

Memo

The logo for ASCENT, featuring the word "ASCENT" in a bold, sans-serif font, slanted upwards to the right, and enclosed within a dark grey rectangular box with a white border.

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Date: December 28, 2022

To: Colusa County Waterworks District No. 1

From: Ascent Environmental

Subject: Arsenic Compliance Project CEQA-Plus

The Colusa County Waterworks District No. 1 (CCWD1) is proposing the Arsenic Compliance Project (proposed project). The proposed project may be partially funded with a loan from the federal Drinking Water State Revolving Fund (SRF) program established by the federal Safe Drinking Water Act (Safe Drinking Water Act or SDWA), as amended in 1996. This program is administered, nationally, by the US Environmental Protection Agency (EPA), and in certain instances the administration has been delegated to the states. In California, administration of the SRF program has been delegated to the State Water Resources Control Board (SWRCB). In turn, the SWRCB requires that all projects being considered under the SRF program must comply with CEQA and certain federal environmental protection laws. Collectively, the SWRCB refers to these requirements as "CEQA-Plus." This memo and an accompanying Notice of Exemption have been prepared to document the project's compliance with these CEQA-Plus requirements. The SWRCB, as a responsible agency for the project, will consider this document prior to any SRF loan authorization.

1 PROJECT DESCRIPTION

To address elevated concentrations of arsenic in the existing wells, CCWD1, with two wells, is proposing the project to meet drinking water standards for the community of Grimes. In addition, although CCWD1's existing wells are of a sufficient size to meet domestic demand, there is not enough capacity to meet the minimum fire flow requirement of 1,000 gallons per minute (gpm).

1.1 PROJECT LOCATION AND BACKGROUND

CCWD1 serves the community of Grimes in Colusa County, California. Grimes is located about 13 miles southwest of Yuba City and about 10 miles east of the City of Arbuckle (Figure 1). CCWD1 uses groundwater to meet all water demands for the community of Grimes (Well 1 and Well 2).

Well 1 is CCWD1's primary water supply well; Well 2 is operated as a backup well and is equipped with an emergency generator. Well 1 is equipped with a hydropneumatic tank to maintain system pressure. The current arsenic levels in CCWD1's existing Well 1 (primary) and Well 2 (standby) is 24 parts per billion (ppb) and 20 ppb, respectively, and do not meet EPA standards for arsenic, which is below 10 ppb.



Source: Data received from Kennedy Jenks in 2022.

Figure 1 Project Vicinity/Project Area

1.2 PROJECT CHARACTERISTICS

The objective of the proposed project is to provide water supply to the community of Grimes that meets drinking water standards by installing arsenic treatment for groundwater. The project would include installation of a new well at the existing Well 2 site; installation of an arsenic treatment system at the Well 2 site, including a blending tank, booster pump, and a standby generator; and Well 2 site improvements, including fencing, a new electrical and chemical building, and connection to the existing distribution system (Figure 1). In addition, the new well would provide adequate capacity to meet the minimum fire flow requirement of 1,000 gpm. The project components are described in more detail, below. Well 2 would become the primary groundwater source and Well 1 would become a backup well.

NEW WELL

Following geophysical logging and water quality sampling, the pilot hole would be reamed and a new well would be constructed. Pump testing would be conducted to determine the setting of the vertical turbine pump and motor for the new well. The existing Well 2 would be properly abandoned following drilling of the new well. The new well pump would be sized based on pump testing of the pilot hole. Design criteria for the new well is summarized in Table 1.

Table 1 Design Criteria – New Well

Item	Value
Pilot borehole, minimum depth	150 feet below ground surface
Pilot borehole, minimum diameter (nominal)	10 inches
Ream pilot hole, maximum diameter	12 inches
Sanitary seal, minimum	0 to 50 feet below ground surface
Minimum setback	100 feet from septic leach lines
New well pump	Vertical turbine, water lubricated

Source: Kennedy Jenks 2021.

ARSENIC TREATMENT SYSTEM

A centralized arsenic treatment system would be constructed at the existing Well 2 site. The proposed arsenic treatment system would include two 6-foot diameter vessels with an interconnecting piping/valve tree to operate the vessels in a lead-lag configuration. While the design capacity of Well 2 is 400 gallons per minute (gpm), the current capacity is approximately 200 gpm. The treatment system would, therefore, be sized for 200 gpm, with space dedicated to a future expansion of additional vessels if demand increases and 400 gpm of treatment is required.

WELL 2 SITE IMPROVEMENTS

To optimize the cost effectiveness of the arsenic treatment system, the new well and arsenic treatment system would be piped into a blending tank, which would be pumped into distribution via booster pumps, a separate fire pump, and a magnetic flowmeter. A new back-up generator would be installed to ensure that the arsenic treatment system and distribution pumps remain online during power outages.

Additional site improvements include site fencing, construction of a new electrical and chemical building, and connection to the existing distribution system.

1.3 PROJECT CONSTRUCTION

Project construction would occur in two phases. Phase I is estimated to start in April 2025 and last approximately 1.5 months. Phase II is estimated to begin in June 2026 and last approximately 10 months. All construction would be

limited to the daytime hours of 7:00 a.m. through 7:00 p.m., Monday through Friday, consistent with the Colusa County noise ordinance. During construction, staging areas for equipment storage, personnel vehicles, and laydown of materials would be within the project footprint or previously disturbed areas in the project area. All construction equipment and truck deliveries would occur during the daytime hours. The number of construction workers on-site would vary; however, approximately five workers are anticipated to be on-site during construction, and there may be several deliveries for materials each day with a few additional delivery trips during construction start-up and the end of construction. Equipment used for construction would include one or more of the following: drilling rig, generator, compressor, backhoe, forklift, diesel engine pump, vacuum or tank truck, and hauling trucks.

Phase I of construction would involve well construction and development, installation of well equipment, and well testing. Phase II of construction would include grading/trenching, pouring foundations for the storage tank and treatment system, installation of plumbing and piping, startup testing, installation of the storage tank, installation of fencing, and resurfacing of the roadway. The generator for the new well would be enclosed to protect against weather and sound.

Project construction would require removal of one tree. The tree would be removed between September 16 and February 14 to avoid potential impacts to nesting birds (See Section 2.12 below). If potentially disturbing construction activities (i.e., increased worker activity, high-decibel noise disturbance from demolition or excavation) would occur during the nesting bird season (between February 15 and September 15), a qualified biologist will conduct preconstruction surveys for nesting migratory bird species within the vicinity of the project area pursuant to Fish and Game Code Section 3503. The surveys will be conducted before the beginning of any vegetation removal activities are implemented. If no active nests are found, work may proceed. If an active nest is found, potential effects to nesting birds will be avoided by establishing appropriate buffers around active nest sites identified during preconstruction nest surveys. This is a common approach to protecting nesting birds. Buffer size will be determined by a qualified biologist. Factors to be considered for determining buffer size will include presence of natural buffers provided by vegetation or topography, nest height above ground, baseline levels of noise and human activity, species sensitivity, and proposed project activities. No project activity will commence within the buffer areas until a qualified biologist has determined, in coordination with U.S. Fish and Wildlife Service, the young have fledged, the nest is no longer active, or reducing the buffer would not likely result in nest abandonment.

In addition, in the event of an inadvertent discovery of cultural resources, work would stop and an archaeologist would be contacted to assess the discovery in accordance with Public Resource Code Sections 21083.2(b) and 5097.

Maintenance would include filter media replacement twice per year, a common best management practice (BMP) to avoid erosion runoff. No permanent workers would be required for operation of the project. There would be a small increase (approximately 30 kilowatt hours per day) in electricity use associated with the new well.

2 FEDERAL PROTECTION LAWS

2.1 E1.1 CLEAN AIR ACT

REGULATORY BACKGROUND

The proposed project area is located in the town of Grimes, within the Sacramento Valley Air Basin. Air quality within the project area is regulated by the U.S. Environmental Protection Agency (EPA) and the California Air Resources board (CARB) at the federal and state levels, respectively, and locally by the Sacramento Metropolitan Air Quality Management District (SMAQMD).

At the federal level, EPA implements the national air quality programs. EPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), enacted in 1970. The most recent major amendments were made by Congress in 1990. The CAA requires EPA to establish National Ambient Air Quality Standards (NAAQS). EPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO₂),

sulfur dioxide (SO₂), particulate matter (i.e., respirable particulate matter with an aerodynamic diameter less than or equal to 10 microns [PM₁₀] and fine particulate matter with an aerodynamic diameter less than or equal to 2.5 microns [PM_{2.5}]), and lead. The CAA also requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The CAA Amendments added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. Each state's SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA reviews all state SIPs to check for consistency with the mandates of the CAA and its amendments and to determine whether implementing them will achieve air quality goals. If EPA determines a SIP to be inadequate, a Federal Implementation Plan that imposes additional control measures may be prepared for nonattainment areas. If the state fails to submit an approvable SIP or to implement the plan within the mandated time frame, sanctions may be applied to transportation funding and stationary air pollution sources in the air basins.

On November 30, 1993, EPA promulgated the general conformity regulations, which were established to ensure that federal actions do not cause or contribute to new violations of the NAAQS, do not worsen existing violations of the NAAQS, and do not delay attainment of the NAAQS. These regulations apply to a proposed federal action, except actions covered by federal transportation conformity, in an area designated as a nonattainment or maintenance area with respect to the NAAQS if the total direct and indirect emissions of the relevant criteria pollutant and precursor emissions caused by the proposed action would be equal to or exceed specified *de minimis* amounts. Thus, requiring the federal agency to make a determination regarding general conformity. The manner in which this regulatory information applies to the proposed project is discussed below.

AFFECTED ENVIRONMENT

EPA designates each county (or portions of counties) within California as attainment, maintenance, or nonattainment based on the area's ability to maintain ambient air concentrations below the applicable NAAQS. Areas are designated as attainment if ambient air concentrations of a criteria pollutant or precursor are below the NAAQS. Areas are designated as nonattainment if ambient air concentrations exceed the NAAQS. Areas previously designated as nonattainment that subsequently demonstrated compliance with the NAAQS are designated as maintenance areas. Colusa County is currently designated by EPA as attainment for all criteria pollutants (EPA 2022a).

Table 2 Attainment Status

Pollutant	Federal Attainment Classification
Ozone	Attainment
Respirable Particulate Matter (PM ₁₀)	Attainment
Fine Particulate Matter (PM _{2.5})	Attainment
Carbon Monoxide (CO)	Attainment
Nitrogen Dioxide (NO ₂)	Attainment
Sulfur Dioxide (SO ₂)	Attainment
Lead (Pb)	No Designation

Source: EPA 2022a

As mentioned above, a general conformity determination is required if a federal action results in the generation of air pollutants for which the total of direct and indirect emissions equals or exceeds the *de minimis* criteria. Different *de minimis* levels apply to different locations based on attainment status. Table 3 shows that no *de minimis* levels apply in Colusa County given the County's attainment designation for all NAAQS. It should be noted that because ozone is a secondary pollutant (i.e., it is not emitted directly into the atmosphere, but formed in a photochemical reaction in the atmosphere involving ozone precursors and sunlight), its *de minimis* level is based on the primary emissions of precursor

pollutants: oxides of nitrogen (NO_x) and volatile organic compounds (VOCs). If the net emissions of either NO_x or VOCs exceeds the *de minimis* level for ozone, the project is required to prepare an official general conformity determination.

Table 3 De Minimis Thresholds for Determining Applicability of General Conformity Requirements for Federal Actions

Pollutant	Federal Classification	General Conformity <i>De Minimis</i> Levels (tons per year)
Ozone	Attainment	NA
VOC (an ozone precursor)		
NO _x (an ozone precursor)		
PM ₁₀	Attainment	NA
PM _{2.5}	Attainment	NA
CO	Attainment	NA
NO ₂	Attainment	NA
SO ₂	Attainment	NA
Pb	No Designation	NA

Notes: NA: Not Applicable.

Source: EPA 2022b.

ENVIRONMENTAL CONSEQUENCES

Construction and operational emissions were estimated based on assumptions outlined in the project description and default model settings using emission factors and methodologies from the CalEEMod emissions model (version 2022.1). It was assumed that construction would occur in two phases, with Phase I assumed to start in April 2025 and last approximately 1.5 months and Phase II to begin in June 2026 and last approximately 10 months. The number and types of equipment, operating hours, truck trips, and daily workers for each phase are described in Section 1 of this memo. For operations, it was assumed that the only new operational source of emissions would be the new back-up generator that would be installed to provide backup power to the arsenic treatment system and distribution pumps. For the purposes of this analysis, it was assumed the back-up generator would be tested for 1 hour at a time and up to 50 hours per year.

Emissions for each construction year as well as operations are summarized in Table 4. See attached modeling results for further detail (Appendix C).

As shown in Table 4 and discussed above, General Conformity *de minimis* levels are not applicable to the proposed project because the project is in an area that meets all NAAQS. Regardless, project emissions are presented in Table 4 for purposes of disclosure. As shown, estimated emissions from construction and operations are low and would not exceed any significance levels promulgated at the federal or state level.

Table 4 Summary of Emissions of Criteria Air Pollutants and Precursors by Year

	Emissions (tons/year)				
	VOC	NOX	CO	PM _{2.5}	PM ₁₀
Construction Emissions					
2025	0.01	0.05	0.07	<0.005	<0.005
2026	0.03	0.16	0.32	0.01	0.03
2027	0.01	0.07	0.14	<0.005	0.01
Project Operations (all years)	0.01	0.04	0.03	<0.005	<0.005
De Minimis Levels	NA	NA	NA	NA	NA

Notes: tons/year = tons per year; CO = carbon monoxide; NO_x = oxides of nitrogen; PM_{2.5} = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM₁₀ = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; VOC = volatile organic compounds; NA: Not Applicable.

Refer to Appendix C for detailed assumptions and modeling output files.

Source: Data modeled by Ascent Environmental in 2022

2.2 E1.2 COASTAL BARRIERS RESOURCES ACT

The Coastal Barrier Resources Act (PL 97-348) designated various undeveloped coastal barrier islands, depicted by specific maps, for inclusion in the Coastal Barrier Resources System. Areas so designated were made ineligible for direct or indirect federal financial assistance that might support development, including flood insurance, except for emergency life-saving activities. Exceptions for certain activities, such as fish and wildlife research, are provided, and National Wildlife Refuges and other, otherwise protected areas are excluded from the System. The System includes relatively undeveloped coastal barriers along the Atlantic and Gulf coasts, as well as the Great Lakes and Puerto Rico and the Virgin Islands.

The proposed project area and surrounding lands are not located within the Coastal Barrier Resources System; therefore, compliance with this Act is not applicable to the project.

2.4 E1.3 COASTAL ZONE MANAGEMENT ACT

The Coastal Zone Management Act (PL 92-583), administered by the National Oceanic and Atmospheric Administration Fisheries Service's (NOAA Fisheries') Office of Ocean and Coastal Resource Management, provides for management of the nation's coastal resources and balances economic development with environmental conservation.

The Act outlines two national programs, the National Coastal Zone Management Program and the National Estuarine Research Reserve System. The coastal programs aim to balance competing land and water issues in the coastal zone, while estuarine reserves serve as field laboratories to provide a greater understanding of estuaries and how humans impact them. The Act's overall program objectives remain balanced to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone."

The proposed project area and surrounding lands are not located within California's coastal zone, which generally extends 1,000 yards inland from the mean high tide line; therefore, compliance with this Act is not applicable to the project.

2.5 E1.4 ENDANGERED SPECIES ACT

Pursuant to the federal Endangered Species Act (ESA) (PL 93-205), USFWS and NOAA Fisheries have regulatory authority over federally listed species. Under ESA, a permit to "take" a listed species is required for any federal action that may harm an individual of that species. Take is defined under ESA Section 9 as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Under federal regulation, take is further defined to include habitat modification or degradation where it would be expected to result in death or injury to listed wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. ESA Section 7 outlines procedures for federal interagency cooperation to conserve federally listed species and designated critical habitat. Section 7(a)(2) requires federal agencies to consult with USFWS and/or NOAA Fisheries to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species. No federally listed plant or wildlife species have potential to occur in the project area, therefore, no impacts to federally protected species are expected to occur (Appendix A). It is anticipated that the EPA will issue a "not likely to adversely affect" determination and request and receive a letter of concurrence from USFWS.

A copy of this CEQA-plus memo will be provided to USFWS for review and comment.

2.6 E1.5 ENVIRONMENTAL JUSTICE

Executive Order (EO) 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (59 Federal Register 7629 (1994)), directs federal agencies to identify and address disproportionately high and adverse health or environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law. The EO also directs each federal agency to develop a strategy for implementing environmental justice. EO 12898 is also intended to promote nondiscrimination in federal programs that affect human health and the environment, as well as provide minority and low-income communities access to public information and public participation.

The Council on Environmental Quality (CEQ) has oversight of the federal government's compliance with EO 12898. To facilitate compliance, CEQ prepared and issued, in consultation with EPA, Environmental Justice Guidance under the National Environmental Policy Act (CEQ 1997). According to the CEQ's Environmental Justice Guidance, the first step in conducting an environmental justice analysis is to define minority and low-income populations. Based on CEQ's guidelines, a minority population is present in a project area if either (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population. By the same rule, a low-income population exists if the project area consists of 50 percent or more people living below the poverty threshold, as defined by the US Census Bureau, or is significantly greater than the poverty percentage of the general population.

The second step of an environmental justice analysis requires a finding of a high or adverse effect. The CEQ guidance indicates that when determining whether the effects are high and adverse, agencies are to consider whether the risks or rates of impact "are significant (as employed by NEPA) or above generally accepted norms." The final step requires a finding that the effect on the minority or low-income population be disproportionately high and adverse. The CEQ offers a non-quantitative definition stating that an effect is disproportionate if it appreciably exceeds the risk or rate to the general population.

The following population characteristics are considered in this analysis:

- ▶ race and ethnicity as described in the 2020 US Census, and
- ▶ per capita income as it relates to the federal poverty threshold.

To make a finding that disproportionately high and adverse effects would likely fall on a minority or low-income population, three conditions must be met simultaneously: (1) there must be a minority or low-income population in the affected area, (2) a high and adverse effect must exist, and (3) the effect must be disproportionately high and adverse on the minority or low-income population.

For purposes of this analysis, information on demographics and income and poverty status was obtained for the community of Grimes (a Census Designated Place [CDP]) and Colusa County. The data collected is from the 2016-2020 American Community Survey 5-Year Estimates, which, for purposes of this analysis, is considered "existing conditions."

DEMOGRAPHICS

Table 5 presents the demographics per the 2016-2020 American Community Survey 5-Year Estimates for the community of Grimes and Colusa County. In 2020, it is estimated that approximately 83 percent of the population in the project area identified themselves as white and less than 1 percent identified themselves as black, American Indian/Alaska Native, or Asian (US Census Bureau 2020a). Approximately 32 percent of Grimes' population identified themselves as Hispanic or Latino, which is considerably less than the County's estimate of 60 percent (US Census Bureau 2020b).

Table 5 Demographics: Grimes and Colusa County

	Grimes CDP		Colusa County	
	Number	Percent of Total Population	Number	Percent of Total Population
Total Population	462	100.0%	21,491	100.0%
Race				
White	383	82.9%	17,012	79.2%
Black or African American	0	0%	330	1.5%
American Indian and Alaska Native	0	0%	239	1.1%
Asian	0	0%	201	0.9%
Native Hawaiian and Other Pacific Islander	0	0%	32	0.1%
Some Other Race	13	2.8%	1,369	6.4%
Two or More Races	66	14.3%	2,308	10.7%
Hispanic or Latino (of any race)				
Hispanic or Latino	147	31.8%	12,840	59.7%
Not Hispanic or Latino	315	68.2%	8,651	40.3%

Notes: CDP = Census Designated Place.

Sources: US Census Bureau 2020a, 2020b.

INCOME AND POVERTY STATUS

Table 6 presents household income, per capita income, and poverty status for the community of Grimes and Colusa County per the 2016-2020 American Community Survey 5-Year Estimates. Median household income was \$33,897 in Grimes and \$59,427 in Colusa County (US Census Bureau 2020c). Approximately 50 percent of families and 50 percent of individuals in Grimes were below the poverty level in the project area, which was higher than that of the County (approximately 10 percent of families and 12 percent of individuals).

In 2020, the weighted average federal poverty threshold was \$13,171 for one person and \$20,591 for a three-person family (US Census Bureau 2020d).

Table 6 Income and Poverty Status: Grimes and Colusa County

	Grimes CDP		Colusa County	
	Number	Percent of Total Population	Number	Percent of Total Population
Households	155	100.0%	7,329	100.0%
Less than \$10,000	27	17.4%	349	4.8%
\$10,000 to \$14,999	0	0.0%	488	6.7%
\$15,000 to \$24,999	33	21.3%	797	10.9%
\$25,000 to \$34,999	25	16.1%	723	9.9%
\$35,000 to \$49,999	22	14.2%	864	11.8%
\$50,000 to \$74,999	48	31.0%	1,447	19.7%
\$75,000 to \$99,999	0	0.0%	920	12.6%
\$100,000 to \$149,999	0	0.0%	998	13.6%
\$150,000 to \$199,999	0	0.0%	390	5.3%
\$200,000 or more	0	0.0%	353	4.8%

	Grimes CDP		Colusa County	
	Number	Percent of Total Population	Number	Percent of Total Population
Median Household Income	\$33,897	--	\$59,427	--
Per Capita Income	\$14,589	--	\$27,614	--
Poverty Status – Families	--	49.5%	--	9.5%
Poverty Status – Individuals	--	50.2%	--	11.9%

Notes: CDP = Census Designated Place.

Source: US Census Bureau 2020c.

IMPACT EVALUATION

(1) IS THERE A MINORITY OR LOW-INCOME POPULATION IN THE AFFECTED AREA?

As described above, in the 2020 US Census approximately 32 percent of Grimes' population identified themselves as Hispanic or Latino, which is considerably less than the County's estimate of 60 percent (US Census Bureau 2020b). Therefore, for purposes of this analysis, a disproportionately high minority population is not present in the project area.

In 2020, approximately 50 percent of families and 50 percent of individuals in Grimes were below the poverty level in the project area, which was higher than that of the County (approximately 10 percent of families and 12 percent of individuals) (US Census Bureau 2020c). Therefore, for purposes of this analysis, a disproportionately high low-income population is present in the project area.

(2) IS THERE A HIGH AND ADVERSE EFFECT? AND (3) IS THE EFFECT DISPROPORTIONATELY HIGH AND ADVERSE ON THE MINORITY POPULATION?

Temporary construction impacts associated with the project would primarily occur at the Well 2 site and along the pipeline alignment between Well 1 and Well 2 (within the roadway right-of-way of 4th Street, South 2nd Alley, and the unnamed dirt road to the north of the project area). Nearby residences could be subject to construction-related impacts, including increased noise, traffic, and dust. However, these impacts would be short-term, and construction would take place when most residents are not expected to be home or when sensitivity to construction noise would be relatively low (i.e., during working hours). All construction would be limited to the hours of 7:00 a.m. through 7:00 p.m. Mondays through Fridays, consistent with the Colusa County Noise Ordinance (Section 13-8).

Construction activities would result in short-term noise, but no pile driving or blasting would take place. Phase I of construction would occur for 1.5 months and Phase II would occur for 10 months. Noise-generating construction activity would only occur during the less noise-sensitive times of day that are exempt from the noise standards established by the Colusa County Noise Ordinance (Section 13-8). Therefore, short-term construction would not result in the exposure of persons to, or generation of noise levels in excess of applicable standards.

Project construction would result in short-term increases in traffic on local roadways. Construction activities would include equipment and hauling materials to and from the project area, construction employee commute trips to and from the project area, and on-site activities for equipment installation. Temporary construction activities are expected to only marginally affect vehicular traffic levels in the project area. However, pipeline installation activities could result in traffic delays associated with the partial or full closure of portions of 4th Street, South 2nd Alley, and the unnamed dirt road to the south of the project area throughout the construction period. CCWD1 will ensure that lane closures are minimized, access to homes is preserved, emergency vehicle access is preserved, and travel delays are minimized. If needed, CCWD1 will provide detour routes, which will be clearly marked, and construction fencing, or physical barriers will be installed to prevent access to the construction site and to clearly delineate the detour route. Implementation of these measures would reduce disruption of access to the local population.

As addressed in "E1.1 Clean Air Act," above (Table 4), emissions of VOC, NO_x, CO, PM_{2.5}, and PM₁₀ related to construction and operation of the proposed project would be minimal and insignificant. CCWD1 will comply with all applicable Colusa County Air Pollution Control District (CCAPCD) requirements prior to commencement of construction activities. In addition, all construction equipment will be staged as distant as possible from existing off-site receptors. Implementation of these measures would ensure compliance with CCAPCD requirements and minimize the potential for fugitive dust emissions generated during project construction.

In summary, project construction would not result in a high and adverse effect and would not have a disproportionately high and adverse effect on a low-income population because project construction would be short-term, localized, and would result in minimal emissions of criteria pollutants. Operation of the new well and arsenic treatment system would improve the drinking water quality for all customers in the service area, improving service for all customers equally. Therefore, project operation would not have a disproportionately high and adverse effect on the minority population.

2.7 E1.6 FARMLAND PROTECTION POLICY ACT

The purpose of the federal Farmland Protection Policy Act (FPPA) of 1981 (Public Law 97-98) is to minimize federal contributions to the conversion of farmland to nonagricultural uses by ensuring that Federal programs are administered in a manner compatible with state government, local government, and private programs designed to protect farmland. The Natural Resources Conservation Service (NRCS) is the agency primarily responsible for implementing the FPPA, which is a voluntary program that provides funds to help purchase development rights to keep productive farmland in agricultural uses. The program provides matching funds to state, local, or tribal government entities and nongovernmental organizations with existing farmland protection programs to purchase conservation easements. Participating landowners agree not to convert the land to nonagricultural uses and retain all rights to the property for future agriculture. A minimum 30-year term is required for conservation easements, and priority is given to applications with perpetual easements.

U.S. Department of Agriculture (USDA) Regulations (7 CFR Part 658) implementing the FPPA requires federal agencies to conduct a farmland conversion impact rating (using USDA Form AD-1006) when a project may convert farmlands to non-agricultural uses. This impact rating should be done when the impacts of a project will affect farmlands in the following categories:

- ▶ prime farmland - the highest quality land for food and fiber production having the best chemical and physical characteristics for producing;
- ▶ unique farmland - land capable of yielding high value crops such as citrus fruits, olives; and
- ▶ farmlands designated as important by state and local governments, with the approval of the Secretary of Agriculture.

Neither the Act nor the regulations apply if:

- ▶ the project site does not contain farmland in categories identified above.
- ▶ the project is on prime farmland that is already "committed" to urban development or water storage (applies to prime farmland only – refer to 7 CFR 658.2(a)).
- ▶ projects were beyond the planning stage prior to August 6, 1984.
- ▶ projects involve grants, loans or mortgage insurance for purchase or rehabilitation of existing structures.

The proposed project would include installation of a new well; installation of an arsenic treatment system, including a blending tank, booster pump, and a standby generator; and Well 2 site improvements, including fencing, a new electrical and chemical building, and connection to the existing distribution system. The project objective is to provide water supply to the community of Grimes that meets drinking water standards by installing arsenic treatment for groundwater.

The project area does not contain Prime Farmland, Unique Farmland, or farmlands designated as important by state and local governments, with the approval of the Secretary of Agriculture; therefore, neither the Act nor the regulations apply. Furthermore, the project would be located on land designated as Urban and Built-up Land pursuant to the FMMP of the California Resources Agency. As such, the project would have no impact related to conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use.

Consultation with the NRCS (including submittal of the Farmland Conservation Impact Rating form) does not apply to project sites that do not contain farmland in categories identified above and, therefore, is not required for the proposed project.

2.8 E1.7 FLOODPLAIN MANAGEMENT

EO 11988, "Floodplain Management" (May 24, 1977), directs federal agencies to issue or amend existing regulations and procedures to ensure that the potential effects of any action it may take in a floodplain are evaluated and that its planning programs and budget requests reflect consideration of flood hazards and floodplain management. The purpose of this directive is "to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative."

The Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRMs) are used to determine if properties are located within Special Flood Hazard Areas. According to the Colusa County General Plan EIR, approximately 25 percent of the county is located within an area with an "A" prefix on the corresponding FIRM, which indicates that the area is subject to 100-year flooding; slightly more than 11 percent of the county is located within FIRM flood hazard areas or areas in which flood hazards have yet to be determined (Zone D); and nearly 57 percent of the county is located in areas of low flood hazards (Zone X)" (Colusa County 2011).

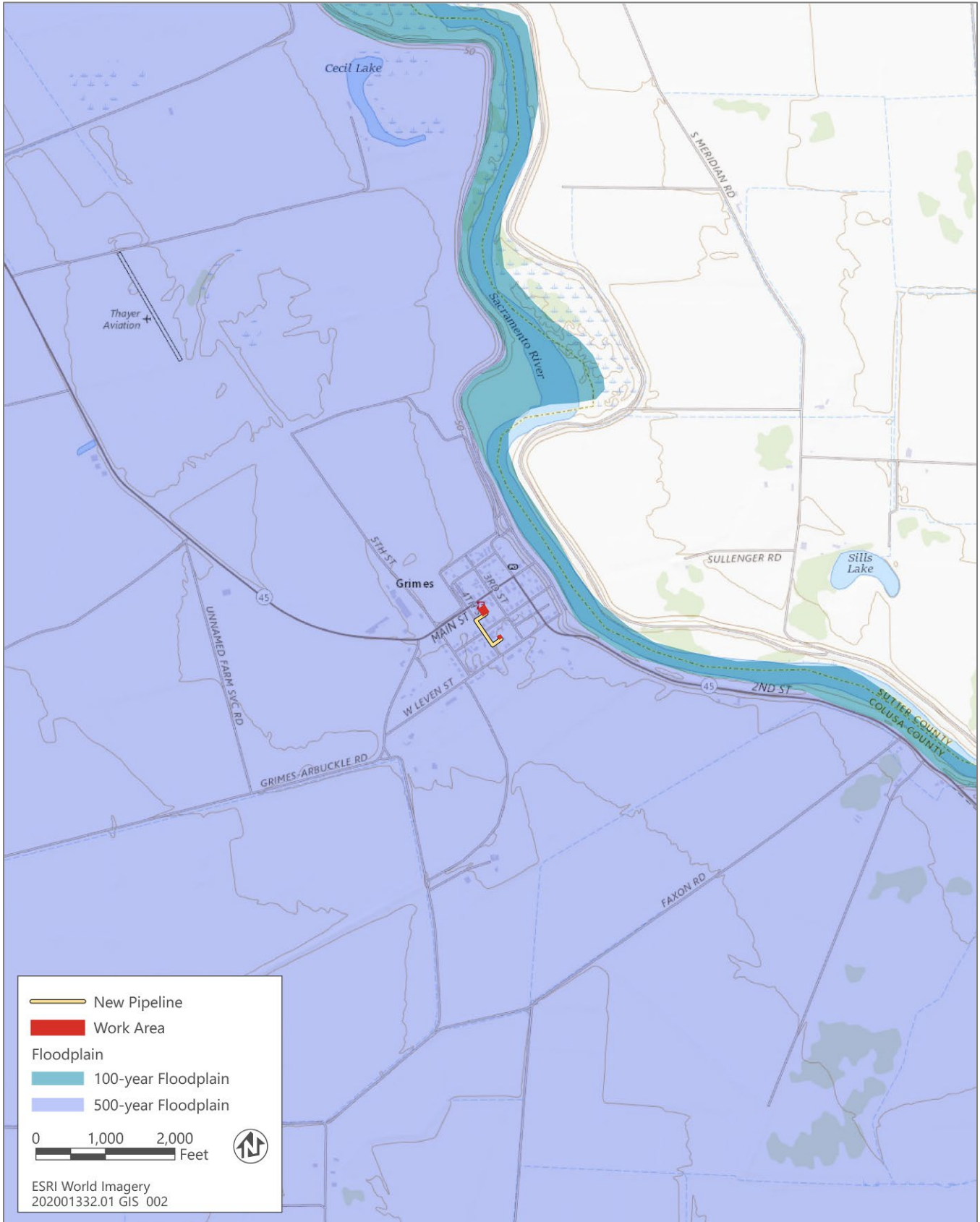
The project area and surrounding lands are located in FEMA Flood Zone X, indicating an area of minimal flood hazard (Figure 2). Zone X is the area determined to be outside of the 500-year flood and protected by levee from 100-year flood. Therefore, the project area is not located within a floodplain. Further, the project would not expose people or structures to risk of flooding and the project would have no impact related to a 100-year flood hazard area or risk of flooding.

2.9 E1.8 NATIONAL HISTORICAL PRESERVATION ACT

Federal protection of resources is legislated by (a) the National Historic Preservation Act (NHPA) of 1966 as amended by 16 U.S. Code 470, (b) the Archaeological Resource Protection Act of 1979, and (c) the Advisory Council on Historical Preservation. These laws and organizations maintain processes for determination of the effects on historical properties eligible for listing in the National Register of Historic Places (NRHP). Federal and federally sponsored programs and projects are reviewed pursuant to Section 106 of the NHPA. Section 106 of the NHPA requires federal agencies to consider the effects of proposed federal undertakings on historic properties. NHPA requires federal agencies to initiate consultation with the State Historic Preservation Officer as part of the Section 106 review process.

DETERMINATION OF EFFECTS

The area of potential effects (APE) has been highly disturbed; however, the area has a very high sensitivity for discovery of buried archaeological deposits. No cultural resources have been identified within the APE. Therefore, there are no historic properties within the APE and the project would have No Effect on Historic Properties (ASM Affiliates 2022).



Source: Data received from Kennedy Jenks in 2022 and downloaded from FEMA in 2022.

Figure 2 FEMA Floodplain

2.10 ARCHAEOLOGICAL AND HISTORIC PRESERVATION ACT

Passed and signed into law in 1974, the Archaeological and Historic Preservation Act (AHPA) amended and expanded the Reservoir Salvage Act of 1960. The AHPA provides for the preservation of historical and archeological data that might otherwise be irreparably lost or destroyed as the result of (1) flooding, the building of access roads, the erection of workmen's communities, the relocation of railroads and highways, and other alterations of the terrain caused by the construction of a dam by any agency of the United States, or by any private person or corporation holding a license issued by any such agency or (2) any alteration of the terrain caused as a result of any federal construction project or federally licensed activity or program.

According to the Advisory Council on Historic Preservation, if a project will affect historic properties that have archeological value, the AHPA may impose additional requirements on an agency. A record search conducted by the Northwest Information Center did not identify any cultural resources, including historic properties, within the APE. Therefore, there are no historic properties within the project area that have archaeological or historic value and the AHPA does not apply to the proposed project.

2.11 E1.9 MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT

In response to growing concern about the status of United States fisheries, Congress passed the Sustainable Fisheries Act of 1996 (Public Law [PL] 104-297) to amend the Magnuson-Stevens Fishery Conservation and Management Act (PL 94-265), the primary law governing marine fisheries management in the federal waters of the United States. The Magnuson-Stevens Conservation and Management Act, as amended (U.S.C. 180 et seq.), requires that Essential Fish Habitat (EFH) be identified and described in federal fishery management plans (FMPs). Federal action agencies must consult with NOAA Fisheries on any activity which they fund, permit, or carry out, that may adversely affect EFH. NOAA Fisheries is required to provide EFH conservation and enhancement recommendations to the federal action agencies. EFH is defined as those waters and substrates necessary to fish for spawning, breeding, feeding or growth to maturity.

As discussed in Appendix A, "Biological Resources," wetlands or other jurisdictional waters do not occur within the project area. During construction activities, the project may result in temporary erosion and sediment may be carried into the drainage system during storm events. In addition, accidental discharges of construction-related fuels, oils, hydraulic fluid, and other hazardous substances could contaminate stormwater flows, resulting in a reduction in stormwater quality on-site or downstream of the project area. The project would disturb approximately 1 acre of land, and construction projects disturbing 1 acre or more need to obtain coverage under the State Water Resources Control Board's General Construction Stormwater Permit. The general construction permit requires preparation of a detailed stormwater pollution prevention plan for the construction site that includes BMPs to prevent and control erosion. The general construction permit also requires regular inspections of BMPs before, during, and after storm events, which would prevent discharges to drainage systems that are tributary to fish-bearing streams such as the Sacramento River. Therefore, implementation of the proposed project would not affect fisheries or waters nor the substrates necessary for fisheries.

2.12 E1.10 MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. Section 703, et seq.), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. The current list of species protected by the MBTA can be found in Title 50 of the Code of Federal Regulations (CFR), Section 10.13 (50 CFR 10.13). The list includes nearly all birds native to the United States.

As discussed in Appendix A, "Biological Resources," the project has potential to impact nesting migratory birds and raptors. Suitable vegetation for ground, brush, and tree-nesting birds is present in the project vicinity, including large trees which could support nesting raptors. During the bird nesting season (February 15 - September 15), active nests may be present in ornamental and native vegetation or on the eaves of buildings in the project area and the existing

right-of-way along 4th Street, South 2nd Alley, and the unnamed dirt road leading to Well 2. As described above under "Project Construction," if potentially disturbing construction activities (i.e., increased worker activity, high-decibel noise disturbance from demolition or excavation) would occur during the nesting bird season (between February 15 and September 15), a qualified biologist will conduct preconstruction surveys for nesting migratory bird species within the vicinity of the project area pursuant to Fish and Game Code Section 3503. The surveys will be conducted before the beginning of any vegetation removal activities are implemented. If no active nests are found, work may proceed. If an active nest is found, adverse effects to nesting birds will be avoided by establishing appropriate buffers around active nest sites identified during preconstruction nest surveys. This is a standard process to avoid nest abandonment. Buffer size will be determined by a qualified biologist. Factors to be considered for determining buffer size will include presence of natural buffers provided by vegetation or topography, nest height above ground, baseline levels of noise and human activity, species sensitivity, and proposed project activities. No project activity will commence within the buffer areas until a qualified biologist has determined, in coordination with U.S. Fish and Wildlife Service, the young have fledged, the nest is no longer active, or reducing the buffer would not likely result in nest abandonment.

2.13 E1.11 PROTECTION OF WETLANDS

The purpose of EO 11990 (May 24, 1977) is to "minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands." To meet these objectives, EO 11990 requires federal agencies, in planning their actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. EO 11990 applies to: acquisition, management, and disposition of federal lands and facilities construction and improvement projects which are undertaken, financed, or assisted by federal agencies; and federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing activities.

As discussed in Appendix A, "Biological Resources," implementation of the proposed project would result in no impacts to federally protected wetlands. Wetlands or other jurisdictional waters do not occur within the project area.

2.14 FISH AND WILDLIFE CONSERVATION ACT

The Fish and Wildlife Conservation Act of 1980 (16 USC 2901 et seq.) encourages federal agencies to conserve and promote conservation of non-game fish and wildlife species and their habitats. In addition, the Fish and Wildlife Conservation Act (16 USC 661 et seq.) requires federal agencies undertaking projects affecting water resources to consult with the USFWS and the state agency responsible for fish and wildlife resources whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water will otherwise be controlled or modified for any purpose whatsoever, including navigation and drainages. The 1988 amendment (Public Law 100-653, Title VIII) to the Fish and Wildlife Conservation Act requires the Secretary of the Interior, through the USFWS, to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973."

The project would not affect or modify any stream or water body; therefore, compliance with this Act is not applicable to the project.

2.15 E1.12 SAFE DRINKING WATER ACT, SOLE SOURCE AQUIFER PROTECTION

The Safe Drinking Water Act (42 USC Section 300f et seq.) was established to protect the quality of drinking water in the US. This law focuses on all waters actually or potentially designed for drinking use, whether from above ground or underground sources.

The Act authorizes EPA to establish minimum standards to protect tap water and requires all owners or operators of public water systems to comply with these primary (health-related) standards. The 1996 amendments to the Act require that EPA consider a detailed risk and cost assessment, and best available peer-reviewed science, when developing

these standards. State governments, which can be approved to implement these rules for EPA, also encourage attainment of secondary standards (nuisance-related). Under the Act, EPA also establishes minimum standards for state programs to protect underground sources of drinking water from endangerment by underground injection of fluids.

The proposed project area and surrounding lands are not located within a sole source aquifer (SSA), as designated by EPA Region 9 (EPA 2022c). In addition, the proposed project would not contaminate an SSA. Rather, the project would improve drinking water quality through installation of an arsenic treatment system, thereby providing a water supply source for the community of Grimes that meets drinking water standards.

2.16 E1.13 WILD AND SCENIC RIVERS ACT

The Wild and Scenic Rivers Act (16 USC Section 1271 et seq.) establishes a National Wild and Scenic Rivers System for the protection of rivers with important scenic, recreational, fish and wildlife, and other values. Rivers are classified as wild, scenic, or recreational. The act designates specific rivers for inclusion in the System and prescribes the methods and standards by which additional rivers may be added.

Grimes is located adjacent to the Sacramento River; however, the Sacramento River is not classified as wild and scenic. Therefore, the project would not adversely affect wild and scenic rivers.

2.17 CLIMATE CHANGE

VULNERABILITY

Increases in greenhouse gas (GHG) concentrations in the atmosphere have led to increased global average temperatures (climate change) through the intensification of the greenhouse effect, and associated changes in local, regional, and global average climatic conditions. These changes may translate into a variety of issues and concerns that may affect the project facilities, including but not limited to:

- ▶ increased frequency of droughts associated with changes to precipitation patterns,
- ▶ increased stormwater runoff associated with changes to precipitation patterns, and
- ▶ increased risk of flooding associated with changes to precipitation patterns.

Although uncertainty exists as to the precise levels of these impacts, there is consensus regarding the range, frequency, or intensity of these impacts that can be expected. The proposed project could be subject to potential hazards that could be exacerbated by climate change, such as changes in the amount of groundwater and the increased risk of flooding associated with changes to precipitation.

The project would not increase demand for groundwater that could exacerbate drought conditions. In addition, the project would improve water treatment, which would increase the availability of safe drinking water available to the community of Grimes. As discussed above, the project area is not within a 100-year floodplain. Therefore, the potential for climate change-related impacts from increased risk of flooding associated with changes to precipitation patterns to affect the project facilities is low.

ADAPTATION

Adaptation measures are measures taken in direct response to vulnerabilities to climate change. The pump for the new well would be more energy efficient than the existing pumps. All other electrical equipment would be designed in accordance with the Titles 20 and 24 of the California Code of Regulations, which reduce demand for electrical energy.

MITIGATION

Although the effects of climate change on the project facilities is considered less than significant, the project would include measures that would reduce the CCWD1's overall contribution to climate change including improved groundwater quality and energy efficiency.

3 ALTERNATIVES

3.1 INTRODUCTION

The following is a discussion of alternatives to the proposed project in compliance with SWRCB CEQA-Plus requirements. These alternatives are provided to meet the CEQA-Plus requirements and are not required for compliance with CEQA.

3.2 ALTERNATIVE 1: NO PROJECT ALTERNATIVE

Under the No Project Alternative, CCWD1 would continue to operate the existing groundwater wells at the existing locations to supply drinking water to the community of Grimes, California. No new wells or pipelines would be constructed and drinking water would continue to exceed the EPA's standards for arsenic. With this alternative, no construction-related impacts would occur, and no trees would be removed.

The No Project Alternative would not achieve any of the project objectives, including meeting the EPA standards for arsenic and the minimum fire flow requirements.

3.3 ALTERNATIVE 2: OFF-SITE WELL ALTERNATIVE

Under Alternative 2, CCWD1 would identify a new water supply that would meet the EPA arsenic standards. A hydrogeologic survey of wells and water quality data within a 3 miles radius of CCWD1's service area was conducted to evaluate the potential for drilling a new well in the area of Grimes that would have sufficient yield while avoiding treatment for arsenic. One location, a well site just south of Grimes, was identified as having the potential to produce groundwater meeting the EPA standards for arsenic. Test wells were drilled, and groundwater samples were taken. These test locations would either exceed the EPA arsenic standards and/or result in an increase in other constituents that would degrade water quality compared to constituent levels at the existing groundwater wells.

This alternative would meet the project objectives; however, it would result in greater levels of other constituents that would degrade drinking water quality. Construction-related impacts such as noise, air quality impacts, and biological resource impacts would be greater under this alternative compared to the proposed project because the footprint would be greater for a new well and new infrastructure that are farther from the existing water system.

3.4 ALTERNATIVE 3: ALTERNATIVE WATER SUPPLY

CCWD1 also considered alternative water supplies that would not require construction of a new well and water treatment system. Alternative water supplies considered included surface water and purchasing water supplies. The town of Grimes is located near the Sacramento River, which was considered as a water supply option. CCWD1 does not hold water rights to Sacramento River water and would need to enter into an agreement with an upstream water rights holder to transfer the water supply.

CCWD1 also considered purchasing water supplies, which would require an agreement with and water supply availability from another public water system. The City of Colusa is the nearest water system, which is more than 12 miles from Grimes. Assuming that the City has sufficient supply and would be willing to enter into a purchase agreement, extensive new pipelines would need to be constructed to convey the water from the City of Colusa to Grimes.

Using an alternative water supply would meet the project objectives; however, entering into a new water supply agreement is legally uncertain because it would rely on agreements with other parties and would result in increased costs. In addition, construction-related impacts such as noise, air quality impacts, and biological resource impacts would be greater under this alternative compared to the proposed project because additional infrastructure would need to be constructed to treat and convey water from the Sacramento River or to convey water from a nearby jurisdiction (i.e., the City of Colusa) to existing water distribution infrastructure. This alternative would also result in greater operations and maintenance costs and greater regulatory compliance costs.

3.5 SUMMARY

In summary, the proposed project would achieve all of the project objectives and all potentially significant impacts would be avoided. Because the alternatives discussed above either do not meet all of the project objectives or result in greater environmental impacts compared to the proposed project, the proposed project was selected as the preferred alternative.

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Appendix A

Special-Status Species

SPECIAL-STATUS SPECIES

Table A-1 of this attachment presents special-status plant and wildlife species that are known to occur in the project region, which includes the following U.S. Geological Survey 7.5' quadrangles: Meridian, Colusa, Tisdale Weir, Wildwood School, Arbuckle, Grimes, Sutter Buttes, Kirkville, and Dunnigan. Table A-1 was developed through a review of the relevant databases and other available information. Data reviewed included the California Natural Diversity Database (CNDDDB) and California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California database records (CNDDDB 2022; CNPS 2022), USFWS Information for Planning and Consultation (IPaC) tool (USFWS 2022), Consortium of California of Herbaria (CCH2 Portal 2022), Jepson eFlora (Jepson Flora Project 2022), and Calflora (Calflora 2022). The table also includes an assessment of species potential to occur in the project area and summarizes potential impacts from the project on each special-status plant and wildlife species. No USFWS-designated critical habitat for any species is mapped in the vicinity of the town of Grimes (USFWS 2021). A reconnaissance survey was conducted on August 25, 2022, to further characterize sensitive species habitat.

The project area is entirely within developed residential landscape characterized by ornamental vegetation, disturbed areas, and paved roads. Large ornamental and native trees including California sycamore (*Platanus racemosa*), California bay (*Umbellularia californica*), and valley oak (*Quercus lobata*) comprise the upper canopy in the residential community surrounding the proposed project. The understory is largely cleared for gravel or paved roads or planted with ornamental plants including palm trees (*Allagoptera arenaria* and other unidentified species), pokeweed (*Phytolacca americana*), and various ornamental flowers. The Well 2 site contains large diameter oak and bay trees and an understory of nonnative annual grasses, which are occasionally mowed and appear to have been cut several months prior to the survey. No mammal burrows are present at the Well 2 site. The path of the proposed pipeline between Well 1 and Well 2 follows a gravel and a paved road and is entirely characterized by ruderal vegetation surrounded by highly maintained private residential yards. Well 1 is in a small, fenced lot that contains very little vegetation. The adjacent property contains a large diameter valley oak tree that provides canopy cover at the Well 1 site. The Sacramento River is located 0.2-mile northeast of the proposed project area and several residential blocks separate the river from the project area. A tall (approximately 80-foot) berm separates the Sacramento River from the community of Grimes. From the top of the berm to the Sacramento River, habitat is characterized by open riparian grassland and woodland dominated by native plant species, including willow (*Salix* sp.), sycamore, and cottonwood (*Populus* sp.). Grimes is surrounded on three sides (northwest, southwest, and southeast) by agricultural fields. Overall, the project area and vicinity provide low-quality habitat for native plants and wildlife due to the isolated location, dispersal barriers from native habitat, lack of native vegetation cover, and frequency of disturbance.

In addition to the special-status birds assessed in Table A-1, common nesting birds protected by the Migratory Bird Treaty Act have the potential to nest in the project area (Section E1.10). Common nesting birds including California scrub jay, northern mockingbird, American robin, house finch, and Anna's hummingbird were observed during the August 25, 2022, reconnaissance survey and nesting habitat suitable for these species is present in the project area and vicinity.

Table A-1 Special-Status Species Known to Occur in the Project Region and their Potential for Occurrence in the Project Area

Species	Status ¹ Federal	Status ¹ State	Status ¹ CRPR/ Other	Habitat and Blooming Period	Potential for Occurrence ² /Potential Impact
Plants					
Palmate-bracted salty bird's-beak <i>Chloropyron palmatum</i>	FE	SE	1B.1	Alkaline flats. Usually on Pescadero silty clay that is alkaline, with <i>Distichlis</i> , <i>Frankenia</i> , and other halophytes. 15–500 feet in elevation. Blooms May–October. Annual.	Not expected to occur. Habitat suitable for this species (wetlands and native grasslands) are not present in the project area.
Invertebrates					
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT	—	—	Riparian scrub. Occurs only in the Central Valley of California, in association with blue elderberry (<i>Sambucus nigra</i> ssp. <i>caerulea</i>). Prefers to lay eggs in elderberry stems that are 2-8 inches in diameter; some preference shown for "stressed" elderberry shrubs.	Not expected to occur. Habitat suitable for this species may be present along the Sacramento River corridor, but no elderberry shrubs were observed either in the project area, vicinity, or the Sacramento River adjacent to the town of Grimes.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT	—	—	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Not expected to occur. Habitat potentially suitable for this species (vernal pools and swales) is not included in the project area or vicinity.
Vernal pool tadpole shrimp <i>Lepidurus packardi</i>	FE	—	—	Valley and foothill grassland, vernal pool, wetland. Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Some pools are mud-bottomed and highly turbid.	Not expected to occur. Habitat potentially suitable for this species (vernal pools and swales) is not included in the project area or vicinity.
Fishes					
Chinook salmon - Central Valley spring-run ESU <i>Oncorhynchus tshawytscha</i> pop. 11	FT	ST	—	Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps >27 °C are lethal to adults. Federal listing refers to populations spawning in Sacramento River and tributaries.	Not expected to occur. Habitat potentially suitable for this species (perennial waterways that could support fully aquatic species) is not included in the project area or vicinity. Chinook salmon may potentially use the Sacramento River located 0.2 mile from the project area; however, there is no habitat connectivity with the project area and the species is not expected to occur in the project area. During construction activities, erosion control measures would be implemented to prevent discharge of harmful construction-related materials downstream through drainage channels and into the Sacramento River.

Species	Status ¹ Federal	Status ¹ State	Status ¹ CRPR/ Other	Habitat and Blooming Period	Potential for Occurrence ² /Potential Impact
Chinook salmon - Sacramento River winter-run ESU <i>Oncorhynchus</i> <i>tshawytscha</i> pop. 7	FE	SE	—	Sacramento/San Joaquin flowing waters. Sacramento River below Keswick Dam. Spawns in the Sacramento River, but not in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6 and 14 °C for spawning.	Not expected to occur. Habitat potentially suitable for this species (perennial waterways that could support fully aquatic species) is not included in the project area or vicinity. Chinook salmon may potentially use the Sacramento River located 0.2 mile from the project area; however, there is no habitat connectivity with the project area and the species is not expected to occur in the project area. During construction activities, erosion control measures would be implemented to prevent discharge of harmful construction-related materials downstream through drainage channels and into the Sacramento River.
Green sturgeon <i>Acipenser medirostris</i>	FT	SSC	—	Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters. These are the most marine species of sturgeon. Abundance increases northward of Point Conception. Spawns in the Sacramento, Klamath, and Trinity Rivers. Spawns at temperatures between 8 and 14 °C. Preferred spawning substrate is large cobble but can range from clean sand to bedrock.	Not expected to occur. Habitat potentially suitable for this species (perennial waterways that could support fully aquatic species) is not included in the project area or vicinity. Sturgeon may potentially use the Sacramento River located 0.2 mile from the project area; however, there is no habitat connectivity with the project area and the species is not expected to occur in the project area. During construction activities, erosion control measures would be implemented to prevent discharge of harmful construction-related materials downstream through drainage channels and into the Sacramento River.
Longfin smelt <i>Spirinchus thaleichthys</i>	FC	ST, SSC	—	Euryhaline, nektonic, and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt. but can be found in completely freshwater to almost pure seawater.	Not expected to occur. Habitat potentially suitable for this species (perennial estuarine waterways that could support fully aquatic species) is not included in the project area or vicinity.
Steelhead - Central Valley DPS <i>Oncorhynchus mykiss</i> <i>irideus</i> pop. 11	FT	—	—	Sacramento/San Joaquin flowing waters. Populations in the Sacramento and San Joaquin Rivers and their tributaries.	Not expected to occur. Habitat potentially suitable for this species (perennial waterways that could support fully aquatic species) is not included in the project area or vicinity. Steelhead may potentially use the Sacramento River located 0.2 mile from the project area; however, there is no habitat connectivity with the project area and the species is not expected to occur in the project area. During construction activities, erosion control measures would be implemented to prevent discharge of harmful construction-related materials downstream through drainage channels and into the Sacramento River.
Reptiles					
California tiger salamander - central California DPS <i>Ambystoma</i> <i>californiense</i> pop. 1	FT	ST	—	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	Not expected to occur. Habitat potentially suitable for this species (mammal burrows in grassland or seasonal water sources) is not present in the project area or vicinity.

Species	Status ¹ Federal	Status ¹ State	Status ¹ CRPR/ Other	Habitat and Blooming Period	Potential for Occurrence ² /Potential Impact
Giant gartersnake <i>Thamnophis gigas</i>	FT	ST	—	Marsh and swamp, riparian scrub, wetland. Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the garter snakes in California.	Not expected to occur. Habitat potentially suitable for this species (marshes and streams) is not present in the project area. Giant gartersnake may potentially use riparian areas adjacent to Sacramento River; however, a berm and several blocks of developed residential community are located between the project area and quality habitat. These barriers are expected to prevent dispersal of giant gartersnake into the project area.
Birds					
American peregrine falcon <i>Falco peregrinus anatum</i>	FD	SD, FP	—	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	Not expected to occur. Although suitable foraging habitat is present in the project area, no nesting substrate potentially suitable for American peregrine falcon is present and this species is not expected to nest in the project area
Cackling (=Aleutian Canada) goose <i>Branta hutchinsii leucopareia</i>	FD	—	—	Artificial standing waters, Sacramento/San Joaquin standing waters, valley, and foothill grassland. Winters on lakes and inland prairies. Forages on natural pasture or that cultivated to grain; loafs on lakes, reservoirs, ponds.	Not expected to occur. Habitat suitable for cackling goose (standing waters and pastures) is not present in the project area or vicinity.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	FT	SE	—	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Not expected to occur. Habitat suitable for western yellow-billed cuckoo nesting (riparian forest along broad-flood bottoms of large river systems) is not present in the project area. Although the Sacramento River may provide suitable habitat for western yellow-billed cuckoo elsewhere along its expanse, adjacent to the town of Grimes, the river does not provide suitable ground cover for cuckoo nesting.

Appendix B

IPaC Results



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Project Code: 2022-0078180
Project Name: CCWD1 Well Replacement Project

August 23, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2))

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Project Code: 2022-0078180

Project Name: CCWD1 Well Replacement Project

Project Type: Terrestrial Sources of Water Creation/Improvement

Project Description: The project consists of installing a new well at existing Well Site 2 in Grimes, CA; arsenic treatment, including blending tank, booster pump and generator; and Well Site 2 improvements.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@39.0723761,-121.89510894014869,14z>



Counties: Colusa County, California

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [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.

Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Tiger Salamander <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Palmate-bracted Bird's Beak <i>Cordylanthus palmatus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1616	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: County of Colusa
Name: Tammie Beyerl
Address: 455 Capitol Mall, Suite 300
City: Sacramento
State: CA
Zip: 95814
Email: tammie.beyerl@ascentenvironmental.com
Phone: 9167323330

Lead Agency Contact Information

Lead Agency: Environmental Protection Agency

Appendix C

Air Quality Modeling Results

Grimes CCWD1 Project Detailed Report

Table of Contents

1. Basic Project Information
 - 1.1. Basic Project Information
 - 1.2. Land Use Types
 - 1.3. User-Selected Emission Reduction Measures by Emissions Sector
2. Emissions Summary
 - 2.1. Construction Emissions Compared Against Thresholds
 - 2.2. Construction Emissions by Year, Unmitigated
 - 2.4. Operations Emissions Compared Against Thresholds
 - 2.5. Operations Emissions by Sector, Unmitigated
3. Construction Emissions Details
 - 3.1. Building Construction (2025) - Unmitigated
 - 3.3. Building Construction (2026) - Unmitigated
 - 3.5. Building Construction (2027) - Unmitigated
4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.2. Unmitigated

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Grimes CCWD1 Project
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	1.20
Location	39.07263766943103, -121.89543057854681
County	Colusa
City	Unincorporated
Air District	Colusa County APCD
Air Basin	Sacramento Valley
TAZ	227
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Industrial	1.00	User Defined Unit	1.00	1,000	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.70	0.58	5.54	8.16	0.01	0.18	0.35	0.41	0.17	0.08	0.22	—	1,640	1,640	0.05	0.07	1.33	1,663
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.39	0.33	2.08	4.14	< 0.005	0.06	0.35	0.41	0.06	0.08	0.14	—	779	779	0.03	0.02	0.03	786
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.16	0.14	0.86	1.75	< 0.005	0.03	0.15	0.17	0.02	0.03	0.06	—	330	330	0.01	0.01	0.24	333
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.03	0.03	0.16	0.32	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	54.7	54.7	< 0.005	< 0.005	0.04	55.2

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	0.70	0.58	5.54	8.16	0.01	0.18	0.19	0.38	0.17	0.05	0.22	—	1,640	1,640	0.05	0.07	1.22	1,663
2026	0.40	0.35	2.04	4.74	< 0.005	0.06	0.35	0.41	0.06	0.08	0.14	—	824	824	0.03	0.02	1.33	832
2027	0.39	0.34	1.99	4.58	< 0.005	0.05	0.35	0.40	0.05	0.08	0.13	—	816	816	0.02	0.02	1.20	823
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
2026	0.39	0.33	2.08	4.14	< 0.005	0.06	0.35	0.41	0.06	0.08	0.14	—	779	779	0.03	0.02	0.03	786
2027	0.37	0.32	2.02	4.02	< 0.005	0.05	0.35	0.40	0.05	0.08	0.13	—	772	772	0.03	0.02	0.03	778
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.03	0.03	0.27	0.39	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	80.4	80.4	< 0.005	< 0.005	0.03	81.5
2026	0.16	0.14	0.86	1.75	< 0.005	0.03	0.15	0.17	0.02	0.03	0.06	—	330	330	0.01	0.01	0.24	333
2027	0.07	0.06	0.37	0.76	< 0.005	0.01	0.07	0.08	0.01	0.02	0.02	—	145	145	< 0.005	< 0.005	0.10	147
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.01	0.01	0.05	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.3	13.3	< 0.005	< 0.005	< 0.005	13.5
2026	0.03	0.03	0.16	0.32	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	54.7	54.7	< 0.005	< 0.005	0.04	55.2
2027	0.01	0.01	0.07	0.14	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.1	24.1	< 0.005	< 0.005	0.02	24.3

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.57	0.54	1.44	1.32	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	264	264	0.01	< 0.005	0.00	265
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.57	0.54	1.44	1.32	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	264	264	0.01	< 0.005	0.00	265

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.10	0.20	0.18	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	36.2	36.2	< 0.005	< 0.005	0.00	36.3
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.02	0.04	0.03	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	6.00	6.00	< 0.005	< 0.005	0.00	6.02

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.57	0.52	1.44	1.32	< 0.005	0.08	—	0.08	0.08	—	0.08	—	264	264	0.01	< 0.005	—	265
Total	0.57	0.54	1.44	1.32	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	264	264	0.01	< 0.005	0.00	265
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Stationary	0.57	0.52	1.44	1.32	< 0.005	0.08	—	0.08	0.08	—	0.08	—	264	264	0.01	< 0.005	—	265
Total	0.57	0.54	1.44	1.32	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	264	264	0.01	< 0.005	0.00	265
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.08	0.07	0.20	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	36.2	36.2	< 0.005	< 0.005	—	36.3
Total	0.08	0.10	0.20	0.18	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	36.2	36.2	< 0.005	< 0.005	0.00	36.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.01	0.01	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.00	6.00	< 0.005	< 0.005	—	6.02
Total	0.01	0.02	0.04	0.03	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	6.00	6.00	< 0.005	< 0.005	0.00	6.02

3. Construction Emissions Details

3.1. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.63	0.53	5.07	7.43	0.01	0.18	—	0.18	0.16	—	0.16	—	1,174	1,174	0.05	0.01	—	1,178
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.25	0.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	57.9	57.9	< 0.005	< 0.005	—	58.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.59	9.59	< 0.005	< 0.005	—	9.62
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.57	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	94.9	94.9	< 0.005	< 0.005	0.35	96.3
Vendor	0.01	0.01	0.02	0.08	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	25.8	25.8	< 0.005	< 0.005	0.09	26.5
Hauling	0.01	0.01	0.42	0.08	< 0.005	0.01	0.03	0.03	0.01	0.01	0.02	—	345	345	< 0.005	0.05	0.78	362
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	4.24	4.24	< 0.005	< 0.005	0.01	4.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.20	1.20	< 0.005	< 0.005	< 0.005	1.23
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	17.0	17.0	< 0.005	< 0.005	0.02	17.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.70	0.70	< 0.005	< 0.005	< 0.005	0.71
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.20
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.81	2.81	< 0.005	< 0.005	< 0.005	2.95

3.3. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.90	2.60	< 0.005	0.06	—	0.06	0.05	—	0.05	—	423	423	0.02	< 0.005	—	424
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.90	2.60	< 0.005	0.06	—	0.06	0.05	—	0.05	—	423	423	0.02	< 0.005	—	424
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.80	1.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	177	177	0.01	< 0.005	—	178

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	—	29.3	29.3	< 0.005	< 0.005	—	29.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.15	0.11	2.11	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	—	372	372	0.02	0.01	1.26	377
Vendor	< 0.005	< 0.005	0.01	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	9.67	9.67	< 0.005	< 0.005	0.03	9.86	
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	19.6	19.6	< 0.005	< 0.005	0.04	20.5	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.13	0.14	1.51	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	—	327	327	0.01	0.01	0.03	331
Vendor	< 0.005	< 0.005	0.01	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	8.97	8.97	< 0.005	< 0.005	< 0.005	9.19	
Hauling	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	19.6	19.6	< 0.005	< 0.005	< 0.005	20.5	
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.65	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	—	141	141	< 0.005	0.01	0.23	143
Vendor	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.82	3.82	< 0.005	< 0.005	0.01	3.92	
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.20	8.20	< 0.005	< 0.005	0.01	8.58	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	23.4	23.4	< 0.005	< 0.005	0.04	23.7
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.65	
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.36	1.36	< 0.005	< 0.005	< 0.005	1.42	

3.5. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.19	1.85	2.60	< 0.005	0.05	—	0.05	0.05	—	0.05	—	423	423	0.02	< 0.005	—	425
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.19	1.85	2.60	< 0.005	0.05	—	0.05	0.05	—	0.05	—	423	423	0.02	< 0.005	—	425
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.34	0.48	< 0.005	0.01	—	0.01	0.01	—	0.01	—	78.7	78.7	< 0.005	< 0.005	—	78.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.0	13.0	< 0.005	< 0.005	—	13.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.14	0.11	1.95	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	364	364	< 0.005	0.01	1.14	369
Vendor	< 0.005	< 0.005	0.01	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	9.46	9.46	< 0.005	< 0.005	0.03	9.64
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	19.1	19.1	< 0.005	< 0.005	0.04	20.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.12	0.13	1.40	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	321	321	0.01	0.01	0.03	325
Vendor	< 0.005	< 0.005	0.01	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	8.78	8.78	< 0.005	< 0.005	< 0.005	8.94
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	19.1	19.1	< 0.005	< 0.005	< 0.005	20.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.27	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	61.4	61.4	< 0.005	< 0.005	0.09	62.3
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.66	1.66	< 0.005	< 0.005	< 0.005	1.69
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.55	3.55	< 0.005	< 0.005	< 0.005	3.73
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	10.2	10.2	< 0.005	< 0.005	0.02	10.3
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.27	0.27	< 0.005	< 0.005	< 0.005	0.28
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.62

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.57	0.52	1.44	1.32	< 0.005	0.08	—	0.08	0.08	—	0.08	—	264	264	0.01	< 0.005	—	265
Total	0.57	0.52	1.44	1.32	< 0.005	0.08	—	0.08	0.08	—	0.08	—	264	264	0.01	< 0.005	—	265
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.57	0.52	1.44	1.32	< 0.005	0.08	—	0.08	0.08	—	0.08	—	264	264	0.01	< 0.005	—	265

Total	0.57	0.52	1.44	1.32	< 0.005	0.08	—	0.08	0.08	—	0.08	—	264	264	0.01	< 0.005	—	265
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.01	0.01	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.00	6.00	< 0.005	< 0.005	—	6.02
Total	0.01	0.01	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.00	6.00	< 0.005	< 0.005	—	6.02

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
---------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Phase 1	Building Construction	4/1/2025	4/24/2025	5.00	18.0	Well Drilling and Equipping
Phase 2	Building Construction	6/1/2026	4/5/2027	5.00	221	reatment System Construction

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Phase 1	Bore/Drill Rigs	Diesel	Average	1.00	13.0	83.0	0.50
Phase 1	Generator Sets	Diesel	Average	1.00	2.70	14.0	0.74
Phase 1	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.10	84.0	0.37
Phase 1	Signal Boards	Diesel	Average	1.00	16.3	6.00	0.82
Phase 1	Air Compressors	Diesel	Average	1.00	2.70	37.0	0.48
Phase 1	Pumps	Diesel	Average	1.00	6.20	11.0	0.74
Phase 2	Tractors/Loaders/Backhoes	Diesel	Average	1.00	2.40	84.0	0.37
Phase 2	Excavators	Diesel	Average	1.00	2.40	36.0	0.38
Phase 2	Skid Steer Loaders	Diesel	Average	1.00	2.60	71.0	0.37

Phase 2	Cement and Mortar Mixers	Diesel	Average	1.00	0.20	10.0	0.56
Phase 2	Excavators	Diesel	Average	1.00	7.80	36.0	0.38
Phase 2	Cranes	Diesel	Average	1.00	0.60	367	0.29

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Phase 1	—	—	—	—
Phase 1	Worker	8.00	14.9	LDA,LDT1,LDT2
Phase 1	Vendor	2.25	10.8	EMFAC Fleet Mix
Phase 1	Hauling	5.00	20.0	HHDT
Phase 1	Onsite truck	—	—	HHDT
Phase 2	—	—	—	—
Phase 2	Worker	32.0	14.9	LDA,LDT1,LDT2
Phase 2	Vendor	0.86	10.8	EMFAC Fleet Mix
Phase 2	Hauling	0.29	20.0	HHDT
Phase 2	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
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5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
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5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Industrial	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	1,500	500	—

5.10.3. Landscape Equipment

Equipment Type	Fuel Type	Number Per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Industrial	0.00	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Industrial	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Industrial	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
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5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	1.00	50.0	315	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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5.17. User Defined

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	28.2	annual days of extreme heat
Extreme Precipitation	2.35	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth

Wildfire	0.00	annual hectares burned
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Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	0	0	0	N/A
Extreme Precipitation	0	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	0	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2

Extreme Precipitation	1	1	1	2
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	37.6
AQ-PM	11.5
AQ-DPM	14.5
Drinking Water	67.0
Lead Risk Housing	53.4
Pesticides	90.8
Toxic Releases	17.9
Traffic	2.05

Effect Indicators	—
CleanUp Sites	50.3
Groundwater	74.8
Haz Waste Facilities/Generators	61.6
Impaired Water Bodies	83.0
Solid Waste	86.5
Sensitive Population	—
Asthma	45.4
Cardio-vascular	77.8
Low Birth Weights	18.0
Socioeconomic Factor Indicators	—
Education	88.0
Housing	20.3
Linguistic	74.8
Poverty	56.2
Unemployment	71.7

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	33.63274734
Employed	47.8121391
Median HI	42.91030412
Education	—
Bachelor's or higher	26.52380341
High school enrollment	23.85474143

Preschool enrollment	33.37610676
Transportation	—
Auto Access	84.51174131
Active commuting	11.16386501
Social	—
2-parent households	71.14076736
Voting	79.96920313
Neighborhood	—
Alcohol availability	51.36661106
Park access	22.40472219
Retail density	1.527011421
Supermarket access	40.57487489
Tree canopy	66.88053381
Housing	—
Homeownership	60.9393045
Housing habitability	69.10047479
Low-inc homeowner severe housing cost burden	33.28628256
Low-inc renter severe housing cost burden	85.87193635
Uncrowded housing	34.15886052
Health Outcomes	—
Insured adults	24.93263185
Arthritis	0.0
Asthma ER Admissions	65.7
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0

Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	42.1
Cognitively Disabled	54.2
Physically Disabled	21.0
Heart Attack ER Admissions	52.6
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.2
SLR Inundation Area	0.0
Children	14.8
Elderly	59.3
English Speaking	37.6
Foreign-born	58.0
Outdoor Workers	2.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	89.6
Traffic Density	1.5

Traffic Access	0.0
Other Indices	—
Hardship	70.6
Other Decision Support	—
2016 Voting	70.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	65.0
Healthy Places Index Score for Project Location (b)	44.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	User defined detail

Construction: Construction Phases	Project has two phases: Phase 1- Well Drilling and Equipping and Phase 2- Treatment System Construction
Construction: Off-Road Equipment	Equipment type revised to match project detail provided
Construction: Trips and VMT	Revised to trip info provided.