	23.5		* 13				
Max Q Clear Time (g_c+I1), s	2.5	4.0		4.1	2.3	4.2		4.4				
Green Ext Time (p_c), s	0.0	0.7		0.1	0.0	0.7		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	281	11	26	278	44	9	54	45	84	48	86
Future Volume (veh/h)	82	281	11	26	278	44	9	54	45	84	48	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	89	305	12	28	302	48	10	59	49	91	52	93
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	129	513	20	55	388	62	106	187	141	215	92	122
Arrive On Green	0.08	0.31	0.31	0.03	0.26	0.26	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1668	1674	66	1668	1475	234	59	892	675	457	441	584
Grp Volume(v), veh/h	89	0	317	28	0	350	118	0	0	236	0	0
Grp Sat Flow(s),veh/h/ln	1668	0	1740	1668	0	1710	1625	0	0	1483	0	0
Q Serve(g_s), s	2.2	0.0	6.4	0.7	0.0	7.9	0.0	0.0	0.0	3.5	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	6.4	0.7	0.0	7.9	2.6	0.0	0.0	6.1	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.14	0.08		0.42	0.39		0.39
Lane Grp Cap(c), veh/h	129	0	534	55	0	449	434	0	0	430	0	0
V/C Ratio(X)	0.69	0.00	0.59	0.51	0.00	0.78	0.27	0.00	0.00	0.55	0.00	0.00
Avail Cap(c_a), veh/h	248	0	772	208	0	717	782	0	0	742	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.8	0.0	12.3	19.8	0.0	14.3	14.1	0.0	0.0	15.3	0.0	0.0
Incr Delay (d2), s/veh	6.5	0.0	1.1	7.0	0.0	3.0	0.3	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.9	0.3	0.0	2.4	0.7	0.0	0.0	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.2	0.0	13.3	26.8	0.0	17.2	14.4	0.0	0.0	16.4	0.0	0.0
LnGrp LOS	C	A	B	C	A	B	B	A	A	B	A	A
Approach Vol, veh/h		406			378			118			236	
Approach Delay, s/veh		15.9			17.9			14.4			16.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	15.2	7.2	19.3	15.2	9.0	17.5
Change Period (Y+Rc), s	6.5	5.8	6.5	6.5	5.8	6.5
Max Green Setting (Gmax), s	18.0	5.2	18.5	18.0	6.2	17.5
Max Q Clear Time (g_c+I1), s	4.6	2.7	8.4	8.1	4.2	9.9
Green Ext Time (p_c), s	0.4	0.0	1.2	0.8	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	66	68	10	69	39	13	4	55	37	8	68	27
Future Vol, veh/h	66	68	10	69	39	13	4	55	37	8	68	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	72	74	11	75	42	14	4	60	40	9	74	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	8.9	8.5	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	46%	57%	8%
Vol Thru, %	57%	47%	32%	66%
Vol Right, %	39%	7%	11%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	96	144	121	103
LT Vol	4	66	69	8
Through Vol	55	68	39	68
RT Vol	37	10	13	27
Lane Flow Rate	104	157	132	112
Geometry Grp	1	1	1	1
Degree of Util (X)	0.136	0.209	0.176	0.148
Departure Headway (Hd)	4.69	4.798	4.827	4.76
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	763	747	742	752
Service Time	2.729	2.836	2.868	2.799
HCM Lane V/C Ratio	0.136	0.21	0.178	0.149
HCM Control Delay	8.5	9.1	8.9	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.8	0.6	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	24	14	88	74	52	80
Future Volume (veh/h)	24	14	88	74	52	80
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1530	1530	1752	1530	1530	1752
Adj Flow Rate, veh/h	26	15	96	80	57	87
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	25	25	10	25	25	10
Cap, veh/h	0	0	542	401	99	1175
Arrive On Green	0.00	0.00	0.31	0.31	0.07	0.67
Sat Flow, veh/h	0		1752	1296	1457	1752
Grp Volume(v), veh/h	0.0		96	80	57	87
Grp Sat Flow(s),veh/h/ln			1752	1296	1457	1752
Q Serve(g_s), s			0.8	0.9	0.7	0.3
Cycle Q Clear(g_c), s			0.8	0.9	0.7	0.3
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			542	401	99	1175
V/C Ratio(X)			0.18	0.20	0.58	0.07
Avail Cap(c_a), veh/h			1650	1221	973	3335
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh			5.0	5.0	8.9	1.1
Incr Delay (d2), s/veh			0.2	0.2	5.2	0.0
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.0	0.0	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			5.1	5.3	14.1	1.2
LnGrp LOS			A	A	B	A
Approach Vol, veh/h			176			144
Approach Delay, s/veh			5.2			6.3
Approach LOS			A			A

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	7.1	12.6				19.8
Change Period (Y+Rc), s	5.8	6.5				6.5
Max Green Setting (Gmax), s	13.2	18.6				37.6
Max Q Clear Time (g_c+I1), s	2.7	2.9				2.3
Green Ext Time (p_c), s	0.1	0.5				0.4

Intersection Summary	
HCM 6th Ctrl Delay	5.7
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	239	11	32	182	74	9	41	25	29	27	32
Future Volume (veh/h)	59	239	11	32	182	74	9	41	25	29	27	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	64	260	12	35	198	80	10	45	27	32	29	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	112	447	21	69	288	117	138	116	65	196	68	68
Arrive On Green	0.07	0.27	0.27	0.04	0.24	0.24	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1668	1661	77	1668	1186	479	132	958	535	419	562	563
Grp Volume(v), veh/h	64	0	272	35	0	278	82	0	0	96	0	0
Grp Sat Flow(s),veh/h/ln	1668	0	1738	1668	0	1666	1624	0	0	1543	0	0
Q Serve(g_s), s	1.2	0.0	4.5	0.7	0.0	5.0	0.0	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	4.5	0.7	0.0	5.0	1.5	0.0	0.0	1.8	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.29	0.12		0.33	0.33		0.36
Lane Grp Cap(c), veh/h	112	0	467	69	0	405	320	0	0	333	0	0
V/C Ratio(X)	0.57	0.00	0.58	0.50	0.00	0.69	0.26	0.00	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	413	0	1076	363	0	981	796	0	0	772	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.0	0.0	10.5	15.5	0.0	11.4	13.4	0.0	0.0	13.5	0.0	0.0
Incr Delay (d2), s/veh	4.5	0.0	1.2	5.6	0.0	2.1	0.4	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.2	0.3	0.0	1.2	0.4	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.5	0.0	11.6	21.1	0.0	13.4	13.9	0.0	0.0	14.0	0.0	0.0
LnGrp LOS	B	A	B	C	A	B	B	A	A	B	A	A
Approach Vol, veh/h		336			313			82			96	
Approach Delay, s/veh		13.1			14.3			13.9			14.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.5	7.2	15.4		10.5	8.0	14.6				
Change Period (Y+Rc), s		6.5	5.8	6.5		6.5	5.8	6.5				
Max Green Setting (Gmax), s		14.0	7.2	20.5		14.0	8.2	19.5				
Max Q Clear Time (g_c+I1), s		3.5	2.7	6.5		3.8	3.2	7.0				
Green Ext Time (p_c), s		0.2	0.0	1.1		0.2	0.0	1.1				

Intersection Summary	
HCM 6th Ctrl Delay	13.8
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	66	89	7	47	99	7	10	118	55	12	82	65
Future Vol, veh/h	66	89	7	47	99	7	10	118	55	12	82	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	72	97	8	51	108	8	11	128	60	13	89	71
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	10.1	10.1	9.7
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	41%	31%	8%
Vol Thru, %	64%	55%	65%	52%
Vol Right, %	30%	4%	5%	41%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	183	162	153	159
LT Vol	10	66	47	12
Through Vol	118	89	99	82
RT Vol	55	7	7	65
Lane Flow Rate	199	176	166	173
Geometry Grp	1	1	1	1
Degree of Util (X)	0.277	0.258	0.243	0.24
Departure Headway (Hd)	5.017	5.271	5.265	4.994
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	708	673	674	710
Service Time	3.106	3.368	3.363	3.086
HCM Lane V/C Ratio	0.281	0.262	0.246	0.244
HCM Control Delay	10.1	10.2	10.1	9.7
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	1.1	1	0.9	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	71	47	135	36	24	151
Future Volume (veh/h)	71	47	135	36	24	151
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1530	1530	1752	1530	1530	1752
Adj Flow Rate, veh/h	77	51	147	39	26	164
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	25	25	10	25	25	10
Cap, veh/h	0	0	605	447	49	1177
Arrive On Green	0.00	0.00	0.35	0.35	0.03	0.67
Sat Flow, veh/h	0		1752	1296	1457	1752
Grp Volume(v), veh/h	0.0		147	39	26	164
Grp Sat Flow(s),veh/h/ln			1752	1296	1457	1752
Q Serve(g_s), s			1.2	0.4	0.3	0.7
Cycle Q Clear(g_c), s			1.2	0.4	0.3	0.7
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			605	447	49	1177
V/C Ratio(X)			0.24	0.09	0.53	0.14
Avail Cap(c_a), veh/h			1734	1283	677	3061
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh			4.6	4.4	9.4	1.2
Incr Delay (d2), s/veh			0.2	0.1	8.6	0.1
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.0	0.0	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			4.8	4.5	18.0	1.2
LnGrp LOS			A	A	B	A
Approach Vol, veh/h			186			190
Approach Delay, s/veh			4.8			3.5
Approach LOS			A			A

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	6.5	13.3				19.8
Change Period (Y+Rc), s	5.8	6.5				6.5
Max Green Setting (Gmax), s	9.2	19.6				34.6
Max Q Clear Time (g_c+I1), s	2.3	3.2				2.7
Green Ext Time (p_c), s	0.0	0.6				0.8

Intersection Summary	
HCM 6th Ctrl Delay	4.1
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	292	11	27	287	40	9	48	46	70	45	78
Future Volume (veh/h)	79	292	11	27	287	40	9	48	46	70	45	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	86	317	12	29	312	43	10	52	50	76	49	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	128	519	20	57	403	56	110	158	137	202	89	115
Arrive On Green	0.08	0.31	0.31	0.03	0.27	0.27	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1668	1677	63	1668	1507	208	65	830	722	424	467	606
Grp Volume(v), veh/h	86	0	329	29	0	355	112	0	0	210	0	0
Grp Sat Flow(s),veh/h/ln	1668	0	1740	1668	0	1714	1617	0	0	1497	0	0
Q Serve(g_s), s	2.0	0.0	6.5	0.7	0.0	7.7	0.0	0.0	0.0	2.8	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.0	6.5	0.7	0.0	7.7	2.4	0.0	0.0	5.2	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.12	0.09		0.45	0.36		0.40
Lane Grp Cap(c), veh/h	128	0	539	57	0	459	405	0	0	406	0	0
V/C Ratio(X)	0.67	0.00	0.61	0.51	0.00	0.77	0.28	0.00	0.00	0.52	0.00	0.00
Avail Cap(c_a), veh/h	256	0	797	215	0	743	803	0	0	768	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.2	0.0	11.9	19.2	0.0	13.7	14.2	0.0	0.0	15.2	0.0	0.0
Incr Delay (d2), s/veh	6.0	0.0	1.1	6.7	0.0	2.8	0.4	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.9	0.3	0.0	2.2	0.7	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	0.0	13.0	25.9	0.0	16.5	14.6	0.0	0.0	16.3	0.0	0.0
LnGrp LOS	C	A	B	C	A	B	B	A	A	B	A	A
Approach Vol, veh/h		415			384			112			210	
Approach Delay, s/veh		15.3			17.2			14.6			16.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	14.2	7.2	19.0	14.2	8.9	17.3
Change Period (Y+Rc), s	6.5	5.8	6.5	6.5	5.8	6.5
Max Green Setting (Gmax), s	18.0	5.2	18.5	18.0	6.2	17.5
Max Q Clear Time (g_c+I1), s	4.4	2.7	8.5	7.2	4.0	9.7
Green Ext Time (p_c), s	0.4	0.0	1.2	0.7	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	16.1
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	66	68	10	111	39	13	4	56	41	8	69	27
Future Vol, veh/h	66	68	10	111	39	13	4	56	41	8	69	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	72	74	11	121	42	14	4	61	45	9	75	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	9.5	8.7	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	46%	68%	8%
Vol Thru, %	55%	47%	24%	66%
Vol Right, %	41%	7%	8%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	144	163	104
LT Vol	4	66	111	8
Through Vol	56	68	39	69
RT Vol	41	10	13	27
Lane Flow Rate	110	157	177	113
Geometry Grp	1	1	1	1
Degree of Util (X)	0.146	0.212	0.241	0.154
Departure Headway (Hd)	4.802	4.883	4.894	4.891
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	743	733	732	730
Service Time	2.853	2.932	2.942	2.94
HCM Lane V/C Ratio	0.148	0.214	0.242	0.155
HCM Control Delay	8.7	9.3	9.5	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.8	0.9	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	7	24	0	14	27	88	74	52	80	43
Future Volume (veh/h)	5	0	7	24	0	14	27	88	74	52	80	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1530	1752	1752	1530	1752	1752	1530	1752	1530	1530	1752	1752
Adj Flow Rate, veh/h	5	0	8	26	0	15	29	96	80	57	87	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	25	10	10	25	10	10	25	10	25	25	10	10
Cap, veh/h	316	0	91	321	0	91	53	464	343	93	363	196
Arrive On Green	0.06	0.00	0.06	0.06	0.00	0.06	0.04	0.26	0.26	0.06	0.34	0.34
Sat Flow, veh/h	1144	0	1485	1151	0	1485	1457	1752	1296	1457	1070	578
Grp Volume(v), veh/h	5	0	8	26	0	15	29	96	80	57	0	134
Grp Sat Flow(s),veh/h/ln	1144	0	1485	1151	0	1485	1457	1752	1296	1457	0	1648
Q Serve(g_s), s	0.1	0.0	0.1	0.6	0.0	0.3	0.5	1.2	1.4	1.1	0.0	1.6
Cycle Q Clear(g_c), s	0.4	0.0	0.1	0.8	0.0	0.3	0.5	1.2	1.4	1.1	0.0	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	316	0	91	321	0	91	53	464	343	93	0	559
V/C Ratio(X)	0.02	0.00	0.09	0.08	0.00	0.17	0.55	0.21	0.23	0.61	0.00	0.24
Avail Cap(c_a), veh/h	633	0	503	629	0	487	597	1281	948	686	0	1381
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	12.4	12.8	0.0	12.5	13.3	8.0	8.1	12.8	0.0	6.7
Incr Delay (d2), s/veh	0.0	0.0	0.4	0.1	0.0	0.8	8.8	0.2	0.3	6.4	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.2	0.2	0.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.7	0.0	12.8	12.9	0.0	13.3	22.0	8.2	8.4	19.1	0.0	6.9
LnGrp LOS	B	A	B	B	A	B	C	A	A	B	A	A
Approach Vol, veh/h		13			41			205			191	
Approach Delay, s/veh		12.8			13.0			10.3			10.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	13.9		6.5	5.5	16.0		6.5				
Change Period (Y+Rc), s	5.8	6.5		* 4.8	4.5	6.5		* 4.8				
Max Green Setting (Gmax), s	13.2	20.5		* 9.5	11.5	23.5		* 9.2				
Max Q Clear Time (g_c+I1), s	3.1	3.4		2.4	2.5	3.6		2.8				
Green Ext Time (p_c), s	0.1	0.6		0.0	0.0	0.5		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	239	11	32	182	89	9	45	25	31	31	33
Future Volume (veh/h)	67	239	11	32	182	89	9	45	25	31	31	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	73	260	12	35	198	97	10	49	27	34	34	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	122	473	22	69	281	138	133	122	63	190	74	66
Arrive On Green	0.07	0.28	0.28	0.04	0.25	0.25	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1668	1661	77	1668	1110	544	124	997	513	412	602	537
Grp Volume(v), veh/h	73	0	272	35	0	295	86	0	0	104	0	0
Grp Sat Flow(s),veh/h/ln	1668	0	1738	1668	0	1654	1633	0	0	1551	0	0
Q Serve(g_s), s	1.4	0.0	4.5	0.7	0.0	5.5	0.0	0.0	0.0	0.4	0.0	0.0
Cycle Q Clear(g_c), s	1.4	0.0	4.5	0.7	0.0	5.5	1.6	0.0	0.0	2.0	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.33	0.12		0.31	0.33		0.35
Lane Grp Cap(c), veh/h	122	0	495	69	0	419	318	0	0	330	0	0
V/C Ratio(X)	0.60	0.00	0.55	0.51	0.00	0.70	0.27	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	401	0	1045	352	0	946	775	0	0	751	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.3	0.0	10.3	16.0	0.0	11.6	13.9	0.0	0.0	14.0	0.0	0.0
Incr Delay (d2), s/veh	4.6	0.0	1.0	5.7	0.0	2.2	0.5	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.2	0.3	0.0	1.4	0.4	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.9	0.0	11.3	21.7	0.0	13.8	14.3	0.0	0.0	14.5	0.0	0.0
LnGrp LOS	B	A	B	C	A	B	B	A	A	B	A	A
Approach Vol, veh/h		345			330			86			104	
Approach Delay, s/veh		13.1			14.6			14.3			14.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	10.7	7.2	16.2	10.7	8.3	15.1
Change Period (Y+Rc), s	6.5	5.8	6.5	6.5	5.8	6.5
Max Green Setting (Gmax), s	14.0	7.2	20.5	14.0	8.2	19.5
Max Q Clear Time (g_c+I1), s	3.6	2.7	6.5	4.0	3.4	7.5
Green Ext Time (p_c), s	0.2	0.0	1.1	0.3	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	66	89	7	53	99	7	10	118	97	12	83	65
Future Vol, veh/h	66	89	7	53	99	7	10	118	97	12	83	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	72	97	8	58	108	8	11	128	105	13	90	71
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.6	10.5	10.8	10
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	41%	33%	7%
Vol Thru, %	52%	55%	62%	52%
Vol Right, %	43%	4%	4%	41%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	225	162	159	160
LT Vol	10	66	53	12
Through Vol	118	89	99	83
RT Vol	97	7	7	65
Lane Flow Rate	245	176	173	174
Geometry Grp	1	1	1	1
Degree of Util (X)	0.345	0.27	0.264	0.251
Departure Headway (Hd)	5.074	5.518	5.508	5.199
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	709	652	653	690
Service Time	3.101	3.547	3.539	3.229
HCM Lane V/C Ratio	0.346	0.27	0.265	0.252
HCM Control Delay	10.8	10.6	10.5	10
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	1.5	1.1	1.1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	0	25	71	0	47	14	135	36	24	151	7
Future Volume (veh/h)	43	0	25	71	0	47	14	135	36	24	151	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1530	1752	1752	1530	1752	1752	1530	1752	1530	1530	1752	1752
Adj Flow Rate, veh/h	47	0	27	77	0	51	15	147	39	26	164	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	25	10	10	25	10	10	25	10	25	25	10	10
Cap, veh/h	359	0	202	378	0	202	29	449	332	47	519	25
Arrive On Green	0.14	0.00	0.14	0.14	0.00	0.14	0.02	0.26	0.26	0.03	0.31	0.31
Sat Flow, veh/h	1107	0	1485	1131	0	1485	1457	1752	1296	1457	1656	81
Grp Volume(v), veh/h	47	0	27	77	0	51	15	147	39	26	0	172
Grp Sat Flow(s),veh/h/ln	1107	0	1485	1131	0	1485	1457	1752	1296	1457	0	1737
Q Serve(g_s), s	1.2	0.0	0.5	1.9	0.0	0.9	0.3	2.0	0.7	0.5	0.0	2.2
Cycle Q Clear(g_c), s	2.1	0.0	0.5	2.4	0.0	0.9	0.3	2.0	0.7	0.5	0.0	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	359	0	202	378	0	202	29	449	332	47	0	544
V/C Ratio(X)	0.13	0.00	0.13	0.20	0.00	0.25	0.53	0.33	0.12	0.55	0.00	0.32
Avail Cap(c_a), veh/h	710	0	673	726	0	659	367	1266	936	401	0	1372
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.4	0.0	11.3	12.4	0.0	11.5	14.5	9.0	8.5	14.2	0.0	7.8
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.3	0.0	0.6	14.2	0.4	0.2	9.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.1	0.4	0.0	0.3	0.2	0.4	0.1	0.2	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.6	0.0	11.6	12.6	0.0	12.1	28.6	9.4	8.6	23.7	0.0	8.1
LnGrp LOS	B	A	B	B	A	B	C	A	A	C	A	A
Approach Vol, veh/h		74			128			201			198	
Approach Delay, s/veh		12.2			12.4			10.7			10.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	14.1		8.9	5.1	15.8		8.9				
Change Period (Y+Rc), s	5.8	6.5		* 4.8	4.5	6.5		* 4.8				
Max Green Setting (Gmax), s	8.2	21.5		* 14	7.5	23.5		* 13				
Max Q Clear Time (g_c+I1), s	2.5	4.0		4.1	2.3	4.2		4.4				
Green Ext Time (p_c), s	0.0	0.7		0.1	0.0	0.7		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	292	11	27	287	45	9	54	46	85	48	86
Future Volume (veh/h)	82	292	11	27	287	45	9	54	46	85	48	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	89	317	12	29	312	49	10	59	50	92	52	93
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	128	521	20	57	396	62	105	185	143	215	92	122
Arrive On Green	0.08	0.31	0.31	0.03	0.27	0.27	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1668	1677	63	1668	1478	232	58	884	683	462	439	582
Grp Volume(v), veh/h	89	0	329	29	0	361	119	0	0	237	0	0
Grp Sat Flow(s),veh/h/ln	1668	0	1740	1668	0	1710	1625	0	0	1483	0	0
Q Serve(g_s), s	2.2	0.0	6.8	0.7	0.0	8.3	0.0	0.0	0.0	3.5	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	6.8	0.7	0.0	8.3	2.6	0.0	0.0	6.2	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.14	0.08		0.42	0.39		0.39
Lane Grp Cap(c), veh/h	128	0	541	57	0	459	433	0	0	429	0	0
V/C Ratio(X)	0.70	0.00	0.61	0.51	0.00	0.79	0.27	0.00	0.00	0.55	0.00	0.00
Avail Cap(c_a), veh/h	245	0	763	206	0	709	773	0	0	734	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.0	0.0	12.4	20.0	0.0	14.3	14.2	0.0	0.0	15.5	0.0	0.0
Incr Delay (d2), s/veh	6.6	0.0	1.1	6.9	0.0	3.2	0.3	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	2.0	0.3	0.0	2.5	0.7	0.0	0.0	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.6	0.0	13.5	26.9	0.0	17.6	14.6	0.0	0.0	16.6	0.0	0.0
LnGrp LOS	C	A	B	C	A	B	B	A	A	B	A	A
Approach Vol, veh/h		418			390			119			237	
Approach Delay, s/veh		16.0			18.2			14.6			16.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.3	7.2	19.6		15.3	9.0	17.8				
Change Period (Y+Rc), s		6.5	5.8	6.5		6.5	5.8	6.5				
Max Green Setting (Gmax), s		18.0	5.2	18.5		18.0	6.2	17.5				
Max Q Clear Time (g_c+I1), s		4.6	2.7	8.8		8.2	4.2	10.3				
Green Ext Time (p_c), s		0.4	0.0	1.2		0.8	0.0	1.1				

Intersection Summary	
HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	140	20	215	80	40	10	170	115	20	215	55
Future Volume (veh/h)	140	140	20	215	80	40	10	170	115	20	215	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	152	152	22	234	87	43	11	185	125	22	234	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	192	210	30	288	219	108	24	300	254	44	321	272
Arrive On Green	0.11	0.14	0.14	0.17	0.20	0.20	0.01	0.17	0.17	0.03	0.18	0.18
Sat Flow, veh/h	1668	1496	217	1668	1106	547	1668	1752	1485	1668	1752	1485
Grp Volume(v), veh/h	152	0	174	234	0	130	11	185	125	22	234	60
Grp Sat Flow(s),veh/h/ln	1668	0	1713	1668	0	1653	1668	1752	1485	1668	1752	1485
Q Serve(g_s), s	4.2	0.0	4.6	6.4	0.0	3.2	0.3	4.6	3.6	0.6	6.0	1.6
Cycle Q Clear(g_c), s	4.2	0.0	4.6	6.4	0.0	3.2	0.3	4.6	3.6	0.6	6.0	1.6
Prop In Lane	1.00		0.13	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	192	0	240	288	0	327	24	300	254	44	321	272
V/C Ratio(X)	0.79	0.00	0.72	0.81	0.00	0.40	0.46	0.62	0.49	0.50	0.73	0.22
Avail Cap(c_a), veh/h	306	0	260	384	0	328	176	507	429	176	507	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.4	0.0	19.5	18.9	0.0	16.5	23.2	18.2	17.8	22.7	18.2	16.5
Incr Delay (d2), s/veh	7.2	0.0	8.8	9.5	0.0	0.8	13.4	2.1	1.5	8.4	3.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	2.2	2.9	0.0	1.2	0.2	1.8	1.2	0.3	2.4	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.6	0.0	28.3	28.3	0.0	17.3	36.6	20.3	19.2	31.1	21.4	16.9
LnGrp LOS	C	A	C	C	A	B	D	C	B	C	C	B
Approach Vol, veh/h		326			364			321			316	
Approach Delay, s/veh		28.0			24.4			20.4			21.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	14.6	13.3	12.4	6.5	15.2	10.5	15.2
Change Period (Y+Rc), s	5.8	6.5	5.1	5.8	5.8	6.5	5.1	5.8
Max Green Setting (Gmax), s	5.0	13.7	10.9	7.2	5.0	13.7	8.7	9.4
Max Q Clear Time (g_c+I1), s	2.6	6.6	8.4	6.6	2.3	8.0	6.2	5.2
Green Ext Time (p_c), s	0.0	0.8	0.2	0.1	0.0	0.7	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	45	30	275	145	100	250
Future Volume (veh/h)	45	30	275	145	100	250
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1530	1530	1752	1752	1530	1752
Adj Flow Rate, veh/h	49	33	299	158	109	272
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	25	25	10	10	25	10
Cap, veh/h	0	0	741	382	159	2376
Arrive On Green	0.00	0.00	0.35	0.35	0.11	0.71
Sat Flow, veh/h	0		2212	1095	1457	3416
Grp Volume(v), veh/h	0.0		233	224	109	272
Grp Sat Flow(s),veh/h/ln			1664	1555	1457	1664
Q Serve(g_s), s			2.4	2.5	1.6	0.6
Cycle Q Clear(g_c), s			2.4	2.5	1.6	0.6
Prop In Lane				0.70	1.00	
Lane Grp Cap(c), veh/h			580	542	159	2376
V/C Ratio(X)			0.40	0.41	0.68	0.11
Avail Cap(c_a), veh/h			1429	1335	911	5790
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh			5.6	5.6	9.7	1.0
Incr Delay (d2), s/veh			0.4	0.5	5.1	0.0
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.1	0.1	0.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			6.0	6.1	14.8	1.0
LnGrp LOS			A	A	B	A
Approach Vol, veh/h			457			381
Approach Delay, s/veh			6.1			5.0
Approach LOS			A			A

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	8.3	14.4				22.7
Change Period (Y+Rc), s	5.8	6.5				6.5
Max Green Setting (Gmax), s	14.2	19.5				39.5
Max Q Clear Time (g_c+I1), s	3.6	4.5				2.6
Green Ext Time (p_c), s	0.2	2.0				1.6

Intersection Summary	
HCM 6th Ctrl Delay	5.6
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	520	25	75	400	165	20	40	55	60	85	75
Future Volume (veh/h)	135	520	25	75	400	165	20	40	55	60	85	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	147	565	27	82	435	179	22	43	60	65	92	82
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	183	630	534	109	552	468	43	302	135	96	407	181
Arrive On Green	0.11	0.36	0.36	0.07	0.32	0.32	0.03	0.09	0.09	0.06	0.12	0.12
Sat Flow, veh/h	1668	1752	1485	1668	1752	1485	1668	3328	1485	1668	3328	1485
Grp Volume(v), veh/h	147	565	27	82	435	179	22	43	60	65	92	82
Grp Sat Flow(s),veh/h/ln	1668	1752	1485	1668	1752	1485	1668	1664	1485	1668	1664	1485
Q Serve(g_s), s	4.7	16.6	0.6	2.6	12.3	5.1	0.7	0.6	2.1	2.1	1.4	2.8
Cycle Q Clear(g_c), s	4.7	16.6	0.6	2.6	12.3	5.1	0.7	0.6	2.1	2.1	1.4	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	630	534	109	552	468	43	302	135	96	407	181
V/C Ratio(X)	0.80	0.90	0.05	0.75	0.79	0.38	0.51	0.14	0.45	0.68	0.23	0.45
Avail Cap(c_a), veh/h	190	691	585	153	652	553	153	317	142	153	407	181
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	16.5	11.4	25.1	17.0	14.5	26.2	22.8	23.5	25.2	21.6	22.2
Incr Delay (d2), s/veh	21.2	13.8	0.0	12.4	5.5	0.5	8.9	0.2	2.3	8.1	0.3	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	7.5	0.2	1.2	4.5	1.4	0.3	0.2	0.7	0.9	0.5	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.9	30.3	11.4	37.5	22.5	15.1	35.1	23.1	25.8	33.3	21.9	24.0
LnGrp LOS	D	C	B	D	C	B	D	C	C	C	C	C
Approach Vol, veh/h		739			696			125			239	
Approach Delay, s/veh		32.5			22.3			26.5			25.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	11.4	9.4	26.1	5.9	13.2	11.8	23.7
Change Period (Y+Rc), s	4.5	6.5	5.8	6.5	4.5	6.5	5.8	6.5
Max Green Setting (Gmax), s	5.0	5.2	5.0	21.5	5.0	5.2	6.2	20.3
Max Q Clear Time (g_c+I1), s	4.1	4.1	4.6	18.6	2.7	4.8	6.7	14.3
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	185	15	145	205	20	20	370	170	35	255	135
Future Volume (veh/h)	140	185	15	145	205	20	20	370	170	35	255	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	152	201	16	158	223	22	22	402	185	38	277	147
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	189	271	22	196	272	27	43	490	416	66	514	436
Arrive On Green	0.11	0.17	0.17	0.12	0.17	0.17	0.03	0.28	0.28	0.04	0.29	0.29
Sat Flow, veh/h	1668	1601	127	1668	1569	155	1668	1752	1485	1668	1752	1485
Grp Volume(v), veh/h	152	0	217	158	0	245	22	402	185	38	277	147
Grp Sat Flow(s),veh/h/ln	1668	0	1729	1668	0	1724	1668	1752	1485	1668	1752	1485
Q Serve(g_s), s	5.2	0.0	7.0	5.4	0.0	8.1	0.8	12.6	6.0	1.3	7.8	4.6
Cycle Q Clear(g_c), s	5.2	0.0	7.0	5.4	0.0	8.1	0.8	12.6	6.0	1.3	7.8	4.6
Prop In Lane	1.00		0.07	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	0	293	196	0	299	43	490	416	66	514	436
V/C Ratio(X)	0.80	0.00	0.74	0.80	0.00	0.82	0.51	0.82	0.45	0.58	0.54	0.34
Avail Cap(c_a), veh/h	252	0	329	252	0	328	142	645	547	142	645	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	0.0	23.2	25.3	0.0	23.5	28.3	19.8	17.4	27.8	17.5	16.3
Incr Delay (d2), s/veh	12.7	0.0	7.7	13.6	0.0	14.1	9.2	6.3	0.7	7.9	0.9	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	3.3	2.8	0.0	4.2	0.4	5.5	2.0	0.6	3.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.2	0.0	31.0	38.9	0.0	37.5	37.6	26.2	18.2	35.7	18.3	16.8
LnGrp LOS	D	A	C	D	A	D	D	C	B	D	B	B
Approach Vol, veh/h		369			403			609			462	
Approach Delay, s/veh		33.9			38.1			24.2			19.3	
Approach LOS		C			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	23.0	12.0	15.8	7.3	23.8	11.8	16.0
Change Period (Y+Rc), s	5.8	6.5	5.1	5.8	5.8	6.5	5.1	5.8
Max Green Setting (Gmax), s	5.0	21.7	8.9	11.2	5.0	21.7	8.9	11.2
Max Q Clear Time (g_c+I1), s	3.3	14.6	7.4	9.0	2.8	9.8	7.2	10.1
Green Ext Time (p_c), s	0.0	1.9	0.1	0.2	0.0	1.7	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	27.9
HCM 6th LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	140	95	425	65	45	475
Future Volume (veh/h)	140	95	425	65	45	475
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1530	1530	1752	1752	1530	1752
Adj Flow Rate, veh/h	152	103	462	71	49	516
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	25	25	10	10	25	10
Cap, veh/h	0	0	1072	164	86	2325
Arrive On Green	0.00	0.00	0.37	0.37	0.06	0.70
Sat Flow, veh/h	0		2982	442	1457	3416
Grp Volume(v), veh/h	0.0		265	268	49	516
Grp Sat Flow(s),veh/h/ln			1664	1672	1457	1664
Q Serve(g_s), s			2.6	2.6	0.7	1.2
Cycle Q Clear(g_c), s			2.6	2.6	0.7	1.2
Prop In Lane				0.26	1.00	
Lane Grp Cap(c), veh/h			616	619	86	2325
V/C Ratio(X)			0.43	0.43	0.57	0.22
Avail Cap(c_a), veh/h			1505	1513	554	5173
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh			5.1	5.1	9.9	1.2
Incr Delay (d2), s/veh			0.5	0.5	5.8	0.0
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.1	0.1	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			5.6	5.6	15.7	1.2
LnGrp LOS			A	A	B	A
Approach Vol, veh/h			533			565
Approach Delay, s/veh			5.6			2.5
Approach LOS			A			A

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	7.1	14.5				21.6
Change Period (Y+Rc), s	5.8	6.5				6.5
Max Green Setting (Gmax), s	8.2	19.5				33.5
Max Q Clear Time (g_c+I1), s	2.7	4.6				3.2
Green Ext Time (p_c), s	0.0	2.4				3.1

Intersection Summary	
HCM 6th Ctrl Delay	4.0
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	645	25	60	635	90	20	150	105	160	140	180
Future Volume (veh/h)	180	645	25	60	635	90	20	150	105	160	140	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	196	701	27	65	690	98	22	163	114	174	152	196
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	226	899	762	82	747	633	38	305	136	203	635	283
Arrive On Green	0.14	0.51	0.51	0.05	0.43	0.43	0.02	0.09	0.09	0.12	0.19	0.19
Sat Flow, veh/h	1668	1752	1485	1668	1752	1485	1668	3328	1485	1668	3328	1485
Grp Volume(v), veh/h	196	701	27	65	690	98	22	163	114	174	152	196
Grp Sat Flow(s),veh/h/ln	1668	1752	1485	1668	1752	1485	1668	1664	1485	1668	1664	1485
Q Serve(g_s), s	11.9	33.7	0.9	4.0	38.7	4.2	1.4	4.9	7.8	10.6	4.0	12.8
Cycle Q Clear(g_c), s	11.9	33.7	0.9	4.0	38.7	4.2	1.4	4.9	7.8	10.6	4.0	12.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	226	899	762	82	747	633	38	305	136	203	635	283
V/C Ratio(X)	0.87	0.78	0.04	0.79	0.92	0.15	0.58	0.54	0.84	0.86	0.24	0.69
Avail Cap(c_a), veh/h	292	1082	917	122	903	765	121	305	136	249	635	283
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	20.5	12.5	48.8	28.2	18.3	50.2	45.0	46.4	44.7	35.6	39.2
Incr Delay (d2), s/veh	18.9	3.1	0.0	18.8	13.2	0.1	13.4	1.8	34.9	21.0	0.2	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	13.0	0.3	2.0	17.0	1.3	0.7	2.0	4.1	5.3	1.6	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.8	23.6	12.5	67.6	41.4	18.4	63.7	46.9	81.3	65.7	35.8	46.2
LnGrp LOS	E	C	B	E	D	B	E	D	F	E	D	D
Approach Vol, veh/h		924			853			299			522	
Approach Delay, s/veh		31.6			40.8			61.2			49.7	
Approach LOS		C			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.1	16.0	10.9	59.8	6.8	26.3	19.9	50.8
Change Period (Y+Rc), s	4.5	6.5	5.8	6.5	4.5	6.5	5.8	6.5
Max Green Setting (Gmax), s	15.5	9.5	7.6	64.1	7.5	17.5	18.2	53.5
Max Q Clear Time (g_c+I1), s	12.6	9.8	6.0	35.7	3.4	14.8	13.9	40.7
Green Ext Time (p_c), s	0.1	0.0	0.0	4.9	0.0	0.4	0.2	3.6

Intersection Summary	
HCM 6th Ctrl Delay	41.6
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	140	20	257	80	40	10	171	119	20	216	55
Future Volume (veh/h)	140	140	20	257	80	40	10	171	119	20	216	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	152	152	22	279	87	43	11	186	129	22	235	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	191	207	30	331	246	122	24	296	251	44	317	269
Arrive On Green	0.11	0.14	0.14	0.20	0.22	0.22	0.01	0.17	0.17	0.03	0.18	0.18
Sat Flow, veh/h	1668	1496	217	1668	1106	547	1668	1752	1485	1668	1752	1485
Grp Volume(v), veh/h	152	0	174	279	0	130	11	186	129	22	235	60
Grp Sat Flow(s),veh/h/ln	1668	0	1713	1668	0	1653	1668	1752	1485	1668	1752	1485
Q Serve(g_s), s	4.4	0.0	4.8	8.0	0.0	3.3	0.3	4.9	3.9	0.6	6.3	1.7
Cycle Q Clear(g_c), s	4.4	0.0	4.8	8.0	0.0	3.3	0.3	4.9	3.9	0.6	6.3	1.7
Prop In Lane	1.00		0.13	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	0	237	331	0	367	24	296	251	44	317	269
V/C Ratio(X)	0.79	0.00	0.74	0.84	0.00	0.35	0.47	0.63	0.51	0.50	0.74	0.22
Avail Cap(c_a), veh/h	293	0	249	367	0	367	168	484	410	168	484	410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	0.0	20.5	19.1	0.0	16.3	24.3	19.2	18.8	23.8	19.2	17.3
Incr Delay (d2), s/veh	8.2	0.0	10.3	14.9	0.0	0.6	13.5	2.2	1.6	8.5	3.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	2.4	4.1	0.0	1.2	0.2	2.0	1.3	0.3	2.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.6	0.0	30.8	34.0	0.0	16.9	37.8	21.3	20.4	32.4	22.6	17.7
LnGrp LOS	C	A	C	C	A	B	D	C	C	C	C	B
Approach Vol, veh/h		326			409			326			317	
Approach Delay, s/veh		30.3			28.6			21.5			22.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	14.9	15.0	12.7	6.5	15.5	10.8	16.8
Change Period (Y+Rc), s	5.8	6.5	5.1	5.8	5.8	6.5	5.1	5.8
Max Green Setting (Gmax), s	5.0	13.7	10.9	7.2	5.0	13.7	8.7	9.4
Max Q Clear Time (g_c+I1), s	2.6	6.9	10.0	6.8	2.3	8.3	6.4	5.3
Green Ext Time (p_c), s	0.0	0.8	0.1	0.0	0.0	0.7	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	25.9
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	7	45	0	30	27	275	145	100	250	43
Future Volume (veh/h)	5	0	7	45	0	30	27	275	145	100	250	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1530	1752	1752	1530	1752	1752	1530	1752	1752	1530	1752	1752
Adj Flow Rate, veh/h	5	0	8	49	0	33	29	299	158	109	272	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	25	10	10	25	10	10	25	10	10	25	10	10
Cap, veh/h	311	0	134	331	0	134	52	549	283	143	913	156
Arrive On Green	0.09	0.00	0.09	0.09	0.00	0.09	0.04	0.26	0.26	0.10	0.32	0.32
Sat Flow, veh/h	1125	0	1485	1151	0	1485	1457	2124	1095	1457	2844	485
Grp Volume(v), veh/h	5	0	8	49	0	33	29	233	224	109	158	161
Grp Sat Flow(s),veh/h/ln	1125	0	1485	1151	0	1485	1457	1664	1555	1457	1664	1665
Q Serve(g_s), s	0.1	0.0	0.2	1.3	0.0	0.6	0.6	3.7	3.9	2.3	2.2	2.3
Cycle Q Clear(g_c), s	0.8	0.0	0.2	1.4	0.0	0.6	0.6	3.7	3.9	2.3	2.2	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.70	1.00		0.29
Lane Grp Cap(c), veh/h	311	0	134	331	0	134	52	430	402	143	534	535
V/C Ratio(X)	0.02	0.00	0.06	0.15	0.00	0.25	0.56	0.54	0.56	0.76	0.30	0.30
Avail Cap(c_a), veh/h	617	0	538	644	0	538	481	888	830	716	1157	1157
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.4	0.0	12.9	13.5	0.0	13.1	14.7	9.9	9.9	13.6	7.9	7.9
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.2	0.0	0.9	9.1	1.1	1.2	8.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.3	0.0	0.2	0.3	0.8	0.8	0.8	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.5	0.0	13.1	13.7	0.0	14.0	23.7	10.9	11.2	21.6	8.2	8.2
LnGrp LOS	B	A	B	B	A	B	C	B	B	C	A	A
Approach Vol, veh/h		13			82			486			428	
Approach Delay, s/veh		13.2			13.8			11.8			11.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	14.5		7.6	6.9	16.4		7.6				
Change Period (Y+Rc), s	5.8	6.5		* 4.8	5.8	6.5		* 4.8				
Max Green Setting (Gmax), s	15.2	16.5		* 11	10.2	21.5		* 11				
Max Q Clear Time (g_c+I1), s	4.3	5.9		2.8	2.6	4.3		3.4				
Green Ext Time (p_c), s	0.2	1.7		0.0	0.0	1.4		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	520	25	75	400	180	20	44	55	62	89	76
Future Volume (veh/h)	143	520	25	75	400	180	20	44	55	62	89	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	155	565	27	82	435	196	22	48	60	67	97	83
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	189	629	533	109	545	462	43	302	135	97	410	183
Arrive On Green	0.11	0.36	0.36	0.07	0.31	0.31	0.03	0.09	0.09	0.06	0.12	0.12
Sat Flow, veh/h	1668	1752	1485	1668	1752	1485	1668	3328	1485	1668	3328	1485
Grp Volume(v), veh/h	155	565	27	82	435	196	22	48	60	67	97	83
Grp Sat Flow(s),veh/h/ln	1668	1752	1485	1668	1752	1485	1668	1664	1485	1668	1664	1485
Q Serve(g_s), s	5.0	16.7	0.6	2.6	12.4	5.7	0.7	0.7	2.1	2.2	1.4	2.8
Cycle Q Clear(g_c), s	5.0	16.7	0.6	2.6	12.4	5.7	0.7	0.7	2.1	2.2	1.4	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	629	533	109	545	462	43	302	135	97	410	183
V/C Ratio(X)	0.82	0.90	0.05	0.75	0.80	0.42	0.51	0.16	0.45	0.69	0.24	0.45
Avail Cap(c_a), veh/h	189	689	584	153	651	552	153	317	141	153	410	183
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.7	16.6	11.4	25.1	17.3	14.9	26.3	22.9	23.5	25.2	21.6	22.2
Incr Delay (d2), s/veh	23.8	13.8	0.0	12.5	5.9	0.6	8.9	0.2	2.3	8.3	0.3	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	7.6	0.2	1.3	4.6	1.5	0.3	0.2	0.7	0.9	0.5	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.5	30.4	11.5	37.6	23.2	15.6	35.2	23.2	25.8	33.5	21.9	24.0
LnGrp LOS	D	C	B	D	C	B	D	C	C	C	C	C
Approach Vol, veh/h		747			713			130			247	
Approach Delay, s/veh		33.2			22.7			26.4			25.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	11.5	9.4	26.1	5.9	13.2	12.0	23.5
Change Period (Y+Rc), s	4.5	6.5	5.8	6.5	4.5	6.5	5.8	6.5
Max Green Setting (Gmax), s	5.0	5.2	5.0	21.5	5.0	5.2	6.2	20.3
Max Q Clear Time (g_c+I1), s	4.2	4.1	4.6	18.7	2.7	4.8	7.0	14.4
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	27.7
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	185	15	151	205	20	20	370	212	35	256	135
Future Volume (veh/h)	140	185	15	151	205	20	20	370	212	35	256	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	152	201	16	164	223	22	22	402	230	38	278	147
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	189	265	21	203	272	27	43	493	417	66	516	438
Arrive On Green	0.11	0.17	0.17	0.12	0.17	0.17	0.03	0.28	0.28	0.04	0.29	0.29
Sat Flow, veh/h	1668	1601	127	1668	1569	155	1668	1752	1485	1668	1752	1485
Grp Volume(v), veh/h	152	0	217	164	0	245	22	402	230	38	278	147
Grp Sat Flow(s),veh/h/ln	1668	0	1729	1668	0	1724	1668	1752	1485	1668	1752	1485
Q Serve(g_s), s	5.2	0.0	7.1	5.7	0.0	8.1	0.8	12.6	7.8	1.3	7.9	4.6
Cycle Q Clear(g_c), s	5.2	0.0	7.1	5.7	0.0	8.1	0.8	12.6	7.8	1.3	7.9	4.6
Prop In Lane	1.00		0.07	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	0	286	203	0	299	43	493	417	66	516	438
V/C Ratio(X)	0.80	0.00	0.76	0.81	0.00	0.82	0.51	0.82	0.55	0.58	0.54	0.34
Avail Cap(c_a), veh/h	251	0	328	251	0	327	141	643	545	141	643	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	0.0	23.5	25.3	0.0	23.5	28.4	19.8	18.1	27.9	17.5	16.3
Incr Delay (d2), s/veh	12.8	0.0	8.7	14.5	0.0	14.2	9.2	6.2	1.1	7.9	0.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	3.4	2.9	0.0	4.2	0.4	5.5	2.6	0.6	3.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.4	0.0	32.2	39.8	0.0	37.7	37.6	26.0	19.2	35.8	18.3	16.8
LnGrp LOS	D	A	C	D	A	D	D	C	B	D	B	B
Approach Vol, veh/h		369			409			654			463	
Approach Delay, s/veh		34.8			38.6			24.0			19.3	
Approach LOS		C			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	23.1	12.3	15.6	7.3	23.9	11.8	16.0
Change Period (Y+Rc), s	5.8	6.5	5.1	5.8	5.8	6.5	5.1	5.8
Max Green Setting (Gmax), s	5.0	21.7	8.9	11.2	5.0	21.7	8.9	11.2
Max Q Clear Time (g_c+I1), s	3.3	14.6	7.7	9.1	2.8	9.9	7.2	10.1
Green Ext Time (p_c), s	0.0	2.0	0.1	0.2	0.0	1.7	0.1	0.1

Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	0	25	140	0	95	14	425	65	45	475	7
Future Volume (veh/h)	43	0	25	140	0	95	14	425	65	45	475	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1530	1752	1752	1530	1752	1752	1530	1752	1752	1530	1752	1752
Adj Flow Rate, veh/h	47	0	27	152	0	103	15	462	71	49	516	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	25	10	10	25	10	10	25	10	10	25	10	10
Cap, veh/h	369	0	318	430	0	318	28	715	109	79	945	15
Arrive On Green	0.21	0.00	0.21	0.21	0.00	0.21	0.02	0.25	0.25	0.05	0.28	0.28
Sat Flow, veh/h	1056	0	1485	1131	0	1485	1457	2894	442	1457	3355	52
Grp Volume(v), veh/h	47	0	27	152	0	103	15	265	268	49	256	268
Grp Sat Flow(s),veh/h/ln	1056	0	1485	1131	0	1485	1457	1664	1672	1457	1664	1742
Q Serve(g_s), s	1.4	0.0	0.5	4.4	0.0	2.1	0.4	5.0	5.1	1.2	4.6	4.6
Cycle Q Clear(g_c), s	3.5	0.0	0.5	4.9	0.0	2.1	0.4	5.0	5.1	1.2	4.6	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.26	1.00		0.03
Lane Grp Cap(c), veh/h	369	0	318	430	0	318	28	411	413	79	469	491
V/C Ratio(X)	0.13	0.00	0.08	0.35	0.00	0.32	0.53	0.64	0.65	0.62	0.55	0.55
Avail Cap(c_a), veh/h	717	0	808	803	0	808	297	684	687	380	778	815
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.2	0.0	11.1	13.0	0.0	11.7	17.1	11.9	11.9	16.3	10.8	10.8
Incr Delay (d2), s/veh	0.2	0.0	0.1	0.5	0.0	0.6	14.6	1.7	1.7	7.8	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.1	1.0	0.0	0.6	0.2	1.3	1.3	0.4	1.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.3	0.0	11.2	13.5	0.0	12.3	31.8	13.6	13.6	24.1	11.8	11.7
LnGrp LOS	B	A	B	B	A	B	C	B	B	C	B	B
Approach Vol, veh/h		74			255			548			573	
Approach Delay, s/veh		12.5			13.0			14.1			12.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	15.2		12.4	6.5	16.4		12.4				
Change Period (Y+Rc), s	5.8	6.5		* 4.8	5.8	6.5		* 4.8				
Max Green Setting (Gmax), s	9.2	14.5		* 19	7.2	16.5		* 19				
Max Q Clear Time (g_c+I1), s	3.2	7.1		5.5	2.4	6.6		6.9				
Green Ext Time (p_c), s	0.0	1.6		0.2	0.0	1.9		1.0				

Intersection Summary	
HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	645	25	60	635	95	20	156	105	175	143	188
Future Volume (veh/h)	183	645	25	60	635	95	20	156	105	175	143	188
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	199	701	27	65	690	103	22	170	114	190	155	204
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	228	898	761	82	744	631	37	297	132	218	657	293
Arrive On Green	0.14	0.51	0.51	0.05	0.42	0.42	0.02	0.09	0.09	0.13	0.20	0.20
Sat Flow, veh/h	1668	1752	1485	1668	1752	1485	1668	3328	1485	1668	3328	1485
Grp Volume(v), veh/h	199	701	27	65	690	103	22	170	114	190	155	204
Grp Sat Flow(s),veh/h/ln	1668	1752	1485	1668	1752	1485	1668	1664	1485	1668	1664	1485
Q Serve(g_s), s	12.5	34.7	1.0	4.1	39.9	4.6	1.4	5.2	8.1	11.9	4.2	13.6
Cycle Q Clear(g_c), s	12.5	34.7	1.0	4.1	39.9	4.6	1.4	5.2	8.1	11.9	4.2	13.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	228	898	761	82	744	631	37	297	132	218	657	293
V/C Ratio(X)	0.87	0.78	0.04	0.79	0.93	0.16	0.59	0.57	0.86	0.87	0.24	0.70
Avail Cap(c_a), veh/h	285	1053	892	119	879	745	117	297	132	242	657	293
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.1	21.1	12.9	50.2	29.1	19.0	51.6	46.6	47.9	45.5	36.0	39.8
Incr Delay (d2), s/veh	20.7	3.3	0.0	20.2	14.2	0.1	13.8	2.7	40.4	25.6	0.2	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	13.5	0.3	2.1	17.8	1.5	0.7	2.2	4.3	6.2	1.6	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.8	24.4	12.9	70.3	43.4	19.1	65.4	49.3	88.3	71.1	36.2	46.8
LnGrp LOS	E	C	B	E	D	B	E	D	F	E	D	D
Approach Vol, veh/h		927			858			306			549	
Approach Delay, s/veh		32.9			42.5			65.0			52.2	
Approach LOS		C			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.4	16.0	11.0	61.2	6.9	27.5	20.4	51.8
Change Period (Y+Rc), s	4.5	6.5	5.8	6.5	4.5	6.5	5.8	6.5
Max Green Setting (Gmax), s	15.5	9.5	7.6	64.1	7.5	17.5	18.2	53.5
Max Q Clear Time (g_c+I1), s	13.9	10.1	6.1	36.7	3.4	15.6	14.5	41.9
Green Ext Time (p_c), s	0.1	0.0	0.0	4.9	0.0	0.3	0.2	3.4

Intersection Summary	
HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	24	15	96	79	57	87
v/c Ratio	0.06	0.04	0.15	0.15	0.13	0.10
Control Delay	13.9	9.2	11.3	5.4	12.6	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	9.2	11.3	5.4	12.6	4.0
Queue Length 50th (ft)	1	0	1	0	1	1
Queue Length 95th (ft)	20	11	48	24	34	21
Internal Link Dist (ft)	807		4119			1024
Turn Bay Length (ft)				250	250	
Base Capacity (vph)	604	548	1341	1021	866	1653
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.03	0.07	0.08	0.07	0.05

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	64	260	35	269	81	93
v/c Ratio	0.15	0.27	0.09	0.32	0.19	0.23
Control Delay	19.7	11.1	20.5	12.5	14.6	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	11.1	20.5	12.5	14.6	14.3
Queue Length 50th (ft)	15	30	8	51	12	13
Queue Length 95th (ft)	50	122	33	120	47	51
Internal Link Dist (ft)		2594		3630	1881	4119
Turn Bay Length (ft)	120		120			
Base Capacity (vph)	543	1139	477	1059	878	807
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.23	0.07	0.25	0.09	0.12

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	76	51	147	38	26	164
v/c Ratio	0.16	0.11	0.20	0.07	0.06	0.20
Control Delay	11.8	5.9	10.2	5.5	13.5	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	5.9	10.2	5.5	13.5	6.4
Queue Length 50th (ft)	7	0	13	0	3	15
Queue Length 95th (ft)	45	20	71	16	23	42
Internal Link Dist (ft)	807		4119			1024
Turn Bay Length (ft)				250	250	
Base Capacity (vph)	820	756	1336	1008	651	1628
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.07	0.11	0.04	0.04	0.10

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	86	317	28	344	111	209
v/c Ratio	0.29	0.37	0.11	0.45	0.24	0.49
Control Delay	26.9	14.5	25.5	17.9	11.8	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.9	14.5	25.5	17.9	11.8	17.2
Queue Length 50th (ft)	25	49	8	87	15	40
Queue Length 95th (ft)	#79	170	31	#210	49	98
Internal Link Dist (ft)		2594		3630	1881	4119
Turn Bay Length (ft)	120		120			
Base Capacity (vph)	309	931	259	838	799	710
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.34	0.11	0.41	0.14	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	5	8	24	15	29	96	79	57	134
v/c Ratio	0.01	0.01	0.05	0.01	0.07	0.14	0.13	0.13	0.17
Control Delay	13.6	0.0	13.5	0.0	13.7	11.2	2.9	12.5	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	0.0	13.5	0.0	13.7	11.2	2.9	12.5	6.0
Queue Length 50th (ft)	0	0	0	0	1	1	0	1	1
Queue Length 95th (ft)	7	0	20	0	23	49	16	35	48
Internal Link Dist (ft)		928		807		4119			1024
Turn Bay Length (ft)							250	250	
Base Capacity (vph)	711	1093	688	1067	818	1369	1048	938	1289
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.01	0.03	0.01	0.04	0.07	0.08	0.06	0.10

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	73	260	35	286	85	102
v/c Ratio	0.17	0.27	0.09	0.34	0.19	0.24
Control Delay	20.3	11.1	21.1	12.5	14.9	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	11.1	21.1	12.5	14.9	14.8
Queue Length 50th (ft)	17	31	8	55	14	16
Queue Length 95th (ft)	56	123	34	128	49	56
Internal Link Dist (ft)		2594		3630	1881	4119
Turn Bay Length (ft)	120		120			
Base Capacity (vph)	550	1135	483	1047	875	802
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.23	0.07	0.27	0.10	0.13

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	47	27	76	51	15	147	38	26	172
v/c Ratio	0.10	0.03	0.15	0.05	0.03	0.20	0.06	0.06	0.23
Control Delay	11.3	0.0	11.5	0.1	14.5	10.7	0.2	14.1	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.3	0.0	11.5	0.1	14.5	10.7	0.2	14.1	9.9
Queue Length 50th (ft)	4	0	7	0	2	14	0	3	16
Queue Length 95th (ft)	31	0	45	0	17	74	0	23	79
Internal Link Dist (ft)		1040		807		4119			1024
Turn Bay Length (ft)					200		250	250	
Base Capacity (vph)	859	1104	911	1102	537	1378	1054	587	1424
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.02	0.08	0.05	0.03	0.11	0.04	0.04	0.12

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	89	317	28	350	118	236
v/c Ratio	0.31	0.37	0.11	0.46	0.24	0.54
Control Delay	28.0	15.0	26.0	18.6	11.9	18.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	15.0	26.0	18.6	11.9	18.5
Queue Length 50th (ft)	27	53	8	93	18	51
Queue Length 95th (ft)	#82	170	31	#216	52	115
Internal Link Dist (ft)		2594		3630	1881	4119
Turn Bay Length (ft)	120		120			
Base Capacity (vph)	304	916	255	820	789	686
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.35	0.11	0.43	0.15	0.34

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	26	15	96	80	57	87
v/c Ratio	0.07	0.04	0.15	0.15	0.13	0.10
Control Delay	13.8	9.2	11.3	5.4	12.6	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.8	9.2	11.3	5.4	12.6	4.0
Queue Length 50th (ft)	1	0	1	0	1	1
Queue Length 95th (ft)	21	11	49	24	34	21
Internal Link Dist (ft)	807		4119			1024
Turn Bay Length (ft)				250	250	
Base Capacity (vph)	605	550	1341	1021	868	1652
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.03	0.07	0.08	0.07	0.05

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	64	272	35	278	82	96
v/c Ratio	0.15	0.28	0.09	0.33	0.19	0.23
Control Delay	20.0	11.2	20.9	12.7	14.6	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.0	11.2	20.9	12.7	14.6	14.6
Queue Length 50th (ft)	15	32	8	54	13	14
Queue Length 95th (ft)	51	128	33	126	47	53
Internal Link Dist (ft)		2594		3630	1881	4119
Turn Bay Length (ft)	120		120			
Base Capacity (vph)	551	1135	483	1054	872	796
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.24	0.07	0.26	0.09	0.12

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	77	51	147	39	26	164
v/c Ratio	0.16	0.11	0.20	0.07	0.06	0.20
Control Delay	11.8	5.8	10.3	5.4	13.5	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	5.8	10.3	5.4	13.5	6.4
Queue Length 50th (ft)	8	0	14	0	3	15
Queue Length 95th (ft)	46	20	71	16	23	42
Internal Link Dist (ft)	807		4119			1024
Turn Bay Length (ft)				250	250	
Base Capacity (vph)	819	755	1421	1070	651	1627
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.07	0.10	0.04	0.04	0.10

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	86	329	29	355	112	210
v/c Ratio	0.30	0.38	0.11	0.46	0.24	0.50
Control Delay	27.1	14.7	25.6	18.2	11.8	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	14.7	25.6	18.2	11.8	17.4
Queue Length 50th (ft)	25	52	8	91	16	42
Queue Length 95th (ft)	#79	177	31	#222	49	99
Internal Link Dist (ft)		2594		3630	1881	4119
Turn Bay Length (ft)	120		120			
Base Capacity (vph)	306	930	257	834	796	704
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.35	0.11	0.43	0.14	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	5	8	26	15	29	96	80	57	134
v/c Ratio	0.01	0.01	0.06	0.01	0.07	0.14	0.13	0.12	0.17
Control Delay	13.6	0.0	13.4	0.0	13.7	11.2	3.0	12.6	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	0.0	13.4	0.0	13.7	11.2	3.0	12.6	6.1
Queue Length 50th (ft)	0	0	1	0	1	0	0	1	0
Queue Length 95th (ft)	7	0	21	0	23	50	16	35	48
Internal Link Dist (ft)		928		807		4119			1024
Turn Bay Length (ft)							250	250	
Base Capacity (vph)	714	1094	691	1067	821	1368	1047	940	1288
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.01	0.04	0.01	0.04	0.07	0.08	0.06	0.10

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	73	272	35	295	86	104
v/c Ratio	0.17	0.28	0.09	0.34	0.19	0.25
Control Delay	20.5	11.2	21.3	12.7	14.8	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	11.2	21.3	12.7	14.8	14.8
Queue Length 50th (ft)	18	32	8	58	14	16
Queue Length 95th (ft)	57	130	34	133	49	57
Internal Link Dist (ft)		2594		3630	1881	4119
Turn Bay Length (ft)	120		120			
Base Capacity (vph)	559	1133	490	1045	869	793
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.24	0.07	0.28	0.10	0.13

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	47	27	77	51	15	147	39	26	172
v/c Ratio	0.10	0.03	0.16	0.05	0.03	0.20	0.06	0.06	0.23
Control Delay	11.2	0.0	11.5	0.1	14.5	10.7	0.2	14.1	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.2	0.0	11.5	0.1	14.5	10.7	0.2	14.1	9.9
Queue Length 50th (ft)	4	0	8	0	2	14	0	3	16
Queue Length 95th (ft)	31	0	46	0	17	74	0	23	79
Internal Link Dist (ft)		1040		807		4119			1024
Turn Bay Length (ft)					200		250	250	
Base Capacity (vph)	858	1103	910	1102	537	1377	1053	587	1422
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.02	0.08	0.05	0.03	0.11	0.04	0.04	0.12

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	89	329	29	361	119	237
v/c Ratio	0.31	0.38	0.12	0.47	0.24	0.54
Control Delay	28.2	15.1	26.2	19.0	11.9	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.2	15.1	26.2	19.0	11.9	18.7
Queue Length 50th (ft)	28	56	9	98	18	52
Queue Length 95th (ft)	#82	177	31	#227	52	116
Internal Link Dist (ft)		2594		3630	1881	4119
Turn Bay Length (ft)	120		120			
Base Capacity (vph)	299	916	251	817	786	682
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.36	0.12	0.44	0.15	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	174	234	130	11	185	125	22	234	60
v/c Ratio	0.54	0.66	0.66	0.29	0.06	0.47	0.24	0.13	0.60	0.11
Control Delay	29.6	36.2	31.0	17.1	23.7	21.5	1.1	24.6	24.5	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.6	36.2	31.0	17.1	23.7	21.5	1.1	24.6	24.5	0.4
Queue Length 50th (ft)	37	43	57	22	3	42	0	6	56	0
Queue Length 95th (ft)	#124	#156	#184	76	17	111	0	26	139	0
Internal Link Dist (ft)		2825		4074		1024			2920	
Turn Bay Length (ft)	200				200			200		200
Base Capacity (vph)	300	265	377	444	172	498	601	172	498	601
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.66	0.62	0.29	0.06	0.37	0.21	0.13	0.47	0.10

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	49	33	457	109	272
v/c Ratio	0.12	0.08	0.29	0.23	0.12
Control Delay	18.4	9.0	9.0	16.5	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	9.0	9.0	16.5	3.6
Queue Length 50th (ft)	10	0	32	23	13
Queue Length 95th (ft)	39	19	75	66	26
Internal Link Dist (ft)	807		4119		1024
Turn Bay Length (ft)				250	
Base Capacity (vph)	616	570	1975	830	2948
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.06	0.23	0.13	0.09

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	147	565	27	82	435	179	22	43	60	65	92	82
v/c Ratio	0.68	0.66	0.03	0.47	0.72	0.26	0.13	0.12	0.16	0.38	0.16	0.18
Control Delay	48.0	23.0	0.1	38.3	25.0	1.9	27.5	26.0	0.9	33.4	22.2	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.0	23.0	0.1	38.3	25.0	1.9	27.5	26.0	0.9	33.4	22.2	0.8
Queue Length 50th (ft)	54	190	0	29	136	0	8	7	0	23	13	0
Queue Length 95th (ft)	#145	#367	0	#85	#264	15	26	21	0	#64	36	0
Internal Link Dist (ft)		2594			3630			1881			4119	
Turn Bay Length (ft)	120		150			150	150		150	150		150
Base Capacity (vph)	215	786	805	173	743	774	173	361	385	173	569	462
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.72	0.03	0.47	0.59	0.23	0.13	0.12	0.16	0.38	0.16	0.18

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	217	158	245	22	402	185	38	277	147
v/c Ratio	0.66	0.69	0.68	0.78	0.16	0.79	0.32	0.28	0.49	0.24
Control Delay	44.6	40.3	45.8	46.8	33.5	34.1	3.8	36.1	21.1	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	40.3	45.8	46.8	33.5	34.1	3.8	36.1	21.1	2.0
Queue Length 50th (ft)	64	89	67	102	9	154	0	16	72	0
Queue Length 95th (ft)	#149	#196	#157	#228	29	#282	31	44	166	14
Internal Link Dist (ft)		2825		4074		1024			2920	
Turn Bay Length (ft)	200				200			200		200
Base Capacity (vph)	243	322	243	322	136	624	667	136	677	706
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.67	0.65	0.76	0.16	0.64	0.28	0.28	0.41	0.21

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	152	103	533	49	516
v/c Ratio	0.36	0.23	0.36	0.16	0.28
Control Delay	18.4	6.3	12.2	21.0	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	6.3	12.2	21.0	7.0
Queue Length 50th (ft)	21	0	34	7	34
Queue Length 95th (ft)	93	31	116	43	70
Internal Link Dist (ft)	807		4119		1024
Turn Bay Length (ft)				250	
Base Capacity (vph)	730	704	1883	401	2728
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.21	0.15	0.28	0.12	0.19

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	196	701	27	65	690	98	22	163	114	174	152	196
v/c Ratio	0.81	0.75	0.03	0.61	0.93	0.13	0.22	0.61	0.36	0.81	0.24	0.44
Control Delay	73.3	27.6	0.1	78.2	51.6	0.4	59.2	62.3	3.1	77.6	43.6	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.3	27.6	0.1	78.2	51.6	0.4	59.2	62.3	3.1	77.6	43.6	9.9
Queue Length 50th (ft)	148	409	0	50	483	0	17	65	0	133	55	0
Queue Length 95th (ft)	#267	575	0	#116	#724	0	45	103	0	#255	90	68
Internal Link Dist (ft)		2594			3630			1881			4119	
Turn Bay Length (ft)	120		150			150	150		150	150		150
Base Capacity (vph)	270	1003	922	112	837	824	111	282	326	230	636	442
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.70	0.03	0.58	0.82	0.12	0.20	0.58	0.35	0.76	0.24	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	174	279	130	11	186	129	22	235	60
v/c Ratio	0.55	0.66	0.75	0.29	0.06	0.48	0.25	0.13	0.60	0.11
Control Delay	29.9	36.8	36.2	17.1	23.8	21.6	1.1	24.7	24.8	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	36.8	36.2	17.1	23.8	21.6	1.1	24.7	24.8	0.4
Queue Length 50th (ft)	37	43	70	22	3	43	0	6	56	0
Queue Length 95th (ft)	#124	#156	#229	76	17	111	0	26	140	0
Internal Link Dist (ft)		2825		4074		1024			2920	
Turn Bay Length (ft)	200		200		200			200		200
Base Capacity (vph)	296	262	371	453	170	491	596	170	491	596
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.66	0.75	0.29	0.06	0.38	0.22	0.13	0.48	0.10

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	5	8	49	33	29	457	109	319
v/c Ratio	0.01	0.01	0.11	0.04	0.07	0.29	0.23	0.15
Control Delay	17.8	0.0	18.0	0.1	20.0	9.4	17.1	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	0.0	18.0	0.1	20.0	9.4	17.1	6.2
Queue Length 50th (ft)	1	0	10	0	6	32	23	14
Queue Length 95th (ft)	9	0	39	0	29	80	70	60
Internal Link Dist (ft)		664		807		4119		1024
Turn Bay Length (ft)					200		200	
Base Capacity (vph)	748	976	748	931	673	1854	848	2225
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.01	0.07	0.04	0.04	0.25	0.13	0.14

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	155	565	27	82	435	196	22	48	60	67	97	83
v/c Ratio	0.72	0.66	0.03	0.47	0.72	0.29	0.13	0.13	0.16	0.39	0.17	0.18
Control Delay	51.2	23.0	0.1	38.3	25.0	2.4	27.5	26.1	0.9	34.0	22.3	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.2	23.0	0.1	38.3	25.0	2.4	27.5	26.1	0.9	34.0	22.3	0.9
Queue Length 50th (ft)	57	190	0	29	136	0	8	8	0	24	14	0
Queue Length 95th (ft)	#154	#367	0	#85	#264	21	26	22	0	#67	37	0
Internal Link Dist (ft)		2594			3630			1881			4119	
Turn Bay Length (ft)	120		150	120		150	150		150	150		150
Base Capacity (vph)	215	786	805	173	743	774	173	361	385	173	569	462
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.72	0.03	0.47	0.59	0.25	0.13	0.13	0.16	0.39	0.17	0.18

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	217	164	245	22	402	230	38	278	147
v/c Ratio	0.66	0.70	0.70	0.78	0.16	0.79	0.39	0.28	0.49	0.24
Control Delay	44.9	41.1	47.4	47.2	33.5	33.6	5.1	36.1	21.0	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.9	41.1	47.4	47.2	33.5	33.6	5.1	36.1	21.0	2.0
Queue Length 50th (ft)	64	89	70	102	9	154	0	16	73	0
Queue Length 95th (ft)	#149	#196	#165	#228	29	#282	45	44	167	14
Internal Link Dist (ft)		2825		4074		1024			2920	
Turn Bay Length (ft)	200		200		200			200		200
Base Capacity (vph)	242	321	242	321	136	621	675	136	675	704
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.68	0.68	0.76	0.16	0.65	0.34	0.28	0.41	0.21

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	47	27	152	103	15	533	49	524
v/c Ratio	0.14	0.04	0.42	0.15	0.05	0.38	0.16	0.32
Control Delay	14.7	0.1	18.5	0.4	21.9	14.3	20.8	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	0.1	18.5	0.4	21.9	14.3	20.8	11.4
Queue Length 50th (ft)	6	0	22	0	3	37	8	39
Queue Length 95th (ft)	33	0	89	0	20	134	42	129
Internal Link Dist (ft)		924		807		4119		1024
Turn Bay Length (ft)					200		250	
Base Capacity (vph)	603	922	647	921	347	1541	443	1853
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.03	0.23	0.11	0.04	0.35	0.11	0.28

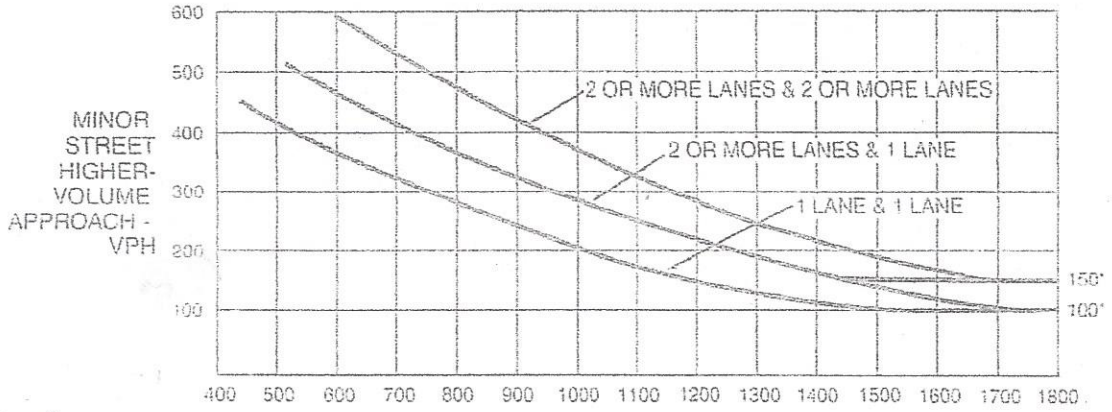
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	199	701	27	65	690	103	22	170	114	190	155	204
v/c Ratio	0.82	0.76	0.03	0.61	0.93	0.14	0.23	0.64	0.36	0.86	0.24	0.45
Control Delay	74.8	27.7	0.1	78.7	52.1	0.4	59.4	63.8	3.1	84.2	43.5	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.8	27.7	0.1	78.7	52.1	0.4	59.4	63.8	3.1	84.2	43.5	9.8
Queue Length 50th (ft)	151	409	0	50	483	0	17	68	0	147	57	0
Queue Length 95th (ft)	#272	575	0	#116	#724	0	45	106	0	#285	91	70
Internal Link Dist (ft)		2594			3630			1881			4119	
Turn Bay Length (ft)	120		150	120		150	150		150	150		150
Base Capacity (vph)	267	992	914	111	827	817	110	279	325	227	645	452
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.71	0.03	0.59	0.83	0.13	0.20	0.61	0.35	0.84	0.24	0.45

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Figure 4C-3. Warrant 3, Peak Hour

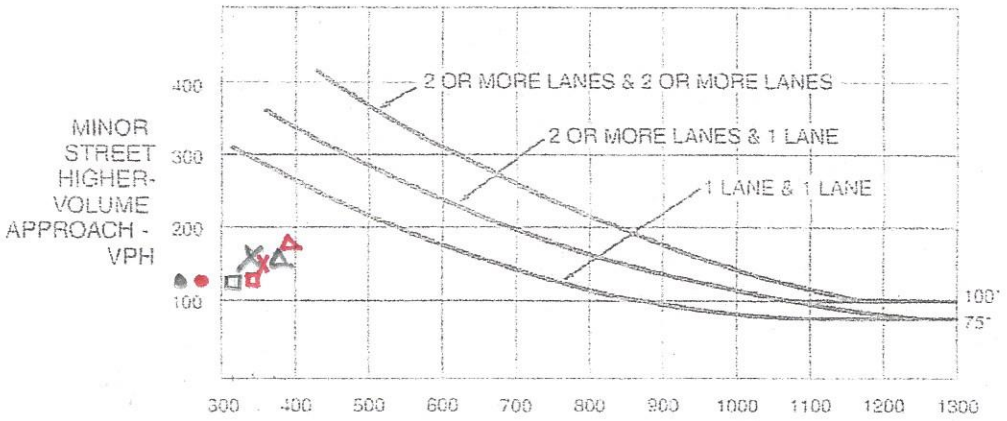


*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

EXIST AM ●
EXIST PM X
EXIST + PROJ AM □
EXIST + PROJ PM △
EPAP AM ●
EPAP PM X
EPAP + PROJECT AM □
EPAP + PROJECT PM △

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

WASHINGTON RD / FULKERTH RD