NOTICE OF EXEMPTION

To: Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-0344

From: Washington Unified School District
7950 S. Elm Avenue
Fresno, CA 93706

County Clerk
County of Fresno
2220 Tulare Street
Fresno, CA 93721

Project Title: Washington Unified School District - American Union Elementary School Well Replacement Project

Project Applicant: Washington Unified School District

Project Location - Specific: Washington Unified School District (WUSD)'s American Union Elementary School (AUES) is located at 2801 W. Adams Avenue, south of the City of Fresno, in unincorporated Fresno County (County), California. The proposed project is located at the northeastern portion of the AUES. The project site is primarily surrounded by agricultural and rural residential uses.

Project Location - City: N/A

Project Location - County: Unincorporated Fresno County

Description of Nature, Purpose, and Beneficiaries of Project: In 2016, the water from the AUES' well violated the maximum contaminant level (MCL) for Uranium and was issued a Compliance Order. As of 2018, a water sample from the well contained 1,2,3-trichloropropane (TCP) at 0.056 parts per billion (ppb), which exceeds the State safe drinking water MCL of 0.005 ppb. The water system is permitted and regulated by the State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW) and, as such, requires the testing and water quality compliance reporting as that of a small community water system. WUSD has been approved by the Division of Financial Assistance of the State Water Board (DFA) for funds from Section 79724 of the Water Code (Prop 1) to complete an alternative analysis and engineering report to address the Uranium Compliance Order and adhere to the TCP MCL. Based on the results of the alternative analysis, WUSD proposes to construct a well replacement (proposed project) to address the Uranium Compliance Order and adhere to the TCP MCL.

The proposed project includes the installation of a new 2-foot diameter water production well at a depth of 700 feet that will be constructed on the northeast corner of the school property that would replace the existing well, located on the southeast corner of the school property, approximately 165 southeast from the new well. The water production rate will remain the same as the previous well (i.e., 175 gallons per minute); thus, there will be no increase in water production. The proposed project will also require the removal of an existing hydrotank and aboveground piping in an existing on-site pumphouse as well as removal and replacement of approximately 120 feet of underground galvanized pipe and valve just north of the pumphouse. A replacement hydrotank will be installed immediately south of the new water production well and will be enclosed with fencing. The replacement hydrotank will be similar in size and appearance to an existing hydrotank located on site in the southeast corner of the school property (near the existing irrigation well). Construction duration is estimated to be approximately 3 to 6 months and construction activities will occur

during the day within the allowable work hours for construction per Fresno County Code Section 8.40.060 (i.e., between 6am and 9pm, Monday through Friday).

Name of Public Agency Approving Project: Washington Unified School District (Lead Agency)

Name of Person or Agency Carrying Out Project: Washington Unified School District

The project is exempt from CEQA under the following authority:
☒ Categorical Exemption
State type and section number: Section 15302 Class 2 (c)

Reasons why project is exempt:
As discussed in CEQA Guidelines Section 15302, a Class 2 exemption consists of the following:

"…replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced, including but not limited to:

(a) Replacement or reconstruction of existing schools and hospitals to structures which do not increase capacity more than 50 percent.
(b) Replacement of a commercial structure with a new structure of substantially the same size, purpose, and capacity.
(c) Replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity.
(d) Conversion of overhead electric utility distribution system facilities to underground including connection to existing overhead electric utility distribution lines where the surface is restored to the condition existing prior to the undergrounding."

The proposed project will involve replacement of existing structures/facilities where the new structures will occur in the same area and will have substantially the same purpose and capacity as the structures being replaced (e.g., the new production well will occur within 165 feet of where a similar-sized well was previously located and will have the same capacity as the old production well; the hydrotank in the pumphouse will be removed and replaced with another hydrotank at a nearby location on the school property [specifically, located approximately 100 feet northeast of the pumphouse]; aboveground piping in the existing on-site pumphouse will be removed and approximately 120 feet of underground galvanized pipe and valve located just north of the pumphouse will be removed and replaced in kind; and, an existing irrigation well will be removed and an existing production/irrigation well will be used instead solely for irrigation). Furthermore, the proposed project will not result in a potentially significant impact on the environment.

As shown, the proposed project is consistent with the criteria under CEQA Guidelines Section 15302, Class 2 (c). As such, the proposed project qualifies for the Class 2 (c) Categorical Exemption.

Lead Agency Contact Person: Randy Morris **Area Code/Telephone:** (559) 495-5600

Signature: _____ **Date:** 6-16-22

Title: Superintendent, Washington Unified School District

☒ Signed by Lead Agency ☐Signed by Responsible Agency ☐ Signed by Applicant

Date Received for filing at OPR: _____

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Notice of Exemption – Backup Documentation Memo

Date:	April 26, 2022
Project:	Washington Unified School District (WUSD) – American Union Elementary School (AUES) Well Replacement Project
To:	Randy Morris, WUSD Superintendent
From:	John Plath and Hallie Fitzpatrick, AECOM

1. Project Background

The Washington Unified School District (WUSD)'s American Union Elementary School (AUES) is located at 2801 W. Adams Avenue, south of the City of Fresno in unincorporated Fresno County, California. There are approximately 360 students and staff who attend the AUES on a daily basis. AUES is served entirely by a single groundwater well as its source of domestic water. In 2016, the water from the AUES' well violated the maximum contaminant level (MCL) for Uranium and was issued a Compliance Order. As of 2018, a water sample from the well contained 1,2,3-trichloropropane (TCP) at 0.056 parts per billion (ppb), which exceeds the State safe drinking water MCL of 0.005 ppb. The water system is permitted and regulated by the State Water Resources Control Board Division of Drinking Water (DDW) and, as such, requires the testing and water quality compliance reporting as that of a small community water system.

WUSD has been approved by the Division of Financial Assistance of the State Water Board (DFA) for funds from Section 79724 of the Water Code (Prop 1) to complete an alternative analysis and engineering report to address the Uranium Compliance Order and adhere to the TCP MCL. Based on the results of the alternative analysis, WUSD proposes to construct a well replacement (proposed project) to address the Uranium Compliance Order and adhere to the TCP MCL.

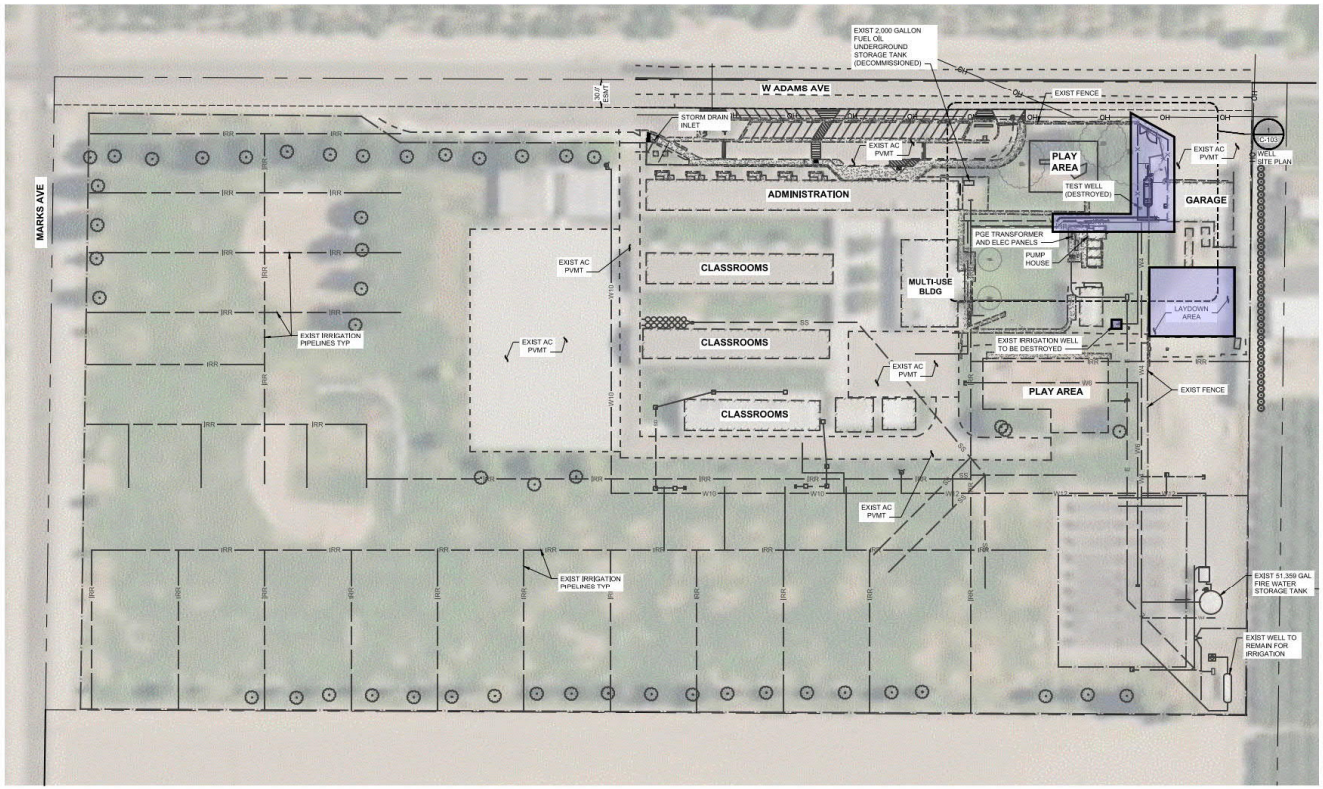
2. Project Description

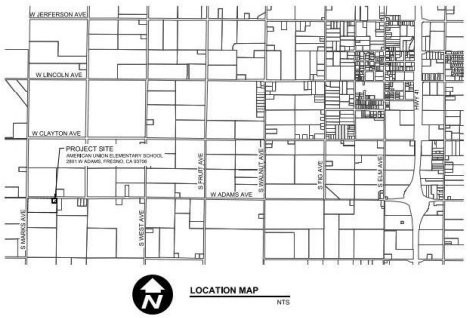
2.1 Project Location and Setting

The proposed project is located at the northeastern portion of the AUES at 2801 W. Adams Avenue (Assessor's Parcel Number 33502001ST) in unincorporated Fresno County. The project site is zoned as "Exclusive Agricultural District (AE20)" and has an "Agriculture" General Plan land use designation[1],[2]. The project site is primarily surrounded by agricultural and rural residential uses.

The project site consists of a disturbed dirt lot covered with some grass, with a couple structures – specifically, a fenced garage on the northeast corner, and a pumphouse and irrigation well on the south portion of the project site. There are also two trees on the north portion of the project site that face W. Adams Avenue. Figure 1 shows the location of the project site on the AUES.

[1] County of Fresno. 2022. Zoning WebApp ArcGIS. Available at: https://gisportal.co.fresno.ca.us/portal/apps/webappviewer/index.html?id=b921843d343d4df998b5b3c6a301756a (accessed February 2022).
[2] County of Fresno. 2000. Fresno County General Plan – Policy Document. Figure LU-1a, Countywide Land Use Diagram. Available at: https://www.co.fresno.ca.us/home/showpublisheddocument/18117/636753797422170000 (accessed February 2022).





LEGEND

PROJECT SITE

100 50 0 100 Feet

Scale: 1:1,200; 1 inch = 100 feet

Figure 1
Project Site

Washington Unified School District (WUSD) – American Union Elementary School (AUES) Well Replacement Project

2.2 Project Description

The proposed project includes the installation of a new 2-foot diameter water production well at a depth of 700 feet that will be constructed on the northeast corner of the school property (adjacent to a garage), approximately 30 feet northeast of the test well (6 inches in diameter and 700 feet deep) that was drilled in the summer of 2021 and subsequently destroyed later that same year. This new well will replace the existing production well that is located at the southeast corner of the school property, approximately 165 feet southeast from the new well. This existing well (which served as the domestic water supply well) will remain in place and will only be used for irrigation. The water production rate will remain the same as the previous well (i.e., 175 gallons per minute); thus, there will be no increase in water production. In addition, the existing irrigation well will be destroyed, located approximately 170 feet south of the new well.

The proposed project will also require the removal of an existing hydrotank and aboveground piping in an existing on-site pumphouse as well as removal and replacement of approximately 120 feet of underground galvanized pipe and valve just north of the pumphouse. A replacement hydrotank will be installed immediately south of the new water production well and will be enclosed with fencing. The replacement hydrotank will be similar in size and appearance to an existing hydrotank located on site in the southeast corner of the school property (near the existing irrigation well).

The proposed project will require a 250-square foot staging/laydown area located south of the garage in an existing gravel parking area on the school property. The proposed project will result in approximately 500 square-feet of temporary disturbance area (i.e., the work area around the new well and pumphouse as well as the staging/laydown area) and approximately 120 square-feet of permanent disturbance area (the new well, new hydrotank, and removal of the existing well). The temporary disturbance area will be restored to pre-construction conditions. No tree removal will be required though, some vegetation removal (turf in the new well area) will be required in the permanent disturbance area (to be replaced with asphalt pavement/gravel). It should be noted that per Section 011100 H of the proposed project's specifications, WUSD will provide a qualified on-site biologist to conduct a pre-construction survey of all potential nesting habitat within 500-feet of the construction site. The biologist will provide survey results to the contractor, which will include nesting locations and buffer requirements. The contractor shall establish and maintain required buffer zones. The survey must be conducted with two weeks of start of vegetation or earth moving activities. The contractor will provide WUSD with a schedule identifying those areas that fall within the two-week window. If vegetation removal activities are delayed or suspended for more than two weeks after the pre-construction survey, the area shall be resurveyed at the contractor's expense.

In addition, per Section 011100 H of the proposed project's specifications, the proposed project includes procedures in the event of any inadvertent discovery of archaeological resources pursuant to Public Resources Code (PRC) and the California Environmental Quality Act (CEQA) Guidelines Section 15064.5, which includes the following: (1) All work within 50 feet of the find shall be halted until a professional archaeologist, or paleontologist if the find is of paleontological nature, can evaluate the significance of the find; the archaeologist or paleontologist will be provided by WUSD; and (2) If human remains are encountered during construction activities, work shall immediately halt in the vicinity and the contractor shall notify WUSD and the County Coroner in accordance with California Health and Safety Code Section 7050.5.

Project components will be designed and constructed in accordance with applicable provisions of the American Water Works Association (AWWA) Standards, California State Building Code (CBC), the Uniform Building Code (UBC), and applicable County requirements. Components of the proposed project will require general construction activities including grading, excavating, trenching, pipe installation, placement of backfill, and asphalt patching. Energy efficient construction equipment would

be utilized to the extent feasible. The following equipment may be utilized during construction of the proposed project:

- Truck mounted rotary well drilling rig
- Air compressors
- Pavement saw
- Flat-back delivery truck
- Jack hammers
- Concrete trucks
- Excavators
- Sweepers
- 10-wheel dump trucks
- Welding trucks
- Water truck
- Paving equipment: backhoe, asphalt hauling trucks, compactors, paving machine, and rollers

The well drilling will generate approximately 2,200 cubic feet of soil and require approximately 1,650 cubic feet of bentonite and gravel pack import; also, the site grading will require the removal of approximately 150 total cubic feet of soil, which will be hauled off-site for disposal at the nearest landfill. Development water will be disposed of in compliance with the State CGP and Central Valley RWQCB's NPDES Permit requirements for construction dewatering. In addition, a Storm Water Pollution Prevention Plan (SWPPP), which would include erosion and dust control best management practices (BMPs), will be implemented as part of the proposed project, as discussed in Sections 011100 G and 015723 of the proposed project's specifications.

It is estimated that a total of 40 truck trips would be generated during construction. Also, it is estimated that a total of 20 workers (averaging 2-3 workers per day) will be required for the duration of construction. Construction duration is estimated to be approximately 3 to 6 months and will occur during the day within the allowable work hours for construction per Fresno County Code Section 8.40.060 (i.e., between 6am and 9pm, Monday through Friday). No nighttime construction will be required.

3. CEQA Regulatory Setting

CEQA applies to proposed projects initiated by, funded by, or requiring discretionary approvals from state or local government agencies. CEQA Guidelines apply generally to discretionary actions by agencies which may have a significant effect on the environment. However, where it can be seen with certainty that there is no possibility that an activity may have a significant effect on the environment, and if the activity meets the conditions for a Categorical Exemption, it is considered exempt from the provisions of CEQA.

Section 21084 of the PRC requires the CEQA Guidelines to include a listing of types of projects that are determined not to have a significant effect on the environment and which, therefore, are exempt from CEQA clearance. Sections 15301 through 15333 of the CEQA Guidelines describes the 33 classes of projects, also known as Categorical Exemptions. Section 15302 outlines the criteria for the exemption of replacement or reconstruction projects. As discussed in CEQA Guidelines Section 15302, a Class 2 Categorical Exemption consists of the following:

"…replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced, including but not limited to:

a) Replacement or reconstruction of existing schools and hospitals to structures which do not increase capacity more than 50 percent.

b) Replacement of a commercial structure with a new structure of substantially the same size, purpose, and capacity.

c) Replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity.

d) Conversion of overhead electric utility distribution system facilities to underground including connection to existing overhead electric utility distribution lines where the surface is restored to the condition existing prior to the undergrounding."

It is the intention of WUSD to pursue a Class 2 (c) Categorical Exemption for the proposed project. The environmental review contained in Section 4 of this memo has been prepared to assess the potential for the proposed project to result in environmental effects and whether the proposed project qualifies for a Categorical Exemption under Class 2 (c).

4. Environmental Review

This section includes an assessment, by issue area, of the proposed project's potential effects on the environment, pursuant to Appendix G of the CEQA Guidelines.

4.1 Aesthetics

Except as provided in PRC Section 21099, would the project:

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?

The project site is located within the AUES campus and contains the existing well to be replaced. Surrounding uses immediately in the project site include multi-story, classroom, and administration campus buildings to the west, a play area, existing fence, and West Adams Avenue to the north, a garage to the east, and another play area to the south. Surrounding uses in the project vicinity include agricultural and rural residential uses to the west, north, east, and south. The project site does not contain nor offer views of any scenic resources, and views of the project site would not be considered scenic. Additionally, there are no eligible or designated scenic highways adjacent to or within one-mile the project site.[3] Thus, the proposed project would not have a substantial adverse effect on a scenic vista or damage scenic resources within a state scenic highway. No impact would occur.

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?

The proposed project, located in an urbanized area, would result in approximately 500 square-feet of temporary disturbance area (i.e., the work area around the new well and pumphouse as well as the staging/laydown area) and approximately 120 square-feet of permanent disturbance area (the new well, new hydrotank, and removal of the existing well). Although the proposed project would occupy a larger footprint on the project site than the existing well, the project components would be designed and constructed in accordance with applicable provisions of the AWWA Standards, CBC, the UBC, and applicable County requirements. The design of the project components would be similar to existing structures on the AUES campus. Furthermore, there are no scenic resources on the project site; as

[3] California Department of Transportation (Caltrans). 2022. List of Eligible and Officially Designated State Scenic Highways. Available at: https://dot.ca.gov/-/media/dot-media/programs/design/documents/desig-and-eligible-aug2019_a11y.xlsx(accessed March 2022).

such, there are County zoning and other regulations governing scenic quality that would apply to the project site. Thus, the proposed project would not conflict with County zoning and other regulations governing scenic quality nor would the proposed project substantially degrade the existing visual character and quality of the project site and its surroundings. No impact would occur.

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

Construction duration for the proposed project is estimated to be approximately 3 to 6 months and construction activities would occur during the day within the allowable work hours per Fresno County Code Section 8.40.060 (i.e., between 6am and 9pm, Monday through Friday). No nighttime construction would be required. Thus, construction and operation of the proposed project would not result in new sources of substantial light of glare at the project site. No impact would occur.

4.2 Agriculture and Forestry Resources

Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to 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 PRC Section 12220(g)), timberland (as defined by PRC 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?

The project site is identified as Urban and Built Up Land by the California Resources Agency as part of the Farmland Mapping and Monitoring Program.[4] In addition, while the project site is zoned as "Exclusive Agricultural District (AE20)," the existing use of the project site is an elementary school and is not developed for farming or agricultural use, and no Williamson Act Contract is applicable to the project site.[5] Neither project construction nor operation would change the existing zoning designation of the project site; as such, the proposed project would not conflict with the existing agricultural zoning. Furthermore, the project site is not zoned for or developed as forest land or timberland as defined in PRC Section 12220(g) and Government Code Section 4526, respectively.[6] Although the surrounding uses of the AUES campus are identified as Prime Farmland, construction and operation of the proposed project would be limited to the AUES campus and would not impact surrounding uses. Thus, the proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use; would not conflict with existing zoning for agricultural use, or a Williamson Act contract; would not conflict with existing zoning for, or cause rezoning of, forest land or timberland; would not result in the loss of forest land or conversion of forest land to non-forest use; and, and would not involve other changes in the existing environment which, due to their location

[4] California Department of Conservation, Division of Land Resource Protection. 2022. Farmland Mapping and Monitoring Program, California Important Farmland Finder, Search by Address Available at: https://maps.conservation.ca.gov/DLRP/CIFF/(accessed February 2022).
[5] California Department of Conservation, Division of Land Resource Protection. 2022. Williamson Act, Reports and Statistics, 2016 Status Report. Available at: https://www.conservation.ca.gov/dlrp/wa/Documents/stats_reports/2020%20WA%20Status%20Report.pdf (accessed February 2022).
[6] County of Fresno. 2022. County of Fresno -Zoning Web AppViewer ArcGIS. Available at: https://gisportal.co.fresno.ca.us/portal/apps/webappviewer/index.html?id=b921843d343d4df998b5b3c6a301756a (accessed February 2022).

or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use. No impact would occur.

4.3 Air Quality

Would the project:

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?

Air Pollutants of Concern and Environmental Setting

Air quality is typically characterized by ambient air concentrations of seven specific pollutants identified by the United States Environmental Protection Agency (USEPA) and California Air Resources Board (CARB) to be of concern with respect to health and welfare of the general public. Because the air quality standards for these air pollutants are regulated using human health and environmentally based criteria, they are commonly referred to as "criteria air pollutants." The federal ambient concentration criteria are known as the National Ambient Air Quality Standards (NAAQS), and the California ambient concentration criteria are referred to as the California Ambient Air Quality Standards (CAAQS). Federal criteria air pollutants include ground-level ozone, nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), respirable particulate matter ten micrometers or less in diameter (PM_{10}), fine particulate matter 2.5 micrometers or less in diameter ($PM_{2.5}$), and lead. Ozone is not emitted directly into the air but is formed through a series of reactions involving reactive organic gases (ROGs) and nitrogen oxides (NO_X) in the presence of sunlight. ROG and NO_X are referred to as "ozone precursors." In addition to the federal criteria pollutants, the state regulates visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride.

The project site is located within the San Joaquin Valley Air Basin (SJVAB) under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). Areas are classified under the Federal Clean Air Act and California Clean Air Act as attainment, non-attainment, or maintenance (previously non-attainment and currently attainment) for each criteria pollutant based on whether the NAAQS or CAAQS have been achieved. With respect to NAAQS, SJVAPCD is designated as a nonattainment area for ozone and $PM_{2.5}$, and as an attainment or unclassified area for all other pollutants. With respect to the CAAQS, the SJVAPCD is designated as a nonattainment area for ozone, PM_{10}, and $PM_{2.5}$, and as an attainment or unclassified area for all other pollutants.[7]

Toxic Air Contaminants

In addition to criteria air pollutants, USEPA and CARB regulate hazardous air pollutants, also known as toxic air contaminants (TAC). TAC collectively refer to a diverse group of air pollutants that are capable of causing chronic (i.e., long-duration) and acute (i.e., severe but short-term) adverse effects on human health, including carcinogenic effects. TACs can be separated into carcinogens and noncarcinogens based on the nature of the effects associated with exposure to the pollutant. For regulatory purposes, carcinogens are assumed to have no safe threshold below which health impacts would not occur. Any exposure to a carcinogen poses some risk of contracting cancer. Noncarcinogens differ in that there is

[7] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2022. Ambient Air Quality Standards & Valley Attainment Status. Available at: https://www.valleyair.org/aqinfo/attainment.htm (accessed March 2022).

generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

Sensitive Receptors

Sensitive receptors refer to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). The SJVAPCD defines sensitive receptor locations to be schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling unit(s). Since the proposed project is located on AUES property, the nearest sensitive receptors would be the on-site children attending AUES. The nearest off-site sensitive receptors include the adjacent residential dwelling unit to the east of the project site and the residential dwelling unit to the north, across W. Adams Avenue.

4.3.1 Consistency with Applicable Air Quality Plan

Air quality plans describe air pollution control strategies to be implemented by a city, county, or regional air district. The primary purpose of an air quality plan is to bring an area that does not attain NAAQS and CAAQS into compliance with those standards pursuant to the requirements of the Clean Air Act and California Clean Air Act. The SJVAPCD is responsible for preparing air quality attainment plans (AQAPs) for each criteria pollutant that does not meet the standard. AQAP documents are transmitted to the CARB and the USEPA for incorporation into the State Implementation Plan (SIP), a general plan to attain and maintain the NAAQS for complying with the federal Clean Air Act CAA.

The AQAPs present comprehensive strategies to reduce emissions from stationary, area, mobile, and indirect sources. Recent AQAPs include the 2016 Plan for the 2008 8-Hour Ozone Standard and the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ standards. Consistency with the AQAPs is based on whether the project would exceed the estimated emissions in the air quality plan, which are based on assumptions of equipment use, projections of population and vehicle miles traveled, as well as whether the project would exceed the SJVAPCD thresholds of significance.

Construction of the proposed project would involve the use of off-road equipment, haul trucks, and construction worker commutes, which would generate emissions in the SJVAPCD region. The contribution of construction equipment emissions forecasted in the AQAP emissions inventory is estimated for the region on an annual basis. Since project construction is limited to short-term activities and construction activities would not involve unusual characteristics that would necessitate the use of extensive off-road equipment usage, the proposed project would not increase the assumptions for off-road equipment use in the AQAPs. In addition, the proposed project would result in emissions that would be below the SJVAPCD thresholds during construction (as shown in more detail below). As detailed in SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts[8], projects with emissions below the thresholds of significance for criteria pollutants would be determined to not conflict or obstruct implementation of the SJVAPCD's air quality plan. Furthermore, the proposed project would also comply with the applicable SJVAPCD rules and regulations during construction [e.g., Regulation VIII (Fugitive PM_{10} Prohibition)], which are included as emission reduction measures in the AQAPs related to particulate matter.

Following construction, the water production rate will remain the same as the previous well (i.e., 175 gallons per minute); thus, there will be no increase in water production or any operational/maintenance activities. As such, operational activities are anticipated to remain similar to existing conditions and would not involve any uses that would increase population or vehicle trips beyond that considered in the

[8] SJVAPCD. 2015. Guidance for Assessing and Mitigating Air Quality Impacts. Available at: https://www.valleyair.org/transportation/GAMAQI.pdf (accessed March 2022).

AQAPs. Thus, the proposed project would not conflict with or obstruct implementation of the applicable air quality plan. Therefore, impacts would be less than significant.

4.3.2 Criteria Pollutants

By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development within the SJVAB, and this regional impact is cumulative rather than being attributable to any one source. A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects. The proposed project's emissions were assessed in accordance with SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts under CEQA.*[9] The guide presents information and general guidance for assessing and mitigating project-related impacts on air quality and SJVAPCD-recommended procedures relating to CEQA.

The thresholds identified in Table 4.3-1 below are designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards. Projects that would not exceed the thresholds of significance would not contribute a considerable amount of criteria air pollutant emissions to the region's emissions profile and would not impede attainment and maintenance of ambient air quality standards.

Construction activities for the proposed project would generate temporary emissions of ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. ROG, NO_X, SO_X, and CO emissions are associated primarily with mobile equipment exhaust, including off-road construction equipment and on-road motor vehicles. Fugitive particulate matter dust emissions are associated primarily with site preparation and travel on unpaved roads and vary as a function of parameters such as soil silt content, soil moisture, wind speed, acreage of disturbance area, and miles traveled by construction vehicles.

Construction-related emissions associated with the construction activities were modeled using the California Emissions Estimator Model (CalEEMod), Version 2020.4.0. CalEEMod allows the user to enter project-specific construction information, such as types and number of construction equipment, size of the construction workforce, and project-specific schedule. The proposed project's construction emissions are summarized in Table 4.3-1 below. Additional modeling assumptions, details, and outputs are provided in Attachment A of this memo.

Table 4.3-1
Total Construction-Related Emissions

Description	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Total Emissions (tons)	0.09	0.70	0.92	<0.01	0.05	0.04
SJVAPCD Regional Thresholds (tons per year)	10	10	100	27	15	15
Exceed SJVAPCD Threshold?	No	No	No	No	No	No

Notes:
SJVAPCD = San Joaquin Valley Air Pollution Control District; ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide, SO_X = sulfur oxides; PM_{10} = particulate matter less than 10 micrometers in diameter; $PM_{2.5}$ = particulate matter less than 2.5 micrometers in diameter

As shown in Table 4.3-1, the total construction emissions would not exceed the SJVAPCD thresholds of significance. Implementation of the proposed project would also not result in operational and maintenance activities beyond existing conditions. Thus, the proposed project would not result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is

[9] *Ibid*.

non-attainment under an applicable federal or state ambient air quality standard. Therefore, impacts would be less than significant.

4.3.3 Sensitive Receptors

As shown in Table 4.3-1, construction activities would result in emissions of criteria air pollutants, but at levels that would not exceed the SJVAPCD thresholds of significance. The thresholds of significance were designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards, which were established using health-based criteria to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution. As such, the criteria air pollutant emissions associated with the proposed project would not expose sensitive receptors to substantial criteria pollutant concentrations.

The greatest potential for TAC emissions during construction of the proposed project would be related to diesel particulate matter (diesel PM) emissions associated with diesel-fueled heavy-duty equipment and vehicle exhaust. The Office of Environmental Health Hazard Assessment (OEHHA) developed a Guidance Manual for Preparation of Health Risk Assessments[10]. According to OEHHA methodology, health effects from carcinogenic TACs are usually described in terms of individual cancer risk, which is based on a 30-year lifetime exposure to TACs. Construction activities would be temporary and last up to 6 months and would cease following completion. Therefore, the total exposure period for construction activities would be less than 2 percent of the total exposure period used for typical health risk calculations (i.e., 30 years). All off-road diesel equipment, on-road heavy-duty diesel trucks, and portable diesel equipment used for the proposed project must meet California's applicable Airborne Toxics Control Measures (ATCMs) for control of exhaust emissions of diesel PM and NO_X (e.g., ATCMs for portable diesel engines, off-road vehicles, and heavy-duty on-road diesel trucks, and 5-minute diesel engine idling limits or less around schools) that are in effect during the construction of the proposed project. This will ensure that pollutant emissions in diesel engine exhaust are minimized. Because off-road, heavy-duty equipment would be used for a relatively short time period and construction activities would implement ATCMs, construction activities would not be anticipated to expose sensitive receptors to substantial TAC concentrations.

Following construction, operation of the proposed project would remain similar to existing conditions. The purpose of the proposed project is to replace a well to address the Uranium Compliance Order and adhere to the TCP MCL, thereby, providing safe drinking water. Thus, implementation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations. Therefore, impacts would be less than significant.

4.3.4 Other Air Quality Emissions

The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose individuals to objectionable odors are deemed to have a significant impact. Typical facilities that generate odors include wastewater treatment facilities, sanitary landfills, composting facilities, petroleum refineries, chemical manufacturing plants, and food processing facilities.[11]

[10] Office of Environmental Health Hazard Assessment (OEHHA). 2015. Hot Spots Guidance Manual. Available at: https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0 (accessed March 2022).
[11] SJVAPCD. 2015. Guidance for Assessing and Mitigating Air Quality Impacts. Available at: https://www.valleyair.org/transportation/GAMAQI.pdf (accessed March 2022).

Project construction activities could result in short-term odor emissions from diesel exhaust associated with construction equipment. The proposed project would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. Following construction, operation of the proposed project would remain similar to existing conditions not introduce new odors or result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people. Therefore, impacts would be less than significant.

4.4 Biological Resources

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game 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 Game or US 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?

The project site is located on the campus of AUES and is surrounded by agricultural and rural residential uses. The project site consists of a disturbed dirt lot covered with non-native grasses. No native vegetation is present on the project site; as such, candidate and special status species are not expected to occur.[12][13][14] Additionally, no riparian habitat or other sensitive natural community or wetlands exist on the project site or near the vicinity of the project site. The project site does not contain any watercourse, greenbelt, or open space for wildlife movement. Thus, the proposed project would not have a substantial adverse effect on state or federally protected wetlands nor would the proposed project interfere with the movement of any native resident or migratory fish or wildlife species, or native wildlife nursery sites. The proposed project would also not conflict with the Fresno County General Plan – Policy Document[15] or the Fresno County Ordinance Code[16]. In addition, the proposed project would not result in an adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California

[12] California Department of Fish and Wildlife. 2022. California Natural Diversity Database (CNDDB). Full condensed report for the Fresno South, Fresno North, Clovis, Malaga, Conejo, Caruthers, Raisin, Kearney Park, and Herndon quadrangles. Generated February 10, 2022 and provided in Attachment B of this memo.
[13] California Native Plant Society (CNPS). 2022. Rare Plant Program. Inventory of Rare and Endangered Plants (online edition, v8-02). Available at: http://www.rareplants.cnps.org/. Report generated February 10, 2022 for the Fresno South, Fresno North, Clovis, Malaga, Conejo, Caruthers, Raisin, Kearney Park, and Herndon quadrangles; the report is provided in Attachment B of this memo.
[14] U.S. Fish and Wildlife Service. 2022. Information for Planning and Consultation (IPaC). Available at: https://ecos.fws.gov/ipac/ (accessed February 2022). The results of the IPaC search are provided in Attachment B of this memo.
[15] County of Fresno. 2000. Fresno County General Plan – Policy Document. Available at: https://www.co.fresno.ca.us/home/showpublisheddocument/18117/636753797422170000 (accessed February 2022).
[16] County of Fresno. 2022. Fresno County Ordinance Code. Available at: https://library.municode.com/ca/fresno_county/codes/code_of_ordinances?nodeId=FRCOORCO (accessed February 2022).

Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS). No impact would occur.

The project site is not located within the boundaries of a Habitat Conservation Plan or Natural Community Conservation Plan.[17] As such, implementation of the proposed project would not conflict with the provisions of such plans. No impact would occur.

There is a potential for birds protected under the Migratory Bird Treaty Act (MBTA) to nest in the trees near the proposed construction activities. However, as discussed previously, as part of the proposed project (specifically, Section 011100 H of the proposed project's specifications), WUSD will provide a qualified on-site biologist to conduct a pre-construction survey of all potential nesting habitat within 500-feet of the construction site. The biologist will provide survey results to the contractor, which will include nesting locations and buffer requirements. The contractor shall establish and maintain required buffer zones. The survey will be conducted with two weeks of start of vegetation or earth moving activities. The contractor will provide WUSD with a schedule identifying those areas that fall within the two-week window. If vegetation removal activities are delayed or suspended for more than two weeks after the pre-construction survey, the area shall be resurveyed at the contractor's expense. This requirement will ensure no potential indirect impacts will occur to MBTA nesting birds as a result of the proposed project. Therefore, impacts would be less than significant.

4.5 Cultural Resources

Would the project:

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 formal cemeteries?

A resource is generally considered "historically significant" if the resource meets at least one of the four criteria for listing on the California Register of Historical Resources (CRHR) (PRC Section 5024.1[a]). The CRHR is used as a guide by state and local agencies, private groups, and citizens to identify the state historical resources and to include which properties are to be protected, to the extent prudent and feasible, from substantial adverse change. The CRHR evaluation criteria are similar to the National Register of Historic Places (NRHP) criteria. For a property to be eligible for inclusion in the CRHR, it must meet one or more of the following criteria:

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

[17] California Department of Fish and Wildlife. 2022. Natural Community Conservation Plans, Map. Available at: https://wildlife.ca.gov/Conservation/Planning/NCCP/Plans (accessed February 2022).

Although the NRHP standard includes the evaluation of resources that are 50 years old or older, the California Office of Historic Preservation (OHP) endorses recording and evaluating resources over 45 years of age to accommodate the five-year lag in the planning process.

The proposed project is located on the parcel for the AUES. The AUES was built in 1950 and funded by the state allocations board. The original school contained 18 classrooms, administration space, a kindergarten, and a multi-purpose room.[18] William Hastrup, a locally significant modernist architect in Fresno, was the lead architect for the AUES. Some of Hastrup's other projects, including a Wells Fargo building in the City of Fresno, are considered individually eligible for the NRHP.[19] However, as the proposed project would replace only existing underground features and would not impact the historic-age buildings, the proposed project would not impact the integrity of the AUES property, should it require evaluation for the CRHR or NRHP in the future. Furthermore, the proposed project would be located behind a fence. The existing fence would be shifted slightly west as a consequence of the project activities and would not introduce any significant changes to the viewshed or cause visual impacts to the AUES. Therefore, no impact would occur related to historical resources.

One known archaeological resource is located within the project site: P-10-004303, the historic-period Japanese farming town of Bowles.[20] This historic-period town is recorded as approximately 4,000 acres of land bounded by Central Avenue to the north, Dinuba Avenue to the south, Raisin City to the west, and Chestnut Avenue to the east. The area was initially settled by Japanese raisin farmers in 1902 and was still primarily owned by Japanese families by 1979. A community center was built in 1914 to house the Japanese Language School, religious services, and a Young Men's Association. The first Buddhist church was built in 1921 and replaced in 1966. No specific buildings related to P-10-004303 have been recorded within the project area, and the area has been previously disturbed with the development of the school at the project site. Project requirements (specifically, Section 011100 H of the proposed project's specifications) include an unanticipated discoveries clause, which requires the contractor to stop work within 50 feet of the find and contact a qualified archaeologist to assess the find. Given this, no impact would occur related to the significance of an archaeological resource pursuant to Section15064.5.

If human remains are discovered, work in the immediate vicinity of the discovery would be suspended and the Fresno County Coroner contacted per existing regulations and project requirements (specifically, Section 011100 H of the proposed project's specifications). If the remains are deemed Native American in origin, the coroner would contact the Native American Heritage Commission and identify a Most Likely Descendant pursuant to PRC Section 5097.98 and California Code of Regulations Section 15064.5. Work may be resumed at the landowner's discretion but will only commence after consultation and treatment have been concluded. Work may continue on other parts of the project site while consultation and treatment are conducted. Compliance with existing regulations would ensure no impact to human remains, including those interred outside formal cemeteries, would occur.

4.6 Energy

Would the project:

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

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

[18] "State Pledges Aid for American Union School." The Fresno Bee, 23 October 1950. Page 20.
[19] Planning Resource Associates. 2008. "Mid-Century Modernism Historic Context". Prepared for and on file with the City of Fresno.
[20] Waugh, I.A.. 1980. Site form for : P-10-004303. Form on file at the Southern San Joaquin Valley Information Center at California State University (CSU) Bakersfield.

4.6.1 Energy Consumption

Energy efficiency is a possible indicator of environmental impacts. The actual adverse physical environmental effects of energy use and the efficiency of energy use are detailed throughout this Initial Study in the environmental topic–specific sections. For example, the use of energy for electricity consumption leads to greenhouse gas emissions, the impacts of which are addressed in Section 4.8, Greenhouse Gas Emissions. There is no physical environmental effect associated with energy use that is not addressed in the environmental topic–specific sections of this Initial Study.

Implementation of the proposed project may result in energy consumption for the duration of construction in the form of electricity, natural gas, and fossil fuels (e.g., gasoline, diesel fuel). Electricity consumption may be required for lighting and operation of electrically powered hands tools. Consumption of electricity for construction would be minimal and would cease after completion of the proposed project. Construction activities typically do not require the consumption of natural gas to power equipment or heavy machinery. Thus, any natural gas that would be consumed during construction would be negligible and would not result in a significant drain on natural gas resources.

Fossil fuels (gasoline and diesel fuel) would be consumed during the construction phase of the proposed project. Construction of the proposed project would result in an increased consumption of gasoline and diesel fuels associated with haul trucks, deliveries, and worker commute trips. Table 4.6-1 shows that a one-time expenditure of approximately 12,002 gallons of diesel fuel and 406 gallons of gasoline would be needed to construct the proposed project. Based on the anticipated phasing of the proposed project, temporary nature of construction, and project type, the proposed project would not include unusual characteristics that would necessitate the use of construction equipment that is less energy-efficient than at comparable construction sites.

Table 4.6-1
Construction Petroleum Demand

Source	CO_2 (Metric Tons)	kg CO_2/Gallon [1]	Gallons
Diesel			
Equipment	118.2	10.19	11,603
Trucks	4.1	10.19	399
Total Diesel Consumption			12,002
Gasoline			
Worker Vehicles	3.6	8.78	406

Notes:
CO_2 = carbon dioxide; kg CO_2/gallon = kilograms of carbon dioxide per gallon of fuel
[1] U.S. Energy Information Administration 2021 (https://www.eia.gov/environment/emissions/co2_vol_mass.php)

The proposed project would use best practices to eliminate the potential for the wasteful consumption of petroleum. Exported materials (e.g., demolition debris and material excavation) would be disposed of at the closest facility that accepts such materials, and the proposed project would be required to comply with CARB's ATCMs, which restricts heavy-duty diesel vehicle idling time. Therefore, because petroleum use would be minimized to the extent feasible and represents a relatively small amount of fuel consumption, construction of the proposed project would not result in a significant impact related to wasteful, inefficient, or unnecessary consumption of energy resources. As described previously, the water production rate will remain the same as the previous well (i.e., 175 gallons per minute); thus, there will be no increase in water production or operational energy consumption. Thus, the proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, impacts would be less than significant.

4.6.2 Conflict with or Obstruct a Renewable Energy or Energy Efficiency Plan

The proposed project is not using land that was otherwise slated for renewable energy production and does not otherwise conflict with any state or local renewable energy plans. As described previously, the water production rate will remain the same as existing conditions. Thus, the proposed project would not obstruct any state or local plans for renewable energy or energy efficiency. No impact would occur.

4.7 Geology and Soils

Would the project:

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

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

b. Strong seismic ground shaking?

c. Seismic-related ground failure, including liquefaction?

d. 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?

The project site is located in a seismically active area, as is most of northern California. However, the project site is not located within a state-designated Alquist-Priolo Fault Hazard Zone and no active faults are known to cross the project site.[21] The proposed project does not include the construction of any habitable structures, nor would the use of the project site change following the proposed project. The proposed project would be constructed in accordance with the UBC and other applicable federal, state, and local codes associated with seismic criteria. Thus, the proposed project would not result in a significant impact related to seismic hazards as the proposed project would comply with existing regulations. Therefore, impacts would be less than significant.

The project site is not located in an area identified as a potential landslide hazard area or liquefaction hazard area.[22] Thus, the proposed project would not result in impacts related to landslides or liquefaction. No impact would occur.

Subsidence is the lowering of surface elevation due to changes occurring underground. Areas in Fresno County where subsidence has been a problem generally include the Westlands Water District and the Pleasant Valley Water District.[23] The proposed project would not be within or near these areas affected by subsidence.[24] The proposed project would involve groundwater extraction; however, the new production well would provide the same amount of water supply as the existing well and would not

[21] California Geological Survey. 2022. Data Viewer, Search by Location. Available at: https://maps.conservation.ca.gov/cgs/DataViewer/ (accessed February 2022).
[22] Fresno County. 2000. Fresno County General Plan Background Report - Figure 9-6. Available at: https://www.co.fresno.ca.us/home/showpublisheddocument/8398/636379166183770000 (accessed February 2022).
[23] Fresno County, Fresno County General Plan Update, Draft Environmental Impact Report – Water Resources, available at: http://www2.co.fresno.ca.us/4510/4360/General_Plan/GP_Final_EIR/EIR/water4-8.pdf, accessed February 4, 2022.
[24] U.S. Geological Survey. 2022. Areas of Land Subsidence in California. Available at: https://ca.water.usgs.gov/land_subsidence/california-subsidence-areas.html (accessed March 2022).

further deplete groundwater resources as compared to existing conditions. Therefore, impacts would be less than significant.

Construction of the proposed project would include ground-disturbing activities, such as grading, excavation, and landscaping, and implementation of the proposed project would disturb less than one acre of land. These activities could result in the potential for erosion to occur at the project site. As discussed previously, a SWPPP would be prepared for construction of the proposed project. In addition, erosion control measures would be utilized where possible to minimize impacts associated with erosion and off-site siltation. Thus, the proposed project would not result in impacts related to erosion as it would comply with SWPPP and erosion control measures. Therefore, impacts would be less than significant.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Highly expansive soils are generally present in eastern Fresno County near the Sierra Nevada foothills and in the Kings Canyon National Park, as well as along the Fresno Slough.[25] The proposed project would not be within or near either of these areas affected by highly expansive soils.[26] Thus, the proposed project would use imported asphalt pavement and gravel, which would not be subject to expansion and contraction. No impact would occur.

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

Construction and operation of the proposed project would not involve the use of septic tanks or alternative wastewater disposal systems. No impact would occur.

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

The project site is in an area mapped as Quaternary (Pleistocene and Holocene) alluvial fan deposits.[27] Based on geologic cross-sections extrapolated from well data, older alluvial deposits derived from the Sierra Nevada that are Pliocene in age underlie the more recent alluvial fan deposits at a depth of approximately 600 feet in the project area.[28] A search of the University of California Museum of Paleontology's database identified two fossil localities in Fresno County in unnamed Pleistocene deposits near the project site. The Tranquility locality, which contains 149 specimens, is approximately 25 miles to the east. The Riverdale locality is approximately 15 miles to the south. Both localities contain Rancholabrean fossils; the Tranquility locality includes pond turtle (*Clemmys marmorata*), broad-footed mole (*Scapanus latimanus*), wood rat (Neotoma), pocket gopher (Thomomys), badger (Taxidea), grey fox (Urocyon), true fox (Vulpes), coyote (*Canis latrans*), horse (Equus), bison (Bison), elk (Cervus), and mule deer (Odocoileus).[29] Pliocene fossil localities found in the county are in the Diablo Range, west of Interstate 5.

Although the Pleistocene alluvium in the project site is generally considered sensitive, vertebrate fossil localities in the County are not consistently and evenly distributed and tend to be concentrated in small, geomorphically specific locations.[30] In addition, the amount of ground disturbance for the project would

[25] Fresno County. 2000. Fresno County General Plan Background Report – Chapter 7: Natural Resources. Available at: https://www.co.fresno.ca.us/home/showpublisheddocument/8398/636379166183770000 (accessed February 2022).
[26] U.S. Department of Agriculture – Natural Resources Conservation Service. 2022. Web Soil Survey. Available at: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm (accessed March 2022).
[27] Matthews, R.A., and Burnett, J.L. 1965. Geologic map of California : Fresno sheet. California Division of Mines and Geology, Sacramento, California.
[28] Croft, M.G. 1972. Subsurface geology of the late Tertiary and Quaternary water-bearing deposits of the southern part of the San Joaquin Valley, California. Water Supply Paper 1999-H. United States Department of the Interior, Washington, D.C.
[29] Finger, Kenneth. 2012. Paleontological Records Search for the City of Fresno General Plan and Development Code Update, Fresno County, California (MBA Project #31680016). Letter report from Kenneth Finger to Michael Dice, First Carbon Solutions. Available at: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/D-1-Paleontological-Resources-Review.pdf (accessed March 2022).
[30] *Ibid*.

be relatively limited. Deeper excavation to install the well has the potential to rotate out fossils, but the specimens will lack context, depth/elevation, formation identification, and other elements that are critical to scientific significance. These types of unprovenienced fossils will only be significant if they result in identification of new species that are currently not known in the County. Project requirements include an unanticipated discoveries clause, which requires the contractor to stop work within 50 feet of the find and contact a qualified paleontologist to assess the find. Given this, impacts would be less than significant.

4.8 Greenhouse Gas Emissions

Would the project:

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

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

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

GHGs are present in the atmosphere naturally, are released by natural sources, and are formed from secondary reactions taking place in the atmosphere. The following are GHGs that are widely seen as the principal contributors to human-induced global climate change: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Global warming potential (GWP) is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to CO_2. The GWP of a GHG is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time (i.e., lifetime) that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. GHGs with lower emissions rates than CO_2 may still contribute to climate change because they are more effective at absorbing outgoing infrared radiation than CO_2 (i.e., high GWP). The concept of CO_2-equivalents (CO_2e) is used to account for the different GWP potentials of GHGs to absorb infrared radiation.

4.8.1 GHG Emissions

Heavy-duty off-road equipment, materials transport, and worker commutes during construction of the proposed project would result in exhaust-related GHG emissions. Construction-related GHG emissions were estimated using the methodology discussed earlier under Section 4.3, Air Quality, of this memo. Project construction would generate approximately 127 metric tons (MT) of CO_2e. Mandatory compliance with CARB regulations that restrict vehicle idling and ensure optimal equipment operating conditions would prevent the occurrence of excessive GHG emissions from these sources. As described previously, the water production rate would remain the same as the previous well (i.e., 175 gallons per minute); thus, there would be no increase in any direct or indirect GHG emissions during operation of the proposed project.

WUSD has not adopted its own GHG thresholds or prepared a Climate Action Plan that can be used as a basis for determining project significance. In December 2009, the SJVAPCD adopted Guidance for

Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA.[31] Projects implementing Best Performance Standards (BPS) and reducing project-specific GHG emissions by at least 29 percent compared to business-as-usual (BAU) condition or projects complying with an approved GHG emission reduction plan or GHG mitigation program would have a less-than-significant individual and cumulative impact for GHG emissions.

The SJVAPCD methodology and thresholds were developed primarily to address long-term operational activities of land use development projects (e.g. residential and commercial buildings). Thus, the SJVAPCD has not developed a BPS for the proposed project, which is limited to construction activities. In addition, the SJVAPCD has not established numerical significance thresholds for the evaluation of construction-related GHG emissions. Furthermore, the 29 percent reduction in GHG emissions from BAU condition was developed consistent with the statewide GHG emission reduction goals of Assembly Bill (AB) 32, which required that statewide GHG emissions be reduced to 1990 levels by 2020. However, the proposed project would be constructed beyond 2020; thus, GHG emissions should also be analyzed in the Senate Bill (SB) 32 statewide framework, which established a 2030 GHG emissions reduction target of 40 percent below 1990 levels.

In order to establish additional context in which to consider the proposed project's GHG emissions in the appropriate statewide context, this analysis reviewed guidelines used by other public agencies. The most conservative threshold was included in the California Air Pollution Control Officers Association (CAPCOA) 2008 report, CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act. CAPCOA recommends a threshold of 900 MT CO_2e per year for any residential, commercial, or industrial project.[32] The Sacramento Metropolitan Air Quality Management District (SMAQMD) has identified an annual threshold of 1,100 MT CO_2e for the construction and operational phase of all project types. SMAQMD recognizes that, although there is no known level of emissions that determines whether a single project will substantially impact overall GHG emission levels in the atmosphere, a threshold must be set to trigger a review and assessment of the need to mitigate project GHG emissions[33]. The threshold set by SMAQMD was developed to allow lead agencies to assess the consistency of proposed projects with AB 32 and SB 32 reduction goals. It is not the intent of this CEQA document to cause the adoption of these thresholds as mass emissions limits for this or other projects, but rather to provide this additional information to put the proposed project's GHG emissions in the appropriate statewide context.

The total CO_2e emissions of 127 MT CO_2e associated with construction of the proposed project would be less than any of the GHG thresholds discussed above (i.e., 900 MT CO_2e per year or 1,100 MT CO_2e). Thus, this impact would be less than cumulatively considerable. Therefore, impacts would be less than significant.

4.8.2 Conflict with a GHG Reduction Plan, Policy or Regulation

In 2008 and 2014, the CARB approved the Scoping Plan and the first update to the Scoping Plan, respectively. In response to SB 32 and the companion legislation of AB 197, CARB approved the 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 GHG Target in November 2017. The 2017 Scoping Plan draws from the previous plans to present strategies to reaching California's 2030 GHG reduction target. While the Scoping Plan updates do include measures that would indirectly address GHG emissions associated with construction activities, including the phasing in of cleaner technology for diesel engine fleets (including construction equipment) and Low Carbon Fuel

[31] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2009. Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. Available at: http://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf (accessed March 2022).
[32] California Air Pollution Control Officers Association (CAPCOA). 2008. CEQA & Climate Change. Available at: http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA-White-Paper.pdf (accessed March 2022).
[33] Sacramento Metropolitan Air Quality Management District (SMAQMD). 2021. CEQA Guide: Greenhouse Gas Emissions. Available at: http://airquality.org/LandUseTransportation/Documents/Ch6GHG2-26-2021.pdf (accessed March 2022).

Standard, implementation of these measures predominantly depends on the development of laws and policies at the state level. As such, none of these statewide plans or policies constitutes a regulation to adopt or implement a regional or local plan for reduction or mitigation of construction-related GHG emissions. Thus, it is assumed that any requirements or policies formulated under the mandate of AB 32 and SB 32 that would be applicable to the proposed project, either directly or indirectly, would be implemented consistent with statewide policies and laws. Thus, the GHG emissions generated either directly or indirectly under the proposed project would not result in a cumulatively considerable contribution to a significant impact on the environment. Therefore, impacts would be less than significant.

4.9 Hazards and Hazardous Materials

Would the project:

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

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

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?

Construction activities would include the use of machinery and other equipment that may require fueling or maintenance/servicing with other petroleum-based products (e.g., grease, oil). These materials are considered hazardous and could cause temporary localized soil and water contamination. Incidents of spills or other localized contamination may occur during refueling, operation of machinery, undetected fluid leaks, or mechanical failure. All construction activities involving the transportation, usage, and disposal of hazardous materials would be subject to federal, state, and local health and safety requirements. This would include the prevention of spills or leaks related to construction equipment and vehicles. Abatement of materials during demolition activities would be required in compliance with all applicable local, state, and federal regulations relating to the handling and disposal of such materials. Compliance with existing regulations would ensure that impacts related to the risk of release of hazardous materials would be less than significant.

There are no hazards materials sites listed within or near the project site.[34] There are also no Leaking Underground Storage Tank (LUST) cleanup sites located adjacent to and within the proposed project.[35] Thus, the proposed project would not be located on a hazardous materials site and would not result in a hazard to the public or the environment. No impact would occur.

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?

[34] California Department of Toxic Substances Control. EnviroStor – Hazardous Waste and Substances List (Cortese). Available at: https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,FUDS&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+%28CORTESE%29 (accessed March 2022).
[35] California Department of Toxic Substances Control. 2022. EnviroStor interactive map of LUST cleanup sites. Available at: https://www.envirostor.dtsc.ca.gov/public/map/?global_id=3833000, (accessed February 2022).

The project site is located approximately 11.4 miles southwest of the Fresno Yosemite International Airport.[36] The project site is not located within an airport land use plan, and neither construction nor operation of the proposed project would interfere with airport operations. No impact would occur.

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

No road or lane closures are anticipated during construction activities. Additionally, access for emergency response vehicles would be required to be maintained at all times. Thus, the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan by WUSD or the County. No impact would occur.

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

The project site is located in a rural, farmland area. No wildlands occur within or near the project site. In addition, no portion of the project site or surrounding area is located within or near a state responsibility area, nor is it classified as a very high fire hazard severity zone.[37] No impact would occur.

4.10 Hydrology and Water Quality

Would the project:

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

a. result in substantial erosion or siltation on- or off-site;

b. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

c. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

d. 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?

Construction activities would expose soils at the project site to potential erosion and runoff. However, as discussed above, a SWPPP and erosion control measures would be implemented during project construction to prevent off-site polluted runoff. While the area of impervious surfaces for the proposed project would increase compared to existing conditions, the proposed project would be designed to maintain the existing drainage pattern of the site and would not increase the rate or amount of surface

[36] Google Earth Pro. 2022.
[37] California Department of Forestry and Fire Protection. 2022. Fire and Resource Assessment Program (FRAP). Available at: https://egis.fire.ca.gov/FHSZ (accessed February 2022).

runoff. Implementation of the SWPPP and ensuring the project design would maintain the existing drainage pattern of the sites would ensure that the proposed project would not result in significant impacts related to water quality, surface runoff, erosion, siltation, and flooding.

Tsunamis, seiches, and mudflows are not considered to be potential hazards to the proposed project. The proposed project is located in a relatively flat, rural farmland area located far inland from the coast. The proposed project is also not located within a flood hazard zone.[38] Additionally, the proposed project would not deplete groundwater supplies or interfere with groundwater recharge, as the new production well would not increase water supply. Thus, the proposed project would not result in impacts related to flood hazards, tsunamis, seiche zones, or a water quality control plan or sustainable groundwater management plan would occur. Therefore, impacts would be less than significant.

4.11 Land Use and Planning

Would the project:

a) Physically divide an established community?

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

The new production well, hydrotank, and associated piping would be developed in proximity of the existing well, hydrotank, and associated piping, and would not extend beyond the existing parcel boundaries or off-campus. As such, development would not divide the established surrounding community.

The project site is subject to the policies and/or regulations of the Fresno County General Plan and Fresno County Zoning Ordinance at the local level. As discussed, the project site is zoned as “Exclusive Agricultural District (AE20)” and has an “Agriculture” General Plan land use designation. The existing use of the project site is an elementary school and neither project construction nor operation would change the existing land use or zoning designation of the project site. Thus, the proposed project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. No impact would occur.

4.12 Mineral Resources

Would the project:

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?

The project site is currently zoned for and developed with institutional uses associated with the AUES campus. The surrounding area is developed with and zoned for agricultural and rural residential uses. The proposed project is entirely located within an area designated as Mineral Resource Zone (MRZ)-1, meaning areas where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. No classified or designated

[38] Fresno County. 2009. Fresno County Flood Zones. Available at: https://www.co.fresno.ca.us/home/showdocument?id=13323 (accessed March 2022).

mineral deposits of statewide or regional significance are known to occur on the project site.[39,40] No impact would occur.

4.13 Noise

Would the project result in:

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

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?

The decibel (dB) is the standard unit for measuring sound levels. The A-weighted scale, abbreviated as dBA, reflects the frequency-specific hearing sensitivity range of the human ear. This noise analysis discusses sound levels in terms of equivalent noise levels (Leq). Leq is the energy-average noise level for any given period of time, colloquially considered the "average" sound level over that period.

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Groundborne vibration can be a serious concern, causing buildings to shake and rumbling sounds to be heard. Peak-particle velocity (PPV, in inches per second) is most frequently used in the assessment of structural damage caused by vibratory energy. The root mean square (RMS) amplitude, often written in vibration decibel (VdB) notation is most frequently used to describe the effect of vibration on the human body.

Regulatory Setting

Operational Noise

The Fresno County Ordinances, Title 8, Chapter 8.40, Section 8.40.040, stipulates maximum allowable noise levels based on their duration and time of occurrence. Table 4.13-1 summarizes these noise level limits for each of the possible circumstances.

Table 4.13-1
Fresno County Exterior Noise Standards

Category	Cumulative Number of minutes in any one-hour time period	Noise Level Standards, dBA	
		Daytime 7 a.m. to 10 p.m.	Nighttime 10 p.m. to 7 a.m.
1	30	50	45
2	15	55	50
3	5	60	55
4	1	65	60

[39] California Department of Conservation, Division of Oil, Gas, and Geothermal Resources. Wellfinder. Available at: https://maps.conservation.ca.gov/doggr/wellfinder/#openModal/-118.94276/37.10257/6 (accessed February 2022).
[40] Fresno County. 2000. Fresno County General Plan Background Report Figure 7-9. Available at: https://www.co.fresno.ca.us/home/showpublisheddocument/8398/636379166183770000 (accessed February 2022).

Table 4.13-1
Fresno County Exterior Noise Standards

Category	Cumulative Number of minutes in any one-hour time period	Noise Level Standards, dBA	
		Daytime 7 a.m. to 10 p.m.	Nighttime 10 p.m. to 7 a.m.
5	0	70	65

Source: County of Fresno. 2022. Fresno County Ordinance Code

Construction Noise

According to the Fresno County Noise Ordinance Title 8, Chapter 40, Section 8.40.060 Noise Source Exemptions, construction, repair, or remodeling work accomplished pursuant to a building, electrical, plumbing, mechanical, or other construction permit issued by the city or other governmental agency, or to site preparation and grading shall be exempt to any provisions given that such work takes place between the hours of 7 a.m. and 10 p.m. on any day except Sunday.

As there is no explicit construction noise level defined in the Fresno County Ordinance Code, the analysis will use construction noise level impacts based on the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (FTA Manual)[41] recommended noise construction limit criteria. The recommended criteria for the "General Assessment" of construction activities is 90 dBA for daytime construction.

Construction Vibration

Construction activity can result in varying degrees of vibration which can lead to annoyance or, in some severe circumstances, structural damage. This analysis will use vibration limits based on the FTA Manual for vibration limit criteria. The recommended criteria for "buildings where people normally sleep" is 72 VdB for frequent vibratory events. The recommended criteria for construction vibration for buildings considered "non-engineered timber and masonry buildings," such as those surrounding the project site, is 0.2 PPV, in/sec.

4.13.1 Temporary and Permanent Noise

Temporary Noise - Construction Noise Assessment

Noise levels from the construction of the proposed project would fluctuate depending on the construction phase, equipment type and duration of use, and distances between the noise sources and receptors. Typical noise levels from various types of equipment that would be used during construction are listed in Table 4.13-2. These levels are based on the closest receiver, the school playground located 50 feet from the source. Noise levels would typically range from 74.0 to 89.0 dBA L_{eq}.

[41] Federal Transit Authority (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. Available at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed March 2022).

Table 4.13-2
Noise Level Ranges of Typical Construction Equipment

Construction Equipment	Noise Level at 50 feet (Leq, dBA)
Paver	77
Excavator	81
Concrete Mixer Truck	79
Jackhammer	89
Dump Truck	76
Roller	80
Welder	74
Compressor (Air)	78

Source: Roadway Construction Noise Model Users Guide (FHWA 2006)

Construction activities would occur during the day, Monday through Friday, and workers would typically be on-site for eight hours per day between the allowable hours of 6 a.m. to 9 p.m.; thus construction activities would comply with the County's Noise Ordinance. In addition, construction noise levels would not exceed 90 dBA; thus, the proposed project would not exceed the FTA's recommended criteria for the "General Assessment" of construction activities during daytime construction. Thus, construction of the proposed project would not result in the generation of substantial temporary 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. Therefore, impacts would be less than significant.

Permanent Noise - Operational Noise Assessment

The proposed project would not generate additional trips that would cause traffic-related noise increases along local roadways. The sole operational noise source associated with the operation of the new well is the small, tank-mounted compressor unit that serves the 10,000-gallon hydrotank. This compressor would operate intermittently throughout the day and is estimated to generate a sound pressure level of up to 85 dBA at 1 meter.

It is assumed that the compressor would run only during daytime hours and for up to 15 minutes of any given hour. As such, an impact would occur if predicted noise levels exceed the County's daytime 15-minute noise level limit of 55 dBA. At the nearest residential property line, approximately 172 feet away, the predicted noise level from project operations is 51 dBA. This value was calculated using a standard attenuation rate of 6 dB per doubling of distance from the noise source. Given this, operation of the proposed project would not result in the generation of substantial 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. Therefore, impacts would be less than significant.

4.13.2 Vibration

Construction Vibration Assessment

Construction activity can generate varying degrees of vibration depending on the procedure and equipment types. Operation of construction equipment generates vibrations that spread through the ground and, similar to sound, diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of a construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. In most cases, the primary concern regarding construction vibration relates to damage.

The equipment most likely to result in the greatest vibratory effect is the drilling rig used to drill the new well. This assessment conservatively assumed that the drilling rig will generate vibration levels similar to that of a drilling rig used to construct caissons (used for large water infrastructure projects). Caisson drilling generates a reference vibration level of 0.089 PPV in/sec, or 87 VdB, at 25 feet.

The closest non-WUSD structure to project construction activities is approximately 185 feet away. At this distance, predicted vibration levels will reach approximately 0.004 PPV in/sec and 61 VdB. These values are below the guidance-based thresholds of 0.2 PPV in/sec for structural damage and 72 VdB for potential annoyance. Thus, the proposed project would not result in a significant impact related to off-site construction vibration. Therefore, impacts would be less than significant.

Operational Vibration Assessment

The proposed project would not feature any sources of perceptible vibration at receiving land uses. Thus, the proposed project would not result in a significant impact related to operational vibration. No impact would occur.

4.13.3 Airport Noise

The project site is located approximately sixteen miles from the Fresno Yosemite International Airport.[42] Thus, the proposed project would not result in impacts related to airport or airstrip noise. No impact would occur.

4.14 Population and Housing

Would the project:

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?

The proposed project does not include any residential or commercial land uses and, therefore, would not result in a direct population increase from construction of new homes or businesses. Additionally, extension of the existing roadway would not occur. While the proposed project would install a replacement drinking well, the water production rate will remain the same as the previous well (i.e., 175 gallons per minute); thus, there would be no increase in water supply for the proposed well. Thus, the proposed project would not result in an indirect population increase. Furthermore, no housing currently exists on the project site; given this, the proposed project would not displace existing people or housing. No impact would occur.

4.15 Public Services

Would the project:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, 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:

[42] Google Earth Pro. 2022.

a. Fire protection?

b. Police protection?

c. Schools?

d. Parks?

e. Other public facilities?

The proposed project would construct new structures that would replace existing structures and serve existing students, faculty, and staff at AUES. The proposed project would not induce population growth, either directly or indirectly. Therefore, construction and operation of the proposed project would not require the construction of new or expansion or existing police or fire protection facilities, or schools, parks, or other public facilities. No impact would occur.

4.16 Recreation

Would the project:

a) 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) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The proposed project would construct and replace a well, hydrotank, and associated piping on the site of the existing AUES campus. The proposed project would serve existing students, faculty, and staff at AUES, and would not include recreational facilities or generate the need for new or expanded recreational facilities. The demand for parks and recreational services is generally associated with an increase in housing or population. As previously stated, the proposed project does not include housing and would not induce population growth. Therefore, the proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that physical deterioration of the facility would occur or be accelerated. No impact would occur.

4.17 Transportation

Would the project:

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 geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

d) Result in inadequate emergency access?

Neither construction nor operation of the proposed project would change existing roads or bicycle, pedestrian, or transit facilities and services. Thus, the proposed project would not conflict with a plan, program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. No impact would occur.

Section 15064.3 of the CEQA Guidelines requires the significance of traffic impacts to be based on vehicle miles traveled (VMT). VMT refers to the amount and distance of automobile travel attributable

to a project. The Fresno County SB 743 Implementation Regional Guidelines establish instructions and standards for preparation of transportation assessment in Fresno County and unincorporated areas of Fresno County. The recommended screening threshold for projects is 110 average daily trips.[43]

It is estimated that a total of 40 truck trips would be generated during construction and that a total of 20 workers (averaging 2-3 workers per day) will be required for the duration of construction. The total average daily trips during construction would be below the threshold of 110 average daily trips. Due to the temporary and relatively low-level nature of traffic generated by the project's construction, VMT assessments are not relevant for the project, especially since there would be no increase in post-construction operational trips. As such, neither construction nor operation of the proposed project would conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). No impact would occur.

The proposed project would not extend beyond the existing parcel boundaries and would not change the configuration of existing adjacent roadways. Therefore, no impact related hazards due to a design feature would occur. Additionally, as no road or lane closures would be required, and the proposed project would maintain emergency access to the site throughout project construction and operation. No impact would occur.

4.18 Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or

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

No potential Tribal Cultural Resources were identified in the project area either in the records search conducted by the Southern San Joaquin Valley Information Center at CSU Bakersfield on January 31, 2022 or in the Sacred Lands File search conducted by the Native American Heritage Commission (NAHC) on April 22, 2022. Tribal consultation was not conducted due to these negative results, which indicate the proposed project will not cause a substantial adverse change in a Tribal Cultural Resource that is also a historical resource. Tribal consultation under Assembly Bill 52 is not required for Categorical Exemptions.

Project requirements (specifically, Section 011100 H of the proposed project's specifications) include an unanticipated discoveries clause, which requires the contractor to stop work within 50 feet of the find and contact a qualified archaeologist to assess the find. If the find is potentially a Tribal Cultural Resource (e.g., a precontact resource), the lead agency will coordinate with a California Native American Tribe identified by the NAHC. Given this, no impact would occur related to the significance of a Tribal Cultural Resource pursuant to PRC Section 21074.

[43] Fresno Council of Governments. 2020. Fresno County SB 743 Implementation Regional Guidelines. Available at: https://2ave3l244ex63mgdyc1u2mfp-wpengine.netdna-ssl.com/wp-content/uploads/2020/07/Fresno-COG-VMT-Report-1.pdf (accessed February 2022).

4.19 Utilities and Service Systems

Would the project:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Construction activities are anticipated to occur for approximately 3 to 6 months and would require water for activities such as dust control and electricity for equipment. However, these activities are limited and temporary, and would not consume large amounts of water or electricity, requiring the construction of new or expanded water, wastewater treatment or storm drainage, electric power, natural gas, or telecommunications facilities.

The proposed project includes the installation of a new drinking water well, hydrotank, and related piping would require water, electricity, and natural gas usage. However, the proposed project would replace existing structures and facilities with new structures that would have the same purpose and capacity as the structures being replaced. For example, the new drinking water well would replace the existing well that is located 165 feet to the southeast of the new well, and will have the same capacity as the old well; the hydrotank in the pumphouse would be removed and replaced with another hydrotank approximately 100 feet northeast of the pumphouse; aboveground piping in the existing on-site pumphouse would be removed and approximately 120 feet of underground galvanized pipe and valve located just north of the pumphouse would be removed and replaced in kind; an existing irrigation well will be removed and an existing production/irrigation well will be used instead solely for irrigation. Thus, operational uses for water, wastewater treatment, storm water drainage, electric power, natural gas, and telecommunications facilities would be similar to existing conditions. Furthermore, as shown in Sections 4.1 through 4.20 of this memo, implementation of the proposed project would not result in significant environmental effects. Therefore, impacts would be less than significant.

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

Construction activities are anticipated to occur over an approximate 3 to 6 month period and would require water for activities such as dust control. However, these activities are limited and temporary, and would not consume large amounts of water. Existing water supplies would be sufficient; therefore, construction impacts would be less than significant.

Operation of the new well would use the same water production rate as the previous well at 175 gallons per minute. Thus, there would be no increase in water supply. Sufficient water supplies would be available to serve the proposed project during normal, dry, and multiple dry years. No impact related to water supply from project operation would occur.

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?

Construction activities would involve water disposal from groundwater dewatering and water used for testing, disinfecting, and flushing pipelines. However, these activities are limited and temporary, and would not consume large amounts of water. Existing capacity for wastewater treatment would be sufficient; therefore, construction impacts would be less than significant.

Operation of the proposed project would not generate wastewater. Therefore, no impact to wastewater treatment capacity would occur.

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

The American Avenue Disposal site is the County's regional landfill located near the City of San Joaquin.[44] This landfill accepts several solid waste types, including industrial and construction/demolition, and has a maximum permitted capacity of 2,200 tons per day.[45]

Construction of the proposed project would require excavation for the well and site grading. The well drilling will generate approximately 2,200 cubic feet of soil and require approximately 1,650 cubic feet of bentonite and gravel pack import. The site grading would require the removal of approximately 150 total cubic feet of soil (approximately 1.5 register ton), which would be hauled off-site for disposal at the nearest landfill (i.e., American Avenue Disposal site). The amount of solid waste from construction would be nominal and the proposed project would incorporate source reduction techniques and recycling measures as applicable. Operation of the proposed project would not generate solid waste. Thus, the proposed project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local landfills, or otherwise impact the attainment of solid waste reduction goals. Therefore, impacts would be less than significant.

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

Construction activities would generate approximately 2,350 cubic feet of soil. All demolition and construction waste would be recycled to the extent feasible. Given the nominal amount of construction waste generated, and the reduction of waste to the extent feasible through recycling, construction of the proposed project would not result in a significant impact related to landfill capacity.

Operation of the proposed project would not generate solid waste. Large volumes of solid waste generation are typically associated with residences, large offices, and commercial uses. The proposed project would not include any of these uses. Thus, a substantial increase in solid waste generation would not be expected to occur, and the existing remaining landfill capacity would accommodate the proposed project. No operational impact related to landfill capacity would occur.

The proposed project would be designed, constructed, and operated following all applicable laws, regulations, ordinances, regarding solid waste disposal. The proposed project would incorporate source reduction techniques and recycling measures as applicable. No impact related to solid waste regulations would occur.

4.20 Wildfire

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

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

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

[44] County of Fresno. 2022. Landfill Operations webpage. Available at: https://www.co.fresno.ca.us/departments/public-works-planning/divisions-of-public-works-and-planning/resources-and-parks-division/landfill-operations (accessed March 2022).
[45] California Department of Resources Recycling and Recovery (CalRecycle). 2022. Solid Waste Information System (SWIS) Facility/Site Activity Details – American Avenue Disposal Site (10-AA-0009). Available at: https://www2.calrecycle.ca.gov/SolidWaste/Site/Details/352 (accessed March 2022).

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?

The CEQA Guidelines require analysis of wildfire risk in state responsibility areas and/or lands classified as very high fire hazard severity zones. No portion of the project site or surrounding area is located within or near a state responsibility area, nor is it classified as a very high fire hazard severity zone.[46] No impact would occur.

5. Findings

As discussed in Section 3 of this memo, WUSD intends to pursue a Class 2 Categorical Exemption for the proposed project. As stated in CEQA Guidelines Section 15302, a Class 2 Categorical Exemption requires a project to consist of the following:

"…replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced, including but not limited to:

a) Replacement or reconstruction of existing schools and hospitals to structures which do not increase capacity more than 50 percent.

b) Replacement of a commercial structure with a new structure of substantially the same size, purpose, and capacity.

c) Replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity.

d) Conversion of overhead electric utility distribution system facilities to underground including connection to existing overhead electric utility distribution lines where the surface is restored to the condition existing prior to the undergrounding."

The proposed project would meet the requirements of a Class 2 (c) Categorical Exemption per Section 15302 of the CEQA Guidelines due to the following:

- As discussed in Section 2 of this memo, the proposed project will involve replacement of existing structures/facilities where the new structures will occur in the same area and will have substantially the same purpose and capacity as the structures being replaced (e.g., the new production well will occur within 165 feet of where a similar-sized well was previously located and will have the same capacity as the old production well; the hydrotank in the pumphouse will be removed and replaced with another hydrotank at a nearby location on the school property [specifically, located approximately 100 feet northeast of the pumphouse]; aboveground piping in the existing on-site pumphouse will be removed and approximately 120 feet of underground galvanized pipe and valve located just north of the pumphouse will be removed and replaced in kind; an existing irrigation well will be removed and an existing production/irrigation well will be used instead solely for irrigation); and

[46] California Department of Forestry and Fire Protection. 2022. Fire and Resource Assessment Program (FRAP). available at: https://egis.fire.ca.gov/FHSZ (accessed February 2022).

- As discussed throughout Section 4 of this memo, the proposed project will not result in a potentially significant impact on the environment.

As shown above, the proposed project is consistent with the criteria in CEQA Guidelines Section 15302. As such, the proposed project qualifies for the Class 2 (c) Categorical Exemption.

ATTACHMENTS

Attachment A

Air Quality/Greenhouse Gas/Energy –
CalEEMod Emissions Modeling and Output Files

WUSD – AUES Well Replacement Project - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

WUSD – AUES Well Replacement Project

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.62	1000sqft	0.01	620.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Temporary and permanent disturbance area conservatively entered as project size (new well, hydrotank, removal of existing well, work area around new well and pumphouse, laydown area)

Construction Phase - Default CalEEMod schedule to match overall 3-6 month construction duration. Default building construction phase duration divided across pipe installation and trenching phase.

Off-road Equipment - Default equipment supplemented by project specific details.

Off-road Equipment - Default equipment supplemented by project specific details.

Off-road Equipment - Default equipment supplemented by project specific details. No building construction so cranes and forklifts removed.

Off-road Equipment - Default equipment supplemented by project specific details.

Off-road Equipment - Project specific details.

Off-road Equipment - Default equipment supplemented by project specific details.

WUSD – AUES Well Replacement Project - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading - Well drilling to generate 2,200 ft3 of soil + site grading requires removal of 150 ft3 of soil. Approx. 1,650 ft3 of gravel pack will be imported.

Demolition -

Trips and VMT - Daily truck trips added to demo phase for removal of existing wells/tanks/piping. Approx 2-3 workers per day. Approx. 40 total haul trucks per project details. Vendor trips during grading, tenching, and backfill phase added to account for water truck.

Construction Off-road Equipment Mitigation - assumes implementation of fugitive dust control practices

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	50.00
tblConstructionPhase	PhaseEndDate	9/7/2022	9/6/2022
tblConstructionPhase	PhaseEndDate	4/20/2022	4/19/2022
tblConstructionPhase	PhaseStartDate	4/21/2022	6/29/2022
tblConstructionPhase	PhaseStartDate	4/19/2022	4/16/2022
tblGrading	MaterialExported	0.00	87.00
tblGrading	MaterialImported	0.00	61.00
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.46	0.46
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Crushing/Proc. Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	0.00	80.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	13.00	6.00
tblTripsAndVMT	WorkerTripNumber	10.00	6.00
tblTripsAndVMT	WorkerTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripNumber	23.00	6.00
tblTripsAndVMT	WorkerTripNumber	5.00	6.00
tblTripsAndVMT	WorkerTripNumber	15.00	6.00

2.0 Emissions Summary

WUSD – AUES Well Replacement Project - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0888	0.7038	0.9185	1.4600e-003	0.0112	0.0378	0.0490	4.1100e-003	0.0360	0.0402	0.0000	125.8644	125.8644	0.0261	7.3000e-004	126.7334
Maximum	**0.0888**	**0.7038**	**0.9185**	**1.4600e-003**	**0.0112**	**0.0378**	**0.0490**	**4.1100e-003**	**0.0360**	**0.0402**	**0.0000**	**125.8644**	**125.8644**	**0.0261**	**7.3000e-004**	**126.7334**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0888	0.7038	0.9185	1.4600e-003	8.1400e-003	0.0378	0.0459	2.6800e-003	0.0360	0.0387	0.0000	125.8643	125.8643	0.0261	7.3000e-004	126.7333
Maximum	**0.0888**	**0.7038**	**0.9185**	**1.4600e-003**	**8.1400e-003**	**0.0378**	**0.0459**	**2.6800e-003**	**0.0360**	**0.0387**	**0.0000**	**125.8643**	**125.8643**	**0.0261**	**7.3000e-004**	**126.7333**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**27.39**	**0.00**	**6.27**	**34.79**	**0.00**	**3.56**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-4-2022	7-3-2022	0.4003	0.4003
2	7-4-2022	9-30-2022	0.3897	0.3897
		Highest	0.4003	0.4003

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0000e-005	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0000e-005	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/4/2022	4/15/2022	5	10	
2	Grading/Excavation - Well Drilling	Grading	4/16/2022	4/19/2022	5	2	
3	Pipe Installation	Building Construction	6/29/2022	9/6/2022	5	50	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Paving	Paving	9/8/2022	9/14/2022	5	5	
5	Trenching	Trenching	4/20/2022	6/28/2022	5	50	
6	Backfill	Site Preparation	9/7/2022	9/7/2022	5	1	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.01

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Backfill	Graders	1	8.00	187	0.41
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Pipe Installation	Cranes	0	0.00	231	0.29
Pipe Installation	Forklifts	0	0.00	89	0.20
Grading/Excavation - Well Drilling	Graders	1	6.00	187	0.41
Backfill	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading/Excavation - Well Drilling	Rubber Tired Dozers	1	6.00	247	0.40
Pipe Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading/Excavation - Well Drilling	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading/Excavation - Well Drilling	Excavators	1	8.00	158	0.38
Demolition	Crushing/Proc. Equipment	1	8.00	85	0.78

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Pipe Installation	Air Compressors	2	8.00	78	0.48
Pipe Installation	Sweepers/Scrubbers	2	8.00	64	0.46
Pipe Installation	Welders	2	8.00	46	0.45
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Plate Compactors	1	8.00	8	0.43
Trenching	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Trenching	Excavators	2	8.00	158	0.38
Trenching	Air Compressors	2	8.00	78	0.48
Backfill	Sweepers/Scrubbers			64	0.46

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	6.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	6	6.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading/Excavation - Well Drilling	4	6.00	2.00	11.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Pipe Installation	8	6.00	0.00	80.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	9	6.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Backfill	2	6.00	2.00	8.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.9400e-003	0.0482	0.0590	1.0000e-004		2.5900e-003	2.5900e-003		2.5100e-003	2.5100e-003	0.0000	8.2211	8.2211	1.1600e-003	0.0000	8.2500
Total	**5.9400e-003**	**0.0482**	**0.0590**	**1.0000e-004**		**2.5900e-003**	**2.5900e-003**		**2.5100e-003**	**2.5100e-003**	**0.0000**	**8.2211**	**8.2211**	**1.1600e-003**	**0.0000**	**8.2500**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	5.0000e-004	1.5000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1821	0.1821	0.0000	3.0000e-005	0.1903
Worker	1.3000e-004	1.0000e-004	1.1100e-003	0.0000	3.7000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3020	0.3020	1.0000e-005	1.0000e-005	0.3046
Total	**1.5000e-004**	**6.0000e-004**	**1.2600e-003**	**0.0000**	**4.3000e-004**	**1.0000e-005**	**4.4000e-004**	**1.2000e-004**	**1.0000e-005**	**1.2000e-004**	**0.0000**	**0.4841**	**0.4841**	**1.0000e-005**	**4.0000e-005**	**0.4949**

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3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.9400e-003	0.0482	0.0590	1.0000e-004		2.5900e-003	2.5900e-003		2.5100e-003	2.5100e-003	0.0000	8.2211	8.2211	1.1600e-003	0.0000	8.2500
Total	**5.9400e-003**	**0.0482**	**0.0590**	**1.0000e-004**		**2.5900e-003**	**2.5900e-003**		**2.5100e-003**	**2.5100e-003**	**0.0000**	**8.2211**	**8.2211**	**1.1600e-003**	**0.0000**	**8.2500**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	5.0000e-004	1.5000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1821	0.1821	0.0000	3.0000e-005	0.1903
Worker	1.3000e-004	1.0000e-004	1.1100e-003	0.0000	3.7000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3020	0.3020	1.0000e-005	1.0000e-005	0.3046
Total	**1.5000e-004**	**6.0000e-004**	**1.2600e-003**	**0.0000**	**4.3000e-004**	**1.0000e-005**	**4.4000e-004**	**1.2000e-004**	**1.0000e-005**	**1.2000e-004**	**0.0000**	**0.4841**	**0.4841**	**1.0000e-005**	**4.0000e-005**	**0.4949**

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3.3 Grading/Excavation - Well Drilling - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3200e-003	0.0000	5.3200e-003	2.5700e-003	0.0000	2.5700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2900e-003	0.0138	9.1900e-003	2.0000e-005		6.0000e-004	6.0000e-004		5.5000e-004	5.5000e-004	0.0000	1.6918	1.6918	5.5000e-004	0.0000	1.7054
Total	**1.2900e-003**	**0.0138**	**9.1900e-003**	**2.0000e-005**	**5.3200e-003**	**6.0000e-004**	**5.9200e-003**	**2.5700e-003**	**5.5000e-004**	**3.1200e-003**	**0.0000**	**1.6918**	**1.6918**	**5.5000e-004**	**0.0000**	**1.7054**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	8.4000e-004	1.6000e-004	0.0000	9.0000e-005	1.0000e-005	1.0000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3248	0.3248	0.0000	5.0000e-005	0.3401
Vendor	0.0000	1.0000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0364	0.0364	0.0000	1.0000e-005	0.0381
Worker	3.0000e-005	2.0000e-005	2.2000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0604	0.0604	0.0000	0.0000	0.0609
Total	**5.0000e-005**	**9.6000e-004**	**4.1000e-004**	**0.0000**	**1.7000e-004**	**1.0000e-005**	**1.8000e-004**	**5.0000e-005**	**1.0000e-005**	**5.0000e-005**	**0.0000**	**0.4217**	**0.4217**	**0.0000**	**6.0000e-005**	**0.4391**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading/Excavation - Well Drilling - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	1.1600e-003	0.0000	1.1600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2900e-003	0.0138	9.1900e-003	2.0000e-005		6.0000e-004	6.0000e-004		5.5000e-004	5.5000e-004	0.0000	1.6918	1.6918	5.5000e-004	0.0000	1.7054
Total	**1.2900e-003**	**0.0138**	**9.1900e-003**	**2.0000e-005**	**2.3900e-003**	**6.0000e-004**	**2.9900e-003**	**1.1600e-003**	**5.5000e-004**	**1.7100e-003**	**0.0000**	**1.6918**	**1.6918**	**5.5000e-004**	**0.0000**	**1.7054**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	8.4000e-004	1.6000e-004	0.0000	9.0000e-005	1.0000e-005	1.0000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3248	0.3248	0.0000	5.0000e-005	0.3401
Vendor	0.0000	1.0000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0364	0.0364	0.0000	1.0000e-005	0.0381
Worker	3.0000e-005	2.0000e-005	2.2000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0604	0.0604	0.0000	0.0000	0.0609
Total	**5.0000e-005**	**9.6000e-004**	**4.1000e-004**	**0.0000**	**1.7000e-004**	**1.0000e-005**	**1.8000e-004**	**5.0000e-005**	**1.0000e-005**	**5.0000e-005**	**0.0000**	**0.4217**	**0.4217**	**0.0000**	**6.0000e-005**	**0.4391**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Pipe Installation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0453	0.3401	0.4125	6.1000e-004		0.0191	0.0191		0.0183	0.0183	0.0000	51.1563	51.1563	0.0102	0.0000	51.4120
Total	**0.0453**	**0.3401**	**0.4125**	**6.1000e-004**		**0.0191**	**0.0191**		**0.0183**	**0.0183**	**0.0000**	**51.1563**	**51.1563**	**0.0102**	**0.0000**	**51.4120**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-004	6.1200e-003	1.1700e-003	2.0000e-005	6.8000e-004	6.0000e-005	7.5000e-004	1.9000e-004	6.0000e-005	2.5000e-004	0.0000	2.3625	2.3625	2.0000e-005	3.7000e-004	2.4736
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	4.9000e-004	5.5700e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	5.0000e-004	1.0000e-005	5.0000e-004	0.0000	1.5099	1.5099	4.0000e-005	4.0000e-005	1.5232
Total	**8.1000e-004**	**6.6100e-003**	**6.7400e-003**	**4.0000e-005**	**2.5400e-003**	**7.0000e-005**	**2.6200e-003**	**6.9000e-004**	**7.0000e-005**	**7.5000e-004**	**0.0000**	**3.8724**	**3.8724**	**6.0000e-005**	**4.1000e-004**	**3.9968**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Pipe Installation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0453	0.3401	0.4125	6.1000e-004		0.0191	0.0191		0.0183	0.0183	0.0000	51.1562	51.1562	0.0102	0.0000	51.4120
Total	**0.0453**	**0.3401**	**0.4125**	**6.1000e-004**		**0.0191**	**0.0191**		**0.0183**	**0.0183**	**0.0000**	**51.1562**	**51.1562**	**0.0102**	**0.0000**	**51.4120**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-004	6.1200e-003	1.1700e-003	2.0000e-005	6.8000e-004	6.0000e-005	7.5000e-004	1.9000e-004	6.0000e-005	2.5000e-004	0.0000	2.3625	2.3625	2.0000e-005	3.7000e-004	2.4736
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	4.9000e-004	5.5700e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	5.0000e-004	1.0000e-005	5.0000e-004	0.0000	1.5099	1.5099	4.0000e-005	4.0000e-005	1.5232
Total	**8.1000e-004**	**6.6100e-003**	**6.7400e-003**	**4.0000e-005**	**2.5400e-003**	**7.0000e-005**	**2.6200e-003**	**6.9000e-004**	**7.0000e-005**	**7.5000e-004**	**0.0000**	**3.8724**	**3.8724**	**6.0000e-005**	**4.1000e-004**	**3.9968**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.1600e-003	0.0197	0.0244	4.0000e-005		9.7000e-004	9.7000e-004		9.1000e-004	9.1000e-004	0.0000	3.3099	3.3099	9.8000e-004	0.0000	3.3343
Paving	1.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.1700e-003**	**0.0197**	**0.0244**	**4.0000e-005**		**9.7000e-004**	**9.7000e-004**		**9.1000e-004**	**9.1000e-004**	**0.0000**	**3.3099**	**3.3099**	**9.8000e-004**	**0.0000**	**3.3343**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	5.6000e-004	0.0000	1.9000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1510	0.1510	0.0000	0.0000	0.1523
Total	**7.0000e-005**	**5.0000e-005**	**5.6000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1510**	**0.1510**	**0.0000**	**0.0000**	**0.1523**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.1600e-003	0.0197	0.0244	4.0000e-005		9.7000e-004	9.7000e-004		9.1000e-004	9.1000e-004	0.0000	3.3099	3.3099	9.8000e-004	0.0000	3.3343
Paving	1.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.1700e-003**	**0.0197**	**0.0244**	**4.0000e-005**		**9.7000e-004**	**9.7000e-004**		**9.1000e-004**	**9.1000e-004**	**0.0000**	**3.3099**	**3.3099**	**9.8000e-004**	**0.0000**	**3.3343**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	5.6000e-004	0.0000	1.9000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1510	0.1510	0.0000	0.0000	0.1523
Total	**7.0000e-005**	**5.0000e-005**	**5.6000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1510**	**0.1510**	**0.0000**	**0.0000**	**0.1523**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Trenching - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0320	0.2666	0.3959	6.1000e-004		0.0143	0.0143		0.0136	0.0136	0.0000	53.4240	53.4240	0.0129	0.0000	53.7460
Total	**0.0320**	**0.2666**	**0.3959**	**6.1000e-004**		**0.0143**	**0.0143**		**0.0136**	**0.0136**	**0.0000**	**53.4240**	**53.4240**	**0.0129**	**0.0000**	**53.7460**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-004	2.5000e-003	7.3000e-004	1.0000e-005	3.0000e-004	3.0000e-005	3.3000e-004	9.0000e-005	3.0000e-005	1.1000e-004	0.0000	0.9104	0.9104	1.0000e-005	1.4000e-004	0.9515
Worker	6.6000e-004	4.9000e-004	5.5700e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	5.0000e-004	1.0000e-005	5.0000e-004	0.0000	1.5099	1.5099	4.0000e-005	4.0000e-005	1.5232
Total	**7.6000e-004**	**2.9900e-003**	**6.3000e-003**	**3.0000e-005**	**2.1600e-003**	**4.0000e-005**	**2.2000e-003**	**5.9000e-004**	**4.0000e-005**	**6.1000e-004**	**0.0000**	**2.4203**	**2.4203**	**5.0000e-005**	**1.8000e-004**	**2.4747**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Trenching - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0320	0.2666	0.3959	6.1000e-004		0.0143	0.0143		0.0136	0.0136	0.0000	53.4239	53.4239	0.0129	0.0000	53.7460
Total	**0.0320**	**0.2666**	**0.3959**	**6.1000e-004**		**0.0143**	**0.0143**		**0.0136**	**0.0136**	**0.0000**	**53.4239**	**53.4239**	**0.0129**	**0.0000**	**53.7460**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-004	2.5000e-003	7.3000e-004	1.0000e-005	3.0000e-004	3.0000e-005	3.3000e-004	9.0000e-005	3.0000e-005	1.1000e-004	0.0000	0.9104	0.9104	1.0000e-005	1.4000e-004	0.9515
Worker	6.6000e-004	4.9000e-004	5.5700e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	5.0000e-004	1.0000e-005	5.0000e-004	0.0000	1.5099	1.5099	4.0000e-005	4.0000e-005	1.5232
Total	**7.6000e-004**	**2.9900e-003**	**6.3000e-003**	**3.0000e-005**	**2.1600e-003**	**4.0000e-005**	**2.2000e-003**	**5.9000e-004**	**4.0000e-005**	**6.1000e-004**	**0.0000**	**2.4203**	**2.4203**	**5.0000e-005**	**1.8000e-004**	**2.4747**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Backfill - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9000e-004	3.4700e-003	1.9800e-003	0.0000		1.3000e-004	1.3000e-004		1.2000e-004	1.2000e-004	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4310
Total	**2.9000e-004**	**3.4700e-003**	**1.9800e-003**	**0.0000**	**2.7000e-004**	**1.3000e-004**	**4.0000e-004**	**3.0000e-005**	**1.2000e-004**	**1.5000e-004**	**0.0000**	**0.4275**	**0.4275**	**1.4000e-004**	**0.0000**	**0.4310**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	6.1000e-004	1.2000e-004	0.0000	7.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2362	0.2362	0.0000	4.0000e-005	0.2474
Vendor	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0182	0.0182	0.0000	0.0000	0.0190
Worker	1.0000e-005	1.0000e-005	1.1000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0302	0.0302	0.0000	0.0000	0.0305
Total	**3.0000e-005**	**6.7000e-004**	**2.4000e-004**	**0.0000**	**1.2000e-004**	**1.0000e-005**	**1.2000e-004**	**3.0000e-005**	**1.0000e-005**	**3.0000e-005**	**0.0000**	**0.2847**	**0.2847**	**0.0000**	**4.0000e-005**	**0.2969**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Backfill - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2000e-004	0.0000	1.2000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9000e-004	3.4700e-003	1.9800e-003	0.0000		1.3000e-004	1.3000e-004		1.2000e-004	1.2000e-004	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4310
Total	**2.9000e-004**	**3.4700e-003**	**1.9800e-003**	**0.0000**	**1.2000e-004**	**1.3000e-004**	**2.5000e-004**	**1.0000e-005**	**1.2000e-004**	**1.3000e-004**	**0.0000**	**0.4275**	**0.4275**	**1.4000e-004**	**0.0000**	**0.4310**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	6.1000e-004	1.2000e-004	0.0000	7.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2362	0.2362	0.0000	4.0000e-005	0.2474
Vendor	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0182	0.0182	0.0000	0.0000	0.0190
Worker	1.0000e-005	1.0000e-005	1.1000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0302	0.0302	0.0000	0.0000	0.0305
Total	**3.0000e-005**	**6.7000e-004**	**2.4000e-004**	**0.0000**	**1.2000e-004**	**1.0000e-005**	**1.2000e-004**	**3.0000e-005**	**1.0000e-005**	**3.0000e-005**	**0.0000**	**0.2847**	**0.2847**	**0.0000**	**4.0000e-005**	**0.2969**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.510058	0.053037	0.175964	0.161396	0.026773	0.007006	0.013819	0.022114	0.000717	0.000291	0.024206	0.001529	0.003090

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

WUSD – AUES Well Replacement Project - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.0000e-005	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Unmitigated	5.0000e-005	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**5.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**5.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

WUSD – AUES Well Replacement Project - Energy Calculations

Construction Energy Consumption

Calculations based on the modeling methodology and GHG Emissions. Please refer to the CalEEMod outputs for additional information.

Construction Activity - Fuel Consumption Sources	Total $MTCO_2$ [a]	Fuel Type	Emission Factor (MT CO_2/gallon) [b]	Fuel Consumption (gallons)
Offroad Equipment	118.2306	Diesel	0.01019	11,603
Hauling	2.9235	Diesel	0.01019	287
Vendor	1.1471	Diesel	0.01019	113
Worker	3.5634	Gas	0.00878	406
Total			Diesel	12,002
			Gasoline	406
Amortized Demands (over 30 years)			Diesel	400
			Gasoline	14

Notes:

[a] Modeled by AECOM in 2022;

[b] U.S. Energy Information Administration 2021 (https://www.eia.gov/environment/emissions/co2_vol_mass.php)

AECOM

Attachment B

Biological Resources – CDFW CNDDB, CNPS, and USFWS IPaC Database Search Results

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Fresno South (3611967) OR Fresno North (3611977) OR Clovis (3611976) OR Malaga (3611966) OR Conejo (3611956) OR Caruthers (3611957) OR Raisin (3611958) OR Kearney Park (3611968) OR Herndon (3611978))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3	S3	WL
Anniella pulchra Northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Arizona elegans occidentalis California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Atriplex minuscula lesser saltscale	PDCHE042M0	None	None	G2	S2	1B.1
Bombus crotchii Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Castilleja campestris var. succulenta succulent owl's-clover	PDSCR0D3Z1	Threatened	Endangered	G4?T2T3	S2S3	1B.2
Caulanthus californicus California jewelflower	PDBRA31010	Endangered	Endangered	G1	S1	1B.1
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S3	
Dipodomys nitratoides exilis Fresno kangaroo rat	AMAFD03151	Endangered	Endangered	G3TH	SH	
Efferia antiochi Antioch efferian robberfly	IIDIP07010	None	None	G1G2	S1S2	
Egretta thula snowy egret	ABNGA06030	None	None	G5	S4	
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Eriastrum hooveri Hoover's eriastrum	PDPLM03070	Delisted	None	G3	S3	4.2
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G4G5T4	S3S4	SSC
Imperata brevifolia California satintail	PMPOA3D020	None	None	G4	S3	2B.1
Lasiurus cinereus hoary bat	AMACC05030	None	None	G3G4	S4	
Lasthenia chrysantha alkali-sink goldfields	PDAST5L030	None	None	G2	S2	1B.1
Leptosiphon serrulatus Madera leptosiphon	PDPLM09130	None	None	G3	S3	1B.2
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Lytta molesta molestan blister beetle	IICOL4C030	None	None	G2	S2	
Metapogon hurdi Hurd's metapogon robberfly	IIDIP08010	None	None	G1G2	S1S2	
Nannopterum auritum double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Northern Claypan Vernal Pool Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	
Nycticorax nycticorax black-crowned night heron	ABNGA11010	None	None	G5	S4	
Orcuttia inaequalis San Joaquin Valley Orcutt grass	PMPOA4G060	Threatened	Endangered	G1	S1	1B.1
Orcuttia pilosa hairy Orcutt grass	PMPOA4G040	Endangered	Endangered	G1	S1	1B.1
Perognathus inornatus San Joaquin pocket mouse	AMAFD01060	None	None	G2G3	S2S3	
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Spea hammondii western spadefoot	AAABF02020	None	None	G2G3	S3	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Tuctoria greenei Greene's tuctoria	PMPOA6N010	Endangered	Rare	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Vireo bellii pusillus	ABPBW01114	Endangered	Endangered	G5T2	S2	
least Bell's vireo						
Vulpes macrotis mutica	AMAJA03041	Endangered	Threatened	G4T2	S2	
San Joaquin kit fox						

Record Count: 42

Search Results

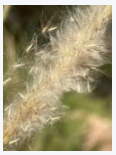
Back Export Results

12 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [3611967:3611977:3611976:3611966:3611956:3611957:3611958:3611968:3611978]

Scientific Name Common Name Family Lifeform Blooming Period Fed List State List Global Rank State Rank CA Rare Plant Rank General Habitats
Micro Habitats Lowest Elevation (m) Highest Elevation (m) Lowest Elevation (ft) Highest Elevation (ft) CA Endemic Date Added Photo

Filter Results:

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	None	None	G2	S2	1B.1	 © 2000 Robert E. Preston, Ph.D.
Castilleja campestris var. *succulenta*	succulent owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	(Mar)Apr-May	FT	CE	G4?T2T3	S2S3	1B.2	No Photo Available
Caulanthus californicus	California jewelflower	Brassicaceae	annual herb	Feb-May	FE	CE	G1	S1	1B.1	No Photo Available
Eriastrum hooveri	Hoover's eriastrum	Polemoniaceae	annual herb	Mar-Jul	FD	None	G3	S3	4.2	No Photo Available
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	None	None	G4	S3	2B.1	 © 2020 Matt C. Berger
Lasthenia chrysantha	alkali-sink goldfields	Asteraceae	annual herb	Feb-Apr	None	None	G2	S2	1B.1	 © 2009 California State University, Stanislaus
Leptosiphon serrulatus	Madera leptosiphon	Polemoniaceae	annual herb	Apr-May	None	None	G3	S3	1B.2	 © 2008 Chris Winchell
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	Poaceae	annual herb	Apr-Sep	FT	CE	G1	S1	1B.1	No Photo Available
Orcuttia pilosa	hairy Orcutt grass	Poaceae	annual herb	May-Sep	FE	CE	G1	S1	1B.1	 © 2003

										George W. Hartwell
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	No Photo Available
Trichostema ovatum	San Joaquin bluecurls	Lamiaceae	annual herb	(Apr-Jun)Jul-Oct	None	None	G3	S3	4.2	No Photo Available
Tuctoria greenei	Greene's tuctoria	Poaceae	annual herb	May-Jul(Sep)	FE	CR	G1	S1	1B.1	No Photo Available

Showing 1 to 12 of 12 entries

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website https://www.rareplants.cnps.org [accessed 10 February 2022].

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Fresno County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Fresno Kangaroo Rat Dipodomys nitratoides exilis Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/5150	Endangered
San Joaquin Kit Fox Vulpes macrotis mutica Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2873	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard Gambelia silus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/625	Endangered
Giant Garter Snake Thamnophis gigas Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS

NAME	STATUS
Delta Smelt Hypomesus transpacificus Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/498	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

THERE ARE NO MIGRATORY BIRDS OF CONSERVATION CONCERN EXPECTED TO OCCUR AT THIS LOCATION.

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds

guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid

or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.