Draft Mitigated Negative Declaration

Project: Turlock Arsenic Treatment – Well No. 38

Lead Agency: City of Turlock

Project Location: The Project is located within the City of Turlock (the City) in Stanislaus County. (See **Figure 2-1** and **Figure 2-2**). The Project is located on one parcel, 087-026-005, at the corner of W. Christoffersen Parkway and Mountain View Road.

Project Description: The City of Turlock will install an arsenic water treatment system at Well 38 (See **Figure 2-3**). The system will include an iron-assisted coagulation filtration plant, chemical enclosure, pressure vessels, an equalization tank, and a backup generator. The chemical enclosure will consist of a concrete pad, metal roof, and chain link fence.

Finding: An Initial Study (IS) has been prepared to assess the proposed project's potential effects on the environment and the significance of those effects. Based on the IS, it has been determined that the proposed project would not have any significant effects on the environment because mitigation measures will be implemented to reduce impacts to a less than significant level. This conclusion is supported by the following findings:

1) *The proposed project would not impact Agriculture Resources, Land Use/Planning, Mineral Resources, Population/Housing, Public Services, Recreation, Tribal Cultural Resources, or Wildfire.*
2) *The proposed project would have a less than significant impact to Aesthetics, Air Quality, Energy, Geology/Soils, Greenhouse Gas Emissions, Hazards & Hazardous Materials, Hydrology/Water Quality, Noise, Transportation, and Utilities/Services Systems.*
3) *Mitigation has been adopted to reduce potentially significant impacts related to Biological Resources and Cultural Resources.*

Mitigation Measures

Biological: The following mitigation measures are proposed to avoid impacts to nesting birds.

BIO-1a: Avoidance of Nesting Bird Season
The Project's construction activities shall occur, if feasible, between September 16 and January 31 (outside of nesting bird season) to avoid impacts to nesting birds.

BIO-1b: Pre-Construction Nesting Bird Survey
If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist shall conduct pre-construction surveys for active nests within a week prior to the start of construction. The survey shall include the Area of Potential Effects and surrounding lands within 0.5 mile. If no active nests are observed, no further mitigation is required. Raptor nests are considered "active" upon the nest-building stage.

BIO-1c: Establish Nest Buffers
On discovery of any active nests in the survey area, the biologist shall determine appropriate construction avoidance zones around the nests based on applicable CDFW and/or USFWS

guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged.

Cultural Resources: The following mitigation measures will be implemented as necessary.

CUL-1: Archaeological Resources
In the event that archaeological remains are encountered at any time during development or ground-moving activities within the entire project area, all work in the vicinity of the find shall halt until a qualified archaeologist can assess the discovery. The City shall implement all recommendations of the archaeologist necessary to avoid or reduce to a less than significant level potential impacts to cultural resource. Appropriate actions could include a Data Recovery Plan or preservation in place.

CUL-2: Human Remains
If human remains are uncovered, or in any other case when human remains are discovered during construction, the Stanislaus County Coroner is to be notified to arrange their proper treatment and disposition. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American, California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC would then identify the Most Likely Descendent who would determine the manner in which the remains are treated.

Statement of No Significant Effect:
Provost and Prichard, on behalf of the City of Turlock, has prepared an Initial Study in support of this Mitigated Negative Declaration. Copies of the Initial Study/Mitigated Negative Declaration (IS/MND) will be provided to the State Clearinghouse and a 30-day public review period will commence.

Pursuant to Section 21082 of the California Environmental Quality Act, the City of Turlock has independently reviewed and analyzed the Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed project and finds that the IS/MND reflects the independent judgment of the City of Turlock. As the lead agency for the project, the City further finds that the project mitigation measures will be implemented as stated in the IS/MND. With implementation of these mitigation measures, the proposed project as modified would have no significant effect on the environment.

City of Turlock

Well No. 38 Arsenic Treatment

Draft Initial Study/Mitigated Negative Declaration

January 2020

Prepared for:
City of Turlock

Prepared by:
Provost & Pritchard Consulting Group
286 W. Cromwell Avenue, Fresno, California 93711

EST. 1968
PROVOST& PRITCHARD
CONSULTING GROUP
An Employee Owned Company

Report Prepared on behalf of:

City of Turlock

156 S. Broadway
Turlock CA 95380

Contact:
Fallon Martin
(209) 668-5590
FaMartin@turlock.ca.us

Report Prepared by:

Provost & Pritchard Consulting Group

Briza Sholars, Environmental Project Manager, QA/QC
Keith Mortensen, PE, Engineering Project Manager
Kelly McEnerney, Assistant Engineer
Brooke Fletcher, Biologist
Hilary Malveaux, Assistant Planner
Mallory Serrao, GIS
Jackie Lancaster, Administrative Support

Contact:
Briza Sholars
(559) 449-2700

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Acronyms and Abbreviations

AB ..... Assembly Bill
APN ..... Assessor's Parcel Number
BPS..... Best Performance Standards
CAA ..... Clean Air Act
CalEEMod ..... California Emissions Estimator Model
CalEPA ..... California Environmental Protection Agency
Cal/OSHA ..... California Division of Occupational Safety and Health
Caltrans ..... California Department of Transportation
CARB ..... California Air Resources Board
CAAQS ..... California Ambient Air Quality Standards
CCAA ..... California Clean Air Act
CDFW ..... California Department of Fish and Wildlife
CEC ..... California Energy Commission
CEQA ..... California Environmental Quality Act
CFR ..... U.S. Code of Federal Regulations
CNDDB ..... California Department of Fish and Wildlife Natural Diversity Database
CNPS ..... California Native Plant Society
CO ..... Carbon Monoxide
CO_2e ..... Carbon Dioxide Equivalent
DOC ..... California Department of Conservations
DPM ..... Diesel Particulate Matter
DTSC ..... Department of Toxic Substance Control
DWR ..... Department of Water Resources
EIR ..... Environmental Impact Report
EPA ..... U.S. Environmental Protection Agency
FEMA ..... Federal Emergency Management Agency
FIRM ..... Flood Insurance Rate Maps
FMMP ..... Farmland Mapping and Monitoring Program
GC ..... Government Code
GHG ..... Greenhouse Gas
GIS ..... Geographic Information System
IPaC ..... U.S. Fish and Wildlife Service's Information for Planning and Consultation system

IS ..... Initial Study
IS/MND ..... Initial Study/Mitigated Negative Declaration
MCL ..... Maximum Contaminant Level
MMRP ..... Mitigation Monitoring & Reporting Program
MND ..... Mitigated Negative Declaration
MRZ ..... Mineral Resource Zones
MT CO_2e ..... Metric Tons of Carbon Dioxide Equivalent
NAAQS ..... National Ambient Air Quality Standards
ND ..... Negative Declaration
NO_2 ..... Nitrogen Dioxide
NOX ..... Nitrogen Oxide
NPDES ..... National Pollutant Discharge Elimination System
NRCS ..... Natural Resources Conservation Service
O_3 ..... Ozone
Pb ..... Lead
PC ..... Production-Consumption
PM_{10} ..... Particulate Matter less than 10 microns in diameter
$PM_{2.5}$ ..... Particulate Matter less than 2.5 microns in diameter
Project ..... City of Turlock Well No. 38 Arsenic Treatment
RWQCB ..... Regional Water Quality Control Board
SJVAB ..... San Joaquin Valley Air Basin
SJVAPCD ..... San Joaquin Valley Air Pollution Control District
SO_2 ..... Sulfur Dioxide
SR ..... State Route
SWRCB ..... State Water Resources Control Board
SWPPP ..... Storm Water Pollution Prevention Plan
TAC ..... Toxic Air Contaminants
TCP 1,2,3-trichloropropane
TPY ..... Tons Per Year
USACE ..... U. S. Army Corps of Engineers
USDA ..... U. S. Department of Agriculture
USFWS ..... U. S. Fish and Wildlife Service
USGS ..... U. S. Geological Survey

Chapter 1 Introduction

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of the City of Turlock to address the potential environmental effects of the Turlock Well No. 38 Arsenic Treatment Project (Project or proposed Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 *et seq.* The City of Turlock (City) is the CEQA lead agency for this proposed Project.

The site and the proposed Project are described in detail in the **Chapter 2 Project Description**.

1.1 Regulatory Information

An Initial Study (IS) is a document prepared by a lead agency to determine whether a project may have a significant effect on the environment. In accordance with California Code of Regulations Title 14 (Chapter 3, Section 15000, *et seq.*) — also known as the CEQA Guidelines — Section 15064 (a)(1) states that an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that the proposed Project under review may have a significant effect on the environment and should be further analyzed to determine mitigation measures or project alternatives that might avoid or reduce project impacts to less than significant levels. A negative declaration (ND) may be prepared if the lead agency finds that there is ***no*** substantial evidence in light of the whole record that the project may have a significant effect on the environment. An ND is a written statement describing the reasons why a proposed Project, not otherwise exempt from CEQA, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a ND or mitigated ND shall be prepared for a project subject to CEQA when either:

a. The IS shows there is no substantial evidence, in light of the whole record before the agency, that the proposed Project may have a significant effect on the environment, or

b. The IS identifies potentially significant effects, but:

    1. Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed MND and IS is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

    2. There is no substantial evidence, in light of the whole record before the agency, that the proposed Project as revised may have a significant effect on the environment.

1.2 Document Format

This IS/MND contains six chapters and four appendices**. Chapter 1 Introduction**, provides an overview of the proposed Project and the CEQA process. **Chapter 2 Project Description**, provides a detailed description of proposed Project components and objectives. **Chapter 3 Impact Analysis**, presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the proposed Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. **Chapter 4 Mitigation Monitoring and**

Reporting Program (MMRP), provides the proposed mitigation measures, implementation timelines, and the entity/agency responsible for ensuring implementation. **Chapter 5 References**, and is the **Chapter 6 List of Preparers**.

The CalEEMod Output Files, Biological Evaluation Report, Cultural Resources Information, and NRCS Soil Resource Report are provided as technical **Appendix A, Appendix B,** and **Appendix C**, respectively, at the end of this document.

The analyses of environmental impacts in **Chapter 3** Impact Analysis are separated into the following categories:

Potentially Significant Impact. This category is applicable if there is substantial evidence that an effect may be significant, and no feasible mitigation measures can be identified to reduce impacts to a less than significant level. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

Less than Significant with Mitigation Incorporated. This category applies where the incorporation of mitigation measures would reduce an effect from a "Potentially Significant Impact" to a "Less Than Significant Impact." The mitigation measure(s) must be described, and a brief explanation given on how impacts would be reduced to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

Less Than Significant Impact. This category is identified when the proposed Project would result in impacts below the threshold of significance, and no mitigation measures are required.

No Impact. This category applies when a project would not create an impact in the specific environmental issue area. "No Impact" answers do not require a detailed explanation if they are adequately supported by the information sources cited, which show that the impact does not apply to the specific project (e.g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

Chapter 2 Project Description

2.1 Project Background and Objectives

2.1.1 Project Title

City of Turlock Well No. 38 Arsenic Treatment

2.1.2 Lead Agency Name and Address

City of Turlock
156 S Broadway
Turlock Ca 95380

2.1.3 Contact Person and Phone Number

Lead Agency Contact
Fallon Martin
Staff Services Analyst
City of Turlock
Municipal Services Department
(209) 668-5590

CEQA Consultant
Provost & Pritchard Consulting Group
Briza Sholars, Environmental Project Manager
(559) 449-2700

2.1.4 Project Location

The City of Turlock is located in Stanislaus County at the intersection of State Routes (SR) 99 and 165. The majority of the developed area in Turlock is located east of SR 99 (See **Figure 2-1** and

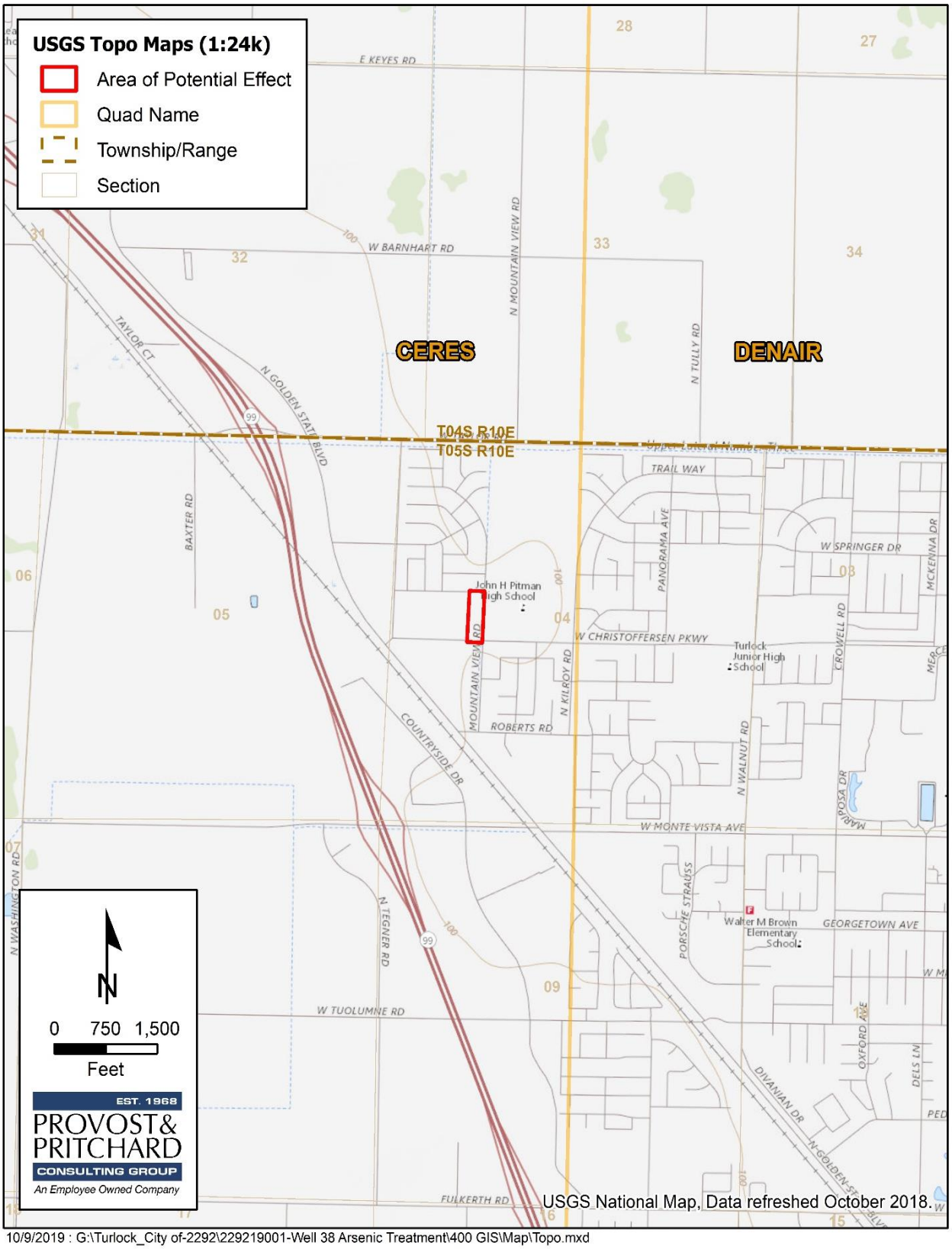

Figure 2-2 Topographic Quadrangle Map). The project site is located at APN No. 087-026-005 at the

northwest corner of W Christoffersen Parkway and Mountain View Road.

2.1.5 Latitude and Longitude

The approximate centroid of the Project area is 37N 31' 48.59", 120W 52' 51.54"

2.1.6 Area of Potential Effect

The Area of Potential Effect (APE) for the project is 3.67 acres and includes APN No. 087-026-005. (See **Figure 2-3.**) The APE consists of the site of existing Well No. 38

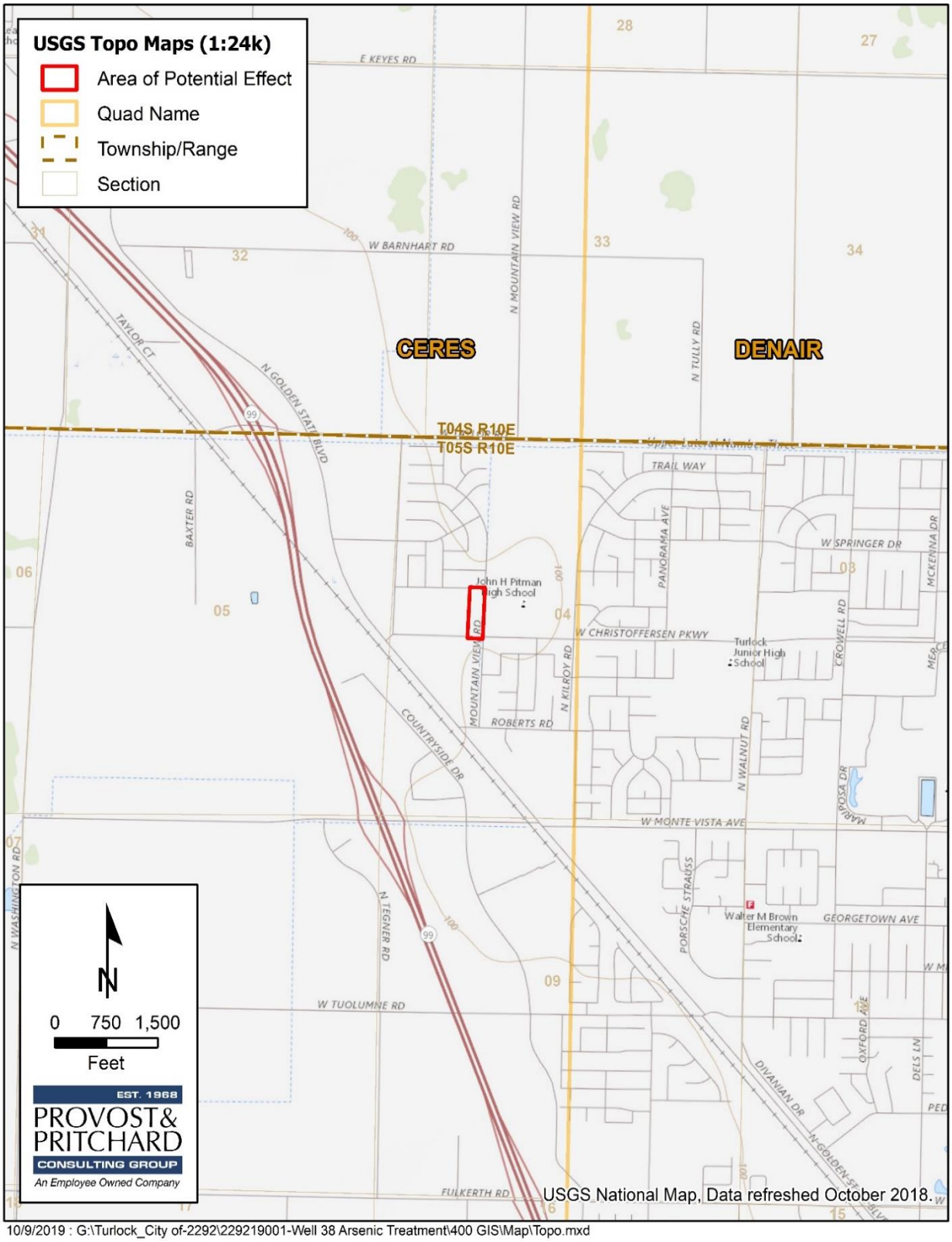

Figure 2-1 Regional Vicinity Map

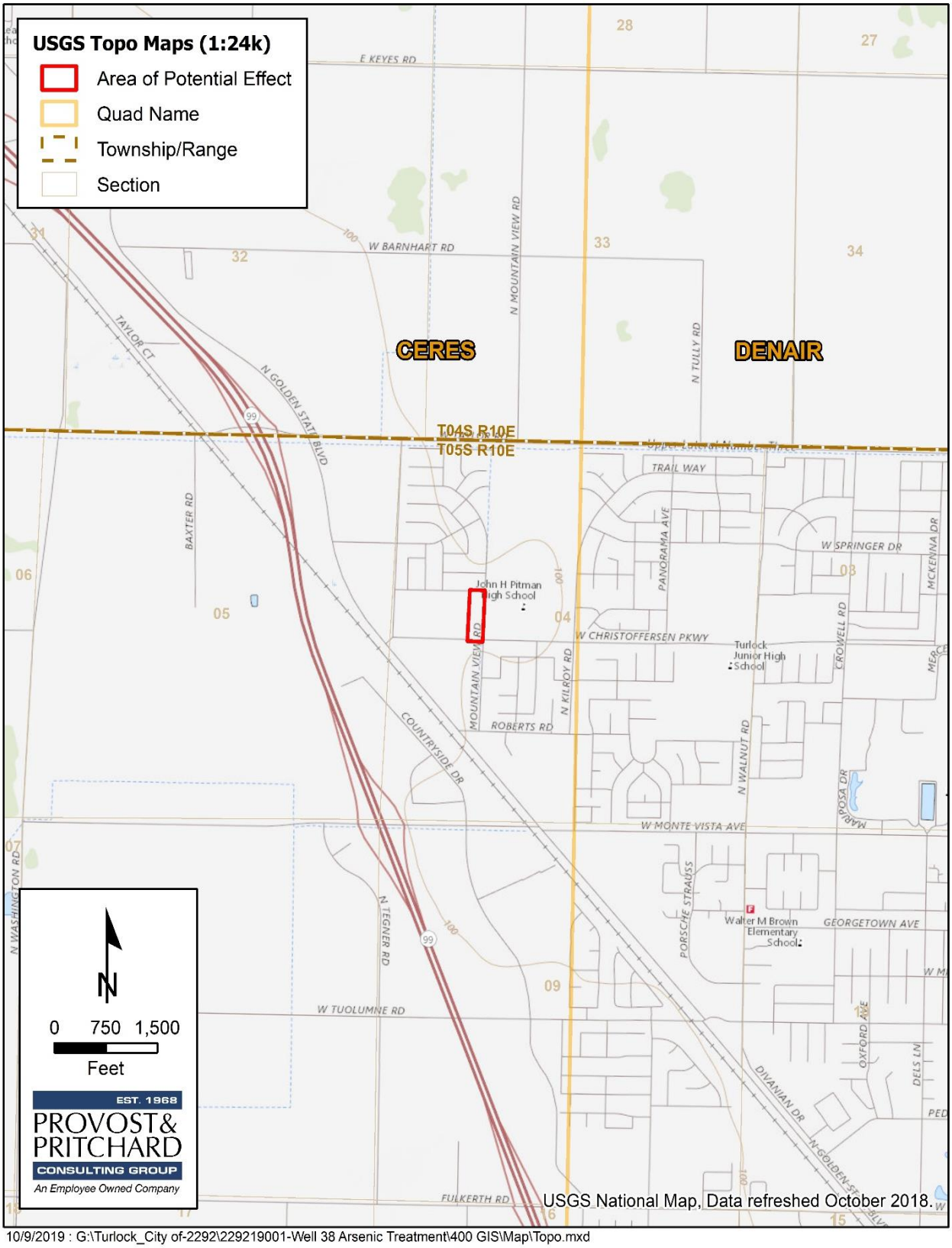

Figure 2-2 Topographic Quadrangle Map

Figure 2-3 Area of Potential Effect Map

2.1.7 Description of Project

2.1.7.1 Project Background and Purpose

The City of Turlock provides drinking water to the city using approximately 18,700 service connections. The water system consists of 18 active groundwater wells, one standby, four irrigation only, and 19 inactive/abandoned wells. Well No. 38 has been inactive since February 2011 when the carcinogenic and naturally occurring contaminant arsenic was detected at levels higher than the maximum contaminant level (MCL). Well rehabilitation was attempted in 2017 but based on the results of this work, it was determined that rehabilitation of the well was not feasible, and that wellhead treatment was the only viable alternative for returning the well to service.

Well 38 is located at the City's approximately 2.2-acre parcel at the corner of W Christoffersen Parkway and Mountain View Road. The well was constructed in 2003 using reverse rotary drilling. A 32-inch diameter conductor casing and cement sanitary seal were placed from the ground surface to a depth of 50 feet. A 30-inch diameter borehole was drilled to a total depth of 617 feet. The well casing consists of an 18.625-inch outside diameter with a wall thickness of 5/16-inches to a depth of 615 feet, with a single perforated interval of 0.060-inch slot size from 285 to 595 feet. The annular space was filled with a gravel envelope from the total depth to 260 feet, followed by a bentonite seal from 260 to 255 feet and a cement annular seal from 255 feet to the ground surface. The well historically had a maximum flowrate of 2,793 gallons per minute.

The City depends entirely on groundwater for its drinking supply. With treatment at Well 38, the City will have 19 active groundwater wells available to meet demand.

Arsenic is abundant in nature and is commonly found in drinking water sources in California. In November 2008, the State Water Resource Control Board (SWRCB) revised the MCL for California to 10 micrograms per liter (µg/L). Reverse osmosis, ultra-filtration, distillation, and ion exchange are methods to treat arsenic in water. The City is proposing the use of iron-assisted coagulation filtration to treat the water at Well 38.

2.1.7.2 Project Description

The City of Turlock proposes implementing an iron-assisted coagulation filtration plant to treat the water contaminated with arsenic at Well 38 (See **Figure 2-3).**

This system will include chemical pretreatment, pressure vessels with filter media, an equalization tank, and a backup generator. There will also be a chemical enclosure constructed at the site composed of a concrete pad, chain link fence, and a metal roof. The City will expand system water storage by installing a one-million-gallon storage tank at the site. If the well must be remediated for 1,2,3-Trichloropropane in the future, granular activated carbon (GAC) vessels may be added at the site (see **Figure 2-3**.)

The immediate system improvements will include the following:

- Three quantity 12-foot diameter vertical pressure filters
- Equalization tank
- Emergency generator
- Chemical storage enclosure
- Paved access driveway and additional site paving
- New water lines
- Wrought iron perimeter fence
- Sidewalk along Mountain View Road
- Landscaping along exterior north, east, south sides of perimeter wall
- One-million-gallon storage tank

- Pump station for storage tank
- Demolish existing storage shed
- Construct new shed of same size in different location; a bathroom may be added to the building

Estimated dimensions and details are listed below:

- *Vertical pressure filters (three total): 12' diameter; 15' tall*
- *Concrete pad for filters: 1,375 sq. ft*
- *Equalization tank: coned bottom, 21' diameter*
- *Diesel-fueled emergency generator*
- *Chemical storage enclosure: metal roof, chain-link fence sides, concrete pad and containment curbs*
- *800' water piping in various diameters*
- *Storage tank: 86' diameter, recessed to not exceed 24' tall*
- *Pump station: 3,000 sq. ft*
- *GAC vessels (10 total): 12' diameter (if needed in future)*
- *Concrete pad for GAC vessels: 3,000 sq. ft (if needed in future)*

The treatment process would take place as follows: chemical pretreatment in the form of injection will occur in the pipeline prior to entering the filter vessels. Sulfuric acid will be added to reduce the pH of the water and sodium hypochlorite will be injected as a pre-oxidant. Ferric chloride will then be added to solidify the arsenic in the water and further lower the pH. The water will then enter the vertical pressure filters containing manganese dioxide media. When the well is pumping at its maximum capacity of 3,000 gpm the filters will have a hydraulic loading rate of 8.8 gpm/ft^2. After filtration, the water will be dosed with sodium hydroxide to reduce its corrosivity and to bring the pH back up to raw water levels before it enters the City's distribution system.

Each filter will be backwashed at a rate of 2,262 gpm for four minutes and then flushed to waste at 1,000 gpm for one minute before discharging back to the system. Water for the filter backwash will be provided by the other two filters, and water from the City's system will make up the difference. The backwash and rinse water will be temporarily held in the equalization tank that will discharge into the City sewer system at approximately 100 gpm. The system will backwash approximately every 12 hours.

Construction/Operation and Maintenance
Construction of the Project is anticipated to be completed within 10 months, which will include grading and construction of the water treatment system. Construction is planned from May 2020 to conclude by the beginning of 2021. Equipment will likely include an excavator, backhoe/loader, concrete truck, and concrete pumper.

Generally, construction will occur between the hours of 7:00 am and 7:00pm, Monday through Friday, excluding holidays. Post-construction activities will include system testing, commissioning, and site clean-up. Construction will require temporary staging and storage of materials and equipment. Staging areas will be located onsite.

Although construction is not expected to generate hazardous waste, field equipment used during construction has the potential to contain various hazardous materials such as diesel fuel, hydraulic oil, grease, solvents, adhesives, paints, and other petroleum-based products.

Operation and maintenance of the system components at the Well No. 38 site will continue to be performed by the City of Turlock's existing staff.

2.1.8 Surrounding Land Uses and Setting

Well No. 38 is situated near the northwest section of the City of Turlock, about a half mile south of the northern city limit. The well site is bordered by residential development and John H. Pitman High School.

The City of Turlock lies in the midst of one of the most productive agricultural regions in the world and is surrounded by orchards and row crops. State Route 99, one of the busiest north-south arterial routes in California, passes through the western portion of the city.

2.1.9 Zoning and General Plan Designation

Under the City's General Plan, the land use for the project site is High Density Residential/Office. The zoning designation for the property is CO/RH (Office Commercial/High Density Residential). See **Figure 3-3** and **Figure 3-4.**

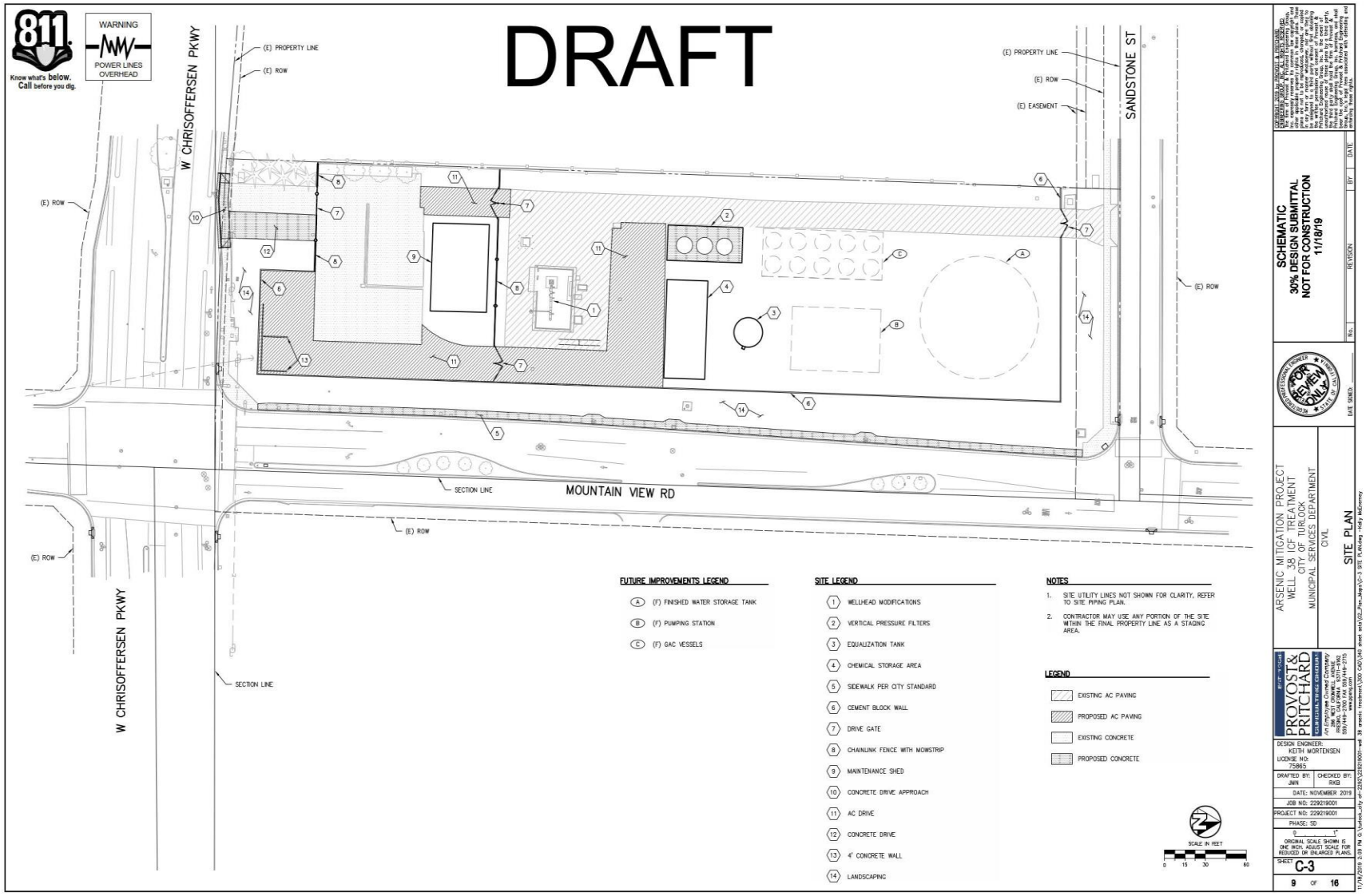

Figure 2-4 Site Plan

2.1.10 Other Public Agencies Whose Approval May Be Required

- State Water Resources Control Board: NPDES Construction General Permit
- State Water Resources Control Board: Individual or General Waste Discharge Permit
- Division of Drinking Water: Water Supply Permit Amendment
- San Joaquin Valley Air Pollution Control District: back-up generator permit & rules and regulations (Regulation VIII, Rule 9510; Regulation IV, Rule 4702)

2.1.11 Consultation with California Native American Tribes

No tribes have requested consultation.

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, as indicated by the checklist and subsequent discussion on the following pages.

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

_____ _____

Signature Date

_____

Printed Name/Position

Chapter 3 Impact Analysis

3.1 Aesthetics

Table 3-1. Aesthetics Impacts

Aesthetics				
Except as provided in Public Resources Code Section 21099, would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1 Environmental Setting

The Project is located at an existing well site, Well 38, in the City of Turlock at the northwest corner of W Christofferson Parkway and Mountain View Road. The well site is bordered by residential development and John H. Pitman High School. Within Turlock, the well site is in the northwest section of the city, approximately half a mile south of the city limit. Turlock is in Stanislaus County at the intersection of SRs 99 and 165. The city is surrounded by farmland, mostly row crops and orchards. As the Project consists of installing a water treatment system at an existing well site, it aligns with the aesthetics of the area.

3.1.2 Impact Assessment

Would the project:

I-a) Have a substantial adverse effect on a scenic vista?

a) No impact. The proposed project is not located within a scenic vista or public viewshed of any sensitive aesthetic resources. Scenic features outside of the City include the vast expanse of agricultural land and the Sierra Nevada Mountains to the East. The Project site is not within the viewshed of any scenic vistas nor would the views of the Sierra Nevada Mountains be obstructed by the proposed Project. There would be no impact.

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

b) No Impact. The state scenic highway closest to the Project area is approximately 20 miles west. There would be no impact.

I-c) Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

c) No Impact. The Project is located at an existing well site in an urbanized area. The site is bordered by John H. Pitman High School and residential development. The site features a present inactive well site so there would be no conflict with zoning or other regulations regarding scenic quality.

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

d) Less Than Significant Impact. The Project consists of installing and operating a water treatment system including components including pressure filters, an equalization tank, and a chemical enclosure with chain link sides. None of the proposed project materials for the water treatment infrastructure are expected to cause glare. Components added to the site will be similar to existing infrastructure with regard to materials used and resulting aesthetics. Impacts to views due to light or glare would be consistent with existing conditions and impacts would be less than significant.

3.2 Agriculture and Forestry Resources

Table 3-2. Agriculture and Forestry Resources Impacts

Agriculture and Forest Resources				
Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1 Environmental Setting

The Project is located in the California's Central San Joaquin Valley in Stanislaus County in the City of Turlock. Stanislaus County is located within California's agricultural heartland. For crop year 2016-2017, Stanislaus County ranked fifth in the top counties in the State in agricultural production estimated value at approximately 3.5 billion dollars.[1] Top commodities include almonds, silage, and dairy products.

[1] USDA. California County Agricultural Commissioners' Reports 2016–2017. https://www.nass.usda.gov/Statistics_by_State/California/Publications/AgComm/2017/2017cropyearcactb00.pdf Accessed 30 September 2019.

3.2.2 Impact Assessment

Would the project:

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

a) No Impact. As demonstrated in **Figure 3-1**, the Project site is designated as Urban and Built-Up Land. Implementation of the Project will not result in the conversion of farmland to a non-agricultural use. There will be no impact.

II-b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

b) No Impact. The Project site is not zoned for agricultural use and it is not under a Williamson Act contract. There will be no impact.

II-c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

II-d) Result in the loss of forest land or conversion of forest land to non-forest use?

c and d) No Impact. The Project site is within an urban area and zoned office commercial/high density residential and features existing water system facilities. Given these restrictions the land could not allow for the management of one or more forest resources or be capable of growing a crop of trees of a commercial species to produce lumber and other forest products. "Forest land" as defined by Public Resources Code Section 12220(g) is "…land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." "Timberland" means land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees.[2] As a result, there are no forest lands or timberlands within the Project site. There will be no impact.

II-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?

e) No Impact. As discussed above in Impact Assessments II a–d, the Project involves the development of a water treatment system on non-agricultural land and non-forest land. The Project will not impact Farmland or forest land.

[2] https://codes.findlaw.com/ca/public-resources-code/prc-sect-4526.html Accessed 16 October 2019.

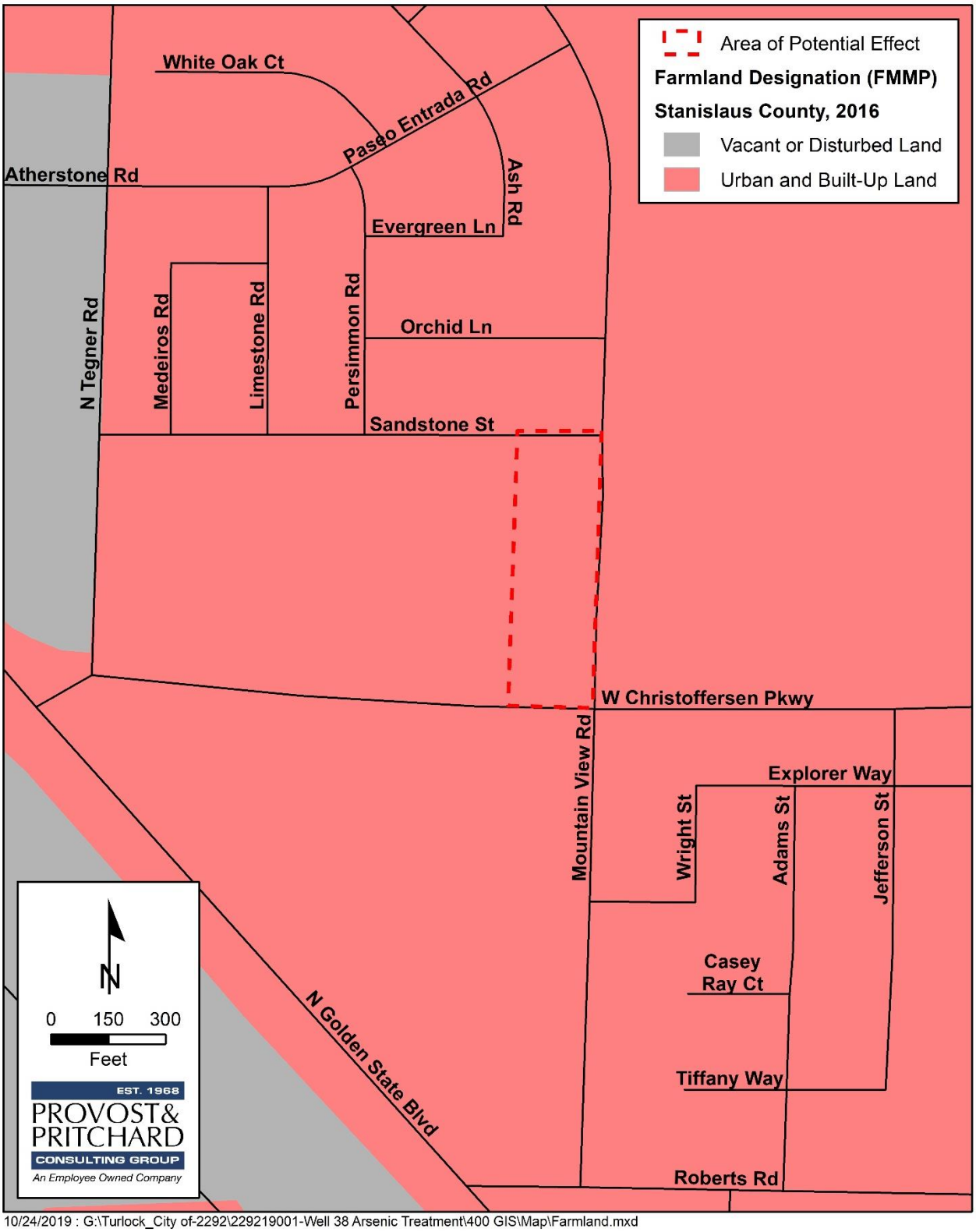

Figure 3-1. Farmland Designation Map

3.3 Air Quality

Table 3-3. Air Quality Impacts

Air Quality					
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:		**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a)	Conflict with or obstruct implementation of the applicable air quality 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)?	☐	☐	☒	☐

3.3.1 Environmental Setting

The Project lies within the eight-county San Joaquin Valley Air Basin (SJVAB), which is managed by the San Joaquin Valley Air Pollution Control District (SJVAPCD). Air quality in the SJVAB is influenced by a variety of factors, including topography, local and regional meteorology. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb). The CAAQS also set standards for sulfates (SO_4), hydrogen sulfide (H_2S), vinyl chloride (C_2H_3Cl), and visibility.

Air quality plans or attainment plans are used to bring the applicable air basin into attainment with all State and Federal ambient air quality standards designed to protect the health and safety of residents within that air basin. Areas are classified under the Federal Clean Air Act as either "attainment", "nonattainment", or "extreme nonattainment" areas for each criteria pollutant based on whether the NAAQS have been achieved or not. Attainment relative to the State standards is determined by the California Air Resources Board (CARB). The San Joaquin Valley is designated as a State and Federal nonattainment area for O_3, a State and Federal nonattainment area for $PM_{2.5}$, a State nonattainment area for PM_{10}, a Federal and State attainment area for CO, SO_2, and NO_2, and a State attainment area for sulfates, vinyl chloride, and Pb (See **Table 3-4**).[3]

[3] San Joaquin Valley Air Pollution Control District. Ambient Air Quality Standards and Valley Attainment Status. http://www.valleyair.org/aqinfo/attainment.htm. Accessed 16 October 2019

Table 3-4. Summary of Ambient Air Quality Standards and Attainment Designation

Summary of Ambient Air Quality Standards & Attainment Designation					
Pollutant	**Averaging Time**	**California Standards***		**National Standards***	
		Concentration*	**Attainment Status**	**Primary**	**Attainment Status**
Ozone (O_3)	1-hour	0.09 ppm	Nonattainment/ Severe	–	No Federal Standard
	8-hour	0.070 ppm	Nonattainment	0.070 ppm	Nonattainment (Extreme)**
Particulate Matter (PM_{10})	AAM	20 µg/m^3	Nonattainment	–	Attainment
	24-hour	50 µg/m^3		150 µg/m^3	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 µg/m^3	Nonattainment	12 µg/m^3	Nonattainment
	24-hour	No Standard		35 µg/m^3	
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment/ Unclassified	35 ppm	Attainment/ Unclassified
	8-hour	9 ppm		9 ppm	
	8-hour (Lake Tahoe)	6 ppm		–	
Nitrogen Dioxide (NO_2)	AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
	1-hour	0.18 ppm		100 ppb	
Sulfur Dioxide (SO_2)	AAM	–	Attainment	--	Attainment/ Unclassified
	24-hour	0.04 ppm		--	
	3-hour	–		0.5 ppm***	
	1-hour	0.25 ppm		75 ppb	
Lead (Pb)	30-day Average	1.5 µg/m^3	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		--	
	Rolling 3-Month Average	–		0.15 µg/m^3	
Sulfates (SO_4)	24-hour	25 µg/m^3	Attainment	No Federal Standards	
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm (42 µg/m^3)	Unclassified		
Vinyl Chloride (C_2H_3Cl)	24-hour	0.01 ppm (26 µg/m^3)	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more due to particles when the relative humidity is less than 70%.	Unclassified		

** For more information on standards visit: http//www.arb.ca.gov.research/aaqs/aaqs2.pdf*
*** No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard May 5, 2010.*
****Secondary Standard*
Source: CARB 2016; SJVAPCD 2016

3.3.2 Methodology

An Air Quality and Greenhouse Gas Emissions Evaluation Report (**Appendix A**) was prepared using CalEEmod, Version 2016.3.2 for the proposed Project in October 2019. The sections below detail the methodology of the air quality and greenhouse gas emissions report and its conclusions.

3.3.2.1 Short-Term Construction-Generated Emissions

Short-term construction emissions associated with the Project were calculated using CalEEmod, Version 2016.3.2. The emissions modeling includes emissions generated by off-road equipment, haul trucks, and worker commute trips. Emissions were quantified based on anticipated construction schedules and construction equipment requirements provided by the Project applicant. All remaining assumptions were based on the default parameters contained in the model. Modeling assumptions and output files are included in **Appendix A**.

3.3.2.2 Long-Term Operational Emissions

Long-term operational emissions associated with the Project are estimated to be minimal in nature. Maintenance will be provided on an as needed basis by existing staff, and the operational equipment will result in negligible emissions. The Project does propose the use of a diesel-powered back-up generator. Generator use was estimated as 100 hours per year. Modeling assumptions and output files are included in **Appendix A**.

3.3.2.3 Thresholds of Significance

The SJVAPCD is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded and that air quality conditions are maintained in the SJVAB, within which the Proposed Project is located. Responsibilities of the SJVAPCD include, but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution and responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the CAA and the CCAA.

The SJVAPCD Rules and Regulations that are applicable to the Project include, but are not limited to, the following:

Regulation VIII (Fugitive Dust Prohibitions), Regulation VIII (Rules 8011-8081): This regulation is a series of rules designed to reduce particulate emissions generated by human activity, including construction and demolition activities, carryout and trackout, paved and unpaved roads, bulk material handling and storage, unpaved vehicle/traffic areas, open space areas, etc. If a non-residential area is 5.0 or more acres in area, a Dust Control Plan must be submitted as specified in Section 6.3.1 of Rule 8021. Additional requirements may apply, depending on total area of disturbance.

Regulation IV (Prohibitions), Rule 4702 (Internal Combustion Engines): This rule requires a permit from SJVAPCD for the operation of stationary internal combustion engines rated at least 25 brake horsepower. Pursuant to this rule, spark-ignited engines and compressed-ignited engines must meet the applicable requirements and emission limits specified in 40 CFR 60 Subpart III (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) and 40 CFR 60 Subpart JJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines).

Thresholds of Significance: Projects that produce emissions that exceed the thresholds shall be considered significant for a project level and/or cumulatively considerable impact to air quality. The thresholds are defined for purposes of determining cumulative effects as the baseline for

"considerable". Projects located within the SJVAPCD are subject to the significance thresholds identified in **Table 3-5**.

Table 3-5. SJVAPD Thresholds of Significance

SJVAPCD Thresholds of Significance							
	Annual Emissions (Tons/Year)					Probability, Hazard Index	Frequency
Source	ROG	NO_X	PM_{10}	$PM_{2.5}$	CO	TAC	Odor
Short Term Emissions Thresholds	*10*	*10*	*15*	*15*	*100*	*Probability of contracting cancer >10 in 1 million or result in a hazard index >1*	*Frequently expose members of the public to objectionable odors*
Long Term Emissions Thresholds	*10*	*10*	*15*	*15*	*100*	*Probability of contracting cancer >10 in 1 million or result in a hazard index >1*	*Frequently expose members of the public to objectionable odors*

3.3.2.4 Local

Turlock General Plan:[4] The Turlock General Plan sets forth the following goals and policies relating to air quality, and which have potential relevance to the Project's CEQA review:

8.1-a Prioritize Air Quality in Local Planning. Continue efforts to improve air quality in Turlock by integrating air quality analysis and mitigation in land use and transportation planning, environmental review, public facilities and operations, and special programs.

8.1-l Use Air District Guidance in Environmental Review. Continue to use the San Joaquin Valley Air Pollution Control District's Guide for Assessing and Mitigating Air Quality Impacts for determining and mitigating project air quality impacts and related thresholds of significance for use in environmental documents. Coordinate with the Air District, project applicants, and other interested parties, during pre-development consultation and negotiation over CEQA preparation.

8.1-n Construction-Related Air Emissions Impacts. Continue to require mitigation measures as a condition of obtaining permits to minimize dust and air emissions impacts from construction. Require contractors to implement dust suppression measures during excavation, grading, and site preparation activities. Techniques may include, but are not limited to:

- Site watering or application of dust suppressants;
- Phasing or extension of grading operations;
- Covering of stockpiles;
- Suspension of grading activities during high wind periods (typically winds greater
- than 25 miles per hour); and
- Revegetation of graded areas.

[4] Turlock General Plan. https://ci.turlock.ca.us/buildinginturlock/planninglandusepermitting/generalplan/ Accessed 21 October 2019.

8.1-o Reduce Trips by City Government. Take the lead in implementing a trip-reduction program for City employees. The program may include carpooling and ridesharing; reimbursement of transit costs; encouragement of flexible work schedules, telecommuting, and teleconferencing.

8.1-q Institute Green Contracting. Using the Air District's model ordinance as a guide, establish and follow a "green contracting" rule, awarding points in the bidding process to companies that use low-emission vehicles and equipment.

3.3.3 Impact Assessment

Would the project:

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

a) No Impact. As noted in Impact Assessments III-b and III-c below, implementation of the Project would not result in short-term or long-term increases in emissions that would exceed applicable thresholds of significance. Projects that do not exceed the recommended thresholds would not be considered to conflict with or obstruct the implementation of applicable air quality plans.

III-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?

b) Less Than Significant Impact.

Short-Term Construction-Generated Emissions

Construction-generated emissions are temporary in duration, lasting approximately 10 months for site preparation, grading, and all phases of construction. The construction of the Project would result in the temporary generation of emissions associated with site grading and excavation, motor vehicle exhaust associated with construction equipment, material delivery, and worker trips, as well as the movement of construction equipment on unpaved surfaces.

Estimated construction-generated emissions are summarized in **Table 3-6**.

Table 3-6. Unmitigated Short-Term Construction-Generated Emissions of Criteria Air Pollutants

Short-Term Construction-Generated Emissions of Criteria Air Pollutants					
	Annual Emissions (Tons/Year) (1)				
Source	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
2020	0.0972	0.9722	0.8164	0.0622	0.0540
Maximum Annual Proposed Project Emissions	0.0972	0.9722	0.8164	0.0622	0.0540
SJVAPCD Significance Thresholds	*10*	*10*	*100*	*15*	*15*
Exceed SJVAPCD Thresholds?	*No*	*No*	*No*	*No*	*No*

1. *Emissions were quantified using CalEEmod Output Files Version 2016.3.2. Refer to Appendix A for modeling results and assumptions. Totals may not sum due to rounding.*

It is important to note that the Project would be required to comply with SJVAPCD Regulation VIII (Fugitive PM_{10} Prohibitions). Mandatory compliance with SJVAPCD Regulation VIII would further reduce emissions of fugitive dust from the Project site and adequately minimize the Project's potential to adversely affect nearby sensitive receptors to localized PM impacts.

Given that project-generated emissions would not exceed applicable SJVAPCD significance thresholds and the Project would be required to comply with SJVAPCD Regulation VIII, construction-generated emissions of criteria pollutants would be considered less than significant.

Long-Term Operational Emissions

Long-term operational emissions associated with the Project are estimated to be minimal in nature, as illustrated in **Table 3-7**. Maintenance will continue to be provided on an as needed basis by existing staff, and the operational equipment will continue to result in negligible emissions. The Project's proposed diesel-powered back-up generator would be reserved for emergency situations and would likely operate fewer than 100 hours per year. Therefore, Project-related impacts to air quality would be considered less than significant.

Table 3-7. Unmitigated Long-Term Operational Emissions

Long-Term Operational Emissions of Criteria Air Pollutants					
	Annual Emissions (Tons/Year) (1)				
Source	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Annual Proposed Project Emissions	0.0281	0.0768	0.0702	0.0040	0.0040
SJVAPCD Significance Thresholds:	*10*	*10*	*100*	*15*	*15*
Exceed SJVAPCD Thresholds?	*No*	*No*	*No*	*No*	*No*

1. *Emissions were quantified using CalEEmod Output Files Version 2016.3.2. Refer to Appendix A for modeling results and assumptions. Totals may not sum due to rounding.*

III-c) Expose sensitive receptors to substantial pollutant concentrations?

c) Less Than Significant Impact.

Toxic Air Contaminants

Implementation of the Project would not result in the long-term operation of any major onsite stationary sources of TACs, nor would Project implementation result in a substantial increase in vehicle trips along area roadways, in comparison to existing conditions. As mentioned above in Impact Assessment III-b, the Project's proposed diesel-powered back-up generator would be reserved for emergency situations and would likely operate fewer than 100 hours per year. However, construction of the Project may result in temporary increases in emissions of diesel-exhaust particulate matter (DPM) associated with the use of off-road diesel equipment. More than 90% of DPM is less than one µm in diameter, and thus is a subset of $PM_{2.5}$.[5] Health-related risks associated with diesel-exhaust emissions are primarily a result of long-term exposure and involve developing cancer. As such, the calculation of cancer risk related to exposure to TACs is typically calculated based on a long-term (e.g., 70-year) period of exposure. The use of diesel-powered construction equipment, however, would be temporary and episodic. Construction activities would occur over an approximate ten-month period, which would constitute just more than one percent of the typical 70-year exposure period. As a result, exposure to construction generated DPM would not be anticipated to exceed applicable thresholds (i.e. incremental increase in cancer risk of 10 in one million).

Although the Project is located in close proximity to a school and residential development, construction of the Project is not anticipated to result in a substantial increase in DPM or other TACs. As indicated in **Table 3.6** construction of the Project would generate maximum unmitigated annual emissions of approximately 0.0540 tons/year of $PM_{2.5}$, which includes DPM. Operation of the diesel-powered back-up generator at a frequency of 100 hours per year would generate maximum unmitigated annual emissions of approximately 0.0040 tons/year of $PM_{2.5}$, as illustrated in **Table 3-7**. Project-related impacts to sensitive receptors would be less than significant.

[5] CARB. Inhalable Particulate Matter. https://www.arb.ca.gov/research/aaqs/common-pollutants/pm/pm.htm Accessed 21 October 2019.

Naturally Occurring Asbestos

Naturally occurring asbestos, which was identified by CARB as a TAC in 1986, is located in many parts of California and is commonly associated with ultramafic rock. The Project site is not located near any areas that are likely to contain ultramafic rock.[6] As a result, risk of exposure to asbestos during the construction process would be considered less than significant.

Fugitive Dust

Construction of the Project would include ground-disturbing activities which could result in increased emissions of airborne particulate matter. The Project would be required to comply with SJVAPCD Regulation VIII (Fugitive PM_{10} Prohibitions). Mandatory compliance with SJVAPCD Regulation VIII would reduce emissions of fugitive dust from the Project site.

Although the Project is located within close proximity to a school and residential development, construction of the Project is not anticipated to result in a substantial increase in particulate matter. As indicated in **Table 3-6** and **Table 3-7**, respectively, construction of the Project would generate maximum unmitigated annual emissions of approximately 0.0622 tons/year of PM_{10}, while operation of the Project would generate maximum unmitigated annual emissions of approximately 0.0040 tons/year of PM_{10}, both of which are substantially less than SJVAPCD's threshold of significance of 15 tons/year. Project-related impacts to sensitive receptors would be less than significant.

III-d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?

d) Less Than Significant Impact. Implementation of the Project would not result in long-term emissions of odors. However, construction would involve the use of a variety of gasoline- or diesel-powered equipment that would emit exhaust fumes. Similarly, infrequent use of the diesel-powered emergency back-up generator may occasionally produce an odorous exhaust. Exhaust fumes, particularly diesel exhaust, may be considered objectionable by some people. The Project is located along Christoffersen Parkway and south of major farming operations, which include the use of diesel-powered equipment and various odorous chemicals on a regular basis. Construction activities would be short-term in nature, as would infrequent use of the emergency generator. Conditions created by Project-related activities would not vary substantially from the baseline conditions routinely experienced onsite and in the vicinity. Impacts would be less than significant.

[6] A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos https://ww3.arb.ca.gov/toxics/asbestos/ofr_2000-019.pdf Accessed 21 October 2019.

3.4 Biological Resources

Table 3-8. Biological Resources Impacts

Biological Resources				
Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

3.4.1 Environmental Setting

The Project site is located in the northeastern portion of the City of Turlock in Stanislaus County within the upper San Joaquin Valley. The Valley is bordered by the Sierra Nevada Mountain Ranges to the east, the Coast Ranges to the west, the Klamath Mountains and Cascade Range to the north, and the Transverse Ranges and Mojave Desert to the south.

Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures often reach above 90 degrees Fahrenheit, and the humidity is generally low. Winter temperatures are often below 60 degrees Fahrenheit during the day and

rarely exceed 70 degrees. On average, the Central Valley receives approximately 12 inches of precipitation in the form of rainfall yearly, most of which occurs between October and March.

The Project is located within the Lake Ramona-San Joaquin River watershed; Hydrologic Unit Code (HUC): 180400020403 (EPA, 2019). The northern portion of the San Joaquin Valley drains toward the Delta by the San Joaquin Valley and its tributaries, the Fresno, Merced, Tuolumne, and Stanislaus Rivers. The Project lies approximately 13 miles east of the San Joaquin River, 6 miles south of the Tuolumne River, and 12 miles north of the Merced River.

The Project lies entirely within the Turlock Groundwater Subbasin of the San Joaquin Valley Groundwater Basin. (DWR, 2019), and within the boundaries of the West Turlock Subbasin Groundwater Sustainability Agency (GSA).

Two biological communities were identified within the Project area: developed and ruderal. Surrounding land uses consist of paved roads and development in the form of a school and residential homes. Project areas are accessible by paved and pre-compacted dirt roads. The habitats of the Project area and surrounding lands are developed and subject to frequent disturbance associated with operation and maintenance activities, and therefore of relatively low quality for most native wildlife species. For a complete description of habitats, methodology, list of references, and photographs of the Project area, refer to the biological evaluation report in **Appendix B**.

3.4.2 Impact Assessment

Would the project:

IV-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 or U.S. Fish and Wildlife Service?

a) Less Than Significant Impact with Mitigation Incorporated. The biological evaluation (**Appendix B**) determined that habitats of the Project area are generally unsuitable for most native wildlife. All 13 of the regionally occurring special status plant species reported in the vicinity were determined to be absent from the site, and 17 of the 18 reported regionally occurring special status animal species were determined to be absent from or unlikely to occur onsite due to past or ongoing disturbance and/or the absence of suitable habitat. Therefore, implementation of the Project should have no impact on the special status plant and animal species determined to be absent from or unlikely to occur onsite. The biologist found it possible for the special status Swainson's hawk (*Buteo swainsoni)* to occur in the vicinity of the Project, and potential impacts to this species will be discussed below along with other avian species. For a complete list of species and explanation of occurrence determinations, please see the complete biological evaluation report.

Although the Project area appeared to be of low quality to most native wildlife species at the time of the survey, the biologist did observe inactive nests within a rain gutter of one of the onsite buildings and noted that some avian species tolerant of disturbance could potentially occur onsite. Furthermore, adjacent landscaping associated with residences and a public school did contain trees which could serve as suitable nesting habitat for a variety of avian species, including raptors like the special status Swainson's hawk. Swainson's hawks are relatively common in the Central Valley, and there is at least one known nest tree within one mile of the Project site. Although nesting habitat onsite and in the vicinity is not ideal due to the absence of native riparian trees, and foraging habitat is suboptimal, raptors, such as the special status Swainson's hawk could conceivably nest or forage near Project areas. In the unlikely event that a Swainson's hawk or other avian species is foraging within the Project site during construction activities, the individual

would be expected to fly away from disturbance they encounter, subsequently eliminating the risk of injury or mortality. Although the Project does not include the removal of any trees or shrubs, raptors and migratory birds occurring within the Project site could be injured or killed by Project activities. Furthermore, construction activities could disturb birds nesting within or adjacent to work areas, resulting in nest abandonment. Project construction activities that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds constitutes a violation of State and federal laws and is considered a significant impact under CEQA.

The Project does not involve the removal of any trees or shrubs, and habitats onsite are suboptimal for foraging and nesting. A swath of superior nesting and foraging habitat in the vicinity is available in the form of agricultural fields just outside of the City's boundaries. For these reasons, loss of nesting and/or foraging habitat would not be considered a potentially significant impact.

Nesting bird season is generally accepted as February 1 through August 31; however, Swainson's hawk nesting season is generally accepted as March 1 through September 15. For simplicity, these timeframes have been combined.

Implementation of the following measures will reduce potential impacts to nesting raptors, migratory birds, and special status birds, including Swainson's hawk to a less than significant level, and will ensure compliance with State and federal laws protecting these avian species.

Mitigation. The following measures will be implemented during or prior to the start of construction:

> ***Mitigation Measure BIO-1a (Avoidance):*** The Project's construction activities shall occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.
>
> ***Mitigation Measure BIO-1b (Pre-construction Survey):*** If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist shall conduct pre-construction surveys for active nests within 30 days prior to the start of construction. The survey shall include the proposed work area and surrounding lands within 0.5 mile. If no active nests are observed, no further mitigation is required. Raptor nests are considered "active" upon the nest-building stage.
>
> ***Mitigation Measure BIO-1c (Establish Buffers):*** On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged.

IV-b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

b) No Impact. Natural water features and riparian habitat is absent from the Project area and adjacent lands. According to CNDDB, there are no recorded observations of natural communities of special concern with potential to occur within the Project area or vicinity. Additionally, no natural communities of special concern

were observed during the biological survey. Therefore, implementation of the Project will have no impact on riparian habitat or any other sensitive natural communities. Mitigation measures are not warranted.

IV-c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

c) No Impact. Wetlands are absent from the Project area and adjacent lands. Furthermore, there is no potential for indirect downstream effects because the Project does not involve lake or streambed altering activities. Therefore, implementation of the Project will have no impact on wetlands and mitigation measures are not warranted.

IV-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?

d) Less Than Significant Impact with Mitigation Incorporated. The Project area does not contain features that would be likely to function as wildlife movement corridors. Furthermore, the Project is located in a region often disturbed by human activities which would discourage dispersal, migration, or the formation of bat maternity roosts onsite. Potential Project-related impacts to nesting birds has been discussed in Impact Assessment IV-a. Implementation of mitigation measures **BIO-1a** through **BIO-1c** in **Table 3-8** will reduce potential impacts to nesting native and/or migratory birds to a less than significant level.

IV-e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

e) No Impact. The Project description is in compliance with the goals and policies set forth in the Turlock General Plan. There will be no impact.

IV-f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

f) No Impact. The Project site is not within a designated Habitat Conservation Plan, Natural Conservation Plan, or any other State or local habitat conservation plan. There would be no impact.

3.5 Cultural Resources

Table 3-9. Cultural Resources Impacts

Cultural Resources					
	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c)	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

3.5.1 Environmental Setting

The project area is located in Turlock (**Figure 2-1**), a city within Stanislaus County at approximately 100 feet above mean sea level. The Project is located at an existing well site located in the northwest quadrant of Section 04 T. 05S., R. 10E Mount Diablo Meridian., on the Ceres 7.5 Quadrangle USGS topographic map. This is part of the Great Central Valley. This encompasses an area that is approximately 430 miles long north/south and 40 miles wide. "The valley floor is composed of several thousands of feet of sediments deposited from runoff from the surrounding mountains" (Schoenherr 1995: 516). The rainfall in this area averages between 10–12 inches per year. Agriculture and overgrazing have modified the area with the introduction of invasive weeds and desertification is apparent over most of the area, with the most obvious indications being salt build up and polluted waterways (Schoenherr 1995:16). The valley is divided and named for the two river systems that drain it; the Sacramento in the north and the San Joaquin in the south. This area supported a wide variety of wildlife, including elk, pronghorn, and mule deer until the advent of agriculture. Pronghorn were rare by 1875, and by 1885 only one band of elk were limited to the area around Buena Vista.

The Tuolomne River is the closest natural waterway located approximately six miles northwest of the Project site. The majority of the waterways in this area have been heavily modified for agriculture.

3.5.2 Methodology

Records Search

On October 3, 2019, Provost & Pritchard received a records search from the Central California Information Center (CCIC) of the California Historical Resources Information System (CHRIS), located at California State University, Stanislaus. The records search encompassed the Project APEs as well as the immediate vicinity. CCIC staff examined site record files, maps, and other materials to identify previously recorded resources and prior surveys within the delineated area **Appendix C,**. Additional sources included the National Register of Historic Places (NRHP), Archaeological Determinations of Eligibility, and the California Inventory of Historic Resources.

Native American Outreach

In October 2019, Provost & Pritchard contacted the Native American Heritage Commission (NAHC) in Sacramento. Provost & Pritchard provided NAHC a brief description of the project and a map showing its location and requested that the NAHC perform a search of the Sacred Lands File to determine if any Native American resources have been recorded in the immediate study area. Provost & Pritchard also requested NAHC provide a current list of local Native American contacts for the proposed Project APE. The two tribes identified by NAHC were contacted in writing via US mail with a letter dated October 21, 2019 informing them about the proposed Project. Provost & Pritchard did not receive a response. No responses were received from either of the tribes.

3.5.2.1 Local

Turlock General Plan: The Turlock General Plan sets forth the following goals and policies relating to cultural resources, and which have potential relevance to the Project's CEQA review:

7.5-a Protect Archaeological Resources. Protect significant archaeological resources in the Study Area that may be identified during construction.

7.5-c Evaluate Resource Discoveries. Should archaeological or human remains be discovered during construction, work shall be immediately halted within 50 meters of the find until it can be evaluated by a qualified archaeologist. If it is determined to be historically or culturally significant, appropriate mitigation measures to protect and preserve the resource shall be formulated and implemented.

3.5.3 Impact Assessment

Would the project:

V-a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

V-b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

a and b) Less than Significant with Mitigation Incorporated. As demonstrated in **Appendix C**, the records search performed by CCIC did not identify any historical or archaeological resources at the project site. Although it is unlikely that such resources would be discovered during construction or operation of the Proposed Project, CUL-1 is to be considered.

V-c) Disturb any human remains, including those interred outside of dedicated cemeteries?

c) Less than Significant with Mitigation Incorporated. No formal cemeteries or other places of human internment are known to exist on the Project site; however, in accordance with Health and Safety Code Section 7050.5 and Public Resource Code Section 5097.98, if human remains are uncovered, Mitigation Measure CUL-2 would be implemented.

Mitigation. The following measures will be implemented as necessary:

> ***Mitigation Measure CUL-1 (Archaeological Resources)***
> In the event that archaeological remains are encountered at any time during development or ground-moving activities within the entire project area, all work in the vicinity of the find shall halt until a qualified archaeologist can assess the discovery. The District shall implement all recommendations of the archaeologist necessary to avoid or reduce to a less than significant level potential impacts to cultural resource. Appropriate actions could include a Data Recovery Plan or preservation in place.

Mitigation Measure CUL-2 (Human remains)

If human remains are uncovered, or in any other case when human remains are discovered during construction, the Stanislaus County Coroner is to be notified to arrange their proper treatment and disposition. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American, California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC would then identify the Most Likely Descendent who would determine the manner in which the remains are treated.

3.6 Energy

Table 3-10. Energy Impacts

Energy					
	Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a)	Result in potentially significant environmental 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?	☐	☐	☐	☒

3.6.1 Environmental Setting

Turlock Irrigation District (TID) is a not-for-profit, community owned entity providing electric power and irrigation water to the City of Turlock and a significant portion of Stanislaus County. TID's generation facilities include solar, hydroelectric, wind, geothermal, and natural gas. Since 2005, the organization has been a Balancing Authority, which means it matches customers' energy usage with its generation capacity on a moment-by-moment basis. This ensures TID can supply its customers with the energy they need when they need it. Much of the energy consumed in the region is for residential and commercial purposes.

Equipment and worker vehicles operated during Project construction would use fossil fuels. This increased fuel consumption would be temporary and would cease at the end of the construction activity, and it would not have a residual requirement for additional energy input. The marginal increases in fossil fuel use resulting from Project construction are not expected to have appreciable impacts on energy resources.

3.6.1.1 Local

Turlock General Plan: The Turlock General Plan sets forth the following goals and policies relating to energy and which have potential relevance to the Project's CEQA review:

8.2-d Promote Energy Conservation. Support understanding of the relationship between energy consumption, air quality, and greenhouse gases, and promote energy-saving practices.

8.2-p Improve Energy Efficiency in Public Buildings. Prepare and implement a plan to increase energy efficiency in public buildings, as part of the GHG Emissions Reduction Plan described in 8.2-f. Measures may include but not be limited to the following:

- Conduct energy audits for all municipal facilities;
- Retrofit municipal facilities for energy efficiency where feasible and when remodeling or replacing components, including increased insulation, installing green or reflective roofs, installing automated lighting controls, and retrofitting heating and cooling systems.
- Require that any newly constructed, purchased, or leased municipal space meet minimum standards, such as exceeding Title 24 energy efficiency by 20 percent;
- Educate employees on energy conservation.

8.2-s Require Energy Efficiency for Projects Receiving Public Assistance. Require that projects receiving assistance from the City of Turlock, including but not limited to infrastructure projects and affordable housing, include energy efficiency measures beyond the minimum standards of Title 24.

3.6.2 Impact Assessment

VI-a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

a) Less Than Significant Impact. As discussed in **Section 3.3**, the proposed Project will not exceed any air emission thresholds during construction or operation. The Project will comply with construction best management practices and may be required to complete a Stormwater Pollution Prevention Plan (SWPPP) as part of construction and operational permits. Once completed, the Project will be mostly passive in nature and will not use an excessive amount of energy. Additionally, a backup generator for emergency power will be installed. The Project will not result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation.

VI-b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

b) No Impact. The proposed Project will be passive in nature once it is completed, and the construction phase will be temporary in nature and will not exceed any thresholds set by the SJVAPCD. There is currently no state or local plan for renewable energy. Should one be implemented, the treatment system would not conflict with such a plan. To the extent applicable, the Project will comply with the City's general plan.

3.7 Geology and Soils

Table 3-11. Geology and Soils Impacts

Geology and Soils				
Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

3.7.1 Environmental Setting

3.7.1.1 Geology and Soils

The Project is located in Stanislaus County, in the central section of California's Great Valley Geomorphic Province, or Central Valley. The Sacramento Valley makes up the northern third and the San Joaquin Valley makes up the southern two-thirds of the geomorphic province. Both valleys are watered by large rivers flowing west from the Sierra Nevada Range, with smaller tributaries flowing east from the Coast Ranges. Most of the surface of the Great Valley is covered by Quaternary (present day to 1.6 million years ago)

alluvium. The sedimentary formations are steeply upturned along the western margin due to the uplifted Sierra Nevada Range.[7] From the time the Valley first began to form, sediments derived from erosion of igneous and metamorphic rocks and consolidated marine sediments in the surrounding mountains have been transported into the Valley by streams.

3.7.1.2 Faults and Seismicity

The Project site is not located within an Alquist-Priolo Earthquake Fault Zone and no known faults cut through the local soil at the site. San Joaquin Fault is the closest fault, approximately 16 miles southwest of the Project site. The nearest major fault is the Calaveras fault zone approximately 45 miles west of the Project site.

3.7.1.3 Liquefaction

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, depth to groundwater, and the duration and intensity of ground shaking. Although no specific liquefaction hazard areas have been identified in the county, this potential is recognized throughout the San Joaquin Valley where unconsolidated sediments and a high water table coincide. According to the Liquefaction Susceptibility data maintained by the U.S. Geological Survey, the county is in an area of very low susceptibility.[8] Using the USDA NRCS soil survey of Stanislaus County, an analysis of the soils onsite was performed. The soil in the Project area consists of Dinuba sandy loam.

3.7.1.4 Soil Subsidence

Subsidence occurs when a large land area settles due to over-saturation or extensive withdrawal of ground water, oil, or natural gas. These areas are typically composed of open-textured soils that become saturated. These areas are high in silt or clay content. The Project site comprises Dinuba sandy loam (0 to 1 percent slopes). It is moderately well drained with a low to moderate risk of subsidence.

3.7.1.5 Dam and Levee Failure

The Project site is approximately four miles northeast of San Luis Dam but does not lie within an inundation area.

3.7.2 Impact Assessment

Would the project:

VII-a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

VII-a-i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

VII-a-ii) Strong seismic ground shaking?

a-i and a-ii) Less Than Significant Impact. The Project site and its vicinity are located in an area traditionally characterized by relatively low seismic activity. The site is not located in an Alquist-Priolo Earthquake Fault Zone as established by the Alquist-Priolo Fault Zoning Act (Section 2622 of Chapter 7.5, Division 2 of the California Public Resources Code). San Joaquin Fault is the closest fault, approximately 16 miles southwest of the Project site. The nearest major fault is the Calaveras fault zone approximately 45 miles

[7] Harden, D.R. 1998, California Geology, Prentice Hall, 479 pages
[8] U.S. Geological Survey https://earthquake.usgs.gov/learn/topics/geologicmaps/liquefaction.php Accessed 23 October 2019.

west of the Project site. Neither fault is anticipated to cause damage to the well infrastructure if there were a fault occurrence.

The Project involves construction of a water treatment system and does not include development of habitable structures. Operation of the Project would not require permanent staff onsite or an increase in the number of employees required for routine maintenance. Instead, routine maintenance and repairs would be performed infrequently, on an as-needed basis by current City employees.

Therefore, implementation of the Project would not cause potential substantial direct or indirect effects, including the risk of loss, injury, or death involving a rupture of a known earthquake fault or involving strong seismic ground shaking. Any impact would be less than significant.

VII-a-iii) Seismic-related ground failure, including liquefaction?

a-iii) Less Than Significant Impact. Liquefaction is a process which involves the temporary transformation of soil from a solid state to a fluid form during intense and prolonged groundshaking. Water-saturated areas with shallow depth to groundwater and uniform sands, loose-to-medium in density, are prone to liquefaction. Land in the area has been classified as very low susceptibility to liquefaction. The Project site is not in a wetland area. Implementation of the Project would not cause potential substantial direct or indirect effects, including the risk of loss, injury, or death. The impact would be less than significant.

VII-a-iv) Landslides?

a-iv) No Impact. As the Project is located on the Valley floor, no major geologic landforms exist on or near the site that could result in a landslide event. The potential landslide impact at this location is minimal as the site is approximately 18 miles from the foothills and the local topography is essentially flat and level. Implementation of the Project would not cause potential substantial direct or indirect effects from landslides, including the risk of loss, injury, or death.. There will be no impact.

VII-b) Result in substantial soil erosion or the loss of topsoil?

b) Less Than Significant Impact. The overall Project site consists of approximately 3.67 acres. Earthmoving activities associated with the Project will include excavation, trenching, grading, and infrastructure construction that will disturb approximately 0.15 acres of soil. These activities have the potential to expose soils to erosion processes. The extent of the erosion depends on steepness of the slope, vegetation/groundcover, soil compactness, runoff concentration, and weather. The Project site is generally flat and will be graded appropriately. Construction of the Project is anticipated to be completed within 10 months, which will include grading and constructing the water treatment system. Construction will likely take place from May 2020 until the end of the year. Construction will utilize Best Management Practices detailed in the California Storm Water Best Management Practice Handbook for Construction Activity.[9]

Since the Project site has relatively flat terrain with a low potential for soil erosion, with BMP's the impact would be less than significant.

VII-c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

c) Less Than Significant Impact.
The Project site and surrounding areas do not contain substantial grade changes and the modifications of the site will not create substantial grade changes. As a result, there is minimal risk of unstable soils that would

[9] California Storm Water Best Management Practice Handbook for Construction Activity, https://www.casqa.org/sites/default/files/BMPHandbooks/BMP_NewDevRedev_Complete.pdf Accessed 23 October 2019.

result in landslides on- or off-site. As mentioned above, the Project site and its vicinity are also located in an area traditionally characterized by relatively low seismic activity. The site is not located in an Alquist-Priolo Earthquake Fault Zone. As a result, lateral spreading, liquefaction, subsidence, and collapse are also not likely to occur.

The project is not within the subsidence area mapped by the U.S. Geological Survey.[10] Additionally, the treatment system will not significantly impact the value of water pumped by the well and, therefore, will not influence subsidence more than the current system.

Given the limited grade changes, the low risk of earthquakes, and lack of expansive soil, the result of on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse would be less than significant.

VII-d) Be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial direct or indirect risks to life or property?

d) Less Than Significant Impact. According to the Turlock General Plan, Dinuba sandy loam, the soil present at the Project site, has high sand content, low clay content, and low to moderate silt content. This soil type has low shrink-swell potential and a low plasticity index. These soil types are not classified as expansive in Chapter 18 of the California Building Code, the most recently adopted building code that replaced the Uniform Building Code in California. Any impacts would be less than significant.

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

e) No Impact. Septic installation or alternative wastewater disposal systems are not necessary for the project. There will be no impact.

VII-f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

f) No Impact. No known paleontological resources have been identified at the Project site, which is an existing well site in an urban area with extensive ground disturbance. The area is flat, and no unique geologic features have been noted in the Project area. The Project will have no impact to unique paleontological resources or unique geologic features.

[10] Areas of Land Subsidence in California https://ca.water.usgs.gov/land_subsidence/california-subsidence-areas.html Accessed 23 October 2019.

3.8 Greenhouse Gas Emissions

Table 3-12. Greenhouse Gas Emissions Impacts

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

3.8.1 Environmental Setting

The Earth's climate has been warming for the past century. Experts believe this warming trend is related to the release of certain gases into the atmosphere. Greenhouse gases (GHG) absorb infrared energy that would otherwise escape from the Earth. As the infrared energy is absorbed, the air surrounding the Earth is heated. An overall warming trend has been recorded since the late 19th century, with the most rapid warming occurring over the past 35 years, with 16 of the 17 warmest years on record occurring since 2001. Not only was 2016 the warmest year on record, but eight of the 12 months that make up the year — from January through September, with the exception of June — were the warmest on record for those respective months. October, November, and December of 2016 were the second warmest of those months on record — in all three cases, behind records set in 2015.[11] Human activities have been attributed to an increase in the atmospheric abundance of greenhouse gases. The following is a brief description of the most commonly recognized GHGs.

3.8.1.1 Greenhouse Gases

Commonly identified GHG emissions and sources include the following:

Carbon dioxide (CO_2) is an odorless, colorless natural greenhouse gas. CO_2 is emitted from natural and anthropogenic sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic out gassing. Anthropogenic sources include the burning of coal, oil, natural gas, and wood.

Methane (CH_4) is a flammable greenhouse gas. A natural source of methane is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and ruminants such as cattle.

Nitrous oxide (N_2O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load.

[11] NASA, NOAA Data Show 2016 Warmest Year on Record Globally. https://www.nasa.gov/press-release/nasa-noaa-data-show-2016-warmest-year-on-record-globally. January 18, 2017. Accessed 21 October 2019.

Water vapor is the most abundant, and variable greenhouse gas. It is not considered a pollutant; in the atmosphere, it maintains a climate necessary for life.

Ozone (O_3) is known as a photochemical pollutant and is a greenhouse gas; however, unlike other greenhouse gases, ozone in the troposphere is relatively short-lived and, therefore, is not global in nature. Ozone is not emitted directly into the atmosphere but is formed by a complex series of chemical reactions between volatile organic compounds, nitrogen oxides, and sunlight.

Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

Chlorofluorocarbons (CFCs) are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. CFCs destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol in 1987.

Hydrofluorocarbons (HFCs) are synthetic chemicals that are used as a substitute for CFCs. Of all the greenhouse gases, HFCs are one of three groups (the other two are perfluorocarbons and sulfur hexafluoride) with the highest global warming potential. HFCs are human-made for applications such as air conditioners and refrigerants.

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere; therefore, PFCs have long atmospheric lifetimes, between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It has the highest global warming potential of any gas evaluated. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

3.8.1.2 Effects of Climate Change

The impacts of climate change have yet to fully manifest. A hotter planet is causing the sea level to rise, disease to spread to non-endemic areas, as well as more frequent and severe storms, heat events, and air pollution episodes. Also affected are agricultural production, the water supply, the sustainability of ecosystems, and therefore the economy. The magnitude of these impacts is unknown.

Emissions of GHGs contributing to global climate change are largely attributable to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. GHG emissions are typically expressed in carbon dioxide-equivalents (CO_2e), based on the GHG's Global Warming Potential (GWP). The GWP is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH_4 has the same contribution to the greenhouse effect as approximately 21 tons of CO_2. Therefore, CH_4 is a much more potent GHG than CO_2.

3.8.2 Methodology

An Air Quality and Greenhouse Gas Emissions Evaluation Report (**Appendix A**) was prepared in October 2019. The sections below detail the methodology of the report and its conclusions.

3.8.2.1 Short-Term Construction-Generated Emissions

Short-term construction emissions associated with the Project were calculated using CalEEmod, Version 2016.3.2. Emissions modeling was assumed to occur over an approximate ten-month period and with 0.15 acres of construction area. Remaining assumptions were based on the default parameters contained in the model. Modeling assumptions and output files are included in **Appendix A**.

3.8.2.2 Long-Term Operational Emissions

Long-term operational emissions associated with the Project are estimated to be minimal in nature. Maintenance will be provided on an as needed basis by existing staff, and the operational equipment will result in negligible emissions. The Project does propose the use of a diesel-powered back-up generator. Generator use was estimated as 100 hours per year. Modeling assumptions and output files are included in **Appendix A**.

3.8.2.3 Thresholds of Significance

CEQA Guidelines Amendments became effective March 18, 2010. Included in the Amendments are revisions to the Appendix G Initial Study Checklist. In accordance with these Amendments, a project would be considered to have a significant impact to climate change if it would:

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

In accordance with SJVAPCD's *CEQA Greenhouse Gas Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects,*[12] proposed projects complying with Best Performance Standards (BPS) would be determined to have a less-than-significant impact. Projects not complying with BPS would be considered less than significant if operational GHG emissions would be reduced or mitigated by a minimum of 29 percent, in comparison to business-as-usual (year 2004) conditions. In addition, project-generated emissions complying with an approved plan or mitigation program would also be determined to have a less-than-significant impact.

3.8.2.4 Local

Turlock General Plan: The Turlock General Plan sets forth the following goals and policies relating to greenhouse gases and which have potential relevance to the Project's CEQA review:

8.2-a Reduce Greenhouse Gas Emissions. Reduce greenhouse gas emissions to support statewide GHG reduction goals under the California Global Warming Solutions Act (AB32).

8.2-n Wastewater and Water System Efficiency. Maximize the efficiency of City-operated wastewater treatment, water treatment, pumping, and distribution equipment. This measure may be part of the GHG Emissions Reduction Plan described in 8.2-f. *(Note: The City has not yet prepared the GHG Emissions Reduction Plan.)*

8.2-u Encourage Other Onsite Renewable Energy Systems. Encourage the installation of other renewable energy systems in new or existing development. Renewable power generation may count toward the Air District's proposed BPS for projects with systems capable of generating at least 2.5 percent of their energy need.

3.8.3 Impact Assessment

VIII-a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

a) Less Than Significant Impact.

[12] Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. http://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf Accessed 21 October 2019.

Short-Term Construction-Generated Emissions

Estimated construction-generated emissions are summarized in **Table 3-15**. As indicated, construction of the Project would generate maximum annual emissions of approximately 115.4767 metric tons of carbon dioxide equivalent ($MTCO_2e$). Construction-related production of GHGs would be temporary and last approximately ten months.

Table 3-13. Short-Term Construction-Generated GHG Emissions

Short-Term Construction-Generated GHG Emissions	
Year	**Emissions (MT CO_2e)[1]**
2020	115.4767
*AB 32 Consistency Threshold for Land-Use Development Projects**	*1,100*
*AB 32 Consistency Threshold for Stationary Source Projects**	*10,000*
Exceed Threshold?	No

1. *Emissions were quantified using the CalEEmod, Version 2016.3.2. Refer to Appendix A for modeling results and assumptions. Totals may not sum due to rounding.*

* As published in the Bay Area Air Quality Management District's CEQA Air Quality Guidelines. Available online at http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en Accessed 21 October 2019.

Long-Term Operational Emissions

Estimated long-term operational emissions are summarized in **Table 3-14**. As indicated, operation of the Project would generate maximum annual emissions of approximately 12.8016 metric tons of carbon dioxide equivalent ($MTCO_2e$).

Table 3-14. Long-Term Operational GHG Emissions

Long-Term Operational GHG Emissions	
	Emissions (MT CO_2e)[1]
Estimated Total Annual Operational CO_2e Emissions	12.8016
*AB 32 Consistency Threshold for Land-Use Development Projects**	*1,100*
*AB 32 Consistency Threshold for Stationary Source Projects**	*10,000*
Exceed Threshold?	No

1. *Emissions were quantified using the CalEEmod, Version 2016.3.2. Refer to Appendix A for modeling results and assumptions. Totals may not sum due to rounding.*

* As published in the Bay Area Air Quality Management District's CEQA Air Quality Guidelines. Available online at http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en Accessed 21 October 2019.

Long-term operational emissions associated with the Project will include the use of the arsenic treatment system and an emergency back-up generator. All equipment will meet current energy-efficiency requirements, and although usage is estimated at fewer than 100 hours per year, the emergency back-up generator will be permitted through SJVAPCD. Maintenance will continue to be provided on an as needed basis by existing City staff and would not result in an increase in vehicle trips or vehicle miles traveled. Furthermore, there is no population growth associated with the Project. As shown in the table above the Project does not exceed the AB32 Consistency Threshold for Land-Use Development projects or Stationary Source projects and would not require any additional analysis for cumulative impacts. Therefore, Project-related emissions of GHGs would be less than significant.

VIII-b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

b) Less Than Significant Impact. In accordance with SJVAPCD's recommended guidance, project-generated GHG emissions would be considered less than significant if: (1) the proposed Project complies with applicable BPS; (2) operational GHG emissions would be reduced or mitigated by a minimum of 29 percent in comparison to business-as usual (year 2004) conditions; or (3) project-generated emissions would comply with an approved greenhouse gas emissions plan (adopted statewide, regional, or local plan for reduction or mitigation of greenhouse gas emissions) or greenhouse gas mitigation program, which avoids or substantially reduces greenhouse gas emissions within the geographic area in which the project is located.

The SJVAPCD recognizes that the CARB's Cap-and-Trade regulation is an adopted State-wide greenhouse gas emissions plan for reducing or mitigating GHG emissions from targeted industries. In June 2014, the SJVAPCD issued APR 2025, which is an internal policy document to provide guidance to SJVAPCD staff on how to determine significance of greenhouse gas emissions from projects subject to the California Air Resources Board Cap-and-Trade regulation or occurring at entities subject to the California Air Resources Board Cap-and-Trade regulation.[13]

The APR document outlined that fuel suppliers and distributors are subject to cap and trade regulations from emissions of greenhouse gases that would result from the combustion or oxidation of the fuels imported or delivered. Those fuel suppliers not under this regulation were found to contribute less than 1% of greenhouse gas emissions. SJVAPCD determined the combustion of these fuels that were not regulated to be insignificant. The document also mentioned large industrial facilities and electrical generation facilities were also regulated under the Cap and Trade program. The GHG emissions produced by operation of the treatment system would fall under this program.

In this policy document, the SJVAPCD concluded that the combustion of fossil fuels including fuels associated with on- and off-road vehicles are subject to Cap-and-Trade requirements as they are regulated under one of the three groups above and if not regulated by one of the groups above, found to be insignificant. The SJVAPCD further concluded that through implementation of the Cap-and-Trade regulation or through insignificance, project specific GHG emissions generated by fossil fuel use would be fully mitigated. As noted above, Project-generated construction GHG emissions from the Project would be attributable to the consumption of fossil fuels associated with the operation of on- and off-road vehicles. As discussed above, the SJVAPCD has determined that project-generated GHG emissions associated with the use of fossil fuels would be fully mitigated through implementation of CARB's Cap-and-Trade regulation or through insignificance and, therefore, would be considered have a less than significant individual and cumulative impact on the environment.

Although the Project is not located in the Bay Area, the Bay Area Air Quality Management District's thresholds for significance are based on the Statewide AB32 objectives and are felt to be valid for other areas of the state. Bay Area Air Quality Management District's approach to developing a threshold of significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce Statewide GHG emissions. If a project would generate GHG emissions above the threshold level, it would be considered to contribute substantially to a cumulative impact and would be considered significant. If mitigation can be applied to lessen the emissions such that the project meets its share of emission reductions needed to address the cumulative impact, the project would normally be considered less than significant.

[13] CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Regulation. https://www.valleyair.org/policies_per/Policies/APR-2025.pdf Accessed 21 October 2019.

In the absence of SJVAPCD numerically quantified thresholds of significance for emissions of GHG, the widely accepted Bay Area Air Quality Management District thresholds are often used as a planning tool when addressing potential project-related impacts. These thresholds are based on the Statewide AB32 objectives and are used in **Table 3-13** and **Table 3-14** above to illustrate that implementation of the Project will not result in a significant increase in GHGs.

For the aforementioned reasons, implementation of the Project is not anticipated to conflict with any applicable plan, policy or regulation for reducing the emissions of GHGs, nor will the Project have a significant impact on the environment. The impact would be considered less than significant.

3.9 Hazards and Hazardous Materials

Table 3-15. Hazards and Hazardous Materials Impacts

Hazards and Hazardous Materials					
	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g)	Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

3.9.1 Environmental Setting

3.9.1.1 Hazardous Materials

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code (GC) Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to develop at least annually an updated Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. DTSC's EnviroStor database provides DTSC's component of Cortese List data (DTSC, 2010). In addition to the EnviroStor database, the State Water Resources Control Board (SWRCB) Geotracker database provides information on regulated hazardous waste facilities in California, including underground storage tank (UST) cases and non-UST cleanup programs, including Spills-Leaks-Investigations-Cleanups (SLIC) sites, Department of Defense (DOD) sites, and Land Disposal

program. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on October 23, 2019 determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity.

3.9.1.2 Airports

Modesto City-County Airport is located approximately eight miles northwest of the Project and Turlock Municipal Airport is approximately 10 miles east-southeast of the site.

3.9.1.3 Emergency Response Plan

Turlock adopted the Stanislaus County Multi-Jurisdictional Hazard Mitigation Plan, updated in 2017. The plan identifies measures to reduce natural and manmade hazard impacts and to facilitate recovery following hazardous events.

3.9.1.4 Sensitive Receptors

The Project site is surrounded by residential development and John H. Pitman High School is immediately east of the site.

3.9.1.5 Local

Turlock General Plan: The Turlock General Plan sets forth the following goals and policies relating to hazards and hazardous materials and which have potential relevance to the Project's CEQA review:

10.1-a Protect Lives and Property. Prevent loss of lives, injury, illness, and property damage due to hazardous materials and wastes.

10.1-b Protect Natural Resources. Protect soils, surface water, and groundwater from contamination from hazardous materials.

10.4-a Protect from Hazards. Continue to protect people and property from natural and manmade hazards.

10.4-l Monitor Water Capacity. Continue to monitor water fire-flow capability throughout the City and improve water availability if any locations have flows considered inadequate for fire protection.

10.4-aa Maintain Evacuation Routes. Ensure that major access and evacuation corridors are available and unobstructed in case of major emergency or disaster.

3.9.2 Impact Assessment

IX-a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

a) Less Than Significant Impact. The new treatment system will require the use of chemicals including sulfuric acid, sodium hypochlorite, ferric chloride, and sodium hydroxide. The pressure filters will hold manganese dioxide media, which has a lifetime of more than 10 years before requiring replacement. The system will backwash the filters approximately every 12 hours. Following temporary retention in the equalization tank, the backwash and rinse water can be discharged safely to the City sewer system.

Storage, handling, and distribution of the necessary chemicals will be monitored and comply with all regulations set forth by the County of Stanislaus. The routine transport, use, or disposal of hazardous materials will not create a significant hazard to the public or environment; impacts would be less than significant.

IX-b) Would the project 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?

b) Less Than Significant Impact. Construction of the Project may involve the use of hazardous materials associated with construction equipment, such as diesel fuel, lubricants, and solvents. Any potential accidental hazardous materials spills during construction are the responsibility of the contractor to remediate in accordance with industry best management practices and State and city regulations. With responsible storage, handling, and distribution of the treatment chemicals, Project operation will result in a less than significant impact to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

IX-c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

c) Less Than Significant Impact. John H. Pitman High School is located immediately east of the Project site. The proposed Project involves the construction and operation of a water treatment system at an existing well site. While the system will require the use of chemicals including sulfuric acid, sodium hypochlorite, ferric chloride, and sodium hydroxide, practices compliant with all applicable regulations will ensure impacts to the school are less than significant. The chemical storage enclosure will be constructed to meet established safety standards. Additionally, emissions from greenhouse gases and relating to air quality will be well within acceptable thresholds, as demonstrated in **Sections 3.3 and 3.8**. The system will generate backwash water approximately every 12 hours, but this water will safely discharge to the City's sewer system. Impacts to the school will be less than significant.

IX-d) Would the project 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?

d) No Impact. The Project does not involve land that is listed as a hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by the Department of Toxic Substances Control. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on October 23, 2019 determined that there are no known hazardous waste generators or hazardous material spill sites or closed sites within the Project site or immediate surrounding vicinity. There will be no impact.

IX-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?

e) No Impact. The Project is not located within an airport land use plan or within two miles of an airport. Modesto City-County Airport is located approximately eight miles northwest of the Project and Turlock Municipal Airport is approximately 10 miles east-southeast of the site. Operation of the well site would not generate excessive noise, and any construction noise would be temporary. There would be no impact.

IX-f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

f) Less Than Significant Impact. The proposed Project includes the construction and operation of a water treatment system at an existing well site. Construction traffic associated with the Project would be minimal and temporary, lasting approximately 10 months. Operational traffic will consist of as-needed maintenance trips and will have no effect on roadways or emergency access. Partial road closures and detours are not anticipated during construction, but if necessary, will be temporary and minimal in nature, as alternate routes will be made available. The community streets adjacent to the Project are not part of any emergency response plan or evacuation plan for the area. Therefore, Project-related impacts to emergency evacuation routes or emergency response routes on local roadways would be considered less than significant.

IX-g) Would the project expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?

g) No Impact. The nearest State Responsibility Area is located approximately 15 miles northeast of the Project site. See **Figure 3-5**. The nearest zone of very high fire hazard severity is located approximately 23 miles west of the site. The Project does not include any residential components, nor would it require any employees to be stationed permanently at the site on a daily basis. There would be no impact.

3.10 Hydrology and Water Quality

Table 3-16. Hydrology and Water Quality Impacts

Hydrology and Water Quality					
	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
	i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
	ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite;	☐	☐	☒	☐
	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; or	☐	☐	☒	☐
	iv) impede or redirect flood flows?	☐	☐	☒	☐
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

3.10.1 Environmental Setting

The Project is located within the lower San Joaquin Valley, part of the Great Valley of California. The Valley is bordered by the Sierra Nevada Mountain Ranges to the east, the Coast Ranges to the west, the Klamath Mountains and Cascade Range to the north, and the Transverse Ranges and Mojave Desert to the south. Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures often reach above 90 degrees Fahrenheit, and the humidity is generally low. Winter temperatures are often below 60 degrees Fahrenheit during the day and rarely exceed 70 degrees. On average, the Central Valley receives an average of seven inches of precipitation in the form of rainfall yearly, most of which occurs between October and March.

Turlock Sub-basin groundwater is the sole source of drinking water for the City. The Turlock Sub-basin, a subunit of the San Joaquin Valley Groundwater Basin, is not considered critically over drafted. Recently, as a member of the Stanislaus Regional Water Authority (SRWA), the City entered into a water sales agreement with Turlock Irrigation District to purchase 5,475 million gallons of surface water per year. The City

anticipates that the SRWA Regional Surface Water Supply Project will be operational by 2022. A surface water supply will reduce the demand on the aquifer and contribute to goals for sustainability.

According to the U.S. Environmental Protection Agency, the Project is located within the Lake Ramona-San Joaquin River sub-watershed; Hydrologic Unit Code (HUC): 180400020403.

3.10.1.1 Local

Turlock General Plan: The Turlock General Plan sets forth the following goals and policies relating to hydrology and water quality and which have potential relevance to the Project's CEQA review:

3.3-a Protect Water Quality and Supply. Continue efforts to safeguard the quality and availability of Turlock's water supply.

3.3-b Use Groundwater at a Sustainable Rate. Undertake steps to ensure the use of groundwater does not exceed the sustainable supply by verifying the estimated sustainable supply of 24,550 acre-feet per year and limiting groundwater use to the sustainable supply.

3.3-l Infrastructure Construction. Design and construct water system infrastructure as needed to meet current and future water demands and system requirements.

3.3-p Groundwater Related Coordination. Support and cooperate with Regional (Turlock Groundwater Basin Management Association), County and State programs to protect valuable groundwater resources and facilitate groundwater recharge.

3.10.2 Impact Assessment

Would the project:

X-a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

a) Less than significant impact. Well No. 38 meets all drinking water standards except for the MCL of arsenic. Completion of the Project will increase the City's number of active wells to 19. The proposed Project will ensure the water from the well is in compliance with quality standards for arsenic.

The treatment system's pressure filters will hold manganese dioxide media. The filters must be backwashed approximately every 12 hours. Following temporary retention in the equalization tank, the backwash and rinse water can be discharged safely to the City sewer system.

The Project will comply with construction best management practices and may be required to complete an SWPPP as part of construction and operational permits. In order to minimize polluted run-off during construction activities, the contractor will comply with all Cal/OSHA regulations regarding regular maintenance and inspection of equipment, spill prevention, and spill remediation in order to reduce the potential for incidental release of pollutants or hazardous substances onsite. Impacts to water quality standards, waste discharge requirements, and surface and groundwater will be less than significant.

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

b) Less Than Significant Impact. The proposed Project will bring Well No. 38 into reliable compliance with the standard for arsenic but will not increase the overall production of water across all active wells. Restoring the well to production will not impact the amount of water being pumped from the aquifer.

The amount of impervious surface being installed at the well site due to the Project is estimated to be around 20,000 square feet of concrete and asphalt concrete. Once the 1M gallon storage tank and associated pump station are installed and if the GAC system is required as well, an additional 12,000 square feet of impervious surface will be introduced to the site. This amount will have minimal effects on groundwater recharge because the site is located in the city where stormwater is diverted to storm drains. Likewise, backwash water produced by the system will be discharged to the City's sewers.

Therefore, implementation of the Project will not interfere substantially with groundwater recharge such that the project would impede sustainable groundwater management of the Turlock Sub-basin, nor will it substantially decrease ground water supplies. Any impacts will be less than significant.

X-c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

(i) result in substantial erosion or siltation on- or off-site;

(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite;

(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; or

(iv) impede or redirect flood flows?

c) Less Than Significant Impact. There are no streams or rivers onsite or in the immediate vicinity. The Project does not propose significant alteration of the topography of the site. The site will be graded to prevent storm runoff from pooling around the equipment. Additionally, the soil at the site is moderately well drained.

Construction of the Project is anticipated to be completed within 10 months, which will include grading and construction of the water treatment system. Construction will likely begin in spring 2020 and end by the beginning of 2021. Construction will utilize Best Management Practices detailed in the California Storm Water Best Management Practice Handbook for Construction Activity.[14]

In order to minimize polluted run-off during construction activities, the contractor will comply with all Cal/OSHA regulations regarding regular maintenance and inspection of equipment, spill prevention, and spill remediation in order to reduce the potential for incidental release of pollutants or hazardous substances onsite.

The project will not alter the existing drainage pattern of the site or area, including through the alteration or a stream or river, or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on or off site, substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site or create or contribute runoff water which would exceed the capacity of exiting or planned stormwater drainage systems, provide substantial additional sources of polluted runoff or impede or redirect flows. As a result, the impact on the existing drainage pattern of the well site will be less than significant.

X-d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

d) Less Than Significant Impact. The Project site is not located in a 100-year flood zone, see **Figure 3-2**. The project will be designed to ensure that there is minimal release of pollutants. Tsunamis do not occur in the area, and there are no lakes or large bodies of water near the community of Turlock. Impacts would be less than significant.

[14] California Storm Water Best Management Practice Handbook for Construction Activity, https://www.casqa.org/sites/default/files/BMPHandbooks/BMP_NewDevRedev_Complete.pdf Accessed 23 October 2019.

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

f) No Impact. The Proposed Project is intended to provide clean drinking water to the residents of Turlock. The proposed water treatment project will not affect any watershed. Best management practices will help ensure water quality standards are met. The Project overlies the Turlock Sub-basin. The Project will also not cause any increase in overall water production for the City. The Project will not conflict with or obstruct implementation of any water quality control plan or sustainable groundwater management plan.

Figure 3-2 FEMA Flood Map

3.11 Land Use and Planning

Table 3-17. Land Use and Planning Impacts

Land Use and Planning					
	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Physically divide an established community?	☐	☐	☐	☒
b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

3.11.1 Environmental Setting

The Project is located at an existing well site, Well No. 38, in the City of Turlock at the northwest corner of W Christofferson Parkway and Mountain View Road. The well site is bordered by residential development and John H. Pitman High School. Within Turlock, the well site is in the northwest section of the city, approximately half a mile south of the city limit. Turlock is in Stanislaus County at the intersection of SRs 99 and 165. The city is surrounded by farmland, mostly row crops and orchards.

3.11.2 Impact Assessment

XI-a) Would the project physically divide an established community?

a) No Impact. Well No. 38 is located on an existing site that is zoned Office Commercial or High Density Residential. The Project does not include the permanent alteration of roads, trails, or paths. Partial road closures and detours during construction may be necessary but alternate routes would be provided. Implementation of the Project will not divide an established community. There would be no impact.

XI-b) Would the project cause a significant environmental conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

b) No Impact. The Project site is designated High Density Residential/Office by the Turlock General Plan, which adheres to the Stanislaus County General Plan. Because the Project takes place within the site of an existing well, implementation of the project will not conflict with any land use plan, policy, or regulation regarding environmental effects. There would be no impact.

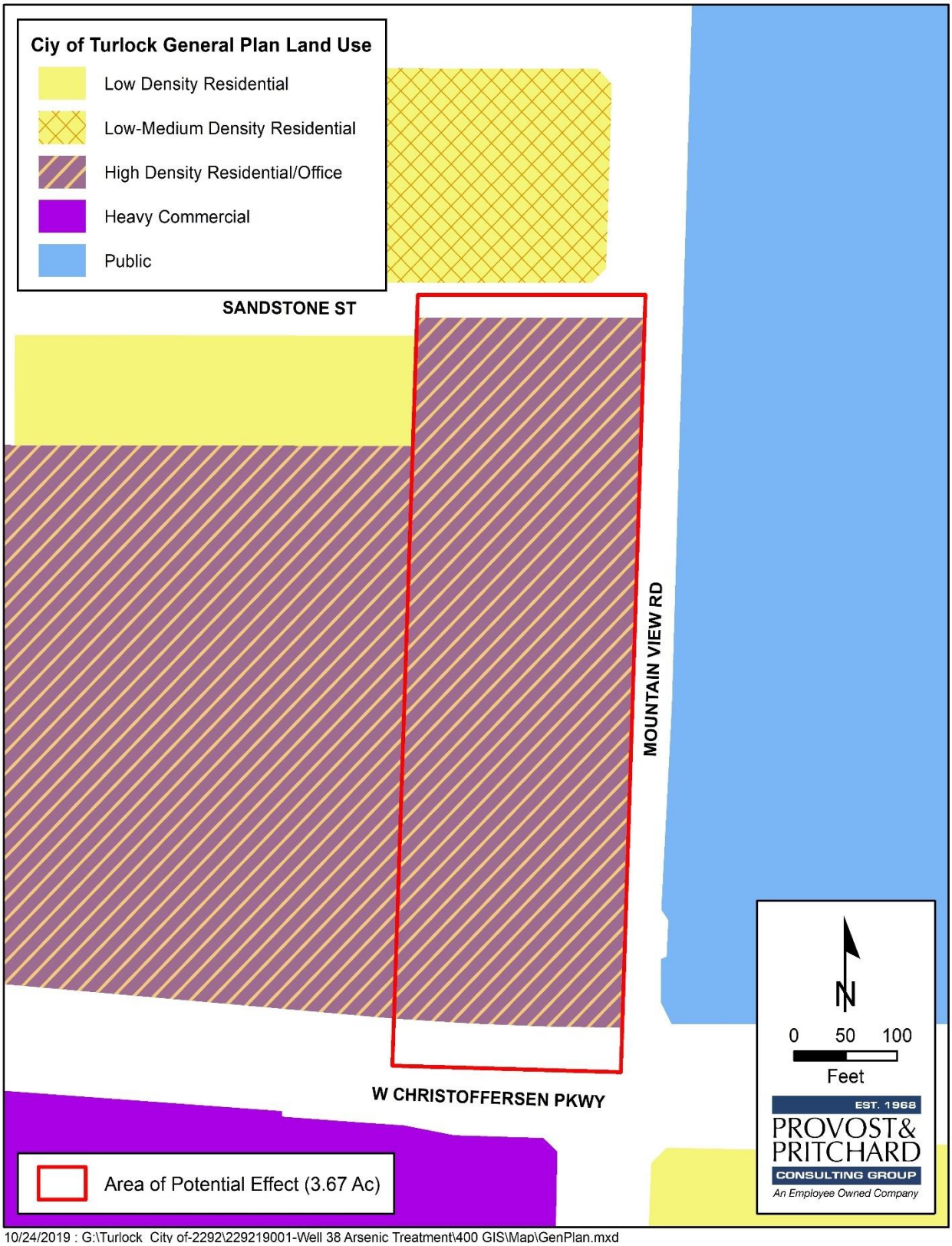

Figure 3-3. General Plan Map

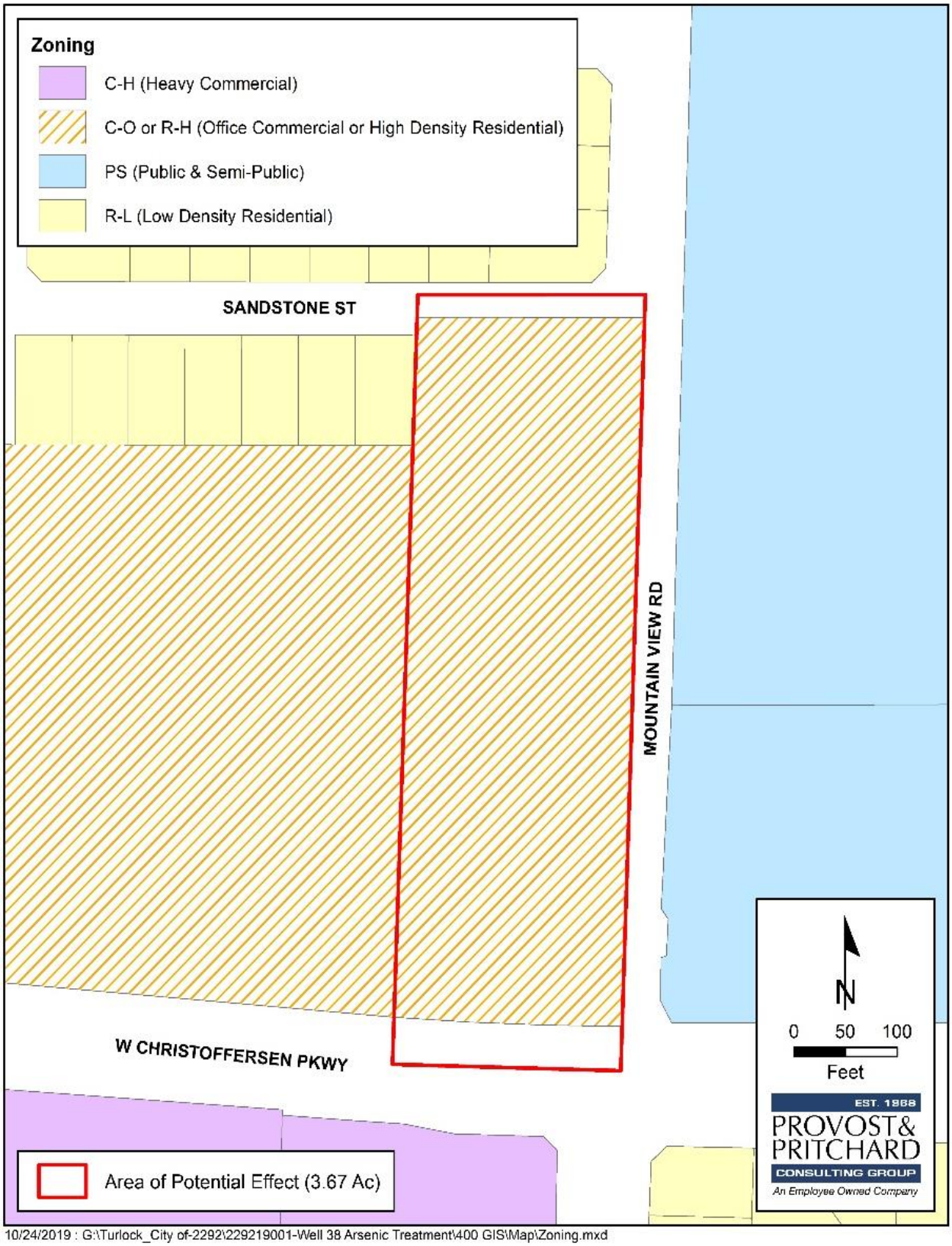

Figure 3-4 Zoning Map

3.12 Mineral Resources

Table 3-18. Mineral Resources Impacts

Mineral Resources					
	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

3.12.1 Environmental Setting

According to the Turlock General Plan, the city overlays two geologic units: the Modesto Formation and Riverbank Formation. The formations are made up of alluvial fan deposits: sand, gravel, silt, and clay. Turlock does not include any known historic or current mining operations aside from minor excavations for fill material. This is not considered a significant resource. The Modesto and Riverbank Formations might be able to supply sand and gravel for construction purposes. However, most sand and gravel used for this purpose in Turlock are sourced from operations along Merced and Tuolumne Rivers.[15]

California Department of Conservation's Division of Oil, Gas and Geothermal maintains a database of oil wells in the Project area (DOGGR). According to the DOGGR Well Finder there is one plugged and abandoned well approximately 1.26 miles southeast of the Project.

The Project site is not delineated on a local land use plan as a locally important mineral resources recovery site.

3.12.2 Impact Assessment

XII-a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

XII-b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

a) and b) No Impact. The California Surface Mining and Reclamation Act of 1975 (SMARA) intended to preserve a continuing supply of mineral resources, while protecting public and environmental health. SMARA requires that all cities incorporate into their general plans mapped mineral resource designations approved by the State Mining and Geology Board. The State Geologist classifies land in California based on availability of mineral resources. Because available aggregate construction material is limited, five designations have been established for the classification of sand, gravel, and crushed rock resources: Scientific Resource, Mineral Resource Zone 1, Mineral Resource Zone 2, Mineral Resource Zone 3, and Mineral Resource Zone 4.

The Turlock General Plan reports the Project site is not within a Mineral Resource Zone. In addition, California's Division of Oil, Gas and Geothermal Resources has no record of active or inactive oil or gas

[15] Turlock General Plan. https://www.cityofturlock.org/buildinginturlock/planninglandusepermitting/generalplan/ Accessed 18 October 2019.

wells or petroleum resources on the Project site or in the vicinity.[16] Therefore, implementation of the Project would not result in the loss of availability of a known mineral resource since no known mineral resources that would be of value to the region and residents of the state have been identified in this area. Furthermore, the Project area has not been designated as a locally important mineral resource recovery site by a general plan, specific plan, or land use plan. There would be no impact.

[16] DOGGR Map of Oil and Gas Wells. https://maps.conservation.ca.gov/doggr/wellfinder/#openModal/-119.80553/36.52896/13 Accessed 18 October 2019.

3.13 Noise

Table 3-19. Noise Impacts

Noise					
	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b)	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c)	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.13.1 Environmental Setting

There are a variety of noise generators in Turlock, including traffic, railroad operations, and agricultural production. Traffic and railroad noise are the most dominant sources of ambient noise near the Project site. SR 99 runs through the western area of Turlock, about 2,300 feet from the Project site, and is the leading source of traffic noise in the area due to high volume. The Project site is approximately 1,200 feet from the Union Pacific railroad, another significant source of noise in the area. According to Turlock's General Plan, 18 freight trains pass through the City daily. Passenger trains presently do not operate on Union Pacific tracks in Turlock.

The construction period for the water treatment system will be approximately 10 months. Truck trips will be limited to daily construction and as-needed maintenance when construction is over. Anticipated construction equipment includes an excavator, backhoe/loader, concrete truck, and concrete pump.

Turlock's Parks and Recreation Department maintains a utility shed on the premises of the well site. Department staff members make several stops at the shed each day using work trucks equipped with trailers.

3.13.1.1 Local

Turlock General Plan: The Turlock General Plan sets forth the following goals and policies relating to noise, and which have potential relevance to the Project's CEQA review:
9.4-b Prevent Degradation of Noise Environment. Protect public health and welfare by eliminating existing noise problems where feasible, maintaining an acceptable indoor and outdoor acoustic environment, and preventing significant degradation of the acoustic environment.

9.4-c Protect Residential Areas and Sensitive Uses. Minimize excessive noise exposure in residential areas and in the vicinity of such uses as schools, hospitals, and senior care facilities.

9.4-d Required Noise Analysis. Use the noise and land use compatibility matrix (Table 9-1) and Future Noise Contours map (Figure 9-2) as review criteria for all new development. For proposed development located where projected noise exposure would be other than "normally acceptable," and which require discretionary review, require that a noise analysis be conducted.

9.4-e Noise-Attenuating Features. For all projects that have noise exposure levels other than "normally acceptable" and which require discretionary review, require site planning and architecture to incorporate noise-attenuating features. With mitigation, development should meet allowable outdoor and indoor noise exposure standards in Table 9-2. In particular, new residential, transient lodging, school, library, church, hospital, and convalescent home development should be designed to provide a suitable interior noise environment of no greater than 45 dB CNEL or Ldn.

9.4-h Non-Transportation Noise Sources—Required Mitigation. Require mitigation of noise created by new proposed non-transportation noise sources so that it does not exceed the noise level standards of Table 9-3 as measured immediately within the property line of lands designated for noise-sensitive uses. Appropriate mitigation measures include:

- Dampen or actively cancel noise sources;
- Increase setbacks for noise sources from adjacent dwellings;
- Use soundproofing materials and double-glazed windows;
- Screen and control noise sources, such as parking and loading facilities, outdoor activities, and mechanical equipment;
- Use open space, building orientation and design, landscaping and running water to mask sounds; and
- Control hours of operation, including deliveries and trash pickup.

3.13.2 Impact Assessment

XIII-a) Would the project result in 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?

a) Less Than Significant Impact. The Project site is located directly across Mountain View Road from John H. Pitman High School, which is considered a sensitive land use. According to Figure 9-2: Existing Noise Contours in the Turlock General Plan, portions of both the well site and the school campus are within zones that regularly experience noise levels ranging from 60–70 decibels (dB). Both properties are located on Christofferson Parkway, which the City has designated an expressway with two lanes of vehicle traffic in each direction. The general plan specifies that sensitive land uses should reach a maximum of 45 dB in their interior spaces.

The construction phase of the Project will involve temporary noise sources, originating predominantly from off-road equipment, such as backhoes, scrapers, and tractors. According to the Federal Highway Administration (FHWA) Construction Noise Handbook, backhoes have a Lmax noise limit at 50 feet of 85 dBa, graders have a limit of 85 dBa, and tractors have a limit of 84 dba. The Project will comply with the Turlock General Plan guidelines regarding construction.

The operational phase of the project will involve backwashing the filters approximately every 12 hours, chemical deliveries as needed, and routine monitoring by existing City staff. According to the FHWA Construction Noise Handbook, pumps generally produce a noise level of 76 dBA at a distance of 50 feet.

The Project is located in an area with inherent noise, mainly from existing vehicle traffic, in addition to Parks and Recreation Department operations. Project implementation will contribute minimally to the existing conditions during Project operation as well as construction, which will be completed within 10 months. As

construction is expected to begin in May 2020, school will not be in session during the entire construction duration. Implementation would not generate significant new noise.

Additionally, equipment engine attenuation is a source mitigation option that assumes all construction equipment and vehicles powered with an internal combustion engine are in good working order, adequately muffled, and maintained in accordance with the manufacturers' recommendations. The contractors shall use equipment furnished with mufflers that are in good condition and appropriate for the equipment.

The project will not exceed noise thresholds of the noise ordinance. The project will not significantly produce noise in excess of the current surrounding area activities. Impacts will be less than significant.

XIII-b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

b) Less Than Significant Impact. The construction phase of the Project will have excavation and grading as part of development of the well treatment and associated infrastructure. Construction on the well site will use backhoes, scrapers, and tractors. The Project will not require drilling into concrete. Impact devices are pieces of construction equipment that create high levels of noise and vibration. The Federal Transportation Administration does not consider backhoes, scrapers, and tractors as impact equipment. Total construction will last approximately 10 months. The Project will not generate excessive ground borne vibration or ground borne noise. Impacts would be less than significant.

XIII-c) For a project located within the vicinity of a private air strip 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?

c) No Impact. The Project is not located within an airport land use plan or within two miles of an airport. Modesto City-County Airport is located approximately eight miles northwest of the Project and Turlock Municipal Airport is approximately 10 miles east-southeast of the site. Furthermore, the Project does not involve the development of habitable structures or require the presence of permanent staff onsite. There would be no impact.

3.14 Population and Housing

Table 3-20. Population and Housing Impacts

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

3.14.1 Environmental Setting

Turlock's 2012 General Plan projects population buildout for the city in 2030 based on a growth rate of 1.9 percent.[17] According to American FactFinder, the U.S. Census Bureau's website, the City's population in 2018 was estimated at 73,504.

3.14.2 Impact Assessment

Would the project:

XIV-a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

XIV-b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

a and b) No Impact. The Project involves construction of a water treatment system for an existing well. The goal of the Project is not to induce population growth, but rather to bring drinking water quality into compliance with State regulations for arsenic. The Project will not encourage population growth directly or indirectly. No housing or habitable structures would be built, nor will any be removed. Implementation of the Project will not result in displacement of people or existing housing. The Project will also not induce substantial unplanned growth through new infrastructure. The amount of drinking water produced will not change and new public roadways will not be built. Therefore, there will be no impact.

[17] Turlock General Plan. https://www.cityofturlock.org/buildinginturlock/planninglandusepermitting/generalplan/ Accessed 18 October 2019.

3.15 Public Services

Table 3-21. Public Services Impacts

Public Services					
	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	Fire protection?	☐	☐	☐	☒
	Police protection?	☐	☐	☐	☒
	Schools?	☐	☐	☐	☒
	Parks?	☐	☐	☐	☒
	Other public facilities?	☐	☐	☐	☒

3.15.1 Environmental Setting

Fire Protection: The closest existing Fire Department is Station No. 34, generally located 1.5 miles southeast of the Project site.

Police Protection: Turlock Police Department operates from the Public Safety Facility at 244 N Broadway Avenue, 3.3 miles southeast of the Project site.

Schools: John H. Pitman High School is just east of the Project area, across Mountain View Road.

Parks: Brad Bates Park, Turlock Regional Sports Complex, and Curt Andre Park are located approximately 2,000 feet north of the Project site.

Landfills: Fink Road Sanitary Landfill in Crows Landing serves the City of Turlock. It is located approximately 17 miles southwest of the Project site.

3.15.2 Impact Assessment

XV-a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or

other performance objectives for any of the public services: fire and police protection, schools, parks, other public facilities?

a) No Impact. The Project would not result in physical changes that would require new or physically altered governmental facilities or create a need for new or physically altered governmental facilities. The Project would have no impact on service ratios, response times, or other performance objectives for the public services identified.

3.16 Recreation

Table 3-22. Recreation Impacts

Recreation					
	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.16.1 Environmental Setting

Recreational sites often provide wildlife habitat, vegetation to mitigate air pollution, and in some cases aquifer recharge areas or watershed protection, sometimes in addition to agricultural or forestry based economic returns. Brad Bates Park, Turlock Regional Sports Complex, and Curt Andre Park are located approximately 2,000 feet north of the Project site.

3.16.2 Impact Assessment

XVI-a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

XVI-b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

a and b) No Impact. The Project includes the construction and operation of a new water treatment system at an existing well site. It would not increase the demand for recreational facilities or put a strain on the existing recreational facilities. Existing employees will operate and maintain the system. Project implementation would not result in population growth. There would be no impact.

3.17 Transportation

Table 3-23. Transportation Impacts

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

3.17.1 Environmental Setting

The Project site is located at the corner of W Christoffersen Parkway and Mountain View Road. The City of Turlock has designated Christoffersen Parkway an expressway while Mountain View Road is a local street. SR 99 is the nearest highway, about 2,500 feet west of the Project site. Residential development and John H. Pitman High School border the Project site. Turlock Municipal Airport is located in Merced County, about 10 miles southeast of the Project site. Route 3 of Bus Line Service of Turlock (BLAST) operates on Christoffersen Parkway.

3.17.2 Impact Assessment

XVII-a) Would the project conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

a) No Impact. Construction traffic associated with the water treatment Project would be minimal and temporary, lasting approximately 10 months. Construction and material staging will take place within the well site, an approximately 2.2-acre lot. Operational traffic will be minimal, consisting of routine maintenance and inspections that are already completed regularly. Project implementation would not conflict with a plan, ordinance, or policy regarding circulation; there would be no impact.

XVII-b) Would the project conflict or be inconsistent with CEQA Guidelines section 150643. Subdivision (b)?

b) No Impact. Section 15064.3 Subdivision (b) of the CEQA guidelines specify for Land Use Projects, "Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major traffic stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact."

Guidelines also specify, "Quantitative Analysis. If existing models or methods are not available to estimate the vehicles miles traveled for the particular project being considered, a lead agency may analyze the project vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate."

No models or methods are available for use of this project. Instead the project will be evaluated qualitatively.

The project is located near the developed traffic corridor of SR 99, with established roads surrounding the subject area. Construction and operation of the water treatment system will not create issues for vehicle traffic or other modes of transportation in the area. As a result, the project may be determined, consistent with Section 15064.3, to not have a significant impact on transportation impacts.

XVII-c) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

c) No Impact. No new roadway design features are associated with the Project. Construction and material staging will take place within the well site and other construction hazards will be minimized with signage and enforcement of proper personal protective equipment worn by contractors and inspectors. There will be no impact.

XVII-d) Would the project result in inadequate emergency access?

d) Less Than Significant Impact. Small structures and other water treatment implements will be installed at the site but will not significantly impede emergency access. Therefore, impacts would be less than significant.

3.18 Tribal Cultural Resources

Table 3-24. Tribal Cultural Resources Impacts

Tribal Cultural Resources				
Would the project:	**Potentially Significant Impact**	**Less than Significant With Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a 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:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

3.18.1 Methodology

In October 2019, Provost & Pritchard contacted the Native American Heritage Commission (NAHC) in Sacramento. Provost & Pritchard provided NAHC a brief description of the project and a map showing its location and requested that the NAHC perform a search of the Sacred Lands File to determine if any Native American resources have been recorded in the immediate study area. Provost & Pritchard also requested NAHC provide a current list of local Native American contacts for the proposed Project APE. The two tribes identified by NAHC were contacted in writing via US mail with a letter dated October 21, 2019 informing them about the proposed Project. Provost & Pritchard did not receive a response. No responses were received from either of the tribes.

3.18.2 Impact Assessment

XVIII-a) 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:

XVIII-a-i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)

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

a) No Impact No listed sites were identified in the Project area. Therefore, there will be no impact to listed tribal cultural resources. Tribal cultural resources were not identified in the Project area through either the cultural resources study, or the AB 52 notification process.

3.19 Utilities and Service Systems

Table 3-25. Utilities and Service Systems Impacts

Utilities and Service Systems					
	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c)	Result in a determination by the wastewater treatment provider 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?	☐	☐	☒	☐
d)	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reductions goals?	☐	☐	☒	☐
e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

3.19.1 Environmental Setting

3.19.1.1 Water Supply

The City's groundwater source is the Turlock Sub-basin, a subunit of the San Joaquin Valley Groundwater Basin. The Turlock Sub-basin is not considered critically over drafted. Recently, as a member of the Stanislaus Regional Water Authority (SRWA), the City entered into a water sales agreement with Turlock Irrigation District to purchase 5,475 million gallons of surface water per year. The City anticipates that the SRWA Regional Surface Water Supply Project will be operational by 2022.

3.19.1.2 Wastewater Collection and Treatment

No wastewater will be generated during Project construction. As part of the Project, an existing storage shed will be demolished and rebuilt in a different location. The new shed will be the same size, but it may have a bathroom. The new bathroom onsite may generate a minimal amount of wastewater. The treatment system will produce a maximum of 60,000 gallons of wastewater per day as a result of the backwash process.

3.19.1.3 Landfills

Fink Road Sanitary Landfill in Crows Landing serves the City of Turlock. It is located approximately 17 miles southwest of the Project site.

3.19.2 Impact Assessment

Would the project:

XIX-a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electrical power, natural gas, or telecommunications facilities or expansion of existing facilities, the construction of which ould cause significant environmental effects?

a) Less Than Significant. The proposed Project would not exceed wastewater treatment requirements or require new wastewater treatment facilities. The Project does entail the expansion of existing water and electrical facilities in that the project will install well treatment infrastructure as part of the existing Turlock water system. Such impacts are less than significant by implementing mitigation measures BIO-1a through BIO-c. **Table 3-8.** Biological Resources Impacts

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

b) No Impact. The project involves construction and operation of a treatment system of an existing water well which supplies the City of Turlock. Currently this well is over the MCL for arsenic and the project will bring the drinking water source into compliance. The project itself will not create a need for water, besides the need to backwash the system. Resulting water will be discharged to the City's sewer system at a maximum amount of 60,000 gallons per day. It will be necessary to backwash the filters approximately every 12 hours. All other water used in the process will be produced to serve Turlock. It will improve the quality, versatility, and reliability of the system. As a result, there will be no impact.

XIX-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?

c) Less Than Significant Impact. The proposed Project will discharge a maximum of 60,000 gallons of water per day to the City's sewer system as a result of treatment system backwash. This amount will not significantly increase the amount of wastewater the City treats. Impacts would be less than significant.

XIX-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?

d) Less Than Significant Impact. There will be minimal waste associated with the operational phase of the Project. Any waste associated with construction would be minimal and ideally recycled. Therefore, impacts would be less than significant.

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

e) No Impact. The Project involves the construction of a new water treatment system. The operation of the Project will produce little solid waste. The construction of the Project would generate a minimal amount of solid waste, most of which would be recycled. The Project would comply with federal, State, and local regulations regarding solid waste. There would be no impact.

3.20 Wildfire

Table 3-26. Wildfire Impacts

Wildfire					
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:		**Potentially Significant Impact**	**Less than Significant With Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a)	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b)	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrollable spread of wildfire?	☐	☐	☐	☒
c)	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d)	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

3.20.1 Environmental Setting

The Project is located in the City of Turlock in Stanislaus County. Construction will be taking place within the existing well site. The Project is not considered to be population growth inducing.

3.20.2 Impact Assessment

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

XX-a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

XX-b) Due to slope, prevailing winds, or other factors exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from wildfire or the uncontrolled spread of wildfire?

XX-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?

XX-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?

a–d) No Impact. The Project is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones. Further analysis of the Project's potential impacts regarding wildfire are not warranted. See **Figure 3-5**. There would be no impact.

Figure 3-5. Fire Hazard Map

3.21 CEQA Mandatory Findings of Significance

Table 3-27. Mandatory Findings of Significance Impacts

Mandatory Findings of Significance				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

3.21.1 Impact Assessment

XXI-a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

a) Less Than Significant Impact with Mitigation Incorporated. The analysis conducted in this Initial Study/Mitigated Negative Declaration results in a determination that the Project, with incorporation of mitigation measures, will have a less than significant effect on the environment. The potential for impacts to biological resources and cultural resources from the implementation of the proposed Project will be less than significant with the incorporation of the mitigation measures discussed in **Chapter 3, Impact Analysis**. Accordingly, the proposed Project will involve no potential for significant impacts through: the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of a major period of California history or prehistory.

XXI-b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

b) Less Than Significant Impact. CEQA Guidelines Section 15064(i) States that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. The proposed Project would consist of the construction and operation of a water treatment system including vertical pressure filters, a water storage tank, a chemical enclosure, a generator for emergency power, and other associated infrastructure and site improvements. The Project is intended to correct water quality issues experienced by the City of Turlock. There are no other known projects occurring in Turlock and no future projects in the neighborhood. The water treatment of an existing well combined with past, present, and future projects will not contribute to significant cumulative effects on Air Quality, Greenhouse Gas, Noise, or Traffic. Implementation of the water treatment Project would not result in significant cumulative impacts and all potential impacts would be reduced to less than significant through the implementation of mitigation measures, regulatory requirements, and standard best management practices.

XXI-c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

c) Less than Significant Impact. The proposed Project would include the construction of a water treatment system within normal hours of business operation (7 a.m. to 7 p.m.) according to the City of Turlock's noise requirements. The proposed Project in and of itself would not create a significant hazard to the public or the environment. On the contrary, implementation of the Project would correct water quality issues experienced by the City of Turlock. Construction-related air quality/dust exposure impacts could occur temporarily as a result of project construction. Dust suppression measures during excavation, grading, and site preparation activities will be implemented consistent with SJVAPCD Regulation VIII – Fugitive Dust Prohibitions to limit air quality/dust exposure impacts. The City of Turlock Municipal Code will be followed for noise requirements. Implementation of basic regulatory requirements identified in this IS/MND would ensure that impacts are less than significant. Therefore, the proposed Project would not have any direct or indirect adverse impacts on humans. This impact would be less than significant.

Chapter 4 Mitigation Monitoring and Reporting Program

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the City of Turlock Well No. 38 Arsenic Treatment Project (Project) in Stanislaus County. The MMRP lists mitigation measures recommended in the IS/MND for the Project and identifies monitoring and reporting requirements.

Table 4-1 presents the mitigation measures identified for the proposed Project. Each mitigation measure is numbered with a symbol indicating the topical section to which it pertains, a hyphen, and the impact number. For example, AIR-2 would be the second mitigation measure identified in the Air Quality analysis of the IS/MND.

The first column of **Table 4-1** identifies the mitigation measure. The second column, entitled "When Monitoring is to Occur," identifies the time the mitigation measure should be initiated. The third column, "Frequency of Monitoring," identifies the frequency of the monitoring of the mitigation measure. The fourth column, "Agency Responsible for Monitoring," names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last columns would be used by Turlock to ensure that individual mitigation measures have been complied with and monitored.

Table 4-1. Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program					
Mitigation Measure/Condition of Approval	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
Biological Resources					
Mitigation Measure BIO-1a: Avoidance					
The Project's construction activities shall occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.	Prior to construction	During nesting season	City of Turlock		
Mitigation Measure BIO-1b: Pre-Construction Survey					
If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist shall conduct pre-construction surveys for active nests within 30 days prior to the start of construction. The survey shall include the proposed work area and surrounding lands within 0.5 mile. If no active nests are observed, no further mitigation is required. Raptor nests are considered "active" upon the nest-building stage.	Prior to construction	During nesting season	City of Turlock		
Mitigation Measure BIO-1c: Establish Buffers					
On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged.	Prior to and during construction	During nesting season	City of Turlock		

Mitigation Monitoring and Reporting Program					
Mitigation Measure/Condition of Approval	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
Cultural Resources					
Mitigation Measure CUL-1: Archaeological Resources					
In the event that archaeological resources are encountered at any time during development or ground-moving activities within the entire project area, all work in the vicinity of the find shall halt until a qualified archaeologist can assess the discovery. The District shall implement all recommendations of the archaeologist necessary to avoid or reduce to a less than significant level potential impacts to cultural resource. Appropriate actions could include a Data Recovery Plan or preservation in place.	In the event archaeological resources are uncovered	During excavation	City of Turlock		
Mitigation Measure CUL-2: Human Remains					
If human remains are uncovered, or in any other case when human remains are discovered during construction, the Tulare County Coroner is to be notified to arrange proper treatment and disposition. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American, California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC would then identify the Most Likely Descendent who would determine the manner in which the remains are treated.	In the event human remains are uncovered	During excavation	City of Turlock		

Chapter 5 References

List of Sources, Agencies and Persons Consulted:

AB-52 Native Americans: California Environmental Quality Act:
http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140AB52

California Department of Resources Recycling and Recovery (CalRecycle) website:
http://www.calrecycle.ca.gov/

California Department of Toxic Substances Control website: http://www.envirostor.dtsc.ca.gov/public/

California Department of Conservation's Farmland Mapping and Monitoring Program:
https://maps.conservation.ca.gov/

California Department of Fish and Wildlife: https://www.wildlife.ca.gov/Data/CNDDB

California Emissions Estimator Model (CalEEMod), version 2016.3.2

California State Water Resources Control Board website: http://geotracker.waterboards.ca.gov/ and
http://www.swrcb.ca.gov/water_issues/programs/stormwater/construction.shtml

Caltrans: http://www.dot.ca.gov/design/lap/livability/scenic-highways/index.html

Federal Emergency Management Agency (FEMA), Flood Map Service Center website:
http://msc.fema.gov/portal

Google Earth: https://www.google.com/earth/

Native American Heritage Commission: http://nahc.ca.gov/

San Joaquin Valley Air Pollution Control District :
http://www.valleyair.org/aqinfo/attainment.htm

State Water Resources Control Board, GeoTracker: http://geotracker.waterboards.ca.gov/

U.S. Fish & Wildlife Service National Wetlands Inventory: https://www.fws.gov/wetlands/

Chapter 6 List of Preparers

The following firms, individuals, and agency staff contributed to the preparation of this document:

Provost & Pritchard Consulting Group:
Briza Sholars – Project Manager/Senior Planner/QAQC
Hilary Malveaux – Assistant Planner
Brooke Fletcher – Biologist
Mallory Serrao – GIS
Jackie Lancaster – Administrative Support

Appendix A

Air Quality and Greenhouse Gas Emissions Evaluation Report

Appendix B

Biological Evaluation Report

Appendix C

Cultural Resources Information