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Subject: Shell Alameda Distribution Center Remediation Project Air Quality Assessment

1.0 Introduction

This air quality assessment technical memorandum was prepared by Wood Environment & Infrastructure Solutions, Inc. (Wood) to support California Environmental Quality Act (CEQA) and Clean Air Act (CAA) conformity analysis for the Shell Alameda Distribution Center Remediation Project (Project) located at 2015 Grand Street within the northeastern portion of Alameda Island in the City of Alameda, Alameda County, California.

The proposed Project involves the demolition of existing pavement, buildings, and other infrastructure (e.g., aboveground storage tanks [ASTs], buried pipelines, and other appurtenances) as well as excavation and removal of contaminated soils and groundwater generated during excavation activities (see Section 4.0, *Project Description*). Upon completion of demolition, excavation, and backfilling, the entire Project site would be cleared of equipment and regraded. Proposed improvements would encompass the entirety of the approximately 4.1-acre site. Remedial construction activities are anticipated to begin in 2020 and last approximately 6 months. No redevelopment or other operational use is considered as part of the proposed Project.

2.0 Outline of this Technical Assessment Memorandum

The purpose of this technical memorandum report is to provide a detailed technical air quality analysis of the Project to support preparation of an Initial Study/Mitigated Negative Declaration (IS/MND) prepared pursuant to CEQA. The analysis was prepared in accordance with the *California Environmental Quality Act Air Quality Guidelines* prepared by the Bay Area Air Quality Management District (BAAQMD 2017a). Regional climate and meteorology, air quality monitoring data, and the area's attainment status with respect to criteria air pollutants are discussed. The technical memorandum report includes a description of federal, state and local agencies that govern air quality and climate change, and their pertinent statutes and regulations. It identifies potential impacts of air pollutants of concern for this Project, including criteria pollutants (i.e., pollutants for which National Ambient Air Quality Standards [NAAQS] have been established by the U.S. Environmental Protection Agency [EPA], and their precursors) and mobile source air toxics. The report describes the analytical methodologies and assumptions used for this study, as well as the results of these analyses and proposed mitigation measures.

Details regarding the Project were derived from the Draft IS/MND prepared by Wood for the San Francisco Bay Regional Quality Control Board (RWQCB), which serves as the Lead Agency under CEQA for the Project.



3.0 Existing Air Quality Setting

Topical Air Quality Background

In the United States (U.S.), air quality is primarily characterized by ambient ground-level concentrations of seven specific pollutants identified by the EPA to be of concern with respect to health and welfare of the public. These specific pollutants—known as “criteria air pollutants”—are pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal ambient concentration criteria are known as the NAAQS, and the California ambient concentration criteria are referred to as the California Ambient Air Quality Standards (CAAQS). Federal criteria air pollutants include ground-level ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), respirable particulate matter ten microns or less in diameter (PM₁₀), fine particulate matter 2.5 microns or less in diameter (PM_{2.5}), and lead (Pb). Table 1 shows the CAAQS and NAAQS concentrations for the criteria air pollutants with the corresponding averaging times. The following descriptions of each criteria air pollutant and their health effects are based on information provided by the Bay Area Air Quality Management District (2017b).

Table 1 Criteria Air Pollutant Standards

Pollutant	Averaging Period	California (CAAQS)	Federal (NAAQS)
Ozone (O ₃)	1-Hour Average	0.09 ppm (180 µg/m ³)	--
	8-Hour Average	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³)
Carbon Monoxide (CO)	1-Hour Average	20 ppm (23 µg/m ³)	35.0 ppm (40 mg/m ³)
	8-Hour Average	9.0 ppm (10 mg/m ³)	9.0 ppm (10 mg/m ³)
Nitrogen Dioxide (NO ₂)	1-Hour Average	0.18 ppm (338 µg/m ³)	0.10 ppm (188 µg/m ³)
	Annual Arithmetic Mean	0.03 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)
Sulfur Dioxide (SO ₂)	1-Hour Average	0.25 ppm (655 µg/m ³)	0.075 ppm (196 µg/m ³)
	24-Hour Average	0.04 ppm (105 µg/m ³)	0.14 ppm (365 µg/m ³)
	Annual Arithmetic Mean	--	0.030 ppm (80 µg/m ³)
Respirable Particulate Matter (PM ₁₀)	24-Hour Average	50 µg/m ³	150 µg/m ³
	Annual Arithmetic Mean	20 µg/m ³	--
Fine Particulate Matter (PM _{2.5})	24-Hour Average	--	35 µg/m ³
	Annual Arithmetic Mean	12 µg/m ³	12.0 µg/m ³
Lead (Pb)	30-day Average	1.5 µg/m ³	--
	Calendar Quarter	--	1.5 µg/m ³
	Rolling 3-Month Average	--	0.15 µg/m ³
Sulfates	24-Hour Average	25 µg/m ³	No Federal Standards
Hydrogen Sulfide	1-Hour Average	0.03 ppm (42 µg/m ³)	
Vinyl Chloride	24-Hour Average	0.01 ppm (26 µg/m ³)	

Source: California Air Resources Board (CARB) 2016.

Notes: ppm = parts per million; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter.

Federal and State Criteria Air Pollutants

Ozone (O₃) is a colorless gas with a sharp odor, is a highly reactive form of oxygen. High O₃ concentrations exist naturally in the stratosphere. However, it is also formed in the atmosphere when volatile organic compounds (VOC) and nitrogen oxides (NO_x) react in the presence of ultraviolet sunlight (also known as smog). The primary sources of VOC and NO_x, the components of O₃, are automobile exhaust and industrial sources. Some mixing of stratospheric O₃ downward through the troposphere to the earth's surface does occur; however, the extent of O₃ transport is limited.

The propensity of O₃ for reacting with organic materials causes it to be damaging to living cells and cause health effects. O₃ enters the human body primarily through the respiratory tract and causes respiratory irritation and discomfort, makes breathing more difficult during exercise, and reduces the respiratory system's ability to remove inhaled particles and fight infection. Individuals exercising outdoors, children and people with pre-existing lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible subgroups for O₃ effects.

Particulate matter (PM₁₀ and PM_{2.5}) refers to particles small enough to be inhaled into the deepest parts of the lung, which are of great concern to public health. Major sources of PM₁₀ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Emissions of PM_{2.5} result from fuel combustion (e.g., motor vehicles, power generation and industrial facilities), residential fireplaces and wood stoves. In addition, PM_{2.5} can be formed in the atmosphere from gases such as SO₂, NO_x, and VOC.

Respirable particles (particles less than 10 microns in diameter, denoted as PM₁₀) can accumulate in the respiratory system and aggravate health problems such as asthma, bronchitis and other lung diseases. Children, the elderly, exercising adults, and those suffering from asthma are especially vulnerable to adverse health effects of PM. A consistent correlation between elevated ambient fine particulate matter (particles less than 10 microns in diameter, denoted as PM_{2.5}) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the U.S. and various areas around the world. Studies have reported an association between long-term exposure to air pollution dominated by PM_{2.5} and increased mortality, reduction in life-span, and an increased mortality from lung cancer.

Daily fluctuations in PM_{2.5} concentration levels have also been related to hospital admissions for acute respiratory conditions, to school and kindergarten absences, to a decrease in respiratory function in normal children and to increased medication use in children and adults with asthma. Studies have also shown lung function growth in children is reduced with long-term exposure to PM. In addition to children, the elderly, and people with pre-existing respiratory and/or cardiovascular disease appear to be more susceptible to the effects of PM₁₀ and PM_{2.5}.

Carbon Monoxide (CO) is a colorless, odorless, relatively inert gas. It is a trace constituent in the unpolluted troposphere and is produced by both natural processes and human activities. In remote areas far from human habitation, CO occurs in the atmosphere at an average background concentration of 0.04 ppm, primarily as a result of natural processes such as forest fires and the oxidation of methane. Global atmospheric mixing of CO from urban and industrial sources creates higher background concentrations (up to 0.20 ppm) near urban areas. The major source of CO in urban areas is incomplete combustion of carbon-containing fuels, mainly gasoline.

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of worsening oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with oxygen transport by competing with oxygen to combine with hemoglobin

present in the blood to form carboxyhemoglobin. Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes.

Nitrogen dioxide (NO₂) is a reddish-brown gas with a bleach-like odor and is responsible for the brownish tinge of polluted air. Nitric oxide (NO) is a colorless gas, formed from nitrogen (N₂) and oxygen (O₂) under conditions of high temperature and pressure which are generally present during combustion of fuels (e.g., motor vehicles); NO reacts rapidly with the oxygen in air to form NO₂. The two gases, NO and NO₂, are referred to collectively as NO_x. In the presence of sunlight, atmospheric NO₂ reacts and splits to form a NO molecule and an oxygen atom. The oxygen atom can react further to form O₃, via a complex series of chemical reactions involving hydrocarbons.

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposures to NO₂ at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California (fewer or no stoves). In healthy subjects, increase in resistance to air flow and airway contraction is observed after short-term exposure to NO₂. Larger decreases in lung functions are observed in individuals with asthma and/or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. More recent studies have found associations between NO₂ exposures and cardiopulmonary mortality, decreased lung function, respiratory symptoms and emergency room asthma visits.

Sulfur Dioxide (SO₂) is a colorless gas with a sharp odor. It reacts in air to form sulfuric acid, which contributes to acid precipitation, and sulfates, which are components of particulate matter. Main sources of SO₂ include coal and oil used in power plants and industries. Exposure of a few minutes to low levels of SO₂ can result in airway constriction in some asthmatics. All asthmatics are sensitive to the effects of SO₂. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, is observed after acute higher exposure to SO₂. In contrast, healthy individuals do not exhibit similar acute responses, even after exposure to higher concentrations of SO₂.

Lead (Pb) in the atmosphere is present as a mixture of a number of lead compounds. Leaded gasoline and lead smelters have been the main sources of lead emitted into the air. Due to the phasing out of leaded gasoline, there was a dramatic reduction in atmospheric Pb over the past three decades. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. In adults, increased Pb levels are associated with increased blood pressure. Pb poisoning can cause anemia, lethargy, seizures, and death. There is no evidence to suggest that there are direct effects of Pb on the respiratory system.

California Criteria Air Pollutants

The California Environmental Protection Agency (CalEPA) establishes statewide standards and the California Air Resources Board (CARB) establishes local standards for the six common air pollutants identified above. In addition, CARB has established standards for the following four additional pollutants.

Visibility-reducing particles are a byproduct of various processes and activities involved in land use development. Deterioration of visibility is one of the most obvious manifestations of air pollution and plays a major role in the public's perception of air quality. Visibility reduction from air pollution is often due to the presence of sulfur and NO_x, as well as PM.

Sulfates (X-SO₄²⁻) are chemical compounds which contain the sulfate ion (SO₄²⁻) and are part of the mixture of solid materials that comprise PM₁₀. Most of SO_x in the atmosphere are produced by oxidation of SO₂. Oxidation of SO₂ yields sulfur trioxide, which reacts with water to form sulfuric acid, which contributes to acid deposition.

The reaction of sulfuric acid with basic substances such as ammonia yields SO_4^{2-} , a component of PM_{10} and $\text{PM}_{2.5}$. Both mortality and morbidity effects have been observed with an increase in ambient SO_4^{2-} concentrations. However, studies to separate the effects of SO_4^{2-} from the effects of other pollutants have generally not been successful. Clinical studies of asthmatics exposed to sulfuric acid suggest that adolescent asthmatics are possibly a subgroup susceptible to acid aerosol exposure.

Hydrogen Sulfide (H_2S) is a colorless, flammable, poisonous compound having a characteristic rotten egg odor. It is used as a reagent and as an intermediate in the preparation of other reduced sulfur compounds. It is also a by-product of the desulfurization processes in the oil and gas industries and rayon production, sewage treatment, and leather tanning. Geothermal power plants, petroleum production and refining, and sewer gas are specific sources of H_2S in California. High H_2S exposure has been documented as a cause of sudden death in the workplace.

Vinyl Chloride ($\text{C}_2\text{H}_3\text{Cl}$) is a colorless, flammable gas at ambient temperature and pressure. It is also highly toxic and is classified as a known carcinogen by the American Conference of Governmental Industrial Hygienists and the International Agency for Research on Cancer. At room temperature, vinyl chloride is a gas with a sickly-sweet odor that is easily condensed. However, it is stored at cooler temperatures as a liquid. Due to the hazardous nature of vinyl chloride to human health, there are no end products that use vinyl chloride in its monomer form. Vinyl chloride is a chemical intermediate, not a final product.

Vinyl chloride is an important industrial chemical chiefly used to produce polyvinyl chloride (PVC). The process involves vinyl chloride liquid fed to polymerization reactors where it is converted from a monomer to a polymer PVC. The final product of the polymerization process is PVC in either a flake or pellet form. From its flake or pellet form, PVC is sold to companies that heat and mold the PVC into end products such as PVC pipe and bottles. Vinyl chloride is not only used to make PVC products, but it is also a natural degradation product of chlorinated industrial solvents (e.g., perchloroethylene, trichloroethene, etc.). Vinyl chloride emissions are historically associated primarily with landfills and sites contaminated with chlorinated solvents.

Toxic Air Contaminants (TACs) are generally defined as those contaminants that are known or suspected to cause serious health problems, but do not have a corresponding ambient air quality standard. Air toxics are also defined as an air pollutant that may increase a person's risk of developing cancer and/or other serious health effects; however, the emission of a toxic chemical does not automatically create a health hazard. Air toxics include metals, other particles, gases absorbed by particles, and certain vapors from fuels and other sources. The majority of the estimated health risks from air toxics can be attributed to relatively few compounds, the most important being PM from the exhaust of diesel-fueled engines (diesel PM). Diesel PM differs from other air toxics in that it is a complex mixture of hundreds of substances rather than a single substance.

Common stationary sources of TAC emissions include gasoline stations, dry cleaners, and diesel backup generators, which are subject to local air district permit requirements. The other, often more significant, sources of TAC emissions are motor vehicles on freeways, high-volume roadways, or other areas with high numbers of diesel vehicles, such as distribution centers. Off-road mobile sources are also major contributors of TAC emissions and include construction equipment, ships, and trains.

TACs can be separated into carcinogens and non-carcinogens based on the nature of the effects associated with exposure to the pollutant. For regulatory purposes, carcinogens are assumed to have no safe threshold below which health impacts would not occur. Any exposure to a carcinogen poses some risk of contracting cancer. Non-carcinogens differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

Acute exposure to diesel exhaust may cause irritation to the eyes, nose, throat and lungs, and some neurological effects, such as lightheadedness. Acute exposure may also elicit a cough or nausea, as well as exacerbate asthma. Chronic exposure to diesel PM in experimental animal inhalation studies has shown a range of dose-dependent

lung inflammation and cellular changes in the lung and immunological effects. Based upon human and laboratory studies, there is considerable evidence that diesel PM is a likely carcinogen. Human epidemiological studies have demonstrated an association between diesel PM exposure and increased lung cancer rates in occupational settings.

Existing Air Quality Conditions

Air quality is affected by both the rate and location of pollutant emissions, and by meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and air quality.

The Project site is located in the San Francisco Bay Area Air Basin (SFBAAB or Basin), which includes all of the coastal counties of San Mateo, San Francisco, and Marin, and the inland counties of Santa Clara, Alameda, Contra Costa, and Napa. The Basin also includes the southern portions of Solano and Sonoma counties. Within the Basin, the Project site is located in what the BAAQMD considers the Northern Alameda and Western Contra Costa Counties region. Table 2 summarizes the air pollution monitoring results for 2018 for the Oakland-West monitoring station located in the Alameda and Western Contra Costa Counties region.

Table 2 Bay Area Air Pollution Summary – 2018: Oakland-West Monitoring Station

Monitoring Standard	Ozone (ppb)	Carbon Monoxide (ppm)	Nitrogen Dioxide (ppb)	Sulfur Dioxide (ppb)	PM₁₀ (µg/m³)	PM_{2.5} (µg/m³)
Max 1-Hr	63	3.6	76	11.9	--	--
<i>National 1-Hr Days</i>	--	0	0	0	--	--
<i>California 1-Hr Days</i>	0	0	0	--	--	--
Max 8-Hr	50	3.1	--	--	--	--
<i>National 8-Hr Days</i>	0	0	--	--	--	--
<i>California 8-Hr Days</i>	0	0	--	--	--	--
Max 24-Hr	--	--	--	2.5	--	169.2
<i>National 24-Hr Days</i>	--	--	--	--	--	14
<i>California 24-Hr Days</i>	--	--	--	0	--	--
Annual Average	--	--	12	--	--	--
3-Year Average	46	--	--	--	--	45

Source: BAAQMD 2019.

Notes: ppb = parts per billion; ppm = parts per million; µg/m³ = micrograms per cubic meter.

Table 3 shows the area designation status of County for each criteria pollutant for both the NAAQS and CAAQS. As presented in the table, the Bay Area is currently designated non-attainment for federal and state AAQS's for O₃, and designated non-attainment for the CAAQS for PM₁₀ and PM_{2.5}.

Table 3 Federal and State Attainment Status

Pollutants	Federal Classification	State Classification
Ozone (O ₃)	Non-attainment	Non-attainment
Particulate Matter (PM ₁₀)	Unclassified	Non-attainment
Fine Particulate Matter (PM _{2.5})	Unclassified/Attainment	Non-attainment
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO ₂)	Attainment	Attainment
Sulfur Dioxide (SO ₂)	Attainment	Attainment
Lead (Pb)	Attainment	--
Sulfates (SO _x)	--	Attainment
Hydrogen Sulfide (H ₂ S)	Unclassified	Unclassified
Vinyl Chloride	--	--
Visibility Reducing Particulates	--	Unclassified

Source: BAAQMD 2020.

Sensitive Receptors

Some people, such as individuals with respiratory illnesses or impaired lung function because of other illnesses, persons over 65 years of age, and children under 14, are particularly sensitive to certain pollutants. Facilities and structures where these sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses identified to be sensitive receptors by the BAAQMD (2011) in its CEQA Air Quality Handbook include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Sensitive receptors may be at risk of being affected by air emissions released from the construction and operation of the proposed Project.

The nearest sensitive receptors to the proposed Project site, with the highest potential to be impacted by the proposed Project, include private residences located along Ellen Crag Avenue and Clement Avenue, south and west of the Project site, as close as 50 feet away.

4.0 Project Description

Project Background

The Project would involve the demolition of existing buildings and infrastructure, soil and groundwater remediation, and final site closure of the Pennzoil-Quaker State Company dba SOPUS Products (SOPUS) site. The Project is proposed to address cleanup and closure of the site. Cleanup and closure of the site would involve excavation of soil test pits to inform the design and sequencing of contaminated soil excavation and on-site dewatering, if required, and waste profiling in accordance with a Sampling and Analysis Plan (SAP). Once soil test pit are completed, construction activities would include mobilization and staging of construction equipment; demolition and removal of existing on-site buildings, structures, and above-ground storage tanks (ASTs); excavation and removal of contaminated soil, dewatering during excavation, import and compaction of clean backfill, re-grading to pre-excavation levels; and demobilization of remedial construction equipment.

Project Location

The Project site is located at 2015 Grand Street within the northeastern portion of Alameda Island in the City of Alameda, Alameda County, California. The site is located approximately 400 feet southwest of the Oakland inner harbor and approximately 600 feet southeast of the Fortmann Basin. The Project site consists of 4.1 acres including Assessor Parcel Number (APN) 72-381-1 (3.4 acres) and APN 72-381-2 (0.74 acre).

The Project involves two major improvements. These include (1) demolition of existing buildings, infrastructure, and ASTs, and (2) excavation of contaminated soils, dewatering (if required), backfilling with clean fill material, and re-grading of the site. The proposed Project activities would occur in the following five phases:

- **Phase 1:** Mobilization;
- **Phase 2:** Limited demolition of existing on-site buildings and AST removal;
- **Phase 3:** Excavation, dewatering, backfilling, and grading;
- **Phase 4:** Demobilization of post-remediation equipment; and
- **Phase 5:** Demolition of remaining on-site buildings and warehouses.¹

Mobilization

The first phase would involve mobilization and staging of construction equipment and materials. All equipment and materials would be delivered and staged within the concrete slab and asphalt parking area within the northwestern portion of the Project site near existing loading docks. These materials are expected to be delivered to the Project site within 1 month prior to the initiation of demolition activities. The remedial construction contractor would store equipment and workers would park vehicles and trucks near the existing site buildings. Construction access to the Project site would be provided at the entrance along Grand Street.

Prior to mobilization, existing on-site monitoring wells would be destroyed according to the requirements of the Well Destruction Work Plan. Additionally, the construction limits of work for the entire northeastern portion of the Project site would be fenced and closed beyond existing fencing prior to mobilization. Signage would be installed along the Project site perimeter to maintain site security. Mobilization would require a total of 6 construction workers for construction equipment staging, traffic control, and health and safety oversight.

Limited Demolition of Existing On-Site Buildings and AST Removal

The second phase would involve the removal and demolition of the maintenance building and carport located within the northeastern portion of the Project site, approximately 2,400 square feet of building area. Once this portion of the Project site is cleared of vegetation and debris, the maintenance building and covered carport would be removed, including the surrounding asphalt pavement. All Project site sub-slab vapor pins would be destroyed when asphalt pavement is removed, per the Well Destruction Work Plan. Debris and construction waste would be temporarily stockpiled near the loading docks prior to removal. All demolition and construction waste would be removed and handled according to the requirements of a Waste Management and Transportation Plan (WMTP). The WMTP would summarize procedures for managing waste during the proposed demolition and excavation activities.

Once demolition in the northeastern portion of the Project site is complete, the compounding building and the remaining 11 active ASTs in the southwestern portion of the Project site would be removed. The compounding building would be demolished first, but a portion of the building's outer perimeter concrete wall would remain to reduce dust and noise generation during the removal of the ASTs. Once the 11 ASTs are cleaned and removed from the Project site, the outer perimeter concrete wall of the compounding building would be removed using an excavator, grapple, and concrete pulverizing equipment.

The ASTs would be hydraulically isolated from the existing distribution facility and devices would be inserted at the drain valves that service the ASTs to stop the flow of liquids. Next, the ASTs would be cleaned and a frac tank would be used to store cleaning liquids and sludge from the ASTs. A water truck would be required to rinse the ASTs prior to removal. Each AST would then be removed using cranes, an excavator, dry vacuum truck, and backhoe. Dump trucks and flatbed trailers would be used to remove and securely transfer each AST off site for disposal. The cleaning liquids within the ASTs, an estimated 20,000 gallons, would be removed using an air pump

¹ For the air quality analysis, it was assumed that demobilization of post-remediation equipment would occur prior to the demolition of remaining on-site buildings and warehouses. The exact timing of demolition of the remaining on-site buildings and warehouse would depend on the coordination between the contractors selected to conduct the remediation activities and the contractors selected to conduct the demolition activities.

and transferred to the other storage frac tank. The liquids in the frac tanks would be pumped into 5,000-gallon vacuum trucks that would transport the tank liquids to an off-site and SOPUS-approved local treatment, storage, and disposal facility (TSDF) for final disposal (i.e., Crosby and Overton). The demolition and removal activities during this phase would require 5 to 10 construction workers. Based on the approximate square footage of the existing maintenance building and carport buildings (i.e., 2,400 square feet), an estimated 186 tons of construction debris is anticipated to be removed from the Project site during this phase.

Excavation, Import/Export, and Backfilling

The third phase would involve excavation of contaminated soils. Excavation and grading operations would be completed in accordance with the City of Alameda Grading Permit. Heavy equipment would be utilized for the excavation of contaminated soil. This equipment would likely include track mounted excavators, front end loaders, compaction equipment (possibly vibratory to remove concrete slabs and asphalt areas), and trucks (end dump trucks and possibly transfer dumps) for soil disposal. Up to 11,400 banked cubic yards (bcy) of soil may be excavated (6,500 bcy in the storage yard and 4,900 bcy in the tank farm). Excavated soil and debris would be removed, sorted, and handled according to the requirements of the WMTP and SAP, which describe the soil investigation to pre-profile soil for disposal and the procedures required to verify the backfill materials meet the criteria for clean soil import.

The extent of excavation at the Project site would be focused in three locations: the tank farm area, northeast area, and the former underground storage tank (UST) and wash area in the Taylor Warehouse. The entire excavation area includes approximately 87,500 square feet (2.0 acres) of the 178,596-square-foot Project site (4.1 acres). Approximately 11,400 bcy of soil and fill material would need to be excavated and removed from the Project site. The same amount of new and clean fill would be imported to the Project site. Backfill of remedial excavations would be completed to the surrounding existing grade with clean imported fill materials. Backfilling would include the operation of a loader, dozer, excavator, vibratory compactor, and water truck.

The excavation activities would begin in the tank farm area and progress to the north. The excavation extent in the former tank farm area excludes the vacated portion of Clement Avenue, a portion of Hibbard Street, and the railroad tracks, where proposed construction would occur along Clement Avenue between Hibbard Street and Grand Street. The tank farm area would include up to 3 feet of soil excavation based on cleanup goals for the Project site contaminants of concern. This would result in a total of 4,900 bcy of soil removal, however preliminary soil sampling at the bottom of the 3-foot excavation depth would determine whether excavation below 3 feet below ground surface (bgs) is required. Excavation is not expected to extend deeper than 5 feet bgs (anticipated groundwater depth). Excavation activities would then proceed with excavating approximately 100 bcy of soil and fill within the former UST and wash area in the Taylor Warehouse.

Once excavation is complete within the former UST area, excavation would occur within the northeast portion of the Project site. The excavation extent in the northeastern area excludes the loading dock area. The northeast area would include up to 6 feet of soil excavation (anticipated groundwater depth) for a total of 6,500 bcy of soil removal. Confirmation soil sampling at the bottom of the 6-foot excavation depth would determine whether excavation below 6 feet bgs is required.

Excavation activities would require a total of 10 construction workers, including 6 construction workers for excavation and backfilling, and approximately 4 additional construction workers for traffic control, street sweeping and maintenance, and health and safety oversight. If dewatering is required during excavation, water would be pumped from the excavated area to a tank with secondary containment. Water removed during excavation would be treated on-site (if necessary) and discharged into the sanitary sewer. If the groundwater tested is found to contain elevated constituents, it would be disposed at an off-site and SOPUS-approved TSDF as non-hazardous waste.

Demobilization of Post-Remediation Equipment

Upon completion of demolition, excavation, and backfilling activities, the entire Project site would be cleared of equipment, regraded, and restored with a final layer of clean fill and soil. Construction crews would demobilize from the Project site over a 1-week period by removing construction equipment. The Project site would then be fenced, screened, and temporarily closed.

A deed restriction and Land Use Covenant (LUC) would be put in place on the northeast parcel that requires the installation of an active vapor intrusion mitigation system (VIMS) as part of the construction of future buildings at the Project site. The LUC would be finalized after a lot line adjustment is approved by the City of Alameda. With the implementation of a deed restriction on the two Project parcels, and LUC on the northeast parcel and the installation of a VIMS, no post-excavation soil vapor monitoring would be required.

Post-excavation groundwater monitoring would be dependent on groundwater concentrations observed during excavation dewatering, but is not anticipated. At this time, there are no plans to reinstall the existing groundwater monitoring wells.

Demolition of Remaining On-Site Buildings

The Project also assesses additional demolition of remaining on-site buildings following completion of remediation activities. This final phase involves the demolition of the administrative building and the three connecting warehouses located within the central portion of the Project site. Prior to demolition, all ACM-containing materials would be abated. Following ACB abatement, small building and concrete pad demolition would likely be conducted using excavators equipped with a breaking hammer and pulverizers to demolish concrete and break it up into smaller more manageable pieces. This would allow building components to be broken into smaller pieces that are safer to remove and reduce fugitive dust generation. Based on the approximate square footage of the existing buildings on site (i.e., 68,100 square feet), which includes the maintenance building and carport proposed for removal following mobilization, over 5,500 tons of construction debris is anticipated to be stockpiled and removed from the Project site.

Construction waste would be temporarily stockpiled within the staging area near the loading docks in the northeastern portion of the Project site and designated non-hazardous or hazardous waste depending on the waste type, building, or Project site origin. The staging area would store construction equipment near the former maintenance building and carport. The construction waste would then be transferred to a sorting location.

At the sorting station, debris material associated with building demolition would be sorted by type to meet disposal requirements (e.g. concrete, asbestos containing material [ACM], lead-based paint [LBP] containing materials, miscellaneous metal) and placed into dump trucks and next hauled off-site for recycling or disposal at a permitted landfill in accordance with federal, state, and local regulations. Clean demolition debris would be disposed of at a Class III landfill (permitted to accept nonhazardous waste), such as Zanker Road Landfill in San Jose, California. Hazardous demolition debris and contaminated soil would be disposed of at a Class I landfill (permitted to accept hazardous waste). Disposal of hazardous material would depend on the waste type. ACM waste would be disposed of at either the Altamont Landfill in Livermore, California or the Hay Road Landfill in Vacaville, California. LBP and LCP waste would be disposed of at either the Clean Harbors Landfill in Buttonwillow, California or the US Ecology Landfill in Beatty, Nevada. Concrete and asphalt would be recycled at Argent Materials, Inc. in Oakland, California, and metal materials would be recycled at Schnitzer Steel in Oakland, California (Innovative Construction Solutions [ICS] 2020).

Construction Detail and Schedule

The precise construction schedule depends on the timing of Project approvals and may be subject to delay. However, planned demolition of above ground structures and hardscape within excavation extents, and soil removal activities would be implemented concurrent with and following closure of the Pennzoil Quaker-State Alameda Distribution Center, currently planned for August 2020. Demolition activities would be completed in October 2020 and remedial excavation would be completed in January 2021. A Demolition and Soil Removal Completion Report is anticipated to be submitted to the San Francisco Bay RWQCB in April 2021.

Approximately 5 to 10 construction workers would work during project construction. All construction activities would occur between 7:00 a.m. and 7:00 p.m., Monday through Friday, consistent with the City of Alameda Municipal Code; no work is currently proposed to occur on weekends. Table 4 lists the types and amount of equipment that is expected to be staged at the Project site during mobilization, and used during the demolition and excavation activities. Table 5 indicates the duration of each construction phase and the corresponding construction worker trips associated with Project construction equipment staging, limited demolition, excavation and soil removal, and final demolition.

Table 4 Construction Equipment

Construction Equipment	Units	Duration (weeks)
Operated Dump Truck (with flatbed trailers)	2	3
Torch and Acetylene Tanks	2	3
60-Foot Articulating Boom Lift	1	2
Excavator Sheer Attachment	1	3
Excavator Hydraulic Hammer	1	3
815 Compactor	1	2
Mobile Concrete Crushing/Screen Unit	1	2
18,000-lb Excavator	1	2
85,000-lb Excavator	2	10
4-CY Loader	1	7
Motor Grader	1	2
12K Reach Forklift	1	1
D6 Dozer	1	1
Skip Loader	1	2
Track Skid Steer	1	3
4,000-gallon Water Truck	1	10
2,000-gallon Water Truck	1	3
Pick-Up Truck	2	10
185 CFM Air Compressor	1	3
Pressure Washer	2	4
21,000-gallon Frac Tank	2	10

Source: Draft Equipment List; ICS 2020.

Table 5 Daily Construction Worker Trip Generation by Construction Activity

Construction Phase	Duration	# Worker Commute Trips (/day) ¹
Mobilization	1 week	6
Limited Demolition and AST Removal	2 months	10
Excavation, Export/Import, Grading	2 months	12
Demobilization of Post-Remediation Equipment	1 week	6
Demolition of Remaining On-site Buildings	1 month	15

Sources: ICS 2020; Wood 2020

Notes:

¹ Expressed in round trips; one trip equals one vehicle going to and leaving from the Project site. Assumes each worker arrives in their personnel vehicle each day and generates one inbound trip during the morning peak hour and one outbound trip during the evening peak hour. Average commute distances are anticipated consist of 40 mile round trips within the Bay Area.

² Assumes each average daily trip is associated with excavation off-haul and import. The debris sorting and disposal facilities are assumed to be the Republic’s Forward Landfill in Manteca (approximately 70 miles to the east) or Vasco Road Landfill in Livermore (approximately 35 miles to the east), depending on the total volatile organic compound (VOC) concentration.

³ Assumes an additional 5 trips would be required to off-haul approximately 20,000 gallons of residual oily water associated with the clean-out of the ASTs and piping. These residual oily water would be exported in a 5,000-gallon vac truck to either a transfer station in Richmond or Rio Vista, California

Table 6 summarizes the estimated amount of debris and excavated contaminated soil and backfill material needed to be transported to and from the Project site during construction, as well as the estimated total number of truck loads assuming average tandem axel commercial dump trucks hold between 12 to 14 cy of soil.²

Table 6 Estimated Loads of Construction Waste from On-Site Building Demolition

Phase	Source	Import/Export Required	Estimated Haul Truck Trips
Mobilization	-	-	-
Limited Demolition and AST Removal	Construction and demolition waste; Contaminated groundwater	186 tons (export); 20,000 gallons (export)	37
Excavation, Export/Import, Grading	Export of contaminated soil and import of clean backfill	11,400 bcy (export)/ 11,400 cy (import)	1,902
Demobilization and Post-Remediation	-	-	-
Demolition of Remaining On-site Buildings	Construction and demolition waste	5,500 tons (export)	784
Total			2,723

Source: ICS 2020.

² Truck trips were estimated by ICS in March 2020. Tandem axel dump trucks with an average capacity of 12 cy per load would off-haul contaminated soil and demolition debris, and import clean backfill. The tank farm would require a total of 920 trips (460 export/460 import). The UST and washrack area in the Taylor Warehouse would require a total of 16 truck trips (8 export/8 import). The northeast excavation area would require a total of 966 truck trips (483 export/483 import). These trips would occur over a 2-month period.

Best Management Practices

The Project would implement the following construction measures to minimize exhaust and fugitive dust emissions during the demolition and excavation phases:

- The contractor shall implement a Dust and Vapor Control and Monitoring Plan that specifies measures that shall be taken to reduce the generation of fugitive dust and vapors. The plan shall include monitoring to document dust and vapor concentrations during demolition and excavation activities. Monitoring shall be performed in accordance with federal, state, and local requirements, a Stormwater Pollution Prevention Plan, and BAAQMD rules and regulations, including Regulations 11, Rule 2: Hazardous Materials; Asbestos Demolition, Renovation, and Manufacturing.
- When ground disturbing activities (e.g., excavation) occur on pervious land surfaces, unpaved and exposed surfaces (e.g., parking areas, staging areas, soil piles, and graded areas) shall be watered two times per day.
- All haul trucks transporting demolition debris, soil, sand, or other loose material off-site shall be covered.
- During periods when ground disturbing activities (e.g., excavation, trenching, grading) occur on dry land, all visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping shall be prohibited.
- All construction vehicles shall travel on designated truck haul routes. Vehicle speeds on adjacent neighborhood roads shall be limited to 15 miles per hour.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- The San Francisco Bay RWQCB shall direct the contractor to post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD phone number shall also be visible to ensure compliance with applicable regulations.

Operations and Maintenance

The proposed Project involves primarily demolition and debris removal and contaminated soil excavation and disposal, therefore, there would be no operations and maintenance activities. Although it is not anticipated, annual monitoring for up to 5 years may occur as required by conditions of permits and approvals, if necessary.

5.0 State and Regional Thresholds

CEQA Impact Review Criteria

In accordance with *State CEQA Guidelines* Appendix G, implementation of the Project will result in a potentially significant impact if it were to:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.
3. Expose sensitive receptors to substantial pollutant concentrations.

4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Emission Thresholds for Regional Air Quality Impacts

BAAQMD has developed criteria for determining whether emissions from a project are regionally significant. They are useful for estimating whether a project is likely to result in a violation of the ambient air quality standards. BAAQMD’s significance thresholds are summarized in Table 7 for criteria pollutant emissions during construction activities and Project operation. A project is considered to have a regional air quality impact if emissions from its construction and/or operational activities exceed the corresponding significance thresholds.

Table 7 Emissions Thresholds for Significant Regional Impacts

Pollutant	Average Daily Construction Emissions (Pounds/Day)	Daily Operational Emissions (Pounds/Day)	
		Indirect	Stationary
Nitrogen Oxides (NOx)	54	180	40
Reactive Organic Gases (ROG)	54	42	40
Respirable Particulate Matter (PM10)	82	82	15
Fine Particulate Matter (PM2.5)	54	54	10
Ozone (O ₃)	--	--	--
Sulfur Oxides (SOx)	--	--	--
Carbon Monoxide (CO)	None	125	
Lead	--	--	--

Source: BAAQMD 2017a.

Methodology

Estimated regional air emissions from the Project’s on-site and off-site construction activities were calculated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2 (BREEZE Software 2016). CalEEMod is a planning tool for estimating emissions related to land use projects. The model incorporates CARB’s Emissions Factor (EMFAC2014) model for estimating on-road vehicle emissions; and emission factors and assumptions from the CARB’s OFFROAD2011 model to estimate off-road construction equipment emissions. Model-predicted Project emissions are compared with applicable thresholds to assess regional air quality impacts.

CalEEMod uses many default assumptions based upon surveys of various types of construction projects. However, the user may override the default values where project-specific data are available. The Project Applicant provided a set of construction equipment assumptions for this Project, contained within the Project Description. Assumptions included:

- Total construction duration of 6 months.
- Five non-overlapping phases with no subphases.
- Construction activities would occur only on weekdays (e.g., 5 days per week).
- Unpaved and exposed surfaces (e.g., parking areas, staging areas, soil piles, and graded areas) shall be watered two times per day.
- Total ground disturbance of 4.1 acres.
- Total 186 tons of construction demolition debris to be exported off-site during Phase 2, resulting in 27 haul truck trips.
- Total 20,000 gallons of contaminated water exported off-site to an appropriate disposal facility during Phase 2, resulting in 10 total vacuum truck haul trips.

- Total 11,400 bcy of contaminated fill to be exported off-site to appropriate disposal facility during Phase 3, resulting in 951 haul truck trips.
- Total 11,400 bcy of clean fill to be imported on-site to backfill excavated areas during Phase 3, resulting in 951 haul truck trips.
- Total 5,500 tons of construction demolition debris to be exported off-site during Phase 5, resulting in 784 haul truck trips (which includes 186 tons of debris associated with maintenance building/carport).
- Between 6 and 15 construction workers on-site each day.

The construction equipment types and characteristics used in the modeling is presented in Table 4 above. As a conservative approach for modeling and characterizing impacts from construction, this assessment assumes all pieces of construction equipment would be utilized everyday of construction for the duration of the Project. The construction schedule assumed for the model and analysis is summarized in Table 5 above.

6.0 Project-Specific Air Quality Impact Analysis

Construction Impacts

Project construction activities would generate short-term air quality impacts. Construction emissions occur both on-site and off-site. On-site air pollutant emissions consist principally of exhaust emissions from off-road heavy-duty construction equipment, as well as fugitive particulate matter from earth working and material handling operations. Off-site emissions result from workers commuting to and from the job site, as well as from trucks hauling materials to the site and construction debris from the site for disposal.

Regional Impacts

Emissions of criteria pollutants during Project construction were estimated using the construction module of CalEEMod, Version 2016.3.2. Modeling output files and additional assumptions are provided in Attachment 1. For the purpose of this analysis, it was estimated that the construction of the proposed Project would begin in early August 2020 and finish in late January 2021. Preliminary design and scheduling information from the Project Applicant (SOPUS Products), ICS, and Wood was used in conjunction with CalEEMod to estimate the number of days to execute each phase of the Project.

The types and numbers of construction equipment anticipated were estimated by ICS for the Project, and this equipment was conservatively assumed to be utilized each day of construction, except during site mobilization and demobilization (Phases 1 and 4). A hypothetical but reasonable week-by-week construction schedule was also developed for the Project by Wood and entered into CalEEMod. Equipment exhaust emissions were determined using CalEEMod default values for horsepower and load factors. Table 8 shows the model’s estimates of maximum daily construction emissions for the proposed Project.

Table 8 Maximum Daily Unmitigated Regional Construction Emissions

Construction Activity	Maximum Emissions (lbs/day)				
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	4	51	28	5	3
<i>BAAQMD Significance Thresholds</i>	<i>54</i>	<i>54</i>	<i>None</i>	<i>82</i>	<i>54</i>
Exceeds Threshold?	No	No	N/A	No	No
Estimated Annual Construction Emissions (ton/year)	<1	2	1	<1	<1

Source: Calculated by Wood with CalEEMod (Version 2016.3.2); see **Attachment 1**.

For each criteria pollutant, construction emissions would be below the pollutant's BAAQMD significance threshold. Therefore, the Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Construction emissions would be less than significant.

Impacts on Sensitive Receptors

Project construction would not generate substantial increases in emissions proximate to sensitive receptors. Construction activities would be confined primarily to the undeveloped, but disturbed land, would last up to 6 months, and would include construction traffic passing through urban areas and neighborhoods. Due to the limited duration of emissions and generation of emissions substantially below adopted thresholds for construction, emissions generated from Project construction are not anticipated to substantially and adversely affect nearby sensitive receptors or cause increased health risk. Impacts would be less than significant.

Long-Term Impacts

Regional Impacts

The proposed Project involves short duration construction demolition and site remediation activities. Following completion of the Project, the site would remain vacant and not introduce new emission sources. Any vehicle trips that would be generated would be negligible and there would be no increase in mobile source emissions. Therefore, there would be no net increase in regional long-term emissions of any criteria pollutant, and the impact would be less than significant.

Impacts on Sensitive Receptors

The proposed Project involves short duration construction demolition and site remediation activities. The Project would not result in changes to existing operations or related emissions. Thus, the Project would not result in a considerable net change in long-term operational emissions affecting nearby sensitive receptors along Ellen Crag Avenue, Clement Avenue, or Fortmann Way. Impacts would be less than significant.

Odor Analysis

The proposed Project involves short duration construction, demolition, and remediation activities to prepare the site for eventual redevelopment in the future. The proposed type of construction activities are not typically associated with generation of obnoxious odors. However, whatever odors may be generated by construction activities, they would be temporary and cease upon completion of construction. Therefore, odor impacts associated with the Project would be less than significant.

Conformity with Air Quality Plan

Given BAAQMD's nonattainment for the federal and state O₃ and the state PM₁₀ and PM_{2.5} standards, the BAAQMD has prepared and adopted the 2017 Clean Air Plan: Spare the Air, Cool the Climate (2017b) outlining measures to reduce ozone emissions and progress towards attaining the O₃ standard at the earliest possible date. The plan outlines a variety of measures, strategies, and grant programs measures applying to each of the nine economic sectors used by CARB for the Assembly Bill 32 Scoping Plan Update, which include: Stationary (Industrial) Sources; Transportation; Energy; Buildings; Agriculture; Natural and Working Lands; Waste Management; Water; and Super-GHG Pollutants. In addition, BAAQMD actively implements regulations and measures to reduce local PM₁₀ and PM_{2.5} emissions and is currently in the process of preparing an abbreviated State Implementation Plan to address EPA planning requirements.

As previously discussed, the Project involves demolition of existing on-site buildings and structures, removal of ASTs, remediation of the site to remove contaminated soils, and potential groundwater remediation, requiring some construction and grading over an approximately 6-month period. In addition, the Project would implement a number of construction best management practices to minimize exhaust and fugitive dust emissions during demolition and excavation phases. Given the limited duration of construction activities, implementation of best

management practices, and that estimated construction emissions would not exceed BAAQMD thresholds for the components of O₃ (VOC [ROG] and NO_x), PM₁₀, and PM_{2.5}, the Project would not be considered by BAAQMD to be a substantial source of emissions and would not conflict with or obstruct 2017 Clean Air Plan or regulations and measures for reducing local PM₁₀ and PM_{2.5} emissions. Impacts would be less than significant.

7.0 Mitigation Measures and Conclusions

As discussed above, both the short-term and long-term air pollution impacts of the Project would be less than significant. Therefore, air quality mitigation measures are not necessary for the proposed Project.

8.0 References

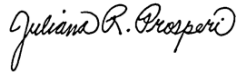
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Ms. Samantha Elliott
Pennzoil-Quaker State Company dba SOPUS Products
June 10, 2020
Page 18 of 18

If you have any questions or need clarification on any of the information provided, please do not hesitate to call me at (303) 503-7794.

Sincerely yours,

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wood.

Attachment 1
CalEEMod Work Sheets

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

Pennzoil-Quaker State Alameda Distribution Center Remediation Project
Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	178.60	1000sqft	4.10	178,596.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	5			Operational Year	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

Project Characteristics -

Land Use -

Construction Phase - Project-specific construction schedule. Demolition of remaining structures to be completed by a new property owner/developer, separate from the proposed Project. Analysis conservatively includes emissions from these demolition activities.

Off-road Equipment - demobilization involves transport of construction equipment off Project site. No operation of equipment would occur during Demobilization phase.

Off-road Equipment - Project specific construction equipment

Off-road Equipment - Project specific construction equipment

Off-road Equipment - Project specific construction equipment list

Off-road Equipment - Mobilization involves transport of construction equipment to Project site. No operation of equipment would occur during Mobilization phase.

Trips and VMT - Project specific trips and VMT

Demolition -

Grading - Project excavation and backfill

Vehicle Trips - No operation

Area Coating -

Energy Use - No operation

Water And Wastewater - No operation

Solid Waste - No operation

Construction Off-road Equipment Mitigation - Project BMP for fugitive dust control

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Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

tblLandUse	LandUseSquareFeet	178,600.00	178,596.00
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Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

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Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

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tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblSolidWaste	SolidWasteGenerationRate	221.46	0.00
tblTripsAndVMT	HaulingTripLength	20.00	40.00
tblTripsAndVMT	HaulingTripLength	20.00	40.00
tblTripsAndVMT	HaulingTripLength	20.00	40.00
tblTripsAndVMT	HaulingTripNumber	0.00	37.00
tblTripsAndVMT	HaulingTripNumber	2,850.00	1,902.00
tblTripsAndVMT	HaulingTripNumber	544.00	784.00
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	WorkerTripNumber	40.00	10.00
tblTripsAndVMT	WorkerTripNumber	40.00	12.00
tblTripsAndVMT	WorkerTripNumber	40.00	15.00
tblTripsAndVMT	WorkerVehicleClass		LD_Mix
tblTripsAndVMT	WorkerVehicleClass		LD_Mix
tblVehicleTrips	ST_TR	1.50	0.00
tblVehicleTrips	SU_TR	1.50	0.00
tblVehicleTrips	WD_TR	1.50	0.00
tblWater	IndoorWaterUseRate	41,301,250.00	0.00

2.0 Emissions Summary

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	8-3-2020	11-2-2020	1.2647	1.2647
2	11-3-2020	2-2-2021	1.2886	1.2886
		Highest	1.2886	1.2886

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7908	2.0000e-005	1.6500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1900e-003	3.1900e-003	1.0000e-005	0.0000	3.4000e-003
Energy	0.0238	0.2167	0.1820	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	565.7996	565.7996	0.0194	7.4100e-003	568.4941
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.8146	0.2167	0.1837	1.3000e-003	0.0000	0.0165	0.0165	0.0000	0.0165	0.0165	0.0000	565.8028	565.8028	0.0195	7.4100e-003	568.4975

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7908	2.0000e-005	1.6500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1900e-003	3.1900e-003	1.0000e-005	0.0000	3.4000e-003
Energy	0.0238	0.2167	0.1820	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	565.7996	565.7996	0.0194	7.4100e-003	568.4941
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.8146	0.2167	0.1837	1.3000e-003	0.0000	0.0165	0.0165	0.0000	0.0165	0.0165	0.0000	565.8028	565.8028	0.0195	7.4100e-003	568.4975

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Mobilization	Site Preparation	8/3/2020	8/7/2020	5	5	
2	Limited Demolition and AST Removal	Demolition	8/10/2020	10/2/2020	5	40	
3	Excavation, Dewatering, Backfilling, and Grading	Grading	10/5/2020	12/11/2020	5	50	
4	Demobilization	Site Preparation	12/14/2020	12/18/2020	5	5	
5	Demolition of Remaining Structures	Demolition	1/1/2021	1/29/2021	5	21	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Limited Demolition and AST Removal	Air Compressors	1	6.00	78	0.48
Limited Demolition and AST Removal	Cranes	1	6.00	231	0.29
Limited Demolition and AST Removal	Crushing/Proc. Equipment	1	6.00	85	0.78
Limited Demolition and AST Removal	Dumpers/Tenders	2	6.00	16	0.38
Limited Demolition and AST Removal	Excavators	3	6.00	158	0.38
Limited Demolition and AST Removal	Graders	1	6.00	187	0.41
Limited Demolition and AST Removal	Plate Compactors	1	6.00	8	0.43
Limited Demolition and AST Removal	Pressure Washers	2	6.00	13	0.30
Limited Demolition and AST Removal	Rough Terrain Forklifts	1	6.00	100	0.40
Limited Demolition and AST Removal	Rubber Tired Dozers	1	6.00	247	0.40
Limited Demolition and AST Removal	Skid Steer Loaders	1	6.00	65	0.37

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

Limited Demolition and AST Removal	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Excavation, Dewatering, Backfilling, and Grading	Air Compressors	1	6.00	78	0.48
Excavation, Dewatering, Backfilling, and Grading	Cranes	1	6.00	231	0.29
Excavation, Dewatering, Backfilling, and Grading	Crushing/Proc. Equipment	1	6.00	85	0.78
Excavation, Dewatering, Backfilling, and Grading	Dumpers/Tenders	2	6.00	16	0.38
Excavation, Dewatering, Backfilling, and Grading	Excavators	3	6.00	158	0.38
Excavation, Dewatering, Backfilling, and Grading	Graders	1	6.00	187	0.41
Excavation, Dewatering, Backfilling, and Grading	Plate Compactors	1	6.00	8	0.43
Excavation, Dewatering, Backfilling, and Grading	Pressure Washers	2	6.00	13	0.30
Excavation, Dewatering, Backfilling, and Grading	Rough Terrain Forklifts	1	6.00	100	0.40
Excavation, Dewatering, Backfilling, and Grading	Rubber Tired Dozers	1	6.00	247	0.40
Excavation, Dewatering, Backfilling, and Grading	Skid Steer Loaders	1	6.00	65	0.37
Excavation, Dewatering, Backfilling, and Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition of Remaining Structures	Air Compressors	1	6.00	78	0.48
Demolition of Remaining Structures	Cranes	1	6.00	231	0.29
Demolition of Remaining Structures	Crushing/Proc. Equipment	1	6.00	85	0.78
Demolition of Remaining Structures	Dumpers/Tenders	2	6.00	16	0.38
Demolition of Remaining Structures	Excavators	3	6.00	158	0.38
Demolition of Remaining Structures	Graders	1	6.00	187	0.41
Demolition of Remaining Structures	Plate Compactors	1	6.00	8	0.43
Demolition of Remaining Structures	Pressure Washers	2	6.00	13	0.30
Demolition of Remaining Structures	Rough Terrain Forklifts	1	6.00	100	0.40
Demolition of Remaining Structures	Rubber Tired Dozers	1	6.00	247	0.40
Demolition of Remaining Structures	Skid Steer Loaders	1	6.00	65	0.37

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

3.2 Mobilization - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	2.9200e-003	5.5000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.8557	0.8557	3.0000e-005	0.0000	0.8565
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	4.0000e-005	3.9000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1054	0.1054	0.0000	0.0000	0.1055
Total	1.4000e-004	2.9600e-003	9.4000e-004	1.0000e-005	3.2000e-004	1.0000e-005	3.3000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	0.9611	0.9611	3.0000e-005	0.0000	0.9620

3.3 Limited Demolition and AST Removal - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9900e-003	0.0000	1.9900e-003	3.0000e-004	0.0000	3.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0648	0.6455	0.4774	8.9000e-004		0.0307	0.0307		0.0288	0.0288	0.0000	76.7228	76.7228	0.0206	0.0000	77.2379
Total	0.0648	0.6455	0.4774	8.9000e-004	1.9900e-003	0.0307	0.0327	3.0000e-004	0.0288	0.0291	0.0000	76.7228	76.7228	0.0206	0.0000	77.2379

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

3.3 Limited Demolition and AST Removal - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8000e-004	8.9900e-003	1.6900e-003	3.0000e-005	6.3000e-004	3.0000e-005	6.6000e-004	1.7000e-004	3.0000e-005	2.0000e-004	0.0000	2.6384	2.6384	1.0000e-004	0.0000	2.6410
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	5.1000e-004	5.2300e-003	2.0000e-005	1.5800e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.4057	1.4057	4.0000e-005	0.0000	1.4066
Total	9.7000e-004	9.5000e-003	6.9200e-003	5.0000e-005	2.2100e-003	4.0000e-005	2.2500e-003	5.9000e-004	4.0000e-005	6.3000e-004	0.0000	4.0441	4.0441	1.4000e-004	0.0000	4.0476

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.0000e-004	0.0000	9.0000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0648	0.6455	0.4774	8.9000e-004		0.0307	0.0307		0.0288	0.0288	0.0000	76.7227	76.7227	0.0206	0.0000	77.2378
Total	0.0648	0.6455	0.4774	8.9000e-004	9.0000e-004	0.0307	0.0316	1.4000e-004	0.0288	0.0289	0.0000	76.7227	76.7227	0.0206	0.0000	77.2378

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

3.3 Limited Demolition and AST Removal - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8000e-004	8.9900e-003	1.6900e-003	3.0000e-005	6.3000e-004	3.0000e-005	6.6000e-004	1.7000e-004	3.0000e-005	2.0000e-004	0.0000	2.6384	2.6384	1.0000e-004	0.0000	2.6410
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	5.1000e-004	5.2300e-003	2.0000e-005	1.5800e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.4057	1.4057	4.0000e-005	0.0000	1.4066
Total	9.7000e-004	9.5000e-003	6.9200e-003	5.0000e-005	2.2100e-003	4.0000e-005	2.2500e-003	5.9000e-004	4.0000e-005	6.3000e-004	0.0000	4.0441	4.0441	1.4000e-004	0.0000	4.0476

3.4 Excavation, Dewatering, Backfilling, and Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1153	0.0000	0.1153	0.0624	0.0000	0.0624	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0810	0.8068	0.5967	1.1100e-003		0.0383	0.0383		0.0360	0.0360	0.0000	95.9035	95.9035	0.0258	0.0000	96.5473
Total	0.0810	0.8068	0.5967	1.1100e-003	0.1153	0.0383	0.1536	0.0624	0.0360	0.0983	0.0000	95.9035	95.9035	0.0258	0.0000	96.5473

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

3.4 Excavation, Dewatering, Backfilling, and Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0144	0.4623	0.0867	1.4100e-003	0.0322	1.7200e-003	0.0339	8.8600e-003	1.6500e-003	0.0105	0.0000	135.6262	135.6262	5.3300e-003	0.0000	135.7595
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0400e-003	7.7000e-004	7.8500e-003	2.0000e-005	2.3700e-003	2.0000e-005	2.3900e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	2.1086	2.1086	5.0000e-005	0.0000	2.1099
Total	0.0154	0.4631	0.0945	1.4300e-003	0.0346	1.7400e-003	0.0363	9.4900e-003	1.6700e-003	0.0112	0.0000	137.7348	137.7348	5.3800e-003	0.0000	137.8694

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0519	0.0000	0.0519	0.0281	0.0000	0.0281	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0810	0.8068	0.5967	1.1100e-003		0.0383	0.0383		0.0360	0.0360	0.0000	95.9033	95.9033	0.0258	0.0000	96.5472
Total	0.0810	0.8068	0.5967	1.1100e-003	0.0519	0.0383	0.0902	0.0281	0.0360	0.0640	0.0000	95.9033	95.9033	0.0258	0.0000	96.5472

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

3.5 Demobilization - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	2.9200e-003	5.5000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.8557	0.8557	3.0000e-005	0.0000	0.8565
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	4.0000e-005	3.9000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1054	0.1054	0.0000	0.0000	0.1055
Total	1.4000e-004	2.9600e-003	9.4000e-004	1.0000e-005	3.2000e-004	1.0000e-005	3.3000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	0.9611	0.9611	3.0000e-005	0.0000	0.9620

3.6 Demolition of Remaining Structures - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0589	0.0000	0.0589	8.9100e-003	0.0000	8.9100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0320	0.3153	0.2481	4.7000e-004		0.0146	0.0146		0.0137	0.0137	0.0000	40.2751	40.2751	0.0108	0.0000	40.5443
Total	0.0320	0.3153	0.2481	4.7000e-004	0.0589	0.0146	0.0734	8.9100e-003	0.0137	0.0226	0.0000	40.2751	40.2751	0.0108	0.0000	40.5443

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

3.6 Demolition of Remaining Structures - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.6100e-003	0.1746	0.0350	5.7000e-004	0.0133	6.3000e-004	0.0139	3.6500e-003	6.0000e-004	4.2500e-003	0.0000	55.2041	55.2041	2.1500e-003	0.0000	55.2579
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.2500e-003	1.0000e-005	1.2500e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0686	1.0686	3.0000e-005	0.0000	1.0692
Total	6.1100e-003	0.1749	0.0387	5.8000e-004	0.0145	6.4000e-004	0.0152	3.9800e-003	6.1000e-004	4.5900e-003	0.0000	56.2727	56.2727	2.1800e-003	0.0000	56.3271

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0265	0.0000	0.0265	4.0100e-003	0.0000	4.0100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0320	0.3153	0.2481	4.7000e-004		0.0146	0.0146		0.0137	0.0137	0.0000	40.2751	40.2751	0.0108	0.0000	40.5442
Total	0.0320	0.3153	0.2481	4.7000e-004	0.0265	0.0146	0.0411	4.0100e-003	0.0137	0.0177	0.0000	40.2751	40.2751	0.0108	0.0000	40.5442

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3.6 Demolition of Remaining Structures - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.6100e-003	0.1746	0.0350	5.7000e-004	0.0133	6.3000e-004	0.0139	3.6500e-003	6.0000e-004	4.2500e-003	0.0000	55.2041	55.2041	2.1500e-003	0.0000	55.2579
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.2500e-003	1.0000e-005	1.2500e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0686	1.0686	3.0000e-005	0.0000	1.0692
Total	6.1100e-003	0.1749	0.0387	5.8000e-004	0.0145	6.4000e-004	0.0152	3.9800e-003	6.1000e-004	4.5900e-003	0.0000	56.2727	56.2727	2.1800e-003	0.0000	56.3271

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.559358	0.040058	0.190549	0.109335	0.016678	0.005213	0.023344	0.044042	0.002152	0.002669	0.005545	0.000316	0.000739

5.0 Energy Detail

Historical Energy Use: N

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5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	329.9182	329.9182	0.0149	3.0900e-003	331.2109
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	329.9182	329.9182	0.0149	3.0900e-003	331.2109
NaturalGas Mitigated	0.0238	0.2167	0.1820	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.8814	235.8814	4.5200e-003	4.3200e-003	237.2832
NaturalGas Unmitigated	0.0238	0.2167	0.1820	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.8814	235.8814	4.5200e-003	4.3200e-003	237.2832

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	4.42025e+006	0.0238	0.2167	0.1820	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.8814	235.8814	4.5200e-003	4.3200e-003	237.2832
Total		0.0238	0.2167	0.1820	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.8814	235.8814	4.5200e-003	4.3200e-003	237.2832

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5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	4.42025e+006	0.0238	0.2167	0.1820	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.8814	235.8814	4.5200e-003	4.3200e-003	237.2832
Total		0.0238	0.2167	0.1820	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.8814	235.8814	4.5200e-003	4.3200e-003	237.2832

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	1.13408e+006	329.9182	0.0149	3.0900e-003	331.2109
Total		329.9182	0.0149	3.0900e-003	331.2109

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	1.13408e+006	329.9182	0.0149	3.0900e-003	331.2109
Total		329.9182	0.0149	3.0900e-003	331.2109

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7908	2.0000e-005	1.6500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1900e-003	3.1900e-003	1.0000e-005	0.0000	3.4000e-003
Unmitigated	0.7908	2.0000e-005	1.6500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1900e-003	3.1900e-003	1.0000e-005	0.0000	3.4000e-003

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0931					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6975					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.5000e-004	2.0000e-005	1.6500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1900e-003	3.1900e-003	1.0000e-005	0.0000	3.4000e-003
Total	0.7908	2.0000e-005	1.6500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1900e-003	3.1900e-003	1.0000e-005	0.0000	3.4000e-003

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0931					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6975					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.5000e-004	2.0000e-005	1.6500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1900e-003	3.1900e-003	1.0000e-005	0.0000	3.4000e-003
Total	0.7908	2.0000e-005	1.6500e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1900e-003	3.1900e-003	1.0000e-005	0.0000	3.4000e-003

7.0 Water Detail

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

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

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

Pennzoil-Quaker State Alameda Distribution Center Remediation Project
Alameda County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	178.60	1000sqft	4.10	178,596.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	5			Operational Year	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

Project Characteristics -

Land Use -

Construction Phase - Project-specific construction schedule. Demolition of remaining structures to be completed by a new property owner/developer, separate from the proposed Project. Analysis conservatively includes emissions from these demolition activities.

Off-road Equipment - demobilization involves transport of construction equipment off Project site. No operation of equipment would occur during Demobilization phase.

Off-road Equipment - Project specific construction equipment

Off-road Equipment - Project specific construction equipment

Off-road Equipment - Project specific construction equipment list

Off-road Equipment - Mobilization involves transport of construction equipment to Project site. No operation of equipment would occur during Mobilization phase.

Trips and VMT - Project specific trips and VMT

Demolition -

Grading - Project excavation and backfill

Vehicle Trips - No operation

Area Coating -

Energy Use - No operation

Water And Wastewater - No operation

Solid Waste - No operation

Construction Off-road Equipment Mitigation - Project BMP for fugitive dust control

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	8.00	50.00
tblConstructionPhase	NumDays	20.00	21.00
tblEnergyUse	T24E	1.21	0.00
tblGrading	AcresOfGrading	18.75	2.00
tblGrading	MaterialExported	0.00	11,400.00
tblGrading	MaterialImported	0.00	11,400.00

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

tblLandUse	LandUseSquareFeet	178,600.00	178,596.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblSolidWaste	SolidWasteGenerationRate	221.46	0.00
tblTripsAndVMT	HaulingTripLength	20.00	40.00
tblTripsAndVMT	HaulingTripLength	20.00	40.00
tblTripsAndVMT	HaulingTripLength	20.00	40.00
tblTripsAndVMT	HaulingTripNumber	0.00	37.00
tblTripsAndVMT	HaulingTripNumber	2,850.00	1,902.00
tblTripsAndVMT	HaulingTripNumber	544.00	784.00
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	WorkerTripNumber	40.00	10.00
tblTripsAndVMT	WorkerTripNumber	40.00	12.00
tblTripsAndVMT	WorkerTripNumber	40.00	15.00
tblTripsAndVMT	WorkerVehicleClass		LD_Mix
tblTripsAndVMT	WorkerVehicleClass		LD_Mix
tblVehicleTrips	ST_TR	1.50	0.00
tblVehicleTrips	SU_TR	1.50	0.00
tblVehicleTrips	WD_TR	1.50	0.00
tblWater	IndoorWaterUseRate	41,301,250.00	0.00

2.0 Emissions Summary

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.3340	1.7000e-004	0.0183	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0391	0.0391	1.0000e-004		0.0417
Energy	0.1306	1.1873	0.9973	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.7384	1,424.7384	0.0273	0.0261	1,433.2049
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	4.4646	1.1875	1.0156	7.1200e-003	0.0000	0.0903	0.0903	0.0000	0.0903	0.0903		1,424.7775	1,424.7775	0.0274	0.0261	1,433.2466

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.3340	1.7000e-004	0.0183	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0391	0.0391	1.0000e-004		0.0417
Energy	0.1306	1.1873	0.9973	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.7384	1,424.7384	0.0273	0.0261	1,433.2049
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	4.4646	1.1875	1.0156	7.1200e-003	0.0000	0.0903	0.0903	0.0000	0.0903	0.0903		1,424.7775	1,424.7775	0.0274	0.0261	1,433.2466

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Mobilization	Site Preparation	8/3/2020	8/7/2020	5	5	
2	Limited Demolition and AST Removal	Demolition	8/10/2020	10/2/2020	5	40	
3	Excavation, Dewatering, Backfilling, and Grading	Grading	10/5/2020	12/11/2020	5	50	
4	Demobilization	Site Preparation	12/14/2020	12/18/2020	5	5	
5	Demolition of Remaining Structures	Demolition	1/1/2021	1/29/2021	5	21	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Limited Demolition and AST Removal	Air Compressors	1	6.00	78	0.48
Limited Demolition and AST Removal	Cranes	1	6.00	231	0.29
Limited Demolition and AST Removal	Crushing/Proc. Equipment	1	6.00	85	0.78
Limited Demolition and AST Removal	Dumpers/Tenders	2	6.00	16	0.38

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

Limited Demolition and AST Removal	Excavators	3	6.00	158	0.38
Limited Demolition and AST Removal	Graders	1	6.00	187	0.41
Limited Demolition and AST Removal	Plate Compactors	1	6.00	8	0.43
Limited Demolition and AST Removal	Pressure Washers	2	6.00	13	0.30
Limited Demolition and AST Removal	Rough Terrain Forklifts	1	6.00	100	0.40
Limited Demolition and AST Removal	Rubber Tired Dozers	1	6.00	247	0.40
Limited Demolition and AST Removal	Skid Steer Loaders	1	6.00	65	0.37
Limited Demolition and AST Removal	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Excavation, Dewatering, Backfilling, and Grading	Air Compressors	1	6.00	78	0.48
Excavation, Dewatering, Backfilling, and Grading	Cranes	1	6.00	231	0.29
Excavation, Dewatering, Backfilling, and Grading	Crushing/Proc. Equipment	1	6.00	85	0.78
Excavation, Dewatering, Backfilling, and Grading	Dumpers/Tenders	2	6.00	16	0.38
Excavation, Dewatering, Backfilling, and Grading	Excavators	3	6.00	158	0.38
Excavation, Dewatering, Backfilling, and Grading	Graders	1	6.00	187	0.41
Excavation, Dewatering, Backfilling, and Grading	Plate Compactors	1	6.00	8	0.43
Excavation, Dewatering, Backfilling, and Grading	Pressure Washers	2	6.00	13	0.30
Excavation, Dewatering, Backfilling, and Grading	Rough Terrain Forklifts	1	6.00	100	0.40
Excavation, Dewatering, Backfilling, and Grading	Rubber Tired Dozers	1	6.00	247	0.40
Excavation, Dewatering, Backfilling, and Grading	Skid Steer Loaders	1	6.00	65	0.37
Excavation, Dewatering, Backfilling, and Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition of Remaining Structures	Air Compressors	1	6.00	78	0.48
Demolition of Remaining Structures	Cranes	1	6.00	231	0.29
Demolition of Remaining Structures	Crushing/Proc. Equipment	1	6.00	85	0.78
Demolition of Remaining Structures	Dumpers/Tenders	2	6.00	16	0.38

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

Demolition of Remaining Structures	Excavators	3	6.00	158	0.38
Demolition of Remaining Structures	Graders	1	6.00	187	0.41
Demolition of Remaining Structures	Plate Compactors	1	6.00	8	0.43
Demolition of Remaining Structures	Pressure Washers	2	6.00	13	0.30
Demolition of Remaining Structures	Rough Terrain Forklifts	1	6.00	100	0.40
Demolition of Remaining Structures	Rubber Tired Dozers	1	6.00	247	0.40
Demolition of Remaining Structures	Skid Steer Loaders	1	6.00	65	0.37
Demolition of Remaining Structures	Tractors/Loaders/Backhoes	1	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Limited Demolition and AST Removal	16	10.00	0.00	37.00	10.80	7.30	40.00	LD_Mix	HDT_Mix	HHDT
Excavation, Dewatering, Backfilling	16	12.00	0.00	1,902.00	10.80	7.30	40.00	LD_Mix	HDT_Mix	HHDT
Demolition of Remaining Structures	16	15.00	0.00	784.00	10.80	7.30	40.00	LD_Mix	HDT_Mix	HHDT
Mobilization	0	6.00	0.00	12.00	10.80	7.30	40.00	LD_Mix	HDT_Mix	HHDT
Demobilization	0	6.00	0.00	12.00	10.80	7.30	40.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

3.2 Mobilization - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0361	1.1355	0.2150	3.5700e-003	0.0840	4.3300e-003	0.0883	0.0230	4.1500e-003	0.0272		378.8741	378.8741	0.0145		379.2370
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0220	0.0135	0.1712	5.0000e-004	0.0493	3.3000e-004	0.0496	0.0131	3.0000e-004	0.0134		50.1217	50.1217	1.2800e-003		50.1538
Total	0.0580	1.1490	0.3861	4.0700e-003	0.1333	4.6600e-003	0.1379	0.0361	4.4500e-003	0.0406		428.9958	428.9958	0.0158		429.3908

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

3.2 Mobilization - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0361	1.1355	0.2150	3.5700e-003	0.0840	4.3300e-003	0.0883	0.0230	4.1500e-003	0.0272		378.8741	378.8741	0.0145		379.2370
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0220	0.0135	0.1712	5.0000e-004	0.0493	3.3000e-004	0.0496	0.0131	3.0000e-004	0.0134		50.1217	50.1217	1.2800e-003		50.1538
Total	0.0580	1.1490	0.3861	4.0700e-003	0.1333	4.6600e-003	0.1379	0.0361	4.4500e-003	0.0406		428.9958	428.9958	0.0158		429.3908

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

3.3 Limited Demolition and AST Removal - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0995	0.0000	0.0995	0.0151	0.0000	0.0151			0.0000			0.0000
Off-Road	3.2388	32.2736	23.8692	0.0443		1.5335	1.5335		1.4386	1.4386		4,228.6185	4,228.6185	1.1356		4,257.0090
Total	3.2388	32.2736	23.8692	0.0443	0.0995	1.5335	1.6330	0.0151	1.4386	1.4537		4,228.6185	4,228.6185	1.1356		4,257.0090

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0139	0.4376	0.0829	1.3700e-003	0.0324	1.6700e-003	0.0340	8.8700e-003	1.6000e-003	0.0105		146.0244	146.0244	5.5900e-003		146.1643
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0366	0.0225	0.2853	8.4000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		83.5362	83.5362	2.1400e-003		83.5897
Total	0.0505	0.4601	0.3681	2.2100e-003	0.1145	2.2200e-003	0.1167	0.0307	2.1100e-003	0.0328		229.5606	229.5606	7.7300e-003		229.7540

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

3.3 Limited Demolition and AST Removal - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0448	0.0000	0.0448	6.7800e-003	0.0000	6.7800e-003			0.0000			0.0000
Off-Road	3.2388	32.2736	23.8692	0.0443		1.5335	1.5335		1.4386	1.4386	0.0000	4,228.6185	4,228.6185	1.1356		4,257.0090
Total	3.2388	32.2736	23.8692	0.0443	0.0448	1.5335	1.5783	6.7800e-003	1.4386	1.4454	0.0000	4,228.6185	4,228.6185	1.1356		4,257.0090

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0139	0.4376	0.0829	1.3700e-003	0.0324	1.6700e-003	0.0340	8.8700e-003	1.6000e-003	0.0105		146.0244	146.0244	5.5900e-003		146.1643
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0366	0.0225	0.2853	8.4000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		83.5362	83.5362	2.1400e-003		83.5897
Total	0.0505	0.4601	0.3681	2.2100e-003	0.1145	2.2200e-003	0.1167	0.0307	2.1100e-003	0.0328		229.5606	229.5606	7.7300e-003		229.7540

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

3.4 Excavation, Dewatering, Backfilling, and Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.6106	0.0000	4.6106	2.4951	0.0000	2.4951			0.0000			0.0000
Off-Road	3.2388	32.2736	23.8692	0.0443		1.5335	1.5335		1.4386	1.4386		4,228.6185	4,228.6185	1.1356		4,257.0090
Total	3.2388	32.2736	23.8692	0.0443	4.6106	1.5335	6.1440	2.4951	1.4386	3.9337		4,228.6185	4,228.6185	1.1356		4,257.0090

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5717	17.9973	3.4073	0.0565	1.3311	0.0687	1.3998	0.3649	0.0657	0.4306		6,005.1545	6,005.1545	0.2301		6,010.9065
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0439	0.0270	0.3423	1.0100e-003	0.0986	6.6000e-004	0.0992	0.0262	6.1000e-004	0.0268		100.2434	100.2434	2.5700e-003		100.3076
Total	0.6156	18.0243	3.7496	0.0575	1.4297	0.0694	1.4990	0.3911	0.0663	0.4574		6,105.3979	6,105.3979	0.2327		6,111.2141

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

3.4 Excavation, Dewatering, Backfilling, and Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0748	0.0000	2.0748	1.1228	0.0000	1.1228			0.0000			0.0000
Off-Road	3.2388	32.2736	23.8692	0.0443		1.5335	1.5335		1.4386	1.4386	0.0000	4,228.6185	4,228.6185	1.1356		4,257.0090
Total	3.2388	32.2736	23.8692	0.0443	2.0748	1.5335	3.6082	1.1228	1.4386	2.5614	0.0000	4,228.6185	4,228.6185	1.1356		4,257.0090

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5717	17.9973	3.4073	0.0565	1.3311	0.0687	1.3998	0.3649	0.0657	0.4306		6,005.1545	6,005.1545	0.2301		6,010.9065
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0439	0.0270	0.3423	1.0100e-003	0.0986	6.6000e-004	0.0992	0.0262	6.1000e-004	0.0268		100.2434	100.2434	2.5700e-003		100.3076
Total	0.6156	18.0243	3.7496	0.0575	1.4297	0.0694	1.4990	0.3911	0.0663	0.4574		6,105.3979	6,105.3979	0.2327		6,111.2141

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

3.5 Demobilization - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0361	1.1355	0.2150	3.5700e-003	0.0840	4.3300e-003	0.0883	0.0230	4.1500e-003	0.0272		378.8741	378.8741	0.0145		379.2370
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0220	0.0135	0.1712	5.0000e-004	0.0493	3.3000e-004	0.0496	0.0131	3.0000e-004	0.0134		50.1217	50.1217	1.2800e-003		50.1538
Total	0.0580	1.1490	0.3861	4.0700e-003	0.1333	4.6600e-003	0.1379	0.0361	4.4500e-003	0.0406		428.9958	428.9958	0.0158		429.3908

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

3.5 Demobilization - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0361	1.1355	0.2150	3.5700e-003	0.0840	4.3300e-003	0.0883	0.0230	4.1500e-003	0.0272		378.8741	378.8741	0.0145		379.2370
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0220	0.0135	0.1712	5.0000e-004	0.0493	3.3000e-004	0.0496	0.0131	3.0000e-004	0.0134		50.1217	50.1217	1.2800e-003		50.1538
Total	0.0580	1.1490	0.3861	4.0700e-003	0.1333	4.6600e-003	0.1379	0.0361	4.4500e-003	0.0406		428.9958	428.9958	0.0158		429.3908

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

3.6 Demolition of Remaining Structures - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.6045	0.0000	5.6045	0.8486	0.0000	0.8486			0.0000			0.0000
Off-Road	3.0480	30.0296	23.6312	0.0443		1.3886	1.3886		1.3018	1.3018		4,228.1647	4,228.1647	1.1303		4,256.4212
Total	3.0480	30.0296	23.6312	0.0443	5.6045	1.3886	6.9931	0.8486	1.3018	2.1504		4,228.1647	4,228.1647	1.1303		4,256.4212

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5308	16.1894	3.2760	0.0547	1.3064	0.0597	1.3661	0.3582	0.0571	0.4153		5,819.8275	5,819.8275	0.2212		5,825.3581
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0507	0.0301	0.3907	1.2100e-003	0.1232	8.0000e-004	0.1240	0.0327	7.3000e-004	0.0334		120.9566	120.9566	2.8700e-003		121.0285
Total	0.5815	16.2195	3.6667	0.0559	1.4297	0.0605	1.4901	0.3909	0.0578	0.4487		5,940.7842	5,940.7842	0.2241		5,946.3866

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

3.6 Demolition of Remaining Structures - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5220	0.0000	2.5220	0.3819	0.0000	0.3819			0.0000			0.0000
Off-Road	3.0480	30.0296	23.6312	0.0443		1.3886	1.3886		1.3018	1.3018	0.0000	4,228.1647	4,228.1647	1.1303		4,256.4212
Total	3.0480	30.0296	23.6312	0.0443	2.5220	1.3886	3.9106	0.3819	1.3018	1.6837	0.0000	4,228.1647	4,228.1647	1.1303		4,256.4212

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5308	16.1894	3.2760	0.0547	1.3064	0.0597	1.3661	0.3582	0.0571	0.4153		5,819.8275	5,819.8275	0.2212		5,825.3581
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0507	0.0301	0.3907	1.2100e-003	0.1232	8.0000e-004	0.1240	0.0327	7.3000e-004	0.0334		120.9566	120.9566	2.8700e-003		121.0285
Total	0.5815	16.2195	3.6667	0.0559	1.4297	0.0605	1.4901	0.3909	0.0578	0.4487		5,940.7842	5,940.7842	0.2241		5,946.3866

4.0 Operational Detail - Mobile

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.559358	0.040058	0.190549	0.109335	0.016678	0.005213	0.023344	0.044042	0.002152	0.002669	0.005545	0.000316	0.000739

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1306	1.1873	0.9973	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.7384	1,424.7384	0.0273	0.0261	1,433.2049
NaturalGas Unmitigated	0.1306	1.1873	0.9973	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.7384	1,424.7384	0.0273	0.0261	1,433.2049

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	12110.3	0.1306	1.1873	0.9973	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.7384	1,424.7384	0.0273	0.0261	1,433.2049
Total		0.1306	1.1873	0.9973	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.7384	1,424.7384	0.0273	0.0261	1,433.2049

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	12.1103	0.1306	1.1873	0.9973	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.7384	1,424.7384	0.0273	0.0261	1,433.2049
Total		0.1306	1.1873	0.9973	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.7384	1,424.7384	0.0273	0.0261	1,433.2049

6.0 Area Detail

6.1 Mitigation Measures Area

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.3340	1.7000e-004	0.0183	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0391	0.0391	1.0000e-004		0.0417
Unmitigated	4.3340	1.7000e-004	0.0183	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0391	0.0391	1.0000e-004		0.0417

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5103					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.8220					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.7100e-003	1.7000e-004	0.0183	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0391	0.0391	1.0000e-004		0.0417
Total	4.3339	1.7000e-004	0.0183	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0391	0.0391	1.0000e-004		0.0417

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5103					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.8220					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.7100e-003	1.7000e-004	0.0183	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0391	0.0391	1.0000e-004		0.0417
Total	4.3339	1.7000e-004	0.0183	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0391	0.0391	1.0000e-004		0.0417

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Summer

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

Boilers

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

Equipment Type	Number
----------------	--------

11.0 Vegetation

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

Pennzoil-Quaker State Alameda Distribution Center Remediation Project
Alameda County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	178.60	1000sqft	4.10	178,596.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	5			Operational Year	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

Project Characteristics -

Land Use -

Construction Phase - Project-specific construction schedule. Demolition of remaining structures to be completed by a new property owner/developer, separate from the proposed Project. Analysis conservatively includes emissions from these demolition activities.

Off-road Equipment - demobilization involves transport of construction equipment off Project site. No operation of equipment would occur during Demobilization phase.

Off-road Equipment - Project specific construction equipment

Off-road Equipment - Project specific construction equipment

Off-road Equipment - Project specific construction equipment list

Off-road Equipment - Mobilization involves transport of construction equipment to Project site. No operation of equipment would occur during Mobilization phase.

Trips and VMT - Project specific trips and VMT

Demolition -

Grading - Project excavation and backfill

Vehicle Trips - No operation

Area Coating -

Energy Use - No operation

Water And Wastewater - No operation

Solid Waste - No operation

Construction Off-road Equipment Mitigation - Project BMP for fugitive dust control

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	8.00	50.00
tblConstructionPhase	NumDays	20.00	21.00
tblEnergyUse	T24E	1.21	0.00
tblGrading	AcresOfGrading	18.75	2.00
tblGrading	MaterialExported	0.00	11,400.00
tblGrading	MaterialImported	0.00	11,400.00

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

tblLandUse	LandUseSquareFeet	178,600.00	178,596.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Excavation, Dewatering, Backfilling, and Grading
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
tblOffRoadEquipment	PhaseName		Limited Demolition and AST Removal
tblOffRoadEquipment	PhaseName		Demolition of Remaining Structures
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tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
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tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblSolidWaste	SolidWasteGenerationRate	221.46	0.00
tblTripsAndVMT	HaulingTripLength	20.00	40.00
tblTripsAndVMT	HaulingTripLength	20.00	40.00
tblTripsAndVMT	HaulingTripLength	20.00	40.00
tblTripsAndVMT	HaulingTripNumber	0.00	37.00
tblTripsAndVMT	HaulingTripNumber	2,850.00	1,902.00
tblTripsAndVMT	HaulingTripNumber	544.00	784.00
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	WorkerTripNumber	40.00	10.00
tblTripsAndVMT	WorkerTripNumber	40.00	12.00
tblTripsAndVMT	WorkerTripNumber	40.00	15.00
tblTripsAndVMT	WorkerVehicleClass		LD_Mix
tblTripsAndVMT	WorkerVehicleClass		LD_Mix
tblVehicleTrips	ST_TR	1.50	0.00
tblVehicleTrips	SU_TR	1.50	0.00
tblVehicleTrips	WD_TR	1.50	0.00
tblWater	IndoorWaterUseRate	41,301,250.00	0.00

2.0 Emissions Summary

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.3340	1.7000e-004	0.0183	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0391	0.0391	1.0000e-004		0.0417
Energy	0.1306	1.1873	0.9973	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.7384	1,424.7384	0.0273	0.0261	1,433.2049
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	4.4646	1.1875	1.0156	7.1200e-003	0.0000	0.0903	0.0903	0.0000	0.0903	0.0903		1,424.7775	1,424.7775	0.0274	0.0261	1,433.2466

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.3340	1.7000e-004	0.0183	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0391	0.0391	1.0000e-004		0.0417
Energy	0.1306	1.1873	0.9973	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.7384	1,424.7384	0.0273	0.0261	1,433.2049
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	4.4646	1.1875	1.0156	7.1200e-003	0.0000	0.0903	0.0903	0.0000	0.0903	0.0903		1,424.7775	1,424.7775	0.0274	0.0261	1,433.2466

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Mobilization	Site Preparation	8/3/2020	8/7/2020	5	5	
2	Limited Demolition and AST Removal	Demolition	8/10/2020	10/2/2020	5	40	
3	Excavation, Dewatering, Backfilling, and Grading	Grading	10/5/2020	12/11/2020	5	50	
4	Demobilization	Site Preparation	12/14/2020	12/18/2020	5	5	
5	Demolition of Remaining Structures	Demolition	1/1/2021	1/29/2021	5	21	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Limited Demolition and AST Removal	Air Compressors	1	6.00	78	0.48
Limited Demolition and AST Removal	Cranes	1	6.00	231	0.29
Limited Demolition and AST Removal	Crushing/Proc. Equipment	1	6.00	85	0.78
Limited Demolition and AST Removal	Dumpers/Tenders	2	6.00	16	0.38

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

Limited Demolition and AST Removal	Excavators	3	6.00	158	0.38
Limited Demolition and AST Removal	Graders	1	6.00	187	0.41
Limited Demolition and AST Removal	Plate Compactors	1	6.00	8	0.43
Limited Demolition and AST Removal	Pressure Washers	2	6.00	13	0.30
Limited Demolition and AST Removal	Rough Terrain Forklifts	1	6.00	100	0.40
Limited Demolition and AST Removal	Rubber Tired Dozers	1	6.00	247	0.40
Limited Demolition and AST Removal	Skid Steer Loaders	1	6.00	65	0.37
Limited Demolition and AST Removal	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Excavation, Dewatering, Backfilling, and Grading	Air Compressors	1	6.00	78	0.48
Excavation, Dewatering, Backfilling, and Grading	Cranes	1	6.00	231	0.29
Excavation, Dewatering, Backfilling, and Grading	Crushing/Proc. Equipment	1	6.00	85	0.78
Excavation, Dewatering, Backfilling, and Grading	Dumpers/Tenders	2	6.00	16	0.38
Excavation, Dewatering, Backfilling, and Grading	Excavators	3	6.00	158	0.38
Excavation, Dewatering, Backfilling, and Grading	Graders	1	6.00	187	0.41
Excavation, Dewatering, Backfilling, and Grading	Plate Compactors	1	6.00	8	0.43
Excavation, Dewatering, Backfilling, and Grading	Pressure Washers	2	6.00	13	0.30
Excavation, Dewatering, Backfilling, and Grading	Rough Terrain Forklifts	1	6.00	100	0.40
Excavation, Dewatering, Backfilling, and Grading	Rubber Tired Dozers	1	6.00	247	0.40
Excavation, Dewatering, Backfilling, and Grading	Skid Steer Loaders	1	6.00	65	0.37
Excavation, Dewatering, Backfilling, and Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition of Remaining Structures	Air Compressors	1	6.00	78	0.48
Demolition of Remaining Structures	Cranes	1	6.00	231	0.29
Demolition of Remaining Structures	Crushing/Proc. Equipment	1	6.00	85	0.78
Demolition of Remaining Structures	Dumpers/Tenders	2	6.00	16	0.38

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

Demolition of Remaining Structures	Excavators	3	6.00	158	0.38
Demolition of Remaining Structures	Graders	1	6.00	187	0.41
Demolition of Remaining Structures	Plate Compactors	1	6.00	8	0.43
Demolition of Remaining Structures	Pressure Washers	2	6.00	13	0.30
Demolition of Remaining Structures	Rough Terrain Forklifts	1	6.00	100	0.40
Demolition of Remaining Structures	Rubber Tired Dozers	1	6.00	247	0.40
Demolition of Remaining Structures	Skid Steer Loaders	1	6.00	65	0.37
Demolition of Remaining Structures	Tractors/Loaders/Backhoes	1	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Limited Demolition and AST Removal	16	10.00	0.00	37.00	10.80	7.30	40.00	LD_Mix	HDT_Mix	HHDT
Excavation, Dewatering, Backfilling	16	12.00	0.00	1,902.00	10.80	7.30	40.00	LD_Mix	HDT_Mix	HHDT
Demolition of Remaining Structures	16	15.00	0.00	784.00	10.80	7.30	40.00	LD_Mix	HDT_Mix	HHDT
Mobilization	0	6.00	0.00	12.00	10.80	7.30	40.00	LD_Mix	HDT_Mix	HHDT
Demobilization	0	6.00	0.00	12.00	10.80	7.30	40.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

3.2 Mobilization - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0366	1.1768	0.2244	3.5300e-003	0.0840	4.3700e-003	0.0884	0.0230	4.1800e-003	0.0272		375.1093	375.1093	0.0152		375.4904
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0229	0.0168	0.1616	4.6000e-004	0.0493	3.3000e-004	0.0496	0.0131	3.0000e-004	0.0134		46.1225	46.1225	1.2000e-003		46.1526
Total	0.0595	1.1936	0.3860	3.9900e-003	0.1333	4.7000e-003	0.1380	0.0361	4.4800e-003	0.0406		421.2318	421.2318	0.0164		421.6430

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

3.2 Mobilization - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0366	1.1768	0.2244	3.5300e-003	0.0840	4.3700e-003	0.0884	0.0230	4.1800e-003	0.0272		375.1093	375.1093	0.0152		375.4904
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0229	0.0168	0.1616	4.6000e-004	0.0493	3.3000e-004	0.0496	0.0131	3.0000e-004	0.0134		46.1225	46.1225	1.2000e-003		46.1526
Total	0.0595	1.1936	0.3860	3.9900e-003	0.1333	4.7000e-003	0.1380	0.0361	4.4800e-003	0.0406		421.2318	421.2318	0.0164		421.6430

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

3.3 Limited Demolition and AST Removal - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0995	0.0000	0.0995	0.0151	0.0000	0.0151			0.0000			0.0000
Off-Road	3.2388	32.2736	23.8692	0.0443		1.5335	1.5335		1.4386	1.4386		4,228.6185	4,228.6185	1.1356		4,257.0090
Total	3.2388	32.2736	23.8692	0.0443	0.0995	1.5335	1.6330	0.0151	1.4386	1.4537		4,228.6185	4,228.6185	1.1356		4,257.0090

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0141	0.4536	0.0865	1.3600e-003	0.0324	1.6800e-003	0.0341	8.8700e-003	1.6100e-003	0.0105		144.5734	144.5734	5.8800e-003		144.7202
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0382	0.0280	0.2694	7.7000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		76.8709	76.8709	2.0100e-003		76.9210
Total	0.0523	0.4816	0.3559	2.1300e-003	0.1145	2.2300e-003	0.1168	0.0307	2.1200e-003	0.0328		221.4442	221.4442	7.8900e-003		221.6413

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

3.3 Limited Demolition and AST Removal - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0448	0.0000	0.0448	6.7800e-003	0.0000	6.7800e-003			0.0000			0.0000
Off-Road	3.2388	32.2736	23.8692	0.0443		1.5335	1.5335		1.4386	1.4386	0.0000	4,228.6185	4,228.6185	1.1356		4,257.0090
Total	3.2388	32.2736	23.8692	0.0443	0.0448	1.5335	1.5783	6.7800e-003	1.4386	1.4454	0.0000	4,228.6185	4,228.6185	1.1356		4,257.0090

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0141	0.4536	0.0865	1.3600e-003	0.0324	1.6800e-003	0.0341	8.8700e-003	1.6100e-003	0.0105		144.5734	144.5734	5.8800e-003		144.7202
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0382	0.0280	0.2694	7.7000e-004	0.0822	5.5000e-004	0.0827	0.0218	5.1000e-004	0.0223		76.8709	76.8709	2.0100e-003		76.9210
Total	0.0523	0.4816	0.3559	2.1300e-003	0.1145	2.2300e-003	0.1168	0.0307	2.1200e-003	0.0328		221.4442	221.4442	7.8900e-003		221.6413

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

3.4 Excavation, Dewatering, Backfilling, and Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.6106	0.0000	4.6106	2.4951	0.0000	2.4951			0.0000			0.0000
Off-Road	3.2388	32.2736	23.8692	0.0443		1.5335	1.5335		1.4386	1.4386		4,228.6185	4,228.6185	1.1356		4,257.0090
Total	3.2388	32.2736	23.8692	0.0443	4.6106	1.5335	6.1440	2.4951	1.4386	3.9337		4,228.6185	4,228.6185	1.1356		4,257.0090

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5803	18.6530	3.5567	0.0559	1.3311	0.0692	1.4003	0.3649	0.0662	0.4312		5,945.4817	5,945.4817	0.2416		5,951.5222
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0458	0.0336	0.3232	9.3000e-004	0.0986	6.6000e-004	0.0992	0.0262	6.1000e-004	0.0268		92.2450	92.2450	2.4100e-003		92.3052
Total	0.6261	18.6866	3.8799	0.0569	1.4297	0.0699	1.4996	0.3911	0.0669	0.4579		6,037.7267	6,037.7267	0.2440		6,043.8274

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

3.4 Excavation, Dewatering, Backfilling, and Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0748	0.0000	2.0748	1.1228	0.0000	1.1228			0.0000			0.0000
Off-Road	3.2388	32.2736	23.8692	0.0443		1.5335	1.5335		1.4386	1.4386	0.0000	4,228.6185	4,228.6185	1.1356		4,257.0090
Total	3.2388	32.2736	23.8692	0.0443	2.0748	1.5335	3.6082	1.1228	1.4386	2.5614	0.0000	4,228.6185	4,228.6185	1.1356		4,257.0090

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5803	18.6530	3.5567	0.0559	1.3311	0.0692	1.4003	0.3649	0.0662	0.4312		5,945.4817	5,945.4817	0.2416		5,951.5222
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0458	0.0336	0.3232	9.3000e-004	0.0986	6.6000e-004	0.0992	0.0262	6.1000e-004	0.0268		92.2450	92.2450	2.4100e-003		92.3052
Total	0.6261	18.6866	3.8799	0.0569	1.4297	0.0699	1.4996	0.3911	0.0669	0.4579		6,037.7267	6,037.7267	0.2440		6,043.8274

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

3.5 Demobilization - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0366	1.1768	0.2244	3.5300e-003	0.0840	4.3700e-003	0.0884	0.0230	4.1800e-003	0.0272		375.1093	375.1093	0.0152		375.4904
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0229	0.0168	0.1616	4.6000e-004	0.0493	3.3000e-004	0.0496	0.0131	3.0000e-004	0.0134		46.1225	46.1225	1.2000e-003		46.1526
Total	0.0595	1.1936	0.3860	3.9900e-003	0.1333	4.7000e-003	0.1380	0.0361	4.4800e-003	0.0406		421.2318	421.2318	0.0164		421.6430

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

3.5 Demobilization - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0366	1.1768	0.2244	3.5300e-003	0.0840	4.3700e-003	0.0884	0.0230	4.1800e-003	0.0272		375.1093	375.1093	0.0152		375.4904
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0229	0.0168	0.1616	4.6000e-004	0.0493	3.3000e-004	0.0496	0.0131	3.0000e-004	0.0134		46.1225	46.1225	1.2000e-003		46.1526
Total	0.0595	1.1936	0.3860	3.9900e-003	0.1333	4.7000e-003	0.1380	0.0361	4.4800e-003	0.0406		421.2318	421.2318	0.0164		421.6430

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

3.6 Demolition of Remaining Structures - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.6045	0.0000	5.6045	0.8486	0.0000	0.8486			0.0000			0.0000
Off-Road	3.0480	30.0296	23.6312	0.0443		1.3886	1.3886		1.3018	1.3018		4,228.1647	4,228.1647	1.1303		4,256.4212
Total	3.0480	30.0296	23.6312	0.0443	5.6045	1.3886	6.9931	0.8486	1.3018	2.1504		4,228.1647	4,228.1647	1.1303		4,256.4212

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5387	16.7655	3.4137	0.0542	1.3064	0.0602	1.3666	0.3582	0.0576	0.4157		5,761.7517	5,761.7517	0.2321		5,767.5534
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0529	0.0375	0.3676	1.1200e-003	0.1232	8.0000e-004	0.1240	0.0327	7.3000e-004	0.0334		111.3063	111.3063	2.6900e-003		111.3734
Total	0.5916	16.8030	3.7814	0.0553	1.4297	0.0610	1.4906	0.3909	0.0583	0.4492		5,873.0580	5,873.0580	0.2348		5,878.9268

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

3.6 Demolition of Remaining Structures - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5220	0.0000	2.5220	0.3819	0.0000	0.3819			0.0000			0.0000
Off-Road	3.0480	30.0296	23.6312	0.0443		1.3886	1.3886		1.3018	1.3018	0.0000	4,228.1647	4,228.1647	1.1303		4,256.4212
Total	3.0480	30.0296	23.6312	0.0443	2.5220	1.3886	3.9106	0.3819	1.3018	1.6837	0.0000	4,228.1647	4,228.1647	1.1303		4,256.4212

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5387	16.7655	3.4137	0.0542	1.3064	0.0602	1.3666	0.3582	0.0576	0.4157		5,761.7517	5,761.7517	0.2321		5,767.5534
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0529	0.0375	0.3676	1.1200e-003	0.1232	8.0000e-004	0.1240	0.0327	7.3000e-004	0.0334		111.3063	111.3063	2.6900e-003		111.3734
Total	0.5916	16.8030	3.7814	0.0553	1.4297	0.0610	1.4906	0.3909	0.0583	0.4492		5,873.0580	5,873.0580	0.2348		5,878.9268

4.0 Operational Detail - Mobile

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.559358	0.040058	0.190549	0.109335	0.016678	0.005213	0.023344	0.044042	0.002152	0.002669	0.005545	0.000316	0.000739

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1306	1.1873	0.9973	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.7384	1,424.7384	0.0273	0.0261	1,433.2049
NaturalGas Unmitigated	0.1306	1.1873	0.9973	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.7384	1,424.7384	0.0273	0.0261	1,433.2049

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	12110.3	0.1306	1.1873	0.9973	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.7384	1,424.7384	0.0273	0.0261	1,433.2049
Total		0.1306	1.1873	0.9973	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.7384	1,424.7384	0.0273	0.0261	1,433.2049

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	12.1103	0.1306	1.1873	0.9973	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.7384	1,424.7384	0.0273	0.0261	1,433.2049
Total		0.1306	1.1873	0.9973	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.7384	1,424.7384	0.0273	0.0261	1,433.2049

6.0 Area Detail

6.1 Mitigation Measures Area

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.3340	1.7000e-004	0.0183	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0391	0.0391	1.0000e-004		0.0417
Unmitigated	4.3340	1.7000e-004	0.0183	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0391	0.0391	1.0000e-004		0.0417

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5103					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.8220					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.7100e-003	1.7000e-004	0.0183	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0391	0.0391	1.0000e-004		0.0417
Total	4.3339	1.7000e-004	0.0183	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0391	0.0391	1.0000e-004		0.0417

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5103					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.8220					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.7100e-003	1.7000e-004	0.0183	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0391	0.0391	1.0000e-004		0.0417
Total	4.3339	1.7000e-004	0.0183	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0391	0.0391	1.0000e-004		0.0417

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

Pennzoil-Quaker State Alameda Distribution Center Remediation Project - Alameda County, Winter

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

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

Equipment Type	Number
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11.0 Vegetation
