PENCCO IRON SALTS MANUFACTURING FAICLITY

Draft Initial Study/Mitigated Negative Declaration

January 2025

Prepared for:

City of Pittsburg
Planning Division
65 Civic Avenue
Pittsburg, CA 94565

Prepared by:

RCH Group, Inc.
PO Box 516
Rancho Murieta, CA 95683
916.782.4427

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ADMINISTRATIVE DRAFT INITIAL STUDY

1.	**Project Title:**	Pencco Iron Salts Manufacturing Facility
2.	**Lead Agency Name and Address:**	City of Pittsburg Planning Division 65 Civic Avenue Pittsburg, CA 94565
3.	**Contact Person and Phone Number:**	Maurice Brenyah-Addow Senior Planner (925) 252-4261
4.	**Project Location:**	APN #073-220-049 Lot L8, (1.38 Acres) 901 Loveridge Road Pittsburg, CA 94565
5.	**Project Sponsor:**	Dillon Blaine Project Engineer Pencco, Inc. 831 Bartlett Road Sealy, TX 77474
6.	**General Plan Designation:**	Industrial
7.	**Zoning:**	General Industrial (IG)

8. Description of Project:

Project Overview

As a national provider of wastewater and drinking water treatment products, Pencco, Inc. (the Applicant) is proposing to build a new iron salts manufacturing facility (the "Project" or "facility") on property leased from Corteva (APN #073-220-049, Lot L8) at 901 Loveridge Road in Pittsburg, CA. The parcel is zoned General Industrial (IG) and is designated Industrial in the City of Pittsburg 2040 General Plan.

The Project purpose is to relieve Northern California iron salts supply issues. These supply deficiencies have disrupted normal operations for local treatment plants causing many to resort to different treatment methods, which results in unplanned costs. The Project would help stabilize the supply of adequate water treatment products.

Project Site

The Project site consists of a 1.38-acre (59,960.6 square feet) property leased from Corteva (APN #073-220-049, Lot L8) at 901 Loveridge Road in Pittsburg, CA. The parcel is zoned General Industrial (IG) and is designated Industrial in the City of Pittsburg 2040 General Plan. The Project site is fully developed and consists of two small existing buildings and a large, paved parking/storage area within the developed Corteva industrial complex. **Figure 1** shows the Regional Location, and **Figure 2** shows the Project Location.

Surrounding Land Uses and Setting

The 1.38-acre Project site is within Corteva's larger approximately 200-acre developed industrial complex[1] located in Pittsburg, California (See **Figure 2**). Corteva's 200-acre industrial complex contains chemical manufacturing plants operated by Corteva and others, water processing facilities, loading and unloading facilities, materials and waste storage areas, vehicle and equipment maintenance and fueling areas, closed and operating landfills, and areas utilized by various contractors (Jacobs, 2019).

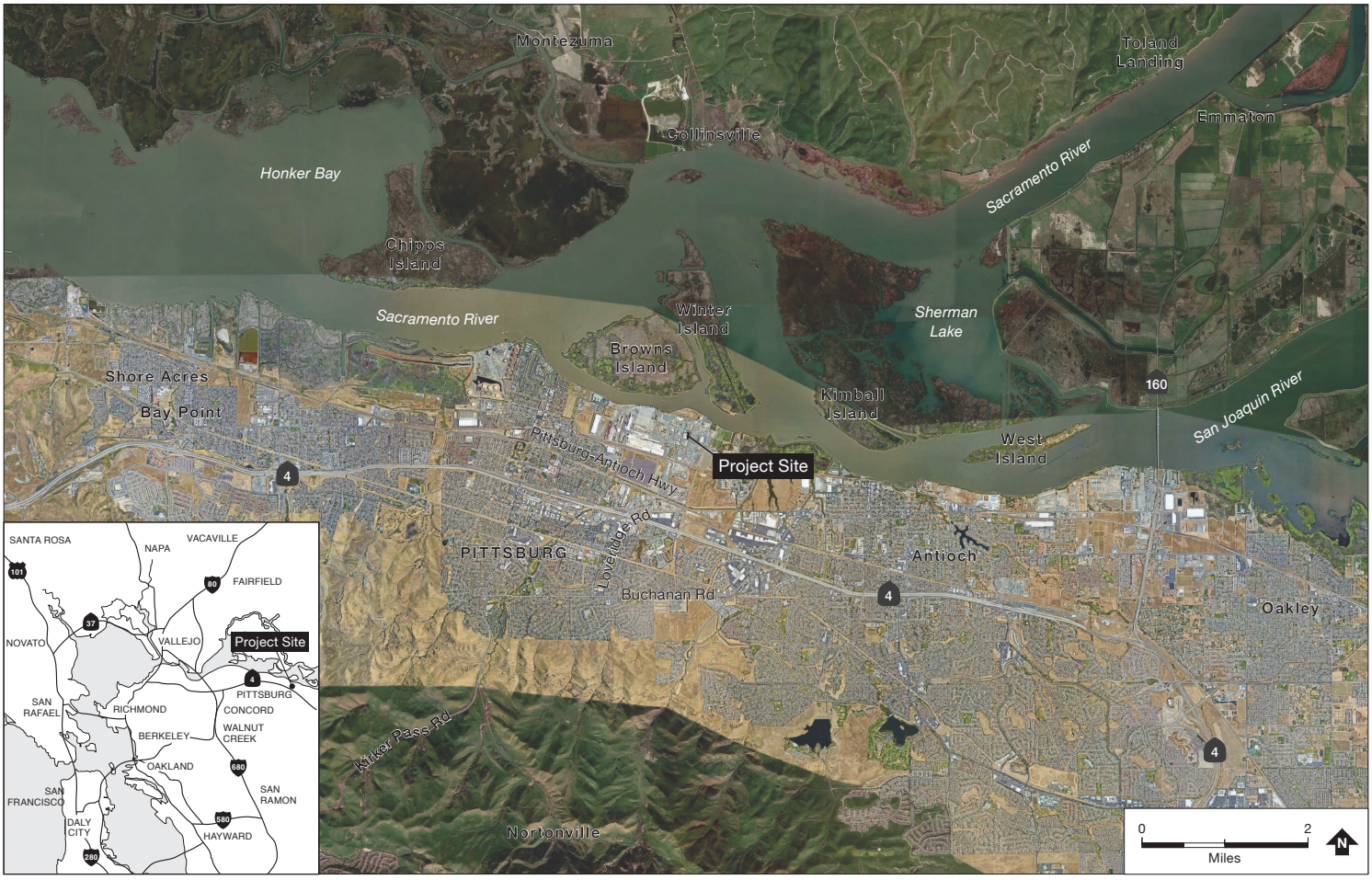
The nearest residences are approximately one mile southwest of the Project site along Columbia Street. The nearest school, Martin Luther King Jr. Junior High School, is approximately 1.1 miles southwest of the Project site. The nearest park, Central Park, is approximately one mile southwest of the Project site.

Project Elements

The facility would utilize the existing buildings onsite for a control lab and office building and a maintenance building with additional office space. The remainder of the Project site would consist of a containment area for the manufacturing process (described in detail below), an open truck parking lot with truck loading and scales, and automobile parking with associated landscaping. Major facility components would consist of:

- 10 reactor tanks ranging from 10 to 13 feet in diameter and 16 to 20 feet in height (volume ranging from 10,000 to 24,000 gallons)
- 18 storage tanks ranging from 8 to 25 feet in diameter and 10 to 30 feet in height (volume ranging from 4,000 to 100,000 gallons)
- Two-stage air scrubber components including water and caustic scrubber, scrubber fan, and stack (20 feet tall) ranging from 2.7 to 6 feet in diameter
- Cooling Tower (12 feet in diameter and 10 feet in height)
- Filter press, ore and scrap containment areas, overhead crane, air compressor, and sump pump drains.

1 The total Corteva Agriscience facility consists of approximately 500 acres, about half of which is undeveloped.



Source: RCH Group; Google Earth Pro, 2024

Figure 1
Regional Location

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Source: RCH Group; Google Earth Pro, 2024

Figure 2
Project Location

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The manufacturing portion of the facility would be located outdoors, and no new buildings are included with the Project. **Figure 3** shows the proposed Site Plan, and **Figures 4**, **5**, and **6** show the building elevations of the proposed facility (north/south, east, and west).

Project Manufacturing Process

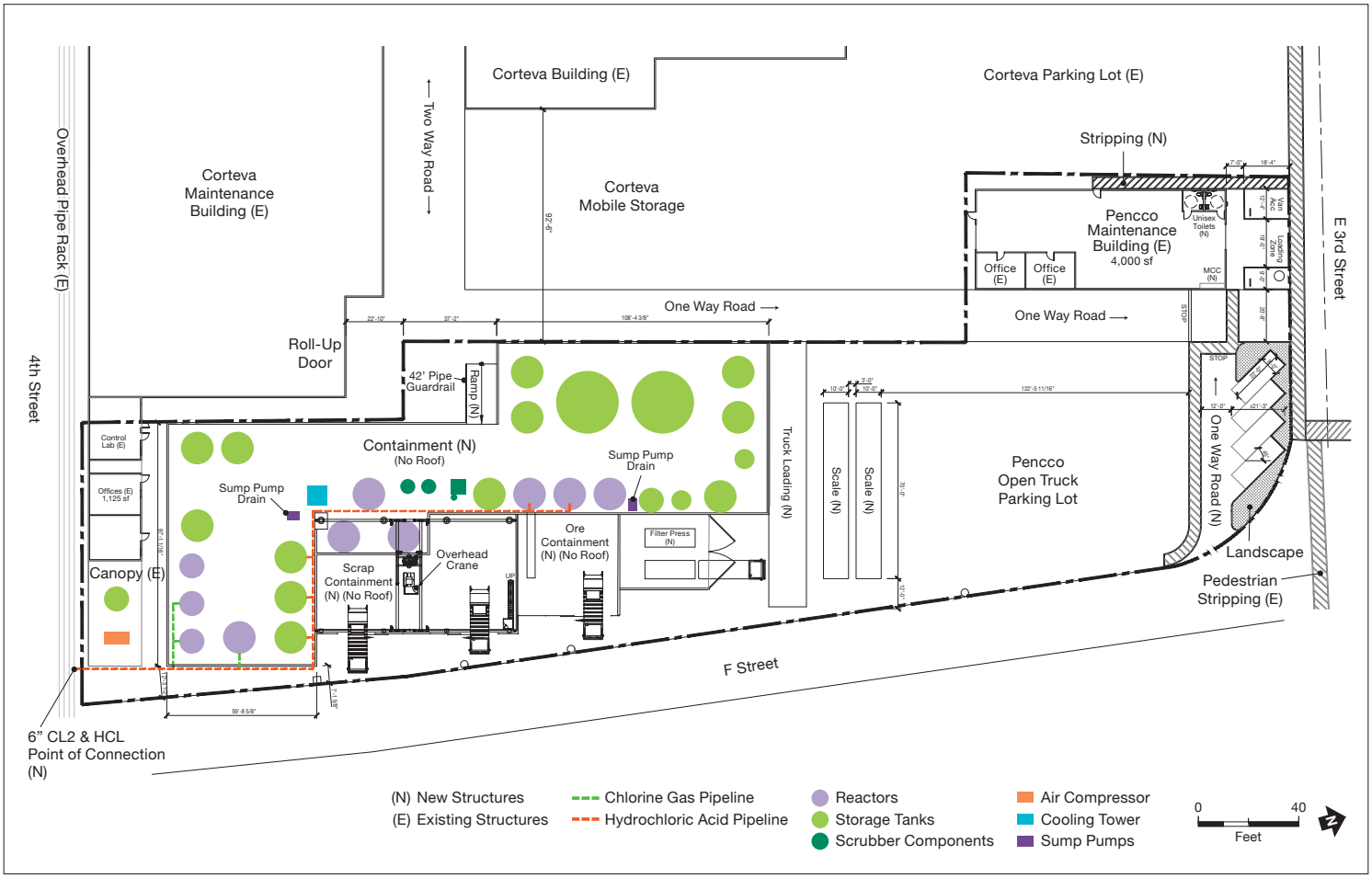
The manufacturing process involves dissolving iron ore and high-purity scrap iron with chlorine and hydrochloric Acid (HCL). These processes occur in reactors designed for the corrosive nature of this process. The iron salts manufactured at the proposed facility would be shipped to California's water treatment and wastewater treatment plants.

Trucks would deliver iron ore (magnetite), scrap steel, and spent pickling liquor[2] (SPL or ferrous chloride) to the facility for the raw iron material. The facility would also consume HCL and chlorine, which Pencco would purchase from Corteva or K2. The chlorine would be transported to the facility by pipeline from an existing chlorine plant within the overall Corteva industrial complex. The chlorine line is existing in the pipe rack and would need to be modified to direct the pipeline to the Project site. The chlorine line supplying the Project is currently 20 feet from the Project site boundary, so an additional 40 feet of chlorine piping would be constructed as part of the Project.

The HCL would be transported to the facility initially by tanker truck and then by pipeline once an HCL pipeline is available. The HCL pipeline from Corteva would be extended from the existing line adjacent to F Street and would require approximately 120 feet of piping to the Project tie in point. The facility would also use 98% sulfuric acid (H_2SO_4) in iron salts production and liquid oxygen (LOX). Both would be transported to the facility by tanker trucks. The Project also would use a 50% Sodium Hydroxide (NaOH) solution in the air scrubber for the facility to control fugitive emissions of HCL and chlorine. NaOH is a corrosive liquid that would also be delivered by tanker truck.

Permits would be required from the Bay Area Air Quality Management District (BAAQMD) for reaction vessels and the air scrubber. Process emissions would be emitted through one stack for the entire facility, which would be driven through the stack by the air scrubber fan. The fan would pull fugitive emissions from the processes into a packed-bed column scrubber.

2 A hydrochloric acid (HCL) solution that's used to descale or clean steal and contains dissolved metal salts.



Source: Atelier 424, RCH Group, 2024

Figure 3
Site Plan

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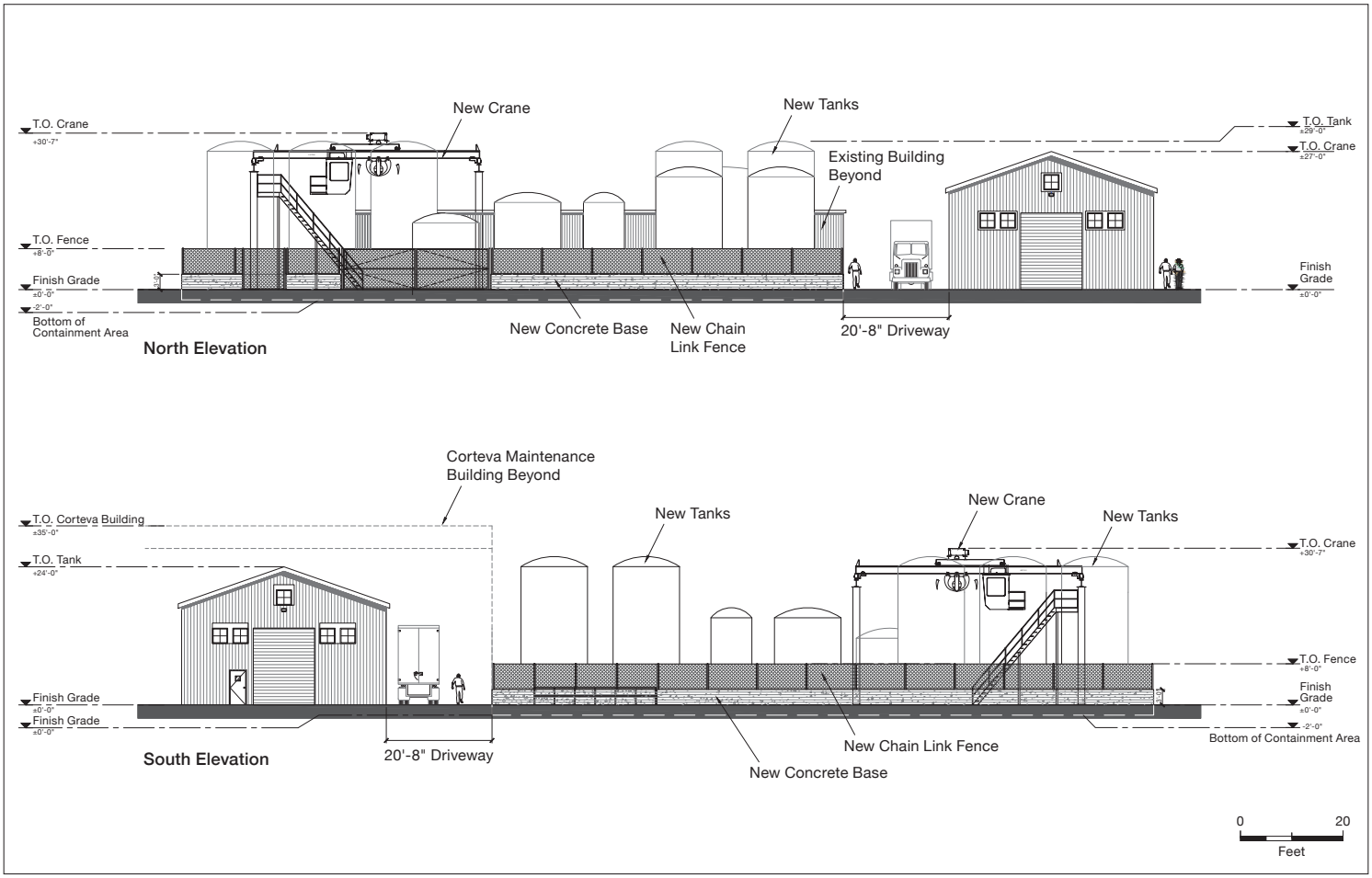

Source: Atelier 424, 2024

Figure 4
North and South Building Elevations

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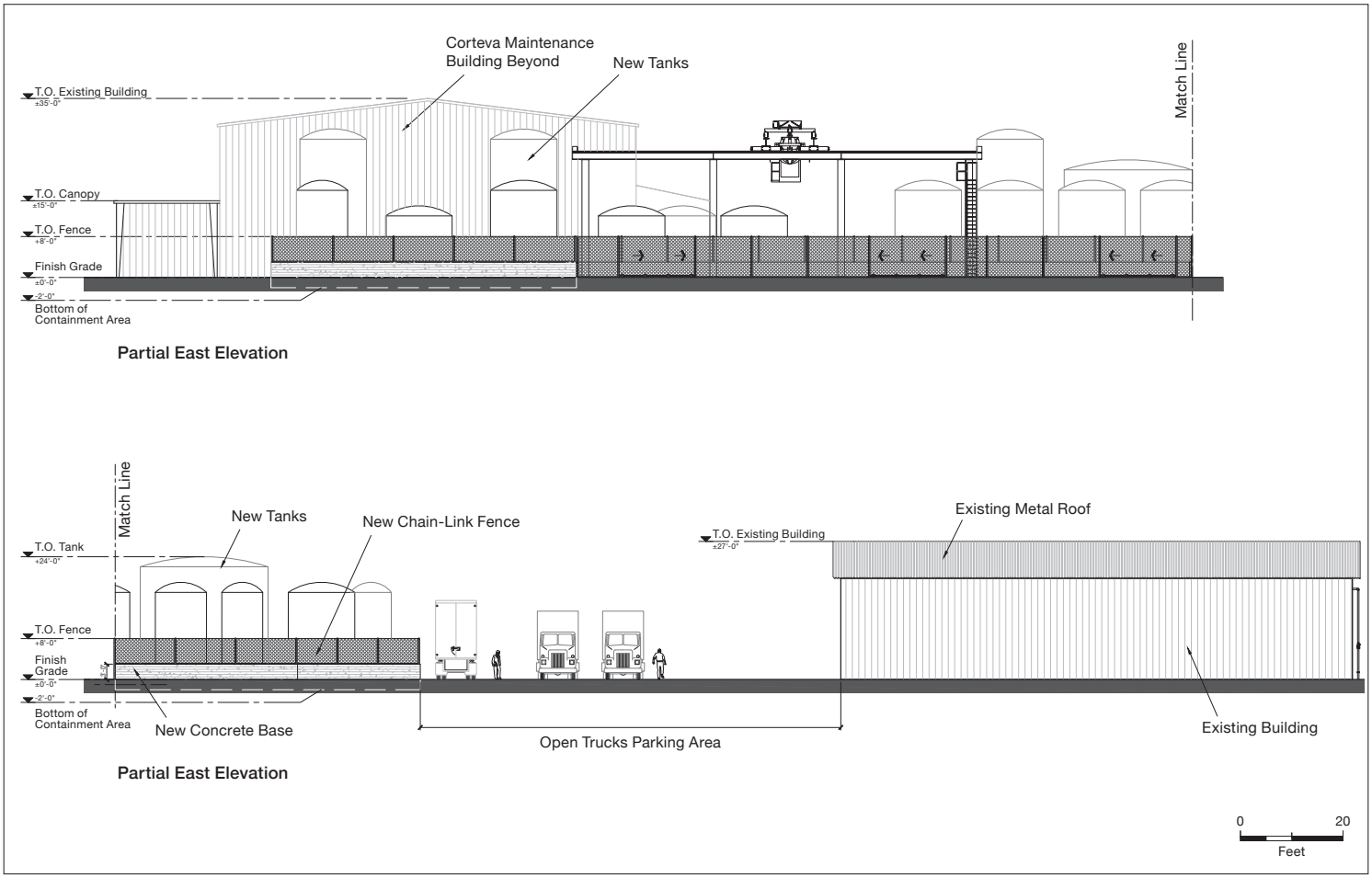

Source: Atelier 424, 2024

Figure 5
East Building Elevations

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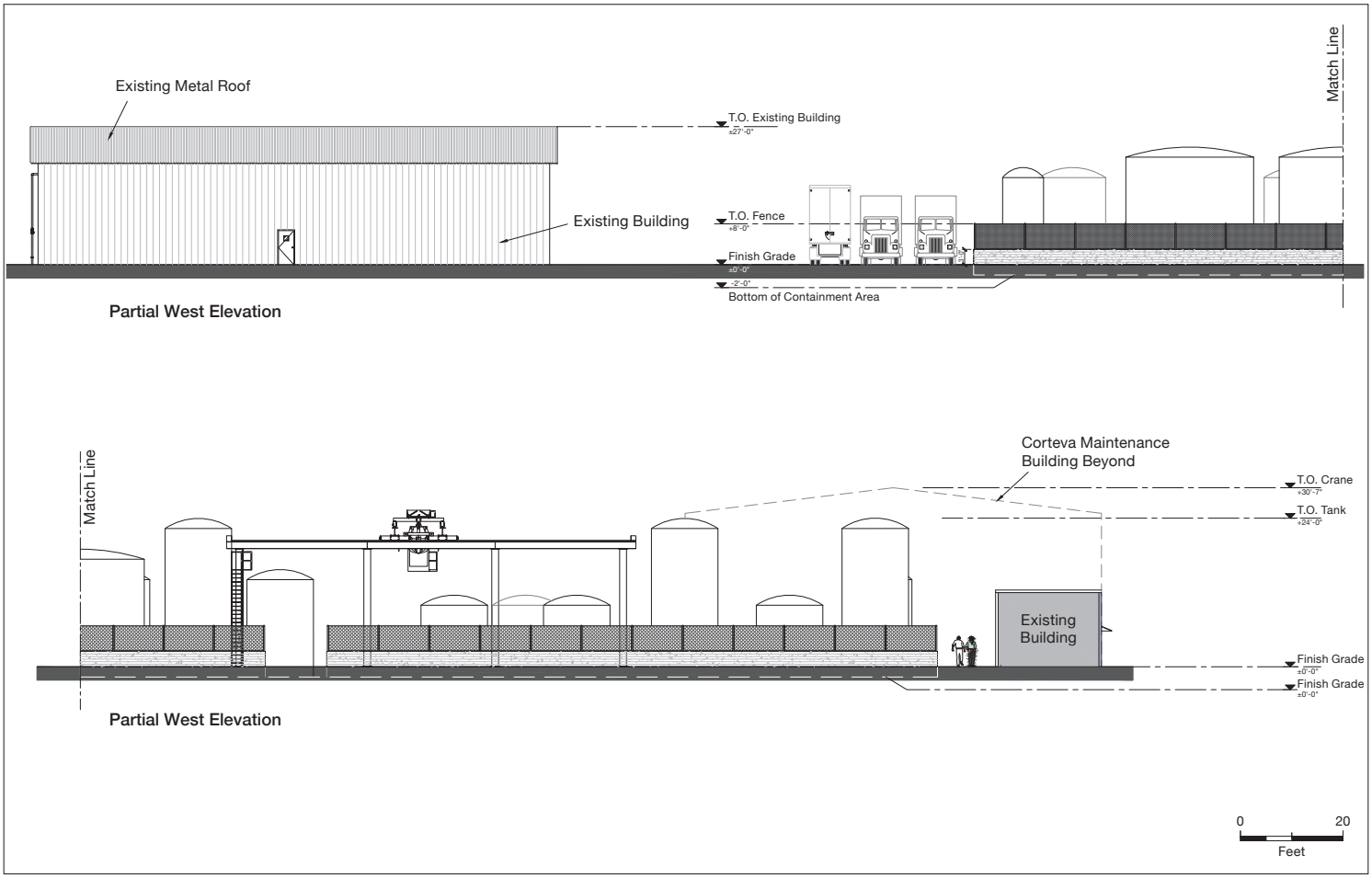

Source: Atelier 424, 2024

Figure 6
West Building Elevations

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Pencco would ship finished products such as ferrous chloride, ferric chloride, and ferric sulfate from the facility by tanker trucks and railcars. Pencco would utilize its fleet of tanker trucks and company drivers. There may be occasions when Pencco would need the help of common carriers. These liquid products are hauled as corrosive (DOT[3] corrosion group 8) in tanker trucks and rubber-lined railcars. Pencco would also ship 20 cubic yard containers of nonhazardous filter cake, a dry solid sent mainly consisting of silica, carbon, and unreacted magnetite, to a nearby landfill. Pencco would generate approximately 10 tons of solids per month.

Incoming feedstock quantities for operating the facility are displayed in **Table 1**. Outgoing finished material quantities produced by the facility are displayed in **Table 2**.

TABLE 1 INCOMING FEEDSTOCK QUANTITITES (TONS)

Commodity	Hourly	Daily	Annual
Iron Ore	6	154	40,000
Scrap Steel	2	46	12,000
Hydrochloric Acid	6	154	40,000
Sulfuric Acid	3	77	20,000
Chlorine	3	77	20,000
Liquid Oxygen	0.33	8	2,000
Sodium Hydroxide	0.08	2	600

SOURCE: Pencco, 2024.

TABLE 2 OUTGOING FINISHED MATERIAL QUANTITITES (TONS)

Commodity	Hourly	Daily	Annual
Ferric Chloride	19	462	120,000
Ferrous Chloride	11	269	70,000
Ferric Sulfate	5	108	28,000
Filter Cake	0.02	0.46	120

SOURCE: Pencco, 2024.

Circulation and Parking

The Project site would be accessed via Loveridge Road from Highway 4. Five standard parking stalls and one van accessible parking stall would be provided within the Project site. Additional parking for project employees is available throughout the Corteva industrial complex.

3 United States Department of Transportation.

Stormwater System

All stormwater discharged from the Corteva industrial complex, including the Project site, is ultimately discharged to New York Slough in accordance with the General Permit for Stormwater Discharges Associated with Industrial Activities, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS00001 (Industrial General Permit [IGP]). Currently, stormwater generated on the Project site flows to the nearest storm drain inlet (there is existing stormwater infrastructure along the eastern edge of the Project site adjacent to F Street and just west of the Project site along the existing internal access road) where it is conveyed via Corteva's stormwater system to a 1.3-million-gallon (MG) concrete retention basin located at the north end of the Corteva industrial facility in the 500 block, adjacent to New York Slough.

Stormwater from the first storm event of the wet season, all process water, and stormwater that comes into contact with manufacturing processes would be conveyed to and retained in the concrete retention basin and then treated via the High Purity Water Process system for reuse as raw material for the manufacturing processes onsite. Stormwater from subsequent storm events would be discharged to New York Slough in accordance with the requirements of the Industrial General Permit. Discharge from the stormwater system can be stopped in the event of a spill of hazardous or polluting material by closing the outfall to New York Slough (Jacobs, 2019).

Energy Utilities

Electricity is currently provided to the Project site by Pacific Gas & Electric (PG&E). Natural gas would not be required. Electrical power needs for the Project are small, primarily to power small motors that would drive pumps, air compressors, scrubber fans, etc. The estimated annual electricity consumption is approximately 14,000 kilowatt hours (kWh).

Water Supply

The Project would connect to the City's domestic water supply for indoor water (indoor plumbing for employees) and manufacturing water consumption. Water infrastructure currently extends to the Project site at the northern boundary along E 3rd Street.

Wastewater

All wastewater and rainwater in contact with the manufacturing process are consumed as raw material, as the finished products are at least 50 percent water once manufactured. Project-generated wastewater not in contact with the manufacturing process (indoor plumbing for employees) would be conveyed by the municipal sewer system via existing infrastructure.

Construction Phasing and Schedule

Construction of the Project would occur intermittently over approximately 14 months from May 2025 through July 2026. Construction activities would typically take place Monday through Friday, 8 a.m. to 5 p.m. Construction of the Project would require demolition, site preparation, grading, building construction/equipment installation, paving, and architectural coating. Construction would require the export of 16,000 cubic yards of soil to make room for the recessed concrete containment floor. Demolition would consist of removing 27,000 square feet of existing pavement to make room for the new concrete containment area and truck scales. New paving would consist of 26,000 square feet of pavement and 1,000 square feet of asphalt for the new concrete containment area.

Soil Management Plan/ Soil Importation Plan

Construction of the Project would require demolition and grading and would require the removal and disposal of 16,000 cubic yards of soil in addition to 27,000 square feet of existing pavement. Given the length of time this site has operated within an industrial setting, there is a potential that soil underlying area proposed for construction have been impacted with contaminants that could represent a threat to human health of the environment. Public records do not indicate that an investigation of soil and groundwater contamination is currently necessary or has been conducted on the Project parcel in the past (SWRCB, DTSC, 2024). It is a recommended standard practice for construction projects in industrial settings to prepare a plan to address unanticipated soil contamination during demolition and grading activities. The Project would prepare and implement a Soil Management Plan (SMP), which outlines the procedures contractors are to follow if unanticipated soil contamination is encountered during construction grading and excavation.

Facility Operations and Staffing

Pencco would staff the facility with ten operators, ten truck drivers, and five managers and engineers. Most of the labor for the Project would come from local contract construction workers. At peak, the facility would operate 24 hours per day, five days per week (260 days per year). Project operations would require one propane-powered forklift, one propane-powered manlift, and one gasoline-powered skid steer, each operating an average of 2 hours per day.

10. Required Agency Approvals:

The Project requires City of Pittsburg's discretionary approval of the Use Permit and Design Review application, as well as ministerial approval of grading and building permits.

11. Tribal Consultation:

The City of Pittsburg notified the following tribes requesting Assembly Bill (AB) 52 notification for projects subject to CEQA. As of January 2025, no tribes have requested formal consultation.

1. The Ohlone Indian Tribe
2. Nashville Enterprise Miwok-Maidu-Nishinam Tribe
3. Confederated Villages of Lisjan Nation
4. Chicken Ranch Rancheria of Me-Wuk Indians
5. Guidiville Indian Rancheria
6. Indian Canyon Mutsun Band of Costanoan
7. Muwekma Ohlone Indian Tribe of the SF Bay Area
8. North Valley Yokuts Tribe
9. Amah Mutsun Tribal Band of Mission San Juan Bautista
10. Wilton Rancheria
11. Tule River Indian Tribe

References

California Department of Toxics Substances Control (DTSC). 2024. EnviroStor. Accessed 8/26/24. Online at: https://www.envirostor.dtsc.ca.gov/public/

California State Water Resources Control Board (SWRCB). 2024. GeoTracker. Accessed 6/26/24 Online at: https://geotracker.waterboards.ca.gov/

Federal Emergency Management Agency (FEMA), 2024. National Flood Hazard Layer FIRMette.

Jacobs, 2019. Industrial Stormwater Pollution Prevention Plan, Corteva Agriscience – Pittsburg Operations, 901 Loveridge Road, Pittsburg, California. March, 2019.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.

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

DETERMINATION: (To be completed by Lead Agency)

On the basis of this initial study:

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

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

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

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

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

MauriceBaddow
Signature

January 22, 2025
Date

Maurice Brenyah-Addow
Printed Name

AESTHETICS

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

Discussion

a) **No Impact.** The Project site is fully developed and consists of existing buildings and pavement in the Corteva industrial complex. The Project would replace existing pavement with the manufacturing facility that would include associated reactors and tanks, some of which are 25 to 30 feet tall. The existing visual character of the surrounding area is highly industrial. There are no identifiable scenic vistas in the immediate area of the Project. Thus, development of the Project would not result in substantial adverse effects to scenic vistas. Therefore, the Project would result in no impact.

b) **No Impact.** The Project site is not within or near a designated state scenic highway. There are no identifiable scenic resources within the Project site, such as historic buildings or rock outcroppings. The Project would not substantially damage scenic resources within a state scenic highway. Therefore, the Project would result in no impact.

c) **Less-than-Significant Impact.** The Project site is fully developed and consists of existing buildings and pavement in the Corteva industrial complex. The Project would replace existing pavement with the manufacturing facility that would include associated reactors and tanks, some of which are 25 to 30 feet tall. The Project would not conflict with applicable zoning and other regulations governing scenic quality. Therefore, the Project would result in a less-than-significant impact.

d) **Less-than-Significant Impact.** There is existing lighting associated with the Project site and surrounding area. The Project would require new lighting for nighttime operations and for safety/security purposes, as with the other industrial uses with the Corteva

industrial complex. Project development would comply with all applicable City lighting requirements. Therefore, the Project would result in a less-than-significant impact.

AGRICULTURAL AND FOREST RESOURCES

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
2. AGRICULTURAL AND FOREST RESOURCES — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. **Would the proposed project:**				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Introduction

The Project site is fully developed and consists of existing buildings and pavement in the Corteva industrial complex. The Project site is zoned General Industrial (IG) and is designated Industrial in the City's 2040 General Plan. The Project site includes no forest land, timberland, or agricultural use, and is not under a Williamson Act contract.

Discussion

a) **No Impact.** The Project site does not contain any areas of Farmland of Statewide Importance. The Project site would not convert any farmland or agricultural uses to non-agricultural uses. Therefore, the Project would result in no impact.

b) **No Impact.** The Project site has not been used for agriculture and is not under a Williamson Act contract. Therefore, the Project would result in no impact.

c, d) **No Impact.** There are no areas classified as forest land, timberland, or farmland within the vicinity of the Project that may be affected by the development of the Project. Therefore, the Project would result in no impact.

e) **No Impact.** The Project would not result in loss of farmland or forest land. Therefore, the Project would result in no impact.

AIR QUALITY

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
3. AIR QUALITY — Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. **Would the proposed project:**				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☒	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Introduction

This section describes construction and operational air quality impacts associated with the Project and is consistent with the methods described in the Bay Area Air Quality Management District (BAAQMD) *CEQA Air Quality Guidelines* (BAAQMD, 2023). Detailed modeling assumptions and results are provided in **Appendix A**. The health risk assessment (HRA) prepared for the Project is provided in **Appendix B**.

Setting

The Project site is located within the San Francisco Bay Area Air Basin (Air Basin), which encompasses Alameda, Contra Costa, Santa Clara, San Francisco, San Mateo, Marin, and Napa Counties, and the southern portions of Solano and Sonoma Counties.

Climate, Meteorology, and Topography

Air quality is affected by the rate, amount, and location of pollutant emissions and the associated meteorological conditions that influence pollutant movement and dispersal. Atmospheric conditions, including wind speed, wind direction, stability, and air temperature, in combination with local surface topography (i.e., geographic features such as mountains, valleys, and San Francisco Bay), determine the effect of air pollutant emissions on local air quality.

The climate of the Air Basin, including Pittsburg, is a Mediterranean-type climate characterized by warm, dry summers and mild, wet winters. During summer and fall, conditions are favorable to the formation of photochemical pollutants, such as ozone and secondary particulates, such as sulfates and nitrates.

Criteria Air Pollutants

Concentrations of "criteria" air pollutants ("criteria" air pollutants are state and/or federally regulated) are used to indicate the quality of the air. These include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 micrometers (coarse or PM10), particulate matter less than 2.5 micrometers (fine or PM2.5), and lead. Regulation of air pollutants is achieved through both national and state ambient air quality standards (AAQS), and emissions limits for individual sources. Regulations implementing the federal Clean Air Act established national ambient air quality standards (NAAQS) for these six criteria pollutants. California has adopted more stringent California ambient air quality standards (CAAQS) for most of the criteria air pollutants. In addition, California has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. There are considerable differences between state and federal standards in California.

The AAQS are intended to protect the public health and welfare, with an adequate margin of safety. They are designed to protect those segments of the public most susceptible to respiratory distress, known as sensitive receptors, including asthmatics, the very young, elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels somewhat above the ambient air quality standards before adverse health effects are observed.

Under amendments to the federal Clean Air Act, United States Environmental Protection Agency (U.S. EPA) has classified air basins or portions thereof, as either in "attainment" or "non-attainment" for each criteria air pollutant, based on whether or not the NAAQS have been achieved. The California Clean Air Act, which is patterned after the federal Clean Air Act, also requires areas to be designated as in "attainment" or "non-attainment" for the CAAQS. Thus, areas in California have one set of attainment / non-attainment designation with respect to the NAAQS and another set with respect to the CAAQS.

The Bay Area is currently designated "non-attainment" for 1-hour and 8-hour ozone CAAQS, the 8-hour ozone NAAQS, the PM10 CAAQS (annual and 24-hour), and the PM2.5 CAAQS (annual) and NAAQS (24-hour). The Bay Area is "attainment" or "unclassified" with respect to the other ambient air quality standards. Based upon the Bay Area's attainment status, pollutants

of greatest concern include criteria pollutant emissions such as nitrogen oxides (NO_x)[4], volatile organic compounds (VOC) as reactive organic gases (ROG)[5], PM10, and PM2.5.[6]

Toxic Air Contaminants

Toxic air contaminants (TACs) are regulated under both state and federal laws. Federal laws use the term "Hazardous Air Pollutants" (HAPs) to refer to the same types of compounds that are referred to as TACs under state law. Both terms encompass essentially the same contaminants. Under the 1990 Federal Clean Air Act Amendments, 189 substances are regulated as HAPs.

With respect to state law, in 1983 the California legislature adopted Assembly Bill 1807 (AB 1807), which establishes a process for identifying TACs and provides the authority for developing retrofit air toxics control measures on a statewide basis. Air toxics in California may also be regulated by the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (Assembly Bill [AB] 2588). Under AB 2588, TACs from individual facilities must be quantified and reported to the local air pollution control agency. The facilities are then prioritized by the local agencies based on the quantity and toxicity of these emissions, and on their proximity to areas where the public may be exposed. In establishing priorities, the air districts are required to consider the potency, toxicity, quantity, and volume of hazardous materials released from the facility, the proximity of the facility to potential receptors, and any other factors that the air district determines may indicate that the facility may pose a significant risk. High-priority facilities are required to perform a Health Risk Screening Assessment (HRSA), and if specific risk thresholds are exceeded, they are required to communicate the results to the public in the form of notices and public meetings. Depending on the health risk levels, emitting facilities can be required to implement varying levels of risk reduction measures. California Air Resources Board (CARB) identified approximately 200 TACs, including the 189 federal HAPs, under AB 2588.

The BAAQMD is responsible for administering federal and state regulations related to TACs. Under federal law, these regulations include National Emission Standards for Hazardous Air Pollutants (NESHAPs) and Maximum Achievable Control Technology (MACT) for affected sources. BAAQMD also administers the state regulations AB 1807 and AB 2588 which were discussed above. In addition, the agency requires that new or modified facilities that emit TACs perform air toxics screening analyses as part of the permit application. TAC emissions from new and modified sources are limited through the air toxics new source review program. Sources must use the Best Available Control Technology for Toxics (T-BACT) if an individual source cancer risk of greater than 1 in a million, or a chronic hazard index greater than 0.20, is identified in health risk modeling.

4 When combustion temperatures are extremely high, as in aircraft, truck and automobile engines, atmospheric nitrogen combines with oxygen to form various oxides of nitrogen (NOX). Nitric oxide (NO) and NO2 are the most significant air pollutants generally referred to as NOX. Nitric oxide is a colorless and odorless gas that is relatively harmless to humans, quickly converts to NO2 and can be measured. Nitrogen dioxide has been found to be a lung irritant capable of producing pulmonary edema.

5 VOC means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions and thus, a precursor of ozone formation. ROG are any reactive compounds of carbon, excluding methane, CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and other exempt compounds. The terms VOC and ROG are often used interchangeably.

6 PM10 and PM2.5 consists of airborne particles that measure 10 micrometers or less in diameter and 2.5 micrometers or less in diameter, respectively. PM10 and PM2.5 represent fractions of particulate matter that can be inhaled into the air passages and the lungs, causing adverse health effects.

Local Air Quality

The BAAQMD maintains a network of monitoring stations within the Air Basin that monitor air quality and compliance with applicable ambient standards. The monitoring station closest to the Project site is the Concord Monitoring Station at 2975 Treat Boulevard, approximately 11 miles southwest of the Project site. The Concord Monitoring Station measures levels of ozone, PM10, PM2.5, and NO_2.

Table 3 summarizes the most recent three years of data (2020 through 2022) from the Concord Monitoring Station (2975 Treat Blvd). The 1-hour ozone CAAQS was exceeded once in 2021. The 8-hour ozone CAAQS and NAAQS were exceeded once in 2021. The 24-hour PM2.5 NAAQS was exceeded twice in 2020 and once in 2022. No other standards were exceeded at the Concord Monitoring Station during the three-year period.

TABLE 3 SUMMARY OF ANNUAL MONITORING DATA OF AMBIENT AIR QUALITY

Pollutant	Standard	2020	2021	2022
Ozone				
Maximum Concentration (1-hour/8-hour average)	ppm	**0.096/0.077**	0.079/0.062	0.065/0.055
Number of days State standard exceeded (1-hour/8-hour)	0.09/0.070	1/1	0/0	0/0
Number of days National standard exceeded (8-hour)	0.070	1	0	0
Coarse Particulate Matter (PM10)				
Maximum Concentration (24-hour)	µg/m^3	25.0	33.4	38.8
Number of days 24-hour standard exceeded (State/National)	50/150	0/0	0/0	0/0
Annual Average (State standard)	20	12.1	12.1	**
Fine Particulate Matter (PM2.5)				
Maximum Concentration (24-hour)	µg/m^3	**43.7**	28.7	**39.3**
Number of days National standard exceeded (24-hour measured/estimated)	35	2/2	0/0	1/1
Annual Average (State/National standard)	12/12.0	8.1/8.0	*/7.0	6.2/6.2
Nitrogen Dioxide (NO_2)				
Maximum Concentration (24-hour)	ppm	0.029	0.029	0.031
Number of days State standard exceeded (24-hour)	0.18	0	0	0
Annual Average (State standard)	0.030	0.005	0.005	0.004

NOTES:
ppm = parts per million, µg/m^3 = micrograms per cubic meter
bold values exceeded the State and/or National standard
** = insufficient data

SOURCE: CARB, *iADAM: Air Quality Data Statistics*, https://www.arb.ca.gov/adam, Accessed July 22, 2024.

Regional Air Quality Plans

The 1977 Clean Air Act amendments require that regional planning and air pollution control agencies prepare a regional Air Quality Plan to outline the measures by which both stationary and mobile sources of pollutants can be controlled in order to achieve all standards specified in the Clean Air Act. The 1988 California Clean Air Act also requires development of air quality plans and strategies to meet state air quality standards in areas designated as non-attainment (with the exception of areas designated as non-attainment for the state PM standards). Maintenance plans are required for attainment areas that had previously been designated non-attainment in order to ensure continued attainment of the standards. Air quality plans developed to meet federal requirements are referred to as State Implementation Plans.

Bay Area ozone levels have been greatly reduced in recent years, but the region still does not fully attain the CAAQS and NAAQS. The California Clean Air Act, as codified in the California Health and Safety Code, requires air districts that do not attain state ozone standards to prepare ozone plans. To that end, BAAQMD's 2017 Clean Air Plan serves to update the most recent Bay Area ozone plan, the 2010 Clean Air Plan. The Health and Safety Code requires that ozone plans propose a control strategy to reduce emissions of ozone precursors—ROG and NOx—and reduce transport of ozone and its precursors to neighboring air basins. The control strategy must either reduce emissions 5 percent or more per year, or include "all feasible control measures." Because reducing emissions of ozone precursors by 5 percent per year is not achievable, the control strategy for the 2017 Clean Air Plan is based on the "all feasible measures" approach.

2017 Clean Air Plan

The BAAQMD's *2017 Clean Air Plan* includes a comprehensive Regional Climate Protection Strategy, which identifies potential rules, control measures, and strategies that BAAQMD can pursue to reduce GHG emissions in the Bay Area. Measures of the 2017 Clean Air Plan addressing the transportation sector are in direct support of Plan Bay Area 2040, which was adopted by the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC), and includes the region's transportation plan/ sustainable communities strategy.

Community Air Risk Evaluation

The BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposure to outdoor air toxics in the Bay Area. Based on findings of the latest report, DPM was found to account for approximately 85 percent of the cancer risk from airborne toxics. Collectively, five compounds—diesel PM, 1,3-butadiene, benzene, formaldehyde, and acetaldehyde—were found to be responsible for more than 90 percent of the cancer risk attributed to emissions. All these compounds are associated with emissions from internal combustion engines. The most important sources of cancer risk-weighted emissions were combustion-related sources of DPM, including on-road mobile sources (31 percent), construction equipment (29 percent), and ships and harbor craft (13 percent). A 75 percent reduction in DPM was predicted between 2005 and 2015 when the inventory accounted for CARB's diesel regulations. Overall, calculated cancer risk from TAC dropped by more than

50 percent between 2005 and 2015, when emissions inputs accounted for state diesel regulations and other reductions (BAAQMD, 2014b).

Modeled cancer risks from TAC were highest near sources of DPM: near core urban areas, along major roadways and freeways, and near maritime shipping terminals. The BAAQMD has identified Pittsburg and Antioch as "impacted" communities in the CARE Program (BAAQMD, 2014a). The average health impacts in the Bay Area, as determined both by pollution levels and by existing health vulnerabilities in a community, are approximately 160 cancer risk per million persons. For the City of Pittsburg, the health impact is approximately 146 cancer risk per million persons (BAAQMD, 2014a). Note, these health impacts are based on the CARE Program data that is roughly a decade old. Health impacts have likely decreased since DPM emission continue to decrease over time due to CARB and BAAQMD regulations and programs.

Sensitive Receptors

Land uses such as schools, children's daycare centers, hospitals, and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. The CARB has identified children less than 14 years of age, the elderly over 65 years of age, athletes, and those with cardiovascular and chronic respiratory diseases as most likely to be affected by air pollution. These groups are classified as sensitive population groups.

Residential areas are considered more sensitive to air quality conditions than commercial and industrial areas, because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions. Recreational uses are also considered sensitive, due to the greater exposure to ambient air quality conditions and because the presence of pollution detracts from the recreational experience. According to the BAAQMD, workers are not considered sensitive receptors because all employers must follow regulations set forth by the Occupation Safety and Health Administration to ensure the health and well-being of their employees.

BAAQMD considers the relevant zone of influence for an assessment of air quality health impacts to be within 1,000 feet of a project site. The nearest sensitive receptors are residences approximately one mile southwest of the Project site along Columbia Street. The nearest school, Martin Luther King Jr. Junior High School, is approximately 1.1 miles southwest of the Project site. The nearest park, Central Park, is approximately one mile southwest of the Project site.

Significance Criteria

As stated in Appendix G of the CEQA *Guidelines*, the significance criteria established by the applicable air quality district may be relied upon to make the above determinations. Thus, according to the BAAQMD's *CEQA Guidelines*, the Project would result in a significant impact to air quality if it would result in the following:

- Average daily construction exhaust emissions of 54 pounds per day of ROG, NO_x, or PM2.5 or 82 pounds per day of PM10;
- Average daily operation emissions of 54 pounds per day of ROG, NOx, or PM2.5 or 82 pounds per day of PM10; or result in maximum annual emissions of 10 tons per year of ROG, NOx, or PM2.5 or 15 tons per year of PM10;
- Exposure of sensitive receptors to substantial levels of TAC resulting in (a) a cancer risk level greater than 10 in one million, (b) a noncancerous risk (chronic or acute) hazard index greater than 1.0, or (c) an increase of annual average $PM_{2.5}$ of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$).
- Frequently and for a substantial duration, create or expose sensitive receptors to substantial objectionable odors affecting a substantial number of people.

Discussion

a) **Less-than-Significant Impact.** BAAQMD's *2017 Clean Air Plan* provides a roadmap for BAAQMD's efforts over the next few years to reduce air pollution and protect public health and the global climate. Determination of whether a project supports the goals in the *2017 Clean Air Plan* is achieved by a comparison of project-estimated emissions with BAAQMD thresholds of significance. If project emissions would not exceed the thresholds of significance after the application of all feasible mitigation measures, the project is consistent with the goals of the *2017 Clean Air Plan*. As presented in the subsequent impact discussions, the Project would not exceed the BAAQMD significance thresholds; therefore, it would not conflict with the goals of the *2017 Clean Air Plan* and would not hinder implementation of any of the control measures. Therefore, the Project would result in a less-than-significant impact.

b) **Less-than-Significant Impact with Mitigation.** The Project would generate air pollutant emissions during temporary construction activities and long-term operations.

Temporary Construction Activities

Construction-related activities would generate air pollutant emissions from off-road equipment; on-road trucks used for material delivery and equipment hauling; and worker commute trips. Fugitive dust emissions would also be generated by ground disturbance and would vary as a function of soil silt content, soil moisture, wind speed, and acreage of disturbance. Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod) Version 2022.1.1.24 (CAPCOA, 2022) and are summarized in **Table 4**. Detailed modeling assumptions and results are provided in **Appendix A**.

TABLE 4 ESTIMATED PROJECT AVERAGE DAILY CONSTRUCTION EMISSIONS

Condition	ROG lbs/day	NOx lbs/day	PM10 [1] lbs/day	PM2.5 [1] lbs/day
2025 Construction	0.32	3.86	0.12	0.11
2026 Construction	0.32	2.88	0.09	0.08
BAAQMD Thresholds of Significance	54	54	82	54
Potentially Significant?	No	No	No	No

NOTES:

1 PM10 and PM2.5 construction thresholds of significance apply to exhaust emission only. Fugitive PM10 and PM2.5 (fugitive dust) are less than significant assuming required best management practices are implemented.

SOURCE: CAPCOA, 2022.

BAAQMD's *CEQA Air Quality Guidelines* require that projects implement all the BAAQMD's basic best management practices (BMPs) for a project to have a less than significant construction-related fugitive dust emissions impact. Therefore, the Project would implement the required BMPs through **Mitigation Measure AQ-1** and construction would result in a less-than-significant impact with mitigation.

Mitigation Measure AQ-1: The applicant shall implement the following during construction of the Project:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off site shall be covered.
- 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 is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.

- Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted wood chips, mulch, or gravel.

- A publicly visible sign shall be posted with the telephone number and the person to contact the City regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Long-Term Operations

Long-term operational activities would generate air pollutant emissions primarily from motor vehicles (See **Table 10** for Project trip generation) and on-site equipment. Project operations would require one forklift, one manlift, and one skid steer, each operating 2 hours per day. Other emissions sources would include the cooling tower, and minor area sources such as cleaning chemicals/solvents. Operational emissions for the year 2027 are summarized in **Table 5**. Detailed modeling assumptions and results are provided in **Appendix A**.

TABLE 5 ESTIMATED PROJECT OPERATIONAL EMISSIONS

Source	ROG	NOx	PM10	PM2.5
Average Daily Operational Emissions (lbs)	30.74	2.75	20.77	0.19
BAAQMD Thresholds of Significance	54	54	82	54
Potentially Significant?	No	No	No	No
Annual Operational Emissions (tons)	5.58	0.50	2.73	0.03
BAAQMD Thresholds of Significance	10	10	15	10
Potentially Significant?	No	No	No	No

NOTES:

[1] Assumes an operational year of 2027.

SOURCE: CAPCOA, 2022.

As shown in **Table 5**, operational emissions would not exceed the BAAQMD's thresholds of significance. Therefore, the Project would result in a less-than-significant impact.

Cumulative Impacts

The BAAQMD *CEQA Air Quality Guidelines* recommend that cumulative air quality effects from criteria air pollutants also be addressed by comparison to the mass daily and annual thresholds. These thresholds were developed to identify a cumulatively considerable contribution to a significant regional air quality impact. As described above, the Project-related construction and operational emissions would be below the

significance thresholds. Therefore, the Project would not be cumulatively considerable, and cumulative impacts would be less-than-significant.

c) **Less-than-Significant Impact with Mitigation.** A HRA was prepared to evaluate potential health risks associated with exposure of TACs including DPM generated by heavy-duty offroad equipment, vehicle idling, and truck traffic, as well as chloroform emissions from the proposed cooling tower and HCL emissions from the proposed scrubber. The HRA was prepared based on the California Office of Environmental Health Hazard Assessment (OEHHA)'s Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA, 2015).

Table 6 displays the estimated health impacts from Project construction. The maximum cancer risk from Project construction emissions would be below the BAAQMD threshold of 10 per million and would be less than significant. The chronic HI would be below the project-level threshold of 1. The Project's unmitigated annual $PM_{2.5}$ concentration from construction activities would be 0.80 µg/m^3 at offsite workers. Thus, the annual $PM_{2.5}$ concentration due to Project construction (combustion exhaust and fugitive dust) would be potentially above the BAAQMD threshold of 0.3 µg/m^3. With **Mitigation Measure AQ-2,** the Project's annual $PM_{2.5}$ concentration from construction activities would be 0.21 µg/m^3 at offsite workers. Thus, the annual $PM_{2.5}$ concentration due to Project construction (combustion exhaust and fugitive dust) would be less than the BAAQMD threshold of 0.3 µg/m^3 with mitigation incorporated.

TABLE 6 ESTIMATED PROJECT CONSTRUCTION HEALTH IMPACTS SUMMARY

Condition	Receptor type	Cancer Risk	Hazard Impact	$PM_{2.5}$ Concentration
Unmitigated Project Construction	Residence	0.13	<0.01	<0.01
Unmitigated Project Construction	School	0.01	<0.01	<0.01
Unmitigated Project Construction	Offsite Worker	1.83	0.09	0.80
BAAQMD Significance Threshold		10.0	1.0	0.3
Potentially Significant?		No	No	Yes
Mitigated Project Construction	Residence	0.02	<0.01	<0.01
Mitigated Project Construction	Residence	0.02	<0.01	<0.01
Mitigated Project Construction	Offsite Worker	0.24	0.01	0.21
BAAQMD Significance Threshold		10.0	1.0	0.3
Potentially Significant?		No	No	No

As shown in **Table 6**, health impacts due to construction activities would not exceed the BAAQMD's thresholds of significance with mitigation. Therefore, Project construction would result in a less-than-significant impact with mitigation.

Mitigation Measure AQ-2: The applicant shall implement the following during construction of the Project:

- All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall utilize diesel engines that are USEPA certified "Tier 4 final" emission standards for particulate matter. Prior to the issuance of any demolition/construction permits, the construction contractor shall submit specifications of the equipment to be used during construction and the city of Pittsburg shall confirm this requirement is met.[7]
- Equipment such as air compressors, concrete/industrial saws, forklifts, light stands, manlifts, pumps, and welders shall be electric or alternative-fueled (i.e., non-diesel), where feasible. Pole power shall be utilized at the earliest feasible point in time and shall be used to the maximum extent feasible in lieu of generators.

Table 7 displays the estimated health impacts from Project operation. The maximum cancer risk from Project operation emissions would be below the BAAQMD threshold of 10 per million and would be less than significant. The uncontrolled chronic HI would be above the project-level threshold of 1. However, with stage 1 and 2 for the scrubber, the chronic HI would be below the project-level threshold of 1 and the impact of the Project operation would be less than significant. The annual $PM_{2.5}$ concentration from Project operation would be less than 0.3 $\mu g/m^3$ and less than significant.

TABLE 7 ESTIMATED PROJECT OPERATION HEALTH IMPACTS SUMMARY

Condition	Receptor type	Cancer Risk	Hazard Impact (acute/chronic)	$PM_{2.5}$ Concentration
Project Operation (Uncontrolled)	Residence	<0.01	0.11/<0.01	<0.01
Project Operation (Uncontrolled)	School	<0.01	0.08/<0.01	<0.01
Project Operation (Uncontrolled)	Offsite Worker	0.64	12.5/0.05	0.04
BAAQMD Significance Threshold		10.0	1.0	0.3
Potentially Significant?		No	Yes	Yes
Project Operation (Stage 1)	Residence	<0.01	<0.01/<0.01	<0.01
Project Operation (Stage 1)	Residence	<0.01	<0.01/<0.01	<0.01
Project Operation (Stage 1)	Offsite Worker	0.64	0.37/<0.01	0.04
BAAQMD Significance Threshold		10.0	1.0	0.3
Potentially Significant?		No	No	No
Project Operation (Stage 2)	Residence	<0.01	<0.01/<0.01	<0.01
Project Operation (Stage 2)	School<0.01	<0.01	<0.01/<0.01	<0.01
Project Operation (Stage 2)	Residence	0.64	<0.01/<0.01	0.04
BAAQMD Significance Threshold		10.0	1.0	0.3
Potentially Significant?		No	No	No

7 USEPA and CARB have implemented regulations and a tiering system to reduce emissions from off-road equipment with increasing combustion efficiency (i.e., decreasing emissions) where Tier 1 is the least efficient (greatest emissions) and Tier 4 is the most efficient (least emissions). The regulations have been implemented over time such that Tier 1 was phased out in the 1990's and Tier 2 was required, followed by implementation of Tier 3 and Tier 4 by 2015 with a phase out of Tier 2.

As shown in **Table 7**, health impacts due to operations would not exceed the BAAQMD's thresholds of significance. Therefore, the Project would result in a less-than-significant impact.

d) **Less-than-Significant Impact.** Project construction and operations would not generate odors that could adversely affect a substantial number of people. The Project includes an air scrubber to treat process emissions before they are released, and the nearest sensitive receptors are approximately one mile from the Project site. Therefore, the Project would result in a less-than-significant impact.

References

Bay Area Air Quality Management District (BAAQMD). 2023. *CEQA Air Quality Guidelines*. April 2023.

Bay Area Air Quality Management District (BAAQMD). 2014a. Community Air Risk Evaluation Program, Identifying Areas with Cumulative Impacts from Air Pollution in the San Francisco Bay Area, March 2014.

Bay Area Air Quality Management District (BAAQMD). 2014b. *Improving Air Quality & Health in Bay Area Communities, Community Air Risk Program Retrospective & Path Forward (2004 – 2013)*, April 2014.

California Air Pollution Control Officers Association (CAPCOA). 2022. *California Emissions Estimator Model User's Guide.* May 2022. http://www.caleemod.com/. Accessed July 22, 2024.

California Air Resources Board (CARB). *iADAM: Air Quality Data Statistics*. https://www.arb.ca.gov/adam. Accessed July 22, 2024.

BIOLOGICAL RESOURCES

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

Introduction

The Project site is within the boundaries of the East Contra Costa County (ECCC) Habitat Conservation Plan/ Natural Community Conservation Plan (HCP/NCCP). The HCP/NCCP is intended to provide an effective framework to protect natural resources in eastern Contra Costa County and the Cities of Brentwood, Clayton, Oakley, and Pittsburg, while improving and streamlining the environmental permitting process for impacts on endangered species. The HCP/NCCP avoids project-by-project permitting that is generally costly and time consuming for applicants and often results in uncoordinated and biologically ineffective mitigation (ECCCHCP Association, 2007).

The Project site is fully developed and consists of existing buildings and pavement, and is surrounded by other industrial lands in the Corteva industrial complex. The Project site is designated as Urban/Developed Land in the HCP/NCCP.

Discussion

a - f) **No Impact.** The Project would not have a substantial adverse effect on wildlife species, riparian habitat or other sensitive natural communities, or state or federally protected wetlands nor would it interfere substantially with the movement of wildlife species because the Project site consists entirely of buildings and pavement within the existing Corteva industrial complex. The Project would not conflict with any local policies or ordinances for protecting biological resources. There are no trees on the Project site, thus there would be no conflict with the City's Tree Preservation and Protection Ordinance (Chapter 18.84, Special Land Use Regulations Applicable to Specific Uses, Article XIX. Tree Preservation and Protection, of the City's Zoning Ordinance). The Project site is fully paved and developed with buildings and is designated as Urban/Developed Land in the HCP/NCCP, thus the Project is not subject to compliance with the HCP/NCCP. Therefore, the Project would result in no impact.

References

ECCCHCP Association, 2007. *Final East Contra Costa County Habitat Conservation Plan/ Natural Community Conservation Plan.* October 2007.

CULTURAL RESOURCES

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
5. CULTURAL RESOURCES — Would the proposed project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Introduction

This section is based on a Cultural Resources Technical Memorandum conducted by Solano Archaeological Services (SAS) in June 2024. The Cultural Resources Technical Memorandum is on file with the City and is confidential due to the potential for releasing the location of potentially sensitive cultural resources.

SAS completed a cultural and paleontological resources investigation of the Project site. The investigation included a records search with the Northwestern Information Center (NWIC) of the California Historical Resources Information System (CHRIS), Sacred Lands File (SLF) search with the Native American Heritage Commission (NAHC), additional archival research focused on historical mapping and land transfer records, and field survey on June 7, 2024.

The records search results indicated that no cultural resources have been previously recorded within the Project site, but three historic-era resources had been documented within one-half mile. The SLF search returned negative results for Native American resources in the Project vicinity. The additional archival research did indicate there are cultural or paleontological resources on the Project site.

The survey noted that the entire Project area was developed and paved with no patches of natural ground surface being exposed. Consequently, no surface traces of prehistoric or historic-era cultural sites, features, or artifacts were documented (SAS, 2024).

Discussion

a) **No Impact.** Archival research and an intensive field survey did not identify any prehistoric cultural resources within the project area (SAS, 2024). The NWIC did note that the Project area was situated within an early 20th century industrial complex (P-07-001086). However, no buildings or structures associated with that development appear to have been built within the Project area. Historic maps and aerial photography reviews suggest that prior to the mid-20th century, no permanent developments of any kind had been built within the Project area. The intense development of the Project area since the 1950s would have entailed significant grading and other construction-related disturbances. Consequently, there is very little chance that any intact and potentially

significant historic-era resources pre-dating the early 20th century could be present within the Project area. Therefore, the Project would result in no impact.

b,c) **Less-than-Significant Impact.** Archival research and an intensive field survey did not identify any significant archaeological or cultural resources within the Project area (SAS, 2024). Historic maps and aerial photography reviews suggest that prior to the mid-20th century, no permanent developments of any kind had been built within the Project area. Historic maps also indicate the Project area is located on or at least immediately adjacent to an old slough or wetland area – a setting often favored by early Native American peoples. However, given the grading and filling that clearly was required to fill in this slough or wetland, it is highly likely that had any intact prehistoric resources been present, they would have been destroyed. SAS concluded that the Project area exhibits a low/moderate level of sensitivity for retaining traces of early Native American activity. The City's 2040 General Plan Policy 10-A-7.k requires all new development, infrastructure, and other ground-disturbing projects to comply with the following conditions in the event of an inadvertent discovery of cultural resources or human remains:

- *If human remains are discovered during any ground disturbing activity, work shall stop until the Development Services Director and the Contra Costa County Coroner have been contacted; if the human remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) and the most likely descendants have been consulted; and work may only resume when measures to relocate or preserve the remains in place, based on the above consultation, have been taken and approved by the Development Services Director.*

- *If archaeological resources are encountered during construction or ground disturbing activity, work within 50 feet of the find shall be halted and a qualified archaeologist meeting the Secretary of Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall immediately be contacted to evaluate the find pursuant to Public Resources Code Section 21083.2. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for determining California Register of Historical Resources eligibility. If the discovery proves to be significant under CEQA and cannot be avoided by the project, additional work may be warranted, such as data recovery excavation, to mitigate any significant impacts to significant resources. If the resource is of Native American origin, the NAHC shall be contacted to ensure that the Most Likely Descendant can assess the find. Any reports required to document and/or evaluate unanticipated discoveries shall be submitted to the City of Pittsburg for review and approval and submitted to the Northwest Information Center in Sonoma State after completion. Recommendations contained within prepared reports shall be implemented throughout the remainder of ground disturbance activities.*

- *In the event of the identification of cultural resources on a development project site, a professionally qualified archaeologist and Tribal representative shall monitor ground-disturbing construction conducted during project implementation. The monitors shall observe ground-disturbing construction to identify potential archaeological deposits and avoid or limit damage to such deposits. The monitors shall have the discretion to reduce the intensity of monitoring, or suspend such monitoring, if field conditions clearly indicate that no potential intact archaeological deposits could be encountered. Should an intact archaeological deposit be identified, the monitors shall be empowered to temporarily halt construction in the vicinity of the find. The archaeologist shall, in consultation with the Tribal representative and City, evaluate the eligibility of the deposit for inclusion in the California Register of Historical Resources. If the deposit is eligible, the project shall attempt to feasibly avoid damage to the deposit (e.g., redesign or capping). If avoidance is not feasible, the archaeologist shall, in consultation with the Tribal representative and City, develop and implement a plan to recover the scientifically consequential data represented by the deposit in a manner respectful of tribal concerns. A report of the finds of any resource evaluation and/or data recovery efforts shall be submitted to the Northwest Information Center in Sonoma State as a condition for access to its archives.*

The Project would be required to comply with the City's 2040 General Plan Policy 10-A-7.k through the City's Standard Conditions of Approval. Therefore, the Project would result in a less-than-significant impact.

References

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ENERGY

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
6.	**ENERGY — Would the proposed project:**				
a)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Introduction

Energy resources required for the Project would include electricity and petroleum fuels. These energy resources would be required for facility equipment and vehicles supporting the Project. Energy resources would also be consumed by onsite equipment and vehicles required for construction of the Project.

Setting

The following presents setting information applicable to the Project. Since no buildings would be constructed with the Project, the California Building Energy Efficiency Standards (Title 24, Part 6) and California Green Building Standards Code (Title 24, Part 11) are not discussed.

Senate Bill 100

SB 100 mandates that the California Public Utilities Commission (CPUC), California Energy Commission (CEC), and CARB plan for 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero carbon resources by December 31, 2045. SB 100 also updates the state's Renewables Portfolio Standard (RPS) to include the following interim targets:

- 44% of retail sales procured from eligible renewable sources by December 31, 2024.
- 52% of retail sales procured from eligible renewable sources by December 31, 2027.
- 60% of retail sales procured from eligible renewable sources by December 31, 2030.

Under SB 100, the CPUC, CEC, and CARB shall use programs under existing laws to achieve 100 percent clean electricity. The statute requires these agencies to issue a joint policy report on SB 100 every four years. The first of these reports was issued in 2021.

Electricity

Electricity service is provided to the Project site by Pacific Gas & Electric (PG&E). In 2022, statewide electricity generation was 194,320 gigawatt hours (GWh) of electric power. (CEC, 2023a).

Petroleum Fuels

In 2021, California gasoline sales were approximately 11,618 million gallons, and diesel fuel sales were approximately 1,611 million gallons (CEC, 2023b).

Discussion

a) **Less-than-Significant Impact.** The Project would consume energy resources during temporary construction activities and long-term operations.

Temporary Construction Activities

Construction activities are a temporary and one-time direct source of energy consumption. Construction activities would consume petroleum fuels (primarily diesel and gasoline) through the operation of heavy off-road equipment, trucks, and worker automobiles. Electricity could be used for lighting and other equipment such as air compressors, however the amount consumed would be negligible.

Construction fuel usage was estimated using CalEEMod (CAPCOA, 2022). Detailed modeling assumptions and results are provided in **Appendix A**. Project construction was estimated to require approximately 52,000 gallons of petroleum fuels.

Construction of the Project would occur intermittently over approximately 14 months Project construction would utilize fuel efficient equipment and trucks consistent with state regulations and would be consistent with state regulations intended to reduce the inefficient, wasteful, or unnecessary consumption of energy, such as anti-idling and emissions regulations. Furthermore, construction contractors are economically incentivized to employ energy efficient techniques and practices to reduce fuel use to lower overall construction costs.

In light of these statutory and regulatory requirements, the consumption of energy resources during Project construction would not result in a wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, Project construction would result in a less-than-significant impact.

Long-Term Operations

Long-term energy consumption associated with the Project operations would include electricity and petroleum fuel consumption. Electricity would be consumed by facility equipment. Petroleum fuels would primarily be consumed by vehicles supporting Project operations. Operational energy consumption was estimated using the CalEEMod Version 2022.1.1.14 (CAPCOA, 2022). Detailed modeling assumptions and results are provided in **Appendix A.**

The Project is estimated to consume approximately 14,000 kWh of electricity annually and would not require natural gas consumption. Motor vehicles for Project operations were estimated to consume approximately 36,000 gallons of petroleum fuels.

The electricity delivered by PG&E to the Project would be subject to SB 100 and the state's RPS, which requires increasing renewable energy to 60 percent by 2030 and 100 percent by 2045. PG&E delivers some of the nation's cleanest electricity to customers, with 93 percent from GHG-free resources in 2021. The associated emissions rate is nearly 90 percent cleaner than the latest national average among energy providers (PG&E, 2022).

Petroleum fuels consumed by the Project would decrease over time in accordance with Executive Order N-79-20, which requires all new passenger vehicles sold in California to be zero-emission by 2035, and all other fleets to transition to zero-emission as fully possible by 2045.

While the Project would consume energy resources during operation, the consumption of such resources would not result in a wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, Project operation would result in a less-than-significant impact.

b) **No Impact.** The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. There are no renewable energy or energy efficiency plans applicable to the Project. Therefore, the Project would result in no impact.

References

California Air Pollution Control Officers Association (CAPCOA). 2022. *California Emissions Estimator Model User's Guide.* May 2022. http://www.caleemod.com/. Accessed June 26, 2024.

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Pacific Gas & Electric (PG&E). 2022. *PG&E Climate Strategy Report*. June 2022.

GEOLOGY AND SOILS

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
7. GEOLOGY AND SOILS — Would the proposed project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

Introduction

Geologic and Seismic Setting

The Project site is underlain by Quaternary sediments mapped as Pleistocene-age[8] alluvial deposits (USGS, 1979). These sediments contain mostly clay and silt but also include mixtures of sand and gravel in varying degrees of consolidation. However, because the Project site has been developed in an industrial setting for many years, there is a possibility that the native surficial deposits and soils horizons have been disturbed, reworked, or mixed with other soil types or artificial fill during previous construction activity on adjacent parcels.

8 The Pleistocene Epoch spanned from 2.6 million years ago to 11,700 years ago.

The major faults in this region include the active portion of the Concord fault, which has experienced historic displacement in the last 200 years, and the Clayton/Marsh Greenville faults, which have experienced Holocene displacement (within 11,700 years) without historic record. Older (Quaternary and Pre-Quaternary) faults including the Davis fault, Rio Vista fault and Kirby Hills fault; these faults have not experienced displacement within the last 700,000 years. The Concord fault is located about 9 miles to the west-southwest and is the closest fault exhibiting historic displacement (less than 200 years). The Clayton fault is located 6 miles southwest of the Project site. The Davis fault, Kirby Hills fault and Rio Vista faults are located 3, 6, and 10 miles, respectively, from the Project site (CGS, 2023).

Regulatory Framework

Seismic Hazard Mapping Act

The State of California passed the Seismic Hazards Mapping Act (SHMA) of 1990 (Public Resources Code sections 2690–2699) to address the effects of strong ground shaking, liquefaction, landslides, and other ground failures due to seismic events. Under the Seismic Hazards Mapping Act, the State Geologist is required to delineate "seismic hazard zones." Cities and counties must regulate certain development projects within these zones until the geologic and soil conditions of their project sites have been investigated and appropriate mitigation measures, if any, have been incorporated into development plans. The State Mining and Geology Board provides additional regulations and policies to assist municipalities in preparing the Safety Element of their General Plan and encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety. Under Public Resources Code section 2697, cities and counties must require, prior to the approval of a project located in a seismic hazard zone, submission of a Preliminary Geotechnical Report defining and delineating any seismic hazard.

State publications supporting the requirements of the SHMA include the CGS SP 117A, *Guidelines for Evaluating and Mitigating Seismic Hazards in California*, discussed above, and SP 118, *Recommended Criteria for Delineating Seismic Hazard Zones in California* (2004). SP 117A provides guidelines to assist in the evaluation and mitigation of earthquake-related hazards for projects within designated zones requiring investigations and to promote uniform and effective Statewide implementation of the evaluation and mitigation elements of the SHMA. SP 118 provides recommendations to assist the CGS in carrying out the requirements of the SHMA to produce the Probabilistic Seismic Hazard Maps for the State.

The area of Pittsburg that contains the Project site has been evaluated by the California Geological Survey (CGS) and is zoned as a liquefaction hazard zone under the SHMA. It should be noted that the proposed development of the Project site as an iron salts manufacturing facility is not considered a "Project" as defined under the SHMA. The SHMA defines a "Project" as any

structures for human occupancy[9], or any subdivision of land that contemplates the eventual construction of structures for human occupancy.

California Building Code

The California Building Code (CBC), which is codified in Title 24 of the California Code of Regulations, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, means of egress facilities, and general stability of buildings. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable. The provisions of the CBC apply to the construction, alteration, movement, replacement, location, and demolition of every building or structure, or any appurtenances connected or attached to such buildings or structures throughout California (DGS, 2020).

The 2022 edition of the CBC is based on the 2021 International Building Code (IBC) published by the International Code Council. The code is updated triennially, and the 2022 edition of the CBC, which was published by the California Building Standards Commission, took effect starting January 1, 2023. The 2022 CBC provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (such as wind loads) for inclusion into building codes. Under the CBC standards, structures should be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse, but with some structural as well as nonstructural damage. Conformance to the current building code recommendations does not constitute any kind of guarantee that substantial structural damage would not occur in the event of a maximum magnitude earthquake. However, it is reasonable to expect that a structure designed in-accordance with the seismic requirements of the CBC should not collapse in a major earthquake (DGS, 2020/2023).

Discussion

a.i,) **No Impact.** Earthquake faults that are delineated under the Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) are typically considered sufficiently active and well-defined and have experienced displacement within Holocene time (about the last 11,000 years). Faults that are zoned under the Alquist-Priolo Act can rupture at the surface during an earthquake causing considerable damage to structures and utilities. The Project site is not located within an Alquist-Priolo Earthquake Fault Zone and is approximately 10 miles from the nearest fault (the Concord fault) capable of causing surface rupture. There are no mapped traces of older faults extending through the Project

[9] A "structure for human occupancy" is any structure used or intended for supporting or sheltering any use or occupancy, which is expected to have a human occupancy rate of more than 2,000 person-hours per year.

site. Therefore, there is no potential for the Project site to experience surface fault rupture from a known mapped earthquake fault and there is no impact.

a.ii) **Less-than-Significant Impact.** Major factors that affect the severity (intensity) of ground shaking include the size (magnitude) of the earthquake, the distance to the fault that generated the earthquake, and the underlying geologic materials. Seismic ground shaking from regional fault zones, including those along the Green Valley, Concord, or Clayton faults, as well as other major faults in the San Francisco Bay Area (namely, the San Andreas fault and the Hayward-Rodgers Creek fault) could affect the Project site. Contra Costa County will likely experience ground shaking from a major regional earthquake during the life of the Project. The 2014 Working Group on California Earthquake Probabilities concluded that there was a 72-percent probability of at least one earthquake of magnitude 6.7 or greater occurring somewhere in the San Francisco Bay region before 2043 (USGS, 2016). There was a 22 percent chance of a magnitude 6.7 earthquake occurring between 2016 and 2043 on the San Andreas fault and a 33 percent chance on the Hayward-Rodgers Creek fault. The probability of a similar event occurring on the Concord/Greenville fault was estimated at 16 percent (USGS, 2016). The likelihood of these earthquakes occurring between 2024 and 2043 is higher than the 2016 estimate because of the passage of time.

The Project site is located in an area characterized by variable subsurface conditions and moderate susceptibility to earthquake damage. In these areas, sound structures on firm dry alluvium typically perform satisfactorily (Contra Costa County, 2005). Ground shaking could cause some structural damage to equipment, older buildings, and above-ground storage tanks, and could possibly injure workers at the Project site. However, CBC requirements are intended to address projected structural response to ground shaking and the corresponding seismic design criteria required for new constructions and renovations ensure that the risk of structural damage or collapse is greatly reduced or eliminated. While earthquake ground shaking would be felt at the Project site, seismic design criteria, as prescribed in the CBC, would reduce the risk of structural collapse and injury to site workers. Although conformance to CBC recommendations do not guarantee that significant structural damage would not occur onsite in the event of a maximum magnitude earthquake, it can be expected that a well-designed and constructed modern structure would not directly or indirectly expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Further, there is no evidence that development of the Project would increase the effects of seismic activity over those felt without the Project. Therefore, this impact would be less than significant.

aiii) **Less-than-Significant Impact.** Liquefaction occurs when saturated sandy or gravelly materials become liquified due to ground shaking during an earthquake. Liquefaction causes a material to lose bearing strength and can result in differential settlement and consolidation, which, in turn, can damage structures and utilities. The Project site is in a region designated by the SHMA as susceptible to liquefaction and is considered an area of moderate to low liquefaction potential (Contra Costa County, 2005). Zoning under the

SHMA does not necessarily mean that liquefiable materials are confirmed to underlie the site; SHMA zoning identifies areas, based on regional geologic conditions, where there is a potential for liquefaction to occur and soil testing is required to confirm the presence or absence of problematic soils on a particular site. Figure 11-3 of the City's 2040 General Plan also lists the Project site as in a potential liquefaction hazard zone. While there is no information as to the specific characteristics of the alluvium beneath the Project site, given its location, it is likely that it is underlain by unconsolidated clay-sand-silt mixtures. Under these conditions, the potential for liquefaction to occur at the Project site is low.

The design-level geotechnical investigation required by the City of Pittsburg would be conducted prior to final Project design and would include subsurface exploration and testing to determine whether soils beneath the parcel are susceptible to liquefaction. If site investigation indicates a potential for liquefaction, geotechnical remedies would be required to avoid damage to the facilities during an earthquake. Such remedies include ground improvement techniques (e.g., dynamic compaction jet grouting, lime stabilization) or placement of foundation piers that extend into competent materials below liquefiable material. Geotechnical methods to reduce hazards from liquefaction are standard, industry-accepted solutions used throughout the San Francisco Bay Area to remedy liquefiable soil conditions. The City of Pittsburg requires projects to implement the recommendations and geotechnical remedies outlined in the required design-level geotechnical investigation. The potential for liquefaction damage at the Project site, if determined a potential hazard, would be greatly reduced through standard geotechnical remedies and therefore, this impact would be less than significant.

ai.v) **No Impact**. The Project site topography has very low relief and no sloping land; thus, there is no potential for landslides and/or slope failures and thus, there is no impact.

b) **Less-than-Significant Impact.** The Project site is paved with asphaltic/concrete and is covered in sections by industrial buildings. Short-term erosion of surface soils or temporary soil stockpiles is possible during the construction phase of the Project when and if asphalt is removed and the underlying soil is disturbed and exposed to precipitation. However, under the Construction General Permit (CGP) (discussed in detail in the Hydrology and Water Quality section), the permit applicant or their contractor(s) would implement stormwater controls [(aka Best Management Practices (BMPs)], as set forth in a detailed Stormwater Pollution Prevention Plan (SWPPP). SWPPPs must describe the specific erosion control and stormwater quality BMPs needed to reduce erosion and minimize pollutants in stormwater runoff with adequate details of their placement and proper installation. Under the CGP, there is a low potential that the Project site would be impacted by a substantial degree of erosion during construction. Post-construction, the Project site would be occupied by industrial equipment and pavement, which would not leave soil exposed to erosion. The potential for temporary and long-term erosion to occur at the site is low; therefore, this impact would be less than significant.

c) **Less-than-Significant Impact.** The proposed Project would redevelop a parcel in an industrial area with chemical manufacturing equipment and appurtenances. Based on current site conditions, the soils beneath the parcel appear to be competent materials consisting of clay and silt mixtures. These materials are not considered unstable (i.e., susceptible to settlement, subsidence, or soils collapse), although, as discussed in Topic a.(iii), this area of Pittsburg is zoned under the SHMA as susceptible to liquefaction. As discussed above, this does not necessarily mean that the Project site is underlain by liquefiable material, but rather represents conditions in the Project area. Given that the previously developed facilities adjacent to the Project site have performed well without experiencing settlement or ground failure, it is very likely that the proposed Project development would remain stable following construction. A design-level geotechnical investigation, which is required by the City of Pittsburg, would be conducted to determine final foundation design for the manufacturing equipment and truck parking areas. The investigation would include subsurface soil exploration and testing and if problematic soils are identified, geotechnical corrective measures would be recommended. These measures are standard, industry-accepted solutions used throughout the San Francisco Bay Area to remedy problematic soil conditions. The City of Pittsburg requires projects to implement the recommendations and geotechnical remedies outlined in the required design-level geotechnical investigation. As discussed in Topic a.(iv), the Project site is relatively flat so the potential for lateral spreading or on- or offsite landsliding are not considered a potential Project impact. Therefore, this is a less-than-significant impact.

d) Less-than-Significant Impact. Soils beneath the Project parcel could be expansive, exhibiting shrink-swell characteristics.[10] The cyclic shrink-swell nature of expansive soils can, over time, damage foundations and pavement surfaces. However, the design-level geotechnical investigation completed prior to construction, which is required by the City of Pittsburg and necessary to design equipment foundations, would test near-surface soil and if expansive soils are identified, recommendations would be provided to address and remedy areas with problematic soils. Remedies for expansive soils typically involve removal and replacement with soils with non-expansive soils. The City of Pittsburg requires projects to implement the recommendations and geotechnical remedies outlined in the required design-level geotechnical investigation. Therefore, this impact would be less-than-significant impact.

e) **No Impact.** An Onsite Wastewater Treatment System (OWTS) is not proposed as part of the proposed Project. Domestic sewage and wastewater would be conveyed from the existing facility to the municipal sewage system. There is no impact.

f) **Less-than-Significant Impact.** The Project site is underlain by Quaternary alluvial deposits consisting of clay, silt, sand, and gravel. These comparatively young unconsolidated to semi-consolidated deposits do not typically contain intact fossilized remains. A review of the University of California Museum of Paleontology (UCMP)

10 Expansive soils shrink when desiccated and swell or expand with the addition of moisture.

localities database revealed that paleontological resources in Contra Costa County were recovered in the older (e.g., Tertiary-age) formations and not within the much younger Quaternary and Pleistocene alluvium (UCMP, 2023). Geologically young and unconsolidated alluvium deposits rarely, if ever, contain fossilized remains. Given the young age and the nature of the alluvial materials, there is a low probability that the shallow construction excavations necessary during Project construction would encounter fossilized remains. In addition, this site is currently a flat-lying vacant lot and does not contain a unique geologic feature. Therefore, this impact is less than significant.

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GREENHOUSE GAS EMISSIONS

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
8. GREENHOUSE GAS EMISSIONS — Would the proposed project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Introduction

Greenhouse gas emissions (GHG) emissions would be generated during Project operations from the consumption of electricity and petroleum fuels. GHG emissions would also be temporarily generated by onsite equipment and vehicles required for construction of the Project.

Setting

Global Climate Change and GHG Emissions

Over the last 10,000 years, the rate of temperature change has typically been incremental, with warming and cooling occurring over the course of thousands of years. However, scientists have observed an unprecedented increase in the rate of warming over the past 150 years, roughly coinciding with the global industrial revolution, which has resulted in substantial increases in GHG emissions into the atmosphere. The anticipated impacts of climate change in California range from water shortages to inundation from sea level rise. Transportation systems contribute to climate change primarily through the emissions of certain GHGs (CO_2, methane (CH_4), and nitrous oxide (N_2O)) from nonrenewable energy (primarily gasoline and diesel fuels) used to operate passenger, commercial and transit vehicles. Land use changes contribute to climate change through construction and operational use of electricity and natural gas, and waste production.

The Intergovernmental Panel on Climate Change (IPCC) has reached consensus that human-caused emissions of GHGs in excess of natural ambient concentrations are responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increases in global average surface temperature from 1951 to 2010 were caused by the anthropogenic increase in GHG concentrations and other anthropogenic forces together. The IPCC predicts that the global mean surface temperature increase by the end of the 21st century (2081– 2100) relative to 1986–2005, could range from 0.5 to 8.7 degrees Fahrenheit. Additionally, the IPCC projects that global mean sea level rise will continue during the 21st century, very likely at a faster rate than observed from 1971 to 2010. For the period 2081–2100 relative to 1986–2005, the rise will likely range from 10 to 32 inches (IPCC, 2013).

Greenhouse Gases

Gases that trap heat in the atmosphere are referred to as GHGs because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHGs has been implicated as the driving force for global climate change. The six primary GHGs are:

- carbon dioxide (CO_2), emitted when solid waste, fossil fuels (oil, natural gas, and coal), and wood and wood products are burned;
- methane (CH_4), produced through the anaerobic decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, incomplete fossil fuel combustion, and water and wastewater treatment;
- nitrous oxide (N_2O), typically generated as a result of soil cultivation practices, particularly the use of commercial and organic fertilizers, fossil fuel combustion, nitric acid production, and biomass burning;
- hydrofluorocarbons (HFCs), primarily used as refrigerants;
- perfluorocarbons (PFCs), originally introduced as alternatives to ozone depleting substances and typically emitted as by-products of industrial and manufacturing processes; and
- sulfur hexafluoride (SF_6), primarily used in electrical transmission and distribution.

Although there are other contributors to global climate change, these six GHGs are identified by the U.S. Environmental Protection Agency (U.S. EPA) as threatening the public health and welfare of current and future generations. GHGs have varying potential to trap heat in the atmosphere, known as global warming potential (GWP), and atmospheric lifetimes. GWP reflects how long GHGs remain in the atmosphere, on average, and how intensely they absorb energy. Gases with a higher GWP absorb more energy per pound than gases with a lower GWP, and thus contribute more to warming Earth. For example, one ton of CH_4 has the same contribution to the greenhouse effect as approximately 28 tons of CO_2; hence, CH_4 has a 100-year GWP of 28 while CO_2 has a GWP of 1. GWP ranges from 1 (for CO_2) to 23,500 (for SF_6).

In emissions inventories, GHG emissions are typically reported in terms metric tons of CO_2 equivalents (CO_2e). CO_2e are calculated as the product of the mass emitted of a given GHG and its specific GWP. While CH_4 and N_2O have much higher GWP than CO_2, CO_2 is emitted in such vastly higher quantities that it accounts for the majority of GHG emissions in CO_2e.

Regional GHG Emissions Estimates

In 2020, California emitted approximately 369.2 million metric tons of CO_2e. This represents approximately six percent of total U.S. emissions. This large number is due primarily to the sheer size of California compared to other states. California's gross emissions of GHG decreased by 5.6 percent from 461.9 million metric tons of CO_2e in 2000 to 369.2 million metric tons in 2020, with a maximum of 486.2 million metric tons in 2004 (CARB, 2022).

In 2016, overall community wide GHG emissions for City of Pittsburg was 428,563 metric tons of CO_2e. The largest proportion of GHG emissions in the City in 2016 came from natural gas usage in residential and non-residential buildings, followed by on-road transportation, off-road vehicles and equipment, electricity usage in residential and non-residential buildings, and solid waste (landfilling). Minor sources also included electricity transmission and distribution losses, water and wastewater collection and treatment, BART passenger rail, and marine transit. The total GHG emissions for 2016 indicates a decrease of 42,652 metric tons of CO_2e or an approximately nine percent decrease from the adjusted 2005 community wide GHG emissions of 471,215 metric tons of CO_2e (City of Pittsburg, 2019).

Executive Order S-3-05

Governor Schwarzenegger established Executive Order S-3-05 in 2005, in recognition of California's vulnerability to the effects of climate change. Executive Order S-3-05 set forth a series of target dates by which statewide emissions of GHG would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The executive order directed the Secretary of the California EPA (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The Secretary will also submit biannual reports to the governor and California Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources, and mitigation and adaptation plans to combat these impacts. To comply with the executive order, the secretary of CalEPA created the California Climate Action Team, made up of members from various state agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of California businesses, local governments, and communities and through state incentive and regulatory programs.

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

California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 required that statewide GHG emissions be reduced to 1990 levels by 2020.

AB 32 required CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state reduces GHG emissions enough to meet the cap. AB 32 also included guidance on instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

Climate Change Scoping Plan

AB 32 required CARB to develop a Scoping Plan that describes the approach California will take to reduce GHG to achieve the goal of reducing emissions to 1990 levels by 2020. CARB's *2022 Scoping Plan* was adopted in December 2022. The three previous scoping plans focused on specific GHG reduction targets for the state's industrial, energy, and transportation sectors — first to meet 1990 levels by 2020, then to meet the more aggressive target of 40 percent below 1990 levels by 2030. The *2022 Scoping Plan* addresses recent legislation and direction from Governor Newsom, extending and expanding upon earlier scoping plans with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045.

Low Carbon Fuel Standard

Under the Climate Change Scoping Plan, the CARB identified the LCFS as one of the nine discrete early action measures to reduce California's GHG emissions. The LCFS is designed to decrease the carbon intensity of California's transportation fuel pool and provide an increasing range of low-carbon and renewable alternatives, which reduce petroleum dependency and achieve air quality benefits.

In 2018, the CARB approved amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector.

Executive Order No. B-30-15

On April 29, 2015, Executive Order No. B-30-15 was issued to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. Executive Order No. B-30-15 sets a new, interim, 2030 reduction goal intended to provide a smooth transition to the existing ultimate 2050 reduction goal set by Executive Order No. S-3-05. The Executive Order also states that "CARB shall update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent."

Senate Bill 32

On September 8, 2016, the governor signed Senate Bill 32 (SB 32) into law, extending AB 32 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged).

Senate Bill 100

SB 100 mandates that the CPUC, CEC, and CARB plan for 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero carbon resources by December 31, 2045. SB 100 also updates the state's RPS to include the following interim targets:

- 44% of retail sales procured from eligible renewable sources by December 31, 2024.

- 52% of retail sales procured from eligible renewable sources by December 31, 2027.
- 60% of retail sales procured from eligible renewable sources by December 31, 2030.

Under SB 100, the CPUC, CEC, and CARB shall use programs under existing laws to achieve 100 percent clean electricity. The statute requires these agencies to issue a joint policy report on SB 100 every four years. The first of these reports was issued in 2021.

Executive Order B-55-18

On September 10, 2018, the governor issued Executive Order B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

Significance Criteria

Because the issue of global climate change is inherently a cumulative issue, the contribution of Project-related GHG emissions to climate change is addressed as a cumulative impact. Some counties, cities, and air districts have developed guidance and thresholds for determining the significance of GHG emissions that occur within their jurisdiction. The City of Pittsburg is the CEQA lead agency for the Project and is, therefore, responsible for determining whether GHG emissions with the Project would have a cumulatively considerable contribution to climate change. The City of Pittsburg has not adopted GHG emissions significance thresholds, thus defers to BAAQMD's adopted thresholds.

BAAQMD recently updated their *CEQA Air Quality Guidelines* (BAAQMD, 2023). BAAQMD's thresholds of significance consist of three options for project-level impacts:

a. Land use project design elements that must be included in a project,

b. Consistency with a local GHG reduction strategy, and

c. A stationary source threshold of 10,000 metric tons of CO_2e per year.

BAAQMD's *CEQA Air Quality Guidelines*, *Appendix B: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans*, state the following in reference to the newly adopted land use project design elements significance thresholds:

> *"The Air District has developed these thresholds of significance based on typical residential and commercial land use projects and typical long-term communitywide planning documents such as general plans and similar long-range development plans. As such, these thresholds may not be appropriate for other types of projects that do not fit into the mold of a typical residential or commercial project or general plan update. Lead agencies should keep this point in mind when evaluating other types of projects. A lead agency does not necessarily need to use a threshold of significance if the analysis and justifications that were used to develop the threshold do not reflect the particular*

circumstances of the project under review. Accordingly, a lead agency should not use these thresholds if it is faced with a unique or unusual project for which the analyses supporting the thresholds as described in this report do not squarely apply. In such cases, the lead agency should develop an alternative approach that would be more appropriate for the particular project before it, considering all of the facts and circumstances of the project on a case-by-case basis."

The proposed Project is not a typical land residential or commercial land use project, as it is an industrial facility expansion that would not construct new buildings or vehicle parking. Thus, the land use project design elements significance threshold does not apply. Furthermore, the City of Pittsburg has not adopted a local GHG reduction strategy or climate action plan, thus, that significance threshold is not applicable either.

Therefore, this analysis uses the 10,000 metric tons of CO_2e per year significance threshold to assess potential GHG emissions impacts from the Project. Project emissions less than 10,000 metric tons of CO_2e per year would indicate that the proposed Project's contribution to global climate change would be less than cumulatively considerable.

Discussion

a) **Less-than-Significant Impact.** The Project would generate GHG emissions during temporary construction activities and long-term operations.

Temporary Construction Activities

Construction activities are a temporary and one-time direct source of GHG emissions. Construction activities would generate GHG emissions through the operation of heavy off-road equipment, trucks, and worker automobiles. Construction of the Project would occur intermittently over approximately 14 months from May 2025 through July 2026. Construction of the Project would utilize fuel efficient equipment and trucks consistent with state regulations and would be consistent with state regulations intended to reduce the inefficient, wasteful, or unnecessary consumption of energy, such as anti-idling and emissions regulations.

Construction emissions were estimated using CalEEMod (CAPCOA, 2022). Detailed modeling assumptions and results are provided in **Appendix A**. Project construction was estimated to generate approximately 495 metric tons of CO_2e during Project construction (282 metric tons of CO_2e in 2025 and 213 metric tons of CO_2e in 2026). BAAQMD has not adopted GHG emissions thresholds of significance for construction. As noted in BAAQMD's *CEQA Air Quality Guidelines*, *Appendix B,* GHG emissions from construction represent a very small portion of a project's lifetime GHG emissions and operational emissions represent the vast majority of project GHG emissions. Construction emissions would not result in a significant impact on the environment. Therefore, Project construction would result in a less-than-significant impact.

Long-Term Operations

Long-term operational GHG emissions would be generated primarily by mobile sources (i.e., employee vehicles and heavy trucks). GHG emissions would also be generated through on-site mobile equipment use, energy use, water/wastewater conveyance, and solid waste disposal. Operational GHG emissions were estimated using CalEEMod (CAPCOA, 2022) and are displayed below in **Table 8** below. Detailed modeling assumptions and results are provided in **Appendix A.**

TABLE 8 ESTIMATED PROJECT ANNUAL OPERATIONAL GHG EMISSIONS

Year	Mobile Emissions	Scrubber	On-Site Equipment	Water/ Wastewater	Solid Waste Disposal	Electricity Usage	Total Emissions
2027	362.0	141.0	16.1	10.3	1.9	1.3	**533**
Threshold of Significance							**10,000**
Potentially Significant?							No

NOTES:

1 Metric tons of CO_2e

SOURCE: CAPCOA, 2022.

As shown above in **Table 8**, the Project would generate a maximum of approximately 533 metric tons of CO_2e in year 2027, below the significance threshold of 10,000 metric tons of CO_2e per year. Therefore, the Project would result in a less-than-significant impact.

b) **Less-than-Significant Impact.** The City of Pittsburg has not adopted a local GHG reduction strategy or climate action Plan. State plans for reducing GHG emissions include CARB's 2017 Scoping Plan for achieving the 2030 GHG emissions reduction target outlined in SB 32 (40 percent below 1990 levels by 2030) and CARB's 2022 Scoping Plan for achieving carbon neutrality by 2045 and 85 percent below 1990 levels. CARB's scoping plans rely on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies, such as SB 100, which requires electricity providers to increase procurement from eligible renewable energy resources to 60 percent by 2030 and 100 percent by 2045.

The electricity delivered by PG&E and consumed by the Project would be subject to SB 100 and the state's RPS, which requires increasing renewable energy to 60 percent by 2030 and 100 percent by 2045. PG&E delivers some of the nation's cleanest electricity to customers, with 93 percent from GHG-free resources in 2021. The associated emissions rate is nearly 90 percent cleaner than the latest national average among energy providers (PG&E, 2022).

Petroleum fuels consumed by the Project would decrease over time in accordance with Executive Order N-79-20, which requires all new passenger vehicles sold in California to be zero-emission by 2035, and all other fleets to transition to zero-emission as fully possible by 2045.

As noted in impact a), the Project would be below BAAQMD's adopted GHG significance thresholds. The Project would not conflict with applicable plans, policies or regulations adopted for the purpose of reducing GHG emissions. Therefore, the Project would result in a less-than-significant impact.

References

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HAZARDS AND HAZARDOUS MATERIALS

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

Setting

The Project would occupy a 1.38-acre industrial parcel (Project site) within Corteva's larger developed industrial facility. The Project site is relatively flat, fully developed with existing buildings, and is paved with impervious surfaces.

The Corteva industrial complex contains active chemical manufacturing facilities, an active Class II (designated waste) landfill with several closed solid-waste disposal units. Groundwater contamination has been identified in the shallow aquifers beneath the Corteva facility. Pursuant to their approved 1999 revised corrective action plan with the Regional Water Quality Control Board (RWQCB), Corteva has operated an on-site Enhanced In-Situ Bioremediation (EISB) system for groundwater remediation since March 2000. The closest non-industrial area to the Project site is located over 1 mile to the south and southwest and include Los Medanos Community College and developed residential areas containing several schools, a day care center for children, a nursing home, and a public park.

Regulatory Setting

The California Department of Toxic Substances Control (DTSC) defines a hazardous material as: "a substance or combination of substances that, because of its quantity, concentration or physical, chemical, or infectious characteristics, may either: 1) cause, or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating illness; or 2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, disposed of, or otherwise managed." Hazardous materials are generally classified based on the presence of one or more of the following four properties: toxicity, ignitability, corrosivity and reactivity. The compounds used in the proposed operation, as described above, are considered moderately to highly corrosive. Regulations governing the use, management, handling, transportation and disposal of hazardous materials and waste are administered by several federal, state and local governmental agencies. Federal regulations governing hazardous materials and waste include the Resource Conservation, and Recovery Act of 1976 (RCRA); the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA); and the Superfund Amendments and Re-authorization Act of 1986 (SARA). Federal statute 49 CFR regulates shipment of hazardous materials by ground, air, and vessel. The Department of Transportation (DOT), which includes the Federal Motor Carrier Safety Administration (FMCSA), is responsible for enforcing 49 CFR. In California, other agencies involved with the regulation and enforcement involving hazardous materials use, storage and shipment include the DTSC, California Division of Occupational Safety and Health (DOSH or Cal/OSHA), California Department of Motor Vehicles (DMV), and the California Highway Patrol (CHP). The Certified Unified Program Agency (CUPA) consolidates and coordinates programs for hazardous waste, Hazardous Materials Business Plans (HMBPs), the California Environmental Protection Agency (CalEPA's) California Accidental Release Prevention (CalARP) program, and Uniform Fire Code, among others. The Contra Costa Health Services Hazardous Materials Programs (CCHSHMP) is the CUPA for the City of Pittsburg.

The proposed Project facility would be required by CalEPA to prepare and submit an HMBP for storage of hazardous materials when quantities exceed State-defined thresholds (55 gallons of a liquid, 200 cubic feet of a gas, and 500 pounds of a solid). The HMBP consists of owner/operator information including: i) a list of emergency contacts; ii) developing a hazardous material inventory, which includes listing physical state, quantities, known hazards, and the identity of each chemical component; iii) submitting of a facility map, which provides the location of each hazardous material within the facility, the location of emergency equipment and emergency evacuation areas, and locations of environmentally sensitive areas such as storm drains, sewer system inlets, etc.; iv) developing a business emergency plan, which lists all local, State and federal emergency contacts and provides information on emergency equipment and procedures; and v) providing an employee training plan, which specifies how employees will would be trained relative to routine hazardous material handling and non-routine and emergency situations. The HMBP is submitted and updated annually through CalEPA's web-based California Environmental Reporting System (CERS). Each CERS submission is reviewed and approved by the local CUPA, who also inspects each hazardous material handler on a periodic basis.

The CUPA also oversees the State's CalARP program, which requires preparation of a risk management plan (RMP) for facilities with regulated substances above threshold quantities within a process. The CalARP program requires developing an offsite consequences analysis (OCA) based on a worst-case release scenario for each threshold chemical. Based on the OCA and several other factors, the facility is placed into one of four program levels, which require implementing specified protocols for chemical hazard analysis and developing various management plans for routine and non-routine situations involving the chemical.

Hazardous materials include hazardous wastes. Hazardous waste management in California is regulated overall by Cal/EPA's Department of Toxic Substances Control (DTSC), and at the local level by the CUPAs. Facilities that generate hazardous waste must obtain a hazardous waste generator ID number and must follow extensive requirements found in Title 22 of the California Code of Regulations. These requirements include waste characterization, accumulation requirements, transportation, employee training and recordkeeping and reporting.

Section 65962.5 of the Government Code requires Cal/EPA to develop and update a list of hazardous waste and substances sites, known as the Hazardous Waste and Substance Sites (Cortese) List, which is maintained by the DTSC. The Cortese List is a planning document used by the State, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. The Cortese List includes hazardous substance release sites identified by the DTSC, the State Water Resources Control Board (SWRCB), and the California Department of Resources Recycling and Recovery (CalRecycle).

Discussion

a) **Less-than-Significant Impact.** During construction of the Project, the use of materials considered to be hazardous substances would be limited to consumer quantities of fuels, lubricants, adhesives, and solvents, that are subject to standard manufacturer handling and storage recommendations and Cal/OSHA management and disposal requirements, where applicable. Thus, the potential for the release of hazardous materials associated with construction would be low and not considered a significant hazard to the public or the environment.

The Project would require demolition of 27,000 square feet of existing pavement and excavation and offsite removal of 16,000 cubic yards of soil. Because the Project site has been within a larger industrial facility for many years, there is a potential that soils underlying the pavement slated for removal could be impacted with residual concentrations of contaminants including hydrocarbons, metals, or pesticides. Groundwater would likely not be encountered during soil excavation. Public records indicate that the Project parcel is not currently or has in the past been subject to investigation for contaminated soil or groundwater (DTSC, SWRCB, 2024). However, because there is a potential to discover unanticipated soil contamination during grading, excavation and soil removal, the Project would implement a Soils Management Plan (SMP). The SMP would outline the procedures contractors are to follow if unanticipated soil contamination is encountered during construction grading and excavation activities.

The SMP would specify protocols and notifications necessary to address discovery of contaminated soil, health and safety, sampling and analysis, monitoring, soil removal, stockpiling, water quality, and transportation.

The potential for the release of hazardous substances associated with construction is low because of the small, controllable quantities used and the temporary, site-specific nature of construction activities. The SMP would further reduce the potential hazards of exposed contaminated soil during construction grading and excavation. Thus, the potential for Project construction to create a significant hazard to the public is low and the impact is less than significant.

The Project would manufacture iron salts, which requires transporting, processing, and storing several corrosive chemicals. These chemical compounds (except for liquid oxygen and Ferric Sulfate Oxidizer) are contained in the California Occupational Safety and Health Regulations (CAL/OSHA) Hazardous Substance List,[11] and include:

- Ferrous Chloride (CAS[12] No. 7758943) (aka iron salts) serves as a coagulation and flocculation agent in wastewater treatment, especially for wastes containing chromate or sulfides. It is used for odor control in wastewater treatment. Ferrous chloride is corrosive.

- Sodium Hydroxide (CAS No. 1310732) (aka. caustic soda or lye) is a white, odorless solid commonly used in cleaners and soaps. It can react violently with strong acids and with water and is corrosive.

- Sulfuric Acid (CAS No. 7664939) is a colorless oily liquid, which is soluble in water with the release of heat. It is highly corrosive to metals and human tissue.

- Ferric Sulfate (CAS 10028225) is used for aluminum etching, soil conditioning, a polymerization catalyst, a dye fixative, and as a hemostatic agent in dentistry. Ferric sulfate is used in water treatment and is corrosive to many metals

- Hydrogen Chloride (CAS No. 7647010) is a colorless to slightly yellow, corrosive, nonflammable gas that is heavier than air and has a strong, irritating odor.

- Chlorine (CAS No. 7782505) is a poisonous gas with a pungent odor like bleach. It is a hazardous, highly corrosive chemical that is heavier than air.

11 Chapter 3.2. California Occupational Safety and Health Regulations (CAL/OSHA), Subchapter 1. Regulations of the Director of Industrial Relations, Article 5. Hazardous Substances Information and Training, §339.

12 CAS is the Chemical Abstracts Service Number. It is a unique accession number assigned by the Chemical Abstracts Service, a division of the American Chemical Society. Each number is unique to a given compound.

- Ferric Sulfate Oxidizer (CAS not assigned) is produced on a large scale by adding sulfuric acid and an oxidizing agent (e.g., nitric acid or hydrogen peroxide) to a hot solution of ferrous sulfate.

- Liquid Oxygen (CAS not assigned) is used as an oxidant and is widely applied in the metal industries in conjunction with acetylene and other fuel gases for metal cutting, welding, scarfing, hardening, cleaning and melting.

The storage, processing, and transportation of these chemicals is heavily regulated under several local, state, and federal hazardous materials health and safety regulations to ensure that risks to the public or the environment from hazardous materials and wastes are minimized, as discussed below. In addition, the existing Corteva facility, of which the Project would be a part, is regulated under the CUPA and the CalARP, the processes and storage within the Project site must comply with CalEPA's HMBP regulations, and transportation of hazardous materials and waste must comply with regulations set forth by DOT, DTSC and CalRecycle.

Under regular operation, the Project would accept solid iron ore, scrap steel, and ferrous chloride by truck. These materials would be transported to the facility in accordance with hazardous transportation regulations administered by the US Department of Transportation (DOT). All raw materials and unused process chemicals would be stored in approved, sealed containment and above ground tanks.

Material processing using hydrogen chloride and chlorine to dissolve scrap iron would take place in sealed, specially designed reactors and digesters and the manufactured iron salts would be stored in sealed above-ground tanks. Chlorine and hydrogen chloride used in the processes would be transported onto the site through mostly existing Corteva-owned and operated pipelines. The chlorine pipeline is currently in place 20 feet from the project boundary and would only require an extension of 40 feet to reach the proposed facility. The Corteva facility maintains an RMP under the CalARP Program, which includes RMPs for the release of chlorine vapor and includes the requirement to conduct a process hazard assessment (PHA) in order to identify, evaluate, and control associated hazards.

Hydrogen chloride would be transported to the Project site in DOT regulated tractor trailers specifically designed to transport hazardous corrosive gas. Transportation by truck would continue until a new hydrogen chloride pipeline is completed. The pipeline would extend onto the Project site from the rail depot of F Street to the east. The chlorine and hydrogen chloride pipelines are specially designed with pressure detection controls to convey gas products without the threat of accidental leakage and catastrophic rupture; however, as with the chlorine gas lines, the Corteva facility RMPs would address potential unintended release scenarios of hydrogen chlorine gas and determine appropriate hazardous response protocols to protect workers, the public and the environment.

The finished products, including ferrous chloride, ferric chloride, and ferric sulfate would be transported off the Project site in tanker trucks and rubber-lined rail cars as liquid corrosives, which are regulated by the DOT. In addition to marketable products, the Project would also transport 20 cubic yards per month of nonhazardous filter cake solid material in a dumpster to a regulated landfill under requirement of the DTSC and CalRecycle.

The Project would use and transport various hazardous chemical compounds in solid, gaseous and liquid states for its processes. However, the chemical storage, processing, and transportation of these chemicals is heavily regulated under several local, state, and federal hazardous materials health and safety regulations to ensure that risks to the public or the environment from hazardous materials and wastes are minimized. The Project site is situated within the operating Corteva chemical processing facility, at least one mile from nearby residences and schools. The existing Corteva facility is regulated under the CUPA and the CalARP, the processes and storage within the Project site must comply with CalEPA's HMBP regulations, and transportation of hazardous materials and waste must comply with regulations set forth by DOT, DTSC and CalRecycle. Roads and transportation routes accessing the Corteva site do not intersect residential streets or neighborhoods. Based on its location within an operating and regulated chemical processing facility and the current level of local, state and federal regulations addressing hazardous materials management and waste disposal, the potential for the operation of the proposed Project to create a significant hazard to the public is low and thus this impact is less than significant.

b) **Less-than-Significant Impact.** Refer to topic (a)**,** above. While the Project proposes a manufacturing process that transports, stores, and consumes potentially hazardous chemicals, the current local, state and federal regulatory environment established to control and monitor the use of hazardous materials (i.e., CUPA, CalEPA, DTSC) greatly minimizes the potential for a reasonably foreseeable upset or accident to occur. Considering the modern industry standards for these types of industrial processes and the regulations addressing production, storage, and transportation of hazardous and non-hazardous gas and liquids, an accidental release during use, transportation or conveyance of hazardous materials would be rare. However, if one did occur, it would be managed locally and contained at the Project site by Corteva emergency response teams operating in accordance with federal and state regulations. Thus, the potential for a release of hazardous materials into the environment is low and this impact is less than significant.

c) **Less than Significant.** The closest school to the Project site is Martin Luther King Junior High School, located just over 1 mile to the southwest. The second closest is Los Medanos College located about 1.3 miles to the south. Pittsburg High School is located 1.6 miles to west-southwest. These schools are greater than one mile from the Project site and would not likely be impacted if, in the rare occurrence, a release of either gas phase chlorine or hydrogen chloride, occurred on the Project site. Given the distance from the Project site, the low probability of an accidental release, and the consideration that if an

accidental release did occur, it would be managed and contained judiciously by onsite emergency crews, this impact is considered less than significant.

d) **Less than Significant Impact.** Corteva's property (including the Project parcel) is on the Cortese List due to groundwater contamination issues, and, for that reason, is also listed on SWRCB's GeoTracker and DTSC's EnviroStor sites. EnviroStor indicates that the Corteva facility has three Hazardous Waste Facility Permits: a Boiler and Industrial Furnace Permit, a Block 560 Drum Storage Permit, and a Monofill Post-Closure Permit (DTSC, 2024). Corteva is also listed in Geotracker for a permitted underground storage tank and a Class II (designated waste) landfill. These facilities would not impact operations at the Project site. According to GeoTracker, the site is actively remediating contaminated groundwater for potential contaminants of concern such as benzene, toluene, mercury, and chlorinated hydrocarbons (SWRCB, 2024). Although the entire Corteva facility is the subject of the listing, the leased site for the Project (which is in the interior of the Corteva property) is not expected to be affected by the ongoing remediation activities elsewhere on the larger Corteva property. Construction of the proposed manufacturing facility would not intercept contaminated groundwater, nor will groundwater be used at the Project site. Therefore, this impact is less than significant.

e) **No Impact.** The Project site is not located within an Airport Land Use Compatibility Plan and is not within two miles of a public airport. The nearest airport is the Contra Costa County Airport located approximately 11 miles west of the Project site. Therefore, there is no impact.

f) **Less than Significant.** The Project would not interfere with emergency response plans or evacuation plans. The Project is an industrial in-fill project occurring on a developed lot within an active, private industrial facility. The Project involves the installation of iron salts manufacturing infrastructure on a parcel with existing ingress and egress. The proposed development at the Project site would not establish new access or alter existing access onto the roadways within Corteva property or divert the current traffic flow on surrounding streets. The Project would not impede or require diversion of rescue vehicles or evacuation traffic in the event of a life-threatening emergency. Therefore, this impact is less than significant.

g) **Less-than-Significant Impact.** The Project site is mapped in an unzoned Local Responsibility Area (LRA) and is not located in a State Responsibility Area (SRA) or a Very High Fire Hazard Severity Zone (VHFHSZ). The closest VHFHSZ is approximately 6 miles southwest of the Project site near Clayton (CalFire, 2007). There are no elements of the Project that would exacerbate regional wildland fire risk. Therefore, the impact is less-than-significant impact.

References

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California State Water Resources Control Board (SWRCB). 2024. GeoTracker. Accessed 6/30/24 Online at: https://geotracker.waterboards.ca.gov/

California Department of Forestry and Fire Protection (CalFire, 2007). *Draft Fire Hazard Severity Zones in LRA* – Contra Costa County. Fire and Resource Assessment Program (FRAP), Version Reviewed: September 17, 2007.

HYDROLOGY AND WATER QUALITY

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
10. HYDROLOGY AND WATER QUALITY – Would the proposed project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
i) result in substantial erosion of siltation on- or off- site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Setting

The Project site is a 1.38-acre parcel within Corteva's larger approximately 200-acre developed industrial complex.[13] The Project site is relatively flat, fully developed and consists of two small buildings and the remainder is paved storage and parking. Annual rainfall is approximately 16.5

13 The total Corteva Agriscience facility consists of approximately 500 acres, about half of which is undeveloped.

inches in the area (Contra Costa County, 2003). The Project site is not located within a 100-year or 500-year flood hazard area (FEMA, 2024).

The Project site is located within the 17.4 square-mile Kirker Creek watershed, which drains much of the City of Pittsburg and a portion of the City of Antioch. The nearest major surface water bodies are Kirker Creek, located approximately 0.4 miles east of the Project site, and New York Slough, located approximately 0.3 miles north of the Project site. Originating in the foothills of Mt. Diablo, Kirker Creek flows north 9.4 miles through parks, ranches, and developed areas in Pittsburg, and empties into New York Slough. The channel of Kirker Creek has been substantially altered in the Project vicinity due to urbanization and the lower reaches of the creek and its tributaries have been culverted, concreted, and redirected in reaches to accommodate residential and industrial uses. While most of the channel is open, culverts divert the creek underground at road crossings and along a few segments near the Pittsburg-Antioch Highway (Contra Costa County, 2003). New York Slough is part of the Sacramento-San Joaquin Delta, which is listed as an impaired water body[14] under Section 303(d) of the Clean Water Act (CWA) (Jacobs, 2019). A Total Maximum Daily Load[15] (TMDL) has been approved for the Sacramento-San Joaquin Delta for mercury, PCBs, and selenium for the Sacramento-San Joaquin Delta (RWQCB, 2024).

All stormwater discharged from the Corteva industrial complex, including the existing Project site, is ultimately discharged to New York Slough in accordance with the General Permit for Stormwater Discharges Associated with Industrial Activities, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS00001 (Industrial General Permit [IGP]). Stormwater currently generated on the Project site flows to the nearest storm drain inlet (there is existing stormwater infrastructure along the eastern edge of the Project site adjacent to F Street and just west of the Project site along the existing internal access road) where it is conveyed via Corteva's stormwater system to a 1.3-million-gallon (MG) concrete retention basin located at the north end of the Corteva industrial complex in the 500 block, adjacent to New York Slough. After development of the Project, stormwater from the first storm event of the wet season, all process water, and stormwater that comes into contact with manufacturing processes would be conveyed to and retained in the concrete retention basin and then treated via the High Purity Water Process system for reuse as raw material for various industrial processes onsite. Stormwater from subsequent storm events that does not come into contact with the manufacturing processes is discharged to New York Slough in accordance with the requirements of the Industrial General Permit. Discharge from the stormwater system can be stopped in the event of a spill of hazardous or polluting material by closing the outfall to New York Slough (Jacobs, 2019).

Within the Corteva industrial facility, each manufacturing or processing area has perimeter diking or is sloped inward toward the process facility as opposed to being sloped toward the adjacent streets. Storage tanks located outside of contained manufacturing or process areas are surrounded

[14] The Sacramento-San Joaquin Delta is listed as an impaired water body for the following pollutants: Chlordane, Dichlorodiphenyltrichloroethane (DDT), Dieldrin, Dioxin compounds (including 2,3,7,8-TCDD), Furan compounds, Mercury, Polychlorinated biphenyls (PCBs), PCBs (dioxin-like), Selenium, invasive species (RWQCB, 2024).

[15] TMDLs are action plans to restore clean water by defining how much of a pollutant a water body can tolerate and meet water quality standards.

by concrete dike walls and the areas inside the dikes have concrete or paved floors to prevent spills from escaping. Stormwater accumulating within these diked areas is not discharged to the storm drain system or to New York Slough; all stormwater collected within the diked areas is processed and recycled for onsite use or is disposed of via an onsite sanitary sewer line to Delta Diablo or transported offsite via tanker truck to an appropriate treatment and/or disposal facility.

Discussion

a) **Less-than-Significant Impact.** During construction activities, stormwater runoff from disturbed soils is a common source of pollutants (mainly sediment) to receiving waters. Earthwork activities can render soils and sediments more susceptible to erosion from stormwater runoff and result in the migration of soil and sediment in stormwater runoff to storm drains and downgradient water bodies. In addition, construction would involve the use of various materials typically associated with construction activities such as paint, solvents, oil and grease, petroleum hydrocarbons, concrete and associated concrete wash-out areas. If improperly handled, these materials could be transported offsite by stormwater runoff (nonpoint source pollution) and degrade receiving water quality.

The US Clean Water Act effectively prohibits discharges of stormwater from construction projects unless the discharge complies with National Pollutant Discharge Elimination System (NPDES) regulations. Because the Project exceeds one acre in size, construction activities would be required to obtain coverage under the State Construction General Permit (CGP)[16]. Under the requirements of the CGP, the permit applicant or their contractor(s) would implement stormwater controls, referred to as construction Best Management Practices (BMPs), as set forth in a detailed Stormwater Pollution Prevention Plan (SWPPP). SWPPPs are a required component of the CGP and must be prepared by a California-certified Qualified SWPPP Developer (QSD) and implemented by a California-certified Qualified SWPPP Practitioner (QSP). SWPPPs must describe the specific erosion control and stormwater quality BMPs that will be implemented to minimize pollutants in stormwater runoff and detail their placement and proper installation. The BMPs are designed to prevent pollutants from contacting stormwater and to keep all products of erosion (i.e., sediment) and stormwater pollutants from migrating offsite into storm drains and receiving waters. Typical BMPs implemented at construction sites include placement of sediment barriers around storm drains, the use of fiber rolls or gravel barriers to detain sediment from disturbed areas, and temporary or permanent stockpile covers to prevent rainfall from contacting the stockpiled material. In addition to erosion control BMPs, SWPPPs also include BMPs for preventing the discharge of other pollutants such as paint, solvents, concrete, and petroleum products to downstream waters. BMPs for these pollutants also include routine leak inspections of equipment, maintaining labelling and inspecting integrity of containers, and ensuring that

[16] NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities – Order no. WQ 2022-0057-DWQ which becomes effective on September 1, 2023 and which supersedes Order 2009-0009-DWQ as amended by Order 2010-0014-DWQ and 2012-0006-DWQ.

construction materials are disposed of in accordance with manufacture's recommended disposal practices and applicable hazardous waste regulations.

If shallow groundwater were encountered during construction excavations, temporary dewatering would be necessary to create a dry work area. Any dewatering discharges during construction activities would be required to comply with dewatering requirements specified in the CGP, including that discharge effluent not contain pollutants in quantities that cause pollution or nuisance and that discharges are consistent with water quality standards and limitations for receiving waters. If dewatering were to occur in areas with known soil and/or groundwater contamination (such as sites that have been identified on Geotracker or with local permitting agencies or the RWQCB), dewatering effluent would not discharged to the storm drain system but would be collected and either processed via the High Purity Water Process system or transported offsite to an appropriate facility.

Under the provisions of the CGP, the QSD is responsible for assessing the risk level of a site based on both sediment transport and receiving water risk and developing and implementing the SWPPP. Projects can be characterized as Risk Level 1, 2, or 3, and these risk levels determine the minimum BMPs and monitoring that must be implemented during construction. Under the direction of the QSD, the QSP is required to conduct routine inspections of all BMPs, conduct surface water sampling, when necessary, and report site conditions to the State Water Resources Control Board (SWRCB) using the Stormwater Multi-Application Reporting and Tracking System (SMARTS). Compliance with the CGP is required by law and has proven effective in protecting water quality at construction sites.

Operation of the proposed Project would be subject to coverage under the NPDES Industrial General Permit (General Permit Order 2014-0057-DWQ), which regulates discharges associated with industrial activities. The Industrial General Permit requires the implementation of management measures that will achieve the performance standard of best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT). The Industrial General Permit also requires the implementation of a SWPPP and a monitoring plan with requirements for annual reporting of water quality compliance and any corrective actions implemented. Corteva has implemented a SWPPP and associated monitoring program (Jacobs, 2019) and operation of the Project would be subject to the requirements of that SWPPP. Through the SWPPP, the Industrial General Permit regulates stormwater discharges associated with chemical manufacturing and storage, equipment fueling, maintenance, and waste disposal (as applicable to the proposed Project). In addition, the SWPPP identifies sources of pollutants and describes the means to manage the sources to reduce stormwater pollution.

Required compliance with the CGP and the Industrial General Permit, including implementation of SWPPPs for construction activities and long-term operations, specifying appropriate design features, water quality monitoring, and pollutant source controls, would prevent the discharge of pollutants to surface waters or groundwater and

minimize or eliminate the potential for significant degradation of surface water or groundwater quality from the proposed Project. Water quality impacts would be less than significant.

b) **Less-Than-Significant Impact.** The Project site is located within the Pittsburg Plain Groundwater Basin (DWR, 2004). The City of Pittsburg 2020 Urban Water Management Plan (UWMP) states that the Pittsburg Groundwater Basin is not a critically over-drafted groundwater basin. Groundwater levels in the basin have historically been stable because the majority of local water demand has been met by surface water.

No groundwater wells are proposed as part of the Project and the Project would not involve long-term groundwater extraction. The Project would be served by the existing potable water service provided by the City. The Project site and surrounding industrial use area is currently covered with impervious surfaces. Under the Project, there would not be a substantial change in impervious surfaces such that groundwater recharge is impeded as compared to baseline. Project construction of utilities and foundations would involve subsurface excavation. If shallow groundwater were encountered during construction excavations, temporary dewatering would be necessary to create a dry work area. Dewatering would be localized to the excavation site or trench and would likely only require the removal of low volumes of shallow groundwater from excavation trenches. Because of its short-term and highly localized nature, construction dewatering would not adversely affect local groundwater levels or available supply. The Project would not lower the groundwater table as a result of groundwater extraction or through a reduction in groundwater recharge. Therefore, the Project would not interfere with groundwater recharge or substantially decrease groundwater supplies and impacts related to groundwater depletion and interference with groundwater recharge would be less than significant.

c) **Less-Than-Significant Impact.** Implementation of the proposed Project would not involve the direct alteration of a stream or river and would not substantially alter the existing drainage pattern of the Project site or add impervious surface area as compared to existing conditions. Stormwater runoff during construction and following completion of the Project would not be increased in volume or in regards to peak runoff rates and stormwater would continue to be collected and conveyed via the existing stormwater system for treatment and reuse and/or discharged to New York Slough in compliance with the requirements of the NPDES Industrial General Permit, as occurs under existing conditions. The Project site is not located within a 100-year[17] flood hazard zone designated by the (FEMA); implementation of the Project would not impede or redirect floodwaters offsite.

As described under a), above, during construction of the proposed Project, the applicant would be required to comply with the NPDES regulations and apply for coverage under the CGP because ground disturbance at the Project site would exceed one acre. Under the CGP, the Project applicant or their contractor(s) would be required to prepare and

17 Areas subject to inundation by the 1-percent-annual-chance flood event

implement a SWPPP. The SWPPP must include site-specific erosion and sedimentation control practices and would limit the amount of runoff that may be directed offsite during construction. Following the completion of construction (post-construction), the Project would be subject to compliance with the Industrial General Permit and Corteva's associated SWPPP. The SWPPP requires the identification of sources of pollutants and describes the means to manage the sources to minimize and/or avoid stormwater pollution.

Compliance with NPDES requirements and the implementation of required BMPs would prevent erosion and siltation on- and off-site during construction and would ensure post-construction stormwater discharges would not be increased and that pollutants would not be transported offsite in a manner that would degrade the water quality of receiving waters (i.e., New York Slough). Therefore, impacts related to erosion, siltation, or creating additional sources of polluted runoff would be less than significant.

The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would exceed the capacity of stormwater infrastructure, substantially increase the rate or amount of surface runoff, or impede or redirect flood flows; the impact would be less than significant.

d) **Less-Than-Significant Impact.** A seiche is caused by oscillation of the surface of a large enclosed or semi-enclosed body of water due to an earthquake or large wind event. The Project site is not located near a large enclosed or semi-enclosed body of water. The Project site is not in a tsunami hazard inundation zone (CGS, 2021). As described under c), above, the Project site is not located within a 100-year flood hazard zone designated by FEMA. Therefore, impacts resulting from the release of pollutants due to inundation of the Project due to flood waters would be less than significant.

e) **Less-Than-Significant Impact.** The RWQCB's Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan; RWQCB, 2019) is the principal water quality planning document for the region. The Basin Plan water quality objectives are designed to preserve and enhance water quality and protect the beneficial uses of all regional terrestrial surface water bodies (e.g., creeks, rivers, streams, and lakes) and groundwaters within the RWQCB's jurisdictional area. As discussed above under a), c), and d), the proposed Project would not cause any significant impact related to surface or groundwater quality degradation. The Basin Plan water quality objectives are designed to preserve and enhance water quality and protect the beneficial uses[18] of all regional terrestrial surface water bodies (e.g., creeks, rivers, streams, and lakes) and groundwaters within the RWQCB's jurisdictional area. The Project would comply with the requirements of the NPDES Permit program during construction and operation, including implementation of BMPs and other requirements of a SWPPP, which are designed to ensure stormwater discharges associated with construction and long-term occupancy of the Project site

18 Aquatic resources provide many different benefits. Beneficial uses are those resources, services, and/or qualities of aquatic systems that are to be maintained and are the ultimate goals for protecting and achieving high water quality.

comply with the Basin Plan water quality standards. The Project would not require substantial groundwater withdrawals or reduce groundwater recharge, as discussed under b), and therefore would not conflict with or obstruct implementation of a sustainable groundwater management plan. Impacts relating to conflict or obstruction of implementing a water quality control plan or sustainable groundwater management plan would be less than significant.

References

California Department of Conservation, California Geological Survey (CGS), 2021. Tsunami Hazard Area Map, Contra Costa County; produced by the California Geological Survey and the California Governor's Office of Emergency Services. Accessed online on June 24, 2024 at: https://www.conservation.ca.gov/cgs/tsunami/maps/contra-costa

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RWQCB, 2024. Final California 2020 Integrated Report (303(d) List/305(b) Report). Accessed online on June 24, 2024 at: https://www.waterboards.ca.gov/water_issues/programs/tmdl/2020_2022state_ir_reports_revised_final/apx-b/00116.shtml

LAND USE AND LAND USE PLANNING

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
11.	**LAND USE AND LAND USE PLANNING — Would the proposed project:**				
a)	Physically divide an established community?	☐	☐	☐	☒
b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Discussion

a) **No Impact.** The Project site is fully developed and consists of existing buildings and pavement in the Corteva industrial complex. The Project would replace existing Corteva operations that are of similar heavy industrial nature. The Project would not divide an established community. Therefore, the Project would result in no impact.

b) **No Impact.** The Project site is zoned General Industrial (IG) and is designated Industrial in the City's 2040 General Plan. The Project would replace existing Corteva operations that are of similar industrial nature. The Project is consistent with the existing zoning and land designation and would not conflict with any land use plans, policies, or regulations. Therefore, the Project would result in no impact.

MINERAL RESOURCES

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
12. MINERAL RESOURCES — Would the proposed project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion

a, b) **No Impact.** The Project site is fully developed and consists of existing buildings and pavement in the Corteva industrial complex. The Project would replace existing Corteva operations that are of similar heavy industrial nature. The California Department of Conservation Mines Online tool does not identify any documented mines on the Project site (California Department of Conservation, 2024). According to the General Plan, there are currently no significant mineral deposits or active mining operations in the City (City of Pittsburg, 2010). Thus, the Project site does not contain a locally important mineral resource recovery site and the Project would result in no impact.

References

Department of Conservation, *Division of Mine Reclamation, Mines Online.* http://maps.conservation.ca.gov/mol/index.html. Accessed April 11, 2024.

City of Pittsburg. 2010. *City of Pittsburg 2020 General Plan, Chapter 9 Resource Conservation*

NOISE

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
13. NOISE — Would the proposed project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Introduction

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise is defined as unwanted sound. Sound pressure level has become the most common descriptor used to characterize the "loudness" of an ambient sound level. Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain. Decibels are measured using different scales, and it has been found that A-weighting of sound levels best reflects the human ear's reduced sensitivity to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria. All references to decibels (dB) in this report will be A-weighted unless noted otherwise.

Several time-averaged scales represent noise environments and consequences of human activities. The most commonly used noise descriptors are the equivalent A–weighted sound level over a given time period (Leq)[19]; average day–night 24-hour average sound level (Ldn)[20] with a nighttime increase of 10 dB to account for sensitivity to noise during the nighttime; and community noise equivalent level (CNEL)[21], also a 24-hour average that includes both an evening and a nighttime sensitivity weighting. **Table 9** identifies decibel levels for common sounds heard in the environment. With regard to increases in A-weighted noise level, the following relationships occur (Caltrans, 1998a):

- Under controlled conditions in an acoustics laboratory, the trained healthy human ear is able to discern changes in sound levels of 1 dB;

19 The Equivalent Sound Level (Leq) is a single value of a constant sound level for the same measurement period duration, which has sound energy equal to the time–varying sound energy in the measurement period.

20 Ldn is the day–night average sound level that is equal to the 24-hour A-weighted equivalent sound level with a 10-decibel penalty applied to night between 10:00 p.m. and 7:00 a.m.

21 CNEL is the average A-weighted noise level during a 24-hour day, obtained by addition of 5 decibels in the evening from 7:00 to 10:00 p.m., and an addition of a 10–decibel penalty in the night between 10:00 p.m. and 7:00 a.m.

- Outside of such controlled conditions, the trained ear can detect changes of 2 dB in normal environmental noise;
- It is widely accepted that the average healthy ear, however, can barely perceive noise levels changes of 3 dB;
- A change in level of 5 dB is a readily perceptible increase in noise level; and
- A 10-dB change is recognized as twice as loud as the original source.

TABLE 9 TYPICAL NOISE LEVELS

Noise Level (dB)	Outdoor Activity	Indoor Activity
90+	Gas lawn mower at 3 feet, jet flyover at 1,000 feet	Rock Band
80-90	Diesel truck at 50 feet	Loud television at 3 feet
70-80	Gas lawn mower at 100 feet, noisy urban area	Garbage disposal at 3 feet, vacuum cleaner at 10 feet
60-70	Commercial area	
40-60	Quiet urban daytime, traffic at 300 feet	Large business office, dishwasher next room
20-40	Quiet rural, suburban nighttime	Concert hall (background), library, bedroom at night
10-20		Broadcast / recording studio
0	Lowest threshold of human hearing	Lowest threshold of human hearing

SOURCE: (modified from Caltrans Technical Noise Supplement, 1998)

Noise Attenuation

Stationary point sources of noise, including construction equipment, attenuate (lessen) at a rate of 6 to 7.5 dB per doubling of distance from the source, depending on ground absorption. Soft sites attenuate at 7.5 dB per doubling because they have an absorptive ground surface such as soft dirt, grass, or scattered bushes and trees. Hard sites have reflective surfaces (e.g., parking lots or smooth bodies of water) and therefore have less attenuation (6.0 dB per doubling). A street or roadway with moving vehicles (known as a “line” source), would typically attenuate at a lower rate, approximately 3 to 4.5 dB each time the distance doubles from the source, that also depends on ground absorption (Caltrans, 1998b). Physical barriers located between a noise source and the noise receptor, such as berms or sound walls, would increase the attenuation that occurs by distance alone.

Regulatory Context

Federal and State

There are no federal or state noise standards that regulate noise issues related to the Project.

Local

City of Pittsburg

City of Pittsburg 2040 General Plan

The City of Pittsburg 2040 General Plan Noise Element (Chapter 13) outlines a comprehensive program of achieving acceptable noise levels throughout Pittsburg and ensures compliance with State noise requirements. The Noise Element indicates that the significant sources of noise in Pittsburg include major transportation corridors, such as State Route (SR) 4 and arterial roadways. The following policy is relevant to this Project.

> **Policy 13-P-1.7:** Limit generation of loud noises on construction sites adjacent to existing development to normal business hours between 8:00 a.m. and 5:00 p.m.

City of Pittsburg Municipal Code

The City of Pittsburg has established noise performance standards and permissible hours for construction activities in the Municipal Code. These provisions are summarized below:

> Per §9.44(J), the operation of pile drivers, hammers, and similar equipment is prohibited between the hours of 10:00 p.m. and 7:00 a.m. In addition to these specific requirements set forth in Chapter 9.44 of the Municipal Code, development projects are required to meet the more restrictive standards stated above in Policy 12-P-9, which limits all loud noise-generating construction activities to between 8:00 a.m. and 5:00 p.m.
>
> Per §18.82.040(B), no construction event or activity occurring on any site adjoining a lot located in an R, residential PD or GQ district shall generate loud noises in excess of 65 decibels measured at the property line, except between the hours of 8:00 a.m. and 5:00 p.m.

Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others due to the amount of noise exposure, in terms of both duration and insulation from noise, and the types of activities typically involved. Residences, hospitals, schools, and nursing homes are generally more sensitive to noise than commercial and industrial land uses. This analysis considers noise-sensitive uses as residences, schools, daycares, hospitals, community centers, and parks consistent with the definitions of noise-sensitive uses in the City of Pittsburg 2040 General Plan Noise Element.

The nearest sensitive receptors are residences approximately one mile southwest of the Project site along Columbia Street. Central Park is approximately one-mile southwest of the Project site. The nearest school, Martin Luther King Jr. Junior High School, is approximately 1.1 miles

southwest of the Project site. There are no churches, hospitals, or community centers within one mile of the Project site.

Existing Noise Environment

The Project site is fully developed and consists of two small buildings and a large area of pavement used for parking and storage, all within in the larger Corteva industrial complex. Major noise sources in the Project vicinity include rail operations to the east, south and west, motor vehicle traffic on the surrounding roadways, and the existing industrial operations within the Corteva industrial complex surrounding the facility.

Discussion

a) ***Construction Noise Impacts***

No Impact. Construction would result in a temporary increase in ambient noise levels in the vicinity of the Project. Construction activities would require the use of numerous pieces of noise-generating equipment, such as excavating machinery (e.g., excavators, loaders, etc.) and other construction equipment (e.g., dozers, compactors, trucks, etc.). The noise levels generated by construction equipment would vary greatly depending upon factors such as the type and specific model of the equipment, the operation being performed, the condition of the equipment, and the prevailing wind direction. The nearest sensitive receptors are residences approximately one mile to the southwest.

Construction noise occurring at the Project site would not be perceptible to sensitive receptors. Certain construction activities would be limited to the allowable hours outlined in City of Pittsburg Municipal Code §9.44(J), described above. Project construction would not exceed standards established in the local general plan or noise ordinance. Therefore, Project construction would result in no impact.

Operational Noise Impacts

The Project would replace existing Corteva operations that are of similar heavy industrial nature. The Project site is in the center of the Corteva industrial complex surrounded by roadways, railways, and industrial uses, thus there are no standards in the General Plan or Noise Ordinance applicable to the Project. Operational noise from the Project would not be perceptible at sensitive receptors. Therefore, Project operations would result in no impact.

b) **No Impact.** The Project site is in the center of the Corteva industrial complex surrounded by roadways, railways, and industrial uses. The Project would utilize the existing buildings on the Project site and would not require building demolition. Construction would utilize typical construction equipment that would not pose potential vibration impacts. Therefore, the Project would result in no impact.

c) **No Impact.** The Project site is not within the vicinity of a private airstrip or an airport land use plan, or within two miles of a public use airport. The nearest airport is Buchanan

Field Airport (the nearest runway of which is approximately 11 miles southwest of the Project site). Therefore, the Project would result in no impact.

References

California Department of Transportation (Caltrans). 1998a. *Technical Noise Supplement*.

California Department of Transportation (Caltrans). 1998b. *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects.*

City of Pittsburg. 2024. *City of Pittsburg 2040 General Plan, Chapter 13 Noise Element,* April 25, 2024.

POPULATION AND HOUSING

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
14. POPULATION AND HOUSING — Would the proposed project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

a) **No Impact.** The Project site is fully developed with industrial-related uses and consists of existing buildings and pavement in the Corteva industrial complex. Development of the Project would not directly or indirectly induce substantial unplanned population growth in the area. Therefore, the Project would result in no impact.

b) **No Impact.** The Project would not displace existing people or housing units. Therefore, the Project would result in no impact.

PUBLIC SERVICES

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
15. PUBLIC SERVICES — Would the proposed project:				
a) Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Introduction

Fire Protection

The Contra Costa County Fire Protection District (CCCFPD) provides fire protection services to the City of Pittsburg. The CCCFPD, with 26 fire stations and more than 400 employees, is dedicated to preserving life, property and the environment.[22] The nearest fire station to the site is CCCFPD Station 85, located approximately 1.7 miles to the south on Loveridge Road. CCCFPD Station 84 is located approximately 1.9 miles to the southwest on Railroad Avenue.

Police Protection

The City of Pittsburg Police Department provides law enforcement services to the City. The Pittsburg Police Department is located approximately 2.1 miles west of the Project site.

Discussion

a.i) **Less-than-Significant Impact.** The Project site is an existing developed site with the Corteva industrial complex that is currently served by the CCCFPD. The Project would replace existing Corteva operations that are of similar heavy industrial nature. The Project would not result in an increase in calls for fire and emergency protection services that would warrant changes to fire protection service ratios and/or response times. Therefore, the Project would result in a less-than-significant impact.

a.ii) **Less-than-Significant Impact.** The Project site is an existing developed site with the Corteva industrial complex that is currently served by the Pittsburg Police Department. The Project would replace existing Corteva operations that are of similar heavy industrial nature. The Project is not expected to result in an increase in calls for police protection or

22 Contra Costa County, Fire Protection Districts, Accessed at: https://www.contracosta.ca.gov/1550/Fire-Protection-Districts

result in any changes in crime that would warrant changes to police protection service ratios and/or response times. Therefore, the Project would result in a less-than-significant impact.

a.iii-v) **No Impact.** The Project site is an existing developed site with the Corteva industrial complex. Approximately 25 new employees would work at the facility. These would mostly already be local residents. Therefore, the Project would not warrant a need for new schools, parks, or other public facilities, and would result in no impact.

References

City of Pittsburg. 2010. *City of Pittsburg 2020 General Plan, Chapter 11 Public Facilities.*

RECREATION

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
16. RECREATION — Would the proposed project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

a, b) **No Impact.** There are no recreational facilities within the vicinity of the Project site. The Project would replace existing Corteva operations that are of similar heavy industrial nature. The Project's approximately 25 new employees would not substantially increase the use of existing recreational facilities such that physical deterioration of existing facilities would occur or be accelerated. The Project would not warrant new or expanded recreational facilities. Therefore, the Project would result in no impact.

TRANSPORTATION

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

Introduction

Senate Bill 743

Senate Bill 743 (SB 743; Steinberg, 2013) governs the application of new State CEQA *Guidelines* for addressing transportation impacts based on Vehicle Miles Traveled (VMT). It was codified in Public Resources Code §21099, required changes to the guidelines implementing CEQA (State CEQA *Guidelines*) (Cal. Code Regs., Title 14, Div. 6, Ch. 3, § 15000 et seq.) regarding the analysis of transportation impacts. The Governor's Office of Planning and Research (OPR) has proposed, and the California Natural Resources Agency (Agency) has certified and adopted, changes to the State CEQA *Guidelines* that identify VMT as the most appropriate metric to evaluate a project's transportation impacts. With the Agency's certification and adoption of the changes to the State CEQA *Guidelines*, automobile delay, as measured by "level of service" and other similar metrics, generally no longer constitutes a significant environmental effect under CEQA. (Pub. Resources Code, § 21099, subd. (b)(3).)"

The OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR, 2018) provides general direction regarding the methods to be employed and significance criteria to evaluate VMT impacts, absent policies adopted by local agencies.

Project Trip Generation

As noted in the Project Description, the Project site would be accessed via Loveridge Road from Highway 4. Project operations would generate 50 one-way automobile trips per day and 18 one-way heavy truck trips per day (see **Table 10**). The Project would replace existing Corteva operations that are of similar heavy industrial nature, however, to be conservative, existing baseline trips for the Project site were assumed to be zero.

Discussion

a) **Less-than-Significant Impact.** The Project would result in vehicle trips (i.e., worker vehicles, vendor trucks, and haul trucks) during construction. Vehicles associated with construction and operation of the Project would access the Project site via Loveridge Road from Highway 4.

Project operations would generate 50 one-way automobile trips per day and 18 one-way heavy truck trips per day. Trips generated by the Project are shown in **Table 10**, below.

TABLE 10 PROJECT VEHICLE TRIPS

Source	One-Way Trips Per Day	Average One-Way Trip Distance (Miles)	Days Per Year
Incoming Iron Material	6	50	260
Outgoing Finished Product	10	40	260
Outgoing Filter Cake Solids	2	80	12
Operators, Truck Drivers, Managers/Engineers	50	10	260
SOURCE: Pencco, 2024.			

. The Project would not substantially change the pedestrian or bicycle traffic in the area and would not significantly impact or require changes to the design of any existing or planned bicycle or pedestrian facilities. Project construction and operations would not conflict with any program, plan, or policy addressing the circulation system in the City. Therefore, the Project would result in a less-than-significant impact.

b) **Less-than-Significant Impact.** VMT refers to the amount and distance of vehicle travel attributable to a project. VMT generally represents the number of vehicle trips generated by a project multiplied by the average trip length for those trips. For CEQA transportation impact assessment, VMT is calculated using the origin-destination VMT method, which accounts for the full distance of vehicle trips to and from the Project site.

The OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* provides general direction regarding the methods to be employed and significance criteria to evaluate VMT impacts, absent policies adopted by local agencies. The directive addresses several aspects of VMT impact analysis, and is organized as follows:

- **Screening Criteria:** Screening criteria are intended to quickly identify when a project should be expected to cause a less-than-significant VMT impact without conducting a detailed study.

- **Significance Thresholds:** Significance thresholds define what constitutes an acceptable level of VMT and what could be considered a significant level of VMT requiring mitigation.

- **Analysis Methodology:** These are the potential procedures and tools for producing VMT forecasts to use in the VMT impact assessment.

- **Mitigation:** Projects that are found to have a significant VMT impact based on the County's significance thresholds are required to implement mitigation measures to reduce impacts to a less-than-significant level (or to the extent feasible).

Screening Criteria

Screening criteria can be used to quickly identify whether sufficient evidence exists to presume a project would have a less-than-significant VMT impact without conducting a detailed study. However, each project should be evaluated against the evidence supporting that screening criteria to determine if it applies. Projects meeting at least one of the criteria below can be presumed to have a less than significant VMT impact, absent substantial evidence that the project will lead to a significant impact.

The extent to which the Project qualifies under each criterion is noted below.

- **Regional Truck Traffic:** The OPR directive specially focuses on the need to evaluate residential and employment-based travel, either from the standpoint of home-based trips or through evaluation of commute trips associated with employment centers. Consistent with Section 15064.3 of the State CEQA *Guidelines*, impacts from regional truck traffic are not included in the VMT estimates, but are considered from an operational standpoint as they relate to safety.

- **Small Projects:** Defined as a project that generates 110 or fewer average daily vehicle trips.

- **Affordable Housing:** Defined as a project consisting of deed-restricted affordable housing.

- **Local-Serving Non-Residential Development:** The directive notes that local serving retail uses can reduce travel by offering customers more choices in closer proximity. Local serving retail uses of 50,000 square feet or less can be presumed to have a less-than-significant impact.

- **Projects in Low VMT-Generating Area:** Defined as a residential or office project that is in a VMT efficient area based on an available VMT Estimation Tool. The project must be consistent in size and land use type (i.e., density, mix of uses, transit accessibility) as the surrounding built environment.

- **Proximity to High Quality Transit**: The directive notes that employment and residential development located within a half mile of a high-quality transit corridor can be presumed to have a less-than-significant impact.

Impact Conclusion

The extent to which the Project's VMT impacts can be presumed to be less than significant has been determined based on review of the OPR's screening criteria and general guidance. The OPR's Small Project criteria is applicable to the Project. Project

operations would generate 50 one-way automobile trips per day, which is below the OPR's threshold of 110 average daily trips. As the 110 average daily trips threshold would not be exceeded, the Project's VMT impacts can be presumed to be less than significant. Therefore, the Project would result in a less-than-significant impact.

c) **Less-than-Significant Impact.** The Project would not involve any new hazardous design or feature. The Project would not include any sharp curves or dangerous intersection. The Project site design would conform to City design standards and is not expected to create any significant impacts to pedestrians, bicyclists, or traffic operations. Therefore, the Project would result in a less-than-significant impact.

d) **Less-than-Significant Impact.** The Project would not substantially increase hazards to vehicle safety due to increased traffic, which could result in inadequate emergency access. All lane widths within the Project would meet the minimum width that can accommodate an emergency vehicle. In addition, the addition of traffic from Project traffic would not result in any significant changes to emergency vehicle response times in the area. Therefore, the Project would result in a less-than-significant impact.

References

California Governor's Office of Planning and Research (OPR). 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*, April 2018.

TRIBAL CULTURAL RESOURCES

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
18. TRIBAL CULTURAL RESOURCES — **Would the proposed project** cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	☐	☐	☒	☐

Introduction

Tribal Cultural Resources (TCR's) include sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a Tribe. To qualify as a TCR, the resource must either: 1) be listed on, or be eligible for, listing on the California Register of Historical Resources (CRHR) or other local historic register; or 2) constitute a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a TCR (PRC §21074). Under Assembly Bill 52 (AB 52) tribal representatives are considered experts appropriate for providing substantial evidence regarding the locations, types, and significance of TCRs within their traditional and cultural affiliated geographic area, and therefore, the identification and analysis of TCRs should involve government-to-government tribal consultation between the CEQA lead agency and interested tribal groups and/or tribal persons. (PRC §21080.3.1(a)).

The City of Pittsburg notified the following tribes in accordance with AB 52 requirements:

1. The Ohlone Indian Tribe
2. Nashville Enterprise Miwok-Maidu-Nishinam Tribe
3. Confederated Villages of Lisjan Nation
4. Chicken Ranch Rancheria of Me-Wuk Indians
5. Guidiville Indian Rancheria
6. Indian Canyon Mutsun Band of Costanoan

7. Muwekma Ohlone Indian Tribe of the SF Bay Area
8. North Valley Yokuts Tribe
9. Amah Mutsun Tribal Band of Mission San Juan Bautista
10. Wilton Rancheria
11. Tule River Indian Tribe

As of November 11, 2024, no tribes have requested formal consultation nor have tribes had specific concerns regarding TCRs that could be present on the Project site and no TCRs were discovered during the cultural resources investigation of the Project site (SAS, 2024).

Discussion

a) **Less-than-Significant Impact.** No cultural resources either listed or eligible for listing by the State or local listing were identified on the Project site as a result of the records search and AB 52 consultation. Therefore, the Project would result in a less-than-significant impact.

b) **Less-than-Significant Impact.** As discussed above, no tribes have had specific concerns regarding TCRs that could be present on the Project site and no TCRs were discovered during the cultural and paleontological resources investigation of the Project site (SAS, 2024). The City's 2040 General Plan Policy 10-A-7.k requires all new development, infrastructure, and other ground-disturbing projects to comply conditions in the event of an inadvertent discovery of cultural resources or human remains (See Cultural Resources Section). Therefore, the Project would result in a less-than-significant impact.

References

Solano Archaeological Services (SAS), 2024. *Cultural Resources Technical Memorandum.* June 11, 2024.

UTILITIES AND SERVICE SYSTEMS

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
19. UTILITIES AND SERVICE SYSTEMS — Would the proposed project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Setting

Water Supply

The City of Pittsburg obtains raw water from the Contra Costa Water District (CCWD), through the Central Valley Project (CVP) from the Delta. CCWD has a contract with the U.S. Bureau of Reclamation (USBR) for 195,000 AF per year (AFY) of CVP water. The current contract was renewed in March 2005 through February 2045. CCWD's future water supply projections indicate adequate availability of surface water sources delivered through its contract with the USBR (City of Pittsburg, 2023). As described below, Delta Diablo also provides 9,600 AFY of for industrial and landscape irrigation uses within the recycled water service area, which includes the City of Pittsburg. CCWD serves as the backup water supply for the major industrial users of recycled water, which use a vast majority of the Delta Diablo recycled water supplies (City of Pittsburg, 2023).

Wastewater

Sewer services in the Planning Area are provided by the City of Pittsburg and the Delta Diablo. The City maintains and owns the local sewage collection system that serves the City's municipal users and the City's wastewater is conveyed to Delta Diablo facilities for treatment. Delta

Diablo's service area encompasses Pittsburg, Bay Point, and Antioch. Delta Diablo owns and operates the collection system that serves the Bay Point community.

Delta Diablo provides wastewater treatment and owns and operates the regional interceptors and the sewage treatment plant located north of the Pittsburg-Antioch Highway. The City's collection system consists of approximately 174 miles of sewer lines ranging in diameter from 6 to 36 inches, and one sewage lift station (City of Pittsburg, 2023). Delta Diablo provides wastewater collection and treatment for the Cities of Pittsburg and Antioch, as well as the unincorporated community of Bay Point. The wastewater treatment plant (WWTP) has an average dry weather flow permitted capacity of 19.5 million gallons per day (MGD) and a recycled water facility (RWF), with a capacity to provide about 9600 AFY, as described in Water Supply, above.

Solid Waste

Mt. Diablo Resource Recovery (MDRR - Pittsburg) formally known as Pittsburg Disposal Service, provides solid waste pick-up and disposal services to Pittsburg. The City's Environmental Services Department, in conjunction with MDRR - Pittsburg, coordinates the curbside recycling, and green waste programs. MDRR - Pittsburg provides separate containers for garbage, recycling and green waste.

Industrial non-recyclable waste is disposed of at the Keller Canyon Landfill, which has a maximum permitted throughput of 3,500 tons per day, and a maximum permitted capacity of 75,018,280 cubic yards with a remaining capacity of 63,408,410 cubic yards. The Landfill is a Class II facility designed to accept mixed municipal, construction/demolition, agricultural, sludge (bio-solids), and other designated industrial solid waste. The total acreage of the landfill property is 1,399 acres, and the allotted disposal footprint is 244 acres. The estimated cease of operation date for this facility is 2050 (City of Pittsburg, 2023).

Discussion

a) **Less-than-Significant Impact.** Water and wastewater treatment, stormwater, telecommunication, and electric power facilities are already provided to, or very close to, the Project site. Natural gas would not be required for the Project. Minor extensions, connections, or relocations of these facilities to serve the proposed Project would comply with all federal, state, and local regulations. Therefore, the Project would result in a less-than-significant impact.

b) **Less-than-Significant Impact.** The Project would connect to the City's domestic water supply and would be expected to use approximately 5.235 million gallons per year. As noted in the setting, the City has adequate water supply and the Project's water demand would not adversely affect the water supply the City obtains from the CCWD. Therefore, the Project would result in a less-than-significant impact.

c) **Less-than-Significant Impact.** All wastewater and rainwater in contact with the manufacturing processes are consumed as raw material. Project-generated wastewater not in contact with the manufacturing process (indoor plumbing for employees) would be

conveyed by the municipal sewer system via existing infrastructure at the Project site. Any generation of wastewater from additional employees would be negligible and would not require additional capacity beyond the wastewater treatment already provided by the City. Therefore, the Project would result in a less-than-significant impact.

d, e) **Less-than-Significant Impact.** Construction and operation of the Project is not expected to generate a significant amount of solid waste. Project operation would generate roughly 120 tons of filter cake and another six tons of miscellaneous solid waste annually. The nonhazardous filter cake would be disposed of at a nearby landfill with existing capacity, likely the nearby Keller Canyon Landfill, but for the purposes of the trip generation and VMT analysis, it was conservatively assumed the filter cake could go to any landfill within 80 miles of the Project site. The Project would comply with all federal, state, and local statutes and regulations related to solid waste. Therefore, the Project would result in a less-than-significant impact.

References

City of Pittsburg. 2023. *Draft Environmental Impact Report for the Pittsburg 2040 General Plan, Update (SCH# 2022040427).* December 2023.

WILDFIRE

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

Introduction

Areas where the state has financial responsibility for wildland fire protection are known as state responsibility areas (SRA). The Department of Forestry and Fire Protection (CALFIRE) is responsible for fire prevention and suppression in SRA. Areas where local governments have financial responsibility for wildland fire protection are known as local responsibility areas (LRA). The Project site is not located in a SRA or a very high fire hazard severity zone (VHFHSZ). The nearest fire station is CCCFPD Station 85, located approximately 1.7 miles to the south on Loveridge Road. CCCFPD Station 84 is located approximately 1.9 miles to the southwest on Railroad Avenue.

Discussion

a) **No Impact.** The Project site is within an existing developed site with the Corteva industrial complex. The Project would not involve the closure or alteration of any existing evacuation route that would be important in the event of a wildfire. The Project would not impede or require diversion of rescue vehicles or evacuation traffic in the event of a wildfire. Therefore, the Project would result in no impact.

b) **No Impact.** The Project site is an existing developed site with the Corteva industrial complex. There are no elements of the Project that would exacerbate wildland fire risk in the Project area due to slope, prevailing winds, and other factors. Therefore, the Project would result in no impact.

c) **No Impact.** There are no elements of the Project that would exacerbate wildland fire risk in the Project area, which is a developed industrial area. Therefore, the Project would result in no impact.

d) **No Impact.** There are no elements of the Project that would expose future employees or structures to flooding or landslides by runoff flow, post-fire instability, or drainage changes. Therefore, the Project would result in no impact.

References

CALFIRE. 2023. *Fire Hazard Severity Zones in State Responsibility Area,* https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones, accessed April 11, 2024.

MANDATORY FINDINGS OF SIGNIFICANCE

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
21. MANDATORY FINDINGS OF SIGNIFICANCE — Would the proposed project:				
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion

a) **No Impact.** As noted in the Cultural Resources section, the Project would not eliminate important examples of the major periods of California history or prehistory. As noted in the Biological Resources section, no impacts to biological resources would occur. Therefore, the Project would result in no impact.

b) **Less-than-Significant Impact with Mitigation.** According to the City of Pittsburg, there are two proposed industrial projects within one mile of the project site. These include the K2 Pure Chlorine Rail Transport Curtailment Project (approximately ¾ mile northeast of the Project site) and the H Cycle Pittsburg Renewable Hydrogen Project (approximately 1.1 miles northeast of the Project site).

As described in the preceding sections of this Initial Study, the Project would result in no impacts to agricultural and forest resources, biological resources, land use and land use planning, mineral resources, population and housing, recreation, or wildfire. Because the Project would have no impact for these topic areas, there is no potential for the Project to have cumulatively considerable impacts.

As described in the preceding sections of this Initial Study, the Project would result in less than significant impacts to aesthetics, public services, and utility and service systems. The Project is consistent with the land use and zoning designations for the parcel and would not conflict with land use policies or regulations with the required City Use Permit and Design Review, thus aesthetics impacts would be less than significant. Based on the

existing infrastructure and project location within the built out Corteva industrial complex, public services and utilities and service systems impacts would be less than significant. Therefore, there is no potential for the Project to have cumulatively considerable impacts for these topic areas.

As noted in the Air Quality section, the BAAQMD *CEQA Air Quality Guidelines* recommend that cumulative air quality effects from criteria air pollutants also be addressed by comparison to the mass daily and annual thresholds. These thresholds were developed to identify a cumulatively considerable contribution to a significant regional air quality impact. As disclosed in the Air Quality section, the Project-related construction and operational emissions would be below the BAAQMD's mass daily and annual significance thresholds. The incorporation of mitigation measures for fugitive dust and air toxics during construction of the Project would ensure air quality impacts (including health risk) would be less than significant. Therefore, the Project would not result in a cumulatively considerable net increase of emissions of criteria air pollutants and precursors and there is no potential for the Project to have cumulatively considerable air quality impacts.

As noted in the Cultural Resources and Tribal Cultural Resources sections, no historical resources exist on the Project site and the Project area exhibits a low/moderate level of sensitivity for retaining traces of early Native American activity. Due to a lack of identified cultural resources and sensitive landforms, the Project would result in a less-than-significant cultural resources and tribal cultural resources impacts.

As noted in the GHG Emissions section, because the issue of global climate change is inherently a cumulative issue, the contribution of Project-related GHG emissions to climate change is addressed as a cumulative impact and the Project's contribution to global climate change would be less than cumulatively considerable. Energy use and the indirect GHG emissions generated through energy use is also a cumulative issue, as the State adopts regulations to reduce energy use and increase renewable energy in order to improve capacity and reliability, while reducing dependence on fossil fuels in order to reduce GHG emissions. As noted in the Energy section, the Project would not result in a wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, there is no potential for the Project to have cumulatively considerable energy impacts.

Geology and soils impacts are site specific and do not have the potential for cumulative impacts.

As noted in the Hazards and Hazardous Materials section, based on its location within an operating and regulated chemical processing facility and the current level of local, state and federal regulations addressing hazardous materials management and waste disposal, the potential for the proposed Project to create a significant hazard to the public is low and thus this impact is less than significant. Therefore, there is no potential for the Project to have cumulatively considerable hazards or hazardous materials impacts.

As noted in the Hydrology and Water Quality section, required compliance with the prescriptions set forth by the CGP and the Industrial General Permit, including implementation of a SWPPP for construction activities and for long-term operations specifying appropriate design features, water quality monitoring, and pollutant source controls, would prevent the discharge of pollutants to surface waters or groundwater and minimize or eliminate the potential for degradation of surface water or groundwater quality that could result from implementation of the proposed Project. Water quality impacts related to violation of water quality standards or degradation of water quality would be less than significant.

As noted in the Noise section, construction would only occur within the allowable hours outlined in General Plan City of Pittsburg Municipal Code and Project construction and operations would not exceed standards established in the local general plan or noise ordinance. Operational noise from the Project would not be perceptible at sensitive receptors. Thus, there is no potential for the Project to have cumulatively considerable noise impacts.

As noted in the Transportation section, the Project is estimated to generate up to 50 one-way automobile trips per day, which is below the OPR's threshold of 110 average daily trips. As the 110 average daily trips threshold would not be exceeded, the Project's VMT impacts can be presumed to be less than significant. VMT impacts are inherently a cumulative issue as the State signed SB 743 into law to reduce statewide VMT to reduce statewide GHG emissions. Thus, there is no potential for the Project to have cumulatively considerable transportation impacts.

Considering the factors addressed above, the Project would not have a cumulatively considerable impact on any of the environmental factors evaluated in this Initial Study with mitigation incorporated. The Project site is within an industrial area of the City and would not substantially contribute to cumulative impacts associated with development of the Project area. Therefore, cumulative impacts would be less than significant with mitigation incorporated and the Project would not result in cumulatively considerable impacts when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

c) **Less-than-Significant Impact with Mitigation.** As described in the preceding sections of this Initial Study, the Project would not result in impacts that would result in substantial adverse effects on human beings, either directly or indirectly. The Project would not result in significant impacts to GHG emissions, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, and wildfire. Impacts to air quality (including health risk) would be less than significant with mitigation incorporated. Therefore, the Project would result in a less-than-significant impact with mitigation.

APPENDIX A

AIR QUALITY, GREENHOUSE GAS EMISSIONS, & ENERGY SUPPORTING INFORMATION

1. Pencco Iron Salts Construction Emissions CalEEMod Output (64 pages)
2. Pencco Iron Salts - CalEEMod Version 2022.1.1.24 Construction Inputs Summary (1 page)
3. Pencco Iron Salts Operations Emissions CalEEMod Output (33 pages)
4. Pencco Iron Salts - CalEEMod Version 2022.1.1.24 Operational Inputs Summary (1 page)
5. Cooling Tower Date (1 page)
6. Scrubber Emissions (1 page)
7. Energy Use Summary (1 page)

Pencco Iron Salts Construction Emissions Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Pencco Iron Salts Construction Emissions
Construction Start Date	5/26/2025
Lead Agency	City of Pittsburg
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.60
Precipitation (days)	0.80
Location	38.026059092498514, -121.85682975122913
County	Contra Costa
City	Pittsburg
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1347
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Heavy Industry	4.31	1000sqft	0.71	4,310	0.00	0.00	—	—
Parking Lot	6.00	Space	0.05	0.00	0.00	0.00	—	—

Other Asphalt Surfaces	1.00	1000sqft	0.02	0.00	0.00	0.00	—	—
Other Non-Asphalt Surfaces	26.0	1000sqft	0.60	0.00	0.00	0.00	—	—
User Defined Linear	0.03	Mile	0.02	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-B	Water Active Demolition Sites
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Construction	C-12	Sweep Paved Roads

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.32	3.11	28.3	19.6	0.11	0.73	9.32	10.0	0.60	3.64	4.25	—	16,202	16,202	1.18	2.28	31.8	16,942
Mit.	2.73	2.64	19.1	19.4	0.11	0.30	6.00	6.29	0.21	2.06	2.27	—	16,202	16,202	1.18	2.28	31.8	16,942
% Reduced	18%	15%	33%	1%	—	59%	36%	37%	65%	43%	46%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.81	0.64	7.09	8.53	0.02	0.24	0.52	0.75	0.22	0.14	0.35	—	2,815	2,815	0.13	0.21	0.11	2,882
Mit.	0.32	0.24	2.59	9.70	0.02	0.04	0.52	0.56	0.04	0.14	0.18	—	2,815	2,815	0.13	0.21	0.11	2,882
% Reduced	61%	62%	63%	-14%	—	82%	—	26%	80%	—	49%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.44	0.32	3.86	4.26	0.01	0.12	0.57	0.69	0.11	0.17	0.28	—	1,654	1,654	0.09	0.15	1.16	1,704
Mit.	0.21	0.16	1.70	4.71	0.01	0.03	0.44	0.47	0.02	0.12	0.15	—	1,654	1,654	0.09	0.15	1.16	1,704
% Reduced	52%	49%	56%	-11%	—	78%	22%	32%	78%	28%	48%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.06	0.70	0.78	< 0.005	0.02	0.10	0.13	0.02	0.03	0.05	—	274	274	0.01	0.03	0.19	282
Mit.	0.04	0.03	0.31	0.86	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	274	274	0.01	0.03	0.19	282
% Reduced	52%	49%	56%	-11%	—	78%	22%	32%	78%	28%	48%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.80	1.46	28.3	19.6	0.11	0.73	9.32	10.0	0.60	3.64	4.25	—	16,202	16,202	1.18	2.28	31.8	16,942
2026	3.32	3.11	17.1	17.6	0.06	0.48	2.00	2.48	0.42	0.54	0.95	—	8,780	8,780	0.56	1.03	14.9	9,115
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.81	0.64	7.09	8.53	0.02	0.24	0.52	0.75	0.22	0.14	0.35	—	2,815	2,815	0.13	0.21	0.11	2,882
2026	0.78	0.59	6.65	8.41	0.02	0.21	0.52	0.72	0.19	0.14	0.33	—	2,789	2,789	0.13	0.21	0.10	2,855

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.44	0.32	3.86	4.26	0.01	0.12	0.57	0.69	0.11	0.17	0.28	—	1,654	1,654	0.09	0.15	1.16	1,704
2026	0.40	0.32	2.88	3.54	0.01	0.09	0.25	0.33	0.08	0.06	0.15	—	1,253	1,253	0.06	0.10	0.78	1,286
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.08	0.06	0.70	0.78	< 0.005	0.02	0.10	0.13	0.02	0.03	0.05	—	274	274	0.01	0.03	0.19	282
2026	0.07	0.06	0.53	0.65	< 0.005	0.02	0.04	0.06	0.01	0.01	0.03	—	207	207	0.01	0.02	0.13	213

2.3. Construction Emissions by Year, Mitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.66	0.54	19.1	19.4	0.11	0.30	6.00	6.29	0.21	2.06	2.27	—	16,202	16,202	1.18	2.28	31.8	16,942
2026	2.73	2.64	10.7	19.1	0.06	0.20	2.00	2.20	0.16	0.54	0.70	—	8,780	8,780	0.56	1.03	14.9	9,115
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.32	0.24	2.59	9.70	0.02	0.04	0.52	0.56	0.04	0.14	0.18	—	2,815	2,815	0.13	0.21	0.11	2,882
2026	0.31	0.22	2.48	9.60	0.02	0.04	0.52	0.56	0.04	0.14	0.18	—	2,789	2,789	0.13	0.21	0.10	2,855
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.18	0.12	1.70	4.71	0.01	0.03	0.44	0.47	0.02	0.12	0.15	—	1,654	1,654	0.09	0.15	1.16	1,704
2026	0.21	0.16	1.20	4.01	0.01	0.02	0.25	0.27	0.02	0.06	0.08	—	1,253	1,253	0.06	0.10	0.78	1,286
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.03	0.02	0.31	0.86	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	274	274	0.01	0.03	0.19	282
2026	0.04	0.03	0.22	0.73	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.02	—	207	207	0.01	0.02	0.13	213

3. Construction Emissions Details

3.1. Utilities (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	0.52	< 0.005	0.02	—	0.02	0.02	—	0.02	—	76.2	76.2	< 0.005	< 0.005	—	76.5
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.18	4.18	< 0.005	< 0.005	—	4.19
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.69	0.69	< 0.005	< 0.005	—	0.69
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	22.0	22.0	< 0.005	< 0.005	0.09	22.4
Vendor	0.01	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	54.0	54.0	< 0.005	0.01	0.14	56.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.12	1.12	< 0.005	< 0.005	< 0.005	1.13
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.96	2.96	< 0.005	< 0.005	< 0.005	3.09
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.49	0.49	< 0.005	< 0.005	< 0.005	0.51
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Utilities (2025) - Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	76.2	76.2	< 0.005	< 0.005	—	76.5
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.18	4.18	< 0.005	< 0.005	—	4.19
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.69	0.69	< 0.005	< 0.005	—	0.69
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	22.0	22.0	< 0.005	< 0.005	0.09	22.4
Vendor	0.01	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	54.0	54.0	< 0.005	0.01	0.14	56.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.12	1.12	< 0.005	< 0.005	< 0.005	1.13
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.96	2.96	< 0.005	< 0.005	< 0.005	3.09
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.49	0.49	< 0.005	< 0.005	< 0.005	0.51
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Backfill/Paving (2025) - Unmitigated

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

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

Off-Road Equipment	0.22	0.18	1.83	2.63	< 0.005	0.08	—	0.08	0.08	—	0.08	—	404	404	0.02	< 0.005	—	405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.1	11.1	< 0.005	< 0.005	—	11.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	—	1.84
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.31	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	66.1	66.1	< 0.005	< 0.005	0.26	67.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Backfill/Paving (2025) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.39	2.79	< 0.005	0.02	—	0.02	0.01	—	0.01	—	404	404	0.02	< 0.005	—	405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.1	11.1	< 0.005	< 0.005	—	11.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	—	1.84
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.31	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	66.1	66.1	< 0.005	< 0.005	0.26	67.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Trenching (2025) - Unmitigated

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

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

Off-Roa Equipment	0.32	0.27	2.11	2.88	< 0.005	0.09	—	0.09	0.08	—	0.08	—	425	425	0.02	< 0.005	—	427
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.02	0.01	0.12	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.3	23.3	< 0.005	< 0.005	—	23.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.86	3.86	< 0.005	< 0.005	—	3.87
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.21	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	44.1	44.1	< 0.005	< 0.005	0.17	44.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.23	2.23	< 0.005	< 0.005	< 0.005	2.27

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.38
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Trenching (2025) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	1.08	2.97	< 0.005	0.01	—	0.01	0.01	—	0.01	—	425	425	0.02	< 0.005	—	427
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.3	23.3	< 0.005	< 0.005	—	23.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	< 0.005	< 0.005	0.01	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.86	3.86	< 0.005	< 0.005	—	3.87
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.21	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	44.1	44.1	< 0.005	< 0.005	0.17	44.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.23	2.23	< 0.005	< 0.005	< 0.005	2.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.38
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Demolition (2025) - Unmitigated

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

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

Off-Roa Equipment	0.56	0.47	4.33	5.65	0.01	0.16	—	0.16	0.14	—	0.14	—	852	852	0.03	0.01	—	855
Demoliti on	—	—	—	—	—	—	6.10	6.10	—	0.92	0.92	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.01	0.01	0.06	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.7	11.7	< 0.005	< 0.005	—	11.7
Demoliti on	—	—	—	—	—	—	0.08	0.08	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.93	1.93	< 0.005	< 0.005	—	1.94
Demoliti on	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.05	0.84	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	176	176	< 0.005	0.01	0.70	179
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.49	0.10	6.20	2.98	0.03	0.09	1.26	1.35	0.06	0.35	0.41	—	4,880	4,880	0.38	0.77	10.6	5,130

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.23	2.23	< 0.005	< 0.005	< 0.005	2.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	66.9	66.9	0.01	0.01	0.06	70.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.38
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	0.01	11.6

3.8. Demolition (2025) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.47	5.63	0.01	0.02	—	0.02	0.02	—	0.02	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	—	3.90	3.90	—	0.59	0.59	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	< 0.005	< 0.005	0.02	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.7	11.7	< 0.005	< 0.005	—	11.7
Demoliti on	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.93	1.93	< 0.005	< 0.005	—	1.94
Demoliti on	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.05	0.84	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	176	176	< 0.005	0.01	0.70	179
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.49	0.10	6.20	2.98	0.03	0.09	1.26	1.35	0.06	0.35	0.41	—	4,880	4,880	0.38	0.77	10.6	5,130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.23	2.23	< 0.005	< 0.005	< 0.005	2.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	66.9	66.9	0.01	0.01	0.06	70.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.38
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	0.01	11.6

3.9. Site Preparation (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.16	5.57	0.01	0.21	—	0.21	0.20	—	0.20	—	859	859	0.03	0.01	—	862
Dust From Material Movement	—	—	—	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.8	11.8	< 0.005	< 0.005	—	11.8
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.95	1.95	< 0.005	< 0.005	—	1.95
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.05	0.84	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	176	176	< 0.005	0.01	0.70	179
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.23	2.23	< 0.005	< 0.005	< 0.005	2.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.38
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Site Preparation (2025) - Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.42	5.99	0.01	0.02	—	0.02	0.02	—	0.02	—	859	859	0.03	0.01	—	862
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.8	11.8	< 0.005	< 0.005	—	11.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.95	1.95	< 0.005	< 0.005	—	1.95
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.05	0.84	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	176	176	< 0.005	0.01	0.70	179
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.23	2.23	< 0.005	< 0.005	< 0.005	2.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.37	0.37	< 0.005	< 0.005	< 0.005	0.38
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Grading (2025) - Unmitigated

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

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

Off-Road Equipment	1.29	1.09	10.1	10.0	0.02	0.46	—	0.46	0.43	—	0.43	—	1,714	1,714	0.07	0.01	—	1,720
Dust From Material Movement	—	—	—	—	—	—	5.45	5.45	—	2.59	2.59	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.28	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	—	47.0	47.0	< 0.005	< 0.005	—	47.1
Dust From Material Movement	—	—	—	—	—	—	0.15	0.15	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.77	7.77	< 0.005	< 0.005	—	7.80
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.05	0.84	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	176	176	< 0.005	0.01	0.70	179
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	1.43	0.30	18.2	8.74	0.09	0.26	3.71	3.97	0.18	1.02	1.19	—	14,312	14,312	1.11	2.26	31.1	15,044
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.47	4.47	< 0.005	< 0.005	0.01	4.53
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.51	0.24	< 0.005	0.01	0.10	0.11	< 0.005	0.03	0.03	—	392	392	0.03	0.06	0.37	412
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.74	0.74	< 0.005	< 0.005	< 0.005	0.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	64.9	64.9	0.01	0.01	0.06	68.2

3.12. Grading (2025) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	0.84	9.79	0.02	0.03	—	0.03	0.03	—	0.03	—	1,714	1,714	0.07	0.01	—	1,720

Dust From Material Movement	—	—	—	—	—	—	2.12	2.12	—	1.01	1.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	47.0	47.0	< 0.005	< 0.005	—	47.1
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.77	7.77	< 0.005	< 0.005	—	7.80
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.05	0.84	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	176	176	< 0.005	0.01	0.70	179

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	1.43	0.30	18.2	8.74	0.09	0.26	3.71	3.97	0.18	1.02	1.19	—	14,312	14,312	1.11	2.26	31.1	15,044
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.47	4.47	< 0.005	< 0.005	0.01	4.53
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.51	0.24	< 0.005	0.01	0.10	0.11	< 0.005	0.03	0.03	—	392	392	0.03	0.06	0.37	412
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.74	0.74	< 0.005	< 0.005	< 0.005	0.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	64.9	64.9	0.01	0.01	0.06	68.2

3.13. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.95	2.63	< 0.005	0.08	—	0.08	0.08	—	0.08	—	495	495	0.02	< 0.005	—	497
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.36	0.48	< 0.005	0.02	—	0.02	0.01	—	0.01	—	82.0	82.0	< 0.005	< 0.005	—	82.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.05	0.84	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	176	176	< 0.005	0.01	0.70	179
Vendor	0.13	0.05	1.79	0.86	0.01	0.02	0.35	0.37	0.02	0.10	0.12	—	1,349	1,349	0.07	0.19	3.58	1,412
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.06	0.71	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	161	161	< 0.005	0.01	0.02	163
Vendor	0.13	0.05	1.88	0.88	0.01	0.02	0.35	0.37	0.02	0.10	0.12	—	1,349	1,349	0.07	0.19	0.09	1,409
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.03	0.02	0.26	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	61.9	61.9	< 0.005	< 0.005	0.11	62.8
Vendor	0.05	0.02	0.70	0.33	< 0.005	0.01	0.13	0.14	0.01	0.04	0.04	—	512	512	0.03	0.07	0.59	535
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.02	10.4
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	84.8	84.8	< 0.005	0.01	0.10	88.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Building Construction (2025) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	0.64	8.10	0.01	0.02	—	0.02	0.02	—	0.02	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	0.64	8.10	0.01	0.02	—	0.02	0.02	—	0.02	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.05	0.05	0.24	3.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	495	495	0.02	< 0.005	—	497
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.56	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	82.0	82.0	< 0.005	< 0.005	—	82.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.05	0.84	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	176	176	< 0.005	0.01	0.70	179
Vendor	0.13	0.05	1.79	0.86	0.01	0.02	0.35	0.37	0.02	0.10	0.12	—	1,349	1,349	0.07	0.19	3.58	1,412
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.06	0.71	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	161	161	< 0.005	0.01	0.02	163
Vendor	0.13	0.05	1.88	0.88	0.01	0.02	0.35	0.37	0.02	0.10	0.12	—	1,349	1,349	0.07	0.19	0.09	1,409
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.26	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	61.9	61.9	< 0.005	< 0.005	0.11	62.8
Vendor	0.05	0.02	0.70	0.33	< 0.005	0.01	0.13	0.14	0.01	0.04	0.04	—	512	512	0.03	0.07	0.59	535
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.02	10.4
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	84.8	84.8	< 0.005	0.01	0.10	88.6

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Building Construction (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.49	4.81	6.91	0.01	0.19	—	0.19	0.17	—	0.17	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.49	4.81	6.91	0.01	0.19	—	0.19	0.17	—	0.17	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.19	1.86	2.68	< 0.005	0.07	—	0.07	0.07	—	0.07	—	505	505	0.02	< 0.005	—	507
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.04	0.03	0.34	0.49	< 0.005	0.01	—	0.01	0.01	—	0.01	—	83.7	83.7	< 0.005	< 0.005	—	84.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.78	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	0.64	176
Vendor	0.13	0.04	1.70	0.83	0.01	0.02	0.35	0.37	0.02	0.10	0.12	—	1,326	1,326	0.07	0.19	3.20	1,389
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.66	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	158	158	< 0.005	0.01	0.02	160
Vendor	0.12	0.04	1.79	0.84	0.01	0.02	0.35	0.37	0.02	0.10	0.12	—	1,326	1,326	0.07	0.19	0.08	1,386
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.25	0.00	0.00	0.06	0.06	0.00	0.02	0.02	—	62.0	62.0	< 0.005	< 0.005	0.11	62.9
Vendor	0.05	0.02	0.68	0.32	< 0.005	0.01	0.14	0.14	0.01	0.04	0.04	—	514	514	0.03	0.08	0.53	537
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.3	10.3	< 0.005	< 0.005	0.02	10.4
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	85.1	85.1	< 0.005	0.01	0.09	89.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.16. Building Construction (2026) - Mitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	0.64	8.10	0.01	0.02	—	0.02	0.02	—	0.02	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	0.64	8.10	0.01	0.02	—	0.02	0.02	—	0.02	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.25	3.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	505	505	0.02	< 0.005	—	507
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	83.7	83.7	< 0.005	< 0.005	—	84.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.78	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	0.64	176
Vendor	0.13	0.04	1.70	0.83	0.01	0.02	0.35	0.37	0.02	0.10	0.12	—	1,326	1,326	0.07	0.19	3.20	1,389
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.66	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	158	158	< 0.005	0.01	0.02	160
Vendor	0.12	0.04	1.79	0.84	0.01	0.02	0.35	0.37	0.02	0.10	0.12	—	1,326	1,326	0.07	0.19	0.08	1,386
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.25	0.00	0.00	0.06	0.06	0.00	0.02	0.02	—	62.0	62.0	< 0.005	< 0.005	0.11	62.9
Vendor	0.05	0.02	0.68	0.32	< 0.005	0.01	0.14	0.14	0.01	0.04	0.04	—	514	514	0.03	0.08	0.53	537
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.3	10.3	< 0.005	< 0.005	0.02	10.4
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	85.1	85.1	< 0.005	0.01	0.09	89.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Paving (2026) - Unmitigated

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

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

Off-Road Equipm	0.59	0.49	4.24	5.30	0.01	0.18	—	0.18	0.16	—	0.16	—	823	823	0.03	0.01	—	826
Paving	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.12	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.5	22.5	< 0.005	< 0.005	—	22.6
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.73	3.73	< 0.005	< 0.005	—	3.75
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.78	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	0.64	176
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.51	0.11	6.23	3.01	0.03	0.09	1.32	1.41	0.06	0.36	0.42	—	4,981	4,981	0.39	0.80	10.4	5,241

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.38	4.38	< 0.005	< 0.005	0.01	4.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.18	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	137	137	0.01	0.02	0.12	143
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.74
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	22.6	22.6	< 0.005	< 0.005	0.02	23.7

3.18. Paving (2026) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.23	2.09	5.55	0.01	0.06	—	0.06	0.06	—	0.06	—	823	823	0.03	0.01	—	826
Paving	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.01	0.01	0.06	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.5	22.5	< 0.005	< 0.005	—	22.6
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	< 0.005	< 0.005	0.01	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.73	3.73	< 0.005	< 0.005	—	3.75
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.78	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	0.64	176
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.51	0.11	6.23	3.01	0.03	0.09	1.32	1.41	0.06	0.36	0.42	—	4,981	4,981	0.39	0.80	10.4	5,241
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.38	4.38	< 0.005	< 0.005	0.01	4.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.18	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	137	137	0.01	0.02	0.12	143
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.74
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	22.6	22.6	< 0.005	< 0.005	0.02	23.7

3.19. Architectural Coating (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	2.32	2.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.66	3.66	< 0.005	< 0.005	—	3.67
Architectural Coatings	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.61	0.61	< 0.005	< 0.005	—	0.61
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.78	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	0.64	176
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.38	4.38	< 0.005	< 0.005	0.01	4.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.74
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.20. Architectural Coating (2026) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	2.32	2.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.66	3.66	< 0.005	< 0.005	—	3.67
Architectural Coatings	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.61	0.61	< 0.005	< 0.005	—	0.61

Architectural Coating	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.78	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	< 0.005	0.01	0.64	176
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.38	4.38	< 0.005	< 0.005	0.01	4.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.74
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

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

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

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

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

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

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Utilities	Linear, Drainage, Utilities, & Sub-Grade	8/16/2025	9/12/2025	5.00	20.0	Pipe Installation
Backfill/Paving	Linear, Paving	9/13/2025	9/26/2025	5.00	10.0	Backfill and Paving
Trenching	Linear, Trenching	7/19/2025	8/15/2025	5.00	20.0	Trenching
Demolition	Demolition	5/26/2025	5/30/2025	5.00	5.00	—
Site Preparation	Site Preparation	6/02/2025	6/7/2025	5.00	5.00	—
Grading	Grading	6/09/2025	6/20/2025	5.00	10.0	—
Building Construction	Building Construction	6/21/2025	7/17/2026	5.00	280	—
Paving	Paving	6/22/2026	7/3/2026	5.00	10.0	—
Architectural Coating	Architectural Coating	7/05/2026	7/17/2026	5.00	10.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Utilities	Forklifts	Diesel	Average	1.00	4.00	82.0	0.20

Backfill/Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Backfill/Paving	Cement and Mortar Mixers	Diesel	Average	1.00	4.00	10.0	0.56
Backfill/Paving	Pavers	Diesel	Average	1.00	4.00	81.0	0.42
Trenching	Trenchers	Diesel	Average	1.00	8.00	40.0	0.50
Trenching	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Utilities	Forklifts	Diesel	Tier 4 Final	1.00	4.00	82.0	0.20
Backfill/Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	6.00	84.0	0.37
Backfill/Paving	Cement and Mortar Mixers	Diesel	Average	1.00	4.00	10.0	0.56
Backfill/Paving	Pavers	Diesel	Tier 4 Final	1.00	4.00	81.0	0.42
Trenching	Trenchers	Diesel	Tier 4 Final	1.00	8.00	40.0	0.50
Trenching	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	6.00	84.0	0.37
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	1.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	6.00	84.0	0.37
Site Preparation	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Final	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Tier 4 Final	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Tier 4 Final	1.00	7.00	36.0	0.38

Paving	Tractors/Loaders/Back	Diesel	Tier 4 Final	1.00	7.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	20.0	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	68.2	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	200	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	20.0	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	50.0	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—

Paving	Worker	20.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	71.0	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	20.0	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Utilities	—	—	—	—
Utilities	Worker	2.50	11.7	LDA,LDT1,LDT2
Utilities	Vendor	2.00	8.40	HHDT,MHDT
Utilities	Hauling	0.00	20.0	HHDT
Utilities	Onsite truck	—	—	HHDT
Backfill/Paving	—	—	—	—
Backfill/Paving	Worker	7.50	11.7	LDA,LDT1,LDT2
Backfill/Paving	Vendor	0.00	8.40	HHDT,MHDT
Backfill/Paving	Hauling	0.00	20.0	HHDT
Backfill/Paving	Onsite truck	—	—	HHDT
Trenching	—	—	—	—
Trenching	Worker	5.00	11.7	LDA,LDT1,LDT2
Trenching	Vendor	—	8.40	HHDT,MHDT
Trenching	Hauling	0.00	20.0	HHDT
Trenching	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—

Demolition	Worker	20.0	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	68.2	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	200	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	20.0	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	50.0	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	71.0	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	20.0	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT

Architectural Coating	Onsite truck	—	—	HHDT
Utilities	—	—	—	—
Utilities	Worker	2.50	11.7	LDA,LDT1,LDT2
Utilities	Vendor	2.00	8.40	HHDT,MHDT
Utilities	Hauling	0.00	20.0	HHDT
Utilities	Onsite truck	—	—	HHDT
Backfill/Paving	—	—	—	—
Backfill/Paving	Worker	7.50	11.7	LDA,LDT1,LDT2
Backfill/Paving	Vendor	0.00	8.40	HHDT,MHDT
Backfill/Paving	Hauling	0.00	20.0	HHDT
Backfill/Paving	Onsite truck	—	—	HHDT
Trenching	—	—	—	—
Trenching	Worker	5.00	11.7	LDA,LDT1,LDT2
Trenching	Vendor	—	8.40	HHDT,MHDT
Trenching	Hauling	0.00	20.0	HHDT
Trenching	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	0.00	2,155	1,761

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Utilities	—	—	0.02	0.00	—
Demolition	0.00	0.00	0.00	1,363	—
Site Preparation	—	—	2.50	0.00	—
Grading	—	16,000	7.50	0.00	—
Paving	0.00	0.00	0.00	0.00	0.69

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Heavy Industry	0.00	0%
Parking Lot	0.05	100%
Other Asphalt Surfaces	0.02	100%
Other Non-Asphalt Surfaces	0.60	0%
User Defined Linear	0.02	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

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

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	18.8	annual days of extreme heat
Extreme Precipitation	2.20	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	1	1	2
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	37.6
AQ-PM	30.7
AQ-DPM	55.5
Drinking Water	19.0

Lead Risk Housing	34.5
Pesticides	0.00
Toxic Releases	70.5
Traffic	15.7
Effect Indicators	—
CleanUp Sites	98.9
Groundwater	91.6
Haz Waste Facilities/Generators	99.5
Impaired Water Bodies	98.7
Solid Waste	88.9
Sensitive Population	—
Asthma	93.2
Cardio-vascular	72.2
Low Birth Weights	93.5
Socioeconomic Factor Indicators	—
Education	40.1
Housing	44.5
Linguistic	10.4
Poverty	54.8
Unemployment	94.3

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	61.92737072
Employed	28.26895932
Median HI	59.96407032

Education	—
Bachelor's or higher	44.02669062
High school enrollment	26.62645964
Preschool enrollment	89.60605672
Transportation	—
Auto Access	59.70742974
Active commuting	70.52482998
Social	—
2-parent households	8.674451431
Voting	68.98498653
Neighborhood	—
Alcohol availability	38.56024637
Park access	81.35506224
Retail density	17.37456692
Supermarket access	73.05273964
Tree canopy	50.69934557
Housing	—
Homeownership	53.70204029
Housing habitability	43.8855383
Low-inc homeowner severe housing cost burden	32.01591172
Low-inc renter severe housing cost burden	18.72192994
Uncrowded housing	45.96432696
Health Outcomes	—
Insured adults	52.48299756
Arthritis	0.0
Asthma ER Admissions	1.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0

Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	25.8
Cognitively Disabled	38.1
Physically Disabled	17.3
Heart Attack ER Admissions	3.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	30.7
Children	20.9
Elderly	49.5
English Speaking	84.5
Foreign-born	38.5
Outdoor Workers	81.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	30.0

Traffic Density	11.7
Traffic Access	23.0
Other Indices	—
Hardship	49.9
Other Decision Support	—
2016 Voting	29.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	83.0
Healthy Places Index Score for Project Location (b)	59.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Project is an urban industrial area of the City
Land Use	4,310 SF of new equipment, 1.38-acre site, 27,000 SF new paving, 6 new parking spaces

Construction: Construction Phases	Pencco, 2024
Construction: Off-Road Equipment	Pencco, 2024
Construction: Architectural Coatings	no interior coating on proposed equipment
Construction: Trips and VMT	Increased worker trips to account for greater amount of workers and cement import.

Pencco Iron Salts - CalEEMod Version 2022.1.1.24 Inputs

Project Characteristics

Start of Construction: May 26, 2025

Land Use Setting: Urban

Land Use

Project site – 1.38 acres

Industrial – General Heavy Industry – 4,310 Sq Ft of New Equipment/Structures

Parking – Parking lot – 6 spaces

Parking – other asphalt surfaces: 1,000 Square Feet for Interface between new Concrete Containment and Existing Asphalt

Parking – other non asphalt surfaces: 26,000 Square Feet for Concrete Containment

User Defined Linear – 160 foot pipeline (0.03 mile) 120 Feet for HCL, 40 Feet for Chlorine

Source: Data request response from ERM, May 28, 2024.

Construction

1. Adjusted Construction Phase Lengths Per Data Request Response
2. Added Trenching, Utilities, and Backfill/Paving Phases for Linear Pipeline
3. Adjusted Construction Equipment Per Data Request Response
4. Added Equipment for Linear Pipeline Installation Phases
5. Material Exported for Concrete Containment: 16,000 cubic yards
6. Demolition of Existing Asphalt: 1,363 tons of debris
7. Increased Worker Trips for Facility Construction Workers
8. Added Haul Trips to Account for incoming cement for paving of containment area and interface
9. Added Vendor Trips to account for incoming equipment/structure installation
10. Added Vendor Trips for pipeline installation materials

Pencco Iron Salts Operations Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Pencco Iron Salts Operations
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.60
Precipitation (days)	0.80
Location	38.02589864026959, -121.85479258121907
County	Contra Costa
City	Pittsburg
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1347
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Heavy Industry	2.31	1000sqft	0.36	2,310	0.00	0.00	—	—

General Heavy Industry	2.00	1000sqft	0.35	2,000	0.00	0.00	—	—
Parking Lot	6.00	Space	0.05	0.00	0.00	0.00	—	—
Other Asphalt Surfaces	1.00	1000sqft	0.02	0.00	0.00	0.00	—	—
Other Non-Asphalt Surfaces	26.0	1000sqft	0.60	0.00	0.00	0.00	—	—
User Defined Linear	0.03	Mile	0.02	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	42.3	42.1	3.73	10.4	0.03	0.05	0.80	0.85	0.05	0.21	0.26	13.3	3,104	3,117	1.57	0.49	6.89	3,309
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	42.3	42.1	3.90	10.4	0.03	0.05	0.80	0.85	0.05	0.21	0.26	13.3	3,104	3,117	1.57	0.49	1.27	3,304
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	30.2	30.0	2.75	7.39	0.02	0.04	0.57	0.61	0.04	0.15	0.19	13.3	2,224	2,238	1.51	0.36	2.90	2,385
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.51	5.48	0.50	1.35	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	2.20	368	370	0.25	0.06	0.48	395

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.26	0.04	3.28	1.54	0.03	0.05	0.80	0.84	0.05	0.21	0.26	—	2,912	2,912	0.21	0.46	5.77	3,062
Area	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	7.82	7.82	< 0.005	< 0.005	—	7.90
Water	—	—	—	—	—	—	—	—	—	—	—	10.0	18.9	29.0	1.03	0.02	—	62.2
Waste	—	—	—	—	—	—	—	—	—	—	—	3.24	0.00	3.24	0.32	0.00	—	11.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.12	1.12
Off-Road	42.0	41.9	0.45	8.83	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	165	165	0.01	< 0.005	—	165
Total	42.3	42.1	3.73	10.4	0.03	0.05	0.80	0.85	0.05	0.21	0.26	13.3	3,104	3,117	1.57	0.49	6.89	3,309
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.25	0.04	3.46	1.54	0.03	0.05	0.80	0.84	0.05	0.21	0.26	—	2,913	2,913	0.21	0.46	0.15	3,056
Area	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	7.82	7.82	< 0.005	< 0.005	—	7.90
Water	—	—	—	—	—	—	—	—	—	—	—	10.0	18.9	29.0	1.03	0.02	—	62.2
Waste	—	—	—	—	—	—	—	—	—	—	—	3.24	0.00	3.24	0.32	0.00	—	11.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.12	1.12
Off-Road	42.0	41.9	0.45	8.83	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	165	165	0.01	< 0.005	—	165
Total	42.3	42.1	3.90	10.4	0.03	0.05	0.80	0.85	0.05	0.21	0.26	13.3	3,104	3,117	1.57	0.49	1.27	3,304
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.18	0.03	2.43	1.10	0.02	0.03	0.57	0.60	0.03	0.15	0.19	—	2,080	2,080	0.15	0.33	1.78	2,185

Area	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	7.82	7.82	< 0.005	< 0.005	—	7.90
Water	—	—	—	—	—	—	—	—	—	—	—	10.0	18.9	29.0	1.03	0.02	—	62.2
Waste	—	—	—	—	—	—	—	—	—	—	—	3.24	0.00	3.24	0.32	0.00	—	11.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.12	1.12
Off-Road	29.9	29.9	0.32	6.29	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	117	117	< 0.005	< 0.005	—	118
Total	30.2	30.0	2.75	7.39	0.02	0.04	0.57	0.61	0.04	0.15	0.19	13.3	2,224	2,238	1.51	0.36	2.90	2,385
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.03	0.01	0.44	0.20	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	—	344	344	0.02	0.05	0.29	362
Area	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1.30	1.30	< 0.005	< 0.005	—	1.31
Water	—	—	—	—	—	—	—	—	—	—	—	1.66	3.14	4.80	0.17	< 0.005	—	10.3
Waste	—	—	—	—	—	—	—	—	—	—	—	0.54	0.00	0.54	0.05	0.00	—	1.87
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Off-Road	5.46	5.45	0.06	1.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.4	19.4	< 0.005	< 0.005	—	19.5
Total	5.51	5.48	0.50	1.35	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	2.20	368	370	0.25	0.06	0.48	395

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

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

General Heavy Industry	0.26	0.04	3.28	1.54	0.03	0.05	0.80	0.84	0.05	0.21	0.26	—	2,912	2,912	0.21	0.46	5.77	3,062
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.26	0.04	3.28	1.54	0.03	0.05	0.80	0.84	0.05	0.21	0.26	—	2,912	2,912	0.21	0.46	5.77	3,062
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	0.25	0.04	3.46	1.54	0.03	0.05	0.80	0.84	0.05	0.21	0.26	—	2,913	2,913	0.21	0.46	0.15	3,056
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.25	0.04	3.46	1.54	0.03	0.05	0.80	0.84	0.05	0.21	0.26	—	2,913	2,913	0.21	0.46	0.15	3,056
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	0.03	0.01	0.44	0.20	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	—	344	344	0.02	0.05	0.29	362
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.03	0.01	0.44	0.20	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	—	344	344	0.02	0.05	0.29	362

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	7.82	7.82	< 0.005	< 0.005	—	7.90
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	7.82	7.82	< 0.005	< 0.005	—	7.90
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	7.82	7.82	< 0.005	< 0.005	—	7.90
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	7.82	7.82	< 0.005	< 0.005	—	7.90
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	1.30	1.30	< 0.005	< 0.005	—	1.31
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1.30	1.30	< 0.005	< 0.005	—	1.31

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.09	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.09	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coating	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	10.0	18.9	29.0	1.03	0.02	—	62.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.0	18.9	29.0	1.03	0.02	—	62.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	10.0	18.9	29.0	1.03	0.02	—	62.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.0	18.9	29.0	1.03	0.02	—	62.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	1.66	3.14	4.80	0.17	< 0.005	—	10.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.66	3.14	4.80	0.17	< 0.005	—	10.3

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	3.24	0.00	3.24	0.32	0.00	—	11.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.24	0.00	3.24	0.32	0.00	—	11.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	3.24	0.00	3.24	0.32	0.00	—	11.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.24	0.00	3.24	0.32	0.00	—	11.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	0.54	0.00	0.54	0.05	0.00	—	1.87
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.54	0.00	0.54	0.05	0.00	—	1.87

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.12	1.12
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.12	1.12
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.12	1.12
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.12	1.12
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forklifts	< 0.005	0.00	0.22	2.20	0.00	0.00	—	0.00	0.00	—	0.00	—	48.8	48.8	< 0.005	< 0.005	—	48.8
Aerial Lifts	0.02	0.00	0.12	4.42	0.00	0.00	—	0.00	0.00	—	0.00	—	26.0	26.0	< 0.005	< 0.005	—	26.0
Skid Steer Loaders	42.0	41.9	0.11	2.21	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Total	42.0	41.9	0.45	8.83	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	165	165	0.01	< 0.005	—	165
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forklifts	< 0.005	0.00	0.22	2.20	0.00	0.00	—	0.00	0.00	—	0.00	—	48.8	48.8	< 0.005	< 0.005	—	48.8
Aerial Lifts	0.02	0.00	0.12	4.42	0.00	0.00	—	0.00	0.00	—	0.00	—	26.0	26.0	< 0.005	< 0.005	—	26.0
Skid Steer Loaders	42.0	41.9	0.11	2.21	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Total	42.0	41.9	0.45	8.83	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	165	165	0.01	< 0.005	—	165
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forklifts	< 0.005	0.00	0.03	0.29	0.00	0.00	—	0.00	0.00	—	0.00	—	5.75	5.75	< 0.005	< 0.005	—	5.76
Aerial Lifts	< 0.005	0.00	0.02	0.57	0.00	0.00	—	0.00	0.00	—	0.00	—	3.07	3.07	< 0.005	< 0.005	—	3.07
Skid Steer Loaders	5.45	5.45	0.01	0.29	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.6	10.6	< 0.005	< 0.005	—	10.6
Total	5.46	5.45	0.06	1.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.4	19.4	< 0.005	< 0.005	—	19.5

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Heavy Industry	18.0	0.00	0.00	4,693	860	0.00	0.00	224,224
General Heavy Industry	50.0	0.00	0.00	13,036	500	0.00	0.00	130,357
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	2,155	1,761

5.10.3. Landscape Equipment

Equipment Type	Fuel Type	Number Per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Heavy Industry	14,000	204	0.0330	0.0040	0.00
General Heavy Industry	0.00	204	0.0330	0.0040	0.00
Parking Lot	0.00	204	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Heavy Industry	5,235,000	0.00
General Heavy Industry	0.00	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Heavy Industry	6.01	—
General Heavy Industry	0.00	—
Parking Lot	0.00	—
Other Asphalt Surfaces	0.00	—
Other Non-Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Heavy Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0
General Heavy Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Forklifts	CNG	Average	1.00	2.00	82.0	0.20
Aerial Lifts	CNG	Average	1.00	2.00	19.0	0.46
Skid Steer Loaders	Gasoline	Average	1.00	2.00	71.0	0.37

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	18.8	annual days of extreme heat
Extreme Precipitation	2.20	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	1	1	2
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	37.6
AQ-PM	30.7
AQ-DPM	55.5
Drinking Water	19.0
Lead Risk Housing	34.5

Pesticides	0.00
Toxic Releases	70.5
Traffic	15.7
Effect Indicators	—
CleanUp Sites	98.9
Groundwater	91.6
Haz Waste Facilities/Generators	99.5
Impaired Water Bodies	98.7
Solid Waste	88.9
Sensitive Population	—
Asthma	93.2
Cardio-vascular	72.2
Low Birth Weights	93.5
Socioeconomic Factor Indicators	—
Education	40.1
Housing	44.5
Linguistic	10.4
Poverty	54.8
Unemployment	94.3

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	61.92737072
Employed	28.26895932
Median HI	59.96407032
Education	—

Bachelor's or higher	44.02669062
High school enrollment	26.62645964
Preschool enrollment	89.60605672
Transportation	—
Auto Access	59.70742974
Active commuting	70.52482998
Social	—
2-parent households	8.674451431
Voting	68.98498653
Neighborhood	—
Alcohol availability	38.56024637
Park access	81.35506224
Retail density	17.37456692
Supermarket access	73.05273964
Tree canopy	50.69934557
Housing	—
Homeownership	53.70204029
Housing habitability	43.8855383
Low-inc homeowner severe housing cost burden	32.01591172
Low-inc renter severe housing cost burden	18.72192994
Uncrowded housing	45.96432696
Health Outcomes	—
Insured adults	52.48299756
Arthritis	0.0
Asthma ER Admissions	1.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0

Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	25.8
Cognitively Disabled	38.1
Physically Disabled	17.3
Heart Attack ER Admissions	3.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	30.7
Children	20.9
Elderly	49.5
English Speaking	84.5
Foreign-born	38.5
Outdoor Workers	81.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	30.0
Traffic Density	11.7

Traffic Access	23.0
Other Indices	—
Hardship	49.9
Other Decision Support	—
2016 Voting	29.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	83.0
Healthy Places Index Score for Project Location (b)	59.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Pencco, 2024
Operations: Vehicle Data	50 worker auto trips per day at 10 miles per trip 18 heavy truck trips per day at 47.78 miles per trip

Operations: Fleet Mix	All truck trips Heavy Heavy Duty Trucks Adjusted worker autos to be the ratio of LDA, LDT1 and LDT2 assumed in CalEEMod
Operations: Architectural Coatings	Only exterior of equipment/structures could potentially be repainted
Operations: Energy Use	14,000 kWh per year, no natural gas
Operations: Water and Waste Water	Pencco, 2024
Operations: Solid Waste	Pencco, 2024
Operations: Off-Road Equipment	Pencco, 2024

Pencco Iron Salts - CalEEMod Version 2022.1.1.24 Inputs

Project Characteristics

Operational Year: 2027

Land Use Setting: Urban

Land Use

Project site – 1.38 acres

Industrial – General Heavy Industry – 4,310 Sq Ft of New Equipment/Structures

Parking – Parking lot – 6 spaces

Parking – other asphalt surfaces: 1,000 Square Feet for Interface between new Concrete Containment and Existing Asphalt

Parking – other non asphalt surfaces: 26,000 Square Feet for Concrete Containment

User Defined Linear – 160 foot pipeline (0.03 mile) 120 Feet for HCL, 40 Feet for Chlorine

Source: Data request response from ERM, May 28, 2024.

Operations

1. Increased Weekday Trip Rates to Account for 50 automobile trips and 18 truck trips per day (Parking Lot Category for Automobiles and General Heavy Industry Category for Heavy Trucks). Facility would operate 5 days/week (No Weekend Trips). Conservative Trip Rate because outgoing filter solid truck trips would only occur one day per month.
2. Increased Trip Length to Account for 10 miles per one way trip for Automobiles and 47.78 mile per one way trip for Heavy Trucks. Truck Trip Distance was calculated based on average of 6 incoming iron trucks at 50 miles/trip, 10 outgoing product trucks at 40 miles/trip, and 2 outgoing filter solid trucks at 80 miles/trip). Conservative Trip Distance because outgoing filter solid truck trips would only occur one day per month.
3. Adjusted Fleet Mix to Account for all heavy heavy duty (HHDT) trucks for trucks trips and an aggregate of light duty automobiles and light duty trucks for automobile trips.
4. Adjusted Energy Usage to 14,000 kWh/year. No Natural Gas.
5. Adjusted Water Usage to 5,235,000 gals/year.
6. Adjusted Solid Waste to 6 tons/year.
7. Added Off-Road On-Site Equipment
    a. Forklift, 2 hours per day, 260 hours per year
    b. Aerial Lift, 2 hours per day, 260 hours per year
    c. Skid Steer, 2 hours per day, 260 hours per year

Source: Data request response from ERM, May 28, 2024.

Cooling Tower Operational Data				
Source Description	**Average Recirculation Flow Rate (gal/min)**	**Peak Hourly Recirculation Flow Rate[1] (gal/min)**	**Annual Operation (hrs/yr)**	**Annual Throughput[2] (gal/yr)**
Cooling Tower	737	1105.5	6,240	275,932,800

Notes: (1) Peak Hourly is conservatively estimated at 1.5 average recirculation rate.

(2) Annual Throughput = Avg Hourly Flow Rate (gal/min) * Annual Operation

Cooling Tower Emission Factors			
Process	**VOC**	**PM**	**Chloroform**
Chemical Plant Cooling Towers	0.7	19	0.018

Sources: VOC - AP-42, Section 5.1, Table 5.1-2 PM - AP-42, Section 13.4, Table 13.4-1

PM - AP-42, Section 13.4, Table 13.4-1

Chloroform - Summary of Literature Search on HAP Emissions From IPCTs (2004, RTI)

Cooling Tower Emissions			
Process	**VOC**	**PM10**	**Chloroform**
Peak Hourly Emissions (lb/hr)	0.04643	1.26027	0.00119
Annual Emissions (lb/yr)	193.15	5242.72	4.97
Average Daily Emissions (lb/day	0.74290	20.16432	0.01910

Stack Gas Exhaust Flow Rate	scfm	12,690
Stack Gas Exhaust Flow Rate	m3/hour	21,560

	MW	ppb	ug/m3	g/hour	lb/hour	lb/year	MT/year
HCL (Uncontrolled)	36.46	20,000	29,824	643	1.42	12,418	
HCL (Stage 1)	36.46	600	895	19.3	0.04	373	
HCL (Stage 2)	36.46	0.06	0.09	1.93E-03	4.25E-06	0.037	
CO2	44.01	415,000	747,004	1.61E+04	3.55E+01	311,037	141

Energy Use Summary

Construction Fuel Usage

495 MT CO2	28 MT CO2
10.16 kg/CO2/gal	8.9 kg/CO2/gal
48,720 gals Diesel	3,185 gals Gas

Operational Fuel Usage

304 MT CO2	130357 VMT
10.16 kg/CO2/gal	20 MPG
29,920 gals Diesel	6,518 gals Gas

APPENDIX B

HEALTH RISK ASSESSMENT

Health Risk Assessment Technical Report

Pittsburg Iron Salt Manufacturing Facility

PREPARED BY:

RCH Group
Contact: *Mike Ratte, Senior Air Quality Scientist*

PREPARED FOR:

City of Pittsburg
Planning Division
65 Civic Avenue
Pittsburg, CA 94565

November 11, 2024

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HEALTH RISK ASSESSMENT TECHNICAL REPORT

Pencco Iron Salts Manufacturing Facility

1.0 INTRODUCTION

A health impact assessment (HRA) has been completed for the Pencco Iron Salts Manufacturing Facility to evaluate the health impacts on nearby sensitive receptors. The proposed project consists of the construction and operation of an iron salts manufacturing facility on a property leased from Corteva that would be inside the fenced limits of the Corteva industrial complex in Pittsburg. The project site would include development of the facility, which includes the use of two existing buildings (to be used for an office and laboratory) on a 1.38-acre site. The iron salts made at this facility would ship to California's water treatment and wastewater treatment plants.

The health risk assessment (HRA) focuses on health impacts on existing residences, offsite workers, and educational facilities from emissions of toxic air contaminants (TAC)[1] such as diesel particulate matter (DPM)[2] from diesel equipment and haul truck emissions associated with the project construction activities and operational air toxics emissions from haul trucks, the cooling tower, and the scrubber. The HRA was conducted to determine the health impacts, in terms of excess cancer risk and non-cancer hazards, using the significance levels identified by the Bay Area Air Quality Management District (BAAQMD)'s *CEQA Air Quality Guidelines*.[3] In accordance with the BAAQMD *CEQA Air Quality Guidelines*, the HRA also evaluated concentrations of particulate matter equal to or less than 2.5 micrometers (fine particulate or $PM_{2.5}$ as combustion exhaust and fugitive dust). The HRA was prepared based on the California Office of Environmental Health Hazard Assessment (OEHHA)'s *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.*[4]

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[1] Toxic air contaminants are a broad class of compounds known to cause morbidity or mortality. TAC are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., gasoline service stations, dry cleaners). TAC are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a freeway). Because chronic exposure can result in adverse health effects, TAC are regulated at the regional, state, and federal level.

[2] In 1998, the California Air Resources Board classified diesel particulate matter as a toxic air contaminant, citing its potential to cause cancer and other health problems. The US Environmental Protection Agency concluded that long-term exposure to diesel engine exhaust is likely to pose a lung cancer hazard to humans and can also contribute to other acute and chronic health effects.

[3] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, April 20, 2023, https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines

[4] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, February 2015, http://oehha.ca.gov/air/hot_spots/hotspots2015.html

The supporting information, methodology, assumptions, and detailed results associated with this HRA are provided in **Attachment A: Health Risk Assessment Methodology, Assumptions, and Detailed Results** at the end of this narrative.

2.0 PROJECT OVERVIEW

The manufacturing process involves dissolving iron ore and high-purity scrap iron with chlorine and hydrochloric Acid (HCL). These reactions occur in reactors designed for the corrosive nature of this process. The iron salts manufactured at the proposed facility would ship to California's water treatment and wastewater treatment plants.

Trucks would deliver iron ore (magnetite), scrap steel, and spent pickling liquor (SPL or ferrous chloride) to the facility for the raw iron material. The facility would also consume HCL and chlorine, which Pencco would purchase from Corteva or K2. The chlorine would be transported to the facility by pipeline, all within the Corteva industrial complex.

The HCL would be transported to the facility initially by tanker truck and then by pipeline once an HCL pipeline is available. The HCL pipeline from Corteva would extend from the existing line at the rail car spot adjacent to F Street from the east and would require approximately 120 feet of piping to the project tie in point. The facility would also use 98 percent sulfuric acid (H_2SO_4) in iron salts production and liquid oxygen. Both would be transported to the facility by tanker trucks. There would also be a need to consume 50 percent sodium hydroxide (NaOH) in the air scrubber for the facility to control fugitive emissions of HCL and chlorine. NaOH is a corrosive liquid that would also be delivered by tanker truck. Exit the property via Loveridge Road and utilize Highway 4 (primarily heading west).

Construction of the project would occur intermittently over approximately 14 months from May 2025 through July 2026. Construction activities would typically take place Monday through Friday, 8 a.m. to 5 p.m. Construction of the project would require demolition, site preparation, grading, building construction/equipment installation, paving, and architectural coating. Construction would require the export of 16,000 cubic yards of soil to make room for the recessed concrete containment floor. Demolition would consist of removing 27,000 square feet of existing pavement to make room for the new concrete containment area and truck scales. New paving would consist of 26,000 square feet of pavement and 1,000 square feet of asphalt for the new concrete containment area.

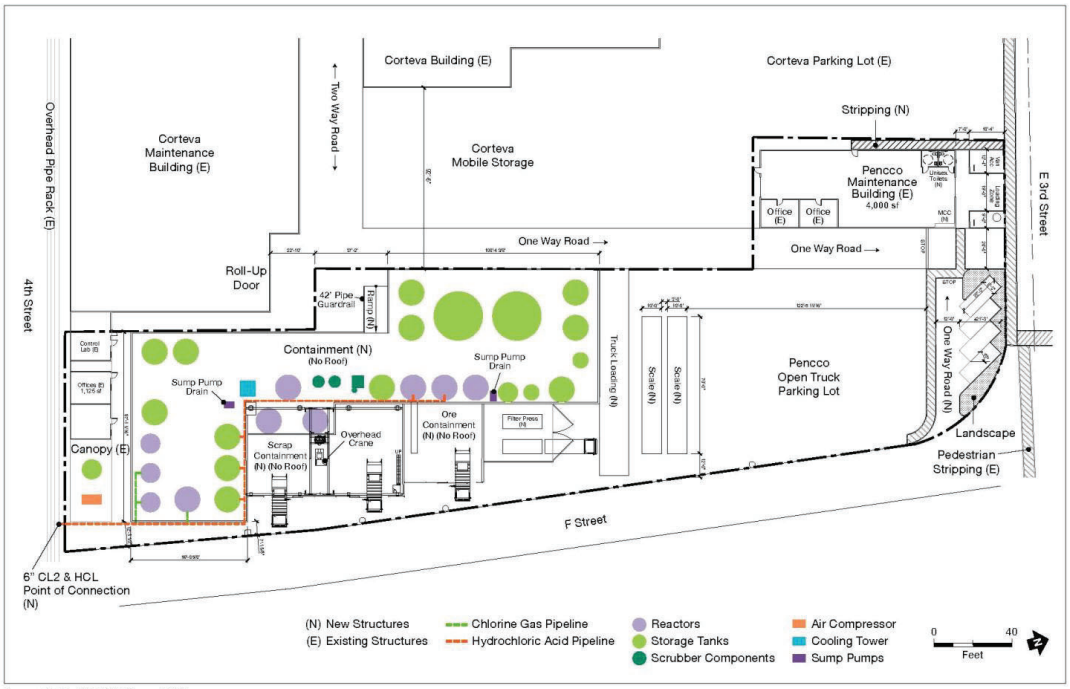
The project site consists of a 1.38-acre (59,960.6 square feet) property leased from Corteva at 901 Loveridge Road in Pittsburg, California. The parcel is zoned General Industrial and is designated Industrial in the City of Pittsburg 2040 General Plan. The project site is fully developed and consists of existing buildings and pavement in the Corteva industrial complex. **Figure 1: Project Location** displays the project location. **Figure 1: Project Site Plan** displays the project site plan including the location of the cooling tower and scrubber stack.

Figure 1
Project Location

Source: RCH Group; Google Earth Pro, 2024

RCHGROUP
planning & environmental consulting

Figure 2
Project Site Plan



Source: Atelier 424, RCH Group, 2024

3.0 HEALTH IMPACT ANALYSIS

Short-term and long-term health impacts related to the construction and operation of the project were evaluated. The analysis focuses on annual emissions from construction and operation of the facility given that health impacts from DPM and other air toxics are evaluated over a year or longer period. Regulatory models used to estimate health impacts include:

- California Air Pollution Officers Association (CAPCOA) CalEEMod (California Emissions Estimator Model Version 2022.1)[5] is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutants and GHG emissions associated with both construction and operations from a variety of land use projects. The model quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.
- AERMOD (American Meteorological Society/USEPA Regulatory Model, Version 23132) is an atmospheric dispersion model which can simulate point, area, volume, and line emissions sources and has the capability to include simple, intermediate, and complex terrain along with meteorological conditions and multiple receptor locations.[6,7] AERMOD is commonly executed to yield 1-hour maximum and annual average concentrations (in $\mu g/m^3$) at each receptor.

The cooling tower would emit volatile organic compounds (VOC) as reactive organic gases (ROG), particulate matter less than 10 micrometers (coarse particulate or PM_{10}), and chloroform. The PM_{10} emissions are the result of the total dissolved solids in the circulating water which are carried out with the water that is entrained in the air being discharged from the tower. VOC emissions typically result from the leakage from process heat exchangers that service hydrocarbon process streams as well as from chemical treatment with VOC containing material added to the circulating water. VOC emissions are expected from cooling towers used in refineries and chemical plants, where the circulating water is used to cool down the process stream. Chloroform, an air toxic, emissions are typically from the toxic constituents of PM_{10} and/or VOC in the circulating water. USEPA AP-42, Compilation of Air Pollutant Emission Factors (VOC - AP-42, Section 5.1, Table 5.1-2 PM_{10} - AP-42, Section 13.4, Table 13.4-1) was used to estimate the VOC, PM_{10}, and chloroform emission rates. The emission factors have been developed and compiled from source test data, material balance studies, and engineering estimates.[8,9]

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5 California Air Pollution Officers Association, *California Emissions Estimator Model User Guide Version 2022.1*, April 2022, http://www.caleemod.com/

6 US Environmental Protection Agency, Preferred/Recommended Models, *AERMOD Modeling System*, https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models#aermod

7 Title 40 CFR Part 51, *Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions; Final Rule,* https://www.epa.gov/sites/default/files/2020-09/documents/appw_17.pdf

8 US Environmental Protection Agency, AP 42, Compilation of Air Pollutant Emission Factors, Fifth Edition, Volume I, https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors

The HCl emissions from the scrubber were estimated. According to the vendor information, the HCl will be treated by a 2-stage system. The uncontrolled inlet HCl concentration is 20 ppm for the design. At the outlet of the stage 1 scrubber, the HCl concentration would be 0.6 ppm. At the outlet of the stage 2 scrubber, the HCl concentration would be 0.00006 ppm at a flow rate of 12,690 cubic feet per minute (at temperature at 140 F, pressure 28.82 inches of Hg).

The uncontrolled HCL emissions would be 1.42 pounds per hour and 12, 418 pounds per year. The stage 1 HCL emissions (with 97 percent control efficiency) would be 0.04 pounds per hour and 373 pounds per year. The HCl emissions from the Stage 2 outlet (with 99.9 percent control efficiency) would be 0.0000044 pounds per hour 0.038 pounds per year.

Threshold of Significance

The thresholds and methodologies from the BAAQMD's *CEQA Air Quality Guidelines* were used to evaluate the potential health impacts of construction and operation of the project. The thresholds of significance applied to assess project-level air quality impacts are:

- Exposure of persons by siting a new source or a new sensitive receptor to substantial levels of TAC resulting in (a) a cancer risk level greater than 10 in one million, (b) a noncancerous risk (chronic or acute) hazard index greater than 1.0, or (c) an increase of annual average $PM_{2.5}$ of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$). For this threshold, sensitive receptors include residential uses, schools, parks, daycare centers, nursing homes, and medical centers; or

Assessment of a significant cumulative impact if it would result in:

- Exposure of persons, by siting a new source or a new sensitive receptor, to substantial levels of TAC during either construction or operation resulting in (a) a cancer risk level greater than 100 in a million, (b) a noncancer risk (chronic or acute) hazard index greater than 10.0, or (c) annual average $PM_{2.5}$ of greater than 0.8 $\mu g/m^3$.

Health Impact Evaluation

This HRA was conducted following methodologies in OEHHA's *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. This was accomplished by applying the estimated concentrations at the receptors analyzed to the established cancer risk estimates and acceptable reference concentrations for non-cancer health effects.

Recent OEHHA's revisions to its *Guidance Manual* were primarily designed to ensure that the greater sensitivity of children to cancer and other health risks is reflected in HRA. For example, OEHHA now recommends that risks be analyzed separately for multiple age groups, focusing especially on young children and teenagers, rather than the past practice of analyzing risks to the general population, without distinction by age. OEHHA also now recommends that statistical "age sensitivity factors" be incorporated into an HRA, and that children's relatively high breathing rates be accounted for. On the other hand, the *Guidance Manual* revisions also include some changes that would reduce calculated

[9] South Coast Air Quality Management District, Guidelines for Calculating Emissions from Cooling Towers, December 2022, https://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/guidelines-for-calculating-emissions-from-cooling-towers-2022.pdf?sfvrsn=6

health risks. For example, under the former guidance, OEHHA recommended that residential cancer risks be assessed by assuming 70 years of exposure at a residential receptor; under the *Guidance Manual*, this assumption is lessened to 30 years.

Health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. Individual cancer risk is the likelihood that a person exposed to air toxic concentrations over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. The maximally exposed individual (MEI) represents the worst–case risk estimate, based on a theoretical person continuously exposed for a lifetime at the point of highest compound concentration in the air. This is a highly conservative assumption since most people do not remain at home all day and on average residents change residences every 11 to 12 years. In addition, this assumption assumes that residents are experiencing outdoor concentrations for the entire exposure period.

This HRA analyzes the cancer risks to sensitive receptors in the vicinity of the project, using emission rates (in pounds per hour and pounds per year) based on CalEEMod. Air toxics emission rates were input into the USEPA's AERMOD atmospheric dispersion model to calculate ambient air concentrations at receptors in the project vicinity. This HRA is intended to provide a worst–case estimate of the increased exposure by employing a standard emission estimation program, an accepted pollutant dispersion model, approved toxicity factors, and conservative exposure parameters.

In accordance with OEHHA *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments,* this HRA was accomplished by applying the highest estimated concentrations of TAC at the receptors analyzed to the established cancer potency factors and acceptable reference concentrations for non-cancer health effects. Increased cancer risks were calculated using the modeled air toxics concentrations and OEHHA-recommended methodologies for both child exposure (3rd trimester through two years of age) and adult exposure. The cancer risk calculations were based on applying the OEHHA-recommended age sensitivity factors and breathing rates, as well as fraction of time at home and an exposure duration of 30 years, to the air toxics concentration exposures. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing air pollutants. The supporting methodology and assumptions used in this HRA are provided in **Attachment A: Health Risk Assessment Methodology, Assumptions, and Detailed Results** at the end of this narrative.

These conservative methodologies tend to overestimate both non-carcinogenic and carcinogenic health risk, possibly by an order of magnitude or more. Therefore, for carcinogenic risks, the actual probabilities of cancer formation in the populations of concern due to exposure to carcinogenic pollutants are likely to be lower than the risks derived using this HRA methodology. The extrapolation of toxicity data in animals to humans, the estimation of concentration prediction methods within dispersion models; and the variability in lifestyles, fitness and other confounding factors of the human population also contribute to the overestimation of health impacts. Therefore, the results of this HRA are highly overstated.

Some receptors are considered more sensitive to air pollutants than others, because of preexisting health problems, proximity to the emissions source, or duration of exposure to air pollutants. Land uses such as primary and secondary schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because the very young, the old, and the infirm are more

susceptible to respiratory infections and other air quality-related health problems than the general public. Residential areas are also considered sensitive to poor air quality because people in residential areas are often at home for extended periods. Recreational land users are moderately sensitive to air pollution because of vigorous exercise associated with recreation places having a high demand on respiratory system function.

Modeling locations were placed at offsite worker receptors to estimate health impacts due to proposed project construction and operations. Numerous offsite workers are located within 1,000 feet of the project site. Modeling locations were placed at nearby buildings in which offsite workers would gather, along the facility property line, and within a cartesian grid with spacing of 50 meters from the proposed project. This results in approximately 270 modeling receptors.

Martin Luther King Junior High School is located approximately 1.2 miles to the southwest of the project site. Turner Elementary School is located approximately 1.6 miles to the south of the project site. Antioch Charter Academy is located approximately 2.0 miles to the southeast of the project site. Maria Vista Elementary School is located approximately 1.8 miles to the west of the project site. Little People's Preschool is located approximately 1.1 miles to the southwest of the project site. Modeling receptors were also included for these educational facilities.

The nearest residential land uses (in the area bordered by the Pittsburg-Antioch Highway, Central Addition Park, Manor Street, and the railroad tracks) are located approximately 1.0 miles to the southwest of the project site. There are also residences located to the south of the project site (in an area bordered by California Delta Highway and Leland Street), within approximately 1.2 miles and residences located to the southeast of the project site (in an area bordered by Auto Center Drive, 16th Street, and Crestview Drive), within approximately 1.7 miles. Modeling receptors were also included for these residential land uses. **Attachment A: Health Risk Assessment Methodology, Assumptions, and Detailed Results** provides further details related to the location of modeling receptors.

Construction Health Impacts at Existing Residences

The following describes the HRA results associated with existing residences due to unmitigated project construction activities (i.e., offroad equipment and haul trucks). As shown in **Table 1: Estimated Unmitigated Construction Health Impacts at Existing Residences**, the maximum cancer risk from unmitigated project construction emissions for an existing residence would be 0.13 per million. Thus, the cancer risk due to unmitigated construction activities is less than the BAAQMD threshold of 10 per million and would be less than significant.

Table 1: Estimated Unmitigated Construction Health Impacts at Existing Residences

Source	Cancer Risk (child/adult)	Hazard Impact	$PM_{2.5}$ Concentration
Unmitigated Proposed Project Construction	0.13/0.01	<0.01	<0.01
Significance Threshold	10.0	1.00	0.30
Potentially Significant (Yes or No)?	No	No	No

The following describes the HRA results associated with existing residences due to mitigated project construction activities. As shown in **Table 2: Estimated Mitigated Construction Health Impacts at**

Existing Residences, the maximum cancer risk from mitigated project construction emissions for an existing residence would be 0.02 per million. Thus, the cancer risk due to mitigated construction activities are less than the BAAQMD threshold of 10 per million and would be less than significant.

Table 2: Estimated Mitigated Construction Health Impacts at Existing Residences

Source	Cancer Risk (child/adult)	Hazard Impact	$PM_{2.5}$ Concentration
Mitigated Proposed Project Construction	0.02/<0.01	<0.01	<0.01
Significance Threshold	10.0	1.00	0.30
Potentially Significant (Yes or No)?	No	No	No

Both acute (short-term) and chronic (long-term) adverse health impacts unrelated to cancer are measured against a hazard index (HI), which is defined as the ratio of the predicted incremental DPM exposure concentration from the project to a reference exposure level (REL) that could cause adverse health effects. The REL are published by OEHHA based on epidemiological research. The ratio (referred to as the Hazard Quotient [HQ]) of each non-carcinogenic substance that affects a certain organ system is added to produce an overall HI for that organ system. The overall HI is calculated for each organ system. The impact is considered to be significant if the overall HI for the highest-impacted organ system is greater than 1.0.

Of note, there are a cancer potency factor and a chronic hazard index, but no acute hazard index associated with DPM.[10] The chronic reference exposure level for DPM was established by the California OEHHA[11] as 5 μg/m^3. Thus, the project-related annual concentration of DPM cannot exceed 5.0 μg/m^3; resulting in a chronic HI of greater than 1.0 (i.e., DPM annual concentration/5.0 μg/m^3). The chronic HI would be less than 0.01 at the existing residences. The chronic HI would be below the project-level threshold of 1 and the impact of the project would therefore be less than significant.

Dispersion modeling also estimated the exposure of sensitive receptors to project-related concentrations of $PM_{2.5}$. The BAAQMD *Air Quality Guidelines* requires inclusion of $PM_{2.5}$ exhaust and fugitive dust emissions in this analysis. The project's annual $PM_{2.5}$ concentration from construction activities would be less than 0.01 μg/m^3 at the existing residences. Thus, the annual $PM_{2.5}$ concentration due to project construction (combustion exhaust and fugitive dust) would be below the BAAQMD threshold of 0.3 μg/m^3 and would be considered less than significant.

Construction Health Impacts at Existing Schools

The following describes the HRA results associated with existing schools due to unmitigated project construction activities. As shown in **Table 3: Estimated Unmitigated Construction Health Impacts at Existing Schools**, the maximum cancer risk from unmitigated project construction emissions for existing schools would be 0.01 per million. Thus, the cancer risk due to unmitigated construction activities is less than the BAAQMD threshold of 10 per million and would be less than significant.

10 Office of Environmental Health Hazards Assessment Chemical Database – Air, http://oehha.ca.gov/chemicals

11 California Office of Environmental Health Hazards Assessment - Acute, 8-hour, and Chronic Reference Exposure Levels, June 2014, http://www.oehha.ca.gov/air/allrels.html

Table 3: Estimated Unmitigated Construction Health Impacts at Existing Schools

Source	Cancer Risk	Hazard Impact	$PM_{2.5}$ Concentration
Unmitigated Proposed Project Construction	0.01	<0.01	<0.01
Significance Threshold	10.0	1.00	0.30
Potentially Significant (Yes or No)?	No	No	No

The following describes the HRA results associated with existing residences due to mitigated project construction activities. As shown in **Table 4: Estimated Mitigated Construction Health Impacts at Existing Schools**, the maximum cancer risk from mitigated project construction emissions for existing schools would be less than 0.01 per million. Thus, the cancer risk due to mitigated construction activities are less than the BAAQMD threshold of 10 per million and would be less than significant.

Table 4: Estimated Mitigated Construction Health Impacts at Existing Schools

Source	Cancer Risk	Hazard Impact	$PM_{2.5}$ Concentration
Mitigated Proposed Project Construction	<0.01	<0.01	<0.01
Significance Threshold	10.0	1.00	0.30
Potentially Significant (Yes or No)?	No	No	No

The chronic HI would be less than 0.01 at the existing schools. The chronic HI would be less than 0.01 at the existing schools. The chronic HI would be below the project-level threshold of 1 and the impact of the project would therefore be less than significant.

The project's annual $PM_{2.5}$ concentration from construction activities would be less than 0.01 µg/m^3 at the existing schools. Thus, the annual $PM_{2.5}$ concentration due to project construction (combustion exhaust and fugitive dust) would be below the BAAQMD threshold of 0.3 µg/m^3 and would be considered less than significant.

Construction Health Impacts at Offsite Workers

The following describes the HRA results associated with existing residences due to unmitigated project construction activities. As shown in **Table 5: Estimated Unmitigated Construction Health Impacts at Offsite Workers**, the maximum cancer risk from unmitigated project construction emissions for offsite workers would be 1.8 per million. The maximum exposed individual worker (MEIW) for construction activities is located to the east of the project site. Thus, the cancer risk due to unmitigated construction activities is less than the BAAQMD threshold of 10 per million and would be less than significant.

Table 5: Estimated Unmitigated Construction Health Impacts at Offsite Workers

Source	Cancer Risk	Hazard Impact	$PM_{2.5}$ Concentration
Unmitigated Proposed Project Construction	1.83	0.09	0.80
Significance Threshold	10.0	1.00	0.30
Potentially Significant (Yes or No)?	No	No	Yes

The following describes the HRA results associated with existing residences due to mitigated project construction activities. As shown in **Table 6: Estimated Mitigated Construction Health Impacts at Offsite Workers**, the maximum cancer risk from mitigated project construction emissions for offsite workers would be 0.24 per million. Thus, the cancer risk due to mitigated construction activities are less than the BAAQMD threshold of 10 per million and would be less than significant.

Table 6: Estimated Mitigated Construction Health Impacts at Offsite Workers

Source	Cancer Risk	Hazard Impact	$PM_{2.5}$ Concentration
Mitigated Proposed Project Construction	0.24	0.01	0.21
Significance Threshold	10.0	1.00	0.30
Potentially Significant (Yes or No)?	No	No	No

The chronic HI would be 0.01 at offsite workers. The chronic HI would be below the project-level threshold of 1 and the impact of the project would therefore be less than significant.

The project's unmitigated annual $PM_{2.5}$ concentration from construction activities would be 0.80 µg/m^3 at offsite workers. Thus, the annual $PM_{2.5}$ concentration due to project construction (combustion exhaust and fugitive dust) would be potentially above the BAAQMD threshold of 0.3 µg/m^3. With **Mitigation Measures AQ-1 and AQ-2**, the project's annual $PM_{2.5}$ concentration from construction activities would be 0.21 µg/m^3 at offsite workers. The MEIW for construction activities is located to the south of the project site along the haul truck route. Thus, the annual $PM_{2.5}$ concentration due to project construction (combustion exhaust and fugitive dust) would be less than the BAAQMD threshold of 0.3 µg/m^3 and less than significant with mitigation.

Mitigation Measure AQ-1: Construction-related activities, such as soil disturbance, grading, and material hauling, can also result in fugitive dust emissions. Based on the most recent BAAQMD's *CEQA Air Quality Guidelines,* for a project to have a less-than-significant air quality impact related to construction-related fugitive dust emissions, the project must implement the following basic best management practices:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt trackout onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.
- Publicly visible signs shall be posted with the telephone number and name of the person to contact at the City regarding dust complaints. This person shall respond and take corrective

action within 48 hours. The BAAQMD's General Air Pollution Complaints number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure AQ-2: The applicant shall implement the following measures during construction to further reduce construction exhaust emissions:

All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall utilize diesel engines that are USEPA certified "Tier 4 final" emission standards for particulate matter. Prior to the issuance of any demolition/construction permits, the construction contractor shall submit specifications of the equipment to be used during construction and the city of Pittsburg shall confirm this requirement is met.[12]

Equipment such as air compressors, concrete/industrial saws, forklifts, light stands, manlifts, pumps, and welders shall be electric or alternative-fueled (i.e., non-diesel), where feasible. Pole power shall be utilized at the earliest feasible point in time and shall be used to the maximum extent feasible in lieu of generators.

Operation Health Impacts at Existing Residences

Project operational sources of air toxics include haul trucks, the cooling tower, and the scrubber. The following describes the HRA results associated with existing residences due to project operation (cooling tower, scrubber, and haul trucks). The maximum cancer risk from operations for a residential receptor would be less than 0.01 per million. Thus, the cancer risk due to operations is less than the BAAQMD threshold of 10 per million and would be less than significant. As shown in **Table 7: Estimated Operational Health Impacts at Existing Residences**, the chronic HI with stage 2 scrubber would be less than 0.01 at the existing residences. The chronic HI would be below the project-level threshold of 1 and the impact of the project would therefore be less than significant. The project's annual $PM_{2.5}$ concentration from construction activities would be less than 0.01 µg/m^3 at the existing residences. Thus, the annual $PM_{2.5}$ concentration due to project operations would be below the BAAQMD threshold of 0.3 µg/m^3 and would be considered less than significant.

Table 7: Estimated Operational Health Impacts at Existing Residences

Source	Cancer Risk (child/adult)	Hazard Impact (chronic/acute)	$PM_{2.5}$ Concentration
Proposed Project Operation (Uncontrolled Scrubber)	<0.01	0.11/<0.01	<0.01
Proposed Project Operation (Stage 1 Scrubber)	<0.01	<0.01/<0.01	<0.01
Proposed Project Operation (Stage 2 Scrubber)	<0.01	<0.01/<0.01	<0.01
Significance Threshold	10.0	1.00	0.30
Potentially Significant (Yes or No)?	No	No	No

[12] USEPA and CARB have implemented regulations and a tiering system to reduce emissions from off-road equipment with increasing combustion efficiency (i.e., decreasing emissions) where Tier 1 is the least efficient (greatest emissions) and Tier 4 is the most efficient (least emissions). The regulations have been implemented over time such that Tier 1 was phased out in the 1990's and Tier 2 was required, followed by implementation of Tier 3 and Tier 4 by 2015 with a phase out of Tier 2.

Operation Health Impacts at Existing Schools

Project operational sources of air toxics include haul trucks, the cooling tower, and the scrubber. The following describes the HRA results associated with existing schools due to project operation. The maximum cancer risk from operations for a school receptor would be less than 0.01 per million. Thus, the cancer risk due to operations is less than the BAAQMD threshold of 10 per million and would be less than significant. As shown in **Table 8: Estimated Operational Health Impacts at Existing Schools**, the chronic HI with stage 2 scrubber would be less than 0.01 at the existing schools. The chronic HI would be below the project-level threshold of 1 and the impact of the project would therefore be less than significant. The project's annual $PM_{2.5}$ concentration from operations would be less than 0.01 $\mu g/m^3$ at the existing schools. Thus, the annual $PM_{2.5}$ concentration due to project operation would be below the BAAQMD threshold of 0.3 $\mu g/m^3$ and would be considered less than significant.

Table 8: Estimated Operational Health Impacts at Existing Schools

Source	Cancer Risk (child/adult)	Hazard Impact (chronic/acute)	$PM_{2.5}$ Concentration
Proposed Project Operation (Uncontrolled Scrubber)	<0.01	0.08/<0.01	<0.01
Proposed Project Operation (Stage 1 Scrubber)	<0.01	<0.01/<0.01	<0.01
Proposed Project Operation (Stage 2 Scrubber)	<0.01	<0.01/<0.01	<0.01
Significance Threshold	10.0	1.00	0.30
Potentially Significant (Yes or No)?	No	No	No

Operation Health Impacts at Offsite Workers

Project operational sources of air toxics include haul trucks, the cooling tower, and the scrubber. The following describes the HRA results associated with offsite workers due to project operation. The maximum cancer risk from operations for an offsite worker receptor would be 0.64 per million. Thus, the cancer risk due to operations is less than the BAAQMD threshold of 10 per million and would be less than significant. As shown in **Table 9: Estimated Operational Health Impacts at Offsite Workers**, the uncontrolled chronic HI would be 12.5 at offsite workers. The uncontrolled chronic HI would be above the project-level threshold of 1 and the impact of the project would therefore be potentially significant. However, the facility and scrubbers would not operate without the use of stage 1 and stage 2 conditions. The chronic HI with stage 1 and 2 would be 0.37 and less than 0.01, respectively, at offsite workers. The chronic HI with stage 1 and 2 would be below the project-level threshold of 1 and the impact of the project would therefore be less than significant. The project's annual $PM_{2.5}$ concentration from operations would be less than 0.04 $\mu g/m^3$ at offsite workers. Thus, the annual $PM_{2.5}$ concentration due to project operation would be below the BAAQMD threshold of 0.3 $\mu g/m^3$ and would be considered less than significant.

Table 9: Estimated Operational Health Impacts at Offsite Workers

Source	Cancer Risk (child/adult)	Hazard Impact (chronic/acute)	$PM_{2.5}$ Concentration
Proposed Project Operation (Uncontrolled Scrubber)	0.64	12.5/0.05	0.04
Proposed Project Operation (Stage 1 Scrubber)	0.64	0.37/<0.01	0.04
Proposed Project Operation (Stage 2 Scrubber)	0.64	<0.01/<0.01	0.04
Significance Threshold	10.0	1.00	0.30
Potentially Significant (Yes or No)?	No	No	No

Construction plus Operation Health Impacts

The health impacts for construction plus operations at the existing residences and existing schools are well below the BAAQMD thresholds of significance. The maximum cancer risk from project mitigated construction plus operational emissions for offsite workers would be 0.88 per million. Thus, the cancer risk due to operations is less than the BAAQMD threshold of 10 per million and would be less than significant.

4.0 SUMMARY

The health impacts due to construction activities and operations at nearby sensitive receptors would be less than significant with mitigation.

Attachment A - Health Risk Assessment

- **Methodology and Assumptions**
- **Construction Results**
- **Operational Results**
- **AERMOD Data Summary**
- **Cooling Tower Data**
- **Scrubber Data**

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	30<70 Years
0.85	fraction of t	0<2 Years
0.72	fraction of t	2<16 Years
0.73	fraction of t	16<70 Years

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Unmitigated Construction
Receptor:	Existing Residence

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2025	5.28E-04	9.90E-04	1,090	10.0	0.85	0.07
2	2026	3.83E-04	3.89E-04	1,090	10.0	0.85	0.05
3	2027			745	4.75	0.72	
4	2028			745	3.00	0.72	
5	2029			745	3.00	0.72	
6	2030			745	3.00	0.72	
7	2031			745	3.00	0.72	
8	2032			745	3.00	0.72	
9	2033			745	3.00	0.72	
10	2034			745	3.00	0.72	
11	2035			745	3.00	0.72	
12	2036			745	3.00	0.72	
13	2037			745	3.00	0.72	
14	2038			745	3.00	0.72	
15	2039			745	3.00	0.72	
16	2040			745	3.00	0.72	
17	2041			335	1.70	0.73	
18	2042			335	1.00	0.73	
19	2043			335	1.00	0.73	
20	2044			335	1.00	0.73	
21	2045			335	1.00	0.73	
22	2046			335	1.00	0.73	
23	2047			335	1.00	0.73	
24	2048			335	1.00	0.73	
25	2049			335	1.00	0.73	
26	2050			335	1.00	0.73	
27	2051			335	1.00	0.73	
28	2052			335	1.00	0.73	
29	2053			335	1.00	0.73	
30	2054			335	1.00	0.73	

0.00	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.13	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.01	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	30<70 Years
0.85	fraction of	0<2 Years
0.72	fraction of	2<16 Years
0.73	fraction of	16<70 Years

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Mitigated Construction
Receptor:	Existing Residence

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2025	6.11E-05	2.55E-04	1,090	10.0	0.85	0.01
2	2026	5.91E-05	6.01E-05	1,090	10.0	0.85	0.01
3	2027			745	4.75	0.72	
4	2028			745	3.00	0.72	
5	2029			745	3.00	0.72	
6	2030			745	3.00	0.72	
7	2031			745	3.00	0.72	
8	2032			745	3.00	0.72	
9	2033			745	3.00	0.72	
10	2034			745	3.00	0.72	
11	2035			745	3.00	0.72	
12	2036			745	3.00	0.72	
13	2037			745	3.00	0.72	
14	2038			745	3.00	0.72	
15	2039			745	3.00	0.72	
16	2040			745	3.00	0.72	
17	2041			335	1.70	0.73	
18	2042			335	1.00	0.73	
19	2043			335	1.00	0.73	
20	2044			335	1.00	0.73	
21	2045			335	1.00	0.73	
22	2046			335	1.00	0.73	
23	2047			335	1.00	0.73	
24	2048			335	1.00	0.73	
25	2049			335	1.00	0.73	
26	2050			335	1.00	0.73	
27	2051			335	1.00	0.73	
28	2052			335	1.00	0.73	
29	2053			335	1.00	0.73	
30	2054			335	1.00	0.73	

0.00	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.02	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.00	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
180	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Unmitigated Construction
Receptor:	Existing School

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk
1	2025	4.33E-04	8.08E-04	581	3.00	1.00	0.01
2	2026	3.14E-04	3.18E-04	581	3.00	1.00	0.00
3	2027			581	3.00	1.00	
4	2028			581	3.00	1.00	
5	2029			581	3.00	1.00	
6	2030			581	3.00	1.00	
7	2031			581	3.00	1.00	
8	2032			581	3.00	1.00	
9	2033			581	3.00	1.00	
10	2034			581	3.00	1.00	
11	2035			581	3.00	1.00	
12	2036			581	3.00	1.00	

0.00	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.01	Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
180	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Mitigated Construction
Receptor:	Existing School

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk
1	2025	5.02E-05	2.09E-04	581	3.00	1.00	0.00
2	2026	4.85E-05	4.91E-05	581	3.00	1.00	0.00
3	2027			581	3.00	1.00	
4	2028			581	3.00	1.00	
5	2029			581	3.00	1.00	
6	2030			581	3.00	1.00	
7	2031			581	3.00	1.00	
8	2032			581	3.00	1.00	
9	2033			581	3.00	1.00	
10	2034			581	3.00	1.00	
11	2035			581	3.00	1.00	
12	2036			581	3.00	1.00	

0.00	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.00	Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
250	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Unmitigated Construction
Receptor:	Offsite Worker

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at work	Cancer Risk
1	2025	4.30E-01	7.99E-01	230	1.00	1.00	1.06
2	2026	3.11E-01	3.14E-01	230	1.00	1.00	0.77
3	2027			230	1.00	1.00	
4	2028			230	1.00	1.00	
5	2029			230	1.00	1.00	
6	2030			230	1.00	1.00	
7	2031			230	1.00	1.00	
8	2032			230	1.00	1.00	
9	2033			230	1.00	1.00	
10	2034			230	1.00	1.00	
11	2035			230	1.00	1.00	
12	2036			230	1.00	1.00	

0.80	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
Yes	Significant?
0.09	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
1.83	Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
250	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Mitigated Construction
Receptor:	Offsite Worker

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at work	Cancer Risk
1	2025	4.97E-02	2.06E-01	230	1.00	1.00	0.12
2	2026	4.81E-02	4.85E-02	230	1.00	1.00	0.12
3	2027			230	1.00	1.00	
4	2028			230	1.00	1.00	
5	2029			230	1.00	1.00	
6	2030			230	1.00	1.00	
7	2031			230	1.00	1.00	
8	2032			230	1.00	1.00	
9	2033			230	1.00	1.00	
10	2034			230	1.00	1.00	
11	2035			230	1.00	1.00	
12	2036			230	1.00	1.00	

0.21	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.24	Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	30<70 Years
0.85	fraction of t	0<2 Years
0.72	fraction of t	2<16 Years
0.73	fraction of t	16<70 Years

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Unmitigated Construction Total
Receptor:	Existing Residence

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2025	6.24E-04	1.81E-03	1,090	10.0	0.85	0.09
2	2026	4.50E-04	9.88E-04	1,090	10.0	0.85	0.06
3	2027			745	4.75	0.72	
4	2028			745	3.00	0.72	
5	2029			745	3.00	0.72	
6	2030			745	3.00	0.72	
7	2031			745	3.00	0.72	
8	2032			745	3.00	0.72	
9	2033			745	3.00	0.72	
10	2034			745	3.00	0.72	
11	2035			745	3.00	0.72	
12	2036			745	3.00	0.72	
13	2037			745	3.00	0.72	
14	2038			745	3.00	0.72	
15	2039			745	3.00	0.72	
16	2040			745	3.00	0.72	
17	2041			335	1.70	0.73	
18	2042			335	1.00	0.73	
19	2043			335	1.00	0.73	
20	2044			335	1.00	0.73	
21	2045			335	1.00	0.73	
22	2046			335	1.00	0.73	
23	2047			335	1.00	0.73	
24	2048			335	1.00	0.73	
25	2049			335	1.00	0.73	
26	2050			335	1.00	0.73	
27	2051			335	1.00	0.73	
28	2052			335	1.00	0.73	
29	2053			335	1.00	0.73	
30	2054			335	1.00	0.73	

0.00	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.15	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.01	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	30<70 Years
0.85	fraction of	0<2 Years
0.72	fraction of	2<16 Years
0.73	fraction of	16<70 Years

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Mitigated Construction Total
Receptor:	Existing Residence

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2025	1.64E-04	1.08E-03	1,090	10.0	0.85	0.02
2	2026	1.30E-04	6.84E-04	1,090	10.0	0.85	0.02
3	2027			745	4.75	0.72	
4	2028			745	3.00	0.72	
5	2029			745	3.00	0.72	
6	2030			745	3.00	0.72	
7	2031			745	3.00	0.72	
8	2032			745	3.00	0.72	
9	2033			745	3.00	0.72	
10	2034			745	3.00	0.72	
11	2035			745	3.00	0.72	
12	2036			745	3.00	0.72	
13	2037			745	3.00	0.72	
14	2038			745	3.00	0.72	
15	2039			745	3.00	0.72	
16	2040			745	3.00	0.72	
17	2041			335	1.70	0.73	
18	2042			335	1.00	0.73	
19	2043			335	1.00	0.73	
20	2044			335	1.00	0.73	
21	2045			335	1.00	0.73	
22	2046			335	1.00	0.73	
23	2047			335	1.00	0.73	
24	2048			335	1.00	0.73	
25	2049			335	1.00	0.73	
26	2050			335	1.00	0.73	
27	2051			335	1.00	0.73	
28	2052			335	1.00	0.73	
29	2053			335	1.00	0.73	
30	2054			335	1.00	0.73	

0.00	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.04	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.00	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
180	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Unmitigated Construction Total
Receptor:	Existing School

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk
1	2025	5.14E-04	1.44E-03	581	3.00	1.00	0.01
2	2026	3.70E-04	7.84E-04	581	3.00	1.00	0.00
3	2027			581	3.00	1.00	
4	2028			581	3.00	1.00	
5	2029			581	3.00	1.00	
6	2030			581	3.00	1.00	
7	2031			581	3.00	1.00	
8	2032			581	3.00	1.00	
9	2033			581	3.00	1.00	
10	2034			581	3.00	1.00	
11	2035			581	3.00	1.00	
12	2036			581	3.00	1.00	

0.00	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.01	Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
180	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Mitigated Construction Total
Receptor:	Existing School

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk
1	2025	1.33E-04	8.96E-04	581	3.00	1.00	0.00
2	2026	1.05E-04	5.74E-04	581	3.00	1.00	0.00
3	2027			581	3.00	1.00	
4	2028			581	3.00	1.00	
5	2029			581	3.00	1.00	
6	2030			581	3.00	1.00	
7	2031			581	3.00	1.00	
8	2032			581	3.00	1.00	
9	2033			581	3.00	1.00	
10	2034			581	3.00	1.00	
11	2035			581	3.00	1.00	
12	2036			581	3.00	1.00	

0.00	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.00	Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
250	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Unmitigated Construction Total
Receptor:	Offsite Worker

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at work	Cancer Risk
1	2025	4.33E-01	8.24E-01	230	1.00	1.00	1.07
2	2026	3.14E-01	3.32E-01	230	1.00	1.00	0.78
3	2027			230	1.00	1.00	
4	2028			230	1.00	1.00	
5	2029			230	1.00	1.00	
6	2030			230	1.00	1.00	
7	2031			230	1.00	1.00	
8	2032			230	1.00	1.00	
9	2033			230	1.00	1.00	
10	2034			230	1.00	1.00	
11	2035			230	1.00	1.00	
12	2036			230	1.00	1.00	

0.82	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
Yes	Significant?
0.09	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
1.85	Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
250	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Mitigated Construction Total
Receptor:	Offsite Worker

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at work	Cancer Risk
1	2025	5.29E-02	2.31E-01	230	1.00	1.00	0.13
2	2026	5.03E-02	1.51E-01	230	1.00	1.00	0.12
3	2027			230	1.00	1.00	
4	2028			230	1.00	1.00	
5	2029			230	1.00	1.00	
6	2030			230	1.00	1.00	
7	2031			230	1.00	1.00	
8	2032			230	1.00	1.00	
9	2033			230	1.00	1.00	
10	2034			230	1.00	1.00	
11	2035			230	1.00	1.00	
12	2036			230	1.00	1.00	

0.23	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.26	Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	30<70 Years
0.85	fraction of t	0<2 Years
0.72	fraction of t	2<16 Years
0.73	fraction of t	16<70 Years

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Construction Trips
Receptor:	Existing Residence

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2025	1.13E-04	8.90E-04	1,090	10.0	0.85	0.02
2	2026	7.86E-05	6.51E-04	1,090	10.0	0.85	0.01
3	2027			745	4.75	0.72	
4	2028			745	3.00	0.72	
5	2029			745	3.00	0.72	
6	2030			745	3.00	0.72	
7	2031			745	3.00	0.72	
8	2032			745	3.00	0.72	
9	2033			745	3.00	0.72	
10	2034			745	3.00	0.72	
11	2035			745	3.00	0.72	
12	2036			745	3.00	0.72	
13	2037			745	3.00	0.72	
14	2038			745	3.00	0.72	
15	2039			745	3.00	0.72	
16	2040			745	3.00	0.72	
17	2041			335	1.70	0.73	
18	2042			335	1.00	0.73	
19	2043			335	1.00	0.73	
20	2044			335	1.00	0.73	
21	2045			335	1.00	0.73	
22	2046			335	1.00	0.73	
23	2047			335	1.00	0.73	
24	2048			335	1.00	0.73	
25	2049			335	1.00	0.73	
26	2050			335	1.00	0.73	
27	2051			335	1.00	0.73	
28	2052			335	1.00	0.73	
29	2053			335	1.00	0.73	
30	2054			335	1.00	0.73	

0.00	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.03	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.00	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
180	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Construction Trips
Receptor:	Existing School

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk
1	2025	9.29E-05	7.33E-04	581	3.00	1.00	0.00
2	2026	6.48E-05	5.36E-04	581	3.00	1.00	0.00
3	2027			581	3.00	1.00	
4	2028			581	3.00	1.00	
5	2029			581	3.00	1.00	
6	2030			581	3.00	1.00	
7	2031			581	3.00	1.00	
8	2032			581	3.00	1.00	
9	2033			581	3.00	1.00	
10	2034			581	3.00	1.00	
11	2035			581	3.00	1.00	
12	2036			581	3.00	1.00	

0.00	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.00	Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
250	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Construction Trips
Receptor:	Offsite Worker

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at worker	Cancer Risk
1	2025	2.59E-02	2.04E-01	230	1.00	1.00	0.06
2	2026	1.80E-02	1.49E-01	230	1.00	1.00	0.04
3	2027			230	1.00	1.00	
4	2028			230	1.00	1.00	
5	2029			230	1.00	1.00	
6	2030			230	1.00	1.00	
7	2031			230	1.00	1.00	
8	2032			230	1.00	1.00	
9	2033			230	1.00	1.00	
10	2034			230	1.00	1.00	
11	2035			230	1.00	1.00	
12	2036			230	1.00	1.00	
13	2037			230	1.00	1.00	
14	2038			230	1.00	1.00	
15	2039			230	1.00	1.00	
16	2040			230	1.00	1.00	
17	2041			230	1.00	1.00	
18	2042			230	1.00	1.00	
19	2043			230	1.00	1.00	
20	2044			230	1.00	1.00	
21	2045			230	1.00	1.00	
22	2046			230	1.00	1.00	
23	2047			230	1.00	1.00	
24	2048			230	1.00	1.00	
25	2049			230	1.00	1.00	
26	2050			230	1.00	1.00	
27	2051			230	1.00	1.00	
28	2052			230	1.00	1.00	
29	2053			230	1.00	1.00	
30	2054			230	1.00	1.00	

0.20	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.11	Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	30<70 Years
0.85	fraction of t	0<2 Years
0.72	fraction of t	2<16 Years
0.73	fraction of t	16<70 Years

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Haul Trucks
Receptor:	Existing Residence

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2025	3.78E-05	1.70E-04	1,090	10.0	0.85	0.01
2	2026	3.78E-05	1.70E-04	1,090	10.0	0.85	0.01
3	2027	3.78E-05	1.70E-04	745	4.75	0.72	0.00
4	2028	3.78E-05	1.70E-04	745	3.00	0.72	0.00
5	2029	3.78E-05	1.70E-04	745	3.00	0.72	0.00
6	2030	3.78E-05	1.70E-04	745	3.00	0.72	0.00
7	2031	3.78E-05	1.70E-04	745	3.00	0.72	0.00
8	2032	3.78E-05	1.70E-04	745	3.00	0.72	0.00
9	2033	3.78E-05	1.70E-04	745	3.00	0.72	0.00
10	2034	3.78E-05	1.70E-04	745	3.00	0.72	0.00
11	2035	3.78E-05	1.70E-04	745	3.00	0.72	0.00
12	2036	3.78E-05	1.70E-04	745	3.00	0.72	0.00
13	2037	3.78E-05	1.70E-04	745	3.00	0.72	0.00
14	2038	3.78E-05	1.70E-04	745	3.00	0.72	0.00
15	2039	3.78E-05	1.70E-04	745	3.00	0.72	0.00
16	2040	3.78E-05	1.70E-04	745	3.00	0.72	0.00
17	2041	3.78E-05	1.70E-04	335	1.70	0.73	0.00
18	2042	3.78E-05	1.70E-04	335	1.00	0.73	0.00
19	2043	3.78E-05	1.70E-04	335	1.00	0.73	0.00
20	2044	3.78E-05	1.70E-04	335	1.00	0.73	0.00
21	2045	3.78E-05	1.70E-04	335	1.00	0.73	0.00
22	2046	3.78E-05	1.70E-04	335	1.00	0.73	0.00
23	2047	3.78E-05	1.70E-04	335	1.00	0.73	0.00
24	2048	3.78E-05	1.70E-04	335	1.00	0.73	0.00
25	2049	3.78E-05	1.70E-04	335	1.00	0.73	0.00
26	2050	3.78E-05	1.70E-04	335	1.00	0.73	0.00
27	2051	3.78E-05	1.70E-04	335	1.00	0.73	0.00
28	2052	3.78E-05	1.70E-04	335	1.00	0.73	0.00
29	2053	3.78E-05	1.70E-04	335	1.00	0.73	0.00
30	2054	3.78E-05	1.70E-04	335	1.00	0.73	0.00

0.00	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.03	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.01	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
180	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Haul Trucks
Receptor:	Existing School

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk
1	2025	3.11E-05	1.40E-04	581	3.00	1.00	0.00
2	2026	3.11E-05	1.40E-04	581	3.00	1.00	0.00
3	2027	3.11E-05	1.40E-04	581	3.00	1.00	0.00
4	2028	3.11E-05	1.40E-04	581	3.00	1.00	0.00
5	2029	3.11E-05	1.40E-04	581	3.00	1.00	0.00
6	2030	3.11E-05	1.40E-04	581	3.00	1.00	0.00
7	2031	3.11E-05	1.40E-04	581	3.00	1.00	0.00
8	2032	3.11E-05	1.40E-04	581	3.00	1.00	0.00
9	2033	3.11E-05	1.40E-04	581	3.00	1.00	0.00
10	2034	3.11E-05	1.40E-04	581	3.00	1.00	0.00
11	2035	3.11E-05	1.40E-04	581	3.00	1.00	0.00
12	2036	3.11E-05	1.40E-04	581	3.00	1.00	0.00

0.00	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.01	Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
250	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	8/22/2024
Condition:	Haul Trucks
Receptor:	Offsite Worker

Exposure Year	Calender Year	Annual DPM Concentration (ug/m3)	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at worker	Cancer Risk
1	2025	8.67E-03	3.90E-02	230	1.00	1.00	0.02
2	2026	8.67E-03	3.90E-02	230	1.00	1.00	0.02
3	2027	8.67E-03	3.90E-02	230	1.00	1.00	0.02
4	2028	8.67E-03	3.90E-02	230	1.00	1.00	0.02
5	2029	8.67E-03	3.90E-02	230	1.00	1.00	0.02
6	2030	8.67E-03	3.90E-02	230	1.00	1.00	0.02
7	2031	8.67E-03	3.90E-02	230	1.00	1.00	0.02
8	2032	8.67E-03	3.90E-02	230	1.00	1.00	0.02
9	2033	8.67E-03	3.90E-02	230	1.00	1.00	0.02
10	2034	8.67E-03	3.90E-02	230	1.00	1.00	0.02
11	2035	8.67E-03	3.90E-02	230	1.00	1.00	0.02
12	2036	8.67E-03	3.90E-02	230	1.00	1.00	0.02
13	2037	8.67E-03	3.90E-02	230	1.00	1.00	0.02
14	2038	8.67E-03	3.90E-02	230	1.00	1.00	0.02
15	2039	8.67E-03	3.90E-02	230	1.00	1.00	0.02
16	2040	8.67E-03	3.90E-02	230	1.00	1.00	0.02
17	2041	8.67E-03	3.90E-02	230	1.00	1.00	0.02
18	2042	8.67E-03	3.90E-02	230	1.00	1.00	0.02
19	2043	8.67E-03	3.90E-02	230	1.00	1.00	0.02
20	2044	8.67E-03	3.90E-02	230	1.00	1.00	0.02
21	2045	8.67E-03	3.90E-02	230	1.00	1.00	0.02
22	2046	8.67E-03	3.90E-02	230	1.00	1.00	0.02
23	2047	8.67E-03	3.90E-02	230	1.00	1.00	0.02
24	2048	8.67E-03	3.90E-02	230	1.00	1.00	0.02
25	2049	8.67E-03	3.90E-02	230	1.00	1.00	0.02
26	2050	8.67E-03	3.90E-02	230	1.00	1.00	0.02
27	2051	8.67E-03	3.90E-02	230	1.00	1.00	0.02
28	2052	8.67E-03	3.90E-02	230	1.00	1.00	0.02
29	2053	8.67E-03	3.90E-02	230	1.00	1.00	0.02
30	2054	8.67E-03	3.90E-02	230	1.00	1.00	0.02

0.04	Maximum Annual PM2.5 Concentration (ug/m3)
0.3	Significance Threshold (ug/m3)
No	Significant?
0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.64	Cancer Risk
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

300	Chronic Reference Exposure Level (ug/m3) for Chloroform	
150	Acute Reference Exposure Level (ug/m3) for Chloroform	
350	days per year	
25,550	days per lifetime	
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	30<70 Years
0.85	fraction of	0<2 Years
0.72	fraction of	2<16 Years
0.73	fraction of	16<70 Years

Project:	Pittsburg Iron Salts Plant
Date:	10/22/2024
Condition:	Operation
Receptor:	Existing Residence
Pollutant:	Chloroform
Source:	Cooling Tower

Exposure Year	Calender Year	1-Hour Chloroform Concentration (ug/m3)	Annual Chloroform Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2025	1.21E-03	7.72E-06	1,090	10.0	0.85	
2	2026	1.21E-03	7.72E-06	1,090	10.0	0.85	
3	2027	1.21E-03	7.72E-06	745	4.75	0.72	
4	2028	1.21E-03	7.72E-06	745	3.00	0.72	
5	2029	1.21E-03	7.72E-06	745	3.00	0.72	
6	2030	1.21E-03	7.72E-06	745	3.00	0.72	
7	2031	1.21E-03	7.72E-06	745	3.00	0.72	
8	2032	1.21E-03	7.72E-06	745	3.00	0.72	
9	2033	1.21E-03	7.72E-06	745	3.00	0.72	
10	2034	1.21E-03	7.72E-06	745	3.00	0.72	
11	2035	1.21E-03	7.72E-06	745	3.00	0.72	
12	2036	1.21E-03	7.72E-06	745	3.00	0.72	
13	2037	1.21E-03	7.72E-06	745	3.00	0.72	
14	2038	1.21E-03	7.72E-06	745	3.00	0.72	
15	2039	1.21E-03	7.72E-06	745	3.00	0.72	
16	2040	1.21E-03	7.72E-06	745	3.00	0.72	
17	2041	1.21E-03	7.72E-06	335	1.70	0.73	
18	2042	1.21E-03	7.72E-06	335	1.00	0.73	
19	2043	1.21E-03	7.72E-06	335	1.00	0.73	
20	2044	1.21E-03	7.72E-06	335	1.00	0.73	
21	2045	1.21E-03	7.72E-06	335	1.00	0.73	
22	2046	1.21E-03	7.72E-06	335	1.00	0.73	
23	2047	1.21E-03	7.72E-06	335	1.00	0.73	
24	2048	1.21E-03	7.72E-06	335	1.00	0.73	
25	2049	1.21E-03	7.72E-06	335	1.00	0.73	
26	2050	1.21E-03	7.72E-06	335	1.00	0.73	
27	2051	1.21E-03	7.72E-06	335	1.00	0.73	
28	2052	1.21E-03	7.72E-06	335	1.00	0.73	
29	2053	1.21E-03	7.72E-06	335	1.00	0.73	
30	2054	1.21E-03	7.72E-06	335	1.00	0.73	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
0.00	Acute Hazard Impact
1	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

9	Chronic Reference Exposure Level (ug/m3) for HCL	
2,100	Acute Reference Exposure Level (ug/m3) for HCL	
350	days per year	
25,550	days per lifetime	
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	30<70 Years
0.85	fraction of	0<2 Years
0.72	fraction of	2<16 Years
0.73	fraction of	16<70 Years

Project:	Pittsburg Iron Salts Plant
Date:	10/22/2024
Condition:	Operation
Receptor:	Existing Residence
Pollutant:	HCL-Uncontrolled
Source:	Scrubber

Exposure Year	Calender Year	1-Hour HCL Concentration (ug/m3)	Annual HCL Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2025	4.01E+00	3.45E-02	1,090	10.0	0.85	
2	2026	4.01E+00	3.45E-02	1,090	10.0	0.85	
3	2027	4.01E+00	3.45E-02	745	4.75	0.72	
4	2028	4.01E+00	3.45E-02	745	3.00	0.72	
5	2029	4.01E+00	3.45E-02	745	3.00	0.72	
6	2030	4.01E+00	3.45E-02	745	3.00	0.72	
7	2031	4.01E+00	3.45E-02	745	3.00	0.72	
8	2032	4.01E+00	3.45E-02	745	3.00	0.72	
9	2033	4.01E+00	3.45E-02	745	3.00	0.72	
10	2034	4.01E+00	3.45E-02	745	3.00	0.72	
11	2035	4.01E+00	3.45E-02	745	3.00	0.72	
12	2036	4.01E+00	3.45E-02	745	3.00	0.72	
13	2037	4.01E+00	3.45E-02	745	3.00	0.72	
14	2038	4.01E+00	3.45E-02	745	3.00	0.72	
15	2039	4.01E+00	3.45E-02	745	3.00	0.72	
16	2040	4.01E+00	3.45E-02	745	3.00	0.72	
17	2041	4.01E+00	3.45E-02	335	1.70	0.73	
18	2042	4.01E+00	3.45E-02	335	1.00	0.73	
19	2043	4.01E+00	3.45E-02	335	1.00	0.73	
20	2044	4.01E+00	3.45E-02	335	1.00	0.73	
21	2045	4.01E+00	3.45E-02	335	1.00	0.73	
22	2046	4.01E+00	3.45E-02	335	1.00	0.73	
23	2047	4.01E+00	3.45E-02	335	1.00	0.73	
24	2048	4.01E+00	3.45E-02	335	1.00	0.73	
25	2049	4.01E+00	3.45E-02	335	1.00	0.73	
26	2050	4.01E+00	3.45E-02	335	1.00	0.73	
27	2051	4.01E+00	3.45E-02	335	1.00	0.73	
28	2052	4.01E+00	3.45E-02	335	1.00	0.73	
29	2053	4.01E+00	3.45E-02	335	1.00	0.73	
30	2054	4.01E+00	3.45E-02	335	1.00	0.73	

0.11	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
0.00	Acute Hazard Impact
1	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

9	Chronic Reference Exposure Level (ug/m3) for HCL	
2,100	Acute Reference Exposure Level (ug/m3) for HCL	
350	days per year	
25,550	days per lifetime	
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	30<70 Years
0.85	fraction of	0<2 Years
0.72	fraction of	2<16 Years
0.73	fraction of	16<70 Years

Project:	Pittsburg Iron Salts Plant
Date:	10/22/2024
Condition:	Operation
Receptor:	Existing Residence
Pollutant:	HCL-Stage 1
Source:	Scrubber

Exposure Year	Calender Year	1-Hour HCL Concentration (ug/m3)	Annual HCL Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2025	1.20E-01	1.03E-03	1,090	10.0	0.85	
2	2026	1.20E-01	1.03E-03	1,090	10.0	0.85	
3	2027	1.20E-01	1.03E-03	745	4.75	0.72	
4	2028	1.20E-01	1.03E-03	745	3.00	0.72	
5	2029	1.20E-01	1.03E-03	745	3.00	0.72	
6	2030	1.20E-01	1.03E-03	745	3.00	0.72	
7	2031	1.20E-01	1.03E-03	745	3.00	0.72	
8	2032	1.20E-01	1.03E-03	745	3.00	0.72	
9	2033	1.20E-01	1.03E-03	745	3.00	0.72	
10	2034	1.20E-01	1.03E-03	745	3.00	0.72	
11	2035	1.20E-01	1.03E-03	745	3.00	0.72	
12	2036	1.20E-01	1.03E-03	745	3.00	0.72	
13	2037	1.20E-01	1.03E-03	745	3.00	0.72	
14	2038	1.20E-01	1.03E-03	745	3.00	0.72	
15	2039	1.20E-01	1.03E-03	745	3.00	0.72	
16	2040	1.20E-01	1.03E-03	745	3.00	0.72	
17	2041	1.20E-01	1.03E-03	335	1.70	0.73	
18	2042	1.20E-01	1.03E-03	335	1.00	0.73	
19	2043	1.20E-01	1.03E-03	335	1.00	0.73	
20	2044	1.20E-01	1.03E-03	335	1.00	0.73	
21	2045	1.20E-01	1.03E-03	335	1.00	0.73	
22	2046	1.20E-01	1.03E-03	335	1.00	0.73	
23	2047	1.20E-01	1.03E-03	335	1.00	0.73	
24	2048	1.20E-01	1.03E-03	335	1.00	0.73	
25	2049	1.20E-01	1.03E-03	335	1.00	0.73	
26	2050	1.20E-01	1.03E-03	335	1.00	0.73	
27	2051	1.20E-01	1.03E-03	335	1.00	0.73	
28	2052	1.20E-01	1.03E-03	335	1.00	0.73	
29	2053	1.20E-01	1.03E-03	335	1.00	0.73	
30	2054	1.20E-01	1.03E-03	335	1.00	0.73	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
0.00	Acute Hazard Impact
1	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

9	Chronic Reference Exposure Level (ug/m3) for HCL	
2,100	Acute Reference Exposure Level (ug/m3) for HCL	
350	days per year	
25,550	days per lifetime	
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
861	95th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years
745	95th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
335	95th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
290	95th Percentile Daily Breathing Rates (L/kg-day)	30<70 Years
0.85	fraction of	0<2 Years
0.72	fraction of	2<16 Years
0.73	fraction of	16<70 Years

Project:	Pittsburg Iron Salts Plant
Date:	10/22/2024
Condition:	Operation
Receptor:	Existing Residence
Pollutant:	HCL-Stage 2
Source:	Scrubber

Exposure Year	Calender Year	1-Hour HCL Concentration (ug/m3)	Annual HCL Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2025	1.20E-05	1.03E-07	1,090	10.0	0.85	
2	2026	1.20E-05	1.03E-07	1,090	10.0	0.85	
3	2027	1.20E-05	1.03E-07	745	4.75	0.72	
4	2028	1.20E-05	1.03E-07	745	3.00	0.72	
5	2029	1.20E-05	1.03E-07	745	3.00	0.72	
6	2030	1.20E-05	1.03E-07	745	3.00	0.72	
7	2031	1.20E-05	1.03E-07	745	3.00	0.72	
8	2032	1.20E-05	1.03E-07	745	3.00	0.72	
9	2033	1.20E-05	1.03E-07	745	3.00	0.72	
10	2034	1.20E-05	1.03E-07	745	3.00	0.72	
11	2035	1.20E-05	1.03E-07	745	3.00	0.72	
12	2036	1.20E-05	1.03E-07	745	3.00	0.72	
13	2037	1.20E-05	1.03E-07	745	3.00	0.72	
14	2038	1.20E-05	1.03E-07	745	3.00	0.72	
15	2039	1.20E-05	1.03E-07	745	3.00	0.72	
16	2040	1.20E-05	1.03E-07	745	3.00	0.72	
17	2041	1.20E-05	1.03E-07	335	1.70	0.73	
18	2042	1.20E-05	1.03E-07	335	1.00	0.73	
19	2043	1.20E-05	1.03E-07	335	1.00	0.73	
20	2044	1.20E-05	1.03E-07	335	1.00	0.73	
21	2045	1.20E-05	1.03E-07	335	1.00	0.73	
22	2046	1.20E-05	1.03E-07	335	1.00	0.73	
23	2047	1.20E-05	1.03E-07	335	1.00	0.73	
24	2048	1.20E-05	1.03E-07	335	1.00	0.73	
25	2049	1.20E-05	1.03E-07	335	1.00	0.73	
26	2050	1.20E-05	1.03E-07	335	1.00	0.73	
27	2051	1.20E-05	1.03E-07	335	1.00	0.73	
28	2052	1.20E-05	1.03E-07	335	1.00	0.73	
29	2053	1.20E-05	1.03E-07	335	1.00	0.73	
30	2054	1.20E-05	1.03E-07	335	1.00	0.73	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
0.00	Acute Hazard Impact
1	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

300	Chronic Reference Exposure Level (ug/m3) for Chloroform
150	Acute Reference Exposure Level (ug/m3) for Chloroform
180	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	10/22/2024
Condition:	Operation
Receptor:	Existing School
Pollutant:	Chloroform
Source:	Cooling Tower

Exposure Year	Calender Year	1-Hour Chloroform Concentration (ug/m3)	Annual Chloroform Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk
1	2025	2.22E-03	5.82E-06	581	3.00	1.00	
2	2026	2.22E-03	5.82E-06	581	3.00	1.00	
3	2027	2.22E-03	5.82E-06	581	3.00	1.00	
4	2028	2.22E-03	5.82E-06	581	3.00	1.00	
5	2029	2.22E-03	5.82E-06	581	3.00	1.00	
6	2030	2.22E-03	5.82E-06	581	3.00	1.00	
7	2031	2.22E-03	5.82E-06	581	3.00	1.00	
8	2032	2.22E-03	5.82E-06	581	3.00	1.00	
9	2033	2.22E-03	5.82E-06	581	3.00	1.00	
10	2034	2.22E-03	5.82E-06	581	3.00	1.00	
11	2035	2.22E-03	5.82E-06	581	3.00	1.00	
12	2036	2.22E-03	5.82E-06	581	3.00	1.00	
13	2037	2.22E-03	5.82E-06	581	3.00	1.00	
14	2038	2.22E-03	5.82E-06	581	3.00	1.00	
15	2039	2.22E-03	5.82E-06	581	3.00	1.00	
16	2040	2.22E-03	5.82E-06	581	3.00	1.00	
17	2041	2.22E-03	5.82E-06	581	3.00	1.00	
18	2042	2.22E-03	5.82E-06	581	3.00	1.00	
19	2043	2.22E-03	5.82E-06	581	3.00	1.00	
20	2044	2.22E-03	5.82E-06	581	3.00	1.00	
21	2045	2.22E-03	5.82E-06	581	3.00	1.00	
22	2046	2.22E-03	5.82E-06	581	3.00	1.00	
23	2047	2.22E-03	5.82E-06	581	3.00	1.00	
24	2048	2.22E-03	5.82E-06	581	3.00	1.00	
25	2049	2.22E-03	5.82E-06	581	3.00	1.00	
26	2050	2.22E-03	5.82E-06	581	3.00	1.00	
27	2051	2.22E-03	5.82E-06	581	3.00	1.00	
28	2052	2.22E-03	5.82E-06	581	3.00	1.00	
29	2053	2.22E-03	5.82E-06	581	3.00	1.00	
30	2054	2.22E-03	5.82E-06	581	3.00	1.00	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
0.00	Acute Hazard Impact
1	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

9	Chronic Reference Exposure Level (ug/m3) for HCL
2,100	Acute Reference Exposure Level (ug/m3) for HCL
180	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	10/22/2024
Condition:	Operation
Receptor:	Existing School
Pollutant:	HCL-Uncontrolled
Source:	Scrubber

Exposure Year	Calender Year	1-Hour HCL Concentration (ug/m3)	Annual HCL Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk
1	2025	3.76E+00	2.27E-02	581	3.00	1.00	
2	2026	3.76E+00	2.27E-02	581	3.00	1.00	
3	2027	3.76E+00	2.27E-02	581	3.00	1.00	
4	2028	3.76E+00	2.27E-02	581	3.00	1.00	
5	2029	3.76E+00	2.27E-02	581	3.00	1.00	
6	2030	3.76E+00	2.27E-02	581	3.00	1.00	
7	2031	3.76E+00	2.27E-02	581	3.00	1.00	
8	2032	3.76E+00	2.27E-02	581	3.00	1.00	
9	2033	3.76E+00	2.27E-02	581	3.00	1.00	
10	2034	3.76E+00	2.27E-02	581	3.00	1.00	
11	2035	3.76E+00	2.27E-02	581	3.00	1.00	
12	2036	3.76E+00	2.27E-02	581	3.00	1.00	
13	2037	3.76E+00	2.27E-02	581	3.00	1.00	
14	2038	3.76E+00	2.27E-02	581	3.00	1.00	
15	2039	3.76E+00	2.27E-02	581	3.00	1.00	
16	2040	3.76E+00	2.27E-02	581	3.00	1.00	
17	2041	3.76E+00	2.27E-02	581	3.00	1.00	
18	2042	3.76E+00	2.27E-02	581	3.00	1.00	
19	2043	3.76E+00	2.27E-02	581	3.00	1.00	
20	2044	3.76E+00	2.27E-02	581	3.00	1.00	
21	2045	3.76E+00	2.27E-02	581	3.00	1.00	
22	2046	3.76E+00	2.27E-02	581	3.00	1.00	
23	2047	3.76E+00	2.27E-02	581	3.00	1.00	
24	2048	3.76E+00	2.27E-02	581	3.00	1.00	
25	2049	3.76E+00	2.27E-02	581	3.00	1.00	
26	2050	3.76E+00	2.27E-02	581	3.00	1.00	
27	2051	3.76E+00	2.27E-02	581	3.00	1.00	
28	2052	3.76E+00	2.27E-02	581	3.00	1.00	
29	2053	3.76E+00	2.27E-02	581	3.00	1.00	
30	2054	3.76E+00	2.27E-02	581	3.00	1.00	

0.08	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
0.00	Acute Hazard Impact
1	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

9	Chronic Reference Exposure Level (ug/m3) for HCL
2,100	Acute Reference Exposure Level (ug/m3) for HCL
180	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	10/22/2024
Condition:	Operation
Receptor:	Existing School
Pollutant:	HCL-Stage 1
Source:	Scrubber

Exposure Year	Calender Year	1-Hour HCL Concentration (ug/m3)	Annual HCL Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk
1	2025	1.13E-01	6.81E-04	581	3.00	1.00	
2	2026	1.13E-01	6.81E-04	581	3.00	1.00	
3	2027	1.13E-01	6.81E-04	581	3.00	1.00	
4	2028	1.13E-01	6.81E-04	581	3.00	1.00	
5	2029	1.13E-01	6.81E-04	581	3.00	1.00	
6	2030	1.13E-01	6.81E-04	581	3.00	1.00	
7	2031	1.13E-01	6.81E-04	581	3.00	1.00	
8	2032	1.13E-01	6.81E-04	581	3.00	1.00	
9	2033	1.13E-01	6.81E-04	581	3.00	1.00	
10	2034	1.13E-01	6.81E-04	581	3.00	1.00	
11	2035	1.13E-01	6.81E-04	581	3.00	1.00	
12	2036	1.13E-01	6.81E-04	581	3.00	1.00	
13	2037	1.13E-01	6.81E-04	581	3.00	1.00	
14	2038	1.13E-01	6.81E-04	581	3.00	1.00	
15	2039	1.13E-01	6.81E-04	581	3.00	1.00	
16	2040	1.13E-01	6.81E-04	581	3.00	1.00	
17	2041	1.13E-01	6.81E-04	581	3.00	1.00	
18	2042	1.13E-01	6.81E-04	581	3.00	1.00	
19	2043	1.13E-01	6.81E-04	581	3.00	1.00	
20	2044	1.13E-01	6.81E-04	581	3.00	1.00	
21	2045	1.13E-01	6.81E-04	581	3.00	1.00	
22	2046	1.13E-01	6.81E-04	581	3.00	1.00	
23	2047	1.13E-01	6.81E-04	581	3.00	1.00	
24	2048	1.13E-01	6.81E-04	581	3.00	1.00	
25	2049	1.13E-01	6.81E-04	581	3.00	1.00	
26	2050	1.13E-01	6.81E-04	581	3.00	1.00	
27	2051	1.13E-01	6.81E-04	581	3.00	1.00	
28	2052	1.13E-01	6.81E-04	581	3.00	1.00	
29	2053	1.13E-01	6.81E-04	581	3.00	1.00	
30	2054	1.13E-01	6.81E-04	581	3.00	1.00	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
0.00	Acute Hazard Impact
1	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

9	Chronic Reference Exposure Level (ug/m3) for HCL
2,100	Acute Reference Exposure Level (ug/m3) for HCL
180	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	10/22/2024
Condition:	Operation
Receptor:	Existing School
Pollutant:	HCL-Stage 2
Source:	Scrubber

Exposure Year	Calender Year	1-Hour HCL Concentration (ug/m3)	Annual HCL Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk
1	2025	1.13E-05	6.81E-08	581	3.00	1.00	
2	2026	1.13E-05	6.81E-08	581	3.00	1.00	
3	2027	1.13E-05	6.81E-08	581	3.00	1.00	
4	2028	1.13E-05	6.81E-08	581	3.00	1.00	
5	2029	1.13E-05	6.81E-08	581	3.00	1.00	
6	2030	1.13E-05	6.81E-08	581	3.00	1.00	
7	2031	1.13E-05	6.81E-08	581	3.00	1.00	
8	2032	1.13E-05	6.81E-08	581	3.00	1.00	
9	2033	1.13E-05	6.81E-08	581	3.00	1.00	
10	2034	1.13E-05	6.81E-08	581	3.00	1.00	
11	2035	1.13E-05	6.81E-08	581	3.00	1.00	
12	2036	1.13E-05	6.81E-08	581	3.00	1.00	
13	2037	1.13E-05	6.81E-08	581	3.00	1.00	
14	2038	1.13E-05	6.81E-08	581	3.00	1.00	
15	2039	1.13E-05	6.81E-08	581	3.00	1.00	
16	2040	1.13E-05	6.81E-08	581	3.00	1.00	
17	2041	1.13E-05	6.81E-08	581	3.00	1.00	
18	2042	1.13E-05	6.81E-08	581	3.00	1.00	
19	2043	1.13E-05	6.81E-08	581	3.00	1.00	
20	2044	1.13E-05	6.81E-08	581	3.00	1.00	
21	2045	1.13E-05	6.81E-08	581	3.00	1.00	
22	2046	1.13E-05	6.81E-08	581	3.00	1.00	
23	2047	1.13E-05	6.81E-08	581	3.00	1.00	
24	2048	1.13E-05	6.81E-08	581	3.00	1.00	
25	2049	1.13E-05	6.81E-08	581	3.00	1.00	
26	2050	1.13E-05	6.81E-08	581	3.00	1.00	
27	2051	1.13E-05	6.81E-08	581	3.00	1.00	
28	2052	1.13E-05	6.81E-08	581	3.00	1.00	
29	2053	1.13E-05	6.81E-08	581	3.00	1.00	
30	2054	1.13E-05	6.81E-08	581	3.00	1.00	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
0.00	Acute Hazard Impact
1	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

300	Chronic Reference Exposure Level (ug/m3) for Chloroform
150	Acute Reference Exposure Level (ug/m3) for Chloroform
250	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	10/22/2024
Condition:	Operation
Receptor:	Offsite Worker
Pollutant:	Chloroform
Source:	Cooling Tower

Exposure Year	Calender Year	1-Hour Chloroform Concentration (ug/m3)	Annual Chloroform Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at worker	Cancer Risk
1	2025	3.27E-02	5.00E-04	230	1.00	1.00	
2	2026	3.27E-02	5.00E-04	230	1.00	1.00	
3	2027	3.27E-02	5.00E-04	230	1.00	1.00	
4	2028	3.27E-02	5.00E-04	230	1.00	1.00	
5	2029	3.27E-02	5.00E-04	230	1.00	1.00	
6	2030	3.27E-02	5.00E-04	230	1.00	1.00	
7	2031	3.27E-02	5.00E-04	230	1.00	1.00	
8	2032	3.27E-02	5.00E-04	230	1.00	1.00	
9	2033	3.27E-02	5.00E-04	230	1.00	1.00	
10	2034	3.27E-02	5.00E-04	230	1.00	1.00	
11	2035	3.27E-02	5.00E-04	230	1.00	1.00	
12	2036	3.27E-02	5.00E-04	230	1.00	1.00	
13	2037	3.27E-02	5.00E-04	230	1.00	1.00	
14	2038	3.27E-02	5.00E-04	230	1.00	1.00	
15	2039	3.27E-02	5.00E-04	230	1.00	1.00	
16	2040	3.27E-02	5.00E-04	230	1.00	1.00	
17	2041	3.27E-02	5.00E-04	230	1.00	1.00	
18	2042	3.27E-02	5.00E-04	230	1.00	1.00	
19	2043	3.27E-02	5.00E-04	230	1.00	1.00	
20	2044	3.27E-02	5.00E-04	230	1.00	1.00	
21	2045	3.27E-02	5.00E-04	230	1.00	1.00	
22	2046	3.27E-02	5.00E-04	230	1.00	1.00	
23	2047	3.27E-02	5.00E-04	230	1.00	1.00	
24	2048	3.27E-02	5.00E-04	230	1.00	1.00	
25	2049	3.27E-02	5.00E-04	230	1.00	1.00	
26	2050	3.27E-02	5.00E-04	230	1.00	1.00	
27	2051	3.27E-02	5.00E-04	230	1.00	1.00	
28	2052	3.27E-02	5.00E-04	230	1.00	1.00	
29	2053	3.27E-02	5.00E-04	230	1.00	1.00	
30	2054	3.27E-02	5.00E-04	230	1.00	1.00	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
0.00	Acute Hazard Impact
1	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

9	Chronic Reference Exposure Level (ug/m3) for HCL
2,100	Acute Reference Exposure Level (ug/m3) for HCL
250	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	10/22/2024
Condition:	Operation
Receptor:	Offsite Worker
Pollutant:	HCL-Uncontrolled
Source:	Scrubber

Exposure Year	Calender Year	1-Hour HCL Concentration (ug/m3)	Annual HCL Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at worker	Cancer Risk
1	2025	1.01E+02	3.75E+00	230	1.00	1.00	
2	2026	1.01E+02	3.75E+00	230	1.00	1.00	
3	2027	1.01E+02	3.75E+00	230	1.00	1.00	
4	2028	1.01E+02	3.75E+00	230	1.00	1.00	
5	2029	1.01E+02	3.75E+00	230	1.00	1.00	
6	2030	1.01E+02	3.75E+00	230	1.00	1.00	
7	2031	1.01E+02	3.75E+00	230	1.00	1.00	
8	2032	1.01E+02	3.75E+00	230	1.00	1.00	
9	2033	1.01E+02	3.75E+00	230	1.00	1.00	
10	2034	1.01E+02	3.75E+00	230	1.00	1.00	
11	2035	1.01E+02	3.75E+00	230	1.00	1.00	
12	2036	1.01E+02	3.75E+00	230	1.00	1.00	
13	2037	1.01E+02	3.75E+00	230	1.00	1.00	
14	2038	1.01E+02	3.75E+00	230	1.00	1.00	
15	2039	1.01E+02	3.75E+00	230	1.00	1.00	
16	2040	1.01E+02	3.75E+00	230	1.00	1.00	
17	2041	1.01E+02	3.75E+00	230	1.00	1.00	
18	2042	1.01E+02	3.75E+00	230	1.00	1.00	
19	2043	1.01E+02	3.75E+00	230	1.00	1.00	
20	2044	1.01E+02	3.75E+00	230	1.00	1.00	
21	2045	1.01E+02	3.75E+00	230	1.00	1.00	
22	2046	1.01E+02	3.75E+00	230	1.00	1.00	
23	2047	1.01E+02	3.75E+00	230	1.00	1.00	
24	2048	1.01E+02	3.75E+00	230	1.00	1.00	
25	2049	1.01E+02	3.75E+00	230	1.00	1.00	
26	2050	1.01E+02	3.75E+00	230	1.00	1.00	
27	2051	1.01E+02	3.75E+00	230	1.00	1.00	
28	2052	1.01E+02	3.75E+00	230	1.00	1.00	
29	2053	1.01E+02	3.75E+00	230	1.00	1.00	
30	2054	1.01E+02	3.75E+00	230	1.00	1.00	

12.49	Chronic Hazard Impact
1	Significance Threshold
Yes	Significant?
	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
0.05	Acute Hazard Impact
1	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

9	Chronic Reference Exposure Level (ug/m3) for HCL
2,100	Acute Reference Exposure Level (ug/m3) for HCL
250	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	10/22/2024
Condition:	Operation
Receptor:	Offsite Worker
Pollutant:	HCL-Stage 1
Source:	Scrubber

Exposure Year	Calender Year	1-Hour HCL Concentration (ug/m3)	Annual HCL Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at worker	Cancer Risk
1	2025	3.04E+00	1.12E-01	230	1.00	1.00	
2	2026	3.04E+00	1.12E-01	230	1.00	1.00	
3	2027	3.04E+00	1.12E-01	230	1.00	1.00	
4	2028	3.04E+00	1.12E-01	230	1.00	1.00	
5	2029	3.04E+00	1.12E-01	230	1.00	1.00	
6	2030	3.04E+00	1.12E-01	230	1.00	1.00	
7	2031	3.04E+00	1.12E-01	230	1.00	1.00	
8	2032	3.04E+00	1.12E-01	230	1.00	1.00	
9	2033	3.04E+00	1.12E-01	230	1.00	1.00	
10	2034	3.04E+00	1.12E-01	230	1.00	1.00	
11	2035	3.04E+00	1.12E-01	230	1.00	1.00	
12	2036	3.04E+00	1.12E-01	230	1.00	1.00	
13	2037	3.04E+00	1.12E-01	230	1.00	1.00	
14	2038	3.04E+00	1.12E-01	230	1.00	1.00	
15	2039	3.04E+00	1.12E-01	230	1.00	1.00	
16	2040	3.04E+00	1.12E-01	230	1.00	1.00	
17	2041	3.04E+00	1.12E-01	230	1.00	1.00	
18	2042	3.04E+00	1.12E-01	230	1.00	1.00	
19	2043	3.04E+00	1.12E-01	230	1.00	1.00	
20	2044	3.04E+00	1.12E-01	230	1.00	1.00	
21	2045	3.04E+00	1.12E-01	230	1.00	1.00	
22	2046	3.04E+00	1.12E-01	230	1.00	1.00	
23	2047	3.04E+00	1.12E-01	230	1.00	1.00	
24	2048	3.04E+00	1.12E-01	230	1.00	1.00	
25	2049	3.04E+00	1.12E-01	230	1.00	1.00	
26	2050	3.04E+00	1.12E-01	230	1.00	1.00	
27	2051	3.04E+00	1.12E-01	230	1.00	1.00	
28	2052	3.04E+00	1.12E-01	230	1.00	1.00	
29	2053	3.04E+00	1.12E-01	230	1.00	1.00	
30	2054	3.04E+00	1.12E-01	230	1.00	1.00	

0.37	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
0.00	Acute Hazard Impact
1	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

9	Chronic Reference Exposure Level (ug/m3) for HCL
2,100	Acute Reference Exposure Level (ug/m3) for HCL
250	days per year
25,550	days per lifetime

Project:	Pittsburg Iron Salts Plant
Date:	10/22/2024
Condition:	Operation
Receptor:	Offsite Worker
Pollutant:	HCL-Stage 2
Source:	Scrubber

Exposure Year	Calender Year	1-Hour HCL Concentration (ug/m3)	Annual HCL Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at worker	Cancer Risk
1	2025	3.04E-04	1.12E-05	230	1.00	1.00	
2	2026	3.04E-04	1.12E-05	230	1.00	1.00	
3	2027	3.04E-04	1.12E-05	230	1.00	1.00	
4	2028	3.04E-04	1.12E-05	230	1.00	1.00	
5	2029	3.04E-04	1.12E-05	230	1.00	1.00	
6	2030	3.04E-04	1.12E-05	230	1.00	1.00	
7	2031	3.04E-04	1.12E-05	230	1.00	1.00	
8	2032	3.04E-04	1.12E-05	230	1.00	1.00	
9	2033	3.04E-04	1.12E-05	230	1.00	1.00	
10	2034	3.04E-04	1.12E-05	230	1.00	1.00	
11	2035	3.04E-04	1.12E-05	230	1.00	1.00	
12	2036	3.04E-04	1.12E-05	230	1.00	1.00	
13	2037	3.04E-04	1.12E-05	230	1.00	1.00	
14	2038	3.04E-04	1.12E-05	230	1.00	1.00	
15	2039	3.04E-04	1.12E-05	230	1.00	1.00	
16	2040	3.04E-04	1.12E-05	230	1.00	1.00	
17	2041	3.04E-04	1.12E-05	230	1.00	1.00	
18	2042	3.04E-04	1.12E-05	230	1.00	1.00	
19	2043	3.04E-04	1.12E-05	230	1.00	1.00	
20	2044	3.04E-04	1.12E-05	230	1.00	1.00	
21	2045	3.04E-04	1.12E-05	230	1.00	1.00	
22	2046	3.04E-04	1.12E-05	230	1.00	1.00	
23	2047	3.04E-04	1.12E-05	230	1.00	1.00	
24	2048	3.04E-04	1.12E-05	230	1.00	1.00	
25	2049	3.04E-04	1.12E-05	230	1.00	1.00	
26	2050	3.04E-04	1.12E-05	230	1.00	1.00	
27	2051	3.04E-04	1.12E-05	230	1.00	1.00	
28	2052	3.04E-04	1.12E-05	230	1.00	1.00	
29	2053	3.04E-04	1.12E-05	230	1.00	1.00	
30	2054	3.04E-04	1.12E-05	230	1.00	1.00	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?
0.00	Acute Hazard Impact
1	Significance Threshold
No	Significant?

Control Pathway

Dispersion Options

Titles

C:\Users\MikeRatte\Documents\Projects\Pittsburg Iron Salts Plant\Air

Dispersion Options

- [x] Regulatory Default
- [ ] Non-Default Options

Dispersion Coefficient

Rural

Output Type

- [x] Concentration
- [ ] Total Deposition (Dry & Wet)
- [ ] Dry Deposition
- [ ] Wet Deposition

Plume Depletion

- [ ] Dry Removal
- [ ] Wet Removal

Output Warnings

- [ ] No Output Warnings
- [ ] Non-fatal Warnings for Non-sequential Met Data

Pollutant / Averaging Time / Terrain Options

Pollutant Type

OTHER - DPM

Averaging Time Options

Hours

1	2	3	4	6	8	12	24
☑	☐	☐	☐	☐	☐	☐	☐

- [ ] Month
- [x] Period
- [ ] Annual

Exponential Decay

Option not available

Terrain Height Options

- [ ] Flat
- [x] Elevated

SO: Meters
RE: Meters
TG: Meters

Flagpole Receptors

- [x] Yes
- [ ] No

Default Height = 1.80 m

Control Pathway

Optional Files

Re-Start File	Init File	Multi-Year Analyses	Event Input File	Error Listing File
☐	☐	☐	☐	■

Detailed Error Listing File

Filename: AERMOD.err

Source Pathway - Source Inputs

Point Sources

Source Type	Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation (Optional)	Release Height [m]	Emission Rate [g/s]	Gas Exit Temp. [K]	Gas Exit Velocity [m/s]	Stack Inside Diameter [m]
POINT	COOL	600626.27	4209223.83	1.87	3.20	1.00000	308.15	11.30	3.77
POINT	SCRUBBER	600631.20	4209229.04	1.81	6.10	1.00000	333.15	11.60	0.81

Source Pathway - Source Inputs

Polygon Area Sources

Source Type: AREA POLY

Source: DPM

Base Elevation (Optional)	Release Height [m]	Emission Rate [g/ (s-m^2)]	Initial Vertical Dim. [m]	Number of Vertices (or sides)	X Coordinate for Vertices [m]	Y Coordinate for Vertices [m]
1.06	0.93	0.00018	1.26	15	600634.64	4209319.80
		0.00018			600645.68	4209316.49
		0.00018			600647.75	4209322.38
		0.00018			600652.65	4209322.77
		0.00018			600660.87	4209310.70
		0.00018			600663.22	4209305.08
		0.00018			600661.96	4209293.00
		0.00018			600660.02	4209277.75
		0.00018			600658.38	4209261.34
		0.00018			600653.42	4209214.46
		0.00018			600651.24	4209206.14
		0.00018			600642.51	4209174.35
		0.00018			600605.79	4209184.77
		0.00018			600615.97	4209215.90
		0.00018			600603.72	4209219.54

Source Pathway - Source Inputs

Source Type: AREA POLY
Source: PM2.5

Base Elevation (Optional)	Release Height [m]	Emission Rate [g/ (s-m^2)]	Initial Vertical Dim. [m]	Number of Vertices (or sides)	X Coordinate for Vertices [m]	Y Coordinate for Vertices [m]
1.06	0.00	0.00018	0.93	15	600634.64	4209319.80
		0.00018			600645.68	4209316.49
		0.00018			600647.75	4209322.38
		0.00018			600652.65	4209322.77
		0.00018			600660.87	4209310.70
		0.00018			600663.22	4209305.08
		0.00018			600661.96	4209293.00
		0.00018			600660.02	4209277.75
		0.00018			600658.38	4209261.34
		0.00018			600653.42	4209214.46
		0.00018			600651.24	4209206.14
		0.00018			600642.51	4209174.35
		0.00018			600605.79	4209184.77
		0.00018			600615.97	4209215.90
		0.00018			600603.72	4209219.54

Source Pathway - Source Inputs

Line Volume Sources

Source Type: LINE VOLUME

Source: SLINE1

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
3.05	1.00000		600654.41	4209215.29	1.98	0.00
			600597.41	4209003.57	3.00	0.00
			600551.26	4209009.68	3.14	0.00
			600487.48	4208979.82	3.33	0.00
			600439.30	4208995.43	3.13	0.00
			600250.65	4208417.95	7.44	0.00
			600192.29	4208240.84	9.11	0.00
			600163.79	4208196.05	9.94	0.00
			600068.79	4208099.69	10.02	0.00
			599879.76	4207921.82	12.51	0.00
			599777.20	4207862.45	12.68	0.00
			599550.49	4207779.68	14.10	0.00

Source Pathway - Source Inputs

Volume Sources Generated from Line Sources

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE1	L0000001	600654.01	4209213.82	1.95	0.00	0.00307	3.05		2.84	1.93
	L0000002	600652.43	4209207.93	2.02	0.00	0.00307	3.05		2.84	1.93
	L0000003	600650.84	4209202.04	2.08	0.00	0.00307	3.05		2.84	1.93
	L0000004	600649.26	4209196.16	2.14	0.00	0.00307	3.05		2.84	1.93
	L0000005	600647.67	4209190.27	2.21	0.00	0.00307	3.05		2.84	1.93
	L0000006	600646.09	4209184.39	2.27	0.00	0.00307	3.05		2.84	1.93
	L0000007	600644.50	4209178.50	2.33	0.00	0.00307	3.05		2.84	1.93
	L0000008	600642.92	4209172.61	2.40	0.00	0.00307	3.05		2.84	1.93
	L0000009	600641.33	4209166.73	2.46	0.00	0.00307	3.05		2.84	1.93
	L0000010	600639.75	4209160.84	2.52	0.00	0.00307	3.05		2.84	1.93
	L0000011	600638.17	4209154.95	2.59	0.00	0.00307	3.05		2.84	1.93
	L0000012	600636.58	4209149.07	2.65	0.00	0.00307	3.05		2.84	1.93
	L0000013	600635.00	4209143.18	2.71	0.00	0.00307	3.05		2.84	1.93
	L0000014	600633.41	4209137.29	2.78	0.00	0.00307	3.05		2.84	1.93
	L0000015	600631.83	4209131.41	2.84	0.00	0.00307	3.05		2.84	1.93
	L0000016	600630.24	4209125.52	2.90	0.00	0.00307	3.05		2.84	1.93
	L0000017	600628.66	4209119.64	2.97	0.00	0.00307	3.05		2.84	1.93
	L0000018	600627.07	4209113.75	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000019	600625.49	4209107.86	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000020	600623.90	4209101.98	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000021	600622.32	4209096.09	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000022	600620.73	4209090.20	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000023	600619.15	4209084.32	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000024	600617.56	4209078.43	3.00	0.00	0.00307	3.05		2.84	1.93

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE1	L0000025	600615.98	4209072.54	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000026	600614.39	4209066.66	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000027	600612.81	4209060.77	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000028	600611.22	4209054.88	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000029	600609.64	4209049.00	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000030	600608.05	4209043.11	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000031	600606.47	4209037.23	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000032	600604.88	4209031.34	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000033	600603.30	4209025.45	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000034	600601.71	4209019.57	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000035	600600.13	4209013.68	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000036	600598.55	4209007.79	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000037	600595.70	4209003.80	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000038	600589.66	4209004.60	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000039	600583.62	4209005.39	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000040	600577.57	4209006.19	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000041	600571.53	4209006.99	3.00	0.00	0.00307	3.05		2.84	1.93
	L0000042	600565.49	4209007.79	3.01	0.00	0.00307	3.05		2.84	1.93
	L0000043	600559.44	4209008.59	3.03	0.00	0.00307	3.05		2.84	1.93
	L0000044	600553.40	4209009.39	3.04	0.00	0.00307	3.05		2.84	1.93
	L0000045	600547.69	4209008.01	3.05	0.00	0.00307	3.05		2.84	1.93
	L0000046	600542.17	4209005.42	3.08	0.00	0.00307	3.05		2.84	1.93
	L0000047	600536.65	4209002.84	3.10	0.00	0.00307	3.05		2.84	1.93
	L0000048	600531.13	4209000.25	3.13	0.00	0.00307	3.05		2.84	1.93
	L0000049	600525.61	4208997.67	3.17	0.00	0.00307	3.05		2.84	1.93

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE1	L0000050	600520.09	4208995.08	3.21	0.00	0.00307	3.05		2.84	1.93
	L0000051	600514.57	4208992.50	3.25	0.00	0.00307	3.05		2.84	1.93
	L0000052	600509.05	4208989.91	3.30	0.00	0.00307	3.05		2.84	1.93
	L0000053	600503.52	4208987.33	3.35	0.00	0.00307	3.05		2.84	1.93
	L0000054	600498.00	4208984.75	3.41	0.00	0.00307	3.05		2.84	1.93
	L0000055	600492.48	4208982.16	3.44	0.00	0.00307	3.05		2.84	1.93
	L0000056	600486.94	4208979.99	3.46	0.00	0.00307	3.05		2.84	1.93
	L0000057	600481.14	4208981.87	3.44	0.00	0.00307	3.05		2.84	1.93
	L0000058	600475.34	4208983.75	3.42	0.00	0.00307	3.05		2.84	1.93
	L0000059	600469.54	4208985.63	3.40	0.00	0.00307	3.05		2.84	1.93
	L0000060	600463.74	4208987.51	3.37	0.00	0.00307	3.05		2.84	1.93
	L0000061	600457.94	4208989.39	3.35	0.00	0.00307	3.05		2.84	1.93
	L0000062	600452.14	4208991.27	3.33	0.00	0.00307	3.05		2.84	1.93
	L0000063	600446.34	4208993.14	3.31	0.00	0.00307	3.05		2.84	1.93
	L0000064	600440.54	4208995.02	3.29	0.00	0.00307	3.05		2.84	1.93
	L0000065	600437.81	4208990.87	3.33	0.00	0.00307	3.05		2.84	1.93
	L0000066	600435.92	4208985.08	3.40	0.00	0.00307	3.05		2.84	1.93
	L0000067	600434.02	4208979.29	3.46	0.00	0.00307	3.05		2.84	1.93
	L0000068	600432.13	4208973.49	3.52	0.00	0.00307	3.05		2.84	1.93
	L0000069	600430.24	4208967.70	3.58	0.00	0.00307	3.05		2.84	1.93
	L0000070	600428.35	4208961.90	3.65	0.00	0.00307	3.05		2.84	1.93
	L0000071	600426.45	4208956.11	3.71	0.00	0.00307	3.05		2.84	1.93
	L0000072	600424.56	4208950.31	3.77	0.00	0.00307	3.05		2.84	1.93
	L0000073	600422.67	4208944.52	3.83	0.00	0.00307	3.05		2.84	1.93
	L0000074	600420.77	4208938.72	3.90	0.00	0.00307	3.05		2.84	1.93

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE1	L0000075	600418.88	4208932.93	3.96	0.00	0.00307	3.05		2.84	1.93
	L0000076	600416.99	4208927.13	4.00	0.00	0.00307	3.05		2.84	1.93
	L0000077	600415.09	4208921.34	4.00	0.00	0.00307	3.05		2.84	1.93
	L0000078	600413.20	4208915.54	4.00	0.00	0.00307	3.05		2.84	1.93
	L0000079	600411.31	4208909.75	4.00	0.00	0.00307	3.05		2.84	1.93
	L0000080	600409.42	4208903.95	4.00	0.00	0.00307	3.05		2.84	1.93
	L0000081	600407.52	4208898.16	4.00	0.00	0.00307	3.05		2.84	1.93
	L0000082	600405.63	4208892.37	4.00	0.00	0.00307	3.05		2.84	1.93
	L0000083	600403.74	4208886.57	4.00	0.00	0.00307	3.05		2.84	1.93
	L0000084	600401.84	4208880.78	4.00	0.00	0.00307	3.05		2.84	1.93
	L0000085	600399.95	4208874.98	4.00	0.00	0.00307	3.05		2.84	1.93
	L0000086	600398.06	4208869.19	4.00	0.00	0.00307	3.05		2.84	1.93
	L0000087	600396.16	4208863.39	4.00	0.00	0.00307	3.05		2.84	1.93
	L0000088	600394.27	4208857.60	4.00	0.00	0.00307	3.05		2.84	1.93
	L0000089	600392.38	4208851.80	4.00	0.00	0.00307	3.05		2.84	1.93
	L0000090	600390.49	4208846.01	4.00	0.00	0.00307	3.05		2.84	1.93
	L0000091	600388.59	4208840.21	4.00	0.00	0.00307	3.05		2.84	1.93
	L0000092	600386.70	4208834.42	4.02	0.00	0.00307	3.05		2.84	1.93
	L0000093	600384.81	4208828.62	4.08	0.00	0.00307	3.05		2.84	1.93
	L0000094	600382.91	4208822.83	4.14	0.00	0.00307	3.05		2.84	1.93
	L0000095	600381.02	4208817.04	4.21	0.00	0.00307	3.05		2.84	1.93
	L0000096	600379.13	4208811.24	4.27	0.00	0.00307	3.05		2.84	1.93
	L0000097	600377.24	4208805.45	4.33	0.00	0.00307	3.05		2.84	1.93
	L0000098	600375.34	4208799.65	4.39	0.00	0.00307	3.05		2.84	1.93
	L0000099	600373.45	4208793.86	4.46	0.00	0.00307	3.05		2.84	1.93

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE1	L0000100	600371.56	4208788.06	4.52	0.00	0.00307	3.05		2.84	1.93
	L0000101	600369.66	4208782.27	4.58	0.00	0.00307	3.05		2.84	1.93
	L0000102	600367.77	4208776.47	4.64	0.00	0.00307	3.05		2.84	1.93
	L0000103	600365.88	4208770.68	4.71	0.00	0.00307	3.05		2.84	1.93
	L0000104	600363.98	4208764.88	4.77	0.00	0.00307	3.05		2.84	1.93
	L0000105	600362.09	4208759.09	4.83	0.00	0.00307	3.05		2.84	1.93
	L0000106	600360.20	4208753.29	4.89	0.00	0.00307	3.05		2.84	1.93
	L0000107	600358.31	4208747.50	4.96	0.00	0.00307	3.05		2.84	1.93
	L0000108	600356.41	4208741.70	5.02	0.00	0.00307	3.05		2.84	1.93
	L0000109	600354.52	4208735.91	5.08	0.00	0.00307	3.05		2.84	1.93
	L0000110	600352.63	4208730.12	5.14	0.00	0.00307	3.05		2.84	1.93
	L0000111	600350.73	4208724.32	5.20	0.00	0.00307	3.05		2.84	1.93
	L0000112	600348.84	4208718.53	5.27	0.00	0.00307	3.05		2.84	1.93
	L0000113	600346.95	4208712.73	5.33	0.00	0.00307	3.05		2.84	1.93
	L0000114	600345.05	4208706.94	5.39	0.00	0.00307	3.05		2.84	1.93
	L0000115	600343.16	4208701.14	5.45	0.00	0.00307	3.05		2.84	1.93
	L0000116	600341.27	4208695.35	5.52	0.00	0.00307	3.05		2.84	1.93
	L0000117	600339.38	4208689.55	5.58	0.00	0.00307	3.05		2.84	1.93
	L0000118	600337.48	4208683.76	5.64	0.00	0.00307	3.05		2.84	1.93
	L0000119	600335.59	4208677.96	5.70	0.00	0.00307	3.05		2.84	1.93
	L0000120	600333.70	4208672.17	5.77	0.00	0.00307	3.05		2.84	1.93
	L0000121	600331.80	4208666.37	5.83	0.00	0.00307	3.05		2.84	1.93
	L0000122	600329.91	4208660.58	5.89	0.00	0.00307	3.05		2.84	1.93
	L0000123	600328.02	4208654.79	5.95	0.00	0.00307	3.05		2.84	1.93
	L0000124	600326.13	4208648.99	6.00	0.00	0.00307	3.05		2.84	1.93

Source Pathway - Source Inputs

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Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE1	L0000125	600324.23	4208643.20	6.00	0.00	0.00307	3.05		2.84	1.93
	L0000126	600322.34	4208637.40	6.00	0.00	0.00307	3.05		2.84	1.93
	L0000127	600320.45	4208631.61	6.00	0.00	0.00307	3.05		2.84	1.93
	L0000128	600318.55	4208625.81	6.00	0.00	0.00307	3.05		2.84	1.93
	L0000129	600316.66	4208620.02	6.00	0.00	0.00307	3.05		2.84	1.93
	L0000130	600314.77	4208614.22	6.00	0.00	0.00307	3.05		2.84	1.93
	L0000131	600312.87	4208608.43	6.00	0.00	0.00307	3.05		2.84	1.93
	L0000132	600310.98	4208602.63	6.00	0.00	0.00307	3.05		2.84	1.93
	L0000133	600309.09	4208596.84	6.00	0.00	0.00307	3.05		2.84	1.93
	L0000134	600307.20	4208591.04	6.00	0.00	0.00307	3.05		2.84	1.93
	L0000135	600305.30	4208585.25	6.00	0.00	0.00307	3.05		2.84	1.93
	L0000136	600303.41	4208579.45	6.00	0.00	0.00307	3.05		2.84	1.93
	L0000137	600301.52	4208573.66	6.00	0.00	0.00307	3.05		2.84	1.93
	L0000138	600299.62	4208567.87	6.00	0.00	0.00307	3.05		2.84	1.93
	L0000139	600297.73	4208562.07	6.00	0.00	0.00307	3.05		2.84	1.93
	L0000140	600295.84	4208556.28	6.01	0.00	0.00307	3.05		2.84	1.93
	L0000141	600293.94	4208550.48	6.08	0.00	0.00307	3.05		2.84	1.93
	L0000142	600292.05	4208544.69	6.14	0.00	0.00307	3.05		2.84	1.93
	L0000143	600290.16	4208538.89	6.20	0.00	0.00307	3.05		2.84	1.93
	L0000144	600288.27	4208533.10	6.26	0.00	0.00307	3.05		2.84	1.93
	L0000145	600286.37	4208527.30	6.33	0.00	0.00307	3.05		2.84	1.93
	L0000146	600284.48	4208521.51	6.39	0.00	0.00307	3.05		2.84	1.93
	L0000147	600282.59	4208515.71	6.47	0.00	0.00307	3.05		2.84	1.93
	L0000148	600280.69	4208509.92	6.54	0.00	0.00307	3.05		2.84	1.93
	L0000149	600278.80	4208504.12	6.61	0.00	0.00307	3.05		2.84	1.93

Source Pathway - Source Inputs

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Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE1	L0000150	600276.91	4208498.33	6.68	0.00	0.00307	3.05		2.84	1.93
	L0000151	600275.02	4208492.54	6.74	0.00	0.00307	3.05		2.84	1.93
	L0000152	600273.12	4208486.74	6.80	0.00	0.00307	3.05		2.84	1.93
	L0000153	600271.23	4208480.95	6.86	0.00	0.00307	3.05		2.84	1.93
	L0000154	600269.34	4208475.15	6.91	0.00	0.00307	3.05		2.84	1.93
	L0000155	600267.44	4208469.36	6.96	0.00	0.00307	3.05		2.84	1.93
	L0000156	600265.55	4208463.56	7.01	0.00	0.00307	3.05		2.84	1.93
	L0000157	600263.66	4208457.77	7.08	0.00	0.00307	3.05		2.84	1.93
	L0000158	600261.76	4208451.97	7.14	0.00	0.00307	3.05		2.84	1.93
	L0000159	600259.87	4208446.18	7.20	0.00	0.00307	3.05		2.84	1.93
	L0000160	600257.98	4208440.38	7.26	0.00	0.00307	3.05		2.84	1.93
	L0000161	600256.09	4208434.59	7.33	0.00	0.00307	3.05		2.84	1.93
	L0000162	600254.19	4208428.79	7.39	0.00	0.00307	3.05		2.84	1.93
	L0000163	600252.30	4208423.00	7.45	0.00	0.00307	3.05		2.84	1.93
	L0000164	600250.40	4208417.21	7.51	0.00	0.00307	3.05		2.84	1.93
	L0000165	600248.50	4208411.42	7.57	0.00	0.00307	3.05		2.84	1.93
	L0000166	600246.59	4208405.63	7.64	0.00	0.00307	3.05		2.84	1.93
	L0000167	600244.68	4208399.84	7.70	0.00	0.00307	3.05		2.84	1.93
	L0000168	600242.77	4208394.05	7.76	0.00	0.00307	3.05		2.84	1.93
	L0000169	600240.87	4208388.26	7.82	0.00	0.00307	3.05		2.84	1.93
	L0000170	600238.96	4208382.47	7.89	0.00	0.00307	3.05		2.84	1.93
	L0000171	600237.05	4208376.68	7.95	0.00	0.00307	3.05		2.84	1.93
	L0000172	600235.14	4208370.89	8.01	0.00	0.00307	3.05		2.84	1.93
	L0000173	600233.23	4208365.10	8.05	0.00	0.00307	3.05		2.84	1.93
	L0000174	600231.33	4208359.31	8.10	0.00	0.00307	3.05		2.84	1.93

Source Pathway - Source Inputs

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Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE1	L0000175	600229.42	4208353.52	8.15	0.00	0.00307	3.05		2.84	1.93
	L0000176	600227.51	4208347.73	8.21	0.00	0.00307	3.05		2.84	1.93
	L0000177	600225.60	4208341.94	8.27	0.00	0.00307	3.05		2.84	1.93
	L0000178	600223.70	4208336.15	8.33	0.00	0.00307	3.05		2.84	1.93
	L0000179	600221.79	4208330.36	8.40	0.00	0.00307	3.05		2.84	1.93
	L0000180	600219.88	4208324.57	8.47	0.00	0.00307	3.05		2.84	1.93
	L0000181	600217.97	4208318.78	8.54	0.00	0.00307	3.05		2.84	1.93
	L0000182	600216.07	4208312.99	8.62	0.00	0.00307	3.05		2.84	1.93
	L0000183	600214.16	4208307.20	8.69	0.00	0.00307	3.05		2.84	1.93
	L0000184	600212.25	4208301.41	8.76	0.00	0.00307	3.05		2.84	1.93
	L0000185	600210.34	4208295.62	8.82	0.00	0.00307	3.05		2.84	1.93
	L0000186	600208.43	4208289.83	8.88	0.00	0.00307	3.05		2.84	1.93
	L0000187	600206.53	4208284.04	8.95	0.00	0.00307	3.05		2.84	1.93
	L0000188	600204.62	4208278.25	9.00	0.00	0.00307	3.05		2.84	1.93
	L0000189	600202.71	4208272.46	9.01	0.00	0.00307	3.05		2.84	1.93
	L0000190	600200.80	4208266.67	9.02	0.00	0.00307	3.05		2.84	1.93
	L0000191	600198.90	4208260.88	9.04	0.00	0.00307	3.05		2.84	1.93
	L0000192	600196.99	4208255.09	9.06	0.00	0.00307	3.05		2.84	1.93
	L0000193	600195.08	4208249.30	9.09	0.00	0.00307	3.05		2.84	1.93
	L0000194	600193.17	4208243.51	9.11	0.00	0.00307	3.05		2.84	1.93
	L0000195	600190.53	4208238.07	9.15	0.00	0.00307	3.05		2.84	1.93
	L0000196	600187.26	4208232.93	9.19	0.00	0.00307	3.05		2.84	1.93
	L0000197	600183.98	4208227.78	9.23	0.00	0.00307	3.05		2.84	1.93
	L0000198	600180.71	4208222.64	9.28	0.00	0.00307	3.05		2.84	1.93
	L0000199	600177.44	4208217.50	9.34	0.00	0.00307	3.05		2.84	1.93

Source Pathway - Source Inputs

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SLINE1	L0000200	600174.17	4208212.35	9.40	0.00	0.00307	3.05		2.84	1.93
	L0000201	600170.89	4208207.21	9.47	0.00	0.00307	3.05		2.84	1.93
	L0000202	600167.62	4208202.07	9.54	0.00	0.00307	3.05		2.84	1.93
	L0000203	600164.35	4208196.93	9.61	0.00	0.00307	3.05		2.84	1.93
	L0000204	600160.24	4208192.45	9.70	0.00	0.00307	3.05		2.84	1.93
	L0000205	600155.96	4208188.11	9.79	0.00	0.00307	3.05		2.84	1.93
	L0000206	600151.68	4208183.77	9.87	0.00	0.00307	3.05		2.84	1.93
	L0000207	600147.40	4208179.43	9.93	0.00	0.00307	3.05		2.84	1.93
	L0000208	600143.12	4208175.08	9.99	0.00	0.00307	3.05		2.84	1.93
	L0000209	600138.84	4208170.74	10.00	0.00	0.00307	3.05		2.84	1.93
	L0000210	600134.56	4208166.40	10.00	0.00	0.00307	3.05		2.84	1.93
	L0000211	600130.28	4208162.06	10.00	0.00	0.00307	3.05		2.84	1.93
	L0000212	600126.00	4208157.72	10.00	0.00	0.00307	3.05		2.84	1.93
	L0000213	600121.72	4208153.38	10.00	0.00	0.00307	3.05		2.84	1.93
	L0000214	600117.44	4208149.04	10.00	0.00	0.00307	3.05		2.84	1.93
	L0000215	600113.16	4208144.70	10.00	0.00	0.00307	3.05		2.84	1.93
	L0000216	600108.88	4208140.36	10.00	0.00	0.00307	3.05		2.84	1.93
	L0000217	600104.60	4208136.02	10.00	0.00	0.00307	3.05		2.84	1.93
	L0000218	600100.32	4208131.67	10.00	0.00	0.00307	3.05		2.84	1.93
	L0000219	600096.04	4208127.33	10.00	0.00	0.00307	3.05		2.84	1.93
	L0000220	600091.76	4208122.99	10.00	0.00	0.00307	3.05		2.84	1.93
	L0000221	600087.48	4208118.65	10.00	0.00	0.00307	3.05		2.84	1.93
	L0000222	600083.20	4208114.31	10.00	0.00	0.00307	3.05		2.84	1.93
	L0000223	600078.92	4208109.97	10.00	0.00	0.00307	3.05		2.84	1.93
	L0000224	600074.64	4208105.63	10.00	0.00	0.00307	3.05		2.84	1.93

Source Pathway - Source Inputs

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Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE1	L0000225	600070.36	4208101.29	10.00	0.00	0.00307	3.05		2.84	1.93
	L0000226	600065.98	4208097.05	10.05	0.00	0.00307	3.05		2.84	1.93
	L0000227	600061.54	4208092.87	10.12	0.00	0.00307	3.05		2.84	1.93
	L0000228	600057.10	4208088.70	10.22	0.00	0.00307	3.05		2.84	1.93
	L0000229	600052.66	4208084.52	10.32	0.00	0.00307	3.05		2.84	1.93
	L0000230	600048.22	4208080.34	10.43	0.00	0.00307	3.05		2.84	1.93
	L0000231	600043.78	4208076.16	10.54	0.00	0.00307	3.05		2.84	1.93
	L0000232	600039.34	4208071.99	10.64	0.00	0.00307	3.05		2.84	1.93
	L0000233	600034.90	4208067.81	10.75	0.00	0.00307	3.05		2.84	1.93
	L0000234	600030.47	4208063.63	10.85	0.00	0.00307	3.05		2.84	1.93
	L0000235	600026.03	4208059.45	10.96	0.00	0.00307	3.05		2.84	1.93
	L0000236	600021.59	4208055.28	11.07	0.00	0.00307	3.05		2.84	1.93
	L0000237	600017.15	4208051.10	11.17	0.00	0.00307	3.05		2.84	1.93
	L0000238	600012.71	4208046.92	11.28	0.00	0.00307	3.05		2.84	1.93
	L0000239	600008.27	4208042.74	11.38	0.00	0.00307	3.05		2.84	1.93
	L0000240	600003.83	4208038.57	11.49	0.00	0.00307	3.05		2.84	1.93
	L0000241	599999.39	4208034.39	11.60	0.00	0.00307	3.05		2.84	1.93
	L0000242	599994.95	4208030.21	11.66	0.00	0.00307	3.05		2.84	1.93
	L0000243	599990.51	4208026.03	11.71	0.00	0.00307	3.05		2.84	1.93
	L0000244	599986.07	4208021.86	11.75	0.00	0.00307	3.05		2.84	1.93
	L0000245	599981.63	4208017.68	11.80	0.00	0.00307	3.05		2.84	1.93
	L0000246	599977.19	4208013.50	11.84	0.00	0.00307	3.05		2.84	1.93
	L0000247	599972.75	4208009.32	11.89	0.00	0.00307	3.05		2.84	1.93
	L0000248	599968.31	4208005.15	11.93	0.00	0.00307	3.05		2.84	1.93
	L0000249	599963.87	4208000.97	11.98	0.00	0.00307	3.05		2.84	1.93

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE1	L0000250	599959.43	4207996.79	12.01	0.00	0.00307	3.05		2.84	1.93
	L0000251	599954.99	4207992.61	12.04	0.00	0.00307	3.05		2.84	1.93
	L0000252	599950.55	4207988.44	12.07	0.00	0.00307	3.05		2.84	1.93
	L0000253	599946.11	4207984.26	12.11	0.00	0.00307	3.05		2.84	1.93
	L0000254	599941.67	4207980.08	12.15	0.00	0.00307	3.05		2.84	1.93
	L0000255	599937.23	4207975.91	12.20	0.00	0.00307	3.05		2.84	1.93
	L0000256	599932.79	4207971.73	12.26	0.00	0.00307	3.05		2.84	1.93
	L0000257	599928.35	4207967.55	12.32	0.00	0.00307	3.05		2.84	1.93
	L0000258	599923.91	4207963.37	12.36	0.00	0.00307	3.05		2.84	1.93
	L0000259	599919.47	4207959.20	12.34	0.00	0.00307	3.05		2.84	1.93
	L0000260	599915.03	4207955.02	12.32	0.00	0.00307	3.05		2.84	1.93
	L0000261	599910.59	4207950.84	12.31	0.00	0.00307	3.05		2.84	1.93
	L0000262	599906.15	4207946.66	12.29	0.00	0.00307	3.05		2.84	1.93
	L0000263	599901.72	4207942.49	12.27	0.00	0.00307	3.05		2.84	1.93
	L0000264	599897.28	4207938.31	12.26	0.00	0.00307	3.05		2.84	1.93
	L0000265	599892.84	4207934.13	12.24	0.00	0.00307	3.05		2.84	1.93
	L0000266	599888.40	4207929.95	12.22	0.00	0.00307	3.05		2.84	1.93
	L0000267	599883.96	4207925.78	12.20	0.00	0.00307	3.05		2.84	1.93
	L0000268	599879.47	4207921.66	12.19	0.00	0.00307	3.05		2.84	1.93
	L0000269	599874.20	4207918.60	12.15	0.00	0.00307	3.05		2.84	1.93
	L0000270	599868.92	4207915.55	12.11	0.00	0.00307	3.05		2.84	1.93
	L0000271	599863.65	4207912.50	12.07	0.00	0.00307	3.05		2.84	1.93
	L0000272	599858.37	4207909.44	12.03	0.00	0.00307	3.05		2.84	1.93
	L0000273	599853.09	4207906.39	11.99	0.00	0.00307	3.05		2.84	1.93
	L0000274	599847.82	4207903.33	12.03	0.00	0.00307	3.05		2.84	1.93

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE1	L0000275	599842.54	4207900.28	12.10	0.00	0.00307	3.05		2.84	1.93
	L0000276	599837.27	4207897.22	12.16	0.00	0.00307	3.05		2.84	1.93
	L0000277	599831.99	4207894.17	12.23	0.00	0.00307	3.05		2.84	1.93
	L0000278	599826.72	4207891.12	12.29	0.00	0.00307	3.05		2.84	1.93
	L0000279	599821.44	4207888.06	12.35	0.00	0.00307	3.05		2.84	1.93
	L0000280	599816.16	4207885.01	12.42	0.00	0.00307	3.05		2.84	1.93
	L0000281	599810.89	4207881.95	12.48	0.00	0.00307	3.05		2.84	1.93
	L0000282	599805.61	4207878.90	12.55	0.00	0.00307	3.05		2.84	1.93
	L0000283	599800.34	4207875.84	12.61	0.00	0.00307	3.05		2.84	1.93
	L0000284	599795.06	4207872.79	12.68	0.00	0.00307	3.05		2.84	1.93
	L0000285	599789.79	4207869.74	12.74	0.00	0.00307	3.05		2.84	1.93
	L0000286	599784.51	4207866.68	12.81	0.00	0.00307	3.05		2.84	1.93
	L0000287	599779.23	4207863.63	12.87	0.00	0.00307	3.05		2.84	1.93
	L0000288	599773.68	4207861.16	12.92	0.00	0.00307	3.05		2.84	1.93
	L0000289	599767.96	4207859.07	12.97	0.00	0.00307	3.05		2.84	1.93
	L0000290	599762.23	4207856.98	13.01	0.00	0.00307	3.05		2.84	1.93
	L0000291	599756.50	4207854.89	13.05	0.00	0.00307	3.05		2.84	1.93
	L0000292	599750.78	4207852.80	13.10	0.00	0.00307	3.05		2.84	1.93
	L0000293	599745.05	4207850.71	13.14	0.00	0.00307	3.05		2.84	1.93
	L0000294	599739.32	4207848.62	13.19	0.00	0.00307	3.05		2.84	1.93
	L0000295	599733.60	4207846.53	13.23	0.00	0.00307	3.05		2.84	1.93
	L0000296	599727.87	4207844.44	13.27	0.00	0.00307	3.05		2.84	1.93
	L0000297	599722.15	4207842.35	13.32	0.00	0.00307	3.05		2.84	1.93
	L0000298	599716.42	4207840.26	13.36	0.00	0.00307	3.05		2.84	1.93
	L0000299	599710.69	4207838.17	13.40	0.00	0.00307	3.05		2.84	1.93

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE1	L0000300	599704.97	4207836.08	13.46	0.00	0.00307	3.05		2.84	1.93
	L0000301	599699.24	4207833.99	13.52	0.00	0.00307	3.05		2.84	1.93
	L0000302	599693.51	4207831.90	13.58	0.00	0.00307	3.05		2.84	1.93
	L0000303	599687.79	4207829.81	13.64	0.00	0.00307	3.05		2.84	1.93
	L0000304	599682.06	4207827.72	13.69	0.00	0.00307	3.05		2.84	1.93
	L0000305	599676.34	4207825.62	13.74	0.00	0.00307	3.05		2.84	1.93
	L0000306	599670.61	4207823.53	13.78	0.00	0.00307	3.05		2.84	1.93
	L0000307	599664.88	4207821.44	13.83	0.00	0.00307	3.05		2.84	1.93
	L0000308	599659.16	4207819.35	13.86	0.00	0.00307	3.05		2.84	1.93
	L0000309	599653.43	4207817.26	13.90	0.00	0.00307	3.05		2.84	1.93
	L0000310	599647.70	4207815.17	13.93	0.00	0.00307	3.05		2.84	1.93
	L0000311	599641.98	4207813.08	13.96	0.00	0.00307	3.05		2.84	1.93
	L0000312	599636.25	4207810.99	13.99	0.00	0.00307	3.05		2.84	1.93
	L0000313	599630.52	4207808.90	14.01	0.00	0.00307	3.05		2.84	1.93
	L0000314	599624.80	4207806.81	14.03	0.00	0.00307	3.05		2.84	1.93
	L0000315	599619.07	4207804.72	14.05	0.00	0.00307	3.05		2.84	1.93
	L0000316	599613.35	4207802.63	14.07	0.00	0.00307	3.05		2.84	1.93
	L0000317	599607.62	4207800.54	14.10	0.00	0.00307	3.05		2.84	1.93
	L0000318	599601.89	4207798.45	14.12	0.00	0.00307	3.05		2.84	1.93
	L0000319	599596.17	4207796.36	14.14	0.00	0.00307	3.05		2.84	1.93
	L0000320	599590.44	4207794.27	14.16	0.00	0.00307	3.05		2.84	1.93
	L0000321	599584.71	4207792.18	14.18	0.00	0.00307	3.05		2.84	1.93
	L0000322	599578.99	4207790.09	14.20	0.00	0.00307	3.05		2.84	1.93
	L0000323	599573.26	4207787.99	14.23	0.00	0.00307	3.05		2.84	1.93
	L0000324	599567.54	4207785.90	14.25	0.00	0.00307	3.05		2.84	1.93

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
SLINE1	L0000325	599561.81	4207783.81	14.27	0.00	0.00307	3.05		2.84	1.93
	L0000326	599556.08	4207781.72	14.24	0.00	0.00307	3.05		2.84	1.93

Building Downwash Information

Source ID: COOL

Heights [m] (10 to 360 deg)

10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67
70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	0.00	10.67	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	0.00	10.67	10.67	10.67

Widths [m] (10 to 360 deg)

10-60 deg	106.38	108.38	110.89	110.03	105.83	98.41
70-120 deg	88.00	74.92	59.56	45.63	85.71	89.18
130-180 deg	89.94	87.97	0.00	91.04	99.22	104.39
190-240 deg	106.38	108.38	110.89	110.03	105.83	98.41
250-300 deg	88.00	74.92	59.56	45.63	85.71	89.18
310-360 deg	89.94	87.97	0.00	91.04	99.22	104.39

Lengths [m] (10 to 360 deg)

10-60 deg	45.63	40.46	48.93	59.61	68.48	80.09
70-120 deg	91.04	99.22	104.39	106.38	111.19	122.58
130-180 deg	130.24	133.95	0.00	88.00	74.92	59.56
190-240 deg	45.63	40.46	48.93	59.61	68.48	80.09
250-300 deg	91.04	99.22	104.39	106.38	111.19	122.58
310-360 deg	130.24	133.95	0.00	88.00	74.92	59.56

Along Flow [m] (10 to 360 deg)

10-60 deg	-44.50	-48.35	-61.56	-72.90	-82.03	-88.66
70-120 deg	-92.60	-93.73	-92.01	-87.49	-85.45	-90.18
130-180 deg	-92.16	-91.34	0.00	-40.32	-26.85	-12.56
190-240 deg	-1.13	7.89	12.63	13.29	13.55	8.57
250-300 deg	1.56	-5.49	-12.38	-18.89	-25.74	-32.40
310-360 deg	-38.09	-42.61	0.00	-47.68	-48.07	-47.00

Across Flow [m] (10 to 360 deg)

10-60 deg	34.30	28.46	23.04	16.93	10.30	3.36
70-120 deg	-3.68	-10.61	-17.22	-21.68	-5.49	-16.97
130-180 deg	-27.93	-38.04	0.00	-47.08	-44.12	-39.81
190-240 deg	-34.30	-28.46	-23.04	-16.93	-10.30	-3.36
250-300 deg	3.68	10.61	17.22	21.68	5.49	16.97
310-360 deg	27.93	38.04	0.00	47.08	44.12	39.81

Source ID: SCRUBBER

Heights [m] (10 to 360 deg)

10-60 deg	10.67	10.67	10.67	10.67	10.67	10.67

70-120 deg	10.67	10.67	10.67	10.67	10.67	10.67
130-180 deg	10.67	10.67	0.00	0.00	10.67	10.67
190-240 deg	10.67	10.67	10.67	10.67	10.67	10.67
250-300 deg	10.67	10.67	10.67	10.67	10.67	10.67
310-360 deg	10.67	10.67	0.00	0.00	10.67	10.67
Widths [m] (10 to 360 deg)						
10-60 deg	106.38	108.38	110.89	110.03	105.83	98.41
70-120 deg	88.00	74.92	59.56	45.63	85.71	89.18
130-180 deg	89.94	87.97	0.00	0.00	99.22	104.39
190-240 deg	106.38	108.38	110.89	110.03	105.83	98.41
250-300 deg	88.00	74.92	59.56	45.63	85.71	89.18
310-360 deg	89.94	87.97	0.00	0.00	99.22	104.39
Lengths [m] (10 to 360 deg)						
10-60 deg	45.63	40.46	48.93	59.61	68.48	80.09
70-120 deg	91.04	99.22	104.39	106.38	111.19	122.58
130-180 deg	130.24	133.95	0.00	0.00	74.92	59.56
190-240 deg	45.63	40.46	48.93	59.61	68.48	80.09
250-300 deg	91.04	99.22	104.39	106.38	111.19	122.58
310-360 deg	130.24	133.95	0.00	0.00	74.92	59.56
Along Flow [m] (10 to 360 deg)						
10-60 deg	-50.49	-54.93	-68.54	-80.06	-89.15	-95.54
70-120 deg	-99.02	-99.49	-96.94	-91.44	-88.30	-91.84
130-180 deg	-92.59	-90.52	0.00	0.00	-22.57	-7.35
190-240 deg	4.85	14.47	19.61	20.45	20.67	15.44
250-300 deg	7.98	0.27	-7.45	-14.94	-22.88	-30.74
310-360 deg	-37.66	-43.43	0.00	0.00	-52.35	-52.21
Across Flow [m] (10 to 360 deg)						
10-60 deg	38.25	31.31	24.71	17.36	9.48	1.32
70-120 deg	-6.89	-14.89	-22.43	-27.67	-12.07	-23.95
130-180 deg	-35.09	-45.17	0.00	0.00	-49.88	-44.74
190-240 deg	-38.25	-31.31	-24.71	-17.36	-9.48	-1.32
250-300 deg	6.89	14.89	22.43	27.67	12.07	23.95
310-360 deg	35.09	45.17	0.00	0.00	49.88	44.74

Emission Rate Units for Output

For Concentration

Unit Factor:	1E6
Emission Unit Label:	GRAMS/SEC
Concentration Unit Label:	MICROGRAMS/M**3

Source Pathway

Source Groups

Source Group ID:	List of Sources in Group (Source Range or Single Sources)
SLINE1	SLINE1
SCRUBBER	SCRUBBER
PM2.5	PM2.5
DPM	DPM
COOL	COOL

Variable Emissions

Hour / Day-of-Week Emission Rate Variation

Scenario: Scenario 1

Source ID: DPM

Hour	Mon	Tues	Wed	Thr	Fri	Sat	Sun
1:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
10:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
11:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
12:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
13:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
14:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
15:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
16:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
17:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
18:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source ID: PM2.5

Hour	Mon	Tues	Wed	Thr	Fri	Sat	Sun
1:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
10:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
11:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
12:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
13:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
14:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
15:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
16:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
17:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
18:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source Pathway

Scenario: Scenario 1

Source ID: **SLINE1**

Hour	Mon	Tues	Wed	Thr	Fri	Sat	Sun
1:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
10:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
11:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
12:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
13:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
14:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
15:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
16:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
17:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
18:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Scenario: Scenario 2

Source ID: **COOL**

Hour	Mon	Tues	Wed	Thr	Fri	Sat	Sun
1:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
2:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
3:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
4:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
5:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
6:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
7:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
8:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
9:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
10:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
11:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
12:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
13:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
14:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
15:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
16:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
17:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
18:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
19:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
20:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
21:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
22:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
23:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
24:00	1.00	1.00	1.00	1.00	1.00	0.00	0.00

Source Pathway

Receptor Pathway

Receptor Networks

Note: Terrain Elavations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

Discrete Receptors

Discrete Cartesian Receptors

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	600334.96	4209343.71	Worker	1.51	
2	600357.01	4209387.80	Worker	1.03	
3	600442.05	4209457.09	Worker	1.00	
4	600544.93	4209400.40	Worker	1.00	
5	600533.38	4209334.26	Worker	1.63	
6	600392.70	4209348.96	Worker	1.46	
7	600417.90	4209330.06	Worker	1.66	
8	600386.40	4209466.54	Worker	1.00	
9	600673.01	4209354.21	Worker	1.00	
10	600685.61	4209398.30	Worker	0.96	
11	600699.26	4209443.45	Worker	0.48	
12	600783.24	4209508.54	Worker	0.00	
13	600794.79	4209478.09	Worker	0.11	
14	600840.98	4209466.54	Worker	0.24	
15	600900.83	4209281.77	Worker	1.00	
16	600863.03	4209323.76	Worker	0.99	
17	600951.22	4209297.52	Worker	1.00	
18	600901.88	4209209.33	Worker	1.03	
19	600890.33	4209168.39	Worker	1.47	
20	600878.78	4209128.49	Worker	1.90	
21	600898.73	4209047.66	Worker	2.40	
22	600760.15	4209178.89	Worker	2.13	
23	600791.64	4209272.32	Worker	1.32	
24	600713.95	4209288.07	Worker	1.16	
25	600748.60	4209262.87	Worker	1.43	
26	600696.11	4209219.83	Worker	1.89	
27	600718.15	4209253.42	Worker	1.53	
28	600726.55	4209221.93	Worker	1.87	
29	600741.25	4209101.20	Worker	2.72	
30	600669.86	4209086.50	Worker	3.00	

31	600718.15	4209069.70	Worker	2.99
32	600725.50	4209036.11	Worker	2.99
33	600722.35	4208994.11	Worker	3.00
34	600668.81	4209040.31	Worker	3.00
35	600589.02	4209080.20	Worker	3.00
36	600539.68	4209085.45	Worker	3.00
37	600509.24	4209095.95	Worker	3.00
38	600534.43	4209170.49	Worker	2.40
39	600468.29	4209159.99	Worker	2.51
40	600429.45	4209121.14	Worker	2.92
41	600458.84	4209109.60	Worker	3.00
42	600425.25	4209085.45	Worker	3.00
43	600454.64	4209081.25	Worker	3.00
44	600497.69	4209067.60	Worker	3.00
45	600543.88	4209052.91	Worker	3.00
46	600577.47	4209043.46	Worker	3.00
47	600617.66	4208934.15	Worker	3.00
48	600475.64	4208936.37	Worker	3.93
49	600855.68	4209023.51	Worker	3.00
50	600366.46	4209131.64	Worker	2.80
51	600316.06	4209149.49	Worker	2.60
52	600341.26	4209095.95	Worker	3.00
53	600762.48	4209483.30	Worker	0.05
54	600609.63	4208911.42	Worker	3.22
55	600737.74	4209282.36	Worker	1.22
56	600700.98	4209240.20	Worker	1.67
57	600710.43	4209273.59	Worker	1.31
58	600741.45	4209245.94	Worker	1.62
59	600729.31	4209268.87	Worker	1.37
60	600776.19	4209261.11	Worker	1.46
61	600738.76	4209207.49	Worker	2.02
62	600920.10	4209184.98	Worker	1.30
63	600875.76	4209197.11	Worker	1.16
64	600882.76	4209226.52	Worker	1.00
65	600932.71	4209212.05	Worker	1.01
66	600911.23	4209145.30	Worker	1.73
67	600866.42	4209157.43	Worker	1.59
68	600904.23	4209120.09	Worker	2.00

69	600853.82	4209134.09	Worker	1.86
70	600500.00	4208925.00	Worker	3.99
71	600550.00	4208925.00	Worker	3.34
72	600600.00	4208925.00	Worker	3.07
73	600650.00	4208925.00	Worker	3.07
74	600700.00	4208925.00	Worker	3.08
75	600750.00	4208925.00	Worker	3.09
76	600450.00	4208975.00	Worker	3.51
77	600500.00	4208975.00	Worker	3.50
78	600550.00	4208975.00	Worker	3.15
79	600600.00	4208975.00	Worker	3.00
80	600650.00	4208975.00	Worker	3.00
81	600700.00	4208975.00	Worker	3.00
82	600750.00	4208975.00	Worker	3.00
83	600800.00	4208975.00	Worker	3.00
84	600850.00	4208975.00	Worker	3.00
85	600400.00	4209025.00	Worker	3.00
86	600450.00	4209025.00	Worker	3.00
87	600500.00	4209025.00	Worker	3.00
88	600550.00	4209025.00	Worker	3.00
89	600600.00	4209025.00	Worker	3.00
90	600650.00	4209025.00	Worker	3.00
91	600700.00	4209025.00	Worker	3.00
92	600750.00	4209025.00	Worker	3.00
93	600800.00	4209025.00	Worker	3.00
94	600850.00	4209025.00	Worker	3.00
95	600900.00	4209025.00	Worker	2.51
96	600350.00	4209075.00	Worker	3.00
97	600400.00	4209075.00	Worker	3.00
98	600450.00	4209075.00	Worker	3.00
99	600500.00	4209075.00	Worker	3.00
100	600550.00	4209075.00	Worker	3.00
101	600600.00	4209075.00	Worker	3.00
102	600650.00	4209075.00	Worker	3.00
103	600700.00	4209075.00	Worker	3.00
104	600750.00	4209075.00	Worker	2.76
105	600800.00	4209075.00	Worker	2.47
106	600850.00	4209075.00	Worker	2.48

107	600900.00	4209075.00	Worker	2.24
108	600350.00	4209125.00	Worker	2.87
109	600400.00	4209125.00	Worker	2.88
110	600450.00	4209125.00	Worker	2.89
111	600500.00	4209125.00	Worker	2.89
112	600550.00	4209125.00	Worker	2.90
113	600600.00	4209125.00	Worker	2.91
114	600650.00	4209125.00	Worker	2.91
115	600700.00	4209125.00	Worker	2.92
116	600750.00	4209125.00	Worker	2.49
117	600800.00	4209125.00	Worker	1.99
118	600850.00	4209125.00	Worker	1.95
119	600900.00	4209125.00	Worker	1.95
120	600950.00	4209125.00	Worker	1.95
121	600300.00	4209175.00	Worker	2.32
122	600350.00	4209175.00	Worker	2.33
123	600400.00	4209175.00	Worker	2.34
124	600450.00	4209175.00	Worker	2.34
125	600500.00	4209175.00	Worker	2.35
126	600550.00	4209175.00	Worker	2.36
127	600700.00	4209175.00	Worker	2.38
128	600750.00	4209175.00	Worker	2.20
129	600800.00	4209175.00	Worker	1.90
130	600850.00	4209175.00	Worker	1.49
131	600900.00	4209175.00	Worker	1.40
132	600950.00	4209175.00	Worker	1.41
133	600300.00	4209225.00	Worker	2.00
134	600350.00	4209225.00	Worker	2.00
135	600400.00	4209225.00	Worker	2.00
136	600450.00	4209225.00	Worker	2.00
137	600500.00	4209225.00	Worker	2.00
138	600700.00	4209225.00	Worker	1.84
139	600750.00	4209225.00	Worker	1.84
140	600800.00	4209225.00	Worker	1.71
141	600850.00	4209225.00	Worker	1.13
142	600900.00	4209225.00	Worker	1.00
143	600950.00	4209225.00	Worker	1.00
144	600300.00	4209275.00	Worker	2.00

145	600350.00	4209275.00	Worker	2.00
146	600400.00	4209275.00	Worker	2.00
147	600450.00	4209275.00	Worker	2.00
148	600500.00	4209275.00	Worker	2.00
149	600700.00	4209275.00	Worker	1.30
150	600750.00	4209275.00	Worker	1.30
151	600800.00	4209275.00	Worker	1.26
152	600850.00	4209275.00	Worker	1.04
153	600900.00	4209275.00	Worker	1.00
154	600950.00	4209275.00	Worker	1.00
155	600300.00	4209325.00	Worker	1.70
156	600350.00	4209325.00	Worker	1.71
157	600400.00	4209325.00	Worker	1.72
158	600450.00	4209325.00	Worker	1.72
159	600500.00	4209325.00	Worker	1.73
160	600700.00	4209325.00	Worker	1.00
161	600750.00	4209325.00	Worker	1.00
162	600800.00	4209325.00	Worker	1.00
163	600850.00	4209325.00	Worker	1.00
164	600900.00	4209325.00	Worker	0.88
165	600950.00	4209325.00	Worker	0.79
166	600350.00	4209375.00	Worker	1.17
167	600400.00	4209375.00	Worker	1.18
168	600450.00	4209375.00	Worker	1.18
169	600500.00	4209375.00	Worker	1.19
170	600550.00	4209375.00	Worker	1.20
171	600600.00	4209375.00	Worker	1.11
172	600650.00	4209375.00	Worker	1.00
173	600700.00	4209375.00	Worker	1.00
174	600750.00	4209375.00	Worker	1.00
175	600800.00	4209375.00	Worker	1.00
176	600850.00	4209375.00	Worker	1.00
177	600900.00	4209375.00	Worker	0.58
178	600950.00	4209375.00	Worker	0.25
179	600350.00	4209425.00	Worker	1.00
180	600400.00	4209425.00	Worker	1.00
181	600450.00	4209425.00	Worker	1.00
182	600500.00	4209425.00	Worker	1.00

183	600550.00	4209425.00	Worker	1.00
184	600600.00	4209425.00	Worker	0.84
185	600650.00	4209425.00	Worker	0.67
186	600700.00	4209425.00	Worker	0.67
187	600750.00	4209425.00	Worker	0.68
188	600800.00	4209425.00	Worker	0.69
189	600850.00	4209425.00	Worker	0.69
190	600900.00	4209425.00	Worker	0.30
191	600400.00	4209475.00	Worker	1.00
192	600450.00	4209475.00	Worker	1.00
193	600500.00	4209475.00	Worker	1.00
194	600550.00	4209475.00	Worker	1.00
195	600600.00	4209475.00	Worker	0.58
196	600650.00	4209475.00	Worker	0.13
197	600700.00	4209475.00	Worker	0.13
198	600750.00	4209475.00	Worker	0.14
199	600800.00	4209475.00	Worker	0.15
200	600850.00	4209475.00	Worker	0.15
201	600900.00	4209475.00	Worker	0.07
202	600450.00	4209525.00	Worker	0.56
203	600500.00	4209525.00	Worker	0.57
204	600550.00	4209525.00	Worker	0.57
205	600600.00	4209525.00	Worker	0.30
206	600650.00	4209525.00	Worker	0.00
207	600700.00	4209525.00	Worker	0.00
208	600750.00	4209525.00	Worker	0.00
209	600800.00	4209525.00	Worker	0.00
210	600850.00	4209525.00	Worker	0.00
211	600550.00	4209575.00	Worker	0.03
212	600600.00	4209575.00	Worker	0.02
213	600650.00	4209575.00	Worker	0.00
214	600700.00	4209575.00	Worker	0.00
215	600750.00	4209575.00	Worker	0.00
216	599033.89	4209012.62	Residenc	6.91
217	599022.61	4208973.68	Residenc	7.06
218	599007.24	4208924.49	Residenc	7.34
219	598981.62	4208845.59	Residenc	8.47
220	598957.03	4208769.75	Residenc	9.53

221	598940.63	4208717.49	Residenc	10.03
222	598925.26	4208672.40	Residenc	10.32
223	598909.89	4208626.29	Residenc	10.85
224	599005.19	4209037.21	Residenc	6.64
225	598956.00	4209042.34	Residenc	6.61
226	598874.02	4209063.86	Residenc	7.00
227	598790.00	4209088.45	Residenc	7.02
228	598721.34	4209112.02	Residenc	6.80
229	598618.86	4209133.54	Residenc	6.55
230	598532.78	4209151.99	Residenc	6.34
231	598455.93	4209177.60	Residenc	6.05
232	598372.67	4210241.08	Residenc	0.00
233	598349.31	4210169.33	Residenc	0.06
234	598329.28	4210099.24	Residenc	0.50
235	598317.60	4210050.85	Residenc	0.85
236	598355.98	4209989.11	Residenc	1.03
237	598337.63	4209924.03	Residenc	1.37
238	598319.27	4209855.61	Residenc	1.89
239	598297.58	4209785.52	Residenc	2.44
240	598275.88	4209717.10	Residenc	3.31
241	598262.53	4209662.03	Residenc	3.80
242	598244.18	4209601.96	Residenc	4.86
243	598304.25	4210012.47	Residenc	1.01
244	600636.34	4207000.93	Residenc	25.81
245	600680.31	4207029.30	Residenc	25.15
246	600737.05	4207061.93	Residenc	24.46
247	600789.53	4207110.16	Residenc	23.44
248	600829.25	4207155.55	Residenc	22.41
249	600880.32	4207179.66	Residenc	21.96
250	600949.82	4207191.01	Residenc	20.98
251	601019.33	4207193.85	Residenc	20.02
252	601090.26	4207165.48	Residenc	20.03
253	601161.18	4207144.20	Residenc	19.55
254	601222.18	4207125.76	Residenc	19.25
255	601286.01	4207107.32	Residenc	18.55
256	601359.77	4207081.79	Residenc	18.05
257	601372.54	4207020.79	Residenc	18.29
258	602609.61	4207445.41	Residenc	10.47

259	602652.16	4207445.41	Residenc	10.16	
260	602676.28	4207487.97	Residenc	9.32	
261	602708.91	4207547.55	Residenc	8.25	
262	602737.28	4207607.13	Residenc	7.24	
263	602765.65	4207662.45	Residenc	6.24	
264	602805.37	4207741.89	Residenc	6.00	
265	602884.81	4207751.82	Residenc	6.00	
266	602940.13	4207741.89	Residenc	6.00	
267	602998.29	4207713.52	Residenc	6.00	
268	603291.94	4207747.56	Residenc	6.00	
269	603290.52	4207828.42	Residenc	6.00	
270	603291.94	4207907.86	Residenc	5.43	
271	603289.10	4207971.70	Residenc	5.02	
272	599124.62	4208092.38	School	13.80	
273	600916.73	4206751.61	School	27.32	
274	603361.06	4207525.29	School	6.00	
275	597833.99	4209670.57	School	4.64	
276	599137.30	4208318.14	School	11.84	

Plant Boundary Receptors

Receptor Groups

Record Number	Group ID	Group Description
1	Worker	
2	FENCEPRI	Cartesian plant boundary Primary Receptors
3	FENCEINT	Cartesian plant boundary Intermediate Receptors
4	Residenc	
5	School	

Meteorology Pathway

Met Input Data

Surface Met Data

Filename: ..\Met Data\Concord-Buchanan Field (KCCR)\AERMOD.SFC
Format Type: Default AERMET format

Profile Met Data

Filename: ..\Met Data\Concord-Buchanan Field (KCCR)\AERMOD.PFL
Format Type: Default AERMET format

Wind Speed

☐ Wind Speeds are Vector Mean (Not Scalar Means)

Wind Direction

Rotation Adjustment [deg]:

Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 23.60 [m]

Meteorological Station Data

Stations	Station No.	Year	X Coordinate [m]	Y Coordinate [m]	Station Name
Surface Upper Air		2013 2013			OAKLAND/WSO AP

Data Period

Data Period to Process

Start Date: 1/1/2013 Start Hour: 1 End Date: 12/31/2017 End Hour: 24

Wind Speed Categories

Stability Category	Wind Speed [m/s]	Stability Category	Wind Speed [m/s]
A	1.54	D	8.23
B	3.09	E	10.8
C	5.14	F	No Upper Bound

Output Pathway

Tabular Printed Outputs

Short Term Averaging Period	RECTABLE Highest Values Table										MAXTABLE Maximum Values Table	DAYTABLE Daily Values Table
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th		
1	■	☐	☐	☐	☐	☐	☐	☐	☐	☐		No

Contour Plot Files (PLOTFILE)

Path for PLOTFILES: \AERMOD.AD

Averaging Period	Source Group ID	High Value	File Name
1	COOL	1st	01H1G001.PLT
1	DPM	1st	01H1G002.PLT
1	PM2.5	1st	01H1G003.PLT
1	SCRUBBER	1st	01H1G004.PLT
1	SLINE1	1st	01H1G005.PLT
Period	COOL	N/A	PE00G001.PLT
Period	DPM	N/A	PE00G002.PLT
Period	PM2.5	N/A	PE00G003.PLT
Period	SCRUBBER	N/A	PE00G004.PLT
Period	SLINE1	N/A	PE00G005.PLT

Results Summary

C:\Users\MikeRatte\Documents\Projects\Pittsburg Iron Salts Plant\Air

DPM - Concentration - Source Group: COOL

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
1-HR	1ST	217.34121	ug/m^3	600450.00	4209125.00	2.89	1.80	2.89	8/31/2017, 19
PERIOD		3.32070	ug/m^3	600650.00	4209375.00	1.00	1.80	1.00	

DPM - Concentration - Source Group: DPM

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
1-HR	1ST	6146.61269	ug/m^3	600650.00	4209375.00	1.00	1.80	1.00	1/17/2013, 9
PERIOD		24.31648	ug/m^3	600696.11	4209219.83	1.89	1.80	1.89	

DPM - Concentration - Source Group: PM2.5

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
1-HR	1ST	6688.15534	ug/m^3	600650.00	4209375.00	1.00	1.80	1.00	1/17/2013, 9
PERIOD		24.52132	ug/m^3	600696.11	4209219.83	1.89	1.80	1.89	

DPM - Concentration - Source Group: SCRUBBER

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
1-HR	1ST	566.94417	ug/m^3	600500.00	4209225.00	2.00	1.80	2.00	3/8/2015, 4
PERIOD		20.97376	ug/m^3	600673.01	4209354.21	1.00	1.80	1.00	

Results Summary

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DPM - Concentration - Source Group: SLINE1

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
1-HR	1ST	751.71709	ug/m^3	600600.00	4209025.00	3.00	1.80	3.00	11/5/2013, 17
PERIOD		11.46391	ug/m^3	600500.00	4208975.00	3.50	1.80	3.50	

Tower Specifications: Model T-2250

Cooling Tower Systems, Inc.

Design and Operating Conditions		Water Distribution System Construction Materials	
Tower Type:	Counter Flow Induced Draft	Stand Pipe:	PVC
Water Flow Rate (GPM):	737 GPM	Sprinkler Head:	AC
Entering Water Temperature	95°F	Sprinkler Pipes:	PVC
Leaving Water Temperature	85°F	**Mechanical Equipment**	
Wet Bulb Temperature:	75°F	Fan Unit:	One Unit per Tower
Total Fan BHP:	7.5 HP	Type:	Axial Flow
Total Pump Head:	12’	Manufacturer:	CTS
Drift Loss of Water Flow:	0.1%	Diameter:	93”
Evaporation Loss of Water Flow:	0.93%	Blade Material:	AC
Design Wind Load:	41 lbs/sq. ft.	Hub Material:	AC
Structural Details		Nominal Air Volume:	61,270 CFM
Overall Diameter:	148 3/8”	**Fan Motor**	
Overall Height:	125 5/8”	Number of motors:	One Unit per Tower
Dry Weight:	2,270 lbs.	Type:	Induction
Operating Weight:	8,723 lbs.	Manufacturer:	CTS
Basic Tower Construction Materials		Insulation:	F Class
Tower Support Frame Assembly	HDGS	Rated HP:	7.5 HP
Casing:	FRP	Voltage and phase:	220/440V/3
Casing Supporters	HDGS	**Piping Connections**	
Cold Water Basin	FRP	Primary Water Inlet Diameter	8”
Filling:	PVC	Primary Water Outlet Diameter:	8”
Filling Supports:	HDGS	Auto fill inlet diameter:	1.25”
Fan Guard	HDGS	Quick fill inlet diameter:	1.25”
Mechanical Equipment Supports:	HDGS	Overflow outlet diameter:	2”
Inlet Louvers:	PVC	Drain diameter:	2”
Bolts, Nuts & Washers:	STS	Water Flow (GPM):	737 GPM

Materials Key			
FRP	Fiberglass Reinforced Polyester	STS	Stainless Steel
HDGS	Hot Dipped Galvanized Steel	AC	Aluminum Alloy Cast

Cooling Tower Systems, Inc.
196 Lower Cherry Street Macon, GA 31201
TF: 800.752.1905 F: 478.755.8304 www.coolingtowersystems.com info@coolingtowersystems.com

Cooling Tower Operational Data				
Source Description	**Average Recirculation Flow Rate (gal/min)**	**Peak Hourly Recirculation Flow Rate[1] (gal/min)**	**Annual Operation (hrs/yr)**	**Annual Throughput[2] (gal/yr)**
Cooling Tower	737	1105.5	6,240	275,932,800

Notes: (1) Peak Hourly is conservatively estimated at 1.5 average recirculation rate.

(2) Annual Throughput = Avg Hourly Flow Rate (gal/min) * Annual Operation

Cooling Tower Emission Factors			
Process	**VOC**	**PM**	**Chloroform**
Chemical Plant Cooling Towers	0.7	19	0.018

Sources: VOC - AP-42, Section 5.1, Table 5.1-2 PM - AP-42, Section 13.4, Table 13.4-1

PM - AP-42, Section 13.4, Table 13.4-1

Chloroform - Summary of Literature Search on HAP Emissions From IPCTs (2004, RTI)

Cooling Tower Emissions			
Process	**VOC**	**PM10**	**Chloroform**
Peak Hourly Emissions (lb/hr)	0.04643	1.26027	0.00119
Annual Emissions (lb/yr)	193.15	5242.72	4.97
Average Daily Emissions (lb/yr)	0.03095	20.16432	0.01910

HCl Gas Scrubbing using Water

for RK Fabrication (Stage 1 of 2, acid fumes from ferric chloride tank)

Inlet Gas Flow	15,000	acfm	HCl in Blowdown	1.0%	
Inlet HCl Concentration	20	ppm_v	Blowdown pH	0.5	
Atmospheric Pressure	28.82	in. Hg	HTU_{OG}	0.86	ft
Inlet Static Pressure	-2	in.WC	NTU	9.30	
Inlet Gas Temperature	140	°F	HCl Gas Removal	97.0%	
Make-up Water Temperature	70	°F	Outlet HCl Gas Concn.	0.6	ppm_v
Make-up Water HCl Content	0%		Outlet Air Flow	15,077	acfm
Liquid Flow Rate	100	gpm	Packing Liquid Holdup	1.8%	
Blowdown Rate	0.26	gpm	Packing Volume	238	ft^3
Tower Diameter	5.5	ft	Liquid Residence Time	20	sec
Packing Height	10.0	ft	Pressure Gradient	0.16	in.WC/ft
Design Safety Factor	1.25		Packing Pressure Drop	1.6	in.WC
Mist Eliminator Type	No.2 NUPAC (1.5 ft)		Mist Eliminator ΔP	0.5	in.WC
Packing Type	Q-PAC				

Air Flow Rate	12,693	scfm	Cross-Section Area	23.8	ft^2
=	32.81	lbmol/min	Gas Molecular Weight	29	lb/lbmol
HCl Removed	0.001	lbmol/min	Gas Density	0.064	lb/ft^3
=	0.02	lb/min	Liquid Density	8.39	lb/gal
=	1.4	lb/h	Superficial Gas Velocity	631	ft/min
=	0.3	mol/min	Gas Loading	2,408	$lb/h\text{-}ft^2$
blowdown	16	gal/h	Liquid Loading	2,119	$lb/h\text{-}ft^2$
	1.0	L/min	=	4.2	gpm/ft^2
x_1	0.0052	mol/mol	T_{in}	333	K
x_2	0.0052	mol/mol	T_{out}	333	K
y_1*	0.61	ppm_v	P_{in}	0.958	atm
y_2*	0.61	ppm_v	P_{out}	0.953	atm
Heat of Solution	1.22E+03	Btu/h	HTU_G	0.86	ft
Sensible Heat	8.75E+03	Btu/h	HTU_L	0.32	ft
Evaporation	-0.007	$lbmol_{H2O}$/min	$HTU_G + HTU_L/A$	0.86	ft
Inlet Air Moisture Content	20.5%	v/v	Air-Water Partition Coeff.	1.1E-04	atm-mol/mol
Dry Gas Flow	26.08	$lbmol_{DG}$/min	Absorption Factor	1.2E+04	
Outlet Moisture Content	0.258	mol_{H2O}/mol_{DG}	ρ_L	1.01	g/cm^3
=	20.51%	v/v	μ_L	1.08	lb/h-ft
Outlet Gas Flow	12,690	scfm	D_L	1.25E-04	ft^2/h
Outlet Liquid Temperature	140	°F			

Scrubbing Hydrogen Chloride Gas using Caustic Soda

for RK Fabrication (Stage 2 of 2, tail gas from HCl absorber)

Inlet Gas Flow	15,112	acfm	Steady-State Temperature	140	°F
Inlet Wet-Bulb Temperature	140	°F	Outlet Gas Flow	15,110	acfm
Inlet HCl Concentration	0.6	ppm_v	TDS in Blowdown	0.1%	
Inlet CO_2 Concentration	415	ppm_v	HTU_{HCl}	0.86	ft
Liquid Recirculation Rate	100	gpm	NTU_{HCl}	9.28	
Blowdown Rate	0.1	gpm	Outlet HCl Concentration	0.00006	ppm_v
Make-up Water Temperature	70	°F	HCl Removal Efficiency	99.99%	
Atmospheric Pressure	28.82	in.Hg	Pressure Gradient	0.16	in.WC/ft
Inlet Static Pressure	-5	in.WC	Packing Pressure Drop	1.6	in.WC
pH in Sump	7.5		Liquid Holdup	1.8%	
Make-up NaOH Concentration	25%		Packing Volume	238	ft^3
Tower Diameter	5.5	ft	Liquid Residence Time	20	sec
Packing Height	10.0	ft	NaOH Usage	0.048	lb/h
Safety Factor	1.25		=	0.018	gal/h
Packing Type	Q-PAC		=	0.0003	gpm
Demister Type	No.2 NUPAC (1.5 ft)		Demister Pressure Drop	0.7	in.WC

Inlet Gas Flow	12,690	scfm	Cross-Section Area	23.8	ft^2
=	32.8	lbmol/min	Gas Molecular Weight	29	lb/lbmol
HCl Removed	0.00002	lbmol/min	Inlet Gas Density	0.063	lb/ft^3
=	0.0007	lb/min	Liquid Density	8.35	lb/gal
=	0.009	mol/min	Inlet Gas Velocity	636	ft/min
CO_2 Removed	7.27E-08	lbmol/min	Outlet Gas Velocity	636	ft/min
blowdown	6.0	gal/h	Gas Loading	2,402	$lb/h\text{-}ft^2$
=	0.379	L/min	Liquid Loading	2,109	$lb/h\text{-}ft^2$
$[Cl^-]$	0.024	mol/L	=	4.2	gpm/ft^2
$[CO_2]+[HCO_3^-]+[CO_3^=]$	8.71E-05	mol/L	$[H^+]$	3.16E-08	mol/L
$[CO_2]$	6.04E-06	mol/L	T	333	K
$[HCO_3^-]$	8.10E-05	mol/L	P_T	0.95	atm
$[CO_3^=]$	1.11E-07	mol/L	K_w	1.03E-13	mol^2/L^2
$[Na^+]$	2.39E-02	mol/L	CO_2 K_1	4.24E-07	mol/L
NaCl	1.4	g/L	CO_2 K_2	4.33E-11	mol/L
$NaHCO_3$	0.0	g/L		HCl	CO_2
Na_2CO_3	0.0	g/L	H (atm/mole fraction)	n/a	3,183
free NaOH	0.000	g/L	y_1 (ppm_v)	0.6	415.0
Total Dissolved Solids	1.4	g/L	y_2 (ppm_v)	0.0	415.0
Blowdown Density	1.00	g/mL	Removal Efficiency	99.99%	0.001%
$NaHCO_3$ Saturation Index	-5.6		y_1^* (ppm_v)	0	364.1
Na_2CO_3 Saturation Index	-11.0		y_2^* (ppm_v)	0	363.7
NaCl Saturation Index	-4.7		$(y\text{-}y^*)_{lm}$ (ppm_v)	0.07	51
Heat of Reaction	1.13E+00	Btu/min	NTU	9.28	0.68
Sensible Heat	5.84E+01	Btu/min	HTU (ft)	0.86	11.8
Evaporation	-0.003	lbmol/min	NCG Flow	26.0	lbmol/min
Satd. $y_{1,H2O}$	20.7%		Make-up NaOH Density	1.27	g/mL
=	0.261	mol_{H2O}/mol_{NCG}	Caustic reacting with HCl	99.6%	of total
$y_{2,H2O}$	20.7%		Alkali Exhaustion per Pass	22%	

Stack Gas Exhaust Flow Rate	scfm	12,690
Stack Gas Exhaust Flow Rate	m3/hour	21,560

	MW	ppb	ug/m3	g/hour	lb/hour	lb/year	MT/year
HCL (Uncontrolled)	36.46	20,000	29,824	643	1.42	12,418	
HCL (Stage 1)	36.46	600	895	19.3	0.04	373	
HCL (Stage 2)	36.46	0.06	0.09	1.93E-03	4.25E-06	0.037	
CO2	44.01	415,000	747,004	1.61E+04	3.55E+01	311,037	141

APPENDIX C

MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM – PENCCO IRON SALTS MANUFACUTRING FACILITY (AP-23-0167)

Mitigation Measure	Monitoring Agency	Implementation Schedule	Sign-off
AIR QUALITY			
Mitigation Measure AQ-1: The applicant shall implement the following during construction of the Project: • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material off site shall be covered. • 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 is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 miles per hour. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph. • All trucks and equipment, including their tires, shall be washed off prior to leaving the site. • Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted wood chips, mulch, or gravel. • A publicly visible sign shall be posted with the telephone number and the person to contact the City regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.	City of Pittsburg Community Development Department	During construction activities	
Mitigation Measure AQ-2: The applicant shall implement the following during construction of the Project: • All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall utilize diesel engines that are USEPA certified "Tier 4 final" emission standards for particulate matter. Prior to the issuance of any demolition/construction permits, the construction contractor shall submit specifications of the equipment to be used during construction and the city of Pittsburg shall confirm this requirement is met. • Equipment such as air compressors, concrete/industrial saws, forklifts, light stands, manlifts, pumps, and welders shall be electric or alternative-fueled (i.e., non-diesel), where feasible. Pole power shall be utilized at the earliest feasible point in time and shall be used to the maximum extent feasible in lieu of generators.	City of Pittsburg Community Development Department	During construction activities	

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