

Appendix D

**Air Quality and Greenhouse Gas
Emissions (Environmental
Science Associates,
November 2021)**

PERMANENTE CREEK RESTORATION PLAN

Air Quality and Greenhouse Gas Emissions Technical Report
File No. PLN17-22580

Prepared for
County of Santa Clara
Department of Planning and Development

February 2023



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EXECUTIVE SUMMARY

In 2012, the County of Santa Clara (County) prepared the Lehigh Permanente Quarry Reclamation Plan Amendment Environmental Impact Report (2012 EIR), which included consideration of Lehigh Southwest Cement Company (Lehigh)'s 2011 Creek Restoration Plan. The 2012 EIR described and analyzed the associated environmental effects as direct and indirect impacts of the project then under consideration. Since 2012, the proposed creek restoration activities have been further developed and refined. The further developed and refined plan is called the Permanente Creek Restoration Plan (PCRP or Project).

On the behalf of the County, Environmental Science Associates (ESA) has conducted this analysis of potential impacts associated with air quality and greenhouse gas (GHG) emissions that would result from implementation of the PCRP. This analysis was prepared for the County to inform its consideration of the Grading Approval that would be required for Lehigh to implement the PCRP.

This technical report documents details of the air quality analysis, including analysis associated with criteria air pollutants and health risks associated with toxic air contaminants (TAC), as well as analysis of GHG emissions to support the County's environmental impact analysis for the PCRP as required by the California Environmental Quality Act (CEQA) and its implementing regulations (CEQA Guidelines).

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CHAPTER 1

Introduction

1.1 Project Context and Overview

In March 2011, Lehigh Southwest Cement Company (Lehigh) proposed the Permanente Creek Long-term Restoration Plan (2011 Creek Restoration Plan). The 2011 Creek Restoration Plan focused on the long-term removal of structures in and adjacent to the creek and the restoration of the creek's riparian zone. Some of the activities that would occur under the 2011 Creek Restoration Plan overlapped with the activities analyzed in the 2012 Lehigh Permanente Quarry Reclamation Plan Amendment Environmental Impact Report prepared by the County of Santa Clara (County) (2012 EIR). Where that was true, the 2012 EIR described and analyzed the associated environmental effects as direct and indirect impacts of the project then under consideration. Since 2012, the proposed creek restoration activities have been further developed and refined, in part, to fulfill the requirements set forth in an Amended Consent Decree between the Sierra Club and Lehigh Southwest Cement Company and Hanson Permanente Cement, Inc. lodged February 22, 2019 (the Consent Decree). The further developed and refined plan is called the Permanente Creek Restoration Plan (PCRP or Project).

The PCRP would restore and modify specific segments of Permanente Creek located within and outside of the existing reclamation plan boundary for the Lehigh Permanente Quarry. The PCRP would also modify the creek restoration work to occur in the seven subareas collectively referred to in the 2012 EIR as the Permanente Creek Restoration Area (PCRA) and supplements that work. The PCRP would require Grading Approval from the County to authorize activities proposed outside Lehigh's existing reclamation plan boundary. Because only minor additions or changes would be necessary to make the 2012 EIR adequately apply to the PCRP, the County is preparing a Supplemental Environmental Impact Report (SEIR) for the PCRP pursuant to the California Environmental Quality Act (CEQA).

1.2 Emissions Analysis for the County's SEIR

This Air Quality and Greenhouse Gas Emissions Technical Study has been prepared to inform the County's consideration of the PCRP's air quality and greenhouse gas (GHG) impacts in its SEIR. The study describes the existing environmental and regulatory setting noting any changes that have occurred subsequent to the certification of the 2012 EIR, and quantitatively evaluates the PCRP's air pollutant and GHG emissions that were not evaluated in the 2012 EIR.

Pursuant to CEQA Guidelines Section 15163, the County’s SEIR will focus on the information necessary to analyze the project modifications, changed circumstances, or new information that triggered the need for additional environmental review. Therefore, this technical report evaluates air quality and GHG emissions to determine whether they would have the potential for significant direct, indirect, and/or cumulative environmental effects that are new or substantially more severe compared with the project analyzed in the 2012 EIR.

The 2012 EIR evaluated impacts of Permanente Creek restoration within the reclamation plan boundary specifically within seven subareas called the Permanente Creek Restoration Area (PCRA) for mapping and illustrative purposes. The PCRCP uses different nomenclature following the convention established in the Consent Decree: rather than referring to “subareas,” the PCRCP refers to segments of the creek as “reaches.” The PCRA subareas and PCRCP reaches are illustrated in Figure 2-1. As shown in the figure, some of the disturbance area within the PCRA that was evaluated in the 2012 EIR overlaps with the newly defined PCRCP reaches. Given the similar scope of activities proposed in the PCRA disturbance areas evaluated in the 2012 EIR relative to the scope of activities described for the PCRCP in those locations, the emissions-generating activities within the proposed PCRCP where overlaps exist with the analyses in the PCRA 2012 EIR were not reevaluated as part of this assessment.

Emissions are estimated for the activities of each proposed PCRCP phase and then scaled based on the percentage of PCRA area overlap associated with the 2012 EIR’s assessed regions. These scaling values, referred to as Emissions Applicability Factors, are determined for each PCRCP phase. **Table 1-1** provides the area of each PCRCP reach, the area of each reach without overlap in the PCRA 2012 EIR, the percent of emissions determined to be evaluated in the 2012 EIR, and the Emission Applicability Factors. Refer to Exhibit A for additional information about these factors.

**TABLE 1-1
EMISSIONS APPLICABILITY FACTORS**

PCRCP Phase	Acres		Percent Emissions Evaluated in 2012 EIR	Percent Emissions Evaluated for SEIR
	PCRCP Outside of 2012 Disturbance Area	PCRCP Creek Reach Area		
Concrete Channel	0.66	0.66	0%	100%
Rock Pile Area	12.42	13.93	11%	89%
Channel Widening	12.24	13.93	11%	89%
Old Crusher	0.00	<0.01	100%	0%
Material Removal	3.15	15.68	80%	20%

SOURCE: See Exhibit A.

CHAPTER 2

Criteria Pollutants and Health Risk Assessment Analysis

2.1 Environmental Setting

This section describes the environmental and regulatory setting of the area where the PCRCP would be implemented (the Project site) and surrounding area with respect to air quality, including criteria air pollutants (CAPs) toxic air contaminants (TACs), and odors. An analysis of potential impacts to air resources stemming from the Project is also provided, including identification of the appropriate CEQA baseline, a review and summary of the criteria used for determining the significance of environmental impacts, and an analysis of potential impacts relevant to PCRCP implementation. 2012 EIR mitigation measures are also provided, as relevant, to reduce the intensity of potential impacts associated with the PCRCP. For a discussion of potential impacts associated with greenhouse gas (GHG) emissions, please refer to Chapter 3, Greenhouse Gas Emissions Technical Report.

2.1.1 Introduction

Criteria Air Pollutants

The U.S. Environmental Protection Agency (U.S. EPA) has identified certain air pollutants that are a threat to public health and welfare. These pollutants are called “criteria” air pollutants (CAPs) because standards have been established for each of them to meet specific public health and welfare criteria (see Section 2.3, *Regulatory Setting*, below). The CAPs were described in Section 4.3 of the Draft 2012 EIR are supplemented with the health-related information provided below.

Ozone

Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections in humans. It can also cause substantial damage to vegetation and other materials, when present in sufficiently high atmospheric concentrations. Ozone is not emitted directly into the atmosphere. Instead, it is a secondary air pollutant that is produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NO_x). ROG and NO_x are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately 3 hours.

Ozone is a regional air pollutant because it is not emitted directly by sources but is formed downwind from sources of ROG and NO_x under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds like ozone.

Ozone can cause the muscles in the airways to constrict, potentially leading to wheezing and shortness of breath (U.S. EPA 2021a). Ozone can make it more difficult to breathe deeply and vigorously; cause shortness of breath and pain when taking a deep breath; cause coughing and sore or scratchy throat; inflame and damage the airways; aggravate lung diseases such as asthma, emphysema, and chronic bronchitis; increase the frequency of asthma attacks; and make the lungs more susceptible to infection (U.S. EPA 2021a). Long-term exposure to ozone is linked to aggravation of asthma and is likely to be one of many causes of asthma development, and long-term exposures to higher concentrations of ozone may also be linked to permanent lung damage, such as abnormal lung development in children (U.S. EPA 2021a). Inhalation of ozone causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms, and exposure to ozone can reduce the volume of air that the lungs breathe in and cause shortness of breath (California Air Resources Board [CARB] 2021).

People most at risk from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers (U.S. EPA 2022). Children are at greatest risk from exposure to ozone because their lungs are still developing and they are more likely to be active outdoors when ozone levels are high, which increases their exposure (U.S. EPA 2021a).

Nitrogen Oxides

Nitrogen dioxide (NO₂) is an air quality pollutant of concern because it acts as a respiratory irritant. NO₂ is a major component of the group of gaseous nitrogen compounds commonly referred to as NO_x. A precursor to ozone formation, NO_x is produced by fuel combustion in motor vehicles, industrial stationary sources (such as refineries, power plants, and chemical manufacturing facilities), ships, aircraft, and rail transit. Typically, NO_x emitted from fuel combustion is in the form of nitric oxide (NO) and NO₂, with the vast majority (95 percent) of the NO_x emissions being comprised of NO. NO is converted to NO₂ in the atmosphere when it reacts with ozone or undergoes photochemical reactions. Short-term exposures to NO₂ can potentially aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing, or difficulty breathing), hospital admissions, and visits to emergency rooms, while longer exposures to elevated concentrations of NO₂ may contribute to the development of asthma and potentially increase susceptibility to respiratory infections (U.S. EPA 2021b).

Carbon Monoxide

Carbon monoxide (CO) is a non-reactive pollutant that is a product of incomplete combustion; it is mostly associated with emissions from motor vehicle traffic. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO

emission rates at low air temperatures. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced levels of oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia.

Particulate Matter

Particulate matter less than 10 microns in diameter (PM₁₀) and particulate matter less than 2.5 microns in diameter (PM_{2.5}) represent fractions of particulate matter that can be inhaled into air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. According to a study prepared by CARB, exposure to ambient PM_{2.5}, particularly diesel particulate matter (DPM), can be associated with approximately 14,000 to 24,000 premature annual deaths per year statewide (CARB 2010). Particulate matter also can damage materials and reduce visibility.

Toxic Air Contaminants

TACs are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer-causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes over 200 compounds, including DPM emissions from diesel-fueled engines (CARB 2021).

The main TAC of concern for the PCRP is DPM from off-road diesel equipment and on-road diesel vehicles, in addition to some trace metals found in fugitive dust in disturbance areas and on paved and unpaved roads.

2.1.2 Regional Topography, Meteorology, and Climate

The *General Climate and Meteorology* discussion presented in Section 4.3.1.1 of the 2012 EIR remains relevant and accurate; nonetheless, additional details are provided below. The PCRP would occur in the western foothills of Santa Clara County near the southern end of Santa Clara Valley (Valley), which is oriented northwest-southeast and bounded by the Santa Cruz Mountains to the west, the Diablo Range to the east, the San Francisco Bay to the north and the convergence of the Gabilan Range and the Diablo Range to the south. The climate includes warm, dry summers and cool winters with modest rainfall (Bay Area Air Quality Management District [BAAQMD] 2019). Approximately 10 miles to the east-northeast of the Project area is the City of San Jose, where average maximum and minimum winter (i.e., January) temperatures of 58 degrees Fahrenheit (°F) and 41°F, respectively, while average summer (i.e., July) maximum and minimum temperatures are 82°F and 56°F, respectively. Total precipitation in the area averages 15 inches per year, with most

precipitation occurring from November through April (Western Regional Climate Center [WRCC] 2021).

As a result of the Valley's northwest-southeast axis, wind patterns in the Valley include north-northwesterly sea breeze typically developing during the daytime with stronger winds in the spring and summer (BAAQMD 2019). Based on data from January 2015 through December 2015 from the San José Station, winds blow from the southwest most of the time. Specifically, the winds from the southwest direction comprise about 36 percent of all hourly wind directions. The station rarely experienced winds at speeds greater than 13 mph (WRCC 2016).

Air pollution in Santa Clara County can be high because of the large population base and extent of mobile sources in the area. Ozone is the primary pollutant of concern in the summer and PM_{2.5} is the primary pollutant of concern in the winter. Ozone frequently forms on hot summer days when the prevailing seasonal northerly winds carry ozone precursors southward across the county, causing health standards to be exceeded. The high population density, wood smoke, industrial and freeway traffic, and poor wintertime air circulation caused by extensive hills to the east and west that block wind flow into the region can cause many exceedances of PM_{2.5} during the winter months.

2.1.3 Existing Air Quality

BAAQMD's regional monitoring network measures the ambient concentrations of CAPs. Monitoring on the Project site has not been completed; however, existing levels of air quality at the Project site can be inferred from ambient air quality measurements conducted by BAAQMD at its closest air quality monitoring stations to the Project site, which are the Jackson Street San Jose Monitoring Station (approximately 11 miles to the east-northeast) and the University Avenue Los Gatos Monitoring Station (approximately 9 miles southeast). The San Jose station monitors ozone, PM₁₀, PM_{2.5}, and NO₂ and the Los Gatos station monitors ozone. **Table 2-1** shows a 3-year (2019 through 2021) summary of the most up-to-date available data monitored at the San Jose monitoring station. The data are compared to the California Ambient Air Quality Standards (state standards) and National Ambient Air Quality Standards (national standards). The data are similar to those disclosed in the 2012 EIR, with the exception of relatively high PM₁₀ and PM_{2.5} concentrations experienced in 2020, which were likely a result of large wildfires that occurred in northern California that year (BAAQMD 2020).

As shown in Table 2-1, the state 1-hour ozone and federal 8-hour ozone standards were exceeded one to four times each year during the 3-year study period. The 24-hour state PM₁₀ standard was exceeded four times in 2019 and ten times in 2020, with no exceedances in 2021. There were no exceedances of the national 24-hour or state annual average PM₁₀ standards recorded during the 3-year study period, but there was insufficient data available for 2020 relative to state annual average. The PM_{2.5} 24-hour national standard was exceeded 12 times in 2020 and once in 2021, with no exceedances in 2019. The PM_{2.5} annual average concentration did not exceed the state standard during the 3-year study period. There were no exceedances of the NO₂ standards during the 3-year study period.

**TABLE 2-1
AIR QUALITY DATA SUMMARY (2019–2021) FOR THE PROJECT AREA**

Pollutant	Standard	Monitoring Data by Year		
		2019	2020	2021
Ozone				
Highest State 1-Hour Average (ppm)	0.09 ppm	0.095	0.106	0.098
Days over State Standard		1	1	3
Highest National 8-Hour Average (ppm)	0.070 ppm	0.081	0.085	0.084
Days over National Standard		2	2	4
Respirable Particulate Matter (PM₁₀)				
Highest State 24-Hour Average (µg/m ³) Highest 24-hour average, µg/m ³	50 µg/m ³	77.1	137.1	45.1
Measured Days over State Standard		4	10	0
Measured Days over National Standard	150 µg/m ³	0	0	0
State Annual Average (µg/m ³)	20 µg/m ³	19.1	*	20.1
Fine Particulate Matter (PM_{2.5})				
Highest National 24-Hour Average (µg/m ³) Highest 24-hour average, µg/m ³	35 µg/m ³	27.6	120.5	38.1
Measured Days over National Standard		0	12	1
State Annual Average (µg/m ³)	12 µg/m ³	9.1	11.5	8.9
Nitrogen Dioxide (NO₂)				
Highest National Hourly Average (ppm) Highest 24-hour average, µg/m ³	0.100 ppm	0.060	0.052	0.048
Measured Days over National Standard		0	0	0

NOTES:

Measurements are from the Jackson Street Monitoring Station in San José.

ppm = Parts per million

µg/m³ = Micrograms per cubic meter

* = There was insufficient data available to determine the value.

SOURCE: CARB 2022

2.1.4 Sensitive Receptors

For the purposes of this air quality analysis, sensitive receptors are defined as facilities and land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals, and daycare centers. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions sources, and/or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because these sensitive individuals may be present at a residence. In addition, the

majority of each 24-hour period tends to be spent by individuals in and around the residence, leading to greater exposure durations of the location's ambient air quality concentrations.

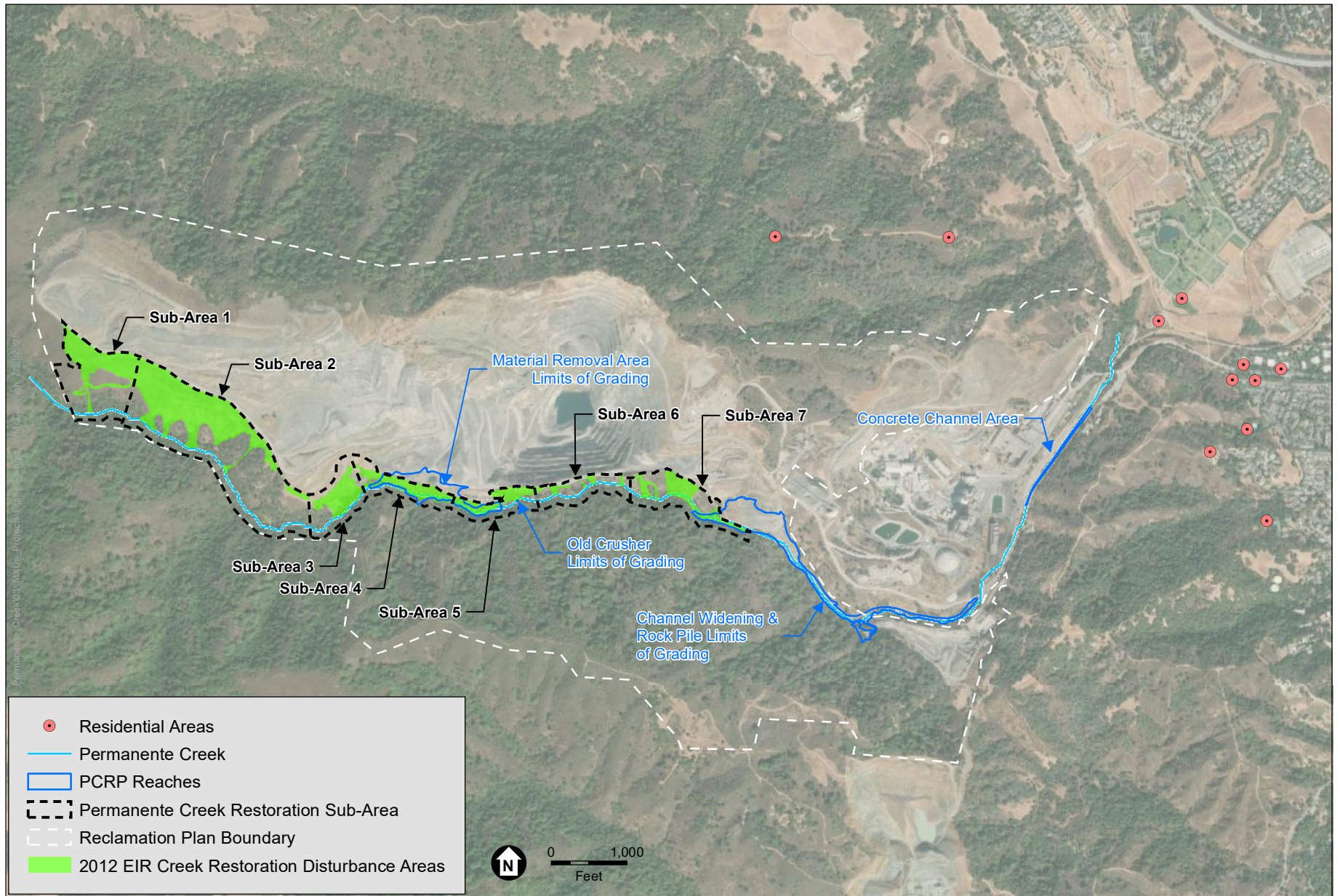
The description of sensitive residential land uses in the vicinity of the Project site presented in Draft 2012 EIR Section 4.3.1.1 remains accurate with one exception. The 2012 EIR identified the caretaker's residence associated with the Historical Society that is located approximately 700 feet east of the East Materials Storage Area (EMSA) on the north side of Permanente Road as the closest residence. The Applicant has recently clarified that this residence would not serve as a dwelling during implementation of the PCRCP. The next closest residences are approximately 2,000 feet to the east, south of Permanente Road. Residential areas in the vicinity of the Project site are shown in **Figure 2-1**.

2.2 Regulatory Setting

Established federal, state, and regional regulations provide the framework for analyzing and controlling air pollutant emissions and thus general air quality. The U.S. EPA is responsible for implementing the programs established under the federal Clean Air Act (CAA), such as establishing and reviewing the federal ambient air quality standards and reviewing State Implementation Plans (SIPs), described further below. However, the U.S. EPA has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented. In California, CARB is responsible for establishing and reviewing the state ambient air quality standards, developing and managing the California SIP, securing approval of this plan from the U.S. EPA, and identifying TACs. CARB also regulates mobile emissions sources in California, such as construction equipment, trucks, and automobiles, and oversees the activities of air quality management districts, which are organized at the county or regional level. An air quality management district is primarily responsible for regulating stationary emission sources at facilities within its geographic areas, and for preparing the air quality plans that are required under the federal CAA and the 1988 California CAA. The BAAQMD is the regional agency with regulatory authority over emission sources in the nine county San Francisco Bay Area.

Federal and State Ambient Air Quality Standards

Regulation of criteria air pollutants is achieved through both national and state ambient air quality standards and emissions limits for individual sources. Regulations implementing the federal CAA and its subsequent amendments established national ambient air quality standards (national standards) for six criteria pollutants: ozone, NO₂, SO₂, PM₁₀, PM_{2.5}, and lead. California has adopted more stringent state standards for most of the criteria air pollutants. In addition, California has established state ambient air quality standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Because of the meteorological conditions in the state, there is considerable difference between some of state and federal standards in California, as shown in **Table 2-2**. As noted in the table, the federal primary standard for 8-hour ozone is now 0.070 parts per million (ppm), which is a reduction from the 0.075 ppm standard that was in place at the time of the 2012 EIR. All other ambient air quality standards are essentially the same as they were at the time of the 2012 EIR.



SOURCE: Benchmark Resources, 2021

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Figure 2-1
Residential Areas in the Vicinity of the Project Site

**TABLE 2-2
 AMBIENT AIR QUALITY STANDARDS AND SAN FRANCISCO BAY AREA AIR BASIN ATTAINMENT STATUS**

Pollutant	Averaging Time	State Standard	SF Air Basin Attainment Status for State Standard	National Primary Standard	SF Air Basin Attainment Status for National Standard
Ozone	8 hour	0.070 ppm	Non-Attainment	0.070 ppm	Non-Attainment
	1 hour	0.090 ppm	Non-Attainment	---	---
Carbon Monoxide	8 hour	9.0 ppm	Attainment	9 ppm	Attainment
	1 Hour	20 ppm	Attainment	35 ppm	Attainment
Nitrogen Dioxide	Annual Average	0.030 ppm	---	0.053 ppm	Attainment
	1 Hour	0.18 ppm	Attainment	0.100 ppm	Unclassified
Sulfur Dioxide	Annual Average	---	---	0.030 ppm	Attainment
	24 Hour	0.04 ppm	Attainment	0.14 ppm	Attainment
	1 Hour	0.25 ppm	Attainment	0.075 ppm	Attainment
Respirable Particulate Matter (PM10)	Annual Arithmetic Mean	20 µg/m ³	Non-Attainment	---	---
	24 hour	50 µg/m ³	Non-Attainment	150 µg/m ³	Unclassified
Fine Particulate Matter (PM2.5)	Annual Arithmetic Mean	12 µg/m ³	Non-Attainment	15 µg/m ³	Unclassified/Attainment
	24 hour	---	---	35 µg/m ³	Non-Attainment
Sulfates	24 hour	25 µg/m ³	Attainment	---	---
Lead	Calendar Quarter	---	---	1.5 µg/m ³	Attainment
	30 Day Average	1.5 µg/m ³	---	---	Attainment
	3-month Rolling Average	---	---	0.15 µg/m ³	Attainment
Hydrogen Sulfide	1 hour	0.03 ppm	Unclassified	---	---
Vinyl Chloride	24 hour	0.010 ppm	No information available	---	---
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	Unclassified	---	---

NOTES: ppm = parts per million; µg/m³ = micrograms per cubic meter

SOURCE: BAAQMD, 2017a.

The ambient air quality standards are intended to protect public health and welfare, and they incorporate a margin of safety. They are designed to protect those segments of the public most susceptible to respiratory distress, known as sensitive receptors, including people with asthma, 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.

Attainment Status

Under amendments to the federal CAA, U.S. EPA has classified air basins or portions thereof as either “attainment” or “non-attainment” for each criteria air pollutant, based on whether the national standards have been achieved. The California CAA, which is patterned after the federal CAA, also requires areas to be designated as “attainment” or “non-attainment” for the state standards. Thus, areas in California have two sets of attainment / non-attainment designations: one set with respect to the national standards and one set with respect to the state standards. Table 2-2 shows the attainment status of the San Francisco Bay Area Air Basin (SFBAAB) with respect to the national and state ambient air quality standards for different criteria pollutants. The attainment status relative to the state and federal ambient air quality standards are essentially the same as they were at the time of the 2012 EIR.

Federal

The U.S. EPA is responsible for implementing programs established by the federal CAA, such as establishing and reviewing the national standards for the following air pollutants: CO, ozone, NO₂, SO₂, PM₁₀, PM_{2.5}, and lead. The federal CAA also requires the U.S. EPA to designate areas (counties or air basins) as attainment or non-attainment with respect to each CAP, depending on whether the area meets the national standards. If an area is designated as non-attainment, it does not meet the national standards and is required to create and maintain a SIP for achieving compliance with the national standards. Conformity to the SIP is defined under the 1990 CAA amendments as conformity with the plan’s purpose in eliminating or reducing the severity and number of violations of the national standards and achieving expeditious attainment of these standards. Air quality within the SFBAAB is classified as nonattainment for the federal 8-hour ozone and 24-hour PM_{2.5} standards.

State

CARB is the agency delegated responsibility for preparing and submitting the SIP to the U.S. EPA. CARB also oversees air quality policies in California and has established state standards for NO₂, CO, SO₂, PM₁₀, PM_{2.5}, ozone, lead, sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. The state standards are at least as stringent (and typically more stringent) than the national standards.

The California CAA was approved in 1988. It requires each local air district in the state to prepare an air quality plan to achieve compliance with the state standards. Similar to the U.S. EPA, the CARB designates counties or air basins in California as attainment or non-attainment with respect to the state standards. Air quality within the basin does not attain the state standards for ozone, PM₁₀, and PM_{2.5}.

Toxic Air Contaminants

TACs are airborne substances that can cause short-term (acute) or long-term (chronic or carcinogenic, i.e., cancer-causing) adverse human health effects, either injury or illness. TACs include both organic and inorganic chemical substances. They may be emitted by a variety of common sources: gasoline stations, automobiles, diesel engines, dry cleaners, industrial operations, and painting operations. TACs are regulated differently than criteria air pollutants at both the federal and State levels. At the federal level, these pollutants are called “hazardous air pollutants.” California’s list of TACs identifies 243 substances and the federal list of hazardous air pollutants identifies 189 substances.

CARB identified DPM as a TAC in 1998, based primarily on evidence demonstrating cancer effects in humans. The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic and carcinogenic. Mobile sources such as trucks and buses are among the primary sources of diesel emissions, and DPM concentrations are higher near heavily traveled highways and rail lines with diesel locomotive operations. The risk from DPM, as determined by CARB, declined from 750 in one million in 1990 to 540 in one million in 2000, but still remains the highest risk TAC to California’s ambient air quality. In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. Further regulations of diesel emissions by CARB include the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-road Diesel Vehicle Regulation, and the New Off-road Compression Ignition Diesel Engines and Equipment Program. All of these regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment.

In 2004, CARB adopted a measure to limit idling of diesel-fueled commercial motor vehicles. Heavy-duty diesel vehicles with a Gross Vehicle Weight Rating of 10,000 pounds or heavier are prohibited from idling for more than 5 minutes within California’s borders. Exceptions to the rule apply for certain circumstances.

Local Regulations

Bay Area Air Quality Management District

The Project is within the jurisdiction of the BAAQMD, which is the local agency delegated responsibility for preparing, adopting, and implementing stationary and area air emission control measures and standards. Specifically, BAAQMD conducts monitoring, evaluation, and education programs; implements control measures to reduce emissions from stationary sources; issues permits to operate for stationary sources and inspects emissions sources; and enforces air quality regulations.

BAAQMD Air Quality Plans

The 1977 CAA 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 to achieve all standards specified in the CAA. The California CAA also requires development of air quality plans and strategies to meet state air

quality standards in areas designated as non-attainment (except for areas designated as non-attainment for the state PM standards). Maintenance plans are required for attainment areas that had previously been designated non-attainment to ensure continued attainment of the standards. (As indicated above, air quality plans developed to meet federal requirements are referred to as SIPs).

For state air quality planning purposes, the SFBAAB is classified as a serious non-attainment area for the 1-hour ozone standard. The “serious” classification triggers various plan submittal requirements and transportation performance standards. One such requirement is that the BAAQMD update the Clean Air Plan every 3 years to reflect progress in meeting the air quality standards and to incorporate new information regarding the feasibility of control measures and new emission inventory data. BAAQMD also must review the Bay Area’s record of progress in implementing previous measures. The plans for the SFBAAB are prepared with the cooperation of the Metropolitan Transportation Commission (MTC), and the Association of Bay Area Governments (ABAG). After the certification of the 2012 EIR, the BAAQMD adopted the most recent revision to the Clean Air Plan - the 2017 Bay Area Clean Air Plan (2017 CAP) (BAAQMD 2017b). The 2017 CAP serves to:

- Protect the environment and offer a long-range vision of how the Bay Area could function in a year 2050 post-carbon economy and describes a control strategy that the BAAQMD will implement over the next 3 to 5 years.
- Update the most recent BAAQMD ozone plan, the 2010 Clean Air Plan, to fulfill State ozone planning requirements. The 2017 control strategy includes all feasible measures to reduce emissions of ROG and NO_x and reduce transport of ozone and its precursors to neighboring air basins.
- Build upon and enhance the BAAQMD’s efforts to reduce emissions of fine particulate matter and toxic air contaminants.

Under the California CAA, the BAAQMD is required to develop an air quality attainment plan for non-attainment criteria pollutants within the air district. The Project is subject to BAAQMD rules and regulations governing CAPs, TACs, and odorous compounds even though permits may not be required.

Santa Clara County General Plan

The 2012 EIR identifies air quality policies associated with the Health and Safety Chapter of the *Santa Clara County General Plan, 1995-2010* (Santa Clara County 1994), that apply to the Reclamation Plan Amendment. The Santa Clara County General Plan, 1995-2010 remains current.

2.3 CEQA Baseline Emissions

The CEQA baseline for this air quality analysis includes the baseline conditions identified in the 2012 EIR, the 2012 EIR Reclamation Plan Amendment emissions, as well as the approved 2012 EIR Mitigation Measures that are conditions of the 2012 Reclamation Plan approval.

2.3.1 2012 EIR Baseline

The baseline for the 2012 EIR reflects the physical environmental conditions in the vicinity of the PCRCP as they existed on June 29, 2007, when the County published a NOP in connection with the Applicant's first proposed amendment of the 1985 Reclamation Plan. As described in Draft 2012 EIR Section 4.3.2, documentation pertinent to the air quality analysis establishes that, by 2007, some materials storage already had occurred in the EMSA. The 2012 Reclamation Plan Amendment involved an existing quarry operation characterized by fluctuating production and associated air emissions, in response to continually changing market demands. The baseline air pollutant emissions identified in the 2012 EIR air quality analysis are based on an average over the 11-year period from January 1, 2000, to December 31, 2010, which includes periods of relatively high production as well as relatively low production at the Permanente Quarry in response to changing market demands. The daily and annual 2012 EIR baseline criteria pollutant emissions are shown in **Tables 2-3 and 2-4**.

The 2012 EIR included a health risk assessment and modeling of PM_{2.5} concentrations. The 2012 EIR baseline health risk impacts are shown in **Tables 2-5 and 2-6**. The 2012 EIR baseline PM_{2.5} concentrations are shown in **Table 2-7**.

2.3.2 2012 Emissions and Analysis

Criteria Pollutants

Baseline and maximum daily 2012 Reclamation Plan Amendment emissions and the net change in emissions compared to the BAAQMD daily thresholds (as disclosed in the 2012 EIR) are summarized in **Table 2-3**. Baseline and maximum annual 2012 Reclamation Plan Amendment emissions and the net change in emissions compared to the BAAQMD annual thresholds are summarized in **Table 2-4**. The 2012 Reclamation Plan Amendment emissions identified in the tables below include emissions associated with creek restoration activities proposed within the disturbance areas of the PCRAs. As shown in Tables 2-3 and 2-4, the Reclamation Plan Amendment (including the proposed creek restoration work) was found to result in net emissions reductions for all nonattainment air pollutants (PM₁₀, PM_{2.5}, and the ozone precursors NO_x and ROG), and therefore was disclosed to not exceed the BAAQMD daily or annual thresholds of significance. Reclamation Plan Amendment-related criteria pollutant emissions were found to result in a less-than-significant impact.

TABLE 2-3
2012 RECLAMATION PLAN AMENDMENT MAXIMUM DAILY CRITERIA AIR POLLUTANT EMISSIONS (POUNDS/DAY)

Scenario	PM ₁₀	PM _{2.5}	NO _x	ROG	CO	SO ₂
Baseline Emissions	5,411	893	2,440	167	2,641	27
Reclamation Plan Amendment Emissions	1,970	311	2,124	123	1,891	32
Maximum Daily Incremental Change	(3,441)	(582)	(316)	(44)	(750)	5
BAAQMD Threshold	82	54	54	54	None	None
Significant Impact (Yes or No)?	No	No	No	No	--	--

SOURCE: Draft 2012 EIR Section 4.3.5.1, Table 4.3-3.

TABLE 2-4
2012 RECLAMATION PLAN AMENDMENT MAXIMUM ANNUAL CRITERIA AIR POLLUTANT EMISSIONS (TONS/
YEAR)

Scenario	PM ₁₀	PM _{2.5}	NO _x	ROG	CO	SO ₂
Baseline Emissions	754	122	324	24	288	1
Reclamation Plan Amendment Emissions	291	45	301	18	222	3
Maximum Annual Incremental Change	(463)	(77)	(23)	(6)	(66)	2
BAAQMD Threshold	15	10	10	10	None	None
Significant Impact (Yes or No)?	No	No	No	No	--	--

SOURCE: Draft 2012 EIR Section 4.3.5.1, Table 4.3-4.

Toxic Air Contaminants

A health risk assessment (HRA) was conducted to analyze potential health risks from emissions associated with the 2012 Reclamation Plan Amendment. This HRA was part of the impact analysis in the 2012 EIR. The HRA was conducted in accordance with technical guidelines developed by federal, state, and regional agencies, including U.S. EPA, *Haul Road Workgroup Recommendations Final Report* (U.S. EPA 2011) Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxics Hot Spots Program Guidance* (OEHHA 2003), and the BAAQMD's *Health Risk Screening Analysis Guidelines* (BAAQMD 2005).

The reported health risks for that analysis were associated with off-road equipment used for the quarrying and overburden activities. On-road haul truck activity included in the HRA analysis consists of trucks hauling material to customers from the rock plant and trucks associated with importing mulched green waste to mix with the West Materials Storage Area (WMSA) material as it is used to backfill the Quarry pit in Phase 2. A summary of the 2012 EIR HRA impacts are shown in **Tables 2-5** and **2-6**.

TABLE 2-5
2012 RECLAMATION PLAN AMENDMENT HEALTH RISK SUMMARY

Risk	MEIR - Child Resident South of Stevens Creek Blvd. (per million)	Caretaker's Residence (per million)
Cancer – Draft 2012 EIR	8.98	8.61
BAAQMD significance thresholds	10	10
Exceeds threshold?	No	No

SOURCE: Draft 2012 EIR Section 4.3.5.1, Tables 4.3-8 and 4.3-11.

MEIR: maximally exposed individual receptor.

TABLE 2-6
2012 RECLAMATION PLAN AMENDMENT ESTIMATED CHRONIC AND ACUTE HAZARD IMPACTS

Health Risk	Location	2012 EIR Value ^a
Chronic	MEIR	0.13
Acute	MEIR	0.52

SOURCE: Draft 2012 EIR Section 4.3.5.1, Tables 4.3-10 and 4.3-13.

^aThe chronic and acute risk values from the 2012 EIR were reported for the caretaker's house.

PM_{2.5} Concentrations

As shown in **Table 2-7**, the 2012 EIR determined that the maximum incremental annual PM_{2.5} exhaust concentration at the maximally exposed individual receptor (MEIR) at the caretaker's residence would be 0.40 µg/m³ without mitigation, which would exceed the BAAQMD threshold of 0.3 µg/m³. The 2012 EIR included Mitigation Measures 4.3-3a and 4.3-3b (see Section 2.3.3, below), which would reduce PM_{2.5} concentrations to below the threshold.

TABLE 2-7
ESTIMATED PM_{2.5} CONCENTRATION IMPACTS (µG/M³)

Location	Annual Average Concentration
2012 EIR Value ^a (Unmitigated)	0.40
2012 EIR Value ^a (Mitigated)	0.29

SOURCE: Draft 2012 EIR, Section 4.3.5.1, Table 4.3-15.

^aThe PM_{2.5} concentration from the Draft 2012 EIR is reported for the caretaker's residence.

2.3.3 2012 EIR Mitigation Measures

As stated above in Section 2.3.2, no significant impacts associated with criteria pollutants were identified related to the 2012 Reclamation Plan Amendment, so the 2012 EIR did not identify mitigation measures to reduce criteria pollutant emissions. However, the 2012 EIR did identify a significant health risk impact, which was mitigated to a less-than-significant level with implementation of Mitigation Measures 4.3-3a through 4.3-3c. Mitigation Measures 4.3-3a through 4.3-3c are described below followed by a summary of how the mitigation measures are considered for the County's PCRPs SEIR relative to the CEQA baseline.

Mitigation Measure 4.3-3a. Within 90 days of [Reclamation Plan Amendment] Project approval, the Applicant shall submit to the County and the BAAQMD a comprehensive inventory of all Project-related off-road construction equipment expected to be used during any portion of the Project. The inventory shall include the horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted annually throughout the duration of the Project.

SEIR Baseline Consideration

The Applicant would be required to implement 2012 EIR Mitigation Measure 4.3-3a as defined above during the implementation of the proposed PCRP.

Mitigation Measure 4.3-3b. Within 90 days of [Reclamation Plan Amendment] Project approval, the Applicant shall provide a plan for approval by the County and the BAAQMD demonstrating that Project-related off-road equipment would achieve a Project (EMSA-specific) wide fleet-average 35 percent reduction in DPM emissions compared to the proposed fleet in the ALG report (ALG 2011a) during Phase 1 of the Project. The plan shall be updated and submitted annually throughout the duration of the Project. Options for reducing emissions may include, but are not limited to:

- Using newer model engines (e.g., engines that meet U.S. EPA interim/final Tier 4 engine standards);
- Use of Retrofit Emission Control Devices that consist of diesel oxidation catalysts, diesel particulate filters, or similar retrofit equipment control technology verified by CARB (<http://www.arb.ca.gov/diesel/verdev/verdev.htm>);
- Use of low-emissions diesel products or alternative fuels;
- Use of alternative material handling options (e.g., conveyor system); or
- Other options as may become commercially available and verifiable.

SEIR Baseline Consideration

The Applicant has stated that all off-road equipment and vehicles that would be associated with PCRP implementation would be equipped with engines that meet U.S. EPA Tier 4 Final emissions standards (Lehigh 2021). Therefore, the PCRP would be implemented consistent with the requirements of 2012 EIR Mitigation Measure 4.3-3a. Alternatively, the 2012 EIR states that in lieu of Mitigation Measures 4.3-3a and 4.3-3b, the Applicant may implement 2012 EIR Mitigation Measure 4.3-3c (see below).

Mitigation Measure 4.3-3c. The Applicant shall submit evidence establishing to the County's satisfaction that there are legally-binding restrictions precluding any occupancy of the caretaker's residence during the entirety of Phase 1 of the [Reclamation Plan Amendment] Project.

SEIR Baseline Consideration

To date, no evidence has been submitted to the County indicating that there are legally-binding restrictions precluding any occupancy of the caretaker's residence; however, the Applicant has stated that the residence would not serve as a dwelling during implementation of the PCRP (Lehigh 2021).

2.4 Analysis, Impacts, and Mitigation

2.4.1 Significance Criteria

Subsequent to the 2012 EIR, the air quality criteria in the CEQA Guidelines Appendix G environmental checklist have been revised as shown below, resulting in the combination of two

of the criteria in place in 2012 (related to violations of air quality standards and cumulatively considerable net increases in non-attainment pollutants) into one criterion (second bullet below). For relevant purposes, the revised criteria shown below are consistent with and comparable to the criteria used in the 2012 EIR evaluation:

- a) Conflict with or obstruct implementation of an 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- c) Expose sensitive receptors to substantial pollutant concentrations; or
- d) Result in other emissions (such as those leading odors) adversely affecting a substantial number of people.

2.4.2 Methodology

Air Quality Plans

Before approving a project where an air quality plan consistency determination is required, BAAQMD recommends that the lead agency analyze the project with respect to the following questions:

- (1) does the project support the primary goals of the 2017 CAP?
- (2) does the project include applicable control measures from the 2017 CAP?
- (3) does the project disrupt or hinder implementation of any 2017 CAP control measures?

If the first two questions are concluded in the affirmative and the third question is concluded in the negative, then the BAAQMD considers the project consistent with the 2017 Clean Air Plan.

Any project that would not support the 2017 Clean Air Plan goals would not be considered consistent with the 2017 CAP. Whether the PCRCP supports these goals will be determined by whether it is consistent with CEQA thresholds of significance. If the CEQA thresholds of significance are exceeded, then the Project would not be considered to support the 2017 Clean Air Plan goals, and the associated impact would be significant.

Criteria Pollutants

The analysis of criteria pollutants considers the impacts related to emissions of non-attainment pollutants and their precursors. Although ozone would not be directly emitted by PCRCP-related construction equipment, the ozone precursors ROG and NO_x would be emitted and are therefore, along with particulate matter, the focus of the impact assessment. Given that ozone formation occurs through a complex photo-chemical reaction between NO_x and ROG in the atmosphere with the presence of sunlight, the impacts of ozone are typically considered on a basin-wide or regional basis instead of a localized basis. The ambient air quality standards for ozone are concentration-based; they are not based on the mass of their precursor pollutants (i.e., NO_x and

ROG). It is not necessarily the mass of precursor pollutants that causes human health effects, as opposed to the concentration of resulting ozone or particulate matter. Because of the complexity of ozone formation and the non-linear relationship of ozone concentration with its precursor gases and given the state of environmental science modeling in use at this time, it is infeasible to convert specific emissions levels of NO_x or ROG emitted in a particular area to a particular concentration of ozone in that area. Meteorology, the presence of sunlight, seasonal impacts, and other complex chemical factors all combine to determine the ultimate concentration and location of ozone (South Coast Air Quality Management District [SCAQMD] 2014, San Joaquin Valley Air Pollution Control District [SJVAPCD] 2014).

Significance Thresholds

The 2012 EIR relied on the methods and significance thresholds identified in the BAAQMD's 2010 CEQA Guidelines as supported by Appendix D of the BAAQMD Guidelines and BAAQMD's Revised Draft Options and Justification Report. After certification of the 2012 EIR, the BAAQMD updated its CEQA Guidelines in 2017 to address the California Supreme Court's opinion in *California Building Industry Association v. BAAQMD* (2015) 62 Cal.4th 369 (BAAQMD 2017c). However, as it pertains to projects such as the PCRCP that do not include proposed residences, the methods and significance criteria identified in the 2017 BAAQMD CEQA Guidelines are essentially the same as those identified in the 2010 BAAQMD CEQA Guidelines. The analysis presented in this report uses the same general methodologies as those used for the 2012 EIR.

Impacts related to the PCRCP contributing to an existing or projected air quality violation and whether the PCRCP would result in a cumulatively considerable net increase of any criteria pollutant or associated precursors are judged by comparing estimated direct and indirect PCRCP exhaust emissions to the significance thresholds, which for short-term construction emissions are 54 pounds per day for ROG, NO_x, and PM_{2.5}; and 82 pounds per day for PM₁₀. Only the exhaust portion of PM_{2.5} and PM₁₀ emissions are compared against the construction thresholds. The BAAQMD considers implementation of its recommended mitigation measures for fugitive dust sufficient to ensure that construction-related fugitive dust is reduced to a less-than-significant level. Therefore, the BAAQMD recommends that analyses focus on implementation of dust control measures rather than comparing estimated levels of fugitive dust to a quantitative significance threshold. For long-term operations, the BAAQMD has two sets of significance thresholds, including daily thresholds that are the same as the construction thresholds, and annual thresholds that are 10 tons per year for ROG, NO_x, and PM_{2.5}; and 15 tons per year for PM₁₀. These significance thresholds are the same as those used in the 2012 EIR to evaluate impacts associated with criteria pollutants. Although emissions resulting from implementation of the PCRCP would be considered short-term construction emissions and appropriately evaluated with respect to the BAAQMD construction significance thresholds, for purposes of continuity with the 2012 EIR, this analysis compares the PCRCP emissions to the average daily significance thresholds as well as the annual significance thresholds.

Emission Estimates

Project-related air quality impacts typically fall into two categories: short-term impacts due to construction or decommissioning, and long-term impacts due to project operations. The PCRCP would

generate air pollutant emissions on a short-term basis during construction over a period of approximately 6 years; there would be no long-term sustained operational impacts. During construction (short-term), the PCRP would generate ozone precursors and affect local particulate concentrations primarily due to fugitive dust and diesel exhaust emissions from construction equipment.

The Applicant provided the County with scheduling assumptions for the five main phases that would be associated with the PCRP (Lehigh 2023). The Project is proposed to occur 5 days a week, approximately 132 workdays per year during the dry seasons (i.e., April 15 through October 15) of 2024 through 2029. Below is a list of the PCRP phases by anticipated year of construction:

- 2024: Concrete Channel/Channel Widening (Phase 1);
- 2025: Rock Pile Area (Phase 1);
- 2026: Rock Pile Area (Phase 2);
- 2027: Channel Widening (Phase 2) and Old Crusher Foundation;
- 2028: Material Removal Area (Phase 1); and
- 2029: Material Removal Area (Phase 2).

The Applicant provided a list of 12 types of off-road construction equipment that would be used during PCRP construction and indicated that each piece of equipment would be compliant with U.S. EPA Tier 4 non-road engine standards and would operate between 4 and 8 hours each workday for a specified number of days per year based on the applicable construction phase (Lehigh 2023, 2021). The average hours per day each equipment type would operate for a given construction phase were estimated by dividing the total operation hours per year by the estimated number of workdays for that phase. Engine horsepower ratings for the equipment types were estimated by ESA based on specification sheets found online for the provided equipment types or CalEEMod model defaults were used. **Table 2-8** lists the assumed engine horsepower ratings, types, and amounts of construction equipment that would be required to complete each phase of the PCRP.

With regard to on-road vehicle trips that would be associated with the PCRP, the Applicant has indicated that each construction phase would require between 8 and 16 worker one-way daily trips; 216 vendor truck one-way daily trips except for the Concrete Channel and Older Crusher Foundation phases, which would require 25 vendor truck one-way daily trips; and as described in Table 2-8, 2 to 1,481 haul truck one-way total trips (Lehigh 2023). For the purposes of the on-road emissions estimates, it is assumed that worker vehicles would be light duty trucks (i.e., LDT1), vendor trucks would be a mix of heavy-duty trucks (i.e., LHDT1, LHDT2, and MHDT), and haul trucks would be heavy-heavy duty trucks (i.e., HHDT).

**TABLE 2-8
PCRPP OFF-ROAD EQUIPMENT AND HAUL TRUCK TRIP REQUIREMENTS**

Equipment/Haul Truck	Concrete Channel	Channel Widening	Rock Pile Area	Old Crusher	Material Removal
81 hp Clearing Saw	1	-	-	-	-
84 hp Generator	1	-	-	1	-
286 hp Caterpillar 350 Excavator	-	1	2	-	2
108 hp Caterpillar 313 Excavator	-	1	1	-	1
452 hp Caterpillar 740 (40-ton Truck)	-	2	4	-	4
393 hp Caterpillar 980 Loader	-	1	1	-	1
110 hp Caterpillar 299 (tracked skid steer loader)	-	2	1	-	1
402 hp Dump Truck	-	1	1	-	1
402 hp Hydroseeding Truck (1.5 k gal)	-	1	1	-	1
402 hp Water Truck (3,000 gallons)	-	1	1	-	1
347 hp Caterpillar D8 Bulldozer	-	1	1	-	1
Caterpillar Compactor CP56	-	-	1	-	-
Haul Truck Trips (one-way)	2	343	1,481	2	1,276

NOTE: hp = horsepower

SOURCE: Exhibit A.

Construction-related on-site exhaust emissions were estimated based on the assumptions described above using the California Emissions Estimator Model (CalEEMod) version 2020.4.0. To estimate on-road mobile exhaust emissions, CalEEMod version 2020.4.0 uses vehicle emission factors from CARB's EMFAC2017 model. However, CARB and U.S. EPA have adopted the EMFAC2021 version of the model. The proposed PCRPP's on-road vehicle exhaust emissions were estimated outside of CalEEMod using emissions factors for the vehicle types described above obtained from the EMFAC2021 model.

In addition, fugitive dust from bulldozing on the disturbance areas and travel on paved and unpaved roads were calculated using factors from U.S. EPA's AP-42, which is a compilation of emission factors for various industries and activities. Emission factors for grading equipment passes from Chapter 11 were used to estimate fugitive PM₁₀ and PM_{2.5} bulldozing emissions, and factors from Chapter 13 were used to estimate paved and unpaved road re-suspended PM₁₀ and PM_{2.5} (U.S. EPA 1998, 2006, and 2011). The 2012 EIR also reported metals sampled from overburden and road dust, which were speciated from the PM₁₀ fugitive calculations. This information was also used in the HRA for the PCRPP, as discussed below.

The modeled emissions for each construction phase of the PCRPP were multiplied by the percent of emissions to be evaluated for the given construction phase based on the proposed creek reach area outside of the previously evaluated 2012 EIR disturbance areas to allow for evaluation of the applicable emissions in the County's SEIR (see Section 1.1, *Emissions Analysis for the SEIR*).

Calculated emissions for the County's SEIR were then summed and added to the baseline emissions (see Section 2.3, *CEQA Baseline Emissions*) for comparison to BAAQMD's applicable regional significance thresholds and to determine if the PCRCP could cause a new or substantially more severe significant direct, indirect, and/or cumulative environmental effects compared with the project analyzed in the 2012 EIR. Detailed emissions assumptions and summaries, including the CalEEMod and EMFAC2021 assumptions and output, are included in Exhibit A.

As identified in the 2012 EIR, the Applicant has committed to the following fugitive dust emission reduction measures as part of the 2012 Reclamation Plan Amendment, which for purposes of this analysis are considered equivalent to the BAAQMD's basic measures for dust control:

- Water unpaved roads; and
- Water active areas consistent with a dust mitigation plan submitted by the Applicant to the BAAQMD in 2010.

Therefore, due to BAAQMD guidance, estimates of PCRCP fugitive dust-related PM₁₀ emissions have been estimated mainly for disclosure, but also for the purpose of estimating metals that could be entrained in the atmosphere with dust during construction for the HRA (see below).

Health Impacts

After certification of the 2012 EIR, the California Supreme Court published a decision in *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502 (known as the "Friant Ranch" case), which held that CEQA requires that a connection be drawn between potential project emissions and human health impacts. The Court found that while there will be some scientific limits to the analytical tools available to draw and quantify these connections, the EIR "must adequately explain what the agency does know and why, given existing scientific constraints, it cannot translate potential health impacts further" and that it did not "indicate the concentrations at which such pollutants would trigger identified symptoms." The Court concluded that "the public would have no idea of the health consequences that result when more pollutants are added to a nonattainment basin." The Court found that even if it were impossible to do more, the Friant Ranch EIR would have been found insufficient "because it failed to explain why it was not feasible to provide an analysis that connected the air quality effects to human health consequences."

Same as expressed in the amicus curiae brief submitted for the Friant Ranch case, the significance thresholds described above were set at emission levels tied to the region's attainment status. They are emission levels at which stationary pollution sources permitted by the BAAQMD must offset their emissions and CEQA projects must use feasible mitigations; they are not intended to be indicative of any localized human health impact that a project may have. Therefore, a PCRCP-related exceedance of the mass regional emissions threshold (e.g., pounds per day or tons per year NO_x thresholds) prior to mitigation from construction-related activities could indicate that the PCRCP could cause or contribute to the exposure of sensitive receptors to ground-level concentrations greater than health-protective levels.

Furthermore, available models today are designed to determine regional, population-wide health impacts, and cannot necessarily accurately quantify ozone-related health impacts caused by PCRCP-

related NO_x or VOCs emissions. Therefore, it is currently infeasible to connect NO_x emissions associated with a project of limited scope, such as the short-term PCRCP, to ozone-related health impacts.

The primary health concern with exposure to NO_x emissions is the secondary formation of ozone. As the amicus curiae briefs submitted by SCAQMD and SJVAPCD for the Friant Ranch case suggested, because of the complexity of ozone formation and given the state of environmental science modeling in use at this time, it is infeasible to determine whether, or the extent to which, a single project's precursor (i.e., NO_x and ROG) emissions would result in the formation of secondary ground-level ozone and the geographic and temporal distribution of such secondary formed emissions (SCAQMD 2014, SJVAPCD 2014). Meteorology, the presence of sunlight, seasonal impacts, and other complex chemical factors all combine to determine the ultimate concentration and location of ozone. Furthermore, available models today are designed to determine regional, population-wide health impacts, and cannot accurately quantify ozone-related health impacts caused by NO_x or ROG emissions from local level project of limited scope.

Community Health Risk Due to TACs

Impacts associated with the Project exposing sensitive receptors or the general public to substantial pollutant concentrations are evaluated by assessing the health risks posed by the placement of new sources of TAC emissions near existing sensitive receptors. Specifically, according to the BAAQMD, the Project would have a significant air quality impact if the construction phase would expose persons to substantial levels of TACs, such that the probability of contracting cancer exceeds 10 in one million, or if it would expose persons to pollutants such that a chronic Hazard Index of 1.0 would be exceeded. In addition, a significant impact would occur if the Project would result in an incremental increase in annual average concentrations of PM_{2.5} of more than 0.3 microgram per cubic meter (µg/m³) at a sensitive receptor location. (BAAQMD 2017c).

In addition, for assessing community risks and hazards relative to the criteria discussed above, the BAAQMD recommends use of a 1,000-foot radius around the project property boundary where the siting of a new source or receptor should be quantitatively assessed, considering both individual and nearby cumulative sources (i.e., proposed project plus existing and foreseeable future projects). For this analysis, the closest sensitive receptors were evaluated, even though they are located farther than 1,000 feet from where PCRCP activities would occur on site. Haul trucks and vendor trucks arriving and departing from the site are a source of TACs and would travel closer than 1,000 feet from sensitive receptors for brief periods of time along the truck route.

An HRA was conducted to evaluate the cancer risks and non-cancer health effects associated with exposure to TACs that would be emitted because of the PCRCP. TACs associated with the Project include various metals within fugitive dust (such as mercury and chromium), crystalline silica, and DPM. Cancer risks are evaluated based on assumed lifetime exposure to TACs over the expected lifespan of the Project. Non-cancer health risks evaluated include adverse health effects from both acute (highest 1-hour exposure) and chronic (average annual exposure). As recommended by BAAQMD, the HRA also calculated the annual average PM_{2.5} concentrations.

The HRA follows the protocols outlined by the BAAQMD, CARB, OEHHA, and U.S. EPA. Consistent with guidelines and recommendations from these agencies, the HRA evaluated the incremental increase in lifetime cancer risks and non-cancer chronic and acute health risk from exposure to TAC emissions. At the time of the 2012 EIR, the OEHHA *2003 Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* was the applicable guidance document for conducting HRAs (OEHHA 2003). Consistent with the 2012 EIR, this HRA assesses impacts from the PCRCP based on the 2003 OEHHA guidance. After the 2012 EIR was certified, OEHHA released the *2015 Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, which revised some of the exposure parameters, such as breathing rates and age sensitivity factors. The 2015 OEHHA guidance was not available nor was its release reasonably foreseeable at the time the 2012 EIR was certified. For information and disclosure purposes, this HRA presents the health risk values using the 2015 OEHHA Guidance.

Cancer risk is defined as the lifetime probability of developing cancer from exposure to carcinogenic substances. Cancer risks are expressed as the chances in one million of contracting cancer, for example, 10 cancer cases among one million people exposed. Non-cancer adverse health risks are measured against a hazard index, which is defined as the ratio of the predicted incremental exposure concentrations of the various non-carcinogens from the Project to published reference exposure levels (RELS) that can cause adverse chronic (long-term) and acute (short-term) health effects.

Emissions Sources

The emissions sources described below are associated with PCRCP work that would occur outside of the 2012 EIR PCRA disturbance areas, specifically related to the concrete channel, rock pile and channel widening area, and material removal area. These areas are described in Chapter 1, *Introduction*. These emissions sources were included in the HRA, as described below. The HRA calculations, including the emissions as calculated for the HRA, are included in Exhibit B.

DPM and PM_{2.5} Emissions from Off-road Equipment

Off-road diesel equipment would be used for the creek restoration and includes graders, loaders, excavators, and backhoes. DPM emissions from off-road equipment can lead to increased cancer and chronic, non-cancer health risks. Off-road equipment emissions were calculated using CalEEMod version 2020.4.0, which is a land use emissions model developed by CARB and California air districts. Emissions of exhaust PM₁₀ were assumed to be DPM. DPM can also increase PM_{2.5} concentrations (PM_{2.5} being a subset of PM₁₀) that can lead to adverse health effects, so these emissions were used to analyze PM_{2.5} concentrations.

DPM and PM_{2.5} Emissions from On-road Haul and Vendor Trucks

On-road diesel trucks modeled in the HRA include vendor trucks bringing materials to the site and haul trucks importing clean soil for PCRCP restoration activities. As with off-road diesel equipment, DPM emissions from on-road diesel trucks can lead to increased cancer and chronic, non-cancer health risks. Emissions of DPM and PM_{2.5} from on-road trucks were calculated using the CARB on-road emissions model EMFAC2021 and analyzed in the HRA for cancer and chronic health risks and PM_{2.5} concentrations.

Fugitive Dust Emissions and Metals

Fugitive dust would be generated during grading of creek restoration areas as part of PCRP implementation, plus from travel on paved and unpaved roads, due to re-suspended road dust.

Fugitive dust was included in the HRA because trace amounts of metals in the dust can pose cancer and non-cancer acute and chronic health effects. These metals were analyzed in samples taken for the 2012 EIR from overburden and unpaved road on site, and these metals fractions were used in this HRA (see Exhibit B). It was conservatively assumed that the same metals fraction on unpaved roads would be found on paved roads, which was incorporated in the HRA. Fugitive PM₁₀ emissions were calculated using U.S. EPA AP-42 factors from Chapter 11 for grading and Chapter 13 for paved and unpaved road travel (U.S. EPA 1998, 2006, and 2011), as described above.

The PCRP would incorporate fugitive dust control measures with watering of disturbance areas and unpaved roads. Watering of disturbance areas would achieve a control efficiency of approximately 50 percent, and watering of unpaved roads would achieve a control efficiency of approximately 75 percent as stated in 2012 EIR Exhibit B.

Sensitive Receptors

Cancer, chronic, and acute risks were modeled at residences, which are considered sensitive receptors, in the vicinity of the PCRA disturbance areas. The closest residential area is approximately 3,000 to 3,500 feet to the east of the proposed PCRP disturbance areas, south of Stevens Creek Boulevard and west of South Foothill Boulevard. These receptors were modeled for cancer, chronic, and acute health risks.

In addition, the HRA modeled risks for the Historical Society caretaker's residence. A site caretaker once resided here, but the residence is no longer occupied and is not anticipated to be occupied during implementation of the PCRP. This analysis evaluates risk impacts at this location for informational purposes and for comparison to the 2012 EIR.

Non-residential receptors, where the public could have access on a short-term basis, were modeled for acute impacts from metals in fugitive dust. These areas include the PG&E trail approximately 3,400 feet north of the site and the Gate of Heaven cemetery to the northeast of the site.

HRA Methodology

Cancer risks are a function of exposure duration, exposure frequency, breathing rate, and age sensitivity factors, which are age-dependent. These factors together with the TAC concentration represent an inhalation dose. Chronic and acute impacts, however, do not factor in exposure duration, exposure frequency, breathing rate, and age sensitivity factors; thus, there is no difference for chronic and acute impacts between a child and adult exposed to the same pollutant concentration.

The HRA was conducted in the following three steps:

- Estimate the TAC emissions to which sensitive receptors are exposed (described above);

- Calculate the ground-level TAC concentrations of these emissions at the sensitive receptors, using a dispersion model; and
- Calculate the health risks from the modeled TAC concentrations using OEHHA toxicity and dose factors.

The concentrations were calculated using the U.S. EPA AERMOD dispersion model (version 19191) with 5 years of measured meteorology from the Moffett Field station in Mountain View. Concentrations were modeled at specific locations where residences are located and were defined by a Cartesian coordinate system. In addition, some locations where the public could have access on a short-term basis were modeled for acute impacts.

DPM, PM_{2.5}, and metals in PM₁₀ fugitive dust would be emitted from the PCRP disturbance areas, plus paved and unpaved roads on site. The HRA included a portion of distance on Stevens Creek Boulevard approaching the property, as there are many residences (sensitive receptors) present along this road that trucks would travel past on their way to and from the site.

TAC emissions from PCRP-proposed creek restoration activities were modeled as polygon area sources, and TAC emissions from paved and unpaved roads were modeled as line area sources, as described in more detail below.

PCRП disturbance areas:

- Polygon area source of 1.5 acres for concrete channel, 3.4 acres for rock pile and channel widening, and 3.9 acres for material removal;
- Release height of 5 meters for construction equipment exhaust;
- Initial vertical dimension of 1.4 meters;
- Receptor flagpole height of 1.5 meters (ground-level receptor at breathing height); and
- Emissions occurring only between the hours of 8 a.m. and 6 p.m.¹;

Paved and unpaved roads:

- Line-area source of 1.6 miles paved from Stevens Creek Boulevard and Stonebridge/Ridgeway Drive to the western end of the on-site paved road, and line area source of 1 mile unpaved to the material removal area;
- Release height of 2.55 meters for haul and vendor truck exhaust and re-suspended road dust;
- Initial vertical dimension of 2.37 meters;
- Emissions occurring only between the hours of 8 a.m. and 6 p.m.; and
- Receptor flagpole height of 1.5 meters (ground-level receptor at breathing height).

The sources were modeled with an emission rate of one gram per second to obtain a dispersion factor (unit concentration) at each receptor location. The DPM and PM_{2.5} concentrations were calculated using the dispersion factors and the DPM and PM_{2.5} emissions described above.

¹ Construction hours would be limited to typical active workday hours for construction projects.

As discussed previously, for information and disclosure purposes, this HRA presents the health risk values using the 2015 OEHHA guidance. The 2015 OEHHA guidance for HRAs provides age sensitivity factors to apply to the cancer risk calculation. These factors reflect the increased sensitivity of children to the effects of carcinogens. To estimate the worst-case lifetime excess cancer risk, the resident at each receptor was assumed to be in the child age group below 2 years of age. In addition, children have higher breathing rates, which increases the intake of pollutants. The modeling exposure assumptions conservatively assume a child in the age group from birth to 2 years of age, which is the age group most susceptible to DPM emissions from a cancer risk perspective, could be living at the residence east of the Project site.

Figure 2-1 shows the locations of residents (sensitive receptors) closest to the Project site. Modeling assumptions, equations, the cancer risk calculations, and an illustration of the Project sites that were modeled as polygon area sources, in addition to the on-site roadways that were modeled as line area sources, are included in Exhibit B.

Odors

Impacts related to the PCRCP creating or exposing a substantial number of people to objectionable odors is evaluated based on the potential for the PCRCP to generate odors that could affect nearby sensitive receptors.

2.4.3 Impact Analysis

a) Implementation of the proposed project could conflict with or obstruct the implementation of an applicable air quality plan.

The most recently adopted air quality plan for the PCRCP area is the 2017 CAP. The 2017 CAP focuses on two closely-related goals: protecting public health and protecting the climate. The 2017 CAP is an update to the BAAQMD's 2010 Ozone Strategy to comply with State air quality planning requirements. The 2017 CAP also serves as a multi-pollutant air quality plan to protect public health and the climate. The 2017 CAP control strategy includes revised, updated, and new measures in the three control measure categories: stationary sources, transportation, and buildings and energy.

Any project that would not support the 2017 Clean Air Plan goals would not be considered consistent with the 2017 CAP. The BAAQMD-recommended measure for determining PCRCP support of these goals is consistency with CEQA thresholds of significance. If the CEQA thresholds of significance are exceeded, then the PCRCP would not be considered to support the 2017 Clean Air Plan goals, and the associated impact would be significant. As presented in the Impact AQ-1 discussions below, the PCRCP would not exceed the BAAQMD significance thresholds; therefore, the PCRCP would be considered to support the primary goals of the 2017 CAP, and there would be no impact.

2017 CAP Transportation Control Measure TR22, *Construction, Freight, and Farming Equipment*, appears to be the only measure applicable to the PCRCP. It provides incentives for the early deployment of electric, Tier 3, and Tier 4 off-road engines used in construction, freight, and framing equipment. Lack of consistency with these incentives could be considered a significant

impact associated with conflict or obstruction of implementation of the applicable air quality plan. The Applicant has committed to using off-road diesel construction equipment compliant with U.S. EPA Tier 4 Final engine standards. Therefore, the PCRCP would be consistent with the intent of Transportation Measure TR22, and there would be no impact.

In summary and same as disclosed in the 2012 EIR, the PCRCP would support the primary goals of the 2017 CAP, it would include all applicable 2017 CAP control measures, and it would not disrupt or hinder implementation of any 2017 CAP control measures. Therefore, the PCRCP would not conflict with or obstruct implementation of the 2017 CAP and there would be no impact.

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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)

Impact AQ-1: The PCRCP would generate emissions of criteria air pollutants which could contribute to existing nonattainment conditions and further degrade air quality. (Less than Significant Impact)

As presented in the *Emissions Estimates* discussion in Section 2.4.2.2, *Criteria Pollutants*, the criteria pollutant emissions that would be generated associated with the PCRCP would be short-term and periodic in nature and would occur during the dry seasons of years 2024 through 2029. Below are summaries of the PCRCP emissions estimate results in terms of total PCRCP emissions estimates, PCRCP emissions estimates that were not considered in the 2012 EIR and are applicable to the County’s SEIR, and PCRCP emission estimates compared to the SEIR CEQA baseline.

PCRCP Total Emissions Estimates

Table 2-9 presents a summary of the PCRCP total average pounds per day emissions estimates, prior to the use of applicability factors to remove the emissions considered to have already been evaluated in the 2012 EIR.

**TABLE 2-9
PCRCP TOTAL AVERAGE DAILY CRITERIA POLLUTANT EMISSIONS (POUNDS/DAY)**

Scenario	PM ₁₀	PM _{2.5}	NO _x	ROG	CO	SO ₂
Concrete Channel (2024)	41.32	5.50	0.72	0.10	0.67	0.00
Channel Widening - Phase 1 (2024)	173.72	23.68	7.18	0.75	12.06	0.05
Rock Pile Area - Phase 1 (2025)	186.97	25.07	9.54	1.27	31.29	0.09
Rock Pile Area - Phase 2 (2026)	186.96	25.07	9.06	1.24	31.17	0.09
Channel Widening - Phase 2 (2027)	173.70	23.67	5.81	0.67	11.74	0.05
Old Crusher (2028)	38.21	3.87	0.52	0.08	0.60	0.00
Material Removal - Phase 1 (2028)	366.33	42.91	7.80	1.11	27.46	0.09
Material Removal - Phase 2 (2029)	367.61	43.03	7.49	1.09	27.24	0.09

SOURCE: Exhibit A.

Table 2-10 presents a summary of the PCRPP total annual tons emissions estimates, prior to the use of applicability factors to remove the emissions considered to have already been evaluated in the 2012 EIR.

**TABLE 2-10
PCRPP TOTAL ANNUAL CRITERIA POLLUTANT EMISSIONS (TONS/YEAR)**

Scenario	PM ₁₀	PM _{2.5}	NO _x	ROG	CO	SO ₂
Concrete Channel (2024)	1.90	0.28	0.05	0.01	0.04	0.00
Channel Widening - Phase 1 (2024)	10.72	1.61	0.47	0.05	0.80	0.00
Rock Pile Area - Phase 1 (2025)	11.64	1.75	0.63	0.08	2.06	0.01
Rock Pile Area - Phase 2 (2026)	11.63	1.77	0.60	0.08	2.06	0.01
Channel Widening - Phase 2 (2027)	11.12	1.66	0.38	0.04	0.78	0.00
Old Crusher (2028)	1.67	0.25	0.03	0.01	0.04	0.00
Material Removal - Phase 1 (2028)	23.21	2.90	0.51	0.07	1.79	0.01
Material Removal - Phase 2 (2029)	23.38	2.92	0.49	0.07	1.78	0.01

SOURCE: Exhibit A.

PCRPP Emission Estimates Applicable to the County's SEIR

Table 2-11 presents a summary of the PCRPP average pounds per day emissions estimates that are applicable to the County's environmental review of the PCRPP. The emissions are estimated using the identified applicability factors applied to the total PCRPP emissions presented in Table 2-9.

**TABLE 2-11
PCRPP AVERAGE DAILY CRITERIA POLLUTANT EMISSIONS APPLICABLE TO SEIR (POUNDS/DAY)**

Scenario	% Covered in SIER	PM ₁₀	PM _{2.5}	NO _x	ROG	CO	SO ₂
Concrete Channel (2024)	100%	41.32	5.50	0.72	0.10	0.67	0.00
Channel Widening - Phase 1 (2024)	89%	154.88	21.12	6.40	0.67	10.75	0.04
Rock Pile Area - Phase 1 (2025)	89%	166.70	22.36	8.51	1.13	27.90	0.08
Rock Pile Area - Phase 2 (2026)	89%	166.70	22.35	8.08	1.11	27.79	0.08
Channel Widening - Phase 2 (2027)	89%	154.87	21.10	5.18	0.59	10.47	0.04
Old Crusher (2028)	0%	0.00	0.00	0.00	0.00	0.00	0.00
Material Removal - Phase 1 (2028)	20%	73.61	8.62	1.57	0.22	5.52	0.02
Material Removal - Phase 2 (2029)	20%	73.87	8.65	1.51	0.22	5.47	0.02

SOURCE Exhibit A.

Table 2-12 presents a summary of the PCRPP tons per year emissions estimates that are applicable to the County's environmental review of the PCRPP. The emissions are estimated using the identified applicability factors applied to the total PCRPP emissions presented in Table 2-10.

TABLE 2-12
PCRP ANNUAL CRITERIA POLLUTANT EMISSIONS APPLICABLE TO SEIR (TONS/YEAR)

Scenario	% Covered in SIER	PM ₁₀	PM _{2.5}	NO _x	ROG	CO	SO ₂
Concrete Channel (2024)	100%	1.90	0.28	0.05	0.01	0.04	0.00
Channel Widening - Phase 1 (2024)	89%	9.55	1.44	0.42	0.04	0.71	0.00
Rock Pile Area - Phase 1 (2025)	89%	10.37	1.56	0.56	0.07	1.84	0.01
Rock Pile Area - Phase 2 (2026)	89%	10.37	1.58	0.53	0.07	1.83	0.01
Channel Widening - Phase 2 (2027)	89%	9.92	1.48	0.34	0.04	0.69	0.00
Old Crusher (2028)	0%	0.00	0.00	0.00	0.00	0.00	0.00
Material Removal - Phase 1 (2028)	20%	4.66	0.58	0.10	0.01	0.36	0.00
Material Removal - Phase 2 (2029)	20%	4.70	0.59	0.10	0.01	0.36	0.00

SOURCE: Exhibit A.

For the PCRP emissions estimates to be compared to the CEQA baseline, the total emissions generated for each year must be combined. **Table 2-13** presents a summary of the PCRP combined average pounds per day emissions estimates that are applicable to the County's environmental review of the PCRP for each year.

TABLE 2-13
PCRP COMBINED AVERAGE DAILY CRITERIA POLLUTANT EMISSIONS APPLICABLE TO SEIR (POUNDS/DAY)

Scenario	PM ₁₀	PM _{2.5}	NO _x	ROG	CO	SO ₂
Concrete Channel and Channel Widening - Phase 1 (2024)	196.20	26.62	7.12	0.77	11.42	0.05
Rock Pile Area - Phase 1 (2025)	166.70	22.36	8.51	1.13	27.90	0.08
Rock Pile Area - Phase 2 (2026)	166.70	22.35	8.08	1.11	27.79	0.08
Channel Widening - Phase 2 (2027)	154.87	21.10	5.18	0.59	10.47	0.04
Old Crusher and Material Removal - Phase 1 (2028)	73.61	8.62	1.57	0.22	5.52	0.02
Material Removal - Phase 2 (2029)	73.87	8.65	1.51	0.22	5.47	0.02

SOURCE Exhibit A.

Table 2-14 presents a summary of the PCRP combined tons per year emissions estimates that are applicable to the County's environmental review of the PCRP.

TABLE 2-14
PCRP COMBINED ANNUAL CRITERIA POLLUTANT EMISSIONS APPLICABLE TO SEIR (TONS/YEAR)

Scenario	PM ₁₀	PM _{2.5}	NO _x	ROG	CO	SO ₂
Concrete Channel and Channel Widening - Phase 1 (2024)	11.45	1.71	0.47	0.05	0.75	0.00
Rock Pile Area - Phase 1 (2025)	10.37	1.56	0.56	0.07	1.84	0.01
Rock Pile Area - Phase 2 (2026)	10.37	1.58	0.53	0.07	1.83	0.01
Channel Widening - Phase 2 (2027)	9.92	1.48	0.34	0.04	0.69	0.00
Old Crusher and Material Removal - Phase 1 (2028)	4.66	0.58	0.10	0.01	0.36	0.00
Material Removal - Phase 2 (2029)	4.70	0.59	0.10	0.01	0.36	0.00

SOURCE: Exhibit A.

PCRP Emission Estimates Compared to CEQA Baseline

Table 2-15 presents the net maximum pounds per day emissions relative to the PCRP emissions that were not evaluated in the 2012 EIR combined with the 2012 Reclamation Plan Amendment maximum daily incremental change emissions disclosed in 2012 EIR. As shown in the table, the PCRP maximum daily emissions are not substantial and reflect a slight increase in net emissions compared to the maximum daily incremental change emissions disclosed in the 2012 EIR.

TABLE 2-15
MAXIMUM DAILY NET CRITERIA POLLUTANT EMISSIONS FOR SEIR CONSIDERATION (POUNDS/DAY)

Scenario	PM ₁₀	PM _{2.5}	NO _x	ROG	CO	SO ₂
Reclamation Plan Amendment Maximum Daily Incremental Change Disclosed in 2012 EIR ^a	(3,441)	(582)	(316)	(44)	(750)	5
PCRP Maximum Daily Emissions not Evaluated in the 2012 EIR	196.20	26.62	8.51	1.13	27.90	0.08
Net Emissions	(3,245)	(555)	(307)	(43)	(722)	5
BAAQMD Threshold	82	54	54	54	None	None
Significant Impact (Yes or No)?	No	No	No	No	-- ^b	-- ^c

NOTES:

- Values in (parentheses) are net reductions for Reclamation Plan Amendment Project presented in the 2012 EIR minus baseline emissions.
- See Impact AQ-2 for a discussion of CO significance.
- The Bay Area is attainment for SO₂ standards so a CEQA threshold of significance has not been established by the BAAQMD.

SOURCE: Draft 2012 EIR Section 4.3.5.1, Table 4.3-3; Exhibit A.

Table 2-16 presents the net maximum tons per year emissions relative to the PCRP emissions that were not evaluated in the 2012 EIR combined with the 2012 Reclamation Plan Amendment maximum annual incremental change emissions disclosed in 2012 EIR. As shown in the table, the PCRP maximum annual emissions are not substantial and reflect only a slight increase in net emissions compared to the maximum annual incremental change emissions disclosed in the 2012 EIR.

TABLE 2-16
MAXIMUM ANNUAL NET CRITERIA POLLUTANT EMISSIONS FOR SEIR CONSIDERATION (TONS/YEAR)

Scenario	PM10	PM2.5	NO _x	ROG	CO	SO ₂
Reclamation Plan Amendment Maximum Daily Incremental Change Disclosed in 2012 EIR ^a	(463)	(77)	(23)	(6)	(66)	2
PCRP Maximum Annual Emissions (2023) not Evaluated in the 2012 EIR	11.45	1.71	0.56	0.07	1.84	0.01
Maximum Annual Incremental Change	(452)	(75)	(22)	(6)	(64)	2
BAAQMD Threshold	15	10	10	10	None	None
Significant Impact (Yes or No)?	No	No	No	No	-- ^c	-- ^d

NOTES:

- Values in (parentheses) are net reductions for Reclamation Plan Amendment Project presented in the 2012 EIR minus baseline emissions.
- See Impact AQ-2 for a discussion of CO significance.
- The Bay Area is attainment for SO₂ standards so a CEQA threshold of significance has not been established by the BAAQMD.

SOURCE: Draft 2012 EIR Section 4.3.5.1, Table 4.3-4; Exhibit A.

Impact Conclusion

As can be seen from the data in Tables 2-15 and 2-16, implementation of the PCRP would continue to result in net emissions reductions for all nonattainment air pollutants (PM₁₀, PM_{2.5}, and the ozone precursors NO_x and ROG), and therefore would not exceed the BAAQMD daily or annual thresholds of significance.

Same as identified in the County's 2012 EIR, this would be a less-than-significant impact and the PCRP would not have the potential to cause a new or more significant direct, indirect, and/or cumulative impacts relative to contributing to existing nonattainment conditions.

The significance of CO emissions from the Project is addressed in Impact AQ-2, below.

Impact AQ-2: PCRP-related traffic would generate localized CO emissions on roadways and at intersections in the PCRP vicinity. (Less than Significant Impact)

The 2017 BAAQMD CEQA Air Quality Guidelines recommends use of the same screening criteria for the evaluation of CO emissions on roadways and intersections as recommended in the 2012 Guidelines that were used in the 2012 EIR analysis. The recommended criteria are a project would result in a less-than-significant impact to localized CO concentrations if the following screening criteria are met:

- Project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.

3. The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

The PCRCP would result in the temporary generation of vehicle trips but would not exceed the standards included in the Santa Clara County Congestion Management Plan established by the Santa Clara Valley Transportation Authority (SCVTA). In regard to the second and third criteria, intersection traffic volumes (including external PCRCP traffic) would be substantially less than 44,000 and 24,000 vehicles per hour, respectively. The estimated increase in traffic volumes caused by reclamation-related traffic (a maximum of approximately 127 round trips per day) would not be substantial, nor would PCRCP traffic significantly disrupt daily traffic flow on area roadways.

Based on the BAAQMD's criteria, PCRCP-related traffic would not lead to violations of the CO standards and therefore, no further analysis is required for CO impacts of the PCRCP and same as disclosed in the 2012 EIR, the impact continues to be less than significant.

Impact AQ-3a: The PCRCP would expose sensitive receptors to increased levels of toxic air contaminants, which could lead to an increase in the risk of cancer. (*Less than Significant Impact*)

Cancer risks were modeled for activities that would emit DPM and metals, which include diesel equipment and fugitive dust containing metals at the PCRCP disturbance areas, as well as diesel trucks and fugitive dust containing metals on paved and unpaved roads. Cancer risk was calculated using the resulting DPM and metals concentrations modeled with AERMOD, along with equations and factors from the OEHHA 2003 *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2003; BAAQMD 2016). Cancer risk represents a cumulative exposure over the duration of the project.

Table 2-17 presents the modeled cancer risk of 0.51 in one million at the maximally exposed individual receptor (MEIR) location, which is a residence just south of Stevens Creek Boulevard, approximately 2,500 feet east of the Permanente Quarry entrance. This represents the cancer risk for the PCRCP duration from 2024 through 2029, as cancer risk is cumulative over the exposure duration.

The MEIR identified in the 2012 EIR was modeled at the caretaker's residence, and the second-highest cancer risk was modeled at a residence near Stevens Creek Boulevard. For the purposes of this analysis, this is assumed to be the same residence as this HRA's MEIR. Cancer risk values for the 2012 EIR and this HRA are shown for the caretaker's residence and the residence just south of Stevens Creek Boulevard.

As shown in **Table 2-17**, the incremental risk at the MEIR, when added to the value from the 2012 EIR, is below the BAAQMD CEQA threshold of 10 in one million. This is also true for the value

at the caretaker's residence. The majority of the cancer risk is due to DPM that would be generated from on-road diesel trucks traveling past neighborhoods close to Stevens Creek Boulevard.

TABLE 2-17
ESTIMATED CANCER RISK AT THE MEIR AND CARETAKER'S RESIDENCE

Risk	MEIR - Child Resident South of Stevens Creek Blvd. (per million)	Caretaker's Residence (per million)
Cancer - PCRCP	0.51	0.03
Cancer – Draft 2012 EIR	8.98	8.66
Combined Total	9.49	8.70
BAAQMD significance thresholds	10	10
Exceeds threshold?	No	No

SOURCE: 2012 EIR Section 4.3.5.1; Tables 4.3-11 and 4.3-12; Exhibit B.

For information and disclosure purposes, while the 2015 OEHHA guidance was not available nor was its release reasonably foreseeable at the time the 2012 EIR was certified, the health risk values based on the exposure parameters from the OEHHA 2015 *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015), are provided herein. Using the exposure parameters from the 2015 OEHHA guidance, the cancer risk value for the 2012 EIR would be approximately 12.34 in one million and the cancer risk value for the PCRCP would be approximately 0.78 in one million, for a total risk of approximately 13.12 in one million. The 2012 EIR risk was multiplied by a factor of 1.37 to adjust it to 2015 OEHHA exposure parameters. This factor was derived from breathing rate ratios from the 2015 OEHHA guidance to the 2003 OEHHA guidance. Based on the exposure parameters from the 2015 OEHHA guidance, the risk from the PCRCP on its own would neither cause a new significant impact nor result in a substantially greater significant impact than disclosed in the 2012 EIR.

Impact AQ-3b: The PCRCP would expose sensitive receptors to increased levels of toxic air contaminants, which could increase chronic and acute health risks. (*Less than Significant Impact*)

Chronic and acute, non-cancer health risks were evaluated based on emissions of pollutants with these health effects. DPM and some of the metals found in the fugitive dust at the PCRCP disturbance areas and in road dust result in chronic health effects. In addition, some of the metals result in acute (short-term) health effects, but DPM does not have a short-term, acute health risk effect. Acute impacts were modeled at residential receptors and at locations where the public could have access on a short-term basis. These receptors include the trails north of the Project site and the Gate of Heaven cemetery to the northeast of the Project site, discussed above.

Non-cancer adverse health risks, both for acute (short-term) and chronic (long-term) timeframes, are measured against a hazard index, which is defined as the ratio of the incremental exposure concentrations of the various non-carcinogens from the project to published reference exposure

levels (RELs) that can cause adverse health effects. The RELs are established by OEHHA based on epidemiological evidence. The ratio (referred to as the Hazard Quotient) of each substance with a non-carcinogenic effect that affects a certain organ system is added to produce an overall Hazard Index for that organ system. As a worst case, it was assumed that all of the toxic substances with established RELs would affect the same organ and the individual Hazard Quotients were summed to calculate an overall Hazard Index. If the Hazard Index exceeds 1.0, the potential health impact would be significant.

Table 2-18 presents the maximum chronic hazard index, plus the maximum acute hazard index. The maximum impact location for both the chronic and acute hazard indices is the MEIR located just south of Stevens Creek Boulevard. Both maximum chronic and acute hazard index values would occur based on activities in the years 2025 and 2029, respectively. As shown in **Table 2-18**, the maximum chronic and acute hazard indices for the PCRP combined with the 2012 EIR index values indicates that the impacts associated with the revised Reclamation Plan Amendment would continue to be less than significant, and there would be no new significant impact. The maximum acute hazard index would be due primarily to nickel (as a component in fugitive dust from the roadway).

TABLE 2-18
ESTIMATED CHRONIC AND ACUTE HAZARD IMPACTS

Health Risk	PCR Hazard Index	Location	Year	2012 EIR Value ^a
Chronic	0.01	MEIR	2025	0.13
Acute	0.06	MEIR	2029	0.52

NOTES:

a. The chronic and acute risk values from the 2012 EIR were reported for the caretaker's residence.

SOURCE: Draft 2012 EIR Section 4.3.5.1; Tables 4.3-13 and 4.3-14, Exhibit B.

Impact AQ-3c: The PCRP would increase exhaust emissions of PM_{2.5}, which could adversely affect human health. (*Less than Significant*)

An analysis was conducted to determine the maximum annual increase in PM_{2.5} exhaust concentrations for sensitive receptors in the vicinity of the PCRP. BAAQMD policy is to conduct this analysis for exhaust emissions only. Under the PCRP, the Applicant would continue to comply with its existing Fugitive Dust Control Plan (dated January 21, 2011).

As shown in **Table 2-19**, the maximum incremental annual PM_{2.5} concentration at the MEIR south of Stevens Creek Boulevard would be 0.001 µg/m³, which would be below the BAAQMD threshold of 0.3 µg/m³ and would therefore result in a less-than-significant impact. Therefore, implementation of the PCRP would not result in a new or more significant PM_{2.5} concentration impact than was disclosed in the 2012 EIR.

TABLE 2-19
ESTIMATED PM_{2.5} CONCENTRATION IMPACTS (µg/m³)

Location	Annual Average Concentration
PCRPP MEIR – South of Stevens Creek Boulevard	0.001
2012 EIR Value – South of Stevens Creek Boulevard	Not Reported
PCRPP MEIR – Caretaker’s Residence	<0.001
2012 EIR Value – Caretaker’s Residence	0.29
Total at Caretaker’s Residence	0.29

SOURCE: See Exhibit B.

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

Land uses that typically pose potential odor problems include agriculture, wastewater treatment plants, food processing and rendering facilities, chemical plants, composting facilities, landfills, waste transfer stations, and dairies. The PCRPP does not include any of these land uses or similar land uses. In addition, in the context of existing Permanente Quarry operations, equipment emissions from PCRPP implementation would not result in any new odor sources. Therefore, as disclosed in the 2012 EIR, the PCRPP would not create objectionable odors that would affect a substantial number of people. There would be no impact.

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CHAPTER 3

Greenhouse Gas Emissions Technical Analysis

3.1 Greenhouse Gas Emissions

This section describes the environmental and regulatory setting of the Project site and surrounding area with respect to greenhouse gas (GHG) emissions, and documents an analysis of potential impacts related to GHG emissions from the Project. For the purposes of this assessment, the following topics are considered: an overview of climate change; a review of the various GHGs that have been identified as drivers of climate change; pertinent regulations, including those relevant at federal, state, and local levels; significance criteria for potential environmental impacts; and potential impacts and appropriate mitigation measures associated with project construction and operation. Air quality emissions, including criteria air pollutants, are considered in Section 3.3, *Air Quality*. If needed, best management practices (BMPs) identified by BAAQMD and mitigation measures to avoid or reduce significant impacts are also identified.

3.1.1 Environmental Setting

Climate Change

There is general scientific consensus that climate change is occurring and is almost certainly attributed to human activities. Man-made emissions of GHGs, if not sufficiently curtailed, are likely to contribute further to continued increases in global temperatures. Strong scientific evidence documents that the climate is changing and that its impacts are widespread and occurring now. In California, this evidence includes increases in extreme heat, wildfires, extreme storms, coastal flooding and erosion, and reductions in Sierra Nevada springtime snowpack and threats to water availability (CARB 2014). Globally, climate change has the potential to adversely affect numerous environmental resources through potential, though uncertain, impacts related to future air and water temperatures, precipitation patterns, and an array of other factors. According to the International Panel on Climate Change (IPCC), several indicators of climate change are advancing faster than in previous assessments (IPCC 2014):

- Changing precipitation and snow melt patterns;
- Negative effect on crop yield;
- Increased heat waves, drought, flood, wildfires, and storm events;

- Reduced renewable water resources in most dry subtropical regions; and
- Ocean acidification damage to marine ecosystems.

Also, there are many secondary effects projected to result from global warming, including impacts to agriculture, changes in disease vectors, changes in habitat suitability, and potential for reduction of biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term may be great.

Greenhouse Gases

State-regulated GHG emissions that result from human activities primarily include carbon dioxide (CO₂), with much smaller amounts of nitrous oxide (N₂O), methane (CH₄, often from unburned natural gas), sulfur hexafluoride (SF₆) from high-voltage power equipment, nitrogen trifluoride (NF₃) from microelectronics and semi-conductor manufacturing, and hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs) from refrigeration/chiller equipment. Because these GHGs have different warming potentials (i.e., the amount of heat trapped in the atmosphere by a certain mass of the gas), and CO₂ is the most common reference gas for climate change, GHG emissions are often quantified and reported as CO₂-equivalent (CO₂e) emissions. For example, while SF₆ represents a small fraction of the total annual GHGs emitted worldwide, this gas is very potent, with 22,800 times the global warming potential (GWP) of CO₂. Therefore, an emission of 1 metric ton of SF₆ would be reported as 22,800 metric tons CO₂e. The GWP of CH₄ and N₂O are 25 times and 298 times that of CO₂, respectively (CARB 2016).

In 2019, the United States emitted about 6.56 billion tons of CO₂e, representing a 1.7 percent decrease from 2018. This decrease was driven largely by a decrease in emissions from fossil fuel combustion resulting from a decrease in total energy use in 2019 compared to 2018 and a continued shift from coal to natural gas and renewables in the electric power sector. Of the five major sectors nationwide (residential and commercial, industry, agriculture, transportation, and electricity), transportation accounts for the highest fraction of GHG emissions (approximately 29 percent), followed closely by the electric power industry (approximately 25 percent) and general industry (approximately 23 percent) (U.S. EPA 2021).

Statewide emissions of GHG from relevant source categories for 2014 through 2020 are summarized in **Table 3-1**. Specific contributions from individual air basins, such as the San Francisco Bay Area Air Basin, which encompasses the Project site, are included in the emissions inventory but are not itemized by air basin. In 2020, California produced 369.1 million gross metric tons of CO₂e emissions, which was a 9 percent drop in emissions compared to 2019 due to the Covid-19 pandemic-related economic shutdown. Transportation was the source of 37 percent of the state's GHG emissions, followed by industrial at 20 percent, electricity generation at 16 percent, commercial and residential sources at 11 percent, agriculture at 9 percent, high global warming potential emissions at 6 percent, and recycling and waste comprising the remaining 2 percent (CARB 2022a).

**TABLE 3-1
CALIFORNIA GREENHOUSE GAS EMISSIONS (MILLION METRIC TONS CO₂E)**

Emission Inventory Category	2014	2015	2016	2017	2018	2019	2020	
Transportation	157.7	161.5	165.2	166.6	165.3	162.4	135.8	36.8%
Electric Power	89.8	86.0	70.4	64.2	65.0	60.2	59.5	16.1%
Industrial	85.2	83.2	81.6	81.7	81.9	80.4	73.3	19.9%
Commercial & Residential	35.6	36.3	37.2	37.6	37.4	40.5	38.7	10.5%
Agriculture	33.9	32.6	32.2	31.7	32.2	31.4	31.6	8.6%
High GWP	17.7	18.6	19.4	20.1	20.5	20.7	21.3	5.8%
Recycling and Waste	8.3	8.4	8.5	8.6	8.7	8.8	8.9	2.4%
Total Gross Emissions	428.2	426.6	414.5	410.5	411.0	404.4	369.1	100.0%

SOURCE: CARB 2022a.

3.2 Regulatory Setting

3.2.1 Federal Regulations

The federal regulation (i.e., the GHG Reporting Rule) identified in the 2012 EIR is supplemented with the following information.

U.S. Environmental Protection Agency (U.S. EPA)

In *Massachusetts v. U.S. EPA* (2007) 549 US 497, the Supreme Court found that GHGs are air pollutants covered by the Clean Air Act. The Court held that the U.S. EPA must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the U.S. EPA is required to follow the language of Section 202(a) of the Clean Air Act, which obligates it to prescribe (and from time-to-time revise) standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines. The Supreme Court decision resulted from a petition for rulemaking under Section 202(a) filed by more than a dozen environmental, renewable energy, and other organizations.

On April 17, 2009, the U.S. EPA Administrator signed proposed “endangerment” and “cause or contribute” findings for GHGs under Section 202(a) of the Clean Air Act. The U.S. EPA found that six GHGs, taken in combination, endanger both the public health and the public welfare of current and future generations. The U.S. EPA also found that the combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the greenhouse effect as air pollution that endangers public health and welfare under Clean Air Act Section 202(a). Pursuant to 40 CFR Part 52, Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, U.S. EPA has mandated that Prevention of Significant Deterioration (PSD) and Title V requirements apply to facilities whose stationary source CO₂e emissions exceed 100,000 tons per year (U.S. EPA 2019).

U.S. Supreme Court Decision in Utility Air Regulatory Group v. U.S. EPA

In *Utility Air Regulatory Group v. U.S. EPA* (2014), the U.S. Supreme Court held that U.S. EPA may not treat GHG emissions as an air pollutant for purposes of determining whether a source is a major source required to obtain a PSD or Title V permit. The Court also held that PSD permits that are otherwise required (based on emissions of other pollutants) may continue to require limitations on GHG emissions based on the application of best available control technology (BACT). In accordance with the Supreme Court decision, on April 10, 2015, the D.C. Circuit issued an amended judgment in *Coalition for Responsible Regulation, Inc. v. U.S. Environmental Protection Agency*, which vacated the PSD and Title V regulations under review in that case to the extent that they require a stationary source to obtain a PSD or Title V permit solely because the source emits or has the potential to emit GHGs above the applicable major source thresholds. The D.C. Circuit also directed U.S. EPA to consider whether any further revisions to its regulations are appropriate, and if so, to undertake to make such revisions. In response to the Supreme Court decision and the D.C. Circuit's amended judgment, the U.S. EPA intends to conduct future rulemaking action to make appropriate revisions to the PSD and operating permit rules (U.S. EPA, 2019).

3.2.2 State Regulations

There are a variety of statewide rules and regulations that have been implemented or are in development in California that mandate the quantification or reduction of GHGs. Under CEQA, analysis and mitigation of GHG emissions and climate change in relation to a proposed project is required where the lead agency determines that a project would result in a significant addition of GHGs to the atmosphere. State regulations identified in the 2012 EIR are supplemented with the following information.

Executive Order B-30-15

In April 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. Reaching this emission reduction target will make it possible for California to reach its ultimate goal of reducing emissions 80 percent under 1990 levels by 2050, as identified in Executive Order S-3-05. Executive Order B-30-15 also specifically addresses the need for climate adaptation and directs state government to:

- Incorporate climate change impacts into the state's Five-Year Infrastructure Plan;
- Update the Safeguarding California Plan, the state climate adaptation strategy to identify how climate change will affect California infrastructure and industry and what actions the state can take to reduce the risks posed by climate change;
- Factor climate change into state agencies' planning and investment decisions; and
- Implement measures under existing agency and departmental authority to reduce GHG emissions (OGB 2015).

Executive Order B-30-15 required CARB to update the Assembly Bill 32 (AB 32) Climate Change Scoping Plan to incorporate the State's target from 2020 to 2030. CARB adopted the 2017 Scoping Plan for achieving the 2030 target, which takes into account the key programs

associated with implementation of the AB 32 Scoping Plan--such as GHG reduction programs for cars, trucks, fuels, industry, and electrical generation--and builds upon, in particular, existing programs related to the Cap-and-Trade Regulation; the Low Carbon Fuel Standard; much cleaner cars, trucks, and freight movement; power generation for the State using cleaner renewable energy; and strategies to reduce methane emissions from agricultural and other wastes by using it to meet the State's energy needs. The 2017 Scoping Plan also addresses, for the first time, GHG emissions from natural and working lands, including the energy, transportation, industry, water, waste management, agriculture, and natural and working lands sectors (CARB 2017). The 2017 Scoping Plan does not address construction or restoration projects such as the PCRCP.

The 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045. The actions and outcomes in the plan are intended to achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon. The 2022 Scoping Plan identifies a construction equipment sector action for the Scoping Plan Scenario that commits to 25 percent of energy demand to be electrified by 2030 and 75 percent electrified by 2045 (CARB 2022b).

Senate Bill 32 and Assembly Bill 197

On August 23, 2016, the California Assembly passed SB 32, legislation that would extend California's landmark climate change legislation to require that California reduce its emissions to 40 percent below 1990 levels by 2030, an extension of AB 32's goal to reduce emissions to 1990 levels. SB 32 became fully enacted the next day when AB 197 was passed, as an amendment to SB 32 stated that it would only become operative if AB 197 was enacted. AB 197's key components are:

- Directs CARB to enact environmental justice and social costs when designing climate change regulations.
- Creates a new entity called the Joint Legislative Committee on Climate Change Policies, authorized to do fact-finding and make recommendations to the Legislature regarding the state's climate change programs.
- Makes substantial changes to how CARB functions, increasing the board member size, adjusting the terms of service, and strengthens the board member service disqualification process.
- Intention to decrease CARB's reliance on cap-and-trade to achieve reductions and instead directs CARB to prioritize direct emission reductions at large stationary sources.

3.2.3 Local Regulations

Bay Area Air Quality Management District

The BAAQMD lays the groundwork for GHG emissions reductions through the 2017 Clean Air Plan (2017 CAP). The 2017 CAP provides a long-term vision of how the Bay Area could and function in a year 2050 post-carbon economy and describes a control strategy to be implemented by BAAQMD. The 2017 CAP also includes measures designed for the purpose of reducing GHG emissions; however, the measures do not address construction or restoration projects such as the PCRPP (BAAQMD 2017a).

County of Santa Clara

In September 2009, the County released its *County of Santa Clara Climate Action Plan for Operations and Facilities* (County of Santa Clara 2009). This plan presented several solutions and policies that focus on County operations, facilities, and employee actions to reduce GHG emissions associated with energy and water consumption, solid waste, and fuel consumption. Since the plan focuses primarily on steps needed to reach the 10 percent reduction (13,346 MT) goal by 2015, it is now outdated. In addition, this plan applies to County government operations and facilities only, it would not pertain to the PCRPP.

On December 18, 2018, the Board of Supervisors of the County of Santa Clara adopted Resolution BOS-2018-145 to reaffirm and augment the County's GHG emissions reduction targets and establish a 100 percent carbon neutral by 2045 commitment for County of Santa Clara operations (County of Santa Clara 2018). The resolution applies to County government operations and facilities only, it would not pertain to the PCRPP.

3.3 CEQA Baseline Emissions

The CEQA baseline for this GHG emissions analysis includes the baseline conditions identified in the 2012 EIR, the 2012 Reclamation Plan Amendment emissions, as well as the approved 2012 EIR Mitigation Measures that are conditions of the 2012 Reclamation Plan approval.

3.3.1 2012 EIR Baseline

The baseline for the 2012 EIR reflects the same physical environmental conditions in the vicinity of the PCRPP as identified in the Section 2.3.1 for the air quality analysis. The baseline GHG emissions identified in the 2012 EIR analysis are based on an average over the 11-year period from January 1, 2000, to December 31, 2010, which includes periods of relatively high production as well as relatively low production at the Permanente Quarry in response to changing market demands. The annual 2012 EIR baseline GHG emissions are shown in **Table 3-2**.

3.3.2 2012 Emissions and Analysis

Baseline and maximum annual 2012 Reclamation Plan Amendment GHG emissions are summarized in **Table 3-2**, and the net change is compared to the BAAQMD annual significant

threshold. As shown in Table 3-2, the 2012 Reclamation Plan Amendment was found to result in net GHG emissions that would exceed the significance threshold, and therefore was disclosed to result in a significant impact.

**TABLE 3-2
2012 RECLAMATION PLAN AMENDMENT MAXIMUM ANNUAL GHG EMISSIONS (METRIC TONS/YEAR)**

Scenario	CO ₂	CH ₄	N ₂ O	Total CO ₂ e
Baseline Emissions	15,707	<1	<1	15,842
Reclamation Plan Amendment Emissions	20,587	1	<1	20,762
Maximum Annual Incremental Change	4,880	<1	<1	4,920
BAAQMD Threshold	--	--	--	1,100
Significant Impact (Yes or No)?	--	--	--	Yes

SOURCE: Draft 2012 EIR Section 4.8.5, Table 4.8-2.

3.3.3 2012 EIR Mitigation Measures

As stated above in Section 3.3.2, the 2012 EIR identified a significant GHG emissions impact, which was mitigated to a less-than-significant level by the implementation of Mitigation Measures 4.8-1a and 4.8-1b. Mitigation Measures 4.8-1a and 4.8-1b are described below followed by a summary of how the mitigation measures will be considered for the County's environmental review process for the PCRCP.

Mitigation Measure 4.8-1a: Develop Annual GHG Inventory. The Applicant shall become a reporting member of The Climate Registry. Beginning with the first year of the [2012 Reclamation Plan Amendment] Project and continuing for the duration of the Project, the Applicant shall conduct an annual inventory of GHG emissions and shall report those emissions to The Climate Registry. The annual inventory shall be conducted according to The Climate Registry protocols and third-party verified by a verification body accredited through The Climate Registry.

SEIR Baseline Consideration

The Applicant would be required to implement 2012 EIR Mitigation Measure 4.8-1a as defined above during implementation of the PCRCP.

Mitigation Measure 4.8-1b: Greenhouse Gas Emissions Reduction Plan. The Applicant shall prepare, submit for County and BAAQMD approval, make available to the public, and implement a Greenhouse Gas Emissions Reduction Plan (GHG Plan) containing quantifiable strategies to ensure that the [2012 Reclamation Plan Amendment] Project-related incremental increase of GHG emissions does not exceed 1,100 MT CO₂e per year. The GHG Plan shall include, but not be limited to, the following measures:

1. Replacement of on-road and off-road vehicles and construction equipment with lower GHG-emitting engines, such as electric or hybrid.

2. Use of the Overland Conveyor System, powered by electric motors, to move more than 75 percent of the waste rock from the WMSA to reclaim the Quarry pit.

If the Applicant is unable to reduce the Project-related incremental increase of GHG emissions to below 1,100 MT CO₂e per year using the above measures, the Applicant shall offset all remaining Project incremental emissions above that threshold. Any offset of Project emissions shall be demonstrated to be real, permanent, verifiable, enforceable, and additional. To the maximum extent feasible, as determined by the County in coordination with the BAAQMD, offsets shall be implemented locally. Offsets may include but are not limited to, the following (in order of preference):

1. Onsite offset of Project emissions, for example through development of a renewable energy generation facility or a carbon sequestration project (such as a forestry or wetlands project for which inventory and reporting protocols have been adopted). If the Applicant develops an offset project, it must be registered with the Climate Action Reserve or otherwise approved by the BAAQMD in order to be used to offset Project emissions. The number of offset credits produced would then be included in the annual inventory, and the net (emissions minus offsets) calculated.
2. Funding of local projects, subject to review and approval by the BAAQMD, that would result in real, permanent, verifiable, enforceable, and additional reduction in GHG emissions. If the BAAQMD or County of Santa Clara develops a GHG mitigation fund, the Applicant may instead pay into this fund to offset Project incremental GHG emissions in excess of the significance threshold.
3. Purchase of carbon credits to offset Project incremental emissions to below the significance threshold. Carbon offset credits must be verified and registered with The Climate Registry, the Climate Action Reserve, or other source that is approved by the California Air Resources Board as being consistent with the policies and guidelines of the California Global Warming Solution Act of 2006 (AB 32), or available through a County- or BAAQMD-approved local GHG mitigation bank or fund.

SEIR Baseline Consideration

The Applicant would be required to implement 2012 EIR Mitigation Measure 4.8-1b as defined above during implementation of the PCRCP.

3.4 Analysis, Impacts, and Mitigation

3.4.1 Significance Criteria

Consistent with CEQA Guidelines Appendix G, the PCRCP would have a significant impact if it would:

- a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG.

3.4.2 Methodology

Greenhouse Gas Emissions

Significance Thresholds

The 2012 EIR relied on the methods and significance threshold identified in the BAAQMD's 2010 CEQA Guidelines as supported by Appendix D of the BAAQMD Guidelines and BAAQMD's Revised Draft Options and Justification Report. After adoption of the 2012 EIR, the BAAQMD updated its CEQA Guidelines in 2017 to address the California Supreme Court's opinion in *California Building Industry Association v. BAAQMD* (2015) 62 Cal.4th 369 (BAAQMD 2017b). However, the methods and GHG emissions significance criteria identified in the 2017 BAAQMD CEQA Guidelines for GHG emissions are the same as those identified in the 2010 BAAQMD CEQA Air Quality Guidelines (BAAQMD 2010).

In accordance with the BAAQMD *CEQA Air Quality Guidelines*, the 2012 EIR considered implementation of the Reclamation Plan Amendment to have a significant impact if it would emit GHG emissions greater than the BAAQMD's 1,100 MT per year CO₂e from operational sources other than permitted stationary sources (the 2012 Reclamation Plan Amendment did not propose any new or expanded stationary sources that emit GHGs). The 1,100 MT CO₂e per year significance threshold was designed for the BAAQMD to meet the AB 32 goal of reducing GHG emissions to 1990 levels by 2020 by accounting for the Bay Area's share of land use sector GHG emissions reductions beyond that achievable at the state level. It is based on the AB 32 GHG reduction goals and a "gap analysis" that attributes an appropriate share of GHG emissions reductions to new land use development projects in BAAQMD's jurisdiction. The BAAQMD has not yet developed a corresponding mass emissions threshold that extends beyond 2020 to be aligned with the SB 32 target for 2030. Although use of the 1,100 MT CO₂e significance threshold was appropriate at the time of the 2012 EIR certification, that threshold is no longer appropriate for analyzing the GHG impacts of post-2020 proposed projects without an adjustment to be consistent with SB 32.

The PCRPP would not involve long-term operational emissions and short-term construction emissions would cease in 2027. AB 32 includes a statewide GHG reduction target to achieve 1990 levels by the year 2020, while SB 32 extends the statewide target to a reduction of 40 percent below 1990 levels by 2030. Since emissions associated with the PCRPP would no longer be generated by 2030, a 2020 GHG significance threshold based on AB 32 is more appropriate for the PCRPP than a threshold based on the SB 32 reduction target. An even more appropriate threshold is one that is adjusted to account for the SB 32 target, recognizing that important State initiatives (most notably, the vehicle fuel efficiency standards and the Renewables Portfolio Standard) are scheduled to reduce emissions substantially as the decade progresses. The most conservative approach would be to use a threshold based on the 2030 target, which would be consistent with a 2016 white paper by the Association of Environmental Professionals (AEP) Climate Change Committee recommendation that when a project is built out before the next milestone target year adopted by the State, the milestone year should be used as the basis for the project-level threshold (AEP 2016). Note that the AEP white paper is advisory only and is not binding guidance or an adopted set of CEQA thresholds.

Because BAAQMD has not adopted GHG-related CEQA significance thresholds for the SB 32 horizon year of 2030, and the County does not currently have a “qualified” GHG reduction strategy available, a specific project-level threshold has been identified consistent with CEQA Guidelines section 15064.4. The 2020 mass emission threshold is adjusted downward by 40 percent to be consistent with the 2030 SB 32 horizon year target, as shown below. Since the significance threshold used in 2012 EIR was appropriate at the time of its certification, the total 2012 Reclamation Plan Amendment emissions, as revised to include the proposed PCRCP emissions, are evaluated in this analysis using the 1,100 MT CO₂e significance threshold; however, for purposes of full disclosure, the proposed PCRCP would also be deemed to result in a new significant impact if its incremental emissions beyond the emissions estimated for the 2012 Reclamation Plan Amendment in the 2012 EIR would exceed the adjusted 2030 emissions threshold that is 40 percent below the 2020 mass emissions threshold of 1,100 MT CO₂e per year, which is equivalent to 660 MT CO₂e per year.

The significance thresholds discussed above are designed for long-term operational emissions. Because the PCRCP would result in short-term activities to restore and modify approximately 9,000 linear feet of Permanente Creek and would not involve long-term operations, its total short-term emissions were amortized over the 20-year life of the 2012 Reclamation Plan Amendment (see 2012 EIR Section 2.1) before comparison to the significance thresholds.

Emission Estimates

Project-related GHG emissions typically fall into two categories: short-term emissions due to construction, and long-term emissions due to project operations; however, regarding the PCRCP, GHG emissions would be generated on a short-term basis during construction over a period of approximately 6 years, and there would be no long-term sustained operational emissions. The PCRCP would generate GHG exhaust emissions from construction equipment and vehicles. The construction-related scheduling, equipment, and trips assumptions and methods used to estimate GHG emissions associated with the PCRCP are generally the same as those described for the air quality analysis (see Section 2.4.2.1, *Criteria Pollutants*). To estimate CO₂e emissions, global warming potentials from the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) were applied to the CH₄ and N₂O emissions.

Same as for the criteria pollutants, the modeled GHG emissions for each construction phase were then multiplied by the percent of emissions to be evaluated for the given construction phase based on the proposed creek reach area outside of the previously evaluated 2012 EIR disturbance areas to allow for evaluation of the applicable emissions in the County’s environmental review of the PCRCP (see Section 1.1, *Emissions Analysis for the SEIR*). Calculated emissions for the County’s consideration were then summed, amortized over the 20-year life of the 2012 Reclamation Plan Amendment, and added to the baseline emissions (see Section 2.3, *CEQA Baseline Emissions*) for comparison to BAAQMD’s regional significance threshold to determine if the PCRCP would have the potential for new significant direct, indirect, and/or cumulative environmental effects compared with the creek restoration project previously analyzed in the 2012 EIR. The incremental amortized PCRCP emissions are also compared to the adjusted emissions threshold for full disclosure (refer to *Significance Thresholds* discussion above). Detailed emissions

assumptions and summaries, including the CalEEMod and EMFAC2021 assumptions and output are included in Exhibit A.

Conflicts with Applicable Plans, Policies, or Regulations

The BAAQMD CEQA Guidelines state that a project or plan that is consistent with an adopted GHG Reduction Strategy would be considered to have a less-than-significant impact. As noted above in Section 3.2, *Regulatory Setting*, the State has adopted the 2017 Scoping Plan and the 2022 Scoping Plan, the BAAQMD has adopted the 2017 CAP, and the County has adopted a Climate Action Plan for reducing GHG emissions. These plans, however, are not directly applicable to emissions generated by projects such as the PCRPR.

Regarding SB 32, California's climate change legislation updated to require California to reduce its emissions to 40 percent below 1990 levels by 2030, PCRPR's consistency with this goal is addressed through the comparison of its estimated incremental emissions to the adjusted significance threshold of 660 MT CO₂e (see Section 3.4.2.2, above).

3.4.3 Impact Analysis

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

Impact GHG-1: The PCRPR could result in an increase in greenhouse gas emissions and contribute to climate change. (*Less than Significant Impact with Mitigation Incorporated*)

As presented in the *Emissions Estimates* discussion in Section 3.4.2.2, *GHG Emissions*, the GHG emissions that would be generated by the PCRPR would be short-term and periodic in nature and would occur during the dry seasons of 2024 through 2029. Below are summaries of the PCRPR GHG emissions estimate results in terms of total PCRPR emissions, PCRPR emissions that were not considered in the 2012 EIR and are applicable to the County's environmental review of the PCRPR, and PCRPR emissions relative to the SEIR CEQA baseline.

PCRPR Total Emissions

Table 3-3 presents a summary of the PCRPR total annual emissions estimates, prior to the use of Applicability Factors to remove the emissions considered to have already been evaluated in the 2012 EIR. For the percent of PCRPR total annual emissions already evaluated in the 2012 EIR, refer to Table 1-1, *Emissions Applicability Factors*.

TABLE 3-3
PCRCP TOTAL ANNUAL GHG EMISSIONS (METRIC TONS/YEAR)

Scenario	CO ₂	CH ₄	N ₂ O	Total CO ₂ e
Concrete Channel (2024)	24.62	0.00	0.00	25.61
Channel Widening - Phase 1 (2024)	300.17	0.04	0.03	309.57
Rock Pile Area - Phase 1 (2025)	561.51	0.12	0.03	573.83
Rock Pile Area - Phase 2 (2026)	559.87	0.12	0.03	572.11
Channel Widening - Phase 2 (2027)	296.41	0.04	0.03	305.63
Old Crusher (2028)	24.03	0.00	0.00	24.97
Material Removal - Phase 1 (2028)	503.71	0.10	0.03	515.12
Material Removal - Phase 2 (2029)	503.90	0.10	0.03	515.32

SOURCE: Exhibit A.

PCRCP Emissions Applicable to the County's SEIR

Table 3-4 presents a summary of the PCRCP annual emissions estimates that are applicable to the County's SEIR analysis. The table presents the emissions by calendar year, and total amortized emissions assuming a Project life of 20 years. The emissions are estimated by applying the applicability factors described in Table 1-1 and presented below in Table 3-4, to the total PCRCP emissions presented in Table 3-3, above.

TABLE 3-4
PCRCP GHG EMISSIONS APPLICABLE TO SEIR (METRIC TONS/YEAR)

Scenario	% Covered in SEIR	CO ₂	CH ₄	N ₂ O	Total CO ₂ e
Concrete Channel (2024)	100%	24.62	0.00	0.00	25.61
Channel Widening - Phase 1 (2024)	89%	267.63	0.03	0.03	276.01
Rock Pile Area - Phase 1 (2025)	89%	500.65	0.10	0.03	511.62
Rock Pile Area - Phase 2 (2026)	89%	499.18	0.10	0.03	510.09
Channel Widening - Phase 2 (2027)	89%	264.28	0.03	0.02	272.50
Old Crusher (2028)	0%	0.00	0.00	0.00	0.00
Material Removal - Phase 1 (2028)	20%	101.21	0.02	0.01	103.51
Material Removal - Phase 2 (2029)	20%	101.25	0.02	0.01	103.55
Total Emissions		1,758.82	0.32	0.12	1,802.89
Amortized Emissions (20 years)		87.94	0.02	0.01	90.14

SOURCE: Exhibit A.

PCRP Emissions Compared to CEQA Baseline

Table 3-5 presents the net annual emissions relative to the PCRP emissions that were not evaluated in the 2012 EIR combined with the 2012 Reclamation Plan Amendment maximum annual incremental change emissions disclosed in 2012 EIR. As shown in the table, the PCRP amortized emissions would not be substantial and reflect a slight increase of approximately nine percent in emissions compared to the maximum annual emissions disclosed in the 2012 EIR.

**TABLE 3-5
MAXIMUM ANNUAL NET GHG EMISSIONS FOR SEIR CONSIDERATION (METRIC TONS/YEAR)**

Scenario	CO₂	CH₄	N₂O	Total CO₂e
Reclamation Plan Amendment Maximum Annual Incremental Change Disclosed in 2012 EIR*	1,060	<1	<1	1,100
PCRP Amortized Emissions not Evaluated in the 2012 EIR	87.90	<1	<1	90.14
Net Emissions	1,148	<1	<1	1,190
BAAQMD Threshold	---	---	---	1,100
Significant Impact (Yes or No)?				Yes

* Reclamation Plan Amendment emissions reflect implementation of 2012 EIR Mitigation Measures 4.8-1a and 4.8-1b.

SOURCE: Draft 2012 EIR Section 4.8.5, Table 4.8-2, Exhibit A.

Impact Conclusion

As shown in the data in Table 3-5, implementation of the PCRP would result in revised emissions that would continue to exceed the BAAQMD's annual operational significance threshold of 1,100 MT CO₂e per year, requiring the continued implementation of 2012 EIR Mitigation Measures 4.8-1a and 4.8-1b to reduce the impact to a less-than-significant level. In addition, the proposed PCRP incremental amortized emissions would be substantially less than the adjusted significance threshold of 660 MT CO₂e per year, indicating that the proposed PCRP would be aligned with the SB 32 emissions reduction target for 2030. Implementation of the PCRP would not result in a new or more severe significant impact than was disclosed in the 2012 EIR.

Impact GHG-2: The PCRP could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG. (*Less than Significant Impact*)

As noted above in Section 3.2, *Regulatory Setting*, the State has adopted the 2017 Climate Change Scoping Plan, the BAAQMD has adopted the 2017 CAP, and the County has adopted a Climate Action Plan for reducing GHG emissions. These plans, however, are not applicable or have limited applicability to emissions generated by projects such as the PCRP. Regarding SB 32, the PCRP's consistency with this goal is addressed through the comparison of its estimated incremental emissions to the adjusted significance threshold of 660 MT CO₂e per year (see Impact GHG-1, above).

Also, the 2017 Climate Change Scoping Plan includes a mobile source strategy that relies on the implementation of the federal phase 2 standards for medium- and heavy-duty vehicles and deploying increasing numbers of zero-emission trucks primarily for classes 3 through 7 last mile delivery trucks. While these strategies are not applied at a project-level, truck fleets would be subject to regulations adopted pursuant to these strategies including those truck fleets used to transport materials to and from the Project site.

In addition, the 2022 Scoping Plan identifies a construction equipment sector action for the Scoping Plan Scenario that commits to 25 percent of energy demand to be electrified by 2030 and 75 percent electrified by 2045. A similar commitment is not proposed for the PCRCP-related construction equipment. However, the PCRCP would be completed prior to the 2030 compliance date associated with the construction equipment sector action; therefore, it would not be directly applicable to the PCRCP.

In summary, the PCRCP would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Therefore, this impact would be less than significant and implementation of the PCRCP would not result in a new or more severe significant impact than was disclosed in the 2012 EIR.

3.4.4 References

Association of Environmental Professionals (AEP), 2016, Final White Paper - Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California, October 18. Available at: https://califaep.org/docs/AEP-2016_Final_White_Paper.pdf. Accessed June 2021.

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- U.S. EPA, 2021. Sources of Greenhouse Gas Emissions, Available: <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>. Last updated April 14, 2021.

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Exhibit A

Criteria Pollutants and Greenhouse Gas Emissions



**A-1 Criteria Pollutant and
Greenhouse Gas
Emissions Calculations
Excel Worksheets**

Permanente Creek Restoration Plan Supplemental EIR -

Construction Assumptions

Estimated Construction Schedule

Construction Phases	From	To	No. of workdays/ week	No. of Workdays*
Concrete Channel/Channel Widening (Phase 1)	4/15/2024	10/15/2024	5	132
Rock Pile Area Year (Phase 1)	4/15/2025	10/15/2025	5	132
Rock Pile Area Year (Phase 2)	4/15/2026	10/15/2026	5	132
Channel Widening (Phase 2)	4/15/2027	10/15/2027	5	132
Material Removal Area (Phase 1)/Old Crusher Foundation	4/15/2028	10/15/2028	5	130
Material Removal Area (Phase 2)	4/15/2029	10/15/2029	5	131

Source: Lehigh Responses to Data Request provided 1/24/2023.

*Some workdays are 1 to 2 days greater than provided by the Applicant due to adjustments associated with the provided construction schedule.

Modeled Construction Equipment for Each Phase-Year

Concrete Channel

Equipment	Number	Horsepower	No. of Days used	Hrs/day used	Total Hrs	Ave Hrs/day - Phase
Clearing Saw	1	81	4	8	32	0.2

Channel Widening

Equipment	Number	Horsepower	No. of Days used	Hrs/day used	Total Hrs	Ave Hrs/ day - Phase
Caterpillar 350 Excavator	1	286	63	6	378	2.9
Caterpillar 313 Excavator	1	108	31	6	186	1.4
Caterpillar 740 (40 ton truck)	2	452	59	6	708	5.4
Caterpillar 980 Loader	1	393	7	4	28	0.2
Caterpillar 299 (tracked skid ste)	2	110	48	4	384	2.9
Dump truck (10 cy)	1	402	9	4	36	0.3
Hydroseeding Truck (1.5K g)	1	402	1	8	8	0.1
Water Truck (3,000 gallons)	1	402	60	4	240	1.8
Caterpillar D8 Bulldozer	1	347	13	6	78	0.6

Rock Pile Area

Equipment	Number	Horsepower	No. of Days used	Hrs/day used	Total Hrs	Ave Hrs/day - Phase
Caterpillar 350 Excavator	2	286	72	8	1152	8.7
Caterpillar 313 Excavator	1	108	71	8	568	4.3
Caterpillar 740 (40 ton truck)	4	452	95	8	3040	23.0
Caterpillar 980 Loader	1	393	13	4	52	0.4
Caterpillar 299 (tracked skid ste)	1	110	46	4	184	1.4
Dump truck (10 cy)	1	402	13	4	52	0.4
Hydroseeding Truck (1.5K g)	1	402	1	8	8	0.1
Water Truck (3,000 gallons)	1	402	60	4	240	1.8
Caterpillar Compactor CP56	1	156	8	6	48	0.4
Caterpillar D8 Bulldozer	1	347	20	6	120	0.9

Old Crusher Foundation

Equipment	Number	Horsepower	No. of Days used	Hrs/day used	Total Hrs	Ave Hrs/day - Phase
7500 Watt Generator	1	84	7	6	42	0.3

Permanente Creek Restoration Plan Supplemental EIR -

Construction Assumptions

Material Removal Area (Phase 1)

Equipment	Number	Horsepower	No. of Days used	Hrs/day used	Total Hrs	Ave Hrs/ day - Phase
Caterpillar 350 Excavator	2	286	61	8	976	7.5
Caterpillar 313 Excavator	1	108	60	8	480	3.7
Caterpillar 740 (40 ton truck)	4	452	82	8	2624	20.2
Caterpillar 980 Loader	1	393	14	4	56	0.4
Caterpillar 299 (tracked skid ste)	1	110	37	4	148	1.1
Dump truck (10 cy)	1	402	9	4	36	0.3
Hydroseeding Truck (1.5K g)	1	402	3	8	24	0.2
Water Truck (3,000 gallons)	1	402	60	4	240	1.8
Caterpillar D8 Bulldozer	1	347	20	6	120	0.9

Material Removal Area (Phase 2)

Equipment	Number	Horsepower	No. of Days used	Hrs/day used	Total Hrs	Ave Hrs/ day - Phase
Caterpillar 350 Excavator	2	286	61	8	976	7.5
Caterpillar 313 Excavator	1	108	60	8	480	3.7
Caterpillar 740 (40 ton truck)	4	452	82	8	2624	20.0
Caterpillar 980 Loader	1	393	14	4	56	0.4
Caterpillar 299 (tracked skid ste)	1	110	37	4	148	1.1
Dump truck (10 cy)	1	402	9	4	36	0.3
Hydroseeding Truck (1.5K g)	1	402	3	8	24	0.2
Water Truck (3,000 gallons)	1	402	60	4	240	1.8
Caterpillar D8 Bulldozer	1	347	20	6	120	0.9

Equipment Specifications

[Caterpillar 350 Excavator Specs, Dimensions, Comparisons : CEG \(constructionequipmentguide.com\)](#)

[Caterpillar D8T Crawler Tractor Specs & Dimensions :: RitchieSpecs](#)

[Caterpillar 14M Motor Grader Specs & Dimensions :: RitchieSpecs](#)

[Water Truck, 4,000 to 4,999 gal. for Rent - United Rentals](#)

[740 GC Articulated Haul Truck | Cat | Caterpillar](#)

[980M Wheel Loader | Cat | Caterpillar](#)

[Stihl FS 70 R String Trimmer \(mainstreetmower.com\)](#)

[313 Hydraulic Excavator | Cat | Caterpillar](#)

Vehicle Trips

Construction Phase	Worker Commute trips/day	Vendor Truck Trips/day	Haul Truck Trips Total	Haul Trips/ year
Concrete Channel	8	25	2	2
Channel Widening (Phase 1)	12	216	343	171.5
Channel Widening (Phase 2)	12	216		171.5
Rock Pile Area (Phase 1)	16	216	1481	740.5
Rock Pile Area (Phase 2)	16	216		740.5
Old Crusher Foundation	8	25	2	2
Material Removal Area (Phase 1)	16	216	1276	638
Material Removal Area (Phase 2)	16	216		638
Average miles per trip (CalEEMod default values)*	10.8	6.6	20	20

*Per revised assumptions provided January 24, 2023, the Applicant does not know the average miles per trip.

PCRP Acres Compared to PCRA Acres Addressed by 2012 EIR

Area	Acres
Total PCRP Project Site	135.55
PCRP Outside Existing Rec. Plan Boundary	2.57
PCRP Outside of PCRA, but Inside Rec. Plan Boundary	12.79
PCRP Outside of PCRA Disturbance Area, but Inside Rec. Plan Boundary	13.66

Phase (Year)	PCRP Outside of PCRA Disturbance (Acres)	PCRP Disturbance Area (Acres)	% Covered in 2012 EIR	% Covered in SEIR	Notes
Concrete Channel	0.66	0.66	0%	100%	Completely outside of PCRA Disturbance Area
Rock Pile Area	12.42	13.93	11%	89%	The 2012 EIR analyzed the types of activities proposed, so the percent of emissions presented in the SEIR is equal the percent of area not covered in
Channel Widening	12.42	13.93	11%	89%	
Old Crusher	0	0.002	100%	0%	Completely within PCRA Disturbance Area and the 2012 analyzed the types of activities proposed.
Material Removal	3.1509	15.6809	80%	20%	The 2012 EIR analyzed the types of activities proposed, so the percent of emissions presented in the SEIR is equal the percent of area not covered in the 2012 EIR.

Reach	PCRA Sub Area	PCRA Acres	PCRA Disturbance Area	Creek Reaches (blue lines)	Creek Reaches Acres	Creek Reaches Outside Rec. Plan Boundary	Creek Reaches Outside of PCRA	Creek Reaches Outside of PCRA Disturbance Areas
6				Concrete Channel	0.66	0.66	0.66	0.66
7								
8				Channel Widening and Rock Pile Limits	1.83	1.79	1.83	1.83
9					2.28	0.12	2.28	2.28
10					1.68	0	1.68	1.68
11	7	0.18	0.02		3.74	0	3.56	3.72
12	7	1.06	0.42		3.14	0	2.71	2.73
13	7	3.81	1.07		0.69	0	0.02	0.18
14	7	4.48	2.47			0	0	
15	6	2.64	1.21			0	0	
	7	3.46						
16	5	1.66	1.52			0	0	
	6	5.36						
17	4	3.9	5.8	Material Grading	6.65	0	2.62	2.89
	5	5.35		Old Crusher	0.002	0	0	0
18	4	2.77	1.44	Material Grading	1.06	0		0.26
19	2	10.3	5.29	Material Grading	0.01	0	0	0.0009
	3	10.58						
	4	1.56						
20	2	23.04	7.5			0	0	0
21	1	14.13	19.41			0	0	0
	2	20.42						
22	1	5.49	2.95			0	0	0
Total		120.19	49.10			2.57	15.36	16.23

Maximum Annual Criteria Pollutant Emissions for SEIR (tons/year)

Scenario	PM10	PM2.5	NO _x	ROG	CO	SO ₂
Maximum Daily Incremental Change for Reclamation Plan Amendment Disclosed in 2012 EIR	-463	-77	-23	-6	-66	2
PCRP Emissions not Evaluated in the 2012 EIR	11.45	1.71	0.56	0.07	1.84	0.01
Maximum Annual Incremental Change	-452	-75	-22	-6	-64	2
BAAQMD Threshold	15	10	10	10	None	None
Significant Impact (Yes or No)?	No	No	No	No	--	--

Maximum Daily Criteria Pollutant Emissions for SEIR (pounds/day)

Scenario	PM ₁₀	PM _{2.5}	NO _x	ROG	CO	SO ₂
Maximum Daily Incremental Change for Reclamation Plan Amendment Disclosed in 2012 EIR	-3,441	-582	-316	-44	-750	5
PCRP Emissions not Evaluated in the 2012 EIR	196.20	26.62	8.51	1.13	27.90	0.08
Net Emissions	-3245	-555	-307	-43	-722	5
BAAQMD Threshold	82	54	54	54	None	None
Significant Impact (Yes or No)?	No	No	No	No	-- ^b	-- ^c

Emissions Summary for SEIR - Tons/Year

Phase (Year)	ROG	NO _x	PM10	PM2.5	CO	SO _x
Concrete Channel and Channel Widening - Phase 1 (2024)	0.05	0.47	11.45	1.71	0.75	0.00
Rock Pile Area - Phase 1 (2025)	0.07	0.56	10.37	1.56	1.84	0.01
Rock Pile Area - Phase 2 (2026)	0.07	0.53	10.37	1.58	1.83	0.01
Channel Widening - Phase 2 (2027)	0.04	0.34	9.92	1.48	0.69	0.00
Old Crusher and Material Removal - Phase 1 (2028)	0.01	0.10	4.66	0.58	0.36	0.00
Material Removal - Phase 2 (2029)	0.01	0.10	4.70	0.59	0.36	0.00

Emissions Summary for SEIR - Average Pounds/Day

Phase (Year)	ROG	NO _x	PM10	PM2.5	CO	SO _x
Concrete Channel and Channel Widening - Phase 1 (2024)	0.77	7.12	196.20	26.62	11.42	0.05
Rock Pile Area - Phase 1 (2025)	1.13	8.51	166.70	22.36	27.90	0.08
Rock Pile Area - Phase 2 (2026)	1.11	8.08	166.70	22.35	27.79	0.08
Channel Widening - Phase 2 (2027)	0.59	5.18	154.87	21.10	10.47	0.04
Old Crusher and Material Removal - Phase 1 (2028)	0.22	1.57	73.61	8.62	5.52	0.02
Material Removal - Phase 2 (2029)	0.22	1.51	73.87	8.65	5.47	0.02

Emissions Summary for SEIR - Tons/Phase-Year

Phase (Year)	% Covered in SEIR	ROG	NO _x	PM10	PM2.5	CO	SO _x
Concrete Channel (2024)	100%	0.01	0.05	1.90	0.28	0.04	0.00
Channel Widening - Phase 1 (2024)	89%	0.04	0.42	9.55	1.44	0.71	0.00
Rock Pile Area - Phase 1 (2025)	89%	0.07	0.56	10.37	1.56	1.84	0.01
Rock Pile Area - Phase 2 (2026)	89%	0.07	0.53	10.37	1.58	1.83	0.01
Channel Widening - Phase 2 (2027)	89%	0.04	0.34	9.92	1.48	0.69	0.00
Old Crusher (2028)	0%	0.00	0.00	0.00	0.00	0.00	0.00
Material Removal - Phase 1 (2028)	20%	0.01	0.10	4.66	0.58	0.36	0.00
Material Removal - Phase 2 (2029)	20%	0.01	0.10	4.70	0.59	0.36	0.00

Off-road Equipment Exhaust Emissions Summary for SEIR - Total Tons/Year

Phase (Year)	% Covered in SEIR	PM10	PM2.5
Concrete Channel (2024)	100%	0.0000	0.0000
Channel Widening - Phase 1 (2024)	89%	0.0019	0.0019
Rock Pile Area - Phase 1 (2025)	89%	0.0059	0.0059
Rock Pile Area - Phase 2 (2026)	89%	0.0059	0.0219
Channel Widening - Phase 2 (2027)	89%	0.0019	0.0019
Old Crusher (2028)	0%	0.0000	0.0000
Material Removal - Phase 1 (2028)	20%	0.0012	0.0012
Material Removal - Phase 2 (2029)	20%	0.0012	0.0012

Emissions Summary for SEIR - Average Pounds/Phase-Day

Phase (Year)	% Covered in SEIR	ROG	NOx	PM10	PM2.5	CO	SOx
Concrete Channel (2024)	100%	0.10	0.72	41.32	5.50	0.67	0.00
Channel Widening - Phase 1 (2024)	89%	0.67	6.40	154.88	21.12	10.75	0.04
Rock Pile Area - Phase 1 (2025)	89%	1.13	8.51	166.70	22.36	27.90	0.08
Rock Pile Area - Phase 2 (2026)	89%	1.11	8.08	166.70	22.35	27.79	0.08
Channel Widening - Phase 2 (2027)	89%	0.59	5.18	154.87	21.10	10.47	0.04
Old Crusher (2028)	0%	0.00	0.00	0.00	0.00	0.00	0.00
Material Removal - Phase 1 (2028)	20%	0.22	1.57	73.61	8.62	5.52	0.02
Material Removal - Phase 2 (2029)	20%	0.22	1.51	73.87	8.65	5.47	0.02

Total Emissions Summary - Tons/Phase-Year

Phase (Year)	ROG	NOx	PM10	PM2.5	CO	SOx
Concrete Channel (2024)	0.01	0.05	1.90	0.28	0.04	0.00
Channel Widening - Phase 1 (2024)	0.05	0.47	10.72	1.61	0.80	0.00
Rock Pile Area - Phase 1 (2025)	0.08	0.63	11.64	1.75	2.06	0.01
Rock Pile Area - Phase 2 (2026)	0.08	0.60	11.63	1.77	2.06	0.01
Channel Widening - Phase 2 (2027)	0.04	0.38	11.12	1.66	0.78	0.00
Old Crusher (2028)	0.01	0.03	1.67	0.25	0.04	0.00
Material Removal - Phase 1 (2028)	0.07	0.51	23.21	2.90	1.79	0.01
Material Removal - Phase 2 (2029)	0.07	0.49	23.38	2.92	1.78	0.01

Total Emissions Summary - Average Pounds/Phase-Day

Phase (Year)	ROG	NOx	PM10	PM2.5	CO	SOx
Concrete Channel (2024)	0.10	0.72	41.32	5.50	0.67	0.00
Channel Widening - Phase 1 (2024)	0.75	7.18	173.72	23.68	12.06	0.05
Rock Pile Area - Phase 1 (2025)	1.27	9.54	186.97	25.07	31.29	0.09
Rock Pile Area - Phase 2 (2026)	1.24	9.06	186.96	25.07	31.17	0.09
Channel Widening - Phase 2 (2027)	0.67	5.81	173.70	23.67	11.74	0.05
Old Crusher (2028)	0.08	0.52	38.21	3.87	0.60	0.00
Material Removal - Phase 1 (2028)	1.11	7.80	366.33	42.91	27.46	0.09
Material Removal - Phase 2 (2029)	1.09	7.49	367.61	43.03	27.24	0.09

Concrete Channel (2024 tons)

Source	ROG	NOx	PM10	PM2.5	CO	SOx
Off-road Equipment Exhaust	0.00	0.00	0.00	0.00	0.01	0.00
On-road Vehicles	0.01	0.05	0.00	0.00	0.04	0.00
Fugitive Dust			1.89	0.27		
Total	0.01	0.05	1.90	0.28	0.04	0.00

Concrete Channel (2024 average daily pounds)

Source	ROG	NOx	PM10	PM2.5	CO	SOx
Off-road Equipment Exhaust	0.00	0.01	0.00	0.00	0.10	0.00
On-road Vehicles	0.10	0.71	0.05	0.02	0.57	0.00
Fugitive Dust			41.27	5.48		
Total	0.10	0.72	41.32	5.50	0.67	0.00

Channel Widening - Phase 1 (2024 tons)

Source	ROG	NOx	PM10	PM2.5	CO	SOx
Off-road Equipment Exhaust	0.02	0.07	0.00	0.00	0.63	0.00
On-road Vehicles	0.03	0.40	0.02	0.01	0.16	0.00
Fugitive Dust			10.69	1.60		
Total	0.05	0.47	10.72	1.61	0.80	0.00

Total Off-road Equipment Exhaust Emissions Summary - Tons/Year

Phase (Year)	PM10	PM2.5
Concrete Channel (2024)	0.0000	0.0000
Channel Widening - Phase 1 (2024)	0.0022	0.0022
Rock Pile Area - Phase 1 (2025)	0.0066	0.0066
Rock Pile Area - Phase 2 (2026)	0.0066	0.0246
Channel Widening - Phase 2 (2027)	0.0022	0.0022
Old Crusher (2028)	0.0000	0.0000
Material Removal - Phase 1 (2028)	0.0058	0.0058
Material Removal - Phase 2 (2029)	0.0058	0.0058

Channel Widening - Phase 1 (2024 average daily pounds)

Source	ROG	NOx	PM10	PM2.5	CO	SOx
Off-road Equipment Exhaust	0.25	1.07	0.03	0.03	9.60	0.02
On-road Vehicles	0.50	6.11	0.37	0.19	2.46	0.03
Fugitive Dust			173.31	23.47		
Total	0.75	7.18	173.72	23.68	12.06	0.05

Rock Pile Area - Phase 1 (2025 tons)

Source	ROG	NOx	PM10	PM2.5	CO	SOx
Off-road Equipment Exhaust	0.05	0.22	0.01	0.01	1.88	0.00
On-road Vehicles	0.03	0.41	0.03	0.01	0.19	0.00
Fugitive Dust			11.60	1.73		
Total	0.08	0.63	11.64	1.75	2.06	0.01

Rock Pile Area - Phase 1 (2025 average daily pounds)

Source	ROG	NOx	PM10	PM2.5	CO	SOx
Off-road Equipment Exhaust	0.75	3.26	0.10	0.10	28.42	0.06
On-road Vehicles	0.52	6.28	0.39	0.19	2.87	0.03
Fugitive Dust			186.47	24.78		
Total	1.27	9.54	186.97	25.07	31.29	0.09

Rock Pile Area - Phase 2 (2026 tons)

Source	ROG	NOx	PM10	PM2.5	CO	SOx
Off-road Equipment Exhaust	0.05	0.22	0.01	0.02	1.88	0.00
On-road Vehicles	0.03	0.38	0.03	0.01	0.18	0.00
Fugitive Dust			11.60	1.73		
Total	0.08	0.60	11.63	1.77	2.06	0.01

Rock Pile Area - Phase 2 (2026 average daily pounds)

Source	ROG	NOx	PM10	PM2.5	CO	SOx
Off-road Equipment Exhaust	0.75	3.26	0.10	0.10	28.42	0.06
On-road Vehicles	0.49	5.80	0.39	0.18	2.75	0.03
Fugitive Dust			186.47	24.78		
Total	1.24	9.06	186.96	25.07	31.17	0.09

Channel Widening - Phase 2 (2027 tons)

Source	ROG	NOx	PM10	PM2.5	CO	SOx
Off-road Equipment Exhaust	0.02	0.07	0.00	0.00	0.63	0.00
On-road Vehicles	0.03	0.31	0.02	0.01	0.14	0.00
Fugitive Dust			11.10	1.64		
Total	0.04	0.38	11.12	1.66	0.78	0.00

Channel Widening - Phase 2 (2027 average daily pounds)

Source	ROG	NOx	PM10	PM2.5	CO	SOx
Off-road Equipment Exhaust	0.25	1.07	0.03	0.03	9.60	0.02
On-road Vehicles	0.42	4.75	0.35	0.17	2.14	0.03
Fugitive Dust			173.31	23.47		
Total	0.67	5.81	173.70	23.67	11.74	0.05

Old Crusher (2028 tons)

Source	ROG	NOx	PM10	PM2.5	CO	SOx
Off-road Equipment Exhaust	0.00	0.00	0.00	0.00	0.01	0.00
On-road Vehicles	0.01	0.03	0.00	0.00	0.03	0.00
Fugitive Dust			1.66	0.25		
Total	0.01	0.03	1.67	0.25	0.04	0.00

Old Crusher (2028 average daily pounds)

Source	ROG	NOx	PM10	PM2.5	CO	SOx
Off-road Equipment Exhaust	0.00	0.01	0.00	0.00	0.15	0.00
On-road Vehicles	0.08	0.51	0.04	0.02	0.45	0.00
Fugitive Dust			38.17	3.85		
Total	0.08	0.52	38.21	3.87	0.60	0.00

Material Removal Area - Phase 1 (2028 tons)

Source	ROG	NOx	PM10	PM2.5	CO	SOx
Off-road Equipment Exhaust	0.04	0.19	0.01	0.01	1.62	0.00
On-road Vehicles	0.03	0.32	0.02	0.01	0.16	0.00
Fugitive Dust			23.18	2.88		
Total	0.07	0.51	23.21	2.90	1.79	0.01

Material Removal Area - Phase 1 (2028 average daily pounds)

Source	ROG	NOx	PM10	PM2.5	CO	SOx
Off-road Equipment Exhaust	0.66	2.87	0.09	0.09	24.96	0.05
On-road Vehicles	0.44	4.92	0.37	0.17	2.50	0.03
Fugitive Dust			365.87	42.65		
Total	1.11	7.80	366.33	42.91	27.46	0.09

Material Removal Area - Phase 2 (2029 tons)

Source	ROG	NOx	PM10	PM2.5	CO	SOx
Off-road Equipment Exhaust	0.04	0.19	0.01	0.01	1.62	0.00
On-road Vehicles	0.03	0.30	0.02	0.01	0.16	0.00
Fugitive Dust			23.35	2.90		
Total	0.07	0.49	23.38	2.92	1.78	0.01

Material Removal Area - Phase 2 (2029 average daily pounds)

Source	ROG	NOx	PM10	PM2.5	CO	SOx
Off-road Equipment Exhaust	0.66	2.85	0.09	0.09	24.79	0.05
On-road Vehicles	0.43	4.64	0.37	0.17	2.44	0.03
Fugitive Dust			367.15	42.77		
Total	1.09	7.49	367.61	43.03	27.24	0.09

Permanente Creek Restoration Project

TRAVEL ON PAVED ROADS

Road Dust Equation
 $E [lb/VMT] = k \cdot (sL)^{0.91} \cdot (W)^{1.02} \cdot (1-P/4N)$

Where:
 E = the particulate emission factor in units of pounds of particulate matter per VMT
 k = the U.S. EPA AP-42 particle size multiplier (PM₁₀ = 0.0022 lb/VMT),
 Table 13.2.1-1 Particle Size Multipliers for Paved Road Equation of USEPA, 2011.
 sL = the roadway-specific silt loading in grams/square meter (g/m²)
 W = the average weight of vehicles traveling the road (California statewide default 2.4 tons)
 P = number of "wet" days, when at least one site per county received at least 0.01 inch of precipitation during the annual averaging period,^[9] and
 N = the number of days in the annual averaging period (default = 365)

Calculation Methodology: USEPA AP-42, Paved Roads, Section 13.2.1, Revised January 2011:
<http://www.epa.gov/ttn/chief/ap42/ch13/final/c13s0201.pdf>
 Source: California Air Resources Board (CARB), Miscellaneous Process Methodology 7.9
 — Entrained Road Travel, Paved Road Dust. Revised and updated March 2018.

No assumed control on paved roads

Silt Loading Factor
 Source: CARB, 2018.

Table 3: California Default Statewide and Local Silt Loading Values

Silt Loadings (g/m ²)			
Freeway	Major	Collector	Local
0.015	0.032	0.032	0.32

Total On-Site Paved Road Length 2639.5 meters 1.64 miles
 Paved Road Length to Concrete Channel 800.9 meters 0.50 miles

Re-entrained PAVED Road Dust Emission Factors

	Pollutant	k	sL	W	P	N	E _{ext} (g/mi)
Employee	PM10	1.00	0.032	2.4	67	365	0.10165
Employee	PM2.5	0.15	0.032	2.4	67	365	0.01525
Vendor Truck	PM10	1.00	0.032	2.4	67	365	0.10165
Vendor Truck	PM2.5	0.15	0.032	2.4	67	365	0.01525
Haul Truck	PM10	1.00	0.032	2.4	67	365	0.10165
Haul Truck	PM2.5	0.15	0.032	2.4	67	365	0.01525

TRAVEL ON UNPAVED ROADS

Travel on Unpaved Surfaces
 $E [lb/VMT] = k \cdot (s/12)^a \cdot (W/3)^b$

Where:
 k = 1.5 for PM10 and 0.15 for PM2.5
 a = 0.9 for both PM10 and PM2.5
 b = 0.45 for both PM10 and PM2.5
 s = surface material silt content (%) = 8.3
 W = mean vehicle weight (tons) = 36
 Calculation Methodology: USEPA AP-42, Unpaved Roads, Section 13.2.2, updated November 2006:
https://www.epa.gov/sites/production/files/2020-10/documents/13.2.2_unpaved_roads.pdf
 Assumed control from watering= 75%
 Unpaved Road Length 1612.3 meters 1.00 miles
 Unpaved at Concrete Channel 242.7 meters 0.15 miles

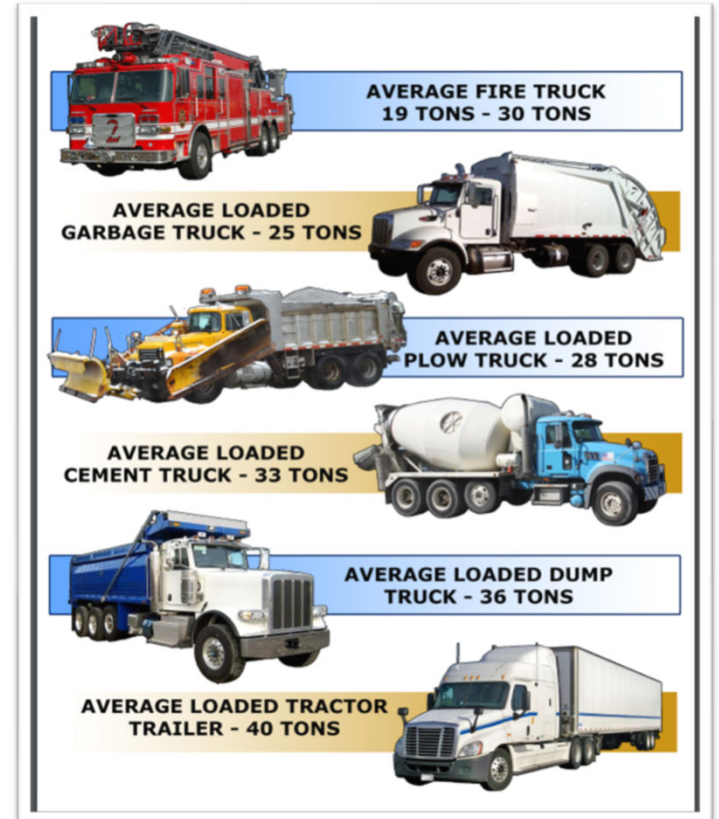
Travel on Unpaved Surfaces

$E [lb/VMT] = k \cdot (s/12)^a \cdot (W/3)^b$

Area	Year	Pollutant	k	a	b	s	W	E (lb/VMT)	On-Site Round Trip VMT (Mi/Yr)	Emissions (ton/yr)	Controlled Emissions		
											(ton/yr)	(lb/day)	
Concrete Channel Planting	2024	PM10	1.50	0.9	0.45	8.3	36	3.293	498.0	0.82	0.20	12.42	3.11
		PM2.5	0.15	0.9	0.45	8.3	36	0.329	498.0	0.08	0.02	1.24	0.31
Channel Widening ¹	2024	PM10	1.50	0.9	0.45	8.3	36	3.293	0	0	0	0	0
		PM2.5	0.15	0.9	0.45	8.3	36	0.329	0	0	0	0	0
Rock Pile Area ¹	2025	PM10	1.50	0.9	0.45	8.3	36	3.293	0	0	0	0	0
		PM2.5	0.15	0.9	0.45	8.3	36	0.329	0	0	0	0	0
Rock Pile Area ¹	2026	PM10	1.50	0.9	0.45	8.3	36	3.293	0	0	0	0	0
		PM2.5	0.15	0.9	0.45	8.3	36	0.329	0	0	0	0	0
Channel Widening ¹	2027	PM10	1.50	0.9	0.45	8.3	36	3.293	0	0	0	0	0
		PM2.5	0.15	0.9	0.45	8.3	36	0.329	0	0	0	0	0
Old Crusher ¹	2028	PM10	1.50	0.9	0.45	8.3	36	3.293	0	0	0	0	0
		PM2.5	0.15	0.9	0.45	8.3	36	0.329	0	0	0	0	0
Material Removal (Outside Subarea 4)	2028	PM10	1.50	0.9	0.45	8.3	36	3.293	28770.8	47.38	11.84	723.29	180.82
		PM2.5	0.15	0.9	0.45	8.3	36	0.329	28770.8	4.74	1.18	72.33	18.08
Material Removal (Outside Subarea 4)	2029	PM10	1.50	0.9	0.45	8.3	36	3.293	28987.2	47.73	11.93	728.73	182.18
		PM2.5	0.15	0.9	0.45	8.3	36	0.329	28987.2	4.77	1.19	72.87	18.22

¹Road to Rock Pile, Channel Widening, and Old Crusher Area is paved

	Concrete Channel	Channel Widening (Phase 1)	Rock Pile Area (Phase 1)	Rock Pile Area (Phase 2)	Channel Widening (Phase 2)	Old Crusher	Material Removal (Phase 1)	Material Removal (Phase 2)
Annual One-Way Trips	1,056	1,584	2,112	2,112	1,584	1,040	2,080	2,096
Trip Length	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
Vendor Annual One-Way Trips	3,300	28,512	28,512	28,512	28,512	3,250	28,080	28,296
Trip Length	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Haul Truck Annual One-	2	171.5	740.5	740.5	171.5	2	638	638
Trip Length	20	20	20	20	20	20	20	20
Days/Year	132	132	132	132	132	130	130	131



Re-entrained PAVED Road Dust Emissions By Activity/Year in Air Basin

	Concrete Channel			Channel Widening (Phase 1)			Rock Pile Area (Phase 1)			Rock Pile Area (Phase 2)			Channel Widening (Phase 2)			Old Crusher			Material Removal (Phase 1)			Material Removal (Phase 2)				
	Pollutant	Distance Traveled		Emissions		Emissions (lb/day)	Distance Traveled		Emissions		Emissions (lb/day)	Distance Traveled		Emissions		Emissions (lb/day)	Distance Traveled		Emissions		Emissions (lb/day)	Distance Traveled		Emissions		Emissions (lb/day)
		(Mi/Yr)	(ton/yr)	(lb/day)	(Mi/Yr)		(ton/yr)	(Mi/Yr)	(ton/yr)	(lb/day)		(Mi/Yr)	(ton/yr)	(lb/day)	(Mi/Yr)		(ton/yr)	(lb/day)	(Mi/Yr)	(ton/yr)		(lb/day)	(Mi/Yr)	(ton/yr)	(lb/day)	
Employee	PM10	11,405	0.58	8.78	17,107	0.87	13.17	22,810	1.16	17.56	22,810	1.16	17.56	17,107	0.87	13.17	11,232	0.57	8.78	22,464	1.14	17.56	22,637	1.15	17.56	
Employee	PM2.5	11,405	0.09	1.32	17,107	0.13	1.98	22,810	0.17	2.63	22,810	0.17	2.63	17,107	0.13	1.98	11,232	0.09	1.32	22,464	0.17	2.63	22,637	0.17	2.63	
Vendor Truck	PM10	21,780	1.11	16.77	188,179	9.56	144.91	188,179	9.56	144.91	188,179	9.56	144.91	188,179	9.56	144.91	21,450	1.09	16.77	185,328	9.42	144.91	186,754	9.49	144.91	
Vendor Truck	PM2.5	21,780	0.17	2.52	188,179	1.43	21.74	188,179	1.43	21.74	188,179	1.43	21.74	188,179	1.43	21.74	21,450	0.16	2.52	185,328	1.41	21.74	186,754	1.42	21.74	
Haul Truck	PM10	40	0.00	0.03	3,430	0.17	2.64	14,810	0.75	11.40	14,810	0.75	11.40	3,430	0.17	2.64	40	0.00	0.03	12,760	0.65	9.98	12,760	0.65	9.90	
Haul Truck	PM2.5	40	0.00	0.00	3,430	0.03	0.40	14,810	0.11	1.71	14,810	0.11	1.71	3,430	0.03	0.40	40	0.00	0.00	12,760	0.10	1.50	12,760	0.10	1.49	
	total PM10		1.689	25.585		10.608	160.725		11.476	173.879		11.476	173.879		10.608	160.725		1.663	25.586		11.209	172.452		11.291	172.376	
	total PM2.5		0.253	3.838		1.591	22.133		1.721	23.447		1.721	23.447		1.591	22.133		0.249	2.520		1.681	23.233		1.694	23.222	

Re-entrained PAVED Road Dust Emissions By Activity/Year On Site

	Concrete Channel			Channel Widening (Phase 1)			Rock Pile Area (Phase 1)			Rock Pile Area (Phase 2)			Channel Widening (Phase 2)			Old Crusher			Material Removal (Phase 1)			Material Removal (Phase 2)				
	Pollutant	Distance Traveled		Emissions		Emissions (lb/day)	Distance Traveled		Emissions		Emissions (lb/day)	Distance Traveled		Emissions		Emissions (lb/day)	Distance Traveled		Emissions		Emissions (lb/day)	Distance Traveled		Emissions		Emissions (lb/day)
		(Mi/Yr)	(ton/yr)	(lb/day)	(Mi/Yr)		(ton/yr)	(Mi/Yr)	(ton/yr)	(lb/day)		(Mi/Yr)	(ton/yr)	(lb/day)	(Mi/Yr)		(ton/yr)	(lb/day)	(Mi/Yr)	(ton/yr)		(lb/day)	(Mi/Yr)	(ton/yr)	(lb/day)	
Vendor Truck	PM10	1,642	0.08	1.26	46,763	2.38	36.01	46,763	2.38	36.01	46,763	2.38	36.01	46,763	2.38	36.01	5,330	0.27	4.17	46,054	2.34	36.01	46,409	2.36	36.01	
Vendor Truck	PM2.5	1,642	0.01	0.19	46,763	0.36	5.40	46,763	0.36	5.40	46,763	0.36	5.40	46,763	0.36	5.40	5,330	0.04	0.63	46,054	0.35	5.40	46,409	0.35	5.40	
Haul Truck	PM10	1	0.00	0.00	281	0.01	0.22	1,215	0.06	0.94	1,215	0.06	0.94	281	0.01	0.22	3	0.00	0.00	1,046	0.05	0.82	1,046	0.05	0.81	
Haul Truck	PM2.5	1	0.00	0.00	3,430	0.03	0.40	1,215	0.01	0.14	1,215	0.01	0.14	281	0.00	0.03	3	0.00	0.00	1,046	0.01	0.12	1,046	0.01	0.12	
	total PM10		0.084	1.265		2.391	36.227		2.438	36.946		2.438	36.946		2.391	36.227		0.271	4.170		2.394	36.829		2.412	36.822	
	total PM2.5		0.013	0.190		0.383	5.798		0.366	5.542		0.366	5.542		0.359	5.434		0.041	0.626		0.359	5.524		0.362	5.523	

Dozer Equipment Passes

$EF_{PM10} [lb/VMT] = 0.052 * (S)^{2.0} * F_{PM10}$

$EF_{PM2.5} [lb/VMT] = 0.04 * (S)^{2.5} * F_{PM2.5}$

Where:

S = mean vehicle speed (mph) = 7.1 (AP-42 default)

$F_{PM2.5}$ = PM2.5 scaling factor = 0.031 (AP-42 default)

F_{PM10} = PM10 scaling factor = 0.6 (AP-42 default)

VMT/Day: 16

Calculation Methodology: USEPA AP-42, Section 11.9, Western Surface Coal Mining.

Assumed control efficiency from watering = 50%

Dust from Dozer Equipment

Area	Year	Pollutant	F	S	W _b	EF (lb/VMT)	No. of Grader Work Days	VMT	Emissions (lb/day)	Emissions (ton/yr)	Controlled Emissions (lb/day)	Controlled Emissions (ton/yr)
Concrete Channel Planting	2024	PM10	0.60	7.1	12.0	1.6	0.0	0	25.2	0.0	12.58	0.00
		PM2.5	0.031	7.1	12.0	0.2	0.0	0	2.7	0.0	1.33	0.00
Channel Widening	2024	PM10	0.60	7.1	12.0	1.6	13.0	208	25.2	0.2	12.58	0.08
		PM2.5	0.031	7.1	12.0	0.2	13.0	208	2.7	0.0	1.33	0.01
Rock Pile Area	2025	PM10	0.60	7.1	12.0	1.6	20.0	320	25.2	0.3	12.58	0.13
		PM2.5	0.031	7.1	12.0	0.2	20.0	320	2.7	0.0	1.33	0.01
Rock Pile Area	2026	PM10	0.60	7.1	12.0	1.6	20.0	320	25.2	0.3	12.58	0.13
		PM2.5	0.031	7.1	12.0	0.2	20.0	320	2.7	0.0	1.33	0.01
Channel Widening	2027	PM10	0.60	7.1	12.0	1.6	78.0	1248	25.2	1.0	12.58	0.49
		PM2.5	0.031	7.1	12.0	0.2	78.0	1248	2.7	0.1	1.33	0.05
Old Crusher	2028	PM10	0.60	7.1	12.0	1.6	0.0	0	25.2	0.0	12.58	0.00
		PM2.5	0.031	7.1	12.0	0.2	0.0	0	2.7	0.0	1.33	0.00
Material Removal	2028	PM10	0.60	7.1	12.0	1.6	20.0	320	25.2	0.3	12.58	0.13
		PM2.5	0.031	7.1	12.0	0.2	20.0	320	2.7	0.0	1.33	0.01
Material Removal	2029	PM10	0.60	7.1	12.0	1.6	20.0	320	25.2	0.3	12.58	0.13
		PM2.5	0.031	7.1	12.0	0.2	20.0	320	2.7	0.0	1.33	0.01

	Channel Planting	Channel Widening	Rock Pile Area	Rock Pile Area	Channel Widening	Old Crusher	Material Removal	Material Removal
Employee Annual One-Way Trips	1,056	1,584	2,112	2,112	1,584	1,040	2,080	2,096
Trip Length	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
Vendor Annual One-Way Trips	3,300	28,512	28,512	28,512	28,512	3,250	28,080	28,296
Trip Length	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Haul Truck Annual One-Way Trips	2	171.5	740.5	740.5	171.5	2	638	638
Trip Length	20	20	20	20	20	20	20	20

DUST FROM MATERIAL MOVEMENT

Truck Loading

$E [lb/ton] = k * 0.0032 * \left\{ \frac{(U/5)^{1.3}}{(M/2)^{1.4}} \right\}$

Where:

E = particulate emission factor, lb/ton

k = particle size multiplier, PM10 = 0.35 PM2.5 = 0.053

U = mean wind speed = 4.9 mi/hr (2.2 m/s from CalEEMod App. D, converted to mi/hr)

M = material moisture content, 12 %, CalEEMod Appendix A pg. 11, ref: Table 13.2.2-1, Stone quarrying and processing, haul road to/from the pit

Calculation Methodology: USEPA AP-42, drop operation, page 13.2. ref: https://www.dot.state.pa.us/public/pdf/InfoBridge/Approximate%20vehicle%20weights.pdf

13.2.4_aggregate_handling_and_storage_piles.pdf.

Tons per cubic yard of dirt = 1.5

Source: https://www.soildirect.com/calculator/cubic-yard-calculator/#:~:text=As%20a%20general%20guide%2C%20is%20equivalent%20to%201.5%20tons.

Total clean material brought to site = 27,099 cu. Yds.

Material transferred at pick-up and drop-off = 54,198 cu. Yds.

NOT IN HRA

Truck Loading

$E [lb/ton] = k * 0.0032 * \left\{ \frac{(U/5)^{1.3}}{(M/2)^{1.4}} \right\}$

	Pollutant	Variables	k	U	M	E (lb/ton)	Amount Loaded (cu. Yds)	Amount Loaded (tons)	Emissions tons/yr	Emissions lb/day
Concrete Channel Planting	PM10	0.35	4.9	12.0	0.00009	35	52	0.0000	0.0000	
	PM2.5	0.053	4.9	12.0	0.00001	35	52	0.0000	0.0000	
Channel Widening	PM10	0.35	4.9	12.0	0.00009	2,995	4,492	0.0002	0.0030	
	PM2.5	0.053	4.9	12.0	0.00001	2,995	4,492	0.0000	0.0005	
Rock Pile Area	PM10	0.35	4.9	12.0	0.00009	12,930	19,394	0.0009	0.0130	
	PM2.5	0.053	4.9	12.0	0.00001	12,930	19,394	0.0001	0.0020	
Rock Pile Area	PM10	0.35	4.9	12.0	0.00009	12,930	19,394	0.0009	0.0130	
	PM2.5	0.053	4.9	12.0	0.00001	12,930	19,394	0.0001	0.0020	
Channel Widening	PM10	0.35	4.9	12.0	0.00009	2,995	4,492	0.0002	0.0030	
	PM2.5	0.053	4.9	12.0	0.00001	2,995	4,492	0.0000	0.0005	
Old Crusher	PM10	0.35	4.9	12.0	0.00009	35	52	0.0000	0.0000	
	PM2.5	0.053	4.9	12.0	0.00001	35	52	0.0000	0.0000	
Material Removal	PM10	0.35	4.9	12.0	0.00009	11,140	16,710	0.0007	0.0114	
	PM2.5	0.053	4.9	12.0	0.00001	11,140	16,710	0.0001	0.0017	
	PM10	0.35	4.9	12.0	0.00009	11,140	16,710	0.0007	0.0113	

13.2.4.3 Predictive Emission Factor Equations

Total dust emissions from aggregate storage piles result from several distinct source activities within the storage cycle:

1. Loading of aggregate onto storage piles (batch or continuous drop operations).
2. Equipment traffic in storage area.
3. Wind erosion of pile surfaces and ground areas around piles.
4. Loadout of aggregate for shipment or for return to the process stream (batch or continuous drop operations).

Either adding aggregate material to a storage pile or removing it usually involves dropping the material onto a receiving surface. Truck dumping on the pile or loading out from the pile to a truck with a front-end loader are examples of batch drop operations. Adding material to the pile by a conveyor stacker is an example of a continuous drop operation.

$$E = k(0.0032) \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \text{ (pound [lb]/ton)}$$

where:

E = emission factor

k = particle size multiplier (dimensionless)

U = mean wind speed, meters per second (m/s) (miles per hour [mph])

M = material moisture content (%)

The particle size multiplier in the equation, k, varies with aerodynamic particle size range, as follows:

Aerodynamic Particle Size Multiplier (k) For Equation 1				
< 30 μm	< 15 μm	< 10 μm	< 5 μm	< 2.5 μm
0.74	0.48	0.35	0.20	0.053*

* Multiplier for < 2.5 μm taken from Reference 14.

The equation retains the assigned quality rating if applied within the ranges of source conditions that were tested in developing the equation, as follows. Note that silt content is included, even though silt content does not appear as a correction parameter in the equation. While it is reasonable to expect that silt content and emission factors are interrelated, no significant correlation between the 2 was found during the derivation of the equation, probably because most tests with high silt contents were conducted under lower winds, and vice versa. It is recommended that estimates from the equation be reduced 1 quality rating level if the silt content used in a particular application falls outside the range given:

Ranges Of Source Conditions For Equation 1			
Silt Content (%)	Moisture Content (%)	Wind Speed	
		m/s	mph
0.44 - 19	0.25 - 4.8	0.6 - 6.7	1.3 - 15

To retain the quality rating of the equation when it is applied to a specific facility, reliable correction parameters must be determined for specific sources of interest. The field and laboratory procedures for aggregate sampling are given in Reference 3. In the event that site-specific values for

Material Removal	PM2.5	0.053	4.9	12.0	0.00001	11,140	16,710	0.0001	0.0017
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GHG Emissions Summary

Maximum Annual GHG Emissions for SEIR (metric tons/year)

Scenario	CO2	CH4	N2O	CO2e
Maximum Annual Incremental Change for Reclamation Plan Amendment Disclosed in 2012 EIR	1,060	0	0	1,100
PCRP Amortized Emissions not Evaluated in the 2012 EIR	87.94	0.02	0.01	90.14
Maximum Annual Incremental Change	1,148	0	0	1,190
BAAQMD Threshold				1,100
Significant Impact (Yes or No)?				Yes

Emissions Summary for SEIR - Metric Tons/Phase-Year

Phase (Year)	% Covered in SEIR	CO2	CH4	N2O	CO2e
Concrete Channel (2024)	100%	24.62	0.00	0.00	25.61
Channel Widening - Phase 1 (2024)	89%	267.63	0.03	0.03	276.01
Rock Pile Area - Phase 1 (2025)	89%	500.65	0.10	0.03	511.62
Rock Pile Area - Phase 2 (2026)	89%	499.18	0.10	0.03	510.09
Channel Widening - Phase 2 (2027)	89%	264.28	0.03	0.02	272.50
Old Crusher (2028)	0%	0.00	0.00	0.00	0.00
Material Removal - Phase 1 (2028)	20%	101.21	0.02	0.01	103.51
Material Removal - Phase 2 (2029)	20%	101.25	0.02	0.01	103.55
Total		1758.82	0.32	0.12	1802.89
Amortized (20 years)		87.94	0.02	0.01	90.14

Total Emissions Summary - Metric Tons/Phase-Year

Phase (Year)	CO2	CH4	N2O	CO2e
Concrete Channel (2024)	24.62	0.00	0.00	25.61
Channel Widening - Phase 1 (2024)	300.17	0.04	0.03	309.57
Rock Pile Area - Phase 1 (2025)	561.51	0.12	0.03	573.83
Rock Pile Area - Phase 2 (2026)	559.87	0.12	0.03	572.11
Channel Widening - Phase 2 (2027)	296.41	0.04	0.03	305.63
Old Crusher (2028)	24.03	0.00	0.00	24.97
Material Removal - Phase 1 (2028)	503.71	0.10	0.03	515.12
Material Removal - Phase 2 (2029)	503.90	0.10	0.03	515.32

Concrete Channel (2024 metric tons)

Source	CO2	CH4	N2O	CO2e
Off-road Equipment Exhaust	0.89	0.00	0.00	0.89
On-road Vehicles	23.73	0.00	0.00	24.72
Total	24.62	0.00	0.00	25.61

Channel Widening - Phase 1 (2024 metric tons)

Source	CO2	CH4	N2O	CO2e
Off-road Equipment Exhaust	116.45	0.04	0.00	117.39
On-road Vehicles	183.72	0.00	0.03	192.18
Total	300.17	0.04	0.03	309.57

Rock Pile Area - Phase 1 (2025 metric tons)

Source	CO2	CH4	N2O	CO2e
Off-road Equipment Exhaust	355.57	0.12	0.00	358.45
On-road Vehicles	205.94	0.00	0.03	215.38
Total	561.51	0.12	0.03	573.83

GHG Emissions Summary

Rock Pile Area - Phase 2 (2026 metric tons)

Source	CO2	CH4	N2O	CO2e
Off-road Equipment Exhaust	355.57	0.12	0.00	358.45
On-road Vehicles	204.30	0.00	0.03	213.66
Total	559.87	0.12	0.03	572.11

Channel Widening - Phase 2 (2027 metric tons)

Source	CO2	CH4	N2O	CO2e
Off-road Equipment Exhaust	116.42	0.04	0.00	117.36
On-road Vehicles	179.98	0.00	0.03	188.26
Total	296.41	0.04	0.03	305.63

Old Crusher (2028 metric tons)

Source	CO2	CH4	N2O	CO2e
Off-road Equipment Exhaust	1.38	0.00	0.00	1.38
On-road Vehicles	22.65	0.00	0.00	23.59
Total	24.03	0.00	0.00	24.97

Material Removal Area - Phase 1 (2028 metric tons)

Source	CO2	CH4	N2O	CO2e
Off-road Equipment Exhaust	308.85	0.10	0.00	311.35
On-road Vehicles	194.86	0.00	0.03	203.78
Total	503.71	0.10	0.03	515.12

Material Removal Area - Phase 2 (2029 metric tons)

Source	CO2	CH4	N2O	CO2e
Off-road Equipment Exhaust	309.09	0.10	0.00	311.59
On-road Vehicles	194.82	0.00	0.03	203.73
Total	503.90	0.10	0.03	515.32

Permanente Creek Restoration Project - EMFAC2021 GHG Emissions Calculations for Off-Site Exhaust Emissions

Accounts for trucks and passenger vehicles driving to and from the site

Emissions Summary

Tons Per Year

Construction Phase(s)	Year	CO2	CH4	N2O	CO2e
Concrete Channel	2024	23.73	0.00	0.00	24.72
Channel Widening (Phase 1)	2024	183.72	0.00	0.03	192.18
Rock Pile Area (Phase 1)	2025	205.94	0.00	0.03	215.38
Rock Pile Area (Phase 2)	2026	204.30	0.00	0.03	213.66
Channel Widening (Phase 2)	2027	179.98	0.00	0.03	188.26
Old Crusher Foundation	2028	22.65	0.00	0.00	23.59
Material Removal Area (Phase 1)	2028	194.86	0.00	0.03	203.78
Material Removal Area (Phase 2)	2029	194.82	0.00	0.03	203.73

Background Information

Conversions

Metric Ton	Pounds	Grams
1	2,205	0

Annual Work Days	Year
132	2024
132	2025
132	2026
132	2027
130	2028
131	2029

Global Warming Potential Factors

CO2	CH4	N2O
1	25	298

One-Way Trip Info

	Concrete Channel	Channel Widening (Phase 1)	Channel Widening (Phase 2)	Rock Pile Area (Phase 1)	Rock Pile Area (Phase 2)	Old Crusher	Material Removal (Phase 1)	Material Removal (Phase 2)
<i>Employee Trips</i>								
Daily One-Way Trips	8	12	12	16	16	8	16	16
Annual One-Way Trips	1,056	1,584	1,584	2,112	2,112	1,040	2,080	2,096
Trip Length	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
<i>Vendor Truck Trips</i>								
Daily One-Way Trips	25	216	216	216	216	25	216	216
Annual One-Way Trips	3,300	28,512	28,512	28,512	28,512	3,250	28,080	28,296
Trip Length	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
<i>Haul Truck Trips</i>								
Annual One-Way Trips	2	171.5	171.5	740.5	740.5	2	638	638
Trip Length	20	20	20	20	20	20	20	20

EMFAC2021 Output for 2024

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX
Santa Clara	2024	HHDT	Aggregate	Aggregate	Diesel	1634.10047	11997.01133	0.00000	0.00078	0.23663	0.00000	0.25745	1.89013	0.00000
Santa Clara	2024	LDT1	Aggregate	Aggregate	Gasoline	327.25709	0.00000	86.38434	0.00626	0.00000	0.10537	0.00942	0.00000	0.03869
Santa Clara	2024	LHDT1	Aggregate	Aggregate	Diesel	631.40078	131.15033	0.00000	0.00801	0.00510	0.00000	0.09948	0.02066	0.00000
Santa Clara	2024	LHDT2	Aggregate	Aggregate	Diesel	756.86825	209.56182	0.00000	0.00741	0.00510	0.00000	0.11924	0.03302	0.00000
Santa Clara	2024	MHDT	Aggregate	Aggregate	Diesel	1147.30919	2248.54716	0.00000	0.00151	0.01158	0.00000	0.18076	0.35426	0.00000
		HDT Mix				845.19274	863.08644	0.00000	0.00564	0.00726	0.00000	0.13316	0.13598	0.00000

Permanente Creek Restoration Project - EMFAC2021 GHG Emissions Calculations for Off-Site Exhaust Emissions

Accounts for trucks and passenger vehicles driving to and from the site

Emissions Calcs for Concrete Channel

Metric Tons/Year	g/MT	1,000,000					Metric Tons per Year			Metric Tons per Year			Metric Tons per Year		
			g/mi	g/trip	g/vehicle/day	CO2	CO2	CO2	CH4	CH4	CH4	N2O	N2O	N2O	
Row Index No.		Trips	mi/trip	tot mi	tot trip	tot veh	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX
3	HHDT	2	20	40	2	1	0.06536	0.01200	0.00000	0.00000	0.00000	0.00000	0.00001	0.00000	0.00000
4	LDT1	1,056	10.8	11,405	1,056	528	3.73230	0.00000	0.09122	0.00007	0.00000	0.00011	0.00011	0.00000	0.00004
5	HDT Mix	3,300	6.6	21,780	3,300	1,650	18.40830	1.42409	0.00000	0.00012	0.00001	0.00000	0.00290	0.00022	0.00000

Off-Site Exhaust Emissions for Concrete Channel

Metric Tons/Year	CO2	CH4	N2O	CO2e
HHDT	0.0774	0.0000	0.0000	0.0810
LDT1	3.8235	0.0002	0.0001	3.8723
HDT Mix	19.8324	0.0001	0.0031	20.7669
Total	23.7333	0.0003	0.0033	24.7202

Emissions Calcs for Channel Widening (Phase 1)

Metric Tons/Year	g/MT	1,000,000					Metric Tons per Year			Metric Tons per Year			Metric Tons per Year		
			g/mi	g/trip	g/vehicle/day	CO2	CO2	CO2	CH4	CH4	CH4	N2O	N2O	N2O	
Row Index No.		Trips	mi/trip	tot mi	tot trip	tot veh	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX
3	HHDT	172	20	3,430	172	86	5.60496	1.02874	0.00000	0.00000	0.00002	0.00000	0.00088	0.00016	0.00000
4	LDT1	1,584	10.8	17,107	1,584	792	5.59845	0.00000	0.13683	0.00011	0.00000	0.00017	0.00016	0.00000	0.00006
5	HDT Mix	28,512	6.6	188,179	28,512	14,256	159.04769	12.30416	0.00000	0.00106	0.00010	0.00000	0.02506	0.00194	0.00000

Off-Site Exhaust Emissions for Channel Widening (Phase 1)

Metric Tons/Year	CO2	CH4	N2O	CO2e
HHDT	6.6337	0.0000	0.0010	6.9457
LDT1	5.7353	0.0003	0.0002	5.8084
HDT Mix	171.3519	0.0012	0.0270	179.4259
Total	183.7208	0.0015	0.0283	192.1801

EMFAC2021 Output for 2025

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX
Santa Clara	2025	HHDT	Aggregate	Aggregate	Diesel	1608.77639	11755.33723	0.00000	0.00075	0.23589	0.00000	0.25346	1.85206	0.00000
Santa Clara	2025	LDT1	Aggregate	Aggregate	Gasoline	321.48897	0.00000	84.45547	0.00562	0.00000	0.09855	0.00869	0.00000	0.03751
Santa Clara	2025	LHDT1	Aggregate	Aggregate	Diesel	628.07000	129.54724	0.00000	0.00747	0.00510	0.00000	0.09895	0.02041	0.00000
Santa Clara	2025	LHDT2	Aggregate	Aggregate	Diesel	750.35710	207.23965	0.00000	0.00704	0.00510	0.00000	0.11822	0.03265	0.00000
Santa Clara	2025	MHDT	Aggregate	Aggregate	Diesel	1141.32802	2229.37376	0.00000	0.00131	0.01096	0.00000	0.17982	0.35124	0.00000
		HDT Mix				839.91837	855.38688	0.00000	0.00527	0.00705	0.00000	0.13233	0.13477	0.00000

Emissions Calcs for Rock Pile Area (Phase 1)

Metric Tons/Year	g/MT	1,000,000					Metric Tons per Year			Metric Tons per Year			Metric Tons per Year		
			g/mi	g/trip	g/vehicle/day	CO2	CO2	CO2	CH4	CH4	CH4	N2O	N2O	N2O	
Row Index No.		Trips	mi/trip	tot mi	tot trip	tot veh	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX
3	HHDT	741	20	14,810	741	370	23.82598	4.35241	0.00000	0.00001	0.00009	0.00000	0.00375	0.00069	0.00000
4	LDT1	2,112	10.8	22,810	2,112	1,056	7.33303	0.00000	0.17837	0.00013	0.00000	0.00021	0.00020	0.00000	0.00008
5	HDT Mix	28,512	6.6	188,179	28,512	14,256	158.05517	12.19440	0.00000	0.00099	0.00010	0.00000	0.02490	0.00192	0.00000

Permanente Creek Restoration Project - EMFAC2021 GHG Emissions Calculations for Off-Site Exhaust Emissions

Accounts for trucks and passenger vehicles driving to and from the site

Off-Site Exhaust Emissions for Rock Pile Area (Phase 1)

Metric Tons/Year	CO2	CH4	N2O	CO2e
HHDT	28.1784	0.0001	0.0044	29.5038
LDT1	7.5114	0.0003	0.0003	7.6025
HDT Mix	170.2496	0.0011	0.0268	178.2701
Total	205.9394	0.0015	0.0315	215.3764

EMFAC2021 Output for 2026

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX
Santa Clara	2026	HHDT	Aggregate	Aggregate	Diesel	1583.15114	11526.41341	0.00000	0.00072	0.23528	0.00000	0.24943	1.81599	0.00000
Santa Clara	2026	LDT1	Aggregate	Aggregate	Gasoline	315.79255	0.00000	82.57769	0.00506	0.00000	0.09224	0.00804	0.00000	0.03641
Santa Clara	2026	LHDT1	Aggregate	Aggregate	Diesel	625.22799	128.06640	0.00000	0.00699	0.00510	0.00000	0.09850	0.02018	0.00000
Santa Clara	2026	LHDT2	Aggregate	Aggregate	Diesel	744.68422	205.11327	0.00000	0.00672	0.00510	0.00000	0.11733	0.03232	0.00000
Santa Clara	2026	MHDT	Aggregate	Aggregate	Diesel	1134.95201	2210.32904	0.00000	0.00113	0.01042	0.00000	0.17881	0.34824	0.00000
		HDT Mix				834.95474	847.83623	0.00000	0.00495	0.00687	0.00000	0.13155	0.13358	0.00000

Emissions Calcs for Rock Pile Area (Phase 2)

Metric Tons/Year	g/MT	1,000,000	Metric Tons per Year						Metric Tons per Year			Metric Tons per Year			
			CO2	CO2	CO2	CH4	CH4	CH4	N2O	N2O	N2O				
Row Index No.	Trips	mi/trip	g/mi	g/trip	g/vehicle/day	g/mi	g/vehicle/day	g/trip	g/mi	g/vehicle/day	g/trip	g/mi	g/vehicle/day	g/trip	
3	HHDT	741	20	14,810	741	370	23.44647	4.26765	0.00000	0.00001	0.00009	0.00000	0.00369	0.00067	0.00000
4	LDT1	2,112	10.8	22,810	2,112	1,056	7.20310	0.00000	0.17440	0.00012	0.00000	0.00019	0.00018	0.00000	0.00008
5	HDT Mix	28,512	6.6	188,179	28,512	14,256	157.12111	12.08675	0.00000	0.00093	0.00010	0.00000	0.02475	0.00190	0.00000

Off-Site Exhaust Emissions for Rock Pile Area (Phase 2)

Metric Tons/Year	CO2	CH4	N2O	CO2e
HHDT	27.7141	0.0001	0.0044	29.0177
LDT1	7.3775	0.0003	0.0003	7.4628
HDT Mix	169.2079	0.0010	0.0267	177.1779
Total	204.2995	0.0014	0.0313	213.6585

EMFAC2021 Output for 2027

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX
Santa Clara	2027	HHDT	Aggregate	Aggregate	Diesel	1556.12285	11312.43773	0.00000	0.00070	0.23488	0.00000	0.24517	1.78228	0.00000
Santa Clara	2027	LDT1	Aggregate	Aggregate	Gasoline	310.25293	0.00000	80.77512	0.00455	0.00000	0.08645	0.00745	0.00000	0.03541
Santa Clara	2027	LHDT1	Aggregate	Aggregate	Diesel	622.79522	126.72063	0.00000	0.00659	0.00510	0.00000	0.09812	0.01996	0.00000
Santa Clara	2027	LHDT2	Aggregate	Aggregate	Diesel	739.76861	203.20660	0.00000	0.00644	0.00510	0.00000	0.11655	0.03202	0.00000
Santa Clara	2027	MHDT	Aggregate	Aggregate	Diesel	1128.56265	2191.46242	0.00000	0.00099	0.00999	0.00000	0.17781	0.34527	0.00000
		HDT Mix				830.37550	840.46321	0.00000	0.00467	0.00673	0.00000	0.13083	0.13242	0.00000

Emissions Calcs for Channel Widening (Phase 2)

Metric Tons/Year	g/MT	1,000,000	Metric Tons per Year						Metric Tons per Year			Metric Tons per Year			
			CO2	CO2	CO2	CH4	CH4	CH4	N2O	N2O	N2O				
Row Index No.	Trips	mi/trip	g/mi	g/trip	g/vehicle/day	g/mi	g/vehicle/day	g/trip	g/mi	g/vehicle/day	g/trip	g/mi	g/vehicle/day	g/trip	
3	HHDT	172	20	3,430	172	86	5.33750	0.97004	0.00000	0.00000	0.00002	0.00000	0.00084	0.00015	0.00000
4	LDT1	1,584	10.8	17,107	1,584	792	5.30756	0.00000	0.12795	0.00008	0.00000	0.00014	0.00013	0.00000	0.00006
5	HDT Mix	28,512	6.6	188,179	28,512	14,256	156.25940	11.98164	0.00000	0.00088	0.00010	0.00000	0.02462	0.00189	0.00000

Off-Site Exhaust Emissions for Channel Widening (Phase 2)

Permanente Creek Restoration Project - EMFAC2021 GHG Emissions Calculations for Off-Site Exhaust Emissions

Accounts for trucks and passenger vehicles driving to and from the site

Metric Tons/Year	CO2	CH4	N2O	CO2e
HHDT	6.3075	0.0000	0.0010	6.6042
LDT1	5.4355	0.0002	0.0002	5.4956
HDT Mix	168.2410	0.0010	0.0265	176.1643
Total	179.9841	0.0012	0.0277	188.2642

EMFAC2021 Output for 2028

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX
Santa Clara	2028	HHDT	Aggregate	Aggregate	Diesel	1527.99982	11109.89941	0.00000	0.00068	0.23470	0.00000	0.24074	1.75037	0.00000
Santa Clara	2028	LDT1	Aggregate	Aggregate	Gasoline	304.98057	0.00000	79.07292	0.00411	0.00000	0.08117	0.00693	0.00000	0.03448
Santa Clara	2028	LHDT1	Aggregate	Aggregate	Diesel	620.69309	125.50144	0.00000	0.00623	0.00510	0.00000	0.09779	0.01977	0.00000
Santa Clara	2028	LHDT2	Aggregate	Aggregate	Diesel	735.49806	201.50966	0.00000	0.00621	0.00510	0.00000	0.11588	0.03175	0.00000
Santa Clara	2028	MHDT	Aggregate	Aggregate	Diesel	1122.13522	2173.47316	0.00000	0.00086	0.00964	0.00000	0.17679	0.34243	0.00000
		HDT Mix				826.10879	833.49475	0.00000	0.00444	0.00661	0.00000	0.13015	0.13132	0.00000

Emissions Calcs for Material Removal Area (Phase 1)

Metric Tons/Year	g/MT	1,000,000	Metric Tons per Year						Metric Tons per Year			Metric Tons per Year			
			CO2	CO2	CO2	CH4	CH4	CH4	N2O	N2O	N2O				
Row Index No.		Trips	mi/trip	g/mi	g/trip	g/vehicle/day	g/mi	g/vehicle/day	g/trip	g/mi	g/vehicle/day	g/trip	g/mi	g/vehicle/day	g/trip
3	HHDT	638	20.0	12,760	638	319	19.49728	3.54406	0.00000	0.00001	0.00007	0.00000	0.00307	0.00056	0.00000
4	LDT1	2,080	10.8	22,464	2,080	1,040	6.85108	0.00000	0.16447	0.00009	0.00000	0.00017	0.00016	0.00000	0.00007
5	HDT Mix	28,080	6.6	185,328	28,080	14,040	153.10109	11.70227	0.00000	0.00082	0.00009	0.00000	0.02412	0.00184	0.00000

Off-Site Exhaust Emissions Material Removal Area (Phase 1)

Metric Tons/Year	CO2	CH4	N2O	CO2e
HHDT	23.0413	0.0001	0.0036	24.1252
LDT1	7.0156	0.0003	0.0002	7.0898
HDT Mix	164.8034	0.0009	0.0260	172.5638
Total	194.8602	0.0013	0.0298	203.7788

Emissions Calcs for Old Crusher

Metric Tons/Year	g/MT	1,000,000	Metric Tons per Year						Metric Tons per Year			Metric Tons per Year			
			CO2	CO2	CO2	CH4	CH4	CH4	N2O	N2O	N2O				
Row Index No.		Trips	mi/trip	g/mi	g/trip	g/vehicle/day	g/mi	g/vehicle/day	g/trip	g/mi	g/vehicle/day	g/trip	g/mi	g/vehicle/day	g/trip
3	HHDT	2	20	40	2	1	0.06112	0.01111	0.00000	0.00000	0.00000	0.00000	0.00001	0.00000	0.00000
4	LDT1	1,040	10.8	11,232	1,040	520	3.42554	0.00000	0.08224	0.00005	0.00000	0.00008	0.00008	0.00000	0.00004
5	HDT Mix	3,250	6.6	21,450	3,250	1,625	17.72003	1.35443	0.00000	0.00010	0.00001	0.00000	0.00279	0.00021	0.00000

Off-Site Exhaust Emissions for Old Crusher

Metric Tons/Year	CO2	CH4	N2O	CO2e
HHDT	0.0722	0.0000	0.0000	0.0756
LDT1	3.5078	0.0001	0.0001	3.5449
HDT Mix	19.0745	0.0001	0.0030	19.9727
Total	22.6545	0.0002	0.0031	23.5932

Permanente Creek Restoration Project - EMFAC2021 GHG Emissions Calculations for Off-Site Exhaust Emissions

Accounts for trucks and passenger vehicles driving to and from the site

EMFAC2021 Output for 2029

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX
Santa Clara	2029	HHDT	Aggregate	Aggregate	Diesel	1500.67840	10929.24419	0.00000	0.00066	0.23479	0.00000	0.23643	1.72191	0.00000
Santa Clara	2029	LDT1	Aggregate	Aggregate	Gasoline	299.95366	0.00000	77.43555	0.00370	0.00000	0.07622	0.00644	0.00000	0.03362
Santa Clara	2029	LHDT1	Aggregate	Aggregate	Diesel	618.85111	124.39819	0.00000	0.00593	0.00510	0.00000	0.09750	0.01960	0.00000
Santa Clara	2029	LHDT2	Aggregate	Aggregate	Diesel	731.73671	200.00244	0.00000	0.00601	0.00510	0.00000	0.11529	0.03151	0.00000
Santa Clara	2029	MHDT	Aggregate	Aggregate	Diesel	1115.70279	2156.34660	0.00000	0.00077	0.00936	0.00000	0.17578	0.33973	0.00000
HDT Mix						822.09687	826.91574	0.00000	0.00424	0.00652	0.00000	0.12952	0.13028	0.00000

Emissions Calcs for Material Removal Area (Phase 2)

Metric Tons/Year	g/MT	1,000,000	Metric Tons per Year				Metric Tons per Year			Metric Tons per Year					
			CO2	CO2	CO2	CH4	CH4	CH4	N2O	N2O	N2O				
Row Index No.		Trips	mi/trip	g/mi	g/trip	g/vehicle/day	g/mi	g/vehicle/day	g/trip	g/mi	g/vehicle/day	g/trip	g/mi	g/vehicle/day	g/trip
3	HHDT	638	20	12,760	638	319	19.14866	3.48643	0.00000	0.00001	0.00007	0.00000	0.00302	0.00055	0.00000
4	LDT1	2,096	10.8	22,637	2,096	1,048	6.78999	0.00000	0.16230	0.00008	0.00000	0.00016	0.00015	0.00000	0.00007
5	HDT Mix	28,296	6.6	186,754	28,296	14,148	153.52955	11.69920	0.00000	0.00079	0.00009	0.00000	0.02419	0.00184	0.00000

Off-Site Exhaust Emissions Material Removal Area (Phase 2)

Metric Tons/Year	CO2	CH4	N2O	CO2e
HHDT	22.6351	0.0001	0.0036	23.6999
LDT1	6.9523	0.0002	0.0002	7.0228
HDT Mix	165.2288	0.0009	0.0260	173.0083
Total	194.8161	0.0012	0.0298	203.7310

A-2 CalEEMod Output Files

Permanente Creek Restoration Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Permanente Creek Restoration Project
Santa Clara County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	1.00	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4	Operational Year		2027	
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project information

Land Use - Placeholder land use. There will be no operational phase of the project, and construction data is custom to the Project.

Construction Phase - Obtained revised schedule from Lehigh on 1/24/23 - Construction Assumptions Attachment. Using the Applicant-provided schedule, some of the modeled workdays are 1 to 2 days more per phase than workdays provided by Applicant.

Off-road Equipment - Applicant-provided equipment list.

Off-road Equipment - Based on 1/24/23 Applicant provided data.

Off-road Equipment - Based on 1/24/23 Applicant provided data.

Off-road Equipment - Equipment list, number of equipment operation days, and hours/day used provided by Applicant. Average hours/day per phase estimated based on phase days.

Off-road Equipment - Based on 1/24/23 Applicant-proposed data.

Off-road Equipment - Based on 1/24/23 Applicant-proposed data.

Off-road Equipment - Based on Applicant-provided equipment list.

Permanente Creek Restoration Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - Based on 1/24/23 Applicant data.

Off-road Equipment - Per 1/24/23 Applicant provided data

Trips and VMT - On-road vehicle emissions are estimated outside of CalEEMod using EMFAC 2020.4.0 and AP-42 emission factors.

Construction Off-road Equipment Mitigation - All trucks and equipment would be Tier 4 Final per Lehigh (6/8/21).

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	150	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	24.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	0.00	132.00
tblConstructionPhase	NumDays	0.00	132.00
tblConstructionPhase	NumDays	0.00	132.00
tblConstructionPhase	NumDays	0.00	132.00
tblConstructionPhase	NumDays	0.00	132.00
tblConstructionPhase	NumDays	0.00	130.00
tblConstructionPhase	NumDays	0.00	130.00
tblConstructionPhase	NumDays	0.00	131.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	HorsePower	158.00	286.00
tblOffRoadEquipment	HorsePower	158.00	108.00
tblOffRoadEquipment	HorsePower	158.00	286.00
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tblOffRoadEquipment	HorsePower	158.00	286.00
tblOffRoadEquipment	HorsePower	158.00	108.00
tblOffRoadEquipment	HorsePower	158.00	286.00
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tblOffRoadEquipment	HorsePower	203.00	393.00
tblOffRoadEquipment	HorsePower	203.00	110.00
tblOffRoadEquipment	HorsePower	203.00	393.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	HorsePower	203.00	110.00
tblOffRoadEquipment	HorsePower	203.00	393.00
tblOffRoadEquipment	HorsePower	203.00	110.00
tblOffRoadEquipment	HorsePower	203.00	393.00
tblOffRoadEquipment	HorsePower	203.00	110.00
tblOffRoadEquipment	HorsePower	203.00	393.00
tblOffRoadEquipment	HorsePower	203.00	110.00
tblOffRoadEquipment	HorsePower	203.00	393.00
tblOffRoadEquipment	HorsePower	203.00	110.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	23.00	0.00
tblTripsAndVMT	WorkerTripNumber	25.00	0.00
tblTripsAndVMT	WorkerTripNumber	25.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	23.00	0.00

2.0 Emissions Summary

Permanente Creek Restoration Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.0544	0.3996	0.4165	1.3400e-003	0.0499	0.0167	0.0666	0.0186	0.0154	0.0339	0.0000	117.3322	117.3322	0.0377	0.0000	118.2748
2025	0.1435	0.9201	1.0778	4.0500e-003	0.0447	0.0343	0.0790	0.0246	0.0316	0.0561	0.0000	355.5745	355.5745	0.1150	0.0000	358.4495
2026	0.1435	0.9201	1.0778	4.0500e-003	0.0447	0.0343	0.0790	0.0246	0.0316	0.0561	0.0000	355.5745	355.5745	0.1150	0.0000	358.4495
2027	0.0519	0.3432	0.4058	1.3300e-003	0.0298	0.0139	0.0437	0.0164	0.0128	0.0292	0.0000	116.6513	116.6513	0.0378	7.0000e-005	117.6165
2028	0.1259	0.8089	0.9408	3.5300e-003	0.0440	0.0302	0.0742	0.0242	0.0278	0.0520	0.0000	310.2259	310.2259	0.0999	0.0000	312.7244
2029	0.1263	0.8045	0.9397	3.5200e-003	0.0444	0.0300	0.0744	0.0244	0.0276	0.0520	0.0000	309.3015	309.3015	0.1001	6.0000e-005	311.8227
Maximum	0.1435	0.9201	1.0778	4.0500e-003	0.0499	0.0343	0.0790	0.0246	0.0316	0.0561	0.0000	355.5745	355.5745	0.1150	7.0000e-005	358.4495

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.0164	0.0709	0.6402	1.3400e-003	0.0499	2.1800e-003	0.0521	0.0186	2.1800e-003	0.0207	0.0000	117.3321	117.3321	0.0377	0.0000	118.2747
2025	0.0496	0.2151	1.8755	4.0500e-003	0.0447	6.6200e-003	0.0513	0.0246	6.6200e-003	0.0312	0.0000	355.5741	355.5741	0.1150	0.0000	358.4491
2026	0.0496	0.2151	1.8755	4.0500e-003	0.0447	6.6200e-003	0.0513	0.0246	6.6200e-003	0.0312	0.0000	355.5741	355.5741	0.1150	0.0000	358.4491
2027	0.0175	0.0710	0.6409	1.3300e-003	0.0298	2.1700e-003	0.0320	0.0164	2.1700e-003	0.0186	0.0000	116.6512	116.6512	0.0378	7.0000e-005	117.6164
2028	0.0433	0.1875	1.6323	3.5300e-003	0.0440	5.7700e-003	0.0498	0.0242	5.7700e-003	0.0300	0.0000	310.2256	310.2256	0.0999	0.0000	312.7240
2029	0.0442	0.1874	1.6305	3.5200e-003	0.0444	5.7600e-003	0.0502	0.0244	5.7600e-003	0.0302	0.0000	309.3012	309.3012	0.1001	6.0000e-005	311.8223
Maximum	0.0496	0.2151	1.8755	4.0500e-003	0.0499	6.6200e-003	0.0521	0.0246	6.6200e-003	0.0312	0.0000	355.5741	355.5741	0.1150	7.0000e-005	358.4491

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	65.83	77.44	-70.73	0.00	0.00	81.72	31.23	0.00	80.14	42.07	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
5	4-15-2024	7-14-2024	0.2236	0.0430
6	7-15-2024	10-14-2024	0.2260	0.0434
7	10-15-2024	1-14-2025	0.0025	0.0005
9	4-15-2025	7-14-2025	0.5237	0.1303
10	7-15-2025	10-14-2025	0.5295	0.1318

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11	10-15-2025	1-14-2026	0.0058	0.0014
13	4-15-2026	7-14-2026	0.5237	0.1303
14	7-15-2026	10-14-2026	0.5295	0.1318
15	10-15-2026	1-14-2027	0.0058	0.0014
17	4-15-2027	7-14-2027	0.1946	0.0437
18	7-15-2027	10-14-2027	0.1968	0.0441
19	10-15-2027	1-14-2028	0.0021	0.0005
21	4-15-2028	7-14-2028	0.4674	0.1154
22	7-15-2028	10-14-2028	0.4725	0.1166
23	10-15-2028	1-14-2029	0.0051	0.0013
25	4-15-2029	7-14-2029	0.4619	0.1150
26	7-15-2029	9-30-2029	0.3959	0.0986
		Highest	0.5295	0.1318

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2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Concrete Channel	Grading	4/15/2024	10/15/2024	5	132	
2	Channel Widening (Phase 1)	Grading	4/15/2024	10/15/2024	5	132	
3	Rock Pile Area (Phase 1)	Grading	4/15/2025	10/15/2025	5	132	

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4	Rock Pile Area (Phase 2)	Grading	4/15/2026	10/15/2026	5	132
5	Channel Widening (Phase 2)	Grading	4/15/2027	10/15/2027	5	132
6	Old Crusher Foundation	Grading	4/15/2028	10/15/2028	5	130
7	Material Removal Area (Phase 1)	Grading	4/15/2028	10/15/2028	5	130
8	Material Removal Area (Phase 2)	Grading	4/15/2029	10/15/2029	5	131

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 37.95

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Concrete Channel	Concrete/Industrial Saws	1	0.20	81	0.73
Channel Widening (Phase 1)	Excavators	1	2.90	286	0.38
Channel Widening (Phase 1)	Excavators	1	1.40	108	0.38
Channel Widening (Phase 1)	Off-Highway Trucks	1	0.30	402	0.38
Channel Widening (Phase 1)	Off-Highway Trucks	1	5.40	452	0.38
Channel Widening (Phase 1)	Off-Highway Trucks	1	0.10	402	0.38
Channel Widening (Phase 1)	Off-Highway Trucks	1	1.80	402	0.38
Channel Widening (Phase 1)	Rubber Tired Dozers	1	0.60	347	0.40
Channel Widening (Phase 1)	Rubber Tired Loaders	1	0.20	393	0.36
Channel Widening (Phase 1)	Rubber Tired Loaders	1	2.90	110	0.36
Rock Pile Area (Phase 1)	Excavators	1	8.70	286	0.38
Rock Pile Area (Phase 1)	Excavators	1	4.30	108	0.38
Rock Pile Area (Phase 1)	Off-Highway Trucks	1	0.40	402	0.38
Rock Pile Area (Phase 1)	Off-Highway Trucks	1	23.00	452	0.38
Rock Pile Area (Phase 1)	Off-Highway Trucks	1	0.10	402	0.38

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Rock Pile Area (Phase 1)	Off-Highway Trucks	1	1.80	402	0.38
Rock Pile Area (Phase 1)	Rollers	1	0.40	156	0.38
Rock Pile Area (Phase 1)	Rubber Tired Dozers	1	0.90	347	0.40
Rock Pile Area (Phase 1)	Rubber Tired Loaders	1	0.40	393	0.36
Rock Pile Area (Phase 1)	Rubber Tired Loaders	1	1.40	110	0.36
Rock Pile Area (Phase 2)	Excavators	1	8.70	286	0.38
Rock Pile Area (Phase 2)	Excavators	1	4.30	108	0.38
Rock Pile Area (Phase 2)	Off-Highway Trucks	1	0.40	402	0.38
Rock Pile Area (Phase 2)	Off-Highway Trucks	1	23.00	452	0.38
Rock Pile Area (Phase 2)	Off-Highway Trucks	1	0.10	402	0.38
Rock Pile Area (Phase 2)	Off-Highway Trucks	1	1.80	402	0.38
Rock Pile Area (Phase 2)	Rollers	1	0.40	156	0.38
Rock Pile Area (Phase 2)	Rubber Tired Dozers	1	0.90	347	0.40
Rock Pile Area (Phase 2)	Rubber Tired Loaders	1	0.40	393	0.36
Rock Pile Area (Phase 2)	Rubber Tired Loaders	1	1.40	110	0.36
Channel Widening (Phase 2)	Excavators	1	2.90	286	0.38
Channel Widening (Phase 2)	Excavators	1	1.40	108	0.38
Channel Widening (Phase 2)	Off-Highway Trucks	1	0.30	402	0.38
Channel Widening (Phase 2)	Off-Highway Trucks	1	5.40	452	0.38
Channel Widening (Phase 2)	Off-Highway Trucks	1	0.10	402	0.38
Channel Widening (Phase 2)	Off-Highway Trucks	1	1.80	402	0.38
Channel Widening (Phase 2)	Rubber Tired Dozers	1	0.60	347	0.40
Channel Widening (Phase 2)	Rubber Tired Loaders	1	0.20	393	0.36
Channel Widening (Phase 2)	Rubber Tired Loaders	1	2.90	110	0.36
Old Crusher Foundation	Generator Sets	1	0.30	84	0.74
Material Removal Area (Phase 1)	Excavators	1	7.50	286	0.38
Material Removal Area (Phase 1)	Excavators	1	3.70	108	0.38
Material Removal Area (Phase 1)	Off-Highway Trucks	1	0.30	402	0.38
Material Removal Area (Phase 1)	Off-Highway Trucks	1	20.20	452	0.38

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Material Removal Area (Phase 1)	Off-Highway Trucks	1	0.20	402	0.38
Material Removal Area (Phase 1)	Off-Highway Trucks	1	1.80	402	0.38
Material Removal Area (Phase 1)	Rubber Tired Dozers	1	0.90	347	0.40
Material Removal Area (Phase 1)	Rubber Tired Loaders	1	0.40	393	0.36
Material Removal Area (Phase 1)	Rubber Tired Loaders	1	1.10	110	0.36
Material Removal Area (Phase 2)	Excavators	1	7.50	286	0.38
Material Removal Area (Phase 2)	Excavators	1	3.70	108	0.38
Material Removal Area (Phase 2)	Off-Highway Trucks	1	0.30	402	0.38
Material Removal Area (Phase 2)	Off-Highway Trucks	1	20.00	452	0.38
Material Removal Area (Phase 2)	Off-Highway Trucks	1	0.20	402	0.38
Material Removal Area (Phase 2)	Off-Highway Trucks	1	1.80	402	0.38
Material Removal Area (Phase 2)	Rubber Tired Dozers	1	0.90	347	0.40
Material Removal Area (Phase 2)	Rubber Tired Loaders	1	0.40	393	0.36
Material Removal Area (Phase 2)	Rubber Tired Loaders	1	1.10	110	0.36

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Concrete Channel	1	0.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Channel Widening (Phase 1)	9	0.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Rock Pile Area (Phase 1)	10	0.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Rock Pile Area (Phase 2)	10	0.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Channel Widening (Phase 2)	9	23.00		0.00				LD_Mix	HDT_Mix	HHDT
Old Crusher Foundation	1	0.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Material Removal Area (Phase 1)	9	0.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Material Removal Area (Phase 2)	9	23.00		0.00				LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Channel Widening (Phase 2) - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0298	0.0000	0.0298	0.0164	0.0000	0.0164	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0507	0.3427	0.3988	1.3300e-003		0.0139	0.0139		0.0128	0.0128	0.0000	116.4230	116.4230	0.0377	0.0000	117.3643
Total	0.0507	0.3427	0.3988	1.3300e-003	0.0298	0.0139	0.0437	0.0164	0.0128	0.0292	0.0000	116.4230	116.4230	0.0377	0.0000	117.3643

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-003	5.6000e-004	7.0100e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.2283	0.2283	1.3000e-004	7.0000e-005	0.2522
Total	1.2000e-003	5.6000e-004	7.0100e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.2283	0.2283	1.3000e-004	7.0000e-005	0.2522

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3.6 Channel Widening (Phase 2) - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0298	0.0000	0.0298	0.0164	0.0000	0.0164	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0163	0.0705	0.6339	1.3300e-003		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003	0.0000	116.4228	116.4228	0.0377	0.0000	117.3642
Total	0.0163	0.0705	0.6339	1.3300e-003	0.0298	2.1700e-003	0.0320	0.0164	2.1700e-003	0.0186	0.0000	116.4228	116.4228	0.0377	0.0000	117.3642

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-003	5.6000e-004	7.0100e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.2283	0.2283	1.3000e-004	7.0000e-005	0.2522
Total	1.2000e-003	5.6000e-004	7.0100e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	0.0000	0.2283	0.2283	1.3000e-004	7.0000e-005	0.2522

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3.9 Material Removal Area (Phase 2) - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0444	0.0000	0.0444	0.0244	0.0000	0.0244	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1253	0.8040	0.9332	3.5200e-003		0.0300	0.0300		0.0276	0.0276	0.0000	309.0866	309.0866	0.1000	0.0000	311.5857
Total	0.1253	0.8040	0.9332	3.5200e-003	0.0444	0.0300	0.0743	0.0244	0.0276	0.0520	0.0000	309.0866	309.0866	0.1000	0.0000	311.5857

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0400e-003	5.0000e-004	6.5300e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.2150	0.2150	1.1000e-004	6.0000e-005	0.2370
Total	1.0400e-003	5.0000e-004	6.5300e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.2150	0.2150	1.1000e-004	6.0000e-005	0.2370

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3.9 Material Removal Area (Phase 2) - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0444	0.0000	0.0444	0.0244	0.0000	0.0244	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0431	0.1869	1.6240	3.5200e-003		5.7500e-003	5.7500e-003		5.7500e-003	5.7500e-003	0.0000	309.0862	309.0862	0.1000	0.0000	311.5853
Total	0.0431	0.1869	1.6240	3.5200e-003	0.0444	5.7500e-003	0.0501	0.0244	5.7500e-003	0.0301	0.0000	309.0862	309.0862	0.1000	0.0000	311.5853

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0400e-003	5.0000e-004	6.5300e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.2150	0.2150	1.1000e-004	6.0000e-005	0.2370
Total	1.0400e-003	5.0000e-004	6.5300e-003	0.0000	1.0000e-005	1.0000e-005	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.2150	0.2150	1.1000e-004	6.0000e-005	0.2370

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Permanente Creek Restoration Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

Permanente Creek Restoration Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

Permanente Creek Restoration Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Permanente Creek Restoration Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

Permanente Creek Restoration Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Permanente Creek Restoration Project - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

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

11.0 Vegetation

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Permanente Creek Restoration Project
Santa Clara County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	1.00	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4	Operational Year		2027	
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project information

Land Use - Placeholder land use. There will be no operational phase of the project, and construction data is custom to the Project.

Construction Phase - Obtained revised schedule from Lehigh on 1/24/23 - Construction Assumptions Attachment. Using the Applicant-provided schedule, some of the modeled workdays are 1 to 2 days more per phase than workdays provided by Applicant.

Off-road Equipment - Applicant-provided equipment list.

Off-road Equipment - Based on 1/24/23 Applicant provided data.

Off-road Equipment - Based on 1/24/23 Applicant provided data.

Off-road Equipment - Equipment list, number of equipment operation days, and hours/day used provided by Applicant. Average hours/day per phase estimated based on phase days.

Off-road Equipment - Based on 1/24/23 Applicant-proposed data.

Off-road Equipment - Based on 1/24/23 Applicant-proposed data.

Off-road Equipment - Based on Applicant-provided equipment list.

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - Based on 1/24/23 Applicant data.

Off-road Equipment - Per 1/24/23 Applicant provided data

Trips and VMT - On-road vehicle emissions are estimated outside of CalEEMod using EMFAC 2020.4.0 and AP-42 emission factors.

Construction Off-road Equipment Mitigation - All trucks and equipment would be Tier 4 Final per Lehigh (6/8/21).

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	150	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	24.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	0.00	132.00
tblConstructionPhase	NumDays	0.00	132.00
tblConstructionPhase	NumDays	0.00	132.00
tblConstructionPhase	NumDays	0.00	132.00
tblConstructionPhase	NumDays	0.00	132.00
tblConstructionPhase	NumDays	0.00	130.00
tblConstructionPhase	NumDays	0.00	130.00
tblConstructionPhase	NumDays	0.00	131.00

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	HorsePower	158.00	286.00
tblOffRoadEquipment	HorsePower	158.00	108.00
tblOffRoadEquipment	HorsePower	158.00	286.00
tblOffRoadEquipment	HorsePower	158.00	108.00
tblOffRoadEquipment	HorsePower	158.00	286.00
tblOffRoadEquipment	HorsePower	158.00	108.00
tblOffRoadEquipment	HorsePower	158.00	286.00
tblOffRoadEquipment	HorsePower	158.00	108.00
tblOffRoadEquipment	HorsePower	158.00	286.00
tblOffRoadEquipment	HorsePower	158.00	108.00
tblOffRoadEquipment	HorsePower	158.00	286.00
tblOffRoadEquipment	HorsePower	158.00	108.00
tblOffRoadEquipment	HorsePower	402.00	452.00
tblOffRoadEquipment	HorsePower	402.00	452.00
tblOffRoadEquipment	HorsePower	402.00	452.00
tblOffRoadEquipment	HorsePower	402.00	452.00
tblOffRoadEquipment	HorsePower	402.00	452.00
tblOffRoadEquipment	HorsePower	402.00	452.00
tblOffRoadEquipment	HorsePower	402.00	452.00
tblOffRoadEquipment	HorsePower	80.00	156.00
tblOffRoadEquipment	HorsePower	80.00	156.00
tblOffRoadEquipment	HorsePower	247.00	347.00
tblOffRoadEquipment	HorsePower	247.00	347.00
tblOffRoadEquipment	HorsePower	247.00	347.00
tblOffRoadEquipment	HorsePower	247.00	347.00
tblOffRoadEquipment	HorsePower	247.00	347.00
tblOffRoadEquipment	HorsePower	247.00	347.00
tblOffRoadEquipment	HorsePower	203.00	393.00
tblOffRoadEquipment	HorsePower	203.00	110.00
tblOffRoadEquipment	HorsePower	203.00	393.00

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	HorsePower	203.00	110.00
tblOffRoadEquipment	HorsePower	203.00	393.00
tblOffRoadEquipment	HorsePower	203.00	110.00
tblOffRoadEquipment	HorsePower	203.00	393.00
tblOffRoadEquipment	HorsePower	203.00	110.00
tblOffRoadEquipment	HorsePower	203.00	393.00
tblOffRoadEquipment	HorsePower	203.00	110.00
tblOffRoadEquipment	HorsePower	203.00	393.00
tblOffRoadEquipment	HorsePower	203.00	110.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	23.00	0.00
tblTripsAndVMT	WorkerTripNumber	25.00	0.00
tblTripsAndVMT	WorkerTripNumber	25.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	23.00	0.00

2.0 Emissions Summary

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	0.8235	6.0551	6.3107	0.0203	0.7566	0.2528	1.0093	0.2812	0.2328	0.5140	0.0000	1,959.646 3	1,959.646 3	0.6297	0.0000	1,975.388 8
2025	2.1740	13.9405	16.3308	0.0614	0.6775	0.5198	1.1973	0.3724	0.4782	0.8506	0.0000	5,938.694 2	5,938.694 2	1.9207	0.0000	5,986.711 5
2026	2.1740	13.9405	16.3308	0.0614	0.6775	0.5198	1.1973	0.3724	0.4782	0.8506	0.0000	5,938.694 2	5,938.694 2	1.9207	0.0000	5,986.711 5
2027	0.7852	5.2011	6.1657	0.0201	0.4519	0.2109	0.6628	0.2484	0.1940	0.4424	0.0000	1,948.291 9	1,948.291 9	0.6312	1.2300e-003	1,964.438 1
2028	1.9362	12.4452	14.4743	0.0544	0.6775	0.4638	1.1413	0.3724	0.4270	0.7994	0.0000	5,261.008 2	5,261.008 2	1.6948	0.0000	5,303.378 8
2029	1.9280	12.2831	14.3636	0.0538	0.6777	0.4574	1.1351	0.3725	0.4208	0.7933	0.0000	5,205.307 9	5,205.307 9	1.6844	1.1500e-003	5,247.760 0
Maximum	2.1740	13.9405	16.3308	0.0614	0.7566	0.5198	1.1973	0.3725	0.4782	0.8506	0.0000	5,938.694 2	5,938.694 2	1.9207	1.2300e-003	5,986.711 5

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Concrete Channel	Grading	4/15/2024	10/15/2024	5	132	
2	Channel Widening (Phase 1)	Grading	4/15/2024	10/15/2024	5	132	
3	Rock Pile Area (Phase 1)	Grading	4/15/2025	10/15/2025	5	132	
4	Rock Pile Area (Phase 2)	Grading	4/15/2026	10/15/2026	5	132	
5	Channel Widening (Phase 2)	Grading	4/15/2027	10/15/2027	5	132	
6	Old Crusher Foundation	Grading	4/15/2028	10/15/2028	5	130	
7	Material Removal Area (Phase 1)	Grading	4/15/2028	10/15/2028	5	130	
8	Material Removal Area (Phase 2)	Grading	4/15/2029	10/15/2029	5	131	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 37.95

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Concrete Channel	Concrete/Industrial Saws	1	0.20	81	0.73
Channel Widening (Phase 1)	Excavators	1	2.90	286	0.38
Channel Widening (Phase 1)	Excavators	1	1.40	108	0.38

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Channel Widening (Phase 1)	Off-Highway Trucks	1	0.30	402	0.38
Channel Widening (Phase 1)	Off-Highway Trucks	1	5.40	452	0.38
Channel Widening (Phase 1)	Off-Highway Trucks	1	0.10	402	0.38
Channel Widening (Phase 1)	Off-Highway Trucks	1	1.80	402	0.38
Channel Widening (Phase 1)	Rubber Tired Dozers	1	0.60	347	0.40
Channel Widening (Phase 1)	Rubber Tired Loaders	1	0.20	393	0.36
Channel Widening (Phase 1)	Rubber Tired Loaders	1	2.90	110	0.36
Rock Pile Area (Phase 1)	Excavators	1	8.70	286	0.38
Rock Pile Area (Phase 1)	Excavators	1	4.30	108	0.38
Rock Pile Area (Phase 1)	Off-Highway Trucks	1	0.40	402	0.38
Rock Pile Area (Phase 1)	Off-Highway Trucks	1	23.00	452	0.38
Rock Pile Area (Phase 1)	Off-Highway Trucks	1	0.10	402	0.38
Rock Pile Area (Phase 1)	Off-Highway Trucks	1	1.80	402	0.38
Rock Pile Area (Phase 1)	Rollers	1	0.40	156	0.38
Rock Pile Area (Phase 1)	Rubber Tired Dozers	1	0.90	347	0.40
Rock Pile Area (Phase 1)	Rubber Tired Loaders	1	0.40	393	0.36
Rock Pile Area (Phase 1)	Rubber Tired Loaders	1	1.40	110	0.36
Rock Pile Area (Phase 2)	Excavators	1	8.70	286	0.38
Rock Pile Area (Phase 2)	Excavators	1	4.30	108	0.38
Rock Pile Area (Phase 2)	Off-Highway Trucks	1	0.40	402	0.38
Rock Pile Area (Phase 2)	Off-Highway Trucks	1	23.00	452	0.38
Rock Pile Area (Phase 2)	Off-Highway Trucks	1	0.10	402	0.38
Rock Pile Area (Phase 2)	Off-Highway Trucks	1	1.80	402	0.38
Rock Pile Area (Phase 2)	Rollers	1	0.40	156	0.38
Rock Pile Area (Phase 2)	Rubber Tired Dozers	1	0.90	347	0.40
Rock Pile Area (Phase 2)	Rubber Tired Loaders	1	0.40	393	0.36
Rock Pile Area (Phase 2)	Rubber Tired Loaders	1	1.40	110	0.36
Channel Widening (Phase 2)	Excavators	1	2.90	286	0.38
Channel Widening (Phase 2)	Excavators	1	1.40	108	0.38

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Channel Widening (Phase 2)	Off-Highway Trucks	1	0.30	402	0.38
Channel Widening (Phase 2)	Off-Highway Trucks	1	5.40	452	0.38
Channel Widening (Phase 2)	Off-Highway Trucks	1	0.10	402	0.38
Channel Widening (Phase 2)	Off-Highway Trucks	1	1.80	402	0.38
Channel Widening (Phase 2)	Rubber Tired Dozers	1	0.60	347	0.40
Channel Widening (Phase 2)	Rubber Tired Loaders	1	0.20	393	0.36
Channel Widening (Phase 2)	Rubber Tired Loaders	1	2.90	110	0.36
Old Crusher Foundation	Generator Sets	1	0.30	84	0.74
Material Removal Area (Phase 1)	Excavators	1	7.50	286	0.38
Material Removal Area (Phase 1)	Excavators	1	3.70	108	0.38
Material Removal Area (Phase 1)	Off-Highway Trucks	1	0.30	402	0.38
Material Removal Area (Phase 1)	Off-Highway Trucks	1	20.20	452	0.38
Material Removal Area (Phase 1)	Off-Highway Trucks	1	0.20	402	0.38
Material Removal Area (Phase 1)	Off-Highway Trucks	1	1.80	402	0.38
Material Removal Area (Phase 1)	Rubber Tired Dozers	1	0.90	347	0.40
Material Removal Area (Phase 1)	Rubber Tired Loaders	1	0.40	393	0.36
Material Removal Area (Phase 1)	Rubber Tired Loaders	1	1.10	110	0.36
Material Removal Area (Phase 2)	Excavators	1	7.50	286	0.38
Material Removal Area (Phase 2)	Excavators	1	3.70	108	0.38
Material Removal Area (Phase 2)	Off-Highway Trucks	1	0.30	402	0.38
Material Removal Area (Phase 2)	Off-Highway Trucks	1	20.00	452	0.38
Material Removal Area (Phase 2)	Off-Highway Trucks	1	0.20	402	0.38
Material Removal Area (Phase 2)	Off-Highway Trucks	1	1.80	402	0.38
Material Removal Area (Phase 2)	Rubber Tired Dozers	1	0.90	347	0.40
Material Removal Area (Phase 2)	Rubber Tired Loaders	1	0.40	393	0.36
Material Removal Area (Phase 2)	Rubber Tired Loaders	1	1.10	110	0.36

Trips and VMT

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Concrete Channel	1	0.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Channel Widening (Phase 1)	9	0.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Rock Pile Area (Phase 1)	10	0.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Rock Pile Area (Phase 2)	10	0.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Channel Widening (Phase 2)	9	23.00		0.00				LD_Mix	HDT_Mix	HHDT
Old Crusher Foundation	1	0.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Material Removal Area (Phase 1)	9	0.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Material Removal Area (Phase 2)	9	23.00		0.00				LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Concrete Channel - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	7.8200e-003	0.0604	0.0913	1.6000e-004		2.7600e-003	2.7600e-003		2.7600e-003	2.7600e-003		14.8166	14.8166	7.0000e-004		14.8342
Total	7.8200e-003	0.0604	0.0913	1.6000e-004		2.7600e-003	2.7600e-003		2.7600e-003	2.7600e-003		14.8166	14.8166	7.0000e-004		14.8342

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Concrete Channel - 2024

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5600e-003	6.7800e-003	0.0965	1.6000e-004		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	14.8166	14.8166	7.0000e-004		14.8342
Total	1.5600e-003	6.7800e-003	0.0965	1.6000e-004		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	14.8166	14.8166	7.0000e-004		14.8342

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Concrete Channel - 2024

Mitigated Construction Off-Site

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

3.3 Channel Widening (Phase 1) - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7566	0.0000	0.7566	0.2812	0.0000	0.2812			0.0000			0.0000
Off-Road	0.8157	5.9947	6.2195	0.0201		0.2500	0.2500		0.2300	0.2300		1,944.8297	1,944.8297	0.6290		1,960.5546
Total	0.8157	5.9947	6.2195	0.0201	0.7566	0.2500	1.0066	0.2812	0.2300	0.5112		1,944.8297	1,944.8297	0.6290		1,960.5546

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Channel Widening (Phase 1) - 2024

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7566	0.0000	0.7566	0.2812	0.0000	0.2812			0.0000			0.0000
Off-Road	0.2464	1.0677	9.6038	0.0201		0.0329	0.0329		0.0329	0.0329	0.0000	1,944.8297	1,944.8297	0.6290		1,960.5546
Total	0.2464	1.0677	9.6038	0.0201	0.7566	0.0329	0.7894	0.2812	0.0329	0.3140	0.0000	1,944.8297	1,944.8297	0.6290		1,960.5546

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Channel Widening (Phase 1) - 2024

Mitigated Construction Off-Site

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

3.4 Rock Pile Area (Phase 1) - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6775	0.0000	0.6775	0.3724	0.0000	0.3724			0.0000			0.0000
Off-Road	2.1740	13.9405	16.3308	0.0614		0.5198	0.5198		0.4782	0.4782		5,938.694 2	5,938.694 2	1.9207		5,986.711 5
Total	2.1740	13.9405	16.3308	0.0614	0.6775	0.5198	1.1973	0.3724	0.4782	0.8506		5,938.694 2	5,938.694 2	1.9207		5,986.711 5

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Rock Pile Area (Phase 1) - 2025

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6775	0.0000	0.6775	0.3724	0.0000	0.3724			0.0000			0.0000
Off-Road	0.7519	3.2584	28.4160	0.0614		0.1003	0.1003		0.1003	0.1003	0.0000	5,938.694 2	5,938.694 2	1.9207		5,986.711 5
Total	0.7519	3.2584	28.4160	0.0614	0.6775	0.1003	0.7777	0.3724	0.1003	0.4727	0.0000	5,938.694 2	5,938.694 2	1.9207		5,986.711 5

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Rock Pile Area (Phase 1) - 2025

Mitigated Construction Off-Site

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

3.5 Rock Pile Area (Phase 2) - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6775	0.0000	0.6775	0.3724	0.0000	0.3724			0.0000			0.0000
Off-Road	2.1740	13.9405	16.3308	0.0614		0.5198	0.5198		0.4782	0.4782		5,938.694 2	5,938.694 2	1.9207		5,986.711 5
Total	2.1740	13.9405	16.3308	0.0614	0.6775	0.5198	1.1973	0.3724	0.4782	0.8506		5,938.694 2	5,938.694 2	1.9207		5,986.711 5

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Rock Pile Area (Phase 2) - 2026

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6775	0.0000	0.6775	0.3724	0.0000	0.3724			0.0000			0.0000
Off-Road	0.7519	3.2584	28.4160	0.0614		0.1003	0.1003		0.1003	0.1003	0.0000	5,938.694 2	5,938.694 2	1.9207		5,986.711 5
Total	0.7519	3.2584	28.4160	0.0614	0.6775	0.1003	0.7777	0.3724	0.1003	0.4727	0.0000	5,938.694 2	5,938.694 2	1.9207		5,986.711 5

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Rock Pile Area (Phase 2) - 2026

Mitigated Construction Off-Site

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

3.6 Channel Widening (Phase 2) - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4517	0.0000	0.4517	0.2483	0.0000	0.2483			0.0000			0.0000
Off-Road	0.7677	5.1920	6.0419	0.0201		0.2108	0.2108		0.1939	0.1939		1,944.4598	1,944.4598	0.6289		1,960.1818
Total	0.7677	5.1920	6.0419	0.0201	0.4517	0.2108	0.6625	0.2483	0.1939	0.4422		1,944.4598	1,944.4598	0.6289		1,960.1818

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Channel Widening (Phase 2) - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0175	9.1700e-003	0.1238	4.0000e-005	2.3000e-004	9.0000e-005	3.1000e-004	9.0000e-005	8.0000e-005	1.7000e-004		3.8321	3.8321	2.3400e-003	1.2300e-003	4.2563
Total	0.0175	9.1700e-003	0.1238	4.0000e-005	2.3000e-004	9.0000e-005	3.1000e-004	9.0000e-005	8.0000e-005	1.7000e-004		3.8321	3.8321	2.3400e-003	1.2300e-003	4.2563

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4517	0.0000	0.4517	0.2483	0.0000	0.2483			0.0000			0.0000
Off-Road	0.2464	1.0677	9.6038	0.0201		0.0329	0.0329		0.0329	0.0329	0.0000	1,944.4598	1,944.4598	0.6289		1,960.1818
Total	0.2464	1.0677	9.6038	0.0201	0.4517	0.0329	0.4845	0.2483	0.0329	0.2811	0.0000	1,944.4598	1,944.4598	0.6289		1,960.1818

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Channel Widening (Phase 2) - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0175	9.1700e-003	0.1238	4.0000e-005	2.3000e-004	9.0000e-005	3.1000e-004	9.0000e-005	8.0000e-005	1.7000e-004		3.8321	3.8321	2.3400e-003	1.2300e-003	4.2563
Total	0.0175	9.1700e-003	0.1238	4.0000e-005	2.3000e-004	9.0000e-005	3.1000e-004	9.0000e-005	8.0000e-005	1.7000e-004		3.8321	3.8321	2.3400e-003	1.2300e-003	4.2563

3.7 Old Crusher Foundation - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	9.9900e-003	0.0898	0.1372	2.5000e-004		3.5800e-003	3.5800e-003		3.5800e-003	3.5800e-003		23.3638	23.3638	8.6000e-004		23.3854
Total	9.9900e-003	0.0898	0.1372	2.5000e-004		3.5800e-003	3.5800e-003		3.5800e-003	3.5800e-003		23.3638	23.3638	8.6000e-004		23.3854

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Old Crusher Foundation - 2028

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.4700e-003	0.0107	0.1521	2.5000e-004		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	23.3638	23.3638	8.6000e-004		23.3854
Total	2.4700e-003	0.0107	0.1521	2.5000e-004		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	23.3638	23.3638	8.6000e-004		23.3854

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Old Crusher Foundation - 2028

Mitigated Construction Off-Site

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

3.8 Material Removal Area (Phase 1) - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6775	0.0000	0.6775	0.3724	0.0000	0.3724			0.0000			0.0000
Off-Road	1.9262	12.3554	14.3371	0.0541		0.4602	0.4602		0.4234	0.4234		5,237.6444	5,237.6444	1.6940		5,279.9934
Total	1.9262	12.3554	14.3371	0.0541	0.6775	0.4602	1.1377	0.3724	0.4234	0.7958		5,237.6444	5,237.6444	1.6940		5,279.9934

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.8 Material Removal Area (Phase 1) - 2028

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6775	0.0000	0.6775	0.3724	0.0000	0.3724			0.0000			0.0000
Off-Road	0.6631	2.8734	24.9597	0.0541		0.0884	0.0884		0.0884	0.0884	0.0000	5,237.644 4	5,237.644 4	1.6940		5,279.993 4
Total	0.6631	2.8734	24.9597	0.0541	0.6775	0.0884	0.7659	0.3724	0.0884	0.4608	0.0000	5,237.644 4	5,237.644 4	1.6940		5,279.993 4

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.8 Material Removal Area (Phase 1) - 2028

Mitigated Construction Off-Site

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

3.9 Material Removal Area (Phase 2) - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6775	0.0000	0.6775	0.3724	0.0000	0.3724			0.0000			0.0000
Off-Road	1.9128	12.2748	14.2475	0.0538		0.4573	0.4573		0.4207	0.4207		5,201.6735	5,201.6735	1.6823		5,243.7316
Total	1.9128	12.2748	14.2475	0.0538	0.6775	0.4573	1.1348	0.3724	0.4207	0.7931		5,201.6735	5,201.6735	1.6823		5,243.7316

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.9 Material Removal Area (Phase 2) - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0152	8.2900e-003	0.1161	4.0000e-005	2.3000e-004	8.0000e-005	3.0000e-004	9.0000e-005	7.0000e-005	1.6000e-004		3.6345	3.6345	2.0400e-003	1.1500e-003	4.0284
Total	0.0152	8.2900e-003	0.1161	4.0000e-005	2.3000e-004	8.0000e-005	3.0000e-004	9.0000e-005	7.0000e-005	1.6000e-004		3.6345	3.6345	2.0400e-003	1.1500e-003	4.0284

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6775	0.0000	0.6775	0.3724	0.0000	0.3724			0.0000			0.0000
Off-Road	0.6586	2.8537	24.7931	0.0538		0.0878	0.0878		0.0878	0.0878	0.0000	5,201.6735	5,201.6735	1.6823		5,243.7316
Total	0.6586	2.8537	24.7931	0.0538	0.6775	0.0878	0.7653	0.3724	0.0878	0.4602	0.0000	5,201.6735	5,201.6735	1.6823		5,243.7316

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.9 Material Removal Area (Phase 2) - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0152	8.2900e-003	0.1161	4.0000e-005	2.3000e-004	8.0000e-005	3.0000e-004	9.0000e-005	7.0000e-005	1.6000e-004		3.6345	3.6345	2.0400e-003	1.1500e-003	4.0284
Total	0.0152	8.2900e-003	0.1161	4.0000e-005	2.3000e-004	8.0000e-005	3.0000e-004	9.0000e-005	7.0000e-005	1.6000e-004		3.6345	3.6345	2.0400e-003	1.1500e-003	4.0284

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

Permanente Creek Restoration Project - Santa Clara County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

A-3 EMFAC2021 Output File

Exhibit B

Health Risk Assessment



B-1 Cancer Risk Calculations –
2003 OEHHA Guidance

HRA Permanente Creek Restoration Project

Construction Year 2024

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(tons/year)	speciation	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-02
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	2.877E-07	8.36E-14	5.02E-14	8.36E-14	4.28E-13	9.37E-13	8.36E-14	1.34E-14	1.54E-12	1.67E-13	6.69E-15	2.48E-10
Paved road	2024_PAVED	5.948E-06	3.00E-09	1.80E-09	3.00E-09	1.92E-09	6.01E-08	5.53E-09	3.36E-10	1.30E-07	6.01E-09	4.56E-09	1.71E-05
Unpaved road	2024_CCP_UNPV	1.802E-06	7.37E-09	4.42E-09	7.37E-09	4.72E-09	1.47E-07	1.36E-08	8.26E-10	3.18E-07	1.47E-08	1.12E-08	4.19E-05
Channel Widening 2024	2024_CHAN_RCK	5.566E-05	5.889E-09	3.533E-09	5.889E-09	3.015E-08	6.595E-08	5.889E-09	9.422E-10	1.084E-07	1.178E-08	4.711E-10	1.749E-05
Paved road	2024_PAVED	5.173E-05	8.597E-08	5.158E-08	8.597E-08	5.502E-08	1.719E-06	1.582E-07	9.629E-09	3.714E-06	1.719E-07	1.307E-07	4.883E-04
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material Removal 2028	2028_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2028_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2028_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Exposure Duration, ED

Exposure Start	3rd Trimester	0<2	2<16	16<30
1/1/2024	0.25	0.75	0	0

Risk Factors

Abbreviation	UOM	3rd Trimester	0<2	2<16	16<30
DBR	L/kg-day	361	581	581	302
FAH	unitless	0.85	0.85	0.72	0.73
EF	days/year	0.96	0.96	0.96	0.96
ASF	unitless	10	10	3	1.7
A	unitless	1	1	1	1
CF ₁	m ³ /L	0.001	0.001	0.001	0.001
CF ₂	µg/m ³	0.001	0.001	0.001	0.001
AT	years	70.00	70.00	70.00	70.00

Cancer Potency Factor, CPF

TAC	UOM	
DPM	mg/kg-day ⁻¹	1.1
Arsenic	mg/kg-day ⁻¹	12
Beryllium	mg/kg-day ⁻¹	8.4
Cadmium	mg/kg-day ⁻¹	15
Cobalt	mg/kg-day ⁻¹	27
Lead	mg/kg-day ⁻¹	0.04
Nickel	mg/kg-day ⁻¹	0.91
Chromium VI	mg/kg-day ⁻¹	510

^a assume school or daycare will have cancer risk of >1 per million

HRA Permanente Creek Restoration Project

Construction Year 2025

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(tons/year)	speciation (tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2024_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Rock Pile Area 2025	2025_CHAN_RCK	1.698E-04	9.08E-09	5.45E-09	9.08E-09	4.65E-08	1.02E-07	9.08E-09	1.45E-09	1.67E-07	1.82E-08	7.26E-10	2.70E-05
Paved road	2025_PAVED	1.711E-04	8.77E-08	5.26E-08	8.77E-08	5.61E-08	1.75E-06	1.61E-07	9.82E-09	3.79E-06	1.75E-07	1.33E-07	4.98E-04
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material Removal 2028	2028_MATRMVL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2028_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Unpaved road	2028_UNPAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Exposure Duration, ED

Exposure Start	3rd Trimester	0<2	2<16	16<30
1/1/2025	0	1	0	0

HRA Permanente Creek Restoration Project

Risk Factors

	Abbreviation	UOM	3rd Trimester	0<2	2<16	16<30
Daily Breathing Rate (95th %ile)	DBR	L/kg-day	361	581	581	302
Fraction Of Time At Home ^a	FAH	unitless	0.85	0.85	0.72	0.73
Exposure Frequency	EF	days/year	0.96	0.96	0.96	0.96
Age Sensitivity Factor	ASF	unitless	10	10	3	1.7
Inhalation Absorption Factor	A	unitless	1	1	1	1
Conversion Factor	CF ₁	m ³ /L	0.001	0.001	0.001	0.001
Conversion Factor	CF ₂	µg/m ³	0.001	0.001	0.001	0.001
Averaging Time (for residential exposure)	AT	years	70.00	70.00	70.00	70.00

^a assume school or daycare will have cancer risk of >1 per million

Cancer Potency Factor, CPF

TAC	UOM	
DPM	mg/kg-day ⁻¹	1.1
Arsenic	mg/kg-day ⁻¹	12
Beryllium	mg/kg-day ⁻¹	8.4
Cadmium	mg/kg-day ⁻¹	15
Cobalt	mg/kg-day ⁻¹	27
Lead	mg/kg-day ⁻¹	0.04
Nickel	mg/kg-day ⁻¹	0.91
Chromium VI	mg/kg-day ⁻¹	510

Intake Factor for Inhalation, IF (m³/kg-day)

Equation	3rd Trimester	0<2	2<16	16<30
DBR*FAH*EF*ED*ASF*A*CF/AT	0.000	0.068	0.000	0.000

Risk Calculation Part 1, R1

	TAC	3rd Trimester	0<2	2<16	16<30
IF*CPF*CF	DPM	0.00E+00	7.44E-05	0.00E+00	0.00E+00
	Arsenic	0.00E+00	8.12E-04	0.00E+00	0.00E+00
	Beryllium	0.00E+00	5.68E-04	0.00E+00	0.00E+00
	Cadmium	0.00E+00	1.01E-03	0.00E+00	0.00E+00
	Cobalt	0.00E+00	1.83E-03	0.00E+00	0.00E+00
	Lead	0.00E+00	2.71E-06	0.00E+00	0.00E+00
	Nickel	0.00E+00	6.16E-05	0.00E+00	0.00E+00
	Chromium VI	0.00E+00	3.45E-02	0.00E+00	0.00E+00

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)									
			UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Lead	Nickel	Chromium VI
			581336.22_4131207.48	581336.22	4131207.48	2.00E-04	1.01E-07	6.05E-08	1.01E-07	6.54E-08	1.85E-07	4.35E-06
581554.22_4130688.06	581554.22	4130688.06	1.37E-04	6.70E-08	4.02E-08	6.70E-08	4.46E-08	1.23E-07	2.88E-06	1.01E-07		
579793.36_4131503.29	579793.36	4131503.29	1.25E-05	3.69E-09	2.21E-09	3.69E-09	3.78E-09	6.52E-09	1.51E-07	5.15E-09		
580488.37_4131517.71	580488.37	4131517.71	1.58E-05	6.54E-09	3.92E-09	6.54E-09	5.01E-09	1.19E-08	2.78E-07	9.68E-09		
581678.43_4131040.03	581678.43	4131040.03	6.34E-04	3.23E-07	1.94E-07	3.23E-07	2.08E-07	5.94E-07	1.39E-05	4.91E-07		
581635.43_4130978.54	581635.43	4130978.54	1.28E-03	6.55E-07	3.93E-07	6.55E-07	4.20E-07	1.20E-06	2.83E-05	9.95E-07		
581830.06_4131027.55	581830.06	4131027.55	5.84E-04	2.97E-07	1.78E-07	2.97E-07	1.91E-07	5.47E-07	1.28E-05	4.52E-07		
581727.48_4130976.54	581727.48	4130976.54	1.55E-03	7.93E-07	4.76E-07	7.93E-07	5.09E-07	1.46E-06	3.43E-05	1.21E-06		
581789.11_4130419.65	581789.11	4130419.65	1.07E-04	5.04E-08	3.02E-08	5.04E-08	3.45E-08	9.23E-08	2.16E-06	7.59E-08		
581700.32_4130781.89	581700.32	4130781.89	3.09E-04	1.56E-07	9.37E-08	1.56E-07	1.01E-07	2.87E-07	6.74E-06	2.37E-07		
581426.07_4131299.01	581426.07	4131299.01	7.29E-05	3.59E-08	2.15E-08	3.59E-08	2.37E-08	6.59E-08	1.55E-06	5.43E-08		
582301.42_4129474.56	582301.42	4129474.56	3.79E-05	1.55E-08	9.29E-09	1.55E-08	1.20E-08	2.81E-08	6.57E-07	2.29E-08		
582357.99_4129474.56	582357.99	4129474.56	3.55E-05	1.45E-08	8.67E-09	1.45E-08	1.12E-08	2.62E-08	6.14E-07	2.13E-08		
582414.56_4129474.56	582414.56	4129474.56	3.33E-05	1.35E-08	8.11E-09	1.35E-08	1.05E-08	2.45E-08	5.74E-07	2.00E-08		
582471.13_4129474.56	582471.13	4129474.56	3.14E-05	1.27E-08	7.61E-09	1.27E-08	9.88E-09	2.30E-08	5.38E-07	1.87E-08		
582527.7_4129474.56	582527.7	4129474.56	2.96E-05	1.20E-08	7.18E-09	1.20E-08	9.34E-09	2.17E-08	5.08E-07	1.76E-08		
582584.27_4129474.56	582584.27	4129474.56	2.79E-05	1.12E-08	6.74E-09	1.12E-08	8.79E-09	2.04E-08	4.77E-07	1.66E-08		
582640.84_4129474.56	582640.84	4129474.56	2.61E-05	1.05E-08	6.27E-09	1.05E-08	8.22E-09	1.90E-08	4.43E-07	1.54E-08		
582244.85_4129558.47	582244.85	4129558.47	3.95E-05	1.57E-08	9.41E-09	1.57E-08	1.24E-08	2.84E-08	6.64E-07	2.31E-08		
582301.42_4129558.47	582301.42	4129558.47	3.84E-05	1.56E-08	9.34E-09	1.56E-08	1.21E-08	2.82E-08	6.60E-07	2.30E-08		
582357.99_4129558.47	582357.99	4129558.47	3.63E-05	1.48E-08	8.85E-09	1.48E-08	1.14E-08	2.68E-08	6.26E-07	2.18E-08		
582414.56_4129558.47	582414.56	4129558.47	3.41E-05	1.38E-08	8.30E-09	1.38E-08	1.07E-08	2.51E-08	5.87E-07	2.04E-08		
582471.13_4129558.47	582471.13	4129558.47	3.19E-05	1.29E-08	7.76E-09	1.29E-08	1.00E-08	2.35E-08	5.49E-07	1.91E-08		
582527.7_4129558.47	582527.7	4129558.47	2.99E-05	1.21E-08	7.25E-09	1.21E-08	9.42E-09	2.19E-08	5.13E-07	1.78E-08		
582584.27_4129558.47	582584.27	4129558.47	2.80E-05	1.13E-08	6.77E-09	1.13E-08	8.82E-09	2.05E-08	4.78E-07	1.66E-08		
582640.84_4129558.47	582640.84	4129558.47	2.64E-05	1.06E-08	6.36E-09	1.06E-08	8.32E-09	1.92E-08	4.50E-07	1.56E-08		
582697.41_4129558.47	582697.41	4129558.47	2.49E-05	9.96E-09	5.98E-09	9.96E-09	7.84E-09	1.80E-08	4.22E-07	1.47E-08		
582244.85_4129642.38	582244.85	4129642.38	3.62E-05	1.37E-08	8.24E-09	1.37E-08	1.13E-08	2.48E-08	5.79E-07	2.01E-08		

Risk Calculation Part 2, ΣR1*C_{TAC}

3rd Trimester	0<2	2<16	16<30	Cancer Risk - 2025 (per million)	Receptor Type
0	1.48789E-08	0	0	0.0149	CT House
0	1.02128E-08	0	0	0.0102	Res
0	9.29858E-10	0	0	0.0009	Acute
0	1.17799E-09	0	0	0.0012	Acute
0	4.71967E-08	0	0	0.0472	Res
0	9.54273E-08	0	0	0.0954	Res
0	4.34614E-08	0	0	0.0435	Res
0	1.1547E-07	0	0	0.1155	Res
0	7.94375E-09	0	0	0.0079	Res
0	2.30296E-08	0	0	0.0230	Res
0	5.42198E-09	0	0	0.0054	Acute
0	2.82332E-09	0	0	0.0028	Res
0	2.64365E-09	0	0	0.0026	Res
0	2.48114E-09	0	0	0.0025	Res
0	2.33339E-09	0	0	0.0023	Res
0	2.20611E-09	0	0	0.0022	Res
0	2.07706E-09	0	0	0.0021	Res
0	1.94264E-09	0	0	0.0019	Res
0	2.93807E-09	0	0	0.0029	Res
0	2.86028E-09	0	0	0.0029	Res
0	2.6992E-09	0	0	0.0027	Res
0	2.5348E-09	0	0	0.0025	Res
0	2.37056E-09	0	0	0.0024	Res
0	2.22305E-09	0	0	0.0022	Res
0	2.08406E-09	0	0	0.0021	Res
0	1.96669E-09	0	0	0.0020	Res
0	1.8544E-09	0	0	0.0019	Res
0	2.69272E-09	0	0	0.0027	Res

HRA Permanente Creek Restoration Project

Construction Year 2026

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(tons/year)	speciation	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rock Pile Area 2026	2026_CHAN_RCK	1.698E-04	9.08E-09	5.45E-09	9.08E-09	4.65E-08	1.02E-07	9.08E-09	1.45E-09	1.67E-07	1.82E-08	7.26E-10	2.70E-05
Paved road	2026_PAVED	1.681E-04	8.77E-08	5.26E-08	8.77E-08	5.61E-08	1.75E-06	1.61E-07	9.82E-09	3.79E-06	1.75E-07	1.33E-07	4.98E-04
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material Removal 2028	2028_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2028_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2028_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Exposure Duration, ED

	Exposure Start	3rd Trimester	0<2	2<16	16<30
Years	1/1/2026	0	0.25	0.75	0

HRA Permanente Creek Restoration Project

Construction Year 2027

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for speciation	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2024_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2027	2027_CHAN_RCK	5.566E-05	3.53E-08	2.12E-08	3.53E-08	1.81E-07	3.95E-07	3.53E-08	5.65E-09	6.49E-07	7.06E-08	2.82E-09	1.05E-04
Paved road	2027_PAVED	1.614E-04	8.60E-08	5.16E-08	8.60E-08	5.50E-08	1.72E-06	1.58E-07	9.63E-09	3.71E-06	1.72E-07	1.31E-07	4.88E-04
Material Removal 2028	2028_MATRMVL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2028_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Unpaved road	2028_UNPAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Exposure Duration, ED

Exposure Start	3rd Trimester	0<2	2<16	16<30
1/1/2027	0	0	1	0

HRA Permanente Creek Restoration Project

Construction Year 2028

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(tons/year)	speciation (tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2024_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material Removal 2028	2028_MATRMVL	3.324E-05	9.075E-09	5.445E-09	9.075E-09	4.647E-08	1.016E-07	9.075E-09	1.452E-09	1.670E-07	1.815E-08	7.260E-10	2.696E-05
Paved road	2028_PAVED	1.603E-04	8.608E-08	5.165E-08	8.608E-08	5.509E-08	1.722E-06	1.584E-07	9.641E-09	3.719E-06	1.722E-07	1.308E-07	4.889E-04
Unpaved road	2028_UNPAVED	9.795E-05	4.259E-07	2.555E-07	4.259E-07	2.726E-07	8.517E-06	7.836E-07	4.770E-08	1.840E-05	8.517E-07	6.473E-07	2.419E-03
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Exposure Duration, ED

Exposure Start	3rd Trimester	0<2	2<16	16<30
1/1/2028	0	0	1	0

HRA Permanente Creek Restoration Project

Construction Year 2029

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(tons/year)	speciation	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material Removal 2028	2028_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2028_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2028_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material Removal 2029	2029_MATRMVL	3.324E-05	9.08E-09	5.45E-09	9.08E-09	4.65E-08	1.02E-07	9.08E-09	1.45E-09	1.67E-07	1.82E-08	7.26E-10	2.70E-05
Paved road	2029_PAVED	1.598E-04	8.67E-08	5.20E-08	8.67E-08	5.55E-08	1.73E-06	1.60E-07	9.71E-09	3.75E-06	1.73E-07	1.32E-07	4.93E-04
Unpaved road	2029_UNPAVED	9.761E-05	4.29E-07	2.57E-07	4.29E-07	2.75E-07	8.58E-06	7.89E-07	4.81E-08	1.85E-05	8.58E-07	6.52E-07	2.44E-03

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Exposure Duration, ED

Exposure Start	3rd Trimester	0<2	2<16	16<30
1/1/2029	0	0	1	0

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)							
	UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Lead	Nickel	Chromium VI
582697.41_4130984.94	582697.41	4130984.94	1.07E-05	1.03E-08	6.19E-09	1.03E-08	6.93E-09	1.89E-08	4.44E-07	1.56E-08
582753.98_4130984.94	582753.98	4130984.94	1.01E-05	9.85E-09	5.91E-09	9.85E-09	6.63E-09	1.81E-08	4.24E-07	1.49E-08
582810.55_4130984.94	582810.55	4130984.94	9.53E-06	9.43E-09	5.66E-09	9.43E-09	6.35E-09	1.73E-08	4.06E-07	1.42E-08
582867.12_4130984.94	582867.12	4130984.94	9.01E-06	9.04E-09	5.43E-09	9.04E-09	6.10E-09	1.66E-08	3.89E-07	1.36E-08
581735.72_4131068.85	581735.72	4131068.85	2.79E-04	1.59E-07	9.54E-08	1.59E-07	1.02E-07	2.93E-07	6.87E-06	2.42E-07
581792.29_4131068.85	581792.29	4131068.85	2.23E-04	1.28E-07	7.69E-08	1.28E-07	8.25E-08	2.36E-07	5.54E-06	1.95E-07
581848.86_4131068.85	581848.86	4131068.85	1.20E-04	7.22E-08	4.33E-08	7.22E-08	4.67E-08	1.33E-07	3.12E-06	1.10E-07
581905.43_4131068.85	581905.43	4131068.85	7.65E-05	4.84E-08	2.90E-08	4.84E-08	3.14E-08	8.90E-08	2.09E-06	7.34E-08
581962_4131068.85	581962	4131068.85	5.54E-05	3.68E-08	2.21E-08	3.68E-08	2.40E-08	6.75E-08	1.59E-06	5.57E-08
582018.57_4131068.85	582018.57	4131068.85	4.21E-05	2.93E-08	1.76E-08	2.93E-08	1.92E-08	5.38E-08	1.26E-06	4.43E-08
582075.14_4131068.85	582075.14	4131068.85	3.34E-05	2.43E-08	1.46E-08	2.43E-08	1.60E-08	4.47E-08	1.05E-06	3.69E-08
582131.71_4131068.85	582131.71	4131068.85	2.75E-05	2.10E-08	1.26E-08	2.10E-08	1.38E-08	3.85E-08	9.03E-07	3.17E-08
582188.28_4131068.85	582188.28	4131068.85	2.33E-05	1.85E-08	1.11E-08	1.85E-08	1.22E-08	3.39E-08	7.95E-07	2.79E-08
582244.85_4131068.85	582244.85	4131068.85	2.01E-05	1.66E-08	9.93E-09	1.66E-08	1.10E-08	3.04E-08	7.13E-07	2.50E-08
582301.42_4131068.85	582301.42	4131068.85	1.77E-05	1.51E-08	9.03E-09	1.51E-08	1.00E-08	2.76E-08	6.48E-07	2.28E-08
582357.99_4131068.85	582357.99	4131068.85	1.58E-05	1.38E-08	8.29E-09	1.38E-08	9.21E-09	2.54E-08	5.95E-07	2.09E-08
582414.56_4131068.85	582414.56	4131068.85	1.42E-05	1.28E-08	7.70E-09	1.28E-08	8.57E-09	2.35E-08	5.52E-07	1.94E-08
582471.13_4131068.85	582471.13	4131068.85	1.30E-05	1.20E-08	7.19E-09	1.20E-08	8.01E-09	2.20E-08	5.16E-07	1.81E-08
582527.7_4131068.85	582527.7	4131068.85	1.19E-05	1.13E-08	6.75E-09	1.13E-08	7.54E-09	2.06E-08	4.84E-07	1.70E-08
582584.27_4131068.85	582584.27	4131068.85	1.10E-05	1.06E-08	6.36E-09	1.06E-08	7.12E-09	1.95E-08	4.56E-07	1.60E-08
582640.84_4131068.85	582640.84	4131068.85	1.03E-05	1.01E-08	6.06E-09	1.01E-08	6.79E-09	1.85E-08	4.35E-07	1.53E-08
582697.41_4131068.85	582697.41	4131068.85	9.70E-06	9.63E-09	5.78E-09	9.63E-09	6.48E-09	1.77E-08	4.14E-07	1.45E-08
582753.98_4131068.85	582753.98	4131068.85	9.20E-06	9.24E-09	5.54E-09	9.24E-09	6.23E-09	1.69E-08	3.97E-07	1.39E-08
582810.55_4131068.85	582810.55	4131068.85	8.74E-06	8.88E-09	5.33E-09	8.88E-09	5.99E-09	1.63E-08	3.82E-07	1.34E-08
582867.12_4131068.85	582867.12	4131068.85	8.27E-06	8.51E-09	5.10E-09	8.51E-09	5.75E-09	1.56E-08	3.66E-07	1.28E-08
582018.57_4131152.76	582018.57	4131152.76	2.82E-05	2.16E-08	1.30E-08	2.16E-08	1.43E-08	3.97E-08	9.32E-07	3.28E-08
582244.85_4131152.76	582244.85	4131152.76	1.70E-05	1.48E-08	8.90E-09	1.48E-08	9.87E-09	2.72E-08	6.38E-07	2.24E-08
582301.42_4131152.76	582301.42	4131152.76	1.53E-05	1.37E-08	8.24E-09	1.37E-08	9.16E-09	2.52E-08	5.91E-07	2.08E-08
582357.99_4131152.76	582357.99	4131152.76	1.39E-05	1.28E-08	7.66E-09	1.28E-08	8.53E-09	2.34E-08	5.49E-07	1.93E-08
582414.56_4131152.76	582414.56	4131152.76	1.26E-05	1.19E-08	7.16E-09	1.19E-08	7.99E-09	2.19E-08	5.13E-07	1.80E-08
582471.13_4131152.76	582471.13	4131152.76	1.15E-05	1.11E-08	6.69E-09	1.11E-08	7.48E-09	2.04E-08	4.80E-07	1.68E-08
582527.7_4131152.76	582527.7	4131152.76	1.06E-05	1.05E-08	6.30E-09	1.05E-08	7.05E-09	1.92E-08	4.51E-07	1.58E-08
582584.27_4131152.76	582584.27	4131152.76	9.77E-06	9.91E-09	5.95E-09	9.91E-09	6.67E-09	1.82E-08	4.26E-07	1.50E-08
582640.84_4131152.76	582640.84	4131152.76	9.13E-06	9.43E-09	5.66E-09	9.43E-09	6.36E-09	1.73E-08	4.06E-07	1.42E-08
582697.41_4131152.76	582697.41	4131152.76	8.58E-06	9.00E-09	5.40E-09	9.00E-09	6.07E-09	1.65E-08	3.87E-07	1.36E-08
582753.98_4131152.76	582753.98	4131152.76	8.17E-06	8.65E-09	5.19E-09	8.65E-09	5.84E-09	1.59E-08	3.72E-07	1.31E-08
582810.55_4131152.76	582810.55	4131152.76	7.79E-06	8.33E-09	5.00E-09	8.33E-09	5.63E-09	1.53E-08	3.58E-07	1.26E-08
582867.12_4131152.76	582867.12	4131152.76	7.39E-06	7.99E-09	4.79E-09	7.99E-09	5.41E-09	1.46E-08	3.44E-07	1.20E-08

Risk Calculation Part 2, ΣR1*C_{TAC}

3rd Trimester	0<2	2<16	16<30	Cancer Risk - 2029 (per million)	Receptor Type
0	0	2.03005E-10	0	0.0002	Res
0	0	1.91174E-10	0	0.0002	Res
0	0	1.80372E-10	0	0.0002	Res
0	0	1.70671E-10	0	0.0002	Res
0	0	5.28204E-09	0	0.0053	Res
0	0	4.21408E-09	0	0.0042	Res
0	0	2.2703E-09	0	0.0023	Res
0	0	1.44764E-09	0	0.0014	Res
0	0	1.04956E-09	0	0.0010	Res
0	0	7.96245E-10	0	0.0008	Res
0	0	6.32087E-10	0	0.0006	Res
0	0	5.21334E-10	0	0.0005	Res
0	0	4.40739E-10	0	0.0004	Res
0	0	3.81183E-10	0	0.0004	Res
0	0	3.35152E-10	0	0.0003	Res
0	0	2.98645E-10	0	0.0003	Res
0	0	2.696E-10	0	0.0003	Res
0	0	2.45645E-10	0	0.0002	Res
0	0	2.25587E-10	0	0.0002	Res
0	0	2.08234E-10	0	0.0002	Res
0	0	1.95409E-10	0	0.0002	Res
0	0	1.83661E-10	0	0.0002	Res
0	0	1.7411E-10	0	0.0002	Res
0	0	1.65553E-10	0	0.0002	Res
0	0	1.56597E-10	0	0.0002	Res
0	0	5.34075E-10	0	0.0005	Res
0	0	3.22649E-10	0	0.0003	Res
0	0	2.90589E-10	0	0.0003	Res
0	0	2.62482E-10	0	0.0003	Res
0	0	2.39197E-10	0	0.0002	Res
0	0	2.17305E-10	0	0.0002	Res
0	0	1.99872E-10	0	0.0002	Res
0	0	1.84915E-10	0	0.0002	Res
0	0	1.72834E-10	0	0.0002	Res
0	0	1.62501E-10	0	0.0002	Res
0	0	1.54729E-10	0	0.0002	Res
0	0	1.47497E-10	0	0.0001	Res
0	0	1.39823E-10	0	0.0001	Res

B-2 Cancer Risk Calculations –
2015 OEHHA Guidance

HRA Permanente Creek Restoration Project

Construction Year 2025

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for speciation	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2024_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Rock Pile Area 2025	2025_CHAN_RCK	1.698E-04	9.08E-09	5.45E-09	9.08E-09	4.65E-08	1.02E-07	9.08E-09	1.45E-09	1.67E-07	1.82E-08	7.26E-10	2.70E-05
Paved road	2025_PAVED	1.711E-04	8.77E-08	5.26E-08	8.77E-08	5.61E-08	1.75E-06	1.61E-07	9.82E-09	3.79E-06	1.75E-07	1.33E-07	4.98E-04
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material Removal 2028	2028_MATRMVL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2028_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Unpaved road	2028_UNPAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Exposure Duration, ED

Exposure Start	3rd Trimester	0<2	2<16	16<30
1/1/2025	0	1	0	0

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)								
			UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Lead	Nickel
582527.7_4130984.94	582527.7	4130984.94	1.50E-05	6.58E-09	3.95E-09	6.58E-09	4.78E-09	1.20E-08	2.81E-07	9.82E-09	
582584.27_4130984.94	582584.27	4130984.94	1.39E-05	6.04E-09	3.62E-09	6.04E-09	4.43E-09	1.10E-08	2.58E-07	9.00E-09	
582640.84_4130984.94	582640.84	4130984.94	1.30E-05	5.60E-09	3.36E-09	5.60E-09	4.15E-09	1.02E-08	2.39E-07	8.34E-09	
582697.41_4130984.94	582697.41	4130984.94	1.23E-05	5.21E-09	3.12E-09	5.21E-09	3.89E-09	9.48E-09	2.22E-07	7.74E-09	
582753.98_4130984.94	582753.98	4130984.94	1.16E-05	4.89E-09	2.93E-09	4.89E-09	3.69E-09	8.88E-09	2.08E-07	7.25E-09	
582810.55_4130984.94	582810.55	4130984.94	1.11E-05	4.59E-09	2.76E-09	4.59E-09	3.50E-09	8.34E-09	1.95E-07	6.80E-09	
582867.12_4130984.94	582867.12	4130984.94	1.05E-05	4.33E-09	2.60E-09	4.33E-09	3.33E-09	7.86E-09	1.84E-07	6.40E-09	
581735.72_4131068.85	581735.72	4131068.85	3.00E-04	1.52E-07	9.12E-08	1.52E-07	9.82E-08	2.79E-07	6.56E-06	2.31E-07	
581792.29_4131068.85	581792.29	4131068.85	2.40E-04	1.21E-07	7.26E-08	1.21E-07	7.84E-08	2.23E-07	5.22E-06	1.84E-07	
581848.86_4131068.85	581848.86	4131068.85	1.30E-04	6.48E-08	3.89E-08	6.48E-08	4.23E-08	1.19E-07	2.79E-06	9.81E-08	
581905.43_4131068.85	581905.43	4131068.85	8.31E-05	4.09E-08	2.46E-08	4.09E-08	2.71E-08	7.52E-08	1.76E-06	6.20E-08	
581962_4131068.85	581962	4131068.85	6.05E-05	2.94E-08	1.77E-08	2.94E-08	1.97E-08	5.40E-08	1.27E-06	4.45E-08	
582018.57_4131068.85	582018.57	4131068.85	4.61E-05	2.21E-08	1.33E-08	2.21E-08	1.49E-08	4.06E-08	9.52E-07	3.34E-08	
582075.14_4131068.85	582075.14	4131068.85	3.67E-05	1.74E-08	1.04E-08	1.74E-08	1.19E-08	3.19E-08	7.48E-07	2.62E-08	
582131.71_4131068.85	582131.71	4131068.85	3.04E-05	1.42E-08	8.53E-09	1.42E-08	9.80E-09	2.60E-08	6.10E-07	2.14E-08	
582188.28_4131068.85	582188.28	4131068.85	2.57E-05	1.19E-08	7.14E-09	1.19E-08	8.29E-09	2.18E-08	5.11E-07	1.79E-08	
582244.85_4131068.85	582244.85	4131068.85	2.23E-05	1.02E-08	6.12E-09	1.02E-08	7.17E-09	1.87E-08	4.37E-07	1.53E-08	
582301.42_4131068.85	582301.42	4131068.85	1.97E-05	8.90E-09	5.34E-09	8.90E-09	6.31E-09	1.63E-08	3.81E-07	1.33E-08	
582357.99_4131068.85	582357.99	4131068.85	1.75E-05	7.86E-09	4.72E-09	7.86E-09	5.62E-09	1.44E-08	3.36E-07	1.18E-08	
582414.56_4131068.85	582414.56	4131068.85	1.58E-05	7.04E-09	4.22E-09	7.04E-09	5.07E-09	1.29E-08	3.01E-07	1.05E-08	
582471.13_4131068.85	582471.13	4131068.85	1.45E-05	6.37E-09	3.82E-09	6.37E-09	4.62E-09	1.16E-08	2.72E-07	9.51E-09	
582527.7_4131068.85	582527.7	4131068.85	1.33E-05	5.81E-09	3.49E-09	5.81E-09	4.24E-09	1.06E-08	2.48E-07	8.66E-09	
582584.27_4131068.85	582584.27	4131068.85	1.23E-05	5.33E-09	3.20E-09	5.33E-09	3.92E-09	9.71E-09	2.27E-07	7.93E-09	
582640.84_4131068.85	582640.84	4131068.85	1.16E-05	4.98E-09	2.99E-09	4.98E-09	3.68E-09	9.06E-09	2.12E-07	7.40E-09	
582697.41_4131068.85	582697.41	4131068.85	1.09E-05	4.66E-09	2.79E-09	4.66E-09	3.47E-09	8.48E-09	1.98E-07	6.92E-09	
582753.98_4131068.85	582753.98	4131068.85	1.04E-05	4.40E-09	2.64E-09	4.40E-09	3.30E-09	8.00E-09	1.87E-07	6.53E-09	
582810.55_4131068.85	582810.55	4131068.85	9.96E-06	4.17E-09	2.50E-09	4.17E-09	3.15E-09	7.58E-09	1.77E-07	6.18E-09	
582867.12_4131068.85	582867.12	4131068.85	9.48E-06	3.93E-09	2.36E-09	3.93E-09	3.00E-09	7.14E-09	1.67E-07	5.82E-09	
582018.57_4131152.76	582018.57	4131152.76	3.12E-05	1.45E-08	8.72E-09	1.45E-08	1.01E-08	2.66E-08	6.24E-07	2.19E-08	
582244.85_4131152.76	582244.85	4131152.76	1.90E-05	8.51E-09	5.11E-09	8.51E-09	6.08E-09	1.55E-08	3.64E-07	1.27E-08	
582301.42_4131152.76	582301.42	4131152.76	1.71E-05	7.61E-09	4.57E-09	7.61E-09	5.47E-09	1.39E-08	3.25E-07	1.14E-08	
582357.99_4131152.76	582357.99	4131152.76	1.55E-05	6.82E-09	4.09E-09	6.82E-09	4.94E-09	1.24E-08	2.91E-07	1.02E-08	
582414.56_4131152.76	582414.56	4131152.76	1.41E-05	6.16E-09	3.70E-09	6.16E-09	4.50E-09	1.12E-08	2.63E-07	9.19E-09	
582471.13_4131152.76	582471.13	4131152.76	1.28E-05	5.55E-09	3.33E-09	5.55E-09	4.08E-09	1.01E-08	2.37E-07	8.27E-09	
582527.7_4131152.76	582527.7	4131152.76	1.18E-05	5.07E-09	3.04E-09	5.07E-09	3.75E-09	9.23E-09	2.16E-07	7.54E-09	
582584.27_4131152.76	582584.27	4131152.76	1.09E-05	4.65E-09	2.79E-09	4.65E-09	3.46E-09	8.47E-09	1.98E-07	6.92E-09	
582640.84_4131152.76	582640.84	4131152.76	1.02E-05	4.32E-09	2.59E-09	4.32E-09	3.23E-09	7.86E-09	1.84E-07	6.42E-09	
582697.41_4131152.76	582697.41	4131152.76	9.59E-06	4.04E-09	2.43E-09	4.04E-09	3.04E-09	7.35E-09	1.72E-07	6.00E-09	
582753.98_4131152.76	582753.98	4131152.76	9.15E-06	3.84E-09	2.30E-09	3.84E-09	2.90E-09	6.97E-09	1.63E-07	5.69E-09	
582810.55_4131152.76	582810.55	4131152.76	8.75E-06	3.64E-09	2.19E-09	3.64E-09	2.77E-09	6.62E-09	1.55E-07	5.40E-09	
582867.12_4131152.76	582867.12	4131152.76	8.32E-06	3.44E-09	2.06E-09	3.44E-09	2.63E-09	6.25E-09	1.46E-07	5.09E-09	

Risk Calculation Part 2, ΣR1*C_{TAC}

3rd Trimester	0<2	2<16	16<30	Cancer Risk - 2025 (per million)	Receptor Type
0	2.09E-09	0	0	0.0021	Res
0	1.94E-09	0	0	0.0019	Res
0	1.819E-09	0	0	0.0018	Res
0	1.711E-09	0	0	0.0017	Res
0	1.623E-09	0	0	0.0016	Res
0	1.543E-09	0	0	0.0015	Res
0	1.473E-09	0	0	0.0015	Res
0	4.192E-08	0	0	0.0419	Res
0	3.348E-08	0	0	0.0335	Res
0	1.811E-08	0	0	0.0181	Res
0	1.16E-08	0	0	0.0116	Res
0	8.446E-09	0	0	0.0084	Res
0	6.434E-09	0	0	0.0064	Res
0	5.127E-09	0	0	0.0051	Res
0	4.242E-09	0	0	0.0042	Res
0	3.595E-09	0	0	0.0036	Res
0	3.116E-09	0	0	0.0031	Res
0	2.743E-09	0	0	0.0027	Res
0	2.448E-09	0	0	0.0024	Res
0	2.212E-09	0	0	0.0022	Res
0	2.018E-09	0	0	0.0020	Res
0	1.857E-09	0	0	0.0019	Res
0	1.718E-09	0	0	0.0017	Res
0	1.617E-09	0	0	0.0016	Res
0	1.526E-09	0	0	0.0015	Res
0	1.453E-09	0	0	0.0015	Res
0	1.39E-09	0	0	0.0014	Res
0	1.323E-09	0	0	0.0013	Res
0	4.353E-09	0	0	0.0044	Res
0	2.649E-09	0	0	0.0026	Res
0	2.388E-09	0	0	0.0024	Res
0	2.158E-09	0	0	0.0022	Res
0	1.967E-09	0	0	0.0020	Res
0	1.787E-09	0	0	0.0018	Res
0	1.644E-09	0	0	0.0016	Res
0	1.521E-09	0	0	0.0015	Res
0	1.422E-09	0	0	0.0014	Res
0	1.339E-09	0	0	0.0013	Res
0	1.277E-09	0	0	0.0013	Res
0	1.221E-09	0	0	0.0012	Res
0	1.162E-09	0	0	0.0012	Res

HRA Permanente Creek Restoration Project

Construction Year 2026

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(tons/year)	speciation	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2024_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rock Pile Area 2026	2026_CHAN_RCK	1.698E-04	9.08E-09	5.45E-09	9.08E-09	4.65E-08	1.02E-07	9.08E-09	1.45E-09	1.67E-07	1.82E-08	7.26E-10	2.70E-05
Paved road	2026_PAVED	1.681E-04	8.77E-08	5.26E-08	8.77E-08	5.61E-08	1.75E-06	1.61E-07	9.82E-09	3.79E-06	1.75E-07	1.33E-07	4.98E-04
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material Removal 2028	2028_MATRMVL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2028_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Unpaved road	2028_UNPAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Exposure Duration, ED

	Exposure Start	3rd Trimester	0<2	2<16	16<30
Years	1/1/2026	0	0.25	0.75	0

HRA Permanente Creek Restoration Project

Risk Factors

	Abbreviation	UOM	3rd Trimester	0<2	2<16	16<30
Daily Breathing Rate (95th %'ile)	DBR	L/kg-day	361	1090	572	261
Fraction Of Time At Home ^a	FAH	unitless	0.85	0.85	0.72	0.73
Exposure Frequency	EF	days/year	0.96	0.96	0.96	0.96
Age Sensitivity Factor	ASF	unitless	10	10	3	1
Inhalation Absorption Factor	A	unitless	1	1	1	1
Conversion Factor	CF ₁	m ³ /L	0.001	0.001	0.001	0.001
Conversion Factor	CF ₂	µg/m ³	0.001	0.001	0.001	0.001
Averaging Time (for residential exposure)	AT	years	70.00	70.00	70.00	70.00

Cancer Potency Factor, CPF

TAC	UOM	
DPM	mg/kg-day ⁻¹	1.1
Arsenic	mg/kg-day ⁻¹	12
Beryllium	mg/kg-day ⁻¹	8.4
Cadmium	mg/kg-day ⁻¹	15
Cobalt	mg/kg-day ⁻¹	27
Lead	mg/kg-day ⁻¹	0.04
Nickel	mg/kg-day ⁻¹	0.91
Chromium VI	mg/kg-day ⁻¹	510

^a assume school or daycare will have cancer risk of >1 per million

Intake Factor for Inhalation, IF (m³/kg-day)

Equation	3rd Trimester	0<2	2<16	16<30
DBR*FAH*EF*ED*ASF*A*CF/AT	0.000	0.032	0.013	0.000

Risk Calculation Part 1, R1

	TAC	3rd Trimester	0<2	2<16	16<30
IF*CPF*CF	DPM	0.00E+00	3.49E-05	1.40E-05	0.00E+00
	Arsenic	0.00E+00	3.81E-04	1.52E-04	0.00E+00
	Beryllium	0.00E+00	2.67E-04	1.07E-04	0.00E+00
	Cadmium	0.00E+00	4.76E-04	1.91E-04	0.00E+00
	Cobalt	0.00E+00	8.57E-04	3.43E-04	0.00E+00
	Lead	0.00E+00	1.27E-06	5.08E-07	0.00E+00
	Nickel	0.00E+00	2.89E-05	1.16E-05	0.00E+00
	Chromium VI	0.00E+00	1.62E-02	6.48E-03	0.00E+00

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)							
	UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Lead	Nickel	Chromium VI
581336.22_4131207.48	581336.22	4131207.48	1.96E-04	1.01E-07	6.05E-08	1.01E-07	6.54E-08	1.85E-07	4.35E-06	1.53E-07
581554.22_4130688.06	581554.22	4130688.06	1.35E-04	6.70E-08	4.02E-08	6.70E-08	4.46E-08	1.23E-07	2.88E-06	1.01E-07
579793.36_4131503.29	579793.36	4131503.29	1.24E-05	3.69E-09	2.21E-09	3.69E-09	3.78E-09	6.52E-09	1.51E-07	5.15E-09
580488.37_4131517.71	580488.37	4131517.71	1.56E-05	6.54E-09	3.92E-09	6.54E-09	5.01E-09	1.19E-08	2.78E-07	9.68E-09
581678.43_4131040.03	581678.43	4131040.03	6.23E-04	3.23E-07	1.94E-07	3.23E-07	2.08E-07	5.94E-07	1.39E-05	4.91E-07
581635.43_4130978.54	581635.43	4130978.54	1.26E-03	6.55E-07	3.93E-07	6.55E-07	4.20E-07	1.20E-06	2.83E-05	9.95E-07
581830.06_4131027.55	581830.06	4131027.55	5.74E-04	2.97E-07	1.78E-07	2.97E-07	1.91E-07	5.47E-07	1.28E-05	4.52E-07
581727.48_4130976.54	581727.48	4130976.54	1.52E-03	7.93E-07	4.76E-07	7.93E-07	5.09E-07	1.46E-06	3.43E-05	1.21E-06
581789.11_4130419.65	581789.11	4130419.65	1.05E-04	5.04E-08	3.02E-08	5.04E-08	3.45E-08	9.23E-08	2.16E-06	7.59E-08
581700.32_4130781.89	581700.32	4130781.89	3.04E-04	1.56E-07	9.37E-08	1.56E-07	1.01E-07	2.87E-07	6.74E-06	2.37E-07
581426.07_4131299.01	581426.07	4131299.01	7.16E-05	3.59E-08	2.15E-08	3.59E-08	2.37E-08	6.59E-08	1.55E-06	5.43E-08
582301.42_4129474.56	582301.42	4129474.56	3.74E-05	1.55E-08	9.29E-09	1.55E-08	1.20E-08	2.81E-08	6.57E-07	2.29E-08
582357.99_4129474.56	582357.99	4129474.56	3.50E-05	1.45E-08	8.67E-09	1.45E-08	1.12E-08	2.62E-08	6.14E-07	2.13E-08
582414.56_4129474.56	582414.56	4129474.56	3.29E-05	1.35E-08	8.11E-09	1.35E-08	1.05E-08	2.45E-08	5.74E-07	2.00E-08
582471.13_4129474.56	582471.13	4129474.56	3.09E-05	1.27E-08	7.61E-09	1.27E-08	9.88E-09	2.30E-08	5.38E-07	1.87E-08
582527.7_4129474.56	582527.7	4129474.56	2.92E-05	1.20E-08	7.18E-09	1.20E-08	9.34E-09	2.17E-08	5.08E-07	1.76E-08
582584.27_4129474.56	582584.27	4129474.56	2.75E-05	1.12E-08	6.74E-09	1.12E-08	8.79E-09	2.04E-08	4.77E-07	1.66E-08
582640.84_4129474.56	582640.84	4129474.56	2.58E-05	1.05E-08	6.27E-09	1.05E-08	8.22E-09	1.90E-08	4.43E-07	1.54E-08
582244.85_4129558.47	582244.85	4129558.47	3.90E-05	1.57E-08	9.41E-09	1.57E-08	1.24E-08	2.84E-08	6.64E-07	2.31E-08
582301.42_4129558.47	582301.42	4129558.47	3.79E-05	1.56E-08	9.34E-09	1.56E-08	1.21E-08	2.82E-08	6.60E-07	2.30E-08
582357.99_4129558.47	582357.99	4129558.47	3.58E-05	1.48E-08	8.85E-09	1.48E-08	1.14E-08	2.68E-08	6.26E-07	2.18E-08
582414.56_4129558.47	582414.56	4129558.47	3.36E-05	1.38E-08	8.30E-09	1.38E-08	1.07E-08	2.51E-08	5.87E-07	2.04E-08
582471.13_4129558.47	582471.13	4129558.47	3.14E-05	1.29E-08	7.76E-09	1.29E-08	1.00E-08	2.35E-08	5.49E-07	1.91E-08
582527.7_4129558.47	582527.7	4129558.47	2.95E-05	1.21E-08	7.25E-09	1.21E-08	9.42E-09	2.19E-08	5.13E-07	1.78E-08
582584.27_4129558.47	582584.27	4129558.47	2.76E-05	1.13E-08	6.77E-09	1.13E-08	8.82E-09	2.05E-08	4.78E-07	1.66E-08
582640.84_4129558.47	582640.84	4129558.47	2.61E-05	1.06E-08	6.36E-09	1.06E-08	8.32E-09	1.92E-08	4.50E-07	1.56E-08
582697.41_4129558.47	582697.41	4129558.47	2.46E-05	9.96E-09	5.98E-09	9.96E-09	7.84E-09	1.80E-08	4.22E-07	1.47E-08
582244.85_4129642.38	582244.85	4129642.38	3.57E-05	1.37E-08	8.24E-09	1.37E-08	1.13E-08	2.48E-08	5.79E-07	2.01E-08

Risk Calculation Part 2, ΣR1*C_{TAC}

3rd Trimester	0<2	2<16	16<30	Cancer Risk - 2026 (per million)	Receptor Type
0	6.858E-09	2.74656E-09	0	0.0096	CT House
0	4.71E-09	1.88641E-09	0	0.0066	Res
0	4.321E-10	1.73051E-10	0	0.0006	Acute
0	5.449E-10	2.18225E-10	0	0.0008	Acute
0	2.175E-08	8.71051E-09	0	0.0305	Res
0	4.397E-08	1.76109E-08	0	0.0616	Res
0	2.003E-08	8.02109E-09	0	0.0280	Res
0	5.32E-08	2.13092E-08	0	0.0745	Res
0	3.666E-09	1.46821E-09	0	0.0051	Res
0	1.061E-08	4.25103E-09	0	0.0149	Res
0	2.5E-09	1.00133E-09	0	0.0035	Acute
0	1.306E-09	5.23128E-10	0	0.0018	Res
0	1.223E-09	4.89859E-10	0	0.0017	Res
0	1.148E-09	4.5977E-10	0	0.0016	Res
0	1.08E-09	4.32409E-10	0	0.0015	Res
0	1.021E-09	4.08839E-10	0	0.0014	Res
0	9.611E-10	3.84938E-10	0	0.0013	Res
0	8.99E-10	3.60054E-10	0	0.0013	Res
0	1.36E-09	5.44622E-10	0	0.0019	Res
0	1.323E-09	5.30044E-10	0	0.0019	Res
0	1.249E-09	5.00153E-10	0	0.0017	Res
0	1.173E-09	4.69705E-10	0	0.0016	Res
0	1.097E-09	4.39274E-10	0	0.0015	Res
0	1.029E-09	4.11964E-10	0	0.0014	Res
0	9.643E-10	3.86232E-10	0	0.0014	Res
0	9.101E-10	3.64501E-10	0	0.0013	Res
0	8.582E-10	3.43712E-10	0	0.0012	Res
0	1.247E-09	4.99487E-10	0	0.0017	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (μg/m ³)							
	UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Lead	Nickel	Chromium VI
582527.7_4130984.94	582527.7	4130984.94	1.47E-05	6.58E-09	3.95E-09	6.58E-09	4.78E-09	1.20E-08	2.81E-07	9.82E-09
582584.27_4130984.94	582584.27	4130984.94	1.37E-05	6.04E-09	3.62E-09	6.04E-09	4.43E-09	1.10E-08	2.58E-07	9.00E-09
582640.84_4130984.94	582640.84	4130984.94	1.28E-05	5.60E-09	3.36E-09	5.60E-09	4.15E-09	1.02E-08	2.39E-07	8.34E-09
582697.41_4130984.94	582697.41	4130984.94	1.21E-05	5.21E-09	3.12E-09	5.21E-09	3.89E-09	9.48E-09	2.22E-07	7.74E-09
582753.98_4130984.94	582753.98	4130984.94	1.15E-05	4.89E-09	2.93E-09	4.89E-09	3.69E-09	8.88E-09	2.08E-07	7.25E-09
582810.55_4130984.94	582810.55	4130984.94	1.09E-05	4.59E-09	2.76E-09	4.59E-09	3.50E-09	8.34E-09	1.95E-07	6.80E-09
582867.12_4130984.94	582867.12	4130984.94	1.04E-05	4.33E-09	2.60E-09	4.33E-09	3.33E-09	7.86E-09	1.84E-07	6.40E-09
581735.72_4131068.85	581735.72	4131068.85	2.95E-04	1.52E-07	9.12E-08	1.52E-07	9.82E-08	2.79E-07	6.56E-06	2.31E-07
581792.29_4131068.85	581792.29	4131068.85	2.36E-04	1.21E-07	7.26E-08	1.21E-07	7.84E-08	2.23E-07	5.22E-06	1.84E-07
581848.86_4131068.85	581848.86	4131068.85	1.28E-04	6.48E-08	3.89E-08	6.48E-08	4.23E-08	1.19E-07	2.79E-06	9.81E-08
581905.43_4131068.85	581905.43	4131068.85	8.17E-05	4.09E-08	2.46E-08	4.09E-08	2.71E-08	7.52E-08	1.76E-06	6.20E-08
581962_4131068.85	581962	4131068.85	5.95E-05	2.94E-08	1.77E-08	2.94E-08	1.97E-08	5.40E-08	1.27E-06	4.45E-08
582018.57_4131068.85	582018.57	4131068.85	4.53E-05	2.21E-08	1.33E-08	2.21E-08	1.49E-08	4.06E-08	9.52E-07	3.34E-08
582075.14_4131068.85	582075.14	4131068.85	3.61E-05	1.74E-08	1.04E-08	1.74E-08	1.19E-08	3.19E-08	7.48E-07	2.62E-08
582131.71_4131068.85	582131.71	4131068.85	2.99E-05	1.42E-08	8.53E-09	1.42E-08	9.80E-09	2.60E-08	6.10E-07	2.14E-08
582188.28_4131068.85	582188.28	4131068.85	2.53E-05	1.19E-08	7.14E-09	1.19E-08	8.29E-09	2.18E-08	5.11E-07	1.79E-08
582244.85_4131068.85	582244.85	4131068.85	2.20E-05	1.02E-08	6.12E-09	1.02E-08	7.17E-09	1.87E-08	4.37E-07	1.53E-08
582301.42_4131068.85	582301.42	4131068.85	1.93E-05	8.90E-09	5.34E-09	8.90E-09	1.63E-09	6.31E-09	3.81E-07	1.33E-08
582357.99_4131068.85	582357.99	4131068.85	1.73E-05	7.86E-09	4.72E-09	7.86E-09	5.62E-09	1.44E-08	3.36E-07	1.18E-08
582414.56_4131068.85	582414.56	4131068.85	1.56E-05	7.04E-09	4.22E-09	7.04E-09	5.07E-09	1.29E-08	3.01E-07	1.05E-08
582471.13_4131068.85	582471.13	4131068.85	1.42E-05	6.37E-09	3.82E-09	6.37E-09	4.62E-09	1.16E-08	2.72E-07	9.51E-09
582527.7_4131068.85	582527.7	4131068.85	1.31E-05	5.81E-09	3.49E-09	5.81E-09	4.24E-09	1.06E-08	2.48E-07	8.66E-09
582584.27_4131068.85	582584.27	4131068.85	1.21E-05	5.33E-09	3.20E-09	5.33E-09	3.92E-09	9.71E-09	2.27E-07	7.93E-09
582640.84_4131068.85	582640.84	4131068.85	1.14E-05	4.98E-09	2.99E-09	4.98E-09	3.68E-09	9.06E-09	2.12E-07	7.40E-09
582697.41_4131068.85	582697.41	4131068.85	1.08E-05	4.66E-09	2.79E-09	4.66E-09	3.47E-09	8.48E-09	1.98E-07	6.92E-09
582753.98_4131068.85	582753.98	4131068.85	1.03E-05	4.40E-09	2.64E-09	4.40E-09	3.30E-09	8.00E-09	1.87E-07	6.53E-09
582810.55_4131068.85	582810.55	4131068.85	9.82E-06	4.17E-09	2.50E-09	4.17E-09	3.15E-09	7.58E-09	1.77E-07	6.18E-09
582867.12_4131068.85	582867.12	4131068.85	9.35E-06	3.93E-09	2.36E-09	3.93E-09	3.00E-09	7.14E-09	1.67E-07	5.82E-09
582018.57_4131152.76	582018.57	4131152.76	3.07E-05	1.45E-08	8.72E-09	1.45E-08	1.01E-08	2.66E-08	6.24E-07	2.19E-08
582244.85_4131152.76	582244.85	4131152.76	1.87E-05	8.51E-09	5.11E-09	8.51E-09	6.08E-09	1.55E-08	3.64E-07	1.27E-08
582301.42_4131152.76	582301.42	4131152.76	1.68E-05	7.61E-09	4.57E-09	7.61E-09	5.47E-09	1.39E-08	3.25E-07	1.14E-08
582357.99_4131152.76	582357.99	4131152.76	1.52E-05	6.82E-09	4.09E-09	6.82E-09	4.94E-09	1.24E-08	2.91E-07	1.02E-08
582414.56_4131152.76	582414.56	4131152.76	1.39E-05	6.16E-09	3.70E-09	6.16E-09	4.50E-09	1.12E-08	2.63E-07	9.19E-09
582471.13_4131152.76	582471.13	4131152.76	1.26E-05	5.55E-09	3.33E-09	5.55E-09	4.08E-09	1.01E-08	2.37E-07	8.27E-09
582527.7_4131152.76	582527.7	4131152.76	1.16E-05	5.07E-09	3.04E-09	5.07E-09	3.75E-09	9.23E-09	2.16E-07	7.54E-09
582584.27_4131152.76	582584.27	4131152.76	1.07E-05	4.65E-09	2.79E-09	4.65E-09	3.46E-09	8.47E-09	1.98E-07	6.92E-09
582640.84_4131152.76	582640.84	4131152.76	1.00E-05	4.32E-09	2.59E-09	4.32E-09	3.23E-09	7.86E-09	1.84E-07	6.42E-09
582697.41_4131152.76	582697.41	4131152.76	9.45E-06	4.04E-09	2.43E-09	4.04E-09	3.04E-09	7.35E-09	1.72E-07	6.00E-09
582753.98_4131152.76	582753.98	4131152.76	9.02E-06	3.84E-09	2.30E-09	3.84E-09	2.90E-09	6.97E-09	1.63E-07	5.69E-09
582810.55_4131152.76	582810.55	4131152.76	8.62E-06	3.64E-09	2.19E-09	3.64E-09	2.77E-09	6.62E-09	1.55E-07	5.40E-09
582867.12_4131152.76	582867.12	4131152.76	8.20E-06	3.44E-09	2.06E-09	3.44E-09	2.63E-09	6.25E-09	1.46E-07	5.09E-09

Risk Calculation Part 2, ΣR1*C_{TAC}

3rd Trimester	0<2	2<16	16<30	Cancer Risk - 2026 (per million)	Receptor Type
0	5.148E-10	2.06189E-10	0	0.0007	Res
0	4.779E-10	1.91404E-10	0	0.0007	Res
0	4.482E-10	1.79511E-10	0	0.0006	Res
0	4.216E-10	1.68841E-10	0	0.0006	Res
0	4E-10	1.60217E-10	0	0.0006	Res
0	3.805E-10	1.52392E-10	0	0.0005	Res
0	3.631E-10	1.45437E-10	0	0.0005	Res
0	1.03E-08	4.12481E-09	0	0.0144	Res
0	8.224E-09	3.29366E-09	0	0.0115	Res
0	4.45E-09	1.78238E-09	0	0.0062	Res
0	2.851E-09	1.14195E-09	0	0.0040	Res
0	2.076E-09	8.31568E-10	0	0.0029	Res
0	1.582E-09	6.33654E-10	0	0.0022	Res
0	1.261E-09	5.05018E-10	0	0.0018	Res
0	1.043E-09	4.17931E-10	0	0.0015	Res
0	8.846E-10	3.54298E-10	0	0.0012	Res
0	7.668E-10	3.07116E-10	0	0.0011	Res
0	6.753E-10	2.70486E-10	0	0.0009	Res
0	6.027E-10	2.41378E-10	0	0.0008	Res
0	5.447E-10	2.1817E-10	0	0.0008	Res
0	4.97E-10	1.99076E-10	0	0.0007	Res
0	4.573E-10	1.83156E-10	0	0.0006	Res
0	4.232E-10	1.69494E-10	0	0.0006	Res
0	3.984E-10	1.59548E-10	0	0.0006	Res
0	3.76E-10	1.5059E-10	0	0.0005	Res
0	3.582E-10	1.43467E-10	0	0.0005	Res
0	3.426E-10	1.37215E-10	0	0.0005	Res
0	3.262E-10	1.30658E-10	0	0.0005	Res
0	1.071E-09	4.28907E-10	0	0.0015	Res
0	6.521E-10	2.6119E-10	0	0.0009	Res
0	5.88E-10	2.35489E-10	0	0.0008	Res
0	5.315E-10	2.12867E-10	0	0.0007	Res
0	4.845E-10	1.94052E-10	0	0.0007	Res
0	4.403E-10	1.76343E-10	0	0.0006	Res
0	4.05E-10	1.62207E-10	0	0.0006	Res
0	3.747E-10	1.50093E-10	0	0.0005	Res
0	3.505E-10	1.40378E-10	0	0.0005	Res
0	3.299E-10	1.32145E-10	0	0.0005	Res
0	3.148E-10	1.26076E-10	0	0.0004	Res
0	3.01E-10	1.20549E-10	0	0.0004	Res
0	2.864E-10	1.14693E-10	0	0.0004	Res

HRA Permanente Creek Restoration Project

Construction Year 2027

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for speciation	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2024_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2027	2027_CHAN_RCK	5.566E-05	3.53E-08	2.12E-08	3.53E-08	1.81E-07	3.95E-07	3.53E-08	5.65E-09	6.49E-07	7.06E-08	2.82E-09	1.05E-04
Paved road	2027_PAVED	1.614E-04	8.60E-08	5.16E-08	8.60E-08	5.50E-08	1.72E-06	1.58E-07	9.63E-09	3.71E-06	1.72E-07	1.31E-07	4.88E-04
Material Removal 2028	2028_MATRMVL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2028_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Unpaved road	2028_UNPAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Exposure Duration, ED

Exposure Start	3rd Trimester	0<2	2<16	16<30
1/1/2027	0	0	1	0

HRA Permanente Creek Restoration Project

Risk Factors

	Abbreviation	UOM	3rd Trimester	0<2	2<16	16<30
Daily Breathing Rate (95th %'ile)	DBR	L/kg-day	361	1090	572	261
Fraction Of Time At Home ^a	FAH	unitless	0.85	0.85	0.72	0.73
Exposure Frequency	EF	days/year	0.96	0.96	0.96	0.96
Age Sensitivity Factor	ASF	unitless	10	10	3	1
Inhalation Absorption Factor	A	unitless	1	1	1	1
Conversion Factor	CF ₁	m ³ /L	0.001	0.001	0.001	0.001
Conversion Factor	CF ₂	µg/m ³	0.001	0.001	0.001	0.001
Averaging Time (for residential exposure)	AT	years	70.00	70.00	70.00	70.00

^a assume school or daycare will have cancer risk of >1 per million

Cancer Potency Factor, CPF

TAC	UOM	
DPM	mg/kg-day ⁻¹	1.1
Arsenic	mg/kg-day ⁻¹	12
Beryllium	mg/kg-day ⁻¹	8.4
Cadmium	mg/kg-day ⁻¹	15
Cobalt	mg/kg-day ⁻¹	27
Lead	mg/kg-day ⁻¹	0.04
Nickel	mg/kg-day ⁻¹	0.91
Chromium VI	mg/kg-day ⁻¹	510

Intake Factor for Inhalation, IF (m³/kg-day)

Equation	3rd Trimester	0<2	2<16	16<30
DBR*FAH*EF*ED*ASF*A*CF/AT	0.000	0.000	0.017	0.000

Risk Calculation Part 1, R1

	TAC	3rd Trimester	0<2	2<16	16<30
IF*CPF*CF	DPM	0.00E+00	0.00E+00	1.86E-05	0.00E+00
	Arsenic	0.00E+00	0.00E+00	2.03E-04	0.00E+00
	Beryllium	0.00E+00	0.00E+00	1.42E-04	0.00E+00
	Cadmium	0.00E+00	0.00E+00	2.54E-04	0.00E+00
	Cobalt	0.00E+00	0.00E+00	4.57E-04	0.00E+00
	Lead	0.00E+00	0.00E+00	6.78E-07	0.00E+00
	Nickel	0.00E+00	0.00E+00	1.54E-05	0.00E+00
Chromium VI	0.00E+00	0.00E+00	8.64E-03	0.00E+00	

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)							
	UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Lead	Nickel	Chromium VI
581336.22_4131207.48	581336.22	4131207.48	1.86E-04	9.94E-08	5.96E-08	9.94E-08	6.70E-08	1.82E-07	4.28E-06	1.50E-07
581554.22_4130688.06	581554.22	4130688.06	1.25E-04	6.68E-08	4.01E-08	6.68E-08	4.96E-08	1.22E-07	2.85E-06	9.93E-08
579793.36_4131503.29	579793.36	4131503.29	8.15E-06	4.54E-09	2.72E-09	4.54E-09	8.41E-09	7.31E-09	1.65E-07	5.12E-09
580488.37_4131517.71	580488.37	4131517.71	1.28E-05	6.94E-09	4.17E-09	6.94E-09	7.63E-09	1.22E-08	2.82E-07	9.53E-09
581678.43_4131040.03	581678.43	4131040.03	5.96E-04	3.17E-07	1.90E-07	3.17E-07	2.07E-07	5.83E-07	1.37E-05	4.81E-07
581635.43_4130978.54	581635.43	4130978.54	1.21E-03	6.43E-07	3.86E-07	6.43E-07	4.16E-07	1.18E-06	2.77E-05	9.76E-07
581830.06_4131027.55	581830.06	4131027.55	5.48E-04	2.92E-07	1.75E-07	2.92E-07	1.91E-07	5.37E-07	1.26E-05	4.43E-07
581727.48_4130976.54	581727.48	4130976.54	1.46E-03	7.78E-07	4.67E-07	7.78E-07	5.02E-07	1.43E-06	3.36E-05	1.18E-06
581789.11_4130419.65	581789.11	4130419.65	9.49E-05	5.09E-08	3.05E-08	5.09E-08	4.13E-08	9.20E-08	2.15E-06	7.45E-08
581700.32_4130781.89	581700.32	4130781.89	2.89E-04	1.54E-07	9.24E-08	1.54E-07	1.03E-07	2.82E-07	6.62E-06	2.32E-07
581426.07_4131299.01	581426.07	4131299.01	6.68E-05	3.57E-08	2.14E-08	3.57E-08	2.58E-08	6.51E-08	1.52E-06	5.33E-08
582301.42_4129474.56	582301.42	4129474.56	3.05E-05	1.65E-08	9.91E-09	1.65E-08	1.86E-08	2.89E-08	6.69E-07	2.25E-08
582357.99_4129474.56	582357.99	4129474.56	2.85E-05	1.54E-08	9.27E-09	1.54E-08	1.75E-08	2.70E-08	6.25E-07	2.10E-08
582414.56_4129474.56	582414.56	4129474.56	2.67E-05	1.45E-08	8.68E-09	1.45E-08	1.65E-08	2.53E-08	5.85E-07	1.97E-08
582471.13_4129474.56	582471.13	4129474.56	2.50E-05	1.36E-08	8.15E-09	1.36E-08	1.56E-08	2.37E-08	5.49E-07	1.84E-08
582527.7_4129474.56	582527.7	4129474.56	2.36E-05	1.28E-08	7.69E-09	1.28E-08	1.48E-08	2.24E-08	5.18E-07	1.74E-08
582584.27_4129474.56	582584.27	4129474.56	2.22E-05	1.21E-08	7.23E-09	1.21E-08	1.39E-08	2.10E-08	4.86E-07	1.63E-08
582640.84_4129474.56	582640.84	4129474.56	2.07E-05	1.12E-08	6.75E-09	1.12E-08	1.31E-08	1.96E-08	4.53E-07	1.52E-08
582244.85_4129558.47	582244.85	4129558.47	3.11E-05	1.69E-08	1.01E-08	1.69E-08	2.01E-08	2.94E-08	6.80E-07	2.27E-08
582301.42_4129558.47	582301.42	4129558.47	3.07E-05	1.67E-08	9.99E-09	1.67E-08	1.91E-08	2.91E-08	6.73E-07	2.26E-08
582357.99_4129558.47	582357.99	4129558.47	2.91E-05	1.58E-08	9.46E-09	1.58E-08	1.79E-08	2.76E-08	6.38E-07	2.15E-08
582414.56_4129558.47	582414.56	4129558.47	2.73E-05	1.48E-08	8.87E-09	1.48E-08	1.68E-08	2.58E-08	5.98E-07	2.01E-08
582471.13_4129558.47	582471.13	4129558.47	2.55E-05	1.38E-08	8.30E-09	1.38E-08	1.57E-08	2.42E-08	5.59E-07	1.88E-08
582527.7_4129558.47	582527.7	4129558.47	2.39E-05	1.29E-08	7.76E-09	1.29E-08	1.48E-08	2.26E-08	5.23E-07	1.76E-08
582584.27_4129558.47	582584.27	4129558.47	2.23E-05	1.21E-08	7.26E-09	1.21E-08	1.40E-08	2.11E-08	4.88E-07	1.64E-08
582640.84_4129558.47	582640.84	4129558.47	2.10E-05	1.14E-08	6.84E-09	1.14E-08	1.32E-08	1.98E-08	4.59E-07	1.54E-08
582697.41_4129558.47	582697.41	4129558.47	1.97E-05	1.07E-08	6.43E-09	1.07E-08	1.26E-08	1.86E-08	4.31E-07	1.45E-08
582244.85_4129642.38	582244.85	4129642.38	2.77E-05	1.51E-08	9.05E-09	1.51E-08	1.94E-08	2.59E-08	5.98E-07	1.98E-08

Risk Calculation Part 2, ΣR1*C_{TAC}

3rd Trimester	0<2	2<16	16<30	Cancer Risk - 2027	Receptor Type
(per million)					
0	0	3.47384E-09	0	0.0035	CT House
0	0	2.32887E-09	0	0.0023	Res
0	0	1.51817E-10	0	0.0002	Acute
0	0	2.39007E-10	0	0.0002	Acute
0	0	1.10995E-08	0	0.0111	Res
0	0	2.24885E-08	0	0.0225	Res
0	0	1.02231E-08	0	0.0102	Res
0	0	2.72283E-08	0	0.0272	Res
0	0	1.76904E-09	0	0.0018	Res
0	0	5.38163E-09	0	0.0054	Res
0	0	1.24457E-09	0	0.0012	Acute
0	0	5.68127E-10	0	0.0006	Res
0	0	5.309E-10	0	0.0005	Res
0	0	4.97202E-10	0	0.0005	Res
0	0	4.66738E-10	0	0.0005	Res
0	0	4.40565E-10	0	0.0004	Res
0	0	4.1407E-10	0	0.0004	Res
0	0	3.85976E-10	0	0.0004	Res
0	0	5.80355E-10	0	0.0006	Res
0	0	5.72378E-10	0	0.0006	Res
0	0	5.42017E-10	0	0.0005	Res
0	0	5.0836E-10	0	0.0005	Res
0	0	4.75266E-10	0	0.0005	Res
0	0	4.44606E-10	0	0.0004	Res
0	0	4.15607E-10	0	0.0004	Res
0	0	3.91229E-10	0	0.0004	Res
0	0	3.67877E-10	0	0.0004	Res
0	0	5.15849E-10	0	0.0005	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)							
			UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Lead
582527.7_4130984.94	582527.7	4130984.94	1.27E-05	6.82E-09	4.09E-09	6.82E-09	6.58E-09	1.21E-08	2.82E-07	9.65E-09
582584.27_4130984.94	582584.27	4130984.94	1.17E-05	6.29E-09	3.77E-09	6.29E-09	6.22E-09	1.12E-08	2.60E-07	8.85E-09
582640.84_4130984.94	582640.84	4130984.94	1.09E-05	5.86E-09	3.51E-09	5.86E-09	5.93E-09	1.04E-08	2.41E-07	8.20E-09
582697.41_4130984.94	582697.41	4130984.94	1.01E-05	5.47E-09	3.28E-09	5.47E-09	5.67E-09	9.66E-09	2.24E-07	7.62E-09
582753.98_4130984.94	582753.98	4130984.94	9.53E-06	5.15E-09	3.09E-09	5.15E-09	5.47E-09	9.07E-09	2.11E-07	7.13E-09
582810.55_4130984.94	582810.55	4130984.94	8.99E-06	4.87E-09	2.92E-09	4.87E-09	5.29E-09	8.55E-09	1.98E-07	6.70E-09
582867.12_4130984.94	582867.12	4130984.94	8.51E-06	4.61E-09	2.77E-09	4.61E-09	5.13E-09	8.07E-09	1.87E-07	6.31E-09
581735.72_4131068.85	581735.72	4131068.85	2.81E-04	1.50E-07	8.98E-08	1.50E-07	9.96E-08	2.75E-07	6.44E-06	2.26E-07
581792.29_4131068.85	581792.29	4131068.85	2.24E-04	1.19E-07	7.16E-08	1.19E-07	8.00E-08	2.19E-07	5.13E-06	1.80E-07
581848.86_4131068.85	581848.86	4131068.85	1.20E-04	6.41E-08	3.84E-08	6.41E-08	4.45E-08	1.17E-07	2.75E-06	9.63E-08
581905.43_4131068.85	581905.43	4131068.85	7.62E-05	4.07E-08	2.44E-08	4.07E-08	2.93E-08	7.43E-08	1.74E-06	6.08E-08
581962_4131068.85	581962	4131068.85	5.50E-05	2.94E-08	1.76E-08	2.94E-08	2.20E-08	5.35E-08	1.25E-06	4.37E-08
582018.57_4131068.85	582018.57	4131068.85	4.15E-05	2.22E-08	1.33E-08	2.22E-08	1.72E-08	4.03E-08	9.42E-07	3.28E-08
582075.14_4131068.85	582075.14	4131068.85	3.27E-05	1.75E-08	1.05E-08	1.75E-08	1.41E-08	3.17E-08	7.42E-07	2.57E-08
582131.71_4131068.85	582131.71	4131068.85	2.68E-05	1.44E-08	8.64E-09	1.44E-08	1.20E-08	2.60E-08	6.07E-07	2.10E-08
582188.28_4131068.85	582188.28	4131068.85	2.26E-05	1.21E-08	7.27E-09	1.21E-08	1.04E-08	2.18E-08	5.09E-07	1.76E-08
582244.85_4131068.85	582244.85	4131068.85	1.94E-05	1.04E-08	6.25E-09	1.04E-08	9.16E-09	1.87E-08	4.36E-07	1.50E-08
582301.42_4131068.85	582301.42	4131068.85	1.70E-05	9.12E-09	5.47E-09	9.12E-09	8.22E-09	1.63E-08	3.81E-07	1.31E-08
582357.99_4131068.85	582357.99	4131068.85	1.50E-05	8.09E-09	4.85E-09	8.09E-09	7.45E-09	1.45E-08	3.37E-07	1.16E-08
582414.56_4131068.85	582414.56	4131068.85	1.35E-05	7.27E-09	4.36E-09	7.27E-09	6.84E-09	1.30E-08	3.02E-07	1.03E-08
582471.13_4131068.85	582471.13	4131068.85	1.22E-05	6.60E-09	3.96E-09	6.60E-09	6.33E-09	1.17E-08	2.73E-07	9.35E-09
582527.7_4131068.85	582527.7	4131068.85	1.12E-05	6.04E-09	3.62E-09	6.04E-09	5.90E-09	1.07E-08	2.50E-07	8.52E-09
582584.27_4131068.85	582584.27	4131068.85	1.03E-05	5.56E-09	3.33E-09	5.56E-09	5.54E-09	9.85E-09	2.29E-07	7.81E-09
582640.84_4131068.85	582640.84	4131068.85	9.64E-06	5.20E-09	3.12E-09	5.20E-09	5.27E-09	9.21E-09	2.14E-07	7.29E-09
582697.41_4131068.85	582697.41	4131068.85	9.04E-06	4.89E-09	2.93E-09	4.89E-09	5.04E-09	8.63E-09	2.00E-07	6.81E-09
582753.98_4131068.85	582753.98	4131068.85	8.57E-06	4.63E-09	2.78E-09	4.63E-09	4.86E-09	8.16E-09	1.90E-07	6.43E-09
582810.55_4131068.85	582810.55	4131068.85	8.14E-06	4.40E-09	2.64E-09	4.40E-09	4.71E-09	7.75E-09	1.80E-07	6.09E-09
582867.12_4131068.85	582867.12	4131068.85	7.70E-06	4.17E-09	2.50E-09	4.17E-09	4.55E-09	7.31E-09	1.70E-07	5.73E-09
582018.57_4131152.76	582018.57	4131152.76	2.75E-05	1.47E-08	8.85E-09	1.47E-08	1.23E-08	2.66E-08	6.21E-07	2.15E-08
582244.85_4131152.76	582244.85	4131152.76	1.63E-05	8.76E-09	5.25E-09	8.76E-09	8.05E-09	1.57E-08	3.65E-07	1.25E-08
582301.42_4131152.76	582301.42	4131152.76	1.46E-05	7.85E-09	4.71E-09	7.85E-09	7.37E-09	1.40E-08	3.26E-07	1.12E-08
582357.99_4131152.76	582357.99	4131152.76	1.31E-05	7.06E-09	4.23E-09	7.06E-09	6.76E-09	1.26E-08	2.93E-07	1.00E-08
582414.56_4131152.76	582414.56	4131152.76	1.19E-05	6.40E-09	3.84E-09	6.40E-09	6.24E-09	1.14E-08	2.65E-07	9.04E-09
582471.13_4131152.76	582471.13	4131152.76	1.07E-05	5.78E-09	3.47E-09	5.78E-09	5.75E-09	1.03E-08	2.39E-07	8.13E-09
582527.7_4131152.76	582527.7	4131152.76	9.81E-06	5.29E-09	3.18E-09	5.29E-09	5.35E-09	9.37E-09	2.18E-07	7.42E-09
582584.27_4131152.76	582584.27	4131152.76	9.03E-06	4.88E-09	2.93E-09	4.88E-09	5.01E-09	8.62E-09	2.00E-07	6.81E-09
582640.84_4131152.76	582640.84	4131152.76	8.40E-06	4.54E-09	2.73E-09	4.54E-09	4.73E-09	8.02E-09	1.86E-07	6.32E-09
582697.41_4131152.76	582697.41	4131152.76	7.88E-06	4.26E-09	2.55E-09	4.26E-09	4.49E-09	7.50E-09	1.74E-07	5.90E-09
582753.98_4131152.76	582753.98	4131152.76	7.49E-06	4.05E-09	2.43E-09	4.05E-09	4.32E-09	7.13E-09	1.65E-07	5.60E-09
582810.55_4131152.76	582810.55	4131152.76	7.13E-06	3.86E-09	2.31E-09	3.86E-09	4.17E-09	6.78E-09	1.57E-07	5.32E-09
582867.12_4131152.76	582867.12	4131152.76	6.74E-06	3.65E-09	2.19E-09	3.65E-09	4.01E-09	6.40E-09	1.48E-07	5.01E-09

Risk Calculation Part 2, ΣR1*C_{TAC}

3rd Trimester	0<2	2<16	16<30	Cancer Risk - 2027 (per million)	Receptor Type
0	0	2.35907E-10	0	0.0002	Res
0	0	2.17299E-10	0	0.0002	Res
0	0	2.02253E-10	0	0.0002	Res
0	0	1.88674E-10	0	0.0002	Res
0	0	1.77613E-10	0	0.0002	Res
0	0	1.67555E-10	0	0.0002	Res
0	0	1.58572E-10	0	0.0002	Res
0	0	5.23216E-09	0	0.0052	Res
0	0	4.1705E-09	0	0.0042	Res
0	0	2.23791E-09	0	0.0022	Res
0	0	1.42016E-09	0	0.0014	Res
0	0	1.02467E-09	0	0.0010	Res
0	0	7.73121E-10	0	0.0008	Res
0	0	6.10202E-10	0	0.0006	Res
0	0	5.00375E-10	0	0.0005	Res
0	0	4.20532E-10	0	0.0004	Res
0	0	3.6163E-10	0	0.0004	Res
0	0	3.16158E-10	0	0.0003	Res
0	0	2.80194E-10	0	0.0003	Res
0	0	2.51644E-10	0	0.0003	Res
0	0	2.28221E-10	0	0.0002	Res
0	0	2.08701E-10	0	0.0002	Res
0	0	1.91912E-10	0	0.0002	Res
0	0	1.79679E-10	0	0.0002	Res
0	0	1.68571E-10	0	0.0002	Res
0	0	1.59653E-10	0	0.0002	Res
0	0	1.51749E-10	0	0.0002	Res
0	0	1.43454E-10	0	0.0001	Res
0	0	5.12285E-10	0	0.0005	Res
0	0	3.03397E-10	0	0.0003	Res
0	0	2.71835E-10	0	0.0003	Res
0	0	2.44175E-10	0	0.0002	Res
0	0	2.21309E-10	0	0.0002	Res
0	0	1.99838E-10	0	0.0002	Res
0	0	1.82822E-10	0	0.0002	Res
0	0	1.68294E-10	0	0.0002	Res
0	0	1.56658E-10	0	0.0002	Res
0	0	1.46798E-10	0	0.0001	Res
0	0	1.39529E-10	0	0.0001	Res
0	0	1.32814E-10	0	0.0001	Res
0	0	1.25678E-10	0	0.0001	Res

HRA Permanente Creek Restoration Project

Construction Year 2028

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for speciation	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2024_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material Removal 2028	2028_MATRMVL	3.324E-05	9.075E-09	5.445E-09	9.075E-09	4.647E-08	1.016E-07	9.075E-09	1.452E-09	1.670E-07	1.815E-08	7.260E-10	2.696E-05
Paved road	2028_PAVED	1.603E-04	8.608E-08	5.165E-08	8.608E-08	5.509E-08	1.722E-06	1.584E-07	9.641E-09	3.719E-06	1.722E-07	1.308E-07	4.889E-04
Unpaved road	2028_UNPAVED	9.795E-05	4.259E-07	2.555E-07	4.259E-07	2.726E-07	8.517E-06	7.836E-07	4.770E-08	1.840E-05	8.517E-07	6.473E-07	2.419E-03
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Exposure Duration, ED

Exposure Start	3rd Trimester	0<2	2<16	16<30
Years 1/1/2028	0	0	1	0

HRA Permanente Creek Restoration Project

Risk Factors

	Abbreviation	UOM	3rd Trimester	0<2	2<16	16<30
Daily Breathing Rate (95th %'ile)	DBR	L/kg-day	361	1090	572	261
Fraction Of Time At Home ^a	FAH	unitless	0.85	0.85	0.72	0.73
Exposure Frequency	EF	days/year	0.96	0.96	0.96	0.96
Age Sensitivity Factor	ASF	unitless	10	10	3	1
Inhalation Absorption Factor	A	unitless	1	1	1	1
Conversion Factor	CF ₁	m ³ /L	0.001	0.001	0.001	0.001
Conversion Factor	CF ₂	µg/m ³	0.001	0.001	0.001	0.001
Averaging Time (for residential exposure)	AT	years	70.00	70.00	70.00	70.00

^a assume school or daycare will have cancer risk of >1 per million

Cancer Potency Factor, CPF

TAC	UOM	
DPM	mg/kg-day ⁻¹	1.1
Arsenic	mg/kg-day ⁻¹	12
Beryllium	mg/kg-day ⁻¹	8.4
Cadmium	mg/kg-day ⁻¹	15
Cobalt	mg/kg-day ⁻¹	27
Lead	mg/kg-day ⁻¹	0.04
Nickel	mg/kg-day ⁻¹	0.91
Chromium VI	mg/kg-day ⁻¹	510

Intake Factor for Inhalation, IF (m³/kg-day)

Equation	3rd Trimester	0<2	2<16	16<30
DBR*FAH*EF*ED*ASF*A*CF/AT	0.000	0.000	0.017	0.000

Risk Calculation Part 1, R1

	TAC	3rd Trimester	0<2	2<16	16<30
IF*CPF*CF	DPM	0.00E+00	0.00E+00	1.86E-05	0.00E+00
	Arsenic	0.00E+00	0.00E+00	2.03E-04	0.00E+00
	Beryllium	0.00E+00	0.00E+00	1.42E-04	0.00E+00
	Cadmium	0.00E+00	0.00E+00	2.54E-04	0.00E+00
	Cobalt	0.00E+00	0.00E+00	4.57E-04	0.00E+00
	Lead	0.00E+00	0.00E+00	6.78E-07	0.00E+00
	Nickel	0.00E+00	0.00E+00	1.54E-05	0.00E+00
Chromium VI	0.00E+00	0.00E+00	8.64E-03	0.00E+00	

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)							
	UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Lead	Nickel	Chromium VI
581336.22_4131207.48	581336.22	4131207.48	1.87E-04	1.10E-07	6.58E-08	1.10E-07	7.08E-08	2.02E-07	4.73E-06	1.66E-07
581554.22_4130688.06	581554.22	4130688.06	1.25E-04	7.92E-08	4.75E-08	7.92E-08	5.13E-08	1.46E-07	3.42E-06	1.20E-07
579793.36_4131503.29	579793.36	4131503.29	1.11E-05	2.14E-08	1.29E-08	2.14E-08	1.47E-08	3.92E-08	9.20E-07	3.22E-08
580488.37_4131517.71	580488.37	4131517.71	1.46E-05	1.75E-08	1.05E-08	1.75E-08	1.17E-08	3.21E-08	7.53E-07	2.64E-08
581678.43_4131040.03	581678.43	4131040.03	5.93E-04	3.26E-07	1.96E-07	3.26E-07	2.09E-07	6.00E-07	1.41E-05	4.96E-07
581635.43_4130978.54	581635.43	4130978.54	1.20E-03	6.53E-07	3.92E-07	6.53E-07	4.18E-07	1.20E-06	2.82E-05	9.92E-07
581830.06_4131027.55	581830.06	4131027.55	5.46E-04	3.00E-07	1.80E-07	3.00E-07	1.93E-07	5.53E-07	1.30E-05	4.56E-07
581727.48_4130976.54	581727.48	4130976.54	1.45E-03	7.88E-07	4.73E-07	7.88E-07	5.05E-07	1.45E-06	3.40E-05	1.20E-06
581789.11_4130419.65	581789.11	4130419.65	9.48E-05	6.23E-08	3.74E-08	6.23E-08	4.06E-08	1.15E-07	2.69E-06	9.45E-08
581700.32_4130781.89	581700.32	4130781.89	2.88E-04	1.64E-07	9.85E-08	1.64E-07	1.06E-07	3.02E-07	7.09E-06	2.49E-07
581426.07_4131299.01	581426.07	4131299.01	6.79E-05	4.44E-08	2.67E-08	4.44E-08	2.90E-08	8.17E-08	1.92E-06	6.74E-08
582301.42_4129474.56	582301.42	4129474.56	3.02E-05	2.48E-08	1.49E-08	2.48E-08	1.64E-08	4.55E-08	1.07E-06	3.75E-08
582357.99_4129474.56	582357.99	4129474.56	2.83E-05	2.34E-08	1.40E-08	2.34E-08	1.55E-08	4.29E-08	1.01E-06	3.53E-08
582414.56_4129474.56	582414.56	4129474.56	2.65E-05	2.21E-08	1.32E-08	2.21E-08	1.47E-08	4.05E-08	9.50E-07	3.34E-08
582471.13_4129474.56	582471.13	4129474.56	2.49E-05	2.09E-08	1.25E-08	2.09E-08	1.39E-08	3.83E-08	8.99E-07	3.16E-08
582527.7_4129474.56	582527.7	4129474.56	2.35E-05	1.99E-08	1.19E-08	1.99E-08	1.32E-08	3.64E-08	8.55E-07	3.00E-08
582584.27_4129474.56	582584.27	4129474.56	2.22E-05	1.88E-08	1.13E-08	1.88E-08	1.26E-08	3.45E-08	8.10E-07	2.85E-08
582640.84_4129474.56	582640.84	4129474.56	2.07E-05	1.78E-08	1.07E-08	1.78E-08	1.19E-08	3.26E-08	7.65E-07	2.69E-08
582244.85_4129558.47	582244.85	4129558.47	3.05E-05	2.52E-08	1.51E-08	2.52E-08	1.67E-08	4.62E-08	1.08E-06	3.80E-08
582301.42_4129558.47	582301.42	4129558.47	3.03E-05	2.46E-08	1.48E-08	2.46E-08	1.63E-08	4.51E-08	1.06E-06	3.72E-08
582357.99_4129558.47	582357.99	4129558.47	2.88E-05	2.34E-08	1.40E-08	2.34E-08	1.55E-08	4.30E-08	1.01E-06	3.54E-08
582414.56_4129558.47	582414.56	4129558.47	2.70E-05	2.22E-08	1.33E-08	2.22E-08	1.47E-08	4.07E-08	9.54E-07	3.35E-08
582471.13_4129558.47	582471.13	4129558.47	2.53E-05	2.09E-08	1.26E-08	2.09E-08	1.39E-08	3.84E-08	9.01E-07	3.16E-08
582527.7_4129558.47	582527.7	4129558.47	2.37E-05	1.98E-08	1.19E-08	1.98E-08	1.32E-08	3.63E-08	8.53E-07	2.99E-08
582584.27_4129558.47	582584.27	4129558.47	2.22E-05	1.88E-08	1.13E-08	1.88E-08	1.25E-08	3.44E-08	8.07E-07	2.83E-08
582640.84_4129558.47	582640.84	4129558.47	2.09E-05	1.79E-08	1.07E-08	1.79E-08	1.19E-08	3.28E-08	7.69E-07	2.70E-08
582697.41_4129558.47	582697.41	4129558.47	1.97E-05	1.70E-08	1.02E-08	1.70E-08	1.14E-08	3.12E-08	7.32E-07	2.57E-08
582244.85_4129642.38	582244.85	4129642.38	2.69E-05	2.31E-08	1.39E-08	2.31E-08	1.54E-08	4.24E-08	9.94E-07	3.49E-08

Risk Calculation Part 2, ΣR1*C_{TAC}

3rd Trimester	0<2	2<16	16<30	Cancer Risk - 2028 (per million)	Receptor Type
0	0	3.48473E-09	0	0.0035	CT House
0	0	2.33794E-09	0	0.0023	Res
0	0	2.07045E-10	0	0.0002	Acute
0	0	2.72807E-10	0	0.0003	Acute
0	0	1.1047E-08	0	0.0110	Res
0	0	2.23612E-08	0	0.0224	Res
0	0	1.01755E-08	0	0.0102	Res
0	0	2.70695E-08	0	0.0271	Res
0	0	1.76734E-09	0	0.0018	Res
0	0	5.37031E-09	0	0.0054	Res
0	0	1.26587E-09	0	0.0013	Acute
0	0	5.63214E-10	0	0.0006	Res
0	0	5.26922E-10	0	0.0005	Res
0	0	4.9404E-10	0	0.0005	Res
0	0	4.64346E-10	0	0.0005	Res
0	0	4.38821E-10	0	0.0004	Res
0	0	4.13034E-10	0	0.0004	Res
0	0	3.85624E-10	0	0.0004	Res
0	0	5.68968E-10	0	0.0006	Res
0	0	5.64207E-10	0	0.0006	Res
0	0	5.36024E-10	0	0.0005	Res
0	0	5.03593E-10	0	0.0005	Res
0	0	4.71962E-10	0	0.0005	Res
0	0	4.42243E-10	0	0.0004	Res
0	0	4.14086E-10	0	0.0004	Res
0	0	3.90427E-10	0	0.0004	Res
0	0	3.67768E-10	0	0.0004	Res
0	0	5.01087E-10	0	0.0005	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)							
	UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Lead	Nickel	Chromium VI
582527.7_4130984.94	582527.7	4130984.94	1.34E-05	1.20E-08	7.23E-09	1.20E-08	8.06E-09	2.21E-08	5.18E-07	1.82E-08
582584.27_4130984.94	582584.27	4130984.94	1.24E-05	1.14E-08	6.81E-09	1.14E-08	7.61E-09	2.08E-08	4.89E-07	1.71E-08
582640.84_4130984.94	582640.84	4130984.94	1.15E-05	1.08E-08	6.46E-09	1.08E-08	7.23E-09	1.98E-08	4.64E-07	1.63E-08
582697.41_4130984.94	582697.41	4130984.94	1.08E-05	1.02E-08	6.14E-09	1.02E-08	6.89E-09	1.88E-08	4.40E-07	1.55E-08
582753.98_4130984.94	582753.98	4130984.94	1.01E-05	9.78E-09	5.87E-09	9.78E-09	6.59E-09	1.79E-08	4.21E-07	1.48E-08
582810.55_4130984.94	582810.55	4130984.94	9.56E-06	9.36E-09	5.62E-09	9.36E-09	6.31E-09	1.72E-08	4.03E-07	1.41E-08
582867.12_4130984.94	582867.12	4130984.94	9.04E-06	8.98E-09	5.39E-09	8.98E-09	6.06E-09	1.65E-08	3.86E-07	1.35E-08
581735.72_4131068.85	581735.72	4131068.85	2.80E-04	1.58E-07	9.47E-08	1.58E-07	1.02E-07	2.90E-07	6.82E-06	2.40E-07
581792.29_4131068.85	581792.29	4131068.85	2.23E-04	1.27E-07	7.63E-08	1.27E-07	8.19E-08	2.34E-07	5.49E-06	1.93E-07
581848.86_4131068.85	581848.86	4131068.85	1.20E-04	7.17E-08	4.30E-08	7.17E-08	4.63E-08	1.32E-07	3.09E-06	1.09E-07
581905.43_4131068.85	581905.43	4131068.85	7.67E-05	4.80E-08	2.88E-08	4.80E-08	3.12E-08	8.83E-08	2.07E-06	7.29E-08
581962_4131068.85	581962	4131068.85	5.56E-05	3.65E-08	2.19E-08	3.65E-08	2.38E-08	6.70E-08	1.57E-06	5.53E-08
582018.57_4131068.85	582018.57	4131068.85	4.22E-05	2.90E-08	1.74E-08	2.90E-08	1.90E-08	5.34E-08	1.25E-06	4.40E-08
582075.14_4131068.85	582075.14	4131068.85	3.35E-05	2.42E-08	1.45E-08	2.42E-08	1.59E-08	4.44E-08	1.04E-06	3.66E-08
582131.71_4131068.85	582131.71	4131068.85	2.76E-05	2.08E-08	1.25E-08	2.08E-08	1.37E-08	3.82E-08	8.97E-07	3.15E-08
582188.28_4131068.85	582188.28	4131068.85	2.34E-05	1.83E-08	1.10E-08	1.83E-08	1.21E-08	3.36E-08	7.89E-07	2.77E-08
582244.85_4131068.85	582244.85	4131068.85	2.02E-05	1.64E-08	9.86E-09	1.64E-08	1.09E-08	3.02E-08	7.08E-07	2.48E-08
582301.42_4131068.85	582301.42	4131068.85	1.78E-05	1.49E-08	8.96E-09	1.49E-08	9.93E-09	2.74E-08	6.43E-07	2.26E-08
582357.99_4131068.85	582357.99	4131068.85	1.58E-05	1.37E-08	8.23E-09	1.37E-08	9.15E-09	2.52E-08	5.91E-07	2.07E-08
582414.56_4131068.85	582414.56	4131068.85	1.43E-05	1.27E-08	7.64E-09	1.27E-08	8.51E-09	2.34E-08	5.48E-07	1.92E-08
582471.13_4131068.85	582471.13	4131068.85	1.30E-05	1.19E-08	7.13E-09	1.19E-08	7.96E-09	2.18E-08	5.12E-07	1.80E-08
582527.7_4131068.85	582527.7	4131068.85	1.20E-05	1.12E-08	6.70E-09	1.12E-08	7.49E-09	2.05E-08	4.81E-07	1.69E-08
582584.27_4131068.85	582584.27	4131068.85	1.10E-05	1.05E-08	6.32E-09	1.05E-08	7.07E-09	1.93E-08	4.53E-07	1.59E-08
582640.84_4131068.85	582640.84	4131068.85	1.04E-05	1.00E-08	6.02E-09	1.00E-08	6.74E-09	1.84E-08	4.31E-07	1.51E-08
582697.41_4131068.85	582697.41	4131068.85	9.73E-06	9.56E-09	5.74E-09	9.56E-09	6.44E-09	1.75E-08	4.11E-07	1.44E-08
582753.98_4131068.85	582753.98	4131068.85	9.23E-06	9.17E-09	5.50E-09	9.17E-09	6.18E-09	1.68E-08	3.94E-07	1.38E-08
582810.55_4131068.85	582810.55	4131068.85	8.77E-06	8.81E-09	5.29E-09	8.81E-09	5.95E-09	1.62E-08	3.79E-07	1.33E-08
582867.12_4131068.85	582867.12	4131068.85	8.30E-06	8.44E-09	5.07E-09	8.44E-09	5.71E-09	1.55E-08	3.63E-07	1.27E-08
582018.57_4131152.76	582018.57	4131152.76	2.83E-05	2.15E-08	1.29E-08	2.15E-08	1.42E-08	3.94E-08	9.25E-07	3.25E-08
582244.85_4131152.76	582244.85	4131152.76	1.71E-05	1.47E-08	8.83E-09	1.47E-08	9.80E-09	2.70E-08	6.34E-07	2.22E-08
582301.42_4131152.76	582301.42	4131152.76	1.54E-05	1.36E-08	8.18E-09	1.36E-08	9.09E-09	2.50E-08	5.87E-07	2.06E-08
582357.99_4131152.76	582357.99	4131152.76	1.39E-05	1.27E-08	7.60E-09	1.27E-08	8.47E-09	2.32E-08	5.45E-07	1.91E-08
582414.56_4131152.76	582414.56	4131152.76	1.27E-05	1.18E-08	7.11E-09	1.18E-08	7.93E-09	2.17E-08	5.10E-07	1.79E-08
582471.13_4131152.76	582471.13	4131152.76	1.15E-05	1.11E-08	6.64E-09	1.11E-08	7.42E-09	2.03E-08	4.76E-07	1.67E-08
582527.7_4131152.76	582527.7	4131152.76	1.06E-05	1.04E-08	6.25E-09	1.04E-08	7.00E-09	1.91E-08	4.48E-07	1.57E-08
582584.27_4131152.76	582584.27	4131152.76	9.80E-06	9.84E-09	5.90E-09	9.84E-09	6.63E-09	1.80E-08	4.23E-07	1.49E-08
582640.84_4131152.76	582640.84	4131152.76	9.16E-06	9.36E-09	5.62E-09	9.36E-09	6.31E-09	1.72E-08	4.03E-07	1.41E-08
582697.41_4131152.76	582697.41	4131152.76	8.61E-06	8.93E-09	5.36E-09	8.93E-09	6.03E-09	1.64E-08	3.84E-07	1.35E-08
582753.98_4131152.76	582753.98	4131152.76	8.20E-06	8.59E-09	5.15E-09	8.59E-09	5.80E-09	1.57E-08	3.69E-07	1.30E-08
582810.55_4131152.76	582810.55	4131152.76	7.82E-06	8.27E-09	4.96E-09	8.27E-09	5.59E-09	1.52E-08	3.55E-07	1.25E-08
582867.12_4131152.76	582867.12	4131152.76	7.41E-06	7.93E-09	4.76E-09	7.93E-09	5.37E-09	1.45E-08	3.41E-07	1.20E-08

Risk Calculation Part 2, ΣR1*C_{TAC}

3rd Trimester	0<2	2<16	16<30	Cancer Risk - 2028 (per million)	Receptor Type
0	0	2.49424E-10	0	0.0002	Res
0	0	2.30304E-10	0	0.0002	Res
0	0	2.14694E-10	0	0.0002	Res
0	0	2.00525E-10	0	0.0002	Res
0	0	1.88838E-10	0	0.0002	Res
0	0	1.78167E-10	0	0.0002	Res
0	0	1.68585E-10	0	0.0002	Res
0	0	5.21793E-09	0	0.0052	Res
0	0	4.16293E-09	0	0.0042	Res
0	0	2.24273E-09	0	0.0022	Res
0	0	1.43005E-09	0	0.0014	Res
0	0	1.03681E-09	0	0.0010	Res
0	0	7.86563E-10	0	0.0008	Res
0	0	6.24397E-10	0	0.0006	Res
0	0	5.14989E-10	0	0.0005	Res
0	0	4.35372E-10	0	0.0004	Res
0	0	3.76539E-10	0	0.0004	Res
0	0	3.31067E-10	0	0.0003	Res
0	0	2.95003E-10	0	0.0003	Res
0	0	2.66311E-10	0	0.0003	Res
0	0	2.42646E-10	0	0.0002	Res
0	0	2.22832E-10	0	0.0002	Res
0	0	2.05691E-10	0	0.0002	Res
0	0	1.93021E-10	0	0.0002	Res
0	0	1.81416E-10	0	0.0002	Res
0	0	1.71982E-10	0	0.0002	Res
0	0	1.63529E-10	0	0.0002	Res
0	0	1.54681E-10	0	0.0002	Res
0	0	5.27574E-10	0	0.0005	Res
0	0	3.18715E-10	0	0.0003	Res
0	0	2.87045E-10	0	0.0003	Res
0	0	2.59278E-10	0	0.0003	Res
0	0	2.36277E-10	0	0.0002	Res
0	0	2.14651E-10	0	0.0002	Res
0	0	1.9743E-10	0	0.0002	Res
0	0	1.82655E-10	0	0.0002	Res
0	0	1.7072E-10	0	0.0002	Res
0	0	1.60514E-10	0	0.0002	Res
0	0	1.52836E-10	0	0.0002	Res
0	0	1.45692E-10	0	0.0001	Res
0	0	1.38111E-10	0	0.0001	Res

HRA Permanente Creek Restoration Project

Construction Year 2029

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for speciation	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2024_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material Removal 2028	2028_MATRMVL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2028_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Unpaved road	2028_UNPAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Material Removal 2029	2029_MATRMVL	3.324E-05	9.08E-09	5.45E-09	9.08E-09	4.65E-08	1.02E-07	9.08E-09	1.45E-09	1.67E-07	1.82E-08	7.26E-10	2.70E-05
Paved road	2029_PAVED	1.598E-04	8.67E-08	5.20E-08	8.67E-08	5.55E-08	1.73E-06	1.60E-07	9.71E-09	3.75E-06	1.73E-07	1.32E-07	4.93E-04
Unpaved road	2029_UNPAVED	9.761E-05	4.29E-07	2.57E-07	4.29E-07	2.75E-07	8.58E-06	7.89E-07	4.81E-08	1.85E-05	8.58E-07	6.52E-07	2.44E-03

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Exposure Duration, ED

Exposure Start	3rd Trimester	0<2	2<16	16<30
1/1/2029	0	0	1	0

HRA Permanente Creek Restoration Project

Risk Factors

	Abbreviation	UOM	3rd Trimester	0<2	2<16	16<30
Daily Breathing Rate (95th %'ile)	DBR	L/kg-day	361	1090	572	261
Fraction Of Time At Home ^a	FAH	unitless	0.85	0.85	0.72	0.73
Exposure Frequency	EF	days/year	0.96	0.96	0.96	0.96
Age Sensitivity Factor	ASF	unitless	10	10	3	1
Inhalation Absorption Factor	A	unitless	1	1	1	1
Conversion Factor	CF ₁	m ³ /L	0.001	0.001	0.001	0.001
Conversion Factor	CF ₂	µg/m ³	0.001	0.001	0.001	0.001
Averaging Time (for residential exposure)	AT	years	70.00	70.00	70.00	70.00

^a assume school or daycare will have cancer risk of >1 per million

Cancer Potency Factor, CPF

TAC	UOM	
DPM	mg/kg-day ⁻¹	1.1
Arsenic	mg/kg-day ⁻¹	12
Beryllium	mg/kg-day ⁻¹	8.4
Cadmium	mg/kg-day ⁻¹	15
Cobalt	mg/kg-day ⁻¹	27
Lead	mg/kg-day ⁻¹	0.04
Nickel	mg/kg-day ⁻¹	0.91
Chromium VI	mg/kg-day ⁻¹	510

Intake Factor for Inhalation, IF (m³/kg-day)

Equation	3rd Trimester	0<2	2<16	16<30
DBR*FAH*EF*ED*ASF*A*CF/AT	0.000	0.000	0.017	0.000

Risk Calculation Part 1, R1

	TAC	3rd Trimester	0<2	2<16	16<30
IF*CPF*CF	DPM	0.00E+00	0.00E+00	1.86E-05	0.00E+00
	Arsenic	0.00E+00	0.00E+00	2.03E-04	0.00E+00
	Beryllium	0.00E+00	0.00E+00	1.42E-04	0.00E+00
	Cadmium	0.00E+00	0.00E+00	2.54E-04	0.00E+00
	Cobalt	0.00E+00	0.00E+00	4.57E-04	0.00E+00
	Lead	0.00E+00	0.00E+00	6.78E-07	0.00E+00
	Nickel	0.00E+00	0.00E+00	1.54E-05	0.00E+00
Chromium VI	0.00E+00	0.00E+00	8.64E-03	0.00E+00	

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)							
	UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Lead	Nickel	Chromium VI
581336.22_4131207.48	581336.22	4131207.48	1.86E-04	1.10E-07	6.63E-08	1.10E-07	7.13E-08	2.03E-07	4.77E-06	1.68E-07
581554.22_4130688.06	581554.22	4130688.06	1.25E-04	7.98E-08	4.79E-08	7.98E-08	5.17E-08	1.47E-07	3.44E-06	1.21E-07
579793.36_4131503.29	579793.36	4131503.29	1.11E-05	2.16E-08	1.29E-08	2.16E-08	1.48E-08	3.95E-08	9.27E-07	3.25E-08
580488.37_4131517.71	580488.37	4131517.71	1.46E-05	1.76E-08	1.06E-08	1.76E-08	1.18E-08	3.23E-08	7.58E-07	2.66E-08
581678.43_4131040.03	581678.43	4131040.03	5.91E-04	3.29E-07	1.97E-07	3.29E-07	2.11E-07	6.05E-07	1.42E-05	4.99E-07
581635.43_4130978.54	581635.43	4130978.54	1.20E-03	6.57E-07	3.94E-07	6.57E-07	4.21E-07	1.21E-06	2.84E-05	9.99E-07
581830.06_4131027.55	581830.06	4131027.55	5.44E-04	3.03E-07	1.82E-07	3.03E-07	1.94E-07	5.57E-07	1.31E-05	4.60E-07
581727.48_4130976.54	581727.48	4130976.54	1.45E-03	7.94E-07	4.76E-07	7.94E-07	5.08E-07	1.46E-06	3.43E-05	1.21E-06
581789.11_4130419.65	581789.11	4130419.65	9.45E-05	6.28E-08	3.77E-08	6.28E-08	4.09E-08	1.15E-07	2.71E-06	9.52E-08
581700.32_4130781.89	581700.32	4130781.89	2.87E-04	1.65E-07	9.92E-08	1.65E-07	1.06E-07	3.04E-07	7.14E-06	2.51E-07
581426.07_4131299.01	581426.07	4131299.01	6.77E-05	4.48E-08	2.69E-08	4.48E-08	2.92E-08	8.23E-08	1.93E-06	6.79E-08
582301.42_4129474.56	582301.42	4129474.56	3.01E-05	2.50E-08	1.50E-08	2.50E-08	1.65E-08	4.58E-08	1.08E-06	3.78E-08
582357.99_4129474.56	582357.99	4129474.56	2.82E-05	2.35E-08	1.41E-08	2.35E-08	1.56E-08	4.32E-08	1.01E-06	3.56E-08
582414.56_4129474.56	582414.56	4129474.56	2.64E-05	2.22E-08	1.33E-08	2.22E-08	1.48E-08	4.08E-08	9.57E-07	3.36E-08
582471.13_4129474.56	582471.13	4129474.56	2.48E-05	2.10E-08	1.26E-08	2.10E-08	1.40E-08	3.86E-08	9.06E-07	3.18E-08
582527.7_4129474.56	582527.7	4129474.56	2.35E-05	2.00E-08	1.20E-08	2.00E-08	1.33E-08	3.67E-08	8.61E-07	3.02E-08
582584.27_4129474.56	582584.27	4129474.56	2.21E-05	1.90E-08	1.14E-08	1.90E-08	1.27E-08	3.48E-08	8.17E-07	2.87E-08
582640.84_4129474.56	582640.84	4129474.56	2.06E-05	1.79E-08	1.07E-08	1.79E-08	1.20E-08	3.29E-08	7.71E-07	2.71E-08
582244.85_4129558.47	582244.85	4129558.47	3.04E-05	2.53E-08	1.52E-08	2.53E-08	1.68E-08	4.65E-08	1.09E-06	3.83E-08
582301.42_4129558.47	582301.42	4129558.47	3.02E-05	2.48E-08	1.49E-08	2.48E-08	1.64E-08	4.55E-08	1.07E-06	3.75E-08
582357.99_4129558.47	582357.99	4129558.47	2.87E-05	2.36E-08	1.41E-08	2.36E-08	1.57E-08	4.33E-08	1.02E-06	3.57E-08
582414.56_4129558.47	582414.56	4129558.47	2.69E-05	2.23E-08	1.34E-08	2.23E-08	1.48E-08	4.10E-08	9.61E-07	3.38E-08
582471.13_4129558.47	582471.13	4129558.47	2.52E-05	2.11E-08	1.27E-08	2.11E-08	1.40E-08	3.87E-08	9.08E-07	3.19E-08
582527.7_4129558.47	582527.7	4129558.47	2.36E-05	2.00E-08	1.20E-08	2.00E-08	1.33E-08	3.66E-08	8.59E-07	3.02E-08
582584.27_4129558.47	582584.27	4129558.47	2.21E-05	1.89E-08	1.13E-08	1.89E-08	1.26E-08	3.47E-08	8.13E-07	2.86E-08
582640.84_4129558.47	582640.84	4129558.47	2.09E-05	1.80E-08	1.08E-08	1.80E-08	1.20E-08	3.30E-08	7.74E-07	2.72E-08
582697.41_4129558.47	582697.41	4129558.47	1.97E-05	1.71E-08	1.03E-08	1.71E-08	1.15E-08	3.14E-08	7.37E-07	2.59E-08
582244.85_4129642.38	582244.85	4129642.38	2.68E-05	2.33E-08	1.40E-08	2.33E-08	1.55E-08	4.27E-08	1.00E-06	3.52E-08

Risk Calculation Part 2, ΣR1*C_{TAC}

3rd Trimester	0<2	2<16	16<30	Cancer Risk - 2029 (per million)	Receptor Type
0	0	3.47291E-09	0	0.0035	CT House
0	0	2.33003E-09	0	0.0023	Res
0	0	2.06394E-10	0	0.0002	Acute
0	0	2.71908E-10	0	0.0003	Acute
0	0	1.10095E-08	0	0.0110	Res
0	0	2.22851E-08	0	0.0223	Res
0	0	1.01409E-08	0	0.0101	Res
0	0	2.69775E-08	0	0.0270	Res
0	0	1.76136E-09	0	0.0018	Res
0	0	5.35208E-09	0	0.0054	Res
0	0	1.2616E-09	0	0.0013	Acute
0	0	5.61329E-10	0	0.0006	Res
0	0	5.25159E-10	0	0.0005	Res
0	0	4.92388E-10	0	0.0005	Res
0	0	4.62794E-10	0	0.0005	Res
0	0	4.37356E-10	0	0.0004	Res
0	0	4.11656E-10	0	0.0004	Res
0	0	3.84338E-10	0	0.0004	Res
0	0	5.67065E-10	0	0.0006	Res
0	0	5.62318E-10	0	0.0006	Res
0	0	5.34231E-10	0	0.0005	Res
0	0	5.01909E-10	0	0.0005	Res
0	0	4.70385E-10	0	0.0005	Res
0	0	4.40767E-10	0	0.0004	Res
0	0	4.12705E-10	0	0.0004	Res
0	0	3.89126E-10	0	0.0004	Res
0	0	3.66544E-10	0	0.0004	Res
0	0	4.99414E-10	0	0.0005	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)							
			UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Lead
582527.7_4130984.94	582527.7	4130984.94	1.33E-05	1.21E-08	7.28E-09	1.21E-08	8.12E-09	2.23E-08	5.22E-07	1.83E-08
582584.27_4130984.94	582584.27	4130984.94	1.23E-05	1.14E-08	6.86E-09	1.14E-08	7.67E-09	2.10E-08	4.92E-07	1.73E-08
582640.84_4130984.94	582640.84	4130984.94	1.15E-05	1.09E-08	6.51E-09	1.09E-08	7.28E-09	1.99E-08	4.67E-07	1.64E-08
582697.41_4130984.94	582697.41	4130984.94	1.07E-05	1.03E-08	6.19E-09	1.03E-08	6.93E-09	1.89E-08	4.44E-07	1.56E-08
582753.98_4130984.94	582753.98	4130984.94	1.01E-05	9.85E-09	5.91E-09	9.85E-09	6.63E-09	1.81E-08	4.24E-07	1.49E-08
582810.55_4130984.94	582810.55	4130984.94	9.53E-06	9.43E-09	5.66E-09	9.43E-09	6.35E-09	1.73E-08	4.06E-07	1.42E-08
582867.12_4130984.94	582867.12	4130984.94	9.01E-06	9.04E-09	5.43E-09	9.04E-09	6.10E-09	1.66E-08	3.89E-07	1.36E-08
581735.72_4131068.85	581735.72	4131068.85	2.79E-04	1.59E-07	9.54E-08	1.59E-07	1.02E-07	2.93E-07	6.87E-06	2.42E-07
581792.29_4131068.85	581792.29	4131068.85	2.23E-04	1.28E-07	7.69E-08	1.28E-07	8.25E-08	2.36E-07	5.54E-06	1.95E-07
581848.86_4131068.85	581848.86	4131068.85	1.20E-04	7.22E-08	4.33E-08	7.22E-08	4.67E-08	1.33E-07	3.12E-06	1.10E-07
581905.43_4131068.85	581905.43	4131068.85	7.65E-05	4.84E-08	2.90E-08	4.84E-08	3.14E-08	8.90E-08	2.09E-06	7.34E-08
581962_4131068.85	581962	4131068.85	5.54E-05	3.68E-08	2.21E-08	3.68E-08	2.40E-08	6.75E-08	1.59E-06	5.57E-08
582018.57_4131068.85	582018.57	4131068.85	4.21E-05	2.93E-08	1.76E-08	2.93E-08	1.92E-08	5.38E-08	1.26E-06	4.43E-08
582075.14_4131068.85	582075.14	4131068.85	3.34E-05	2.43E-08	1.46E-08	2.43E-08	1.60E-08	4.47E-08	1.05E-06	3.69E-08
582131.71_4131068.85	582131.71	4131068.85	2.75E-05	2.10E-08	1.26E-08	2.10E-08	1.38E-08	3.85E-08	9.03E-07	3.17E-08
582188.28_4131068.85	582188.28	4131068.85	2.33E-05	1.85E-08	1.11E-08	1.85E-08	1.22E-08	3.39E-08	7.95E-07	2.79E-08
582244.85_4131068.85	582244.85	4131068.85	2.01E-05	1.66E-08	9.93E-09	1.66E-08	1.10E-08	3.04E-08	7.13E-07	2.50E-08
582301.42_4131068.85	582301.42	4131068.85	1.77E-05	1.51E-08	9.03E-09	1.51E-08	1.00E-08	2.76E-08	6.48E-07	2.28E-08
582357.99_4131068.85	582357.99	4131068.85	1.58E-05	1.38E-08	8.29E-09	1.38E-08	9.21E-09	2.54E-08	5.95E-07	2.09E-08
582414.56_4131068.85	582414.56	4131068.85	1.42E-05	1.28E-08	7.70E-09	1.28E-08	8.57E-09	2.35E-08	5.52E-07	1.94E-08
582471.13_4131068.85	582471.13	4131068.85	1.30E-05	1.20E-08	7.19E-09	1.20E-08	8.01E-09	2.20E-08	5.16E-07	1.81E-08
582527.7_4131068.85	582527.7	4131068.85	1.19E-05	1.13E-08	6.75E-09	1.13E-08	7.54E-09	2.06E-08	4.84E-07	1.70E-08
582584.27_4131068.85	582584.27	4131068.85	1.10E-05	1.06E-08	6.36E-09	1.06E-08	7.12E-09	1.95E-08	4.56E-07	1.60E-08
582640.84_4131068.85	582640.84	4131068.85	1.03E-05	1.01E-08	6.06E-09	1.01E-08	6.79E-09	1.85E-08	4.35E-07	1.53E-08
582697.41_4131068.85	582697.41	4131068.85	9.70E-06	9.63E-09	5.78E-09	9.63E-09	6.48E-09	1.77E-08	4.14E-07	1.45E-08
582753.98_4131068.85	582753.98	4131068.85	9.20E-06	9.24E-09	5.54E-09	9.24E-09	6.23E-09	1.69E-08	3.97E-07	1.39E-08
582810.55_4131068.85	582810.55	4131068.85	8.74E-06	8.88E-09	5.33E-09	8.88E-09	5.99E-09	1.63E-08	3.82E-07	1.34E-08
582867.12_4131068.85	582867.12	4131068.85	8.27E-06	8.51E-09	5.10E-09	8.51E-09	5.75E-09	1.56E-08	3.66E-07	1.28E-08
582018.57_4131152.76	582018.57	4131152.76	2.82E-05	2.16E-08	1.30E-08	2.16E-08	1.43E-08	3.97E-08	9.32E-07	3.28E-08
582244.85_4131152.76	582244.85	4131152.76	1.70E-05	1.48E-08	8.90E-09	1.48E-08	9.87E-09	2.72E-08	6.38E-07	2.24E-08
582301.42_4131152.76	582301.42	4131152.76	1.53E-05	1.37E-08	8.24E-09	1.37E-08	9.16E-09	2.52E-08	5.91E-07	2.08E-08
582357.99_4131152.76	582357.99	4131152.76	1.39E-05	1.28E-08	7.66E-09	1.28E-08	8.53E-09	2.34E-08	5.49E-07	1.93E-08
582414.56_4131152.76	582414.56	4131152.76	1.26E-05	1.19E-08	7.16E-09	1.19E-08	7.99E-09	2.19E-08	5.13E-07	1.80E-08
582471.13_4131152.76	582471.13	4131152.76	1.15E-05	1.11E-08	6.69E-09	1.11E-08	7.48E-09	2.04E-08	4.80E-07	1.68E-08
582527.7_4131152.76	582527.7	4131152.76	1.06E-05	1.05E-08	6.30E-09	1.05E-08	7.05E-09	1.92E-08	4.51E-07	1.58E-08
582584.27_4131152.76	582584.27	4131152.76	9.77E-06	9.91E-09	5.95E-09	9.91E-09	6.67E-09	1.82E-08	4.26E-07	1.50E-08
582640.84_4131152.76	582640.84	4131152.76	9.13E-06	9.43E-09	5.66E-09	9.43E-09	6.36E-09	1.73E-08	4.06E-07	1.42E-08
582697.41_4131152.76	582697.41	4131152.76	8.58E-06	9.00E-09	5.40E-09	9.00E-09	6.07E-09	1.65E-08	3.87E-07	1.36E-08
582753.98_4131152.76	582753.98	4131152.76	8.17E-06	8.65E-09	5.19E-09	8.65E-09	5.84E-09	1.59E-08	3.72E-07	1.31E-08
582810.55_4131152.76	582810.55	4131152.76	7.79E-06	8.33E-09	5.00E-09	8.33E-09	5.63E-09	1.53E-08	3.58E-07	1.26E-08
582867.12_4131152.76	582867.12	4131152.76	7.39E-06	7.99E-09	4.79E-09	7.99E-09	5.41E-09	1.46E-08	3.44E-07	1.20E-08

Risk Calculation Part 2, ΣR1*C_{TAC}

3rd Trimester	0<2	2<16	16<30	Cancer Risk - 2029 (per million)	Receptor Type
0	0	2.48594E-10	0	0.0002	Res
0	0	2.29539E-10	0	0.0002	Res
0	0	2.13981E-10	0	0.0002	Res
0	0	1.9986E-10	0	0.0002	Res
0	0	1.88212E-10	0	0.0002	Res
0	0	1.77578E-10	0	0.0002	Res
0	0	1.68028E-10	0	0.0002	Res
0	0	5.20021E-09	0	0.0052	Res
0	0	4.1488E-09	0	0.0041	Res
0	0	2.23513E-09	0	0.0022	Res
0	0	1.42521E-09	0	0.0014	Res
0	0	1.0333E-09	0	0.0010	Res
0	0	7.83911E-10	0	0.0008	Res
0	0	6.22295E-10	0	0.0006	Res
0	0	5.13258E-10	0	0.0005	Res
0	0	4.33912E-10	0	0.0004	Res
0	0	3.75278E-10	0	0.0004	Res
0	0	3.2996E-10	0	0.0003	Res
0	0	2.94019E-10	0	0.0003	Res
0	0	2.65424E-10	0	0.0003	Res
0	0	2.41839E-10	0	0.0002	Res
0	0	2.22092E-10	0	0.0002	Res
0	0	2.05008E-10	0	0.0002	Res
0	0	1.92382E-10	0	0.0002	Res
0	0	1.80816E-10	0	0.0002	Res
0	0	1.71413E-10	0	0.0002	Res
0	0	1.62989E-10	0	0.0002	Res
0	0	1.54171E-10	0	0.0002	Res
0	0	5.25802E-10	0	0.0005	Res
0	0	3.17651E-10	0	0.0003	Res
0	0	2.86088E-10	0	0.0003	Res
0	0	2.58416E-10	0	0.0003	Res
0	0	2.35492E-10	0	0.0002	Res
0	0	2.13938E-10	0	0.0002	Res
0	0	1.96776E-10	0	0.0002	Res
0	0	1.82051E-10	0	0.0002	Res
0	0	1.70156E-10	0	0.0002	Res
0	0	1.59984E-10	0	0.0002	Res
0	0	1.52333E-10	0	0.0002	Res
0	0	1.45212E-10	0	0.0001	Res
0	0	1.37657E-10	0	0.0001	Res

B-3 PM_{2.5} Concentrations Calculations

HRA Permanente Creek Restoration Project

Annual Average PM_{2.5} Concentration

Emissions Inputs

Construction Activity	Construction Year & Source	PM2.5 Exhaust	PM2.5 Road Dust ¹	PM2.5 Total ¹
		(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000		1.00E-05
Paved road	2024_PAVED	1.04E-04		1.04E-04
Unpaved road	2024_CCP_UNPV	3.15E-05		3.15E-05
Channel Widening 2024	2024_CHAN_RCK	0.002		1.93E-03
Paved road	2024_PAVED	9.02E-04		9.02E-04
Rock Pile Area 2025	2025_CHAN_RCK	0.006		5.90E-03
Paved road	2025_PAVED	2.92E-03		2.92E-03
Rock Pile Area 2026	2026_CHAN_RCK	0.022		2.19E-02
Paved road	2026_PAVED	2.82E-03		2.82E-03
Channel Widening 2027	2027_CHAN_RCK	0.002		1.93E-03
Paved road	2027_PAVED	2.67E-03		2.67E-03
Material Removal 2028	2028_MATRMVL	0.001		1.16E-03
Paved road	2028_PAVED	2.62E-03		2.62E-03
Unpaved road	2028_UNPAVED	1.60E-03		1.60E-03
Material Removal 2029	2029_MATRMVL	0.001		1.16E-03
Paved road	2029_PAVED	2.58E-03		2.58E-03
Unpaved road	2029_UNPAVED	1.57E-03		1.57E-03

¹Values for construction areas (e.g. Concrete Channel, Rock Pile Area, etc.) are PM2.5 exhaust (since on-site fugitive PM2.5 can be mitigated with BMPs); values for paved and unpaved roads are entrained road dust.

HRA Permanente Creek Restoration Project

Construction Activity	Construction Year	2024	2025	2026	2027	2028	2029
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	2.877E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	2.987E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2024_CCP_UNPV	9.051E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2024	2024_CHAN_RCK	5.566E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2024_PAVED	2.596E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	1.70E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2025_PAVED	0.000E+00	8.40E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	6.31E-04	0.00E+00	0.00E+00	0.00E+00
Paved road	2026_PAVED	0.000E+00	0.00E+00	8.11E-05	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	5.57E-05	0.00E+00	0.00E+00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	7.69E-05	0.00E+00	0.00E+00
Material Removal 2028	2028_MATRMVL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.324E-05	0.000E+00
Paved road	2028_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.523E-05	0.000E+00
Unpaved road	2028_UNPAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.596E-05	0.000E+00
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.32E-05
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.41E-05
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.53E-05

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

CT House
Res

Max
0.000
0.001

2026
2025

Receptor Lookup	Receptor Location		PM _{2.5} Concentration, C _{PM2.5} (µg/m ³)					
			2024	2025	2026	2027	2028	2029
	UTM X	UTM Y						
581336.22_4131207.48	581336.22	4131207.48	3.47E-05	1.00E-04	1.06E-04	8.94E-05	8.80E-05	8.67E-05
581554.22_4130688.06	581554.22	4130688.06	2.50E-05	7.11E-05	8.87E-05	6.08E-05	5.91E-05	5.83E-05
579793.36_4131503.29	579793.36	4131503.29	3.09E-06	9.15E-06	2.51E-05	4.89E-06	5.65E-06	5.58E-06
580488.37_4131517.71	580488.37	4131517.71	3.41E-06	9.52E-06	1.86E-05	6.69E-06	7.11E-06	7.01E-06
581678.43_4131040.03	581678.43	4131040.03	1.08E-04	3.14E-04	3.15E-04	2.84E-04	2.78E-04	2.74E-04
581635.43_4130978.54	581635.43	4130978.54	2.18E-04	6.32E-04	6.24E-04	5.75E-04	5.63E-04	5.55E-04
581830.06_4131027.55	581830.06	4131027.55	9.96E-05	2.89E-04	2.89E-04	2.62E-04	2.56E-04	2.53E-04
581727.48_4130976.54	581727.48	4130976.54	2.63E-04	7.64E-04	7.50E-04	6.96E-04	6.82E-04	6.72E-04
581789.11_4130419.65	581789.11	4130419.65	2.00E-05	5.72E-05	8.10E-05	4.68E-05	4.48E-05	4.41E-05
581700.32_4130781.89	581700.32	4130781.89	5.37E-05	1.55E-04	1.63E-04	1.38E-04	1.35E-04	1.33E-04
581426.07_4131299.01	581426.07	4131299.01	1.30E-05	3.74E-05	4.48E-05	3.23E-05	3.21E-05	3.17E-05
582301.42_4129474.56	582301.42	4129474.56	8.08E-06	2.30E-05	4.59E-05	1.60E-05	1.44E-05	1.42E-05
582357.99_4129474.56	582357.99	4129474.56	7.57E-06	2.16E-05	4.33E-05	1.50E-05	1.35E-05	1.33E-05
582414.56_4129474.56	582414.56	4129474.56	7.11E-06	2.03E-05	4.09E-05	1.40E-05	1.27E-05	1.25E-05
582471.13_4129474.56	582471.13	4129474.56	6.68E-06	1.91E-05	3.87E-05	1.32E-05	1.19E-05	1.18E-05
582527.7_4129474.56	582527.7	4129474.56	6.32E-06	1.81E-05	3.68E-05	1.25E-05	1.13E-05	1.11E-05

Max	Max Year	Receptor Type
(µg/m ³)		
1.06E-04	2026	CT House
8.87E-05	2026	Res
2.51E-05	2026	Acute
1.86E-05	2026	Acute
3.15E-04	2026	Res
6.32E-04	2025	Res
2.89E-04	2026	Res
7.64E-04	2025	Res
8.10E-05	2026	Res
1.63E-04	2026	Res
4.48E-05	2026	Acute
4.59E-05	2026	Res
4.33E-05	2026	Res
4.09E-05	2026	Res
3.87E-05	2026	Res
3.68E-05	2026	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		PM _{2.5} Concentration, C _{PM2.5} (µg/m ³)					
			2024	2025	2026	2027	2028	2029
	UTM X	UTM Y						
582584.27_4129474.56	582584.27	4129474.56	5.95E-06	1.71E-05	3.49E-05	1.17E-05	1.06E-05	1.05E-05
582640.84_4129474.56	582640.84	4129474.56	5.57E-06	1.61E-05	3.30E-05	1.10E-05	9.92E-06	9.78E-06
582244.85_4129558.47	582244.85	4129558.47	8.52E-06	2.44E-05	5.09E-05	1.65E-05	1.46E-05	1.44E-05
582301.42_4129558.47	582301.42	4129558.47	8.23E-06	2.35E-05	4.74E-05	1.62E-05	1.45E-05	1.42E-05
582357.99_4129558.47	582357.99	4129558.47	7.72E-06	2.21E-05	4.42E-05	1.53E-05	1.37E-05	1.35E-05
582414.56_4129558.47	582414.56	4129558.47	7.25E-06	2.07E-05	4.17E-05	1.43E-05	1.29E-05	1.27E-05
582471.13_4129558.47	582471.13	4129558.47	6.76E-06	1.94E-05	3.91E-05	1.34E-05	1.21E-05	1.19E-05
582527.7_4129558.47	582527.7	4129558.47	6.34E-06	1.82E-05	3.69E-05	1.26E-05	1.14E-05	1.12E-05
582584.27_4129558.47	582584.27	4129558.47	5.96E-06	1.72E-05	3.50E-05	1.18E-05	1.06E-05	1.05E-05
582640.84_4129558.47	582640.84	4129558.47	5.63E-06	1.62E-05	3.33E-05	1.11E-05	1.00E-05	9.91E-06
582697.41_4129558.47	582697.41	4129558.47	5.32E-06	1.54E-05	3.17E-05	1.04E-05	9.47E-06	9.34E-06
582244.85_4129642.38	582244.85	4129642.38	7.97E-06	2.31E-05	5.12E-05	1.50E-05	1.29E-05	1.27E-05
582301.42_4129642.38	582301.42	4129642.38	8.16E-06	2.34E-05	4.83E-05	1.59E-05	1.41E-05	1.39E-05
582357.99_4129642.38	582357.99	4129642.38	7.83E-06	2.24E-05	4.48E-05	1.55E-05	1.39E-05	1.37E-05
582414.56_4129642.38	582414.56	4129642.38	7.34E-06	2.10E-05	4.19E-05	1.46E-05	1.32E-05	1.30E-05
582471.13_4129642.38	582471.13	4129642.38	6.87E-06	1.98E-05	3.95E-05	1.37E-05	1.24E-05	1.22E-05
582527.7_4129642.38	582527.7	4129642.38	6.46E-06	1.86E-05	3.73E-05	1.29E-05	1.17E-05	1.15E-05
582584.27_4129642.38	582584.27	4129642.38	6.04E-06	1.74E-05	3.52E-05	1.20E-05	1.09E-05	1.08E-05
582640.84_4129642.38	582640.84	4129642.38	5.68E-06	1.64E-05	3.33E-05	1.13E-05	1.02E-05	1.01E-05
582697.41_4129642.38	582697.41	4129642.38	5.35E-06	1.55E-05	3.16E-05	1.06E-05	9.61E-06	9.47E-06
582753.98_4129642.38	582753.98	4129642.38	5.03E-06	1.46E-05	3.01E-05	9.90E-06	9.01E-06	8.88E-06
582810.55_4129642.38	582810.55	4129642.38	4.75E-06	1.38E-05	2.87E-05	9.30E-06	8.46E-06	8.34E-06
582867.12_4129642.38	582867.12	4129642.38	4.46E-06	1.29E-05	2.73E-05	8.65E-06	7.88E-06	7.76E-06
582244.85_4129726.29	582244.85	4129726.29	8.35E-06	2.42E-05	5.13E-05	1.61E-05	1.41E-05	1.39E-05
582301.42_4129726.29	582301.42	4129726.29	8.00E-06	2.31E-05	4.82E-05	1.56E-05	1.37E-05	1.36E-05
582357.99_4129726.29	582357.99	4129726.29	7.85E-06	2.25E-05	4.49E-05	1.56E-05	1.40E-05	1.38E-05
582414.56_4129726.29	582414.56	4129726.29	7.42E-06	2.13E-05	4.21E-05	1.49E-05	1.35E-05	1.33E-05
582471.13_4129726.29	582471.13	4129726.29	6.98E-06	2.01E-05	3.97E-05	1.40E-05	1.27E-05	1.25E-05
582527.7_4129726.29	582527.7	4129726.29	6.55E-06	1.89E-05	3.74E-05	1.32E-05	1.20E-05	1.18E-05
582584.27_4129726.29	582584.27	4129726.29	6.15E-06	1.77E-05	3.53E-05	1.24E-05	1.13E-05	1.11E-05
582640.84_4129726.29	582640.84	4129726.29	5.77E-06	1.67E-05	3.35E-05	1.15E-05	1.05E-05	1.04E-05
582697.41_4129726.29	582697.41	4129726.29	5.39E-06	1.56E-05	3.16E-05	1.07E-05	9.79E-06	9.65E-06
582753.98_4129726.29	582753.98	4129726.29	5.02E-06	1.45E-05	2.99E-05	9.90E-06	9.05E-06	8.92E-06
582810.55_4129726.29	582810.55	4129726.29	4.64E-06	1.34E-05	2.81E-05	9.06E-06	8.28E-06	8.16E-06
582244.85_4129810.2	582244.85	4129810.2	8.16E-06	2.37E-05	5.06E-05	1.57E-05	1.37E-05	1.35E-05
582301.42_4129810.2	582301.42	4129810.2	7.99E-06	2.30E-05	4.75E-05	1.57E-05	1.40E-05	1.38E-05
582357.99_4129810.2	582357.99	4129810.2	7.75E-06	2.22E-05	4.45E-05	1.54E-05	1.39E-05	1.37E-05
582414.56_4129810.2	582414.56	4129810.2	7.41E-06	2.13E-05	4.18E-05	1.49E-05	1.36E-05	1.34E-05
582471.13_4129810.2	582471.13	4129810.2	7.00E-06	2.02E-05	3.93E-05	1.42E-05	1.30E-05	1.28E-05
582527.7_4129810.2	582527.7	4129810.2	6.58E-06	1.90E-05	3.71E-05	1.33E-05	1.22E-05	1.20E-05
582584.27_4129810.2	582584.27	4129810.2	6.15E-06	1.78E-05	3.50E-05	1.24E-05	1.14E-05	1.12E-05
582640.84_4129810.2	582640.84	4129810.2	5.68E-06	1.64E-05	3.28E-05	1.14E-05	1.05E-05	1.03E-05

Max (µg/m ³)	Max Year	Receptor Type
3.49E-05	2026	Res
3.30E-05	2026	Res
5.09E-05	2026	Res
4.74E-05	2026	Res
4.42E-05	2026	Res
4.17E-05	2026	Res
3.91E-05	2026	Res
3.69E-05	2026	Res
3.50E-05	2026	Res
3.33E-05	2026	Res
3.17E-05	2026	Res
5.12E-05	2026	Res
4.83E-05	2026	Res
4.48E-05	2026	Res
4.19E-05	2026	Res
3.95E-05	2026	Res
3.73E-05	2026	Res
3.52E-05	2026	Res
3.33E-05	2026	Res
3.16E-05	2026	Res
3.01E-05	2026	Res
2.87E-05	2026	Res
2.73E-05	2026	Res
5.13E-05	2026	Res
4.82E-05	2026	Res
4.49E-05	2026	Res
4.21E-05	2026	Res
3.97E-05	2026	Res
3.74E-05	2026	Res
3.53E-05	2026	Res
3.35E-05	2026	Res
3.16E-05	2026	Res
2.99E-05	2026	Res
2.81E-05	2026	Res
5.06E-05	2026	Res
4.75E-05	2026	Res
4.45E-05	2026	Res
4.18E-05	2026	Res
3.93E-05	2026	Res
3.71E-05	2026	Res
3.50E-05	2026	Res
3.28E-05	2026	Res

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Receptor Lookup	Receptor Location		PM _{2.5} Concentration, C _{PM2.5} (µg/m ³)						Max (µg/m ³)	Max Year	Receptor Type
			2024	2025	2026	2027	2028	2029			
582697.41_4129810.2	582697.41	4129810.2	5.27E-06	1.52E-05	3.09E-05	1.05E-05	9.62E-06	9.48E-06	3.09E-05	2026	Res
581905.43_4129894.11	581905.43	4129894.11	9.32E-06	2.68E-05	5.00E-05	1.94E-05	1.81E-05	1.79E-05	5.00E-05	2026	Res
581962_4129894.11	581962	4129894.11	1.03E-05	2.98E-05	6.09E-05	2.04E-05	1.81E-05	1.78E-05	6.09E-05	2026	Res
582131.71_4129894.11	582131.71	4129894.11	9.25E-06	2.68E-05	5.67E-05	1.80E-05	1.57E-05	1.55E-05	5.67E-05	2026	Res
582188.28_4129894.11	582188.28	4129894.11	8.78E-06	2.55E-05	5.31E-05	1.72E-05	1.52E-05	1.50E-05	5.31E-05	2026	Res
582244.85_4129894.11	582244.85	4129894.11	8.42E-06	2.43E-05	4.96E-05	1.67E-05	1.49E-05	1.47E-05	4.96E-05	2026	Res
582301.42_4129894.11	582301.42	4129894.11	8.04E-06	2.31E-05	4.64E-05	1.60E-05	1.44E-05	1.42E-05	4.64E-05	2026	Res
582357.99_4129894.11	582357.99	4129894.11	7.61E-06	2.19E-05	4.35E-05	1.52E-05	1.38E-05	1.36E-05	4.35E-05	2026	Res
582414.56_4129894.11	582414.56	4129894.11	7.45E-06	2.14E-05	4.10E-05	1.53E-05	1.40E-05	1.38E-05	4.10E-05	2026	Res
582471.13_4129894.11	582471.13	4129894.11	6.96E-06	2.01E-05	3.84E-05	1.43E-05	1.32E-05	1.30E-05	3.84E-05	2026	Res
582527.7_4129894.11	582527.7	4129894.11	6.46E-06	1.86E-05	3.61E-05	1.32E-05	1.22E-05	1.20E-05	3.61E-05	2026	Res
582584.27_4129894.11	582584.27	4129894.11	5.98E-06	1.73E-05	3.39E-05	1.21E-05	1.12E-05	1.10E-05	3.39E-05	2026	Res
582640.84_4129894.11	582640.84	4129894.11	5.52E-06	1.60E-05	3.19E-05	1.11E-05	1.02E-05	1.01E-05	3.19E-05	2026	Res
582697.41_4129894.11	582697.41	4129894.11	5.10E-06	1.48E-05	3.00E-05	1.02E-05	9.35E-06	9.22E-06	3.00E-05	2026	Res
581962_4129978.02	581962	4129978.02	1.05E-05	3.05E-05	6.14E-05	2.11E-05	1.88E-05	1.86E-05	6.14E-05	2026	Res
582018.57_4129978.02	582018.57	4129978.02	1.02E-05	2.95E-05	6.09E-05	2.01E-05	1.77E-05	1.75E-05	6.09E-05	2026	Res
582075.14_4129978.02	582075.14	4129978.02	1.02E-05	2.95E-05	5.92E-05	2.05E-05	1.82E-05	1.80E-05	5.92E-05	2026	Res
582131.71_4129978.02	582131.71	4129978.02	9.90E-06	2.86E-05	5.53E-05	2.02E-05	1.82E-05	1.80E-05	5.53E-05	2026	Res
582188.28_4129978.02	582188.28	4129978.02	9.65E-06	2.76E-05	5.18E-05	1.99E-05	1.82E-05	1.80E-05	5.18E-05	2026	Res
582244.85_4129978.02	582244.85	4129978.02	8.82E-06	2.53E-05	4.82E-05	1.81E-05	1.65E-05	1.63E-05	4.82E-05	2026	Res
582301.42_4129978.02	582301.42	4129978.02	8.51E-06	2.44E-05	4.52E-05	1.77E-05	1.63E-05	1.61E-05	4.52E-05	2026	Res
582357.99_4129978.02	582357.99	4129978.02	7.99E-06	2.30E-05	4.24E-05	1.67E-05	1.55E-05	1.53E-05	4.24E-05	2026	Res
582414.56_4129978.02	582414.56	4129978.02	7.42E-06	2.14E-05	3.97E-05	1.55E-05	1.44E-05	1.42E-05	3.97E-05	2026	Res
582471.13_4129978.02	582471.13	4129978.02	6.85E-06	1.98E-05	3.72E-05	1.42E-05	1.32E-05	1.30E-05	3.72E-05	2026	Res
582527.7_4129978.02	582527.7	4129978.02	6.31E-06	1.82E-05	3.48E-05	1.30E-05	1.20E-05	1.19E-05	3.48E-05	2026	Res
582584.27_4129978.02	582584.27	4129978.02	5.81E-06	1.68E-05	3.27E-05	1.18E-05	1.10E-05	1.08E-05	3.27E-05	2026	Res
582640.84_4129978.02	582640.84	4129978.02	5.36E-06	1.55E-05	3.07E-05	1.08E-05	1.00E-05	9.88E-06	3.07E-05	2026	Res
582697.41_4129978.02	582697.41	4129978.02	4.94E-06	1.43E-05	2.89E-05	9.86E-06	9.14E-06	9.01E-06	2.89E-05	2026	Res
582753.98_4129978.02	582753.98	4129978.02	4.54E-06	1.31E-05	2.71E-05	8.94E-06	8.27E-06	8.15E-06	2.71E-05	2026	Res
582810.55_4129978.02	582810.55	4129978.02	4.10E-06	1.19E-05	2.52E-05	7.94E-06	7.34E-06	7.24E-06	2.52E-05	2026	Res
581905.43_4130061.93	581905.43	4130061.93	1.38E-05	3.96E-05	7.08E-05	2.93E-05	2.69E-05	2.65E-05	7.08E-05	2026	Res
581962_4130061.93	581962	4130061.93	1.30E-05	3.72E-05	6.62E-05	2.76E-05	2.54E-05	2.50E-05	6.62E-05	2026	Res
582018.57_4130061.93	582018.57	4130061.93	1.14E-05	3.28E-05	6.11E-05	2.37E-05	2.16E-05	2.13E-05	6.11E-05	2026	Res
582075.14_4130061.93	582075.14	4130061.93	1.03E-05	2.98E-05	5.65E-05	2.13E-05	1.94E-05	1.91E-05	5.65E-05	2026	Res
582131.71_4130061.93	582131.71	4130061.93	9.92E-06	2.86E-05	5.29E-05	2.07E-05	1.90E-05	1.88E-05	5.29E-05	2026	Res
582188.28_4130061.93	582188.28	4130061.93	9.55E-06	2.74E-05	4.95E-05	2.01E-05	1.86E-05	1.84E-05	4.95E-05	2026	Res
582244.85_4130061.93	582244.85	4130061.93	9.18E-06	2.63E-05	4.65E-05	1.96E-05	1.83E-05	1.80E-05	4.65E-05	2026	Res
582301.42_4130061.93	582301.42	4130061.93	8.53E-06	2.45E-05	4.35E-05	1.82E-05	1.70E-05	1.67E-05	4.35E-05	2026	Res
582357.99_4130061.93	582357.99	4130061.93	7.93E-06	2.28E-05	4.07E-05	1.69E-05	1.58E-05	1.56E-05	4.07E-05	2026	Res
582414.56_4130061.93	582414.56	4130061.93	7.32E-06	2.11E-05	3.81E-05	1.55E-05	1.45E-05	1.43E-05	3.81E-05	2026	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		PM _{2.5} Concentration, C _{PM2.5} (µg/m ³)					
			2024	2025	2026	2027	2028	2029
	UTM X	UTM Y						
582471.13_4130061.93	582471.13	4130061.93	6.71E-06	1.93E-05	3.56E-05	1.41E-05	1.32E-05	1.30E-05
582527.7_4130061.93	582527.7	4130061.93	6.14E-06	1.77E-05	3.32E-05	1.28E-05	1.19E-05	1.18E-05
582584.27_4130061.93	582584.27	4130061.93	5.63E-06	1.62E-05	3.11E-05	1.16E-05	1.08E-05	1.07E-05
582640.84_4130061.93	582640.84	4130061.93	5.15E-06	1.49E-05	2.92E-05	1.05E-05	9.78E-06	9.64E-06
582697.41_4130061.93	582697.41	4130061.93	4.74E-06	1.37E-05	2.74E-05	9.51E-06	8.88E-06	8.75E-06
582753.98_4130061.93	582753.98	4130061.93	4.37E-06	1.27E-05	2.58E-05	8.67E-06	8.09E-06	7.97E-06
582810.55_4130061.93	582810.55	4130061.93	4.03E-06	1.17E-05	2.44E-05	7.90E-06	7.37E-06	7.26E-06
581962_4130145.84	581962	4130145.84	1.42E-05	4.04E-05	6.49E-05	3.14E-05	2.96E-05	2.91E-05
582018.57_4130145.84	582018.57	4130145.84	1.32E-05	3.74E-05	6.04E-05	2.91E-05	2.74E-05	2.70E-05
582075.14_4130145.84	582075.14	4130145.84	1.15E-05	3.28E-05	5.52E-05	2.49E-05	2.34E-05	2.31E-05
582131.71_4130145.84	582131.71	4130145.84	1.06E-05	3.04E-05	5.13E-05	2.31E-05	2.17E-05	2.14E-05
582188.28_4130145.84	582188.28	4130145.84	1.01E-05	2.90E-05	4.81E-05	2.22E-05	2.10E-05	2.07E-05
582244.85_4130145.84	582244.85	4130145.84	9.27E-06	2.66E-05	4.46E-05	2.03E-05	1.92E-05	1.89E-05
582301.42_4130145.84	582301.42	4130145.84	8.48E-06	2.44E-05	4.15E-05	1.84E-05	1.75E-05	1.72E-05
582357.99_4130145.84	582357.99	4130145.84	7.78E-06	2.24E-05	3.87E-05	1.68E-05	1.59E-05	1.57E-05
582414.56_4130145.84	582414.56	4130145.84	7.13E-06	2.05E-05	3.61E-05	1.53E-05	1.45E-05	1.43E-05
582471.13_4130145.84	582471.13	4130145.84	6.50E-06	1.87E-05	3.36E-05	1.38E-05	1.31E-05	1.29E-05
582527.7_4130145.84	582527.7	4130145.84	5.90E-06	1.70E-05	3.13E-05	1.24E-05	1.17E-05	1.15E-05
582584.27_4130145.84	582584.27	4130145.84	5.35E-06	1.54E-05	2.91E-05	1.11E-05	1.05E-05	1.03E-05
582640.84_4130145.84	582640.84	4130145.84	4.87E-06	1.41E-05	2.72E-05	9.97E-06	9.41E-06	9.27E-06
582697.41_4130145.84	582697.41	4130145.84	4.46E-06	1.29E-05	2.55E-05	9.01E-06	8.50E-06	8.38E-06
582753.98_4130145.84	582753.98	4130145.84	4.12E-06	1.19E-05	2.41E-05	8.22E-06	7.75E-06	7.64E-06
582810.55_4130145.84	582810.55	4130145.84	3.82E-06	1.11E-05	2.28E-05	7.54E-06	7.11E-06	7.01E-06
582867.12_4130145.84	582867.12	4130145.84	3.45E-06	1.00E-05	2.12E-05	6.69E-06	6.31E-06	6.22E-06
581962_4130229.75	581962	4130229.75	1.42E-05	4.06E-05	6.38E-05	3.19E-05	3.02E-05	2.98E-05
582018.57_4130229.75	582018.57	4130229.75	1.35E-05	3.84E-05	5.97E-05	3.03E-05	2.88E-05	2.84E-05
582075.14_4130229.75	582075.14	4130229.75	1.25E-05	3.57E-05	5.54E-05	2.82E-05	2.69E-05	2.65E-05
582131.71_4130229.75	582131.71	4130229.75	1.13E-05	3.24E-05	5.09E-05	2.54E-05	2.42E-05	2.39E-05
582188.28_4130229.75	582188.28	4130229.75	1.02E-05	2.91E-05	4.67E-05	2.27E-05	2.16E-05	2.13E-05
582244.85_4130229.75	582244.85	4130229.75	9.18E-06	2.63E-05	4.30E-05	2.04E-05	1.94E-05	1.91E-05
582301.42_4130229.75	582301.42	4130229.75	8.33E-06	2.39E-05	3.97E-05	1.84E-05	1.75E-05	1.72E-05
582357.99_4130229.75	582357.99	4130229.75	7.59E-06	2.18E-05	3.69E-05	1.66E-05	1.58E-05	1.56E-05
582414.56_4130229.75	582414.56	4130229.75	6.86E-06	1.98E-05	3.41E-05	1.49E-05	1.42E-05	1.40E-05
582471.13_4130229.75	582471.13	4130229.75	6.16E-06	1.78E-05	3.15E-05	1.32E-05	1.26E-05	1.24E-05
582527.7_4130229.75	582527.7	4130229.75	5.54E-06	1.60E-05	2.92E-05	1.17E-05	1.11E-05	1.10E-05
582584.27_4130229.75	582584.27	4130229.75	5.01E-06	1.45E-05	2.71E-05	1.04E-05	9.93E-06	9.79E-06
582640.84_4130229.75	582640.84	4130229.75	4.56E-06	1.32E-05	2.53E-05	9.36E-06	8.92E-06	8.79E-06
582697.41_4130229.75	582697.41	4130229.75	4.19E-06	1.21E-05	2.38E-05	8.51E-06	8.11E-06	7.99E-06
582753.98_4130229.75	582753.98	4130229.75	3.88E-06	1.12E-05	2.25E-05	7.78E-06	7.41E-06	7.31E-06
582810.55_4130229.75	582810.55	4130229.75	3.61E-06	1.05E-05	2.13E-05	7.18E-06	6.84E-06	6.74E-06
582867.12_4130229.75	582867.12	4130229.75	3.39E-06	9.81E-06	2.03E-05	6.67E-06	6.36E-06	6.27E-06
582018.57_4130313.66	582018.57	4130313.66	1.42E-05	4.06E-05	6.07E-05	3.25E-05	3.10E-05	3.06E-05

Max (µg/m ³)	Max Year	Receptor Type
3.56E-05	2026	Res
3.32E-05	2026	Res
3.11E-05	2026	Res
2.92E-05	2026	Res
2.74E-05	2026	Res
2.58E-05	2026	Res
2.44E-05	2026	Res
6.49E-05	2026	Res
6.04E-05	2026	Res
5.52E-05	2026	Res
5.13E-05	2026	Res
4.81E-05	2026	Res
4.46E-05	2026	Res
4.15E-05	2026	Res
3.87E-05	2026	Res
3.61E-05	2026	Res
3.36E-05	2026	Res
3.13E-05	2026	Res
2.91E-05	2026	Res
2.72E-05	2026	Res
2.55E-05	2026	Res
2.41E-05	2026	Res
2.28E-05	2026	Res
2.12E-05	2026	Res
6.38E-05	2026	Res
5.97E-05	2026	Res
5.54E-05	2026	Res
5.09E-05	2026	Res
4.67E-05	2026	Res
4.30E-05	2026	Res
3.97E-05	2026	Res
3.69E-05	2026	Res
3.41E-05	2026	Res
3.15E-05	2026	Res
2.92E-05	2026	Res
2.71E-05	2026	Res
2.53E-05	2026	Res
2.38E-05	2026	Res
2.25E-05	2026	Res
2.13E-05	2026	Res
2.03E-05	2026	Res
6.07E-05	2026	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		PM _{2.5} Concentration, C _{PM2.5} (µg/m ³)					
	UTM X	UTM Y	2024	2025	2026	2027	2028	2029
582075.14_4130313.66	582075.14	4130313.66	1.31E-05	3.75E-05	5.61E-05	3.01E-05	2.88E-05	2.84E-05
582131.71_4130313.66	582131.71	4130313.66	1.16E-05	3.32E-05	5.08E-05	2.64E-05	2.53E-05	2.49E-05
582188.28_4130313.66	582188.28	4130313.66	1.03E-05	2.94E-05	4.61E-05	2.31E-05	2.21E-05	2.18E-05
582244.85_4130313.66	582244.85	4130313.66	9.15E-06	2.63E-05	4.22E-05	2.05E-05	1.96E-05	1.93E-05
582301.42_4130313.66	582301.42	4130313.66	8.22E-06	2.36E-05	3.87E-05	1.82E-05	1.74E-05	1.72E-05
582357.99_4130313.66	582357.99	4130313.66	7.33E-06	2.11E-05	3.55E-05	1.61E-05	1.54E-05	1.52E-05
582414.56_4130313.66	582414.56	4130313.66	6.51E-06	1.87E-05	3.24E-05	1.41E-05	1.35E-05	1.33E-05
582471.13_4130313.66	582471.13	4130313.66	5.79E-06	1.67E-05	2.98E-05	1.24E-05	1.18E-05	1.17E-05
582527.7_4130313.66	582527.7	4130313.66	5.20E-06	1.50E-05	2.75E-05	1.09E-05	1.05E-05	1.03E-05
582584.27_4130313.66	582584.27	4130313.66	4.71E-06	1.36E-05	2.56E-05	9.78E-06	9.36E-06	9.22E-06
582640.84_4130313.66	582640.84	4130313.66	4.30E-06	1.24E-05	2.39E-05	8.83E-06	8.46E-06	8.34E-06
582697.41_4130313.66	582697.41	4130313.66	3.96E-06	1.15E-05	2.25E-05	8.04E-06	7.71E-06	7.60E-06
582753.98_4130313.66	582753.98	4130313.66	3.67E-06	1.06E-05	2.12E-05	7.37E-06	7.07E-06	6.97E-06
582810.55_4130313.66	582810.55	4130313.66	3.41E-06	9.87E-06	2.01E-05	6.78E-06	6.51E-06	6.42E-06
582867.12_4130313.66	582867.12	4130313.66	3.18E-06	9.21E-06	1.91E-05	6.26E-06	6.02E-06	5.93E-06
581848.86_4130397.57	581848.86	4130397.57	1.90E-05	5.43E-05	7.73E-05	4.43E-05	4.24E-05	4.18E-05
581905.43_4130397.57	581905.43	4130397.57	1.83E-05	5.23E-05	7.37E-05	4.29E-05	4.11E-05	4.05E-05
581962_4130397.57	581962	4130397.57	1.72E-05	4.93E-05	6.92E-05	4.05E-05	3.89E-05	3.83E-05
582018.57_4130397.57	582018.57	4130397.57	1.55E-05	4.45E-05	6.33E-05	3.63E-05	3.49E-05	3.44E-05
582075.14_4130397.57	582075.14	4130397.57	1.37E-05	3.93E-05	5.72E-05	3.19E-05	3.06E-05	3.02E-05
582131.71_4130397.57	582131.71	4130397.57	1.19E-05	3.42E-05	5.12E-05	2.74E-05	2.62E-05	2.59E-05
582188.28_4130397.57	582188.28	4130397.57	1.04E-05	3.01E-05	4.63E-05	2.38E-05	2.28E-05	2.25E-05
582244.85_4130397.57	582244.85	4130397.57	9.15E-06	2.63E-05	4.18E-05	2.06E-05	1.97E-05	1.94E-05
582301.42_4130397.57	582301.42	4130397.57	8.02E-06	2.31E-05	3.79E-05	1.78E-05	1.70E-05	1.68E-05
582357.99_4130397.57	582357.99	4130397.57	7.00E-06	2.02E-05	3.43E-05	1.53E-05	1.46E-05	1.44E-05
582414.56_4130397.57	582414.56	4130397.57	6.17E-06	1.78E-05	3.13E-05	1.33E-05	1.27E-05	1.25E-05
582471.13_4130397.57	582471.13	4130397.57	5.50E-06	1.59E-05	2.87E-05	1.17E-05	1.12E-05	1.10E-05
582527.7_4130397.57	582527.7	4130397.57	4.96E-06	1.43E-05	2.66E-05	1.04E-05	9.91E-06	9.77E-06
582584.27_4130397.57	582584.27	4130397.57	4.50E-06	1.30E-05	2.47E-05	9.28E-06	8.89E-06	8.76E-06
582640.84_4130397.57	582640.84	4130397.57	4.11E-06	1.19E-05	2.31E-05	8.38E-06	8.03E-06	7.92E-06
582697.41_4130397.57	582697.41	4130397.57	3.77E-06	1.09E-05	2.17E-05	7.59E-06	7.28E-06	7.18E-06
582753.98_4130397.57	582753.98	4130397.57	3.48E-06	1.01E-05	2.04E-05	6.92E-06	6.65E-06	6.55E-06
582810.55_4130397.57	582810.55	4130397.57	3.22E-06	9.33E-06	1.93E-05	6.34E-06	6.10E-06	6.02E-06
582867.12_4130397.57	582867.12	4130397.57	3.00E-06	8.68E-06	1.82E-05	5.84E-06	5.63E-06	5.55E-06
581848.86_4130481.48	581848.86	4130481.48	2.33E-05	6.66E-05	8.51E-05	5.65E-05	5.47E-05	5.39E-05
581905.43_4130481.48	581905.43	4130481.48	2.16E-05	6.19E-05	7.99E-05	5.24E-05	5.07E-05	4.99E-05
581962_4130481.48	581962	4130481.48	1.86E-05	5.35E-05	7.11E-05	4.47E-05	4.32E-05	4.26E-05
582018.57_4130481.48	582018.57	4130481.48	1.65E-05	4.75E-05	6.45E-05	3.94E-05	3.81E-05	3.75E-05
582075.14_4130481.48	582075.14	4130481.48	1.41E-05	4.07E-05	5.72E-05	3.34E-05	3.22E-05	3.17E-05
582131.71_4130481.48	582131.71	4130481.48	1.22E-05	3.51E-05	5.10E-05	2.84E-05	2.73E-05	2.69E-05
582188.28_4130481.48	582188.28	4130481.48	1.05E-05	3.02E-05	4.56E-05	2.41E-05	2.31E-05	2.28E-05
582244.85_4130481.48	582244.85	4130481.48	8.91E-06	2.57E-05	4.06E-05	2.01E-05	1.93E-05	1.90E-05

Max (µg/m ³)	Max Year	Receptor Type
5.61E-05	2026	Res
5.08E-05	2026	Res
4.61E-05	2026	Res
4.22E-05	2026	Res
3.87E-05	2026	Res
3.55E-05	2026	Res
3.24E-05	2026	Res
2.98E-05	2026	Res
2.75E-05	2026	Res
2.56E-05	2026	Res
2.39E-05	2026	Res
2.25E-05	2026	Res
2.12E-05	2026	Res
2.01E-05	2026	Res
1.91E-05	2026	Res
7.73E-05	2026	Res
7.37E-05	2026	Res
6.92E-05	2026	Res
6.33E-05	2026	Res
5.72E-05	2026	Res
5.12E-05	2026	Res
4.63E-05	2026	Res
4.18E-05	2026	Res
3.79E-05	2026	Res
3.43E-05	2026	Res
3.13E-05	2026	Res
2.87E-05	2026	Res
2.66E-05	2026	Res
2.47E-05	2026	Res
2.31E-05	2026	Res
2.17E-05	2026	Res
2.04E-05	2026	Res
1.93E-05	2026	Res
1.82E-05	2026	Res
8.51E-05	2026	Res
7.99E-05	2026	Res
7.11E-05	2026	Res
6.45E-05	2026	Res
5.72E-05	2026	Res
5.10E-05	2026	Res
4.56E-05	2026	Res
4.06E-05	2026	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		PM _{2.5} Concentration, C _{PM2.5} (µg/m ³)						Max (µg/m ³)	Max Year	Receptor Type
			2024	2025	2026	2027	2028	2029			
	UTM X	UTM Y									
582301.42_4130481.48	582301.42	4130481.48	7.64E-06	2.20E-05	3.64E-05	1.69E-05	1.62E-05	1.60E-05	3.64E-05	2026	Res
582357.99_4130481.48	582357.99	4130481.48	6.65E-06	1.92E-05	3.30E-05	1.45E-05	1.38E-05	1.36E-05	3.30E-05	2026	Res
582414.56_4130481.48	582414.56	4130481.48	5.89E-06	1.70E-05	3.03E-05	1.26E-05	1.20E-05	1.18E-05	3.03E-05	2026	Res
582471.13_4130481.48	582471.13	4130481.48	5.27E-06	1.52E-05	2.79E-05	1.11E-05	1.06E-05	1.04E-05	2.79E-05	2026	Res
582527.7_4130481.48	582527.7	4130481.48	4.74E-06	1.37E-05	2.59E-05	9.80E-06	9.35E-06	9.22E-06	2.59E-05	2026	Res
582584.27_4130481.48	582584.27	4130481.48	4.30E-06	1.24E-05	2.41E-05	8.76E-06	8.36E-06	8.24E-06	2.41E-05	2026	Res
582640.84_4130481.48	582640.84	4130481.48	3.91E-06	1.13E-05	2.25E-05	7.86E-06	7.51E-06	7.40E-06	2.25E-05	2026	Res
582697.41_4130481.48	582697.41	4130481.48	3.58E-06	1.04E-05	2.11E-05	7.10E-06	6.79E-06	6.70E-06	2.11E-05	2026	Res
582753.98_4130481.48	582753.98	4130481.48	3.31E-06	9.57E-06	1.99E-05	6.48E-06	6.21E-06	6.12E-06	1.99E-05	2026	Res
582810.55_4130481.48	582810.55	4130481.48	3.08E-06	8.90E-06	1.88E-05	5.95E-06	5.71E-06	5.63E-06	1.88E-05	2026	Res
582867.12_4130481.48	582867.12	4130481.48	2.87E-06	8.30E-06	1.78E-05	5.50E-06	5.29E-06	5.21E-06	1.78E-05	2026	Res
581735.72_4130565.39	581735.72	4130565.39	2.77E-05	7.89E-05	9.47E-05	6.82E-05	6.65E-05	6.55E-05	9.47E-05	2026	Res
581792.29_4130565.39	581792.29	4130565.39	2.72E-05	7.76E-05	9.29E-05	6.72E-05	6.55E-05	6.45E-05	9.29E-05	2026	Res
581848.86_4130565.39	581848.86	4130565.39	2.58E-05	7.40E-05	8.89E-05	6.39E-05	6.23E-05	6.14E-05	8.89E-05	2026	Res
581905.43_4130565.39	581905.43	4130565.39	2.46E-05	7.07E-05	8.51E-05	6.11E-05	5.95E-05	5.86E-05	8.51E-05	2026	Res
581962_4130565.39	581962	4130565.39	2.14E-05	6.15E-05	7.58E-05	5.27E-05	5.14E-05	5.06E-05	7.58E-05	2026	Res
582018.57_4130565.39	582018.57	4130565.39	1.75E-05	5.05E-05	6.48E-05	4.28E-05	4.16E-05	4.10E-05	6.48E-05	2026	Res
582075.14_4130565.39	582075.14	4130565.39	1.45E-05	4.17E-05	5.60E-05	3.48E-05	3.38E-05	3.33E-05	5.60E-05	2026	Res
582131.71_4130565.39	582131.71	4130565.39	1.21E-05	3.49E-05	4.90E-05	2.86E-05	2.77E-05	2.73E-05	4.90E-05	2026	Res
582188.28_4130565.39	582188.28	4130565.39	9.98E-06	2.88E-05	4.27E-05	2.31E-05	2.23E-05	2.20E-05	4.27E-05	2026	Res
582244.85_4130565.39	582244.85	4130565.39	8.34E-06	2.40E-05	3.78E-05	1.89E-05	1.82E-05	1.79E-05	3.78E-05	2026	Res
582301.42_4130565.39	582301.42	4130565.39	7.20E-06	2.07E-05	3.41E-05	1.59E-05	1.53E-05	1.51E-05	3.41E-05	2026	Res
582357.99_4130565.39	582357.99	4130565.39	6.26E-06	1.80E-05	3.11E-05	1.36E-05	1.30E-05	1.28E-05	3.11E-05	2026	Res
582414.56_4130565.39	582414.56	4130565.39	5.52E-06	1.59E-05	2.86E-05	1.17E-05	1.12E-05	1.10E-05	2.86E-05	2026	Res
582471.13_4130565.39	582471.13	4130565.39	4.93E-06	1.42E-05	2.65E-05	1.03E-05	9.79E-06	9.65E-06	2.65E-05	2026	Res
582527.7_4130565.39	582527.7	4130565.39	4.44E-06	1.28E-05	2.47E-05	9.08E-06	8.65E-06	8.53E-06	2.47E-05	2026	Res
582584.27_4130565.39	582584.27	4130565.39	4.04E-06	1.17E-05	2.32E-05	8.13E-06	7.74E-06	7.63E-06	2.32E-05	2026	Res
582640.84_4130565.39	582640.84	4130565.39	3.69E-06	1.07E-05	2.18E-05	7.30E-06	6.95E-06	6.85E-06	2.18E-05	2026	Res
582697.41_4130565.39	582697.41	4130565.39	3.40E-06	9.84E-06	2.05E-05	6.64E-06	6.32E-06	6.23E-06	2.05E-05	2026	Res
582753.98_4130565.39	582753.98	4130565.39	3.16E-06	9.14E-06	1.95E-05	6.09E-06	5.80E-06	5.72E-06	1.95E-05	2026	Res
582810.55_4130565.39	582810.55	4130565.39	2.96E-06	8.55E-06	1.85E-05	5.63E-06	5.37E-06	5.30E-06	1.85E-05	2026	Res
582867.12_4130565.39	582867.12	4130565.39	2.78E-06	8.04E-06	1.76E-05	5.25E-06	5.01E-06	4.94E-06	1.76E-05	2026	Res
581735.72_4130649.3	581735.72	4130649.3	2.94E-05	8.43E-05	9.77E-05	7.37E-05	7.20E-05	7.10E-05	9.77E-05	2026	Res
581792.29_4130649.3	581792.29	4130649.3	2.84E-05	8.16E-05	9.43E-05	7.13E-05	6.97E-05	6.87E-05	9.43E-05	2026	Res
581905.43_4130649.3	581905.43	4130649.3	2.82E-05	8.12E-05	9.23E-05	7.13E-05	6.97E-05	6.87E-05	9.23E-05	2026	Res
581962_4130649.3	581962	4130649.3	2.36E-05	6.79E-05	7.92E-05	5.92E-05	5.79E-05	5.70E-05	7.92E-05	2026	Res
582018.57_4130649.3	582018.57	4130649.3	1.82E-05	5.24E-05	6.40E-05	4.50E-05	4.40E-05	4.34E-05	6.40E-05	2026	Res
582075.14_4130649.3	582075.14	4130649.3	1.44E-05	4.14E-05	5.32E-05	3.50E-05	3.42E-05	3.37E-05	5.32E-05	2026	Res
582131.71_4130649.3	582131.71	4130649.3	1.14E-05	3.29E-05	4.48E-05	2.73E-05	2.66E-05	2.62E-05	4.48E-05	2026	Res
582188.28_4130649.3	582188.28	4130649.3	9.24E-06	2.66E-05	3.85E-05	2.16E-05	2.10E-05	2.07E-05	3.85E-05	2026	Res
582244.85_4130649.3	582244.85	4130649.3	7.65E-06	2.20E-05	3.39E-05	1.74E-05	1.69E-05	1.66E-05	3.39E-05	2026	Res
582301.42_4130649.3	582301.42	4130649.3	6.51E-06	1.87E-05	3.06E-05	1.44E-05	1.40E-05	1.38E-05	3.06E-05	2026	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		PM _{2.5} Concentration, C _{PM2.5} (µg/m ³)					
	UTM X	UTM Y	2024	2025	2026	2027	2028	2029
582357.99_4130649.3	582357.99	4130649.3	5.66E-06	1.63E-05	2.80E-05	1.23E-05	1.18E-05	1.17E-05
582414.56_4130649.3	582414.56	4130649.3	5.03E-06	1.45E-05	2.60E-05	1.07E-05	1.02E-05	1.01E-05
582471.13_4130649.3	582471.13	4130649.3	4.50E-06	1.30E-05	2.43E-05	9.34E-06	8.95E-06	8.82E-06
582527.7_4130649.3	582527.7	4130649.3	4.09E-06	1.18E-05	2.29E-05	8.31E-06	7.93E-06	7.82E-06
582584.27_4130649.3	582584.27	4130649.3	3.75E-06	1.08E-05	2.17E-05	7.49E-06	7.14E-06	7.04E-06
582640.84_4130649.3	582640.84	4130649.3	3.48E-06	1.00E-05	2.06E-05	6.83E-06	6.50E-06	6.41E-06
582697.41_4130649.3	582697.41	4130649.3	3.24E-06	9.36E-06	1.97E-05	6.29E-06	5.98E-06	5.89E-06
582753.98_4130649.3	582753.98	4130649.3	3.05E-06	8.81E-06	1.89E-05	5.85E-06	5.56E-06	5.48E-06
582810.55_4130649.3	582810.55	4130649.3	2.89E-06	8.35E-06	1.81E-05	5.49E-06	5.21E-06	5.14E-06
582867.12_4130649.3	582867.12	4130649.3	2.74E-06	7.92E-06	1.74E-05	5.16E-06	4.90E-06	4.84E-06
581848.86_4130733.21	581848.86	4130733.21	4.11E-05	1.18E-04	1.27E-04	1.06E-04	1.04E-04	1.02E-04
581905.43_4130733.21	581905.43	4130733.21	3.52E-05	1.01E-04	1.10E-04	9.02E-05	8.84E-05	8.71E-05
581962_4130733.21	581962	4130733.21	2.61E-05	7.52E-05	8.42E-05	6.63E-05	6.50E-05	6.41E-05
582018.57_4130733.21	582018.57	4130733.21	1.86E-05	5.36E-05	6.30E-05	4.66E-05	4.57E-05	4.50E-05
582075.14_4130733.21	582075.14	4130733.21	1.34E-05	3.86E-05	4.84E-05	3.30E-05	3.23E-05	3.19E-05
582131.71_4130733.21	582131.71	4130733.21	1.01E-05	2.90E-05	3.89E-05	2.42E-05	2.37E-05	2.33E-05
582188.28_4130733.21	582188.28	4130733.21	8.03E-06	2.30E-05	3.31E-05	1.88E-05	1.84E-05	1.81E-05
582244.85_4130733.21	582244.85	4130733.21	6.64E-06	1.90E-05	2.91E-05	1.51E-05	1.48E-05	1.46E-05
582301.42_4130733.21	582301.42	4130733.21	5.68E-06	1.63E-05	2.63E-05	1.26E-05	1.23E-05	1.21E-05
582357.99_4130733.21	582357.99	4130733.21	4.98E-06	1.43E-05	2.43E-05	1.08E-05	1.05E-05	1.04E-05
582414.56_4130733.21	582414.56	4130733.21	4.46E-06	1.28E-05	2.28E-05	9.48E-06	9.19E-06	9.06E-06
582471.13_4130733.21	582471.13	4130733.21	4.07E-06	1.17E-05	2.17E-05	8.48E-06	8.19E-06	8.08E-06
582527.7_4130733.21	582527.7	4130733.21	3.76E-06	1.08E-05	2.07E-05	7.70E-06	7.42E-06	7.31E-06
582584.27_4130733.21	582584.27	4130733.21	3.51E-06	1.01E-05	1.99E-05	7.09E-06	6.81E-06	6.71E-06
582640.84_4130733.21	582640.84	4130733.21	3.31E-06	9.53E-06	1.92E-05	6.58E-06	6.30E-06	6.22E-06
582697.41_4130733.21	582697.41	4130733.21	3.13E-06	9.03E-06	1.86E-05	6.16E-06	5.88E-06	5.80E-06
582753.98_4130733.21	582753.98	4130733.21	2.97E-06	8.59E-06	1.80E-05	5.79E-06	5.52E-06	5.44E-06
582810.55_4130733.21	582810.55	4130733.21	2.84E-06	8.21E-06	1.74E-05	5.48E-06	5.21E-06	5.14E-06
582867.12_4130733.21	582867.12	4130733.21	2.71E-06	7.85E-06	1.69E-05	5.19E-06	4.93E-06	4.86E-06
581735.72_4130817.12	581735.72	4130817.12	5.99E-05	1.73E-04	1.80E-04	1.55E-04	1.52E-04	1.50E-04
581792.29_4130817.12	581792.29	4130817.12	6.72E-05	1.94E-04	2.00E-04	1.75E-04	1.71E-04	1.69E-04
581848.86_4130817.12	581848.86	4130817.12	6.03E-05	1.74E-04	1.80E-04	1.57E-04	1.54E-04	1.52E-04
581905.43_4130817.12	581905.43	4130817.12	4.58E-05	1.32E-04	1.39E-04	1.19E-04	1.16E-04	1.15E-04
581962_4130817.12	581962	4130817.12	2.82E-05	8.13E-05	8.90E-05	7.21E-05	7.07E-05	6.97E-05
582018.57_4130817.12	582018.57	4130817.12	1.73E-05	4.96E-05	5.80E-05	4.33E-05	4.25E-05	4.18E-05
582075.14_4130817.12	582075.14	4130817.12	1.15E-05	3.30E-05	4.15E-05	2.81E-05	2.76E-05	2.72E-05
582131.71_4130817.12	582131.71	4130817.12	8.51E-06	2.44E-05	3.30E-05	2.03E-05	2.00E-05	1.97E-05
582188.28_4130817.12	582188.28	4130817.12	6.79E-06	1.94E-05	2.80E-05	1.58E-05	1.56E-05	1.53E-05
582244.85_4130817.12	582244.85	4130817.12	5.70E-06	1.63E-05	2.48E-05	1.30E-05	1.28E-05	1.26E-05
582301.42_4130817.12	582301.42	4130817.12	4.97E-06	1.42E-05	2.27E-05	1.11E-05	1.09E-05	1.08E-05
582357.99_4130817.12	582357.99	4130817.12	4.46E-06	1.28E-05	2.12E-05	9.78E-06	9.62E-06	9.48E-06
582414.56_4130817.12	582414.56	4130817.12	4.08E-06	1.17E-05	2.01E-05	8.79E-06	8.63E-06	8.50E-06

Max (µg/m ³)	Max Year	Receptor Type
2.80E-05	2026	Res
2.60E-05	2026	Res
2.43E-05	2026	Res
2.29E-05	2026	Res
2.17E-05	2026	Res
2.06E-05	2026	Res
1.97E-05	2026	Res
1.89E-05	2026	Res
1.81E-05	2026	Res
1.74E-05	2026	Res
1.27E-04	2026	Res
1.10E-04	2026	Res
8.42E-05	2026	Res
6.30E-05	2026	Res
4.84E-05	2026	Res
3.89E-05	2026	Res
3.31E-05	2026	Res
2.91E-05	2026	Res
2.63E-05	2026	Res
2.43E-05	2026	Res
2.28E-05	2026	Res
2.17E-05	2026	Res
2.07E-05	2026	Res
1.99E-05	2026	Res
1.92E-05	2026	Res
1.86E-05	2026	Res
1.80E-05	2026	Res
1.74E-05	2026	Res
1.69E-05	2026	Res
1.80E-04	2026	Res
2.00E-04	2026	Res
1.80E-04	2026	Res
1.39E-04	2026	Res
8.90E-05	2026	Res
5.80E-05	2026	Res
4.15E-05	2026	Res
3.30E-05	2026	Res
2.80E-05	2026	Res
2.48E-05	2026	Res
2.27E-05	2026	Res
2.12E-05	2026	Res
2.01E-05	2026	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		PM _{2.5} Concentration, C _{PM2.5} (µg/m ³)					
			2024	2025	2026	2027	2028	2029
	UTM X	UTM Y						
582471.13_4130817.12	582471.13	4130817.12	3.78E-06	1.08E-05	1.93E-05	8.03E-06	7.86E-06	7.75E-06
582527.7_4130817.12	582527.7	4130817.12	3.53E-06	1.01E-05	1.86E-05	7.40E-06	7.22E-06	7.12E-06
582584.27_4130817.12	582584.27	4130817.12	3.33E-06	9.57E-06	1.80E-05	6.88E-06	6.69E-06	6.59E-06
582640.84_4130817.12	582640.84	4130817.12	3.15E-06	9.08E-06	1.75E-05	6.43E-06	6.23E-06	6.15E-06
582697.41_4130817.12	582697.41	4130817.12	3.00E-06	8.64E-06	1.71E-05	6.05E-06	5.84E-06	5.75E-06
582753.98_4130817.12	582753.98	4130817.12	2.86E-06	8.24E-06	1.66E-05	5.69E-06	5.47E-06	5.39E-06
582810.55_4130817.12	582810.55	4130817.12	2.73E-06	7.88E-06	1.62E-05	5.38E-06	5.15E-06	5.08E-06
582867.12_4130817.12	582867.12	4130817.12	2.62E-06	7.56E-06	1.58E-05	5.10E-06	4.87E-06	4.80E-06
581735.72_4130901.03	581735.72	4130901.03	1.17E-04	3.40E-04	3.41E-04	3.08E-04	3.02E-04	2.97E-04
581792.29_4130901.03	581792.29	4130901.03	1.25E-04	3.62E-04	3.62E-04	3.29E-04	3.22E-04	3.17E-04
581848.86_4130901.03	581848.86	4130901.03	1.12E-04	3.23E-04	3.23E-04	2.93E-04	2.87E-04	2.83E-04
581905.43_4130901.03	581905.43	4130901.03	5.90E-05	1.71E-04	1.75E-04	1.54E-04	1.51E-04	1.49E-04
581962_4130901.03	581962	4130901.03	2.45E-05	7.08E-05	7.83E-05	6.26E-05	6.14E-05	6.05E-05
582018.57_4130901.03	582018.57	4130901.03	1.36E-05	3.90E-05	4.71E-05	3.37E-05	3.31E-05	3.26E-05
582075.14_4130901.03	582075.14	4130901.03	9.37E-06	2.69E-05	3.50E-05	2.26E-05	2.23E-05	2.20E-05
582131.71_4130901.03	582131.71	4130901.03	7.34E-06	2.10E-05	2.89E-05	1.74E-05	1.71E-05	1.69E-05
582188.28_4130901.03	582188.28	4130901.03	6.12E-06	1.75E-05	2.52E-05	1.42E-05	1.41E-05	1.39E-05
582244.85_4130901.03	582244.85	4130901.03	5.30E-06	1.51E-05	2.27E-05	1.21E-05	1.20E-05	1.18E-05
582301.42_4130901.03	582301.42	4130901.03	4.68E-06	1.34E-05	2.08E-05	1.06E-05	1.05E-05	1.03E-05
582357.99_4130901.03	582357.99	4130901.03	4.21E-06	1.20E-05	1.93E-05	9.37E-06	9.30E-06	9.16E-06
582414.56_4130901.03	582414.56	4130901.03	3.84E-06	1.10E-05	1.82E-05	8.42E-06	8.35E-06	8.23E-06
582471.13_4130901.03	582471.13	4130901.03	3.54E-06	1.01E-05	1.73E-05	7.66E-06	7.59E-06	7.48E-06
582527.7_4130901.03	582527.7	4130901.03	3.29E-06	9.43E-06	1.66E-05	7.03E-06	6.94E-06	6.85E-06
582584.27_4130901.03	582584.27	4130901.03	3.09E-06	8.86E-06	1.60E-05	6.51E-06	6.42E-06	6.33E-06
582640.84_4130901.03	582640.84	4130901.03	2.92E-06	8.39E-06	1.56E-05	6.08E-06	5.97E-06	5.89E-06
582697.41_4130901.03	582697.41	4130901.03	2.78E-06	7.98E-06	1.52E-05	5.71E-06	5.59E-06	5.51E-06
582753.98_4130901.03	582753.98	4130901.03	2.65E-06	7.63E-06	1.49E-05	5.38E-06	5.25E-06	5.17E-06
582810.55_4130901.03	582810.55	4130901.03	2.54E-06	7.31E-06	1.46E-05	5.09E-06	4.94E-06	4.87E-06
582867.12_4130901.03	582867.12	4130901.03	2.44E-06	7.03E-06	1.43E-05	4.83E-06	4.67E-06	4.60E-06
581735.72_4130984.94	581735.72	4130984.94	3.10E-04	9.00E-04	8.81E-04	8.21E-04	8.04E-04	7.92E-04
581792.29_4130984.94	581792.29	4130984.94	4.07E-04	1.18E-03	1.15E-03	1.08E-03	1.05E-03	1.04E-03
581848.86_4130984.94	581848.86	4130984.94	4.73E-04	1.37E-03	1.34E-03	1.25E-03	1.23E-03	1.21E-03
581905.43_4130984.94	581905.43	4130984.94	3.86E-05	1.12E-04	1.18E-04	1.00E-04	9.79E-05	9.65E-05
581962_4130984.94	581962	4130984.94	1.71E-05	4.93E-05	5.72E-05	4.30E-05	4.22E-05	4.16E-05
582018.57_4130984.94	582018.57	4130984.94	1.13E-05	3.25E-05	4.05E-05	2.78E-05	2.73E-05	2.69E-05
582075.14_4130984.94	582075.14	4130984.94	8.51E-06	2.44E-05	3.23E-05	2.05E-05	2.02E-05	1.99E-05
582131.71_4130984.94	582131.71	4130984.94	6.85E-06	1.96E-05	2.73E-05	1.62E-05	1.60E-05	1.58E-05
582188.28_4130984.94	582188.28	4130984.94	5.74E-06	1.64E-05	2.38E-05	1.33E-05	1.32E-05	1.30E-05
582244.85_4130984.94	582244.85	4130984.94	4.94E-06	1.41E-05	2.12E-05	1.13E-05	1.12E-05	1.11E-05
582301.42_4130984.94	582301.42	4130984.94	4.34E-06	1.24E-05	1.93E-05	9.82E-06	9.76E-06	9.62E-06
582357.99_4130984.94	582357.99	4130984.94	3.88E-06	1.11E-05	1.78E-05	8.67E-06	8.64E-06	8.52E-06
582414.56_4130984.94	582414.56	4130984.94	3.52E-06	1.01E-05	1.66E-05	7.76E-06	7.75E-06	7.64E-06

Max (µg/m ³)	Max Year	Receptor Type
1.93E-05	2026	Res
1.86E-05	2026	Res
1.80E-05	2026	Res
1.75E-05	2026	Res
1.71E-05	2026	Res
1.66E-05	2026	Res
1.62E-05	2026	Res
1.58E-05	2026	Res
3.41E-04	2026	Res
3.62E-04	2025	Res
3.23E-04	2025	Res
1.75E-04	2026	Res
7.83E-05	2026	Res
4.71E-05	2026	Res
3.50E-05	2026	Res
2.89E-05	2026	Res
2.52E-05	2026	Res
2.27E-05	2026	Res
2.08E-05	2026	Res
1.93E-05	2026	Res
1.82E-05	2026	Res
1.73E-05	2026	Res
1.66E-05	2026	Res
1.60E-05	2026	Res
1.56E-05	2026	Res
1.52E-05	2026	Res
1.49E-05	2026	Res
1.46E-05	2026	Res
1.43E-05	2026	Res
9.00E-04	2025	Res
1.18E-03	2025	Res
1.37E-03	2025	Res
1.18E-04	2026	Res
5.72E-05	2026	Res
4.05E-05	2026	Res
3.23E-05	2026	Res
2.73E-05	2026	Res
2.38E-05	2026	Res
2.12E-05	2026	Res
1.93E-05	2026	Res
1.78E-05	2026	Res
1.66E-05	2026	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		PM _{2.5} Concentration, C _{PM2.5} (µg/m ³)					
			2024	2025	2026	2027	2028	2029
	UTM X	UTM Y						
582471.13_4130984.94	582471.13	4130984.94	3.23E-06	9.25E-06	1.56E-05	7.04E-06	7.03E-06	6.93E-06
582527.7_4130984.94	582527.7	4130984.94	2.99E-06	8.56E-06	1.48E-05	6.44E-06	6.43E-06	6.34E-06
582584.27_4130984.94	582584.27	4130984.94	2.80E-06	8.02E-06	1.42E-05	5.96E-06	5.95E-06	5.86E-06
582640.84_4130984.94	582640.84	4130984.94	2.64E-06	7.59E-06	1.38E-05	5.57E-06	5.55E-06	5.47E-06
582697.41_4130984.94	582697.41	4130984.94	2.51E-06	7.20E-06	1.34E-05	5.22E-06	5.19E-06	5.12E-06
582753.98_4130984.94	582753.98	4130984.94	2.40E-06	6.90E-06	1.31E-05	4.94E-06	4.90E-06	4.83E-06
582810.55_4130984.94	582810.55	4130984.94	2.30E-06	6.62E-06	1.28E-05	4.68E-06	4.62E-06	4.56E-06
582867.12_4130984.94	582867.12	4130984.94	2.21E-06	6.37E-06	1.26E-05	4.45E-06	4.38E-06	4.32E-06
581735.72_4131068.85	581735.72	4131068.85	5.17E-05	1.50E-04	1.56E-04	1.34E-04	1.32E-04	1.30E-04
581792.29_4131068.85	581792.29	4131068.85	4.14E-05	1.20E-04	1.26E-04	1.07E-04	1.05E-04	1.03E-04
581848.86_4131068.85	581848.86	4131068.85	2.27E-05	6.56E-05	7.36E-05	5.78E-05	5.67E-05	5.58E-05
581905.43_4131068.85	581905.43	4131068.85	1.48E-05	4.26E-05	5.09E-05	3.69E-05	3.62E-05	3.57E-05
581962_4131068.85	581962	4131068.85	1.09E-05	3.14E-05	3.97E-05	2.68E-05	2.63E-05	2.59E-05
582018.57_4131068.85	582018.57	4131068.85	8.45E-06	2.43E-05	3.23E-05	2.03E-05	2.00E-05	1.97E-05
582075.14_4131068.85	582075.14	4131068.85	6.83E-06	1.96E-05	2.74E-05	1.61E-05	1.59E-05	1.57E-05
582131.71_4131068.85	582131.71	4131068.85	5.73E-06	1.64E-05	2.39E-05	1.33E-05	1.31E-05	1.29E-05
582188.28_4131068.85	582188.28	4131068.85	4.91E-06	1.41E-05	2.13E-05	1.12E-05	1.11E-05	1.10E-05
582244.85_4131068.85	582244.85	4131068.85	4.30E-06	1.23E-05	1.93E-05	9.70E-06	9.64E-06	9.51E-06
582301.42_4131068.85	582301.42	4131068.85	3.82E-06	1.09E-05	1.76E-05	8.52E-06	8.50E-06	8.37E-06
582357.99_4131068.85	582357.99	4131068.85	3.44E-06	9.85E-06	1.62E-05	7.58E-06	7.58E-06	7.48E-06
582414.56_4131068.85	582414.56	4131068.85	3.13E-06	8.97E-06	1.51E-05	6.83E-06	6.86E-06	6.76E-06
582471.13_4131068.85	582471.13	4131068.85	2.88E-06	8.25E-06	1.42E-05	6.22E-06	6.26E-06	6.17E-06
582527.7_4131068.85	582527.7	4131068.85	2.67E-06	7.64E-06	1.34E-05	5.71E-06	5.76E-06	5.68E-06
582584.27_4131068.85	582584.27	4131068.85	2.48E-06	7.12E-06	1.27E-05	5.27E-06	5.32E-06	5.25E-06
582640.84_4131068.85	582640.84	4131068.85	2.35E-06	6.75E-06	1.22E-05	4.95E-06	5.00E-06	4.93E-06
582697.41_4131068.85	582697.41	4131068.85	2.23E-06	6.41E-06	1.18E-05	4.66E-06	4.71E-06	4.64E-06
582753.98_4131068.85	582753.98	4131068.85	2.14E-06	6.15E-06	1.15E-05	4.43E-06	4.47E-06	4.40E-06
582810.55_4131068.85	582810.55	4131068.85	2.06E-06	5.92E-06	1.13E-05	4.23E-06	4.25E-06	4.19E-06
582867.12_4131068.85	582867.12	4131068.85	1.97E-06	5.68E-06	1.10E-05	4.01E-06	4.03E-06	3.97E-06
582018.57_4131152.76	582018.57	4131152.76	5.90E-06	1.69E-05	2.49E-05	1.36E-05	1.35E-05	1.33E-05
582244.85_4131152.76	582244.85	4131152.76	3.72E-06	1.07E-05	1.75E-05	8.20E-06	8.19E-06	8.07E-06
582301.42_4131152.76	582301.42	4131152.76	3.38E-06	9.68E-06	1.63E-05	7.38E-06	7.39E-06	7.28E-06
582357.99_4131152.76	582357.99	4131152.76	3.08E-06	8.81E-06	1.51E-05	6.65E-06	6.68E-06	6.59E-06
582414.56_4131152.76	582414.56	4131152.76	2.82E-06	8.09E-06	1.41E-05	6.05E-06	6.10E-06	6.01E-06
582471.13_4131152.76	582471.13	4131152.76	2.58E-06	7.40E-06	1.32E-05	5.48E-06	5.55E-06	5.47E-06
582527.7_4131152.76	582527.7	4131152.76	2.39E-06	6.85E-06	1.24E-05	5.03E-06	5.12E-06	5.04E-06
582584.27_4131152.76	582584.27	4131152.76	2.23E-06	6.38E-06	1.17E-05	4.65E-06	4.74E-06	4.67E-06
582640.84_4131152.76	582640.84	4131152.76	2.09E-06	6.00E-06	1.12E-05	4.34E-06	4.44E-06	4.38E-06
582697.41_4131152.76	582697.41	4131152.76	1.98E-06	5.67E-06	1.07E-05	4.08E-06	4.18E-06	4.12E-06
582753.98_4131152.76	582753.98	4131152.76	1.89E-06	5.44E-06	1.04E-05	3.88E-06	3.98E-06	3.93E-06
582810.55_4131152.76	582810.55	4131152.76	1.82E-06	5.22E-06	1.01E-05	3.71E-06	3.80E-06	3.75E-06
582867.12_4131152.76	582867.12	4131152.76	1.74E-06	5.00E-06	9.76E-06	3.52E-06	3.61E-06	3.56E-06

Max (µg/m ³)	Max Year	Receptor Type
1.56E-05	2026	Res
1.48E-05	2026	Res
1.42E-05	2026	Res
1.38E-05	2026	Res
1.34E-05	2026	Res
1.31E-05	2026	Res
1.28E-05	2026	Res
1.26E-05	2026	Res
1.56E-04	2026	Res
1.26E-04	2026	Res
7.36E-05	2026	Res
5.09E-05	2026	Res
3.97E-05	2026	Res
3.23E-05	2026	Res
2.74E-05	2026	Res
2.39E-05	2026	Res
2.13E-05	2026	Res
1.93E-05	2026	Res
1.76E-05	2026	Res
1.62E-05	2026	Res
1.51E-05	2026	Res
1.42E-05	2026	Res
1.34E-05	2026	Res
1.27E-05	2026	Res
1.22E-05	2026	Res
1.18E-05	2026	Res
1.15E-05	2026	Res
1.13E-05	2026	Res
1.10E-05	2026	Res
2.49E-05	2026	Res
1.75E-05	2026	Res
1.63E-05	2026	Res
1.51E-05	2026	Res
1.41E-05	2026	Res
1.32E-05	2026	Res
1.24E-05	2026	Res
1.17E-05	2026	Res
1.12E-05	2026	Res
1.07E-05	2026	Res
1.04E-05	2026	Res
1.01E-05	2026	Res
9.76E-06	2026	Res

B-4 Chronic Hazard Index Calculations

HRA Permanente Creek Restoration Project

Construction Year 2024

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(tons/year)	speciation	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	2.877E-07	8.36E-14	5.02E-14	8.36E-14	4.28E-13	9.37E-13	8.36E-14	1.34E-14	1.54E-12	1.67E-13	6.69E-15	2.48E-10
Paved road	2024_PAVED	5.948E-06	3.00E-09	1.80E-09	3.00E-09	1.92E-09	6.01E-08	5.53E-09	3.36E-10	1.30E-07	6.01E-09	4.56E-09	1.71E-05
Unpaved road	2024_CCP_UNPV	1.802E-06	7.37E-09	4.42E-09	7.37E-09	4.72E-09	1.47E-07	1.36E-08	8.26E-10	3.18E-07	1.47E-08	1.12E-08	4.19E-05
Channel Widening 2024	2024_CHAN_RCK	5.566E-05	5.889E-09	3.533E-09	5.889E-09	3.015E-08	6.595E-08	5.889E-09	9.422E-10	1.084E-07	1.178E-08	4.711E-10	1.749E-05
Paved road	2024_PAVED	5.173E-05	8.597E-08	5.158E-08	8.597E-08	5.502E-08	1.719E-06	1.582E-07	9.629E-09	3.714E-06	1.719E-07	1.307E-07	4.883E-04
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material Removal 2028	2028_MATRMVL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2028_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Unpaved road	2028_UNPAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Chronic REL

TAC	UOM	
DPM	µg/m ³	5
Arsenic	µg/m ³	0.015
Beryllium	µg/m ³	0.007
Cadmium	µg/m ³	0.02
Copper	µg/m ³	100
Mercury	µg/m ³	0.032
Nickel	µg/m ³	0.014
Selenium	µg/m ³	20
Chromium VI	µg/m ³	0.2
Crystalline Silica	µg/m ³	3

	Max
CT House	0.001
Res	0.008

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)									
			DPM	Arsenic	Beryllium	Cadmium	Copper	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
	UTM X	UTM Y	5	0.015	0.007	0.02	100	0.032	0.014	20	0.2	3
581336.22_4131207.48	581336.22	4131207.48	6.80E-05	1.05E-07	6.28E-08	1.05E-07	2.09E-06	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.94E-04
581554.22_4130688.06	581554.22	4130688.06	4.73E-05	7.23E-08	4.34E-08	7.23E-08	1.44E-06	8.11E-09	3.12E-06	1.45E-07	1.09E-07	4.10E-04
579793.36_4131503.29	579793.36	4131503.29	4.22E-06	3.82E-09	2.29E-09	3.82E-09	7.46E-08	4.38E-10	1.60E-07	7.64E-09	5.51E-09	2.11E-05
580488.37_4131517.71	580488.37	4131517.71	5.66E-06	7.89E-09	4.73E-09	7.89E-09	1.57E-07	8.89E-10	3.38E-07	1.58E-08	1.18E-08	4.45E-05
581678.43_4131040.03	581678.43	4131040.03	2.14E-04	3.30E-07	1.98E-07	3.30E-07	6.60E-06	3.70E-08	1.43E-05	6.60E-07	5.01E-07	1.87E-03
581635.43_4130978.54	581635.43	4130978.54	4.33E-04	6.68E-07	4.01E-07	6.68E-07	1.34E-05	7.48E-08	2.88E-05	1.34E-06	1.01E-06	3.79E-03
581830.06_4131027.55	581830.06	4131027.55	1.97E-04	3.03E-07	1.82E-07	3.03E-07	6.07E-06	3.40E-08	1.31E-05	6.07E-07	4.61E-07	1.72E-03
581727.48_4130976.54	581727.48	4130976.54	5.24E-04	8.07E-07	4.84E-07	8.07E-07	1.61E-05	9.04E-08	3.49E-05	1.61E-06	1.23E-06	4.58E-03
581789.11_4130419.65	581789.11	4130419.65	3.68E-05	5.44E-08	3.27E-08	5.44E-08	1.09E-06	6.11E-09	2.34E-06	1.09E-07	8.23E-08	3.08E-04
581700.32_4130781.89	581700.32	4130781.89	1.05E-04	1.62E-07	9.74E-08	1.62E-07	3.25E-06	1.82E-08	7.01E-06	3.25E-07	2.47E-07	9.22E-04
581426.07_4131299.01	581426.07	4131299.01	2.49E-05	3.77E-08	2.26E-08	3.77E-08	7.53E-07	4.23E-09	1.63E-06	7.54E-08	5.72E-08	2.14E-04
582301.42_4129474.56	582301.42	4129474.56	1.32E-05	1.75E-08	1.05E-08	1.75E-08	3.48E-07	1.98E-09	7.50E-07	3.51E-08	2.62E-08	9.88E-05
582357.99_4129474.56	582357.99	4129474.56	1.24E-05	1.63E-08	9.79E-09	1.63E-08	3.24E-07	1.84E-09	6.98E-07	3.26E-08	2.44E-08	9.19E-05
582414.56_4129474.56	582414.56	4129474.56	1.16E-05	1.52E-08	9.11E-09	1.52E-08	3.01E-07	1.71E-09	6.49E-07	3.04E-08	2.27E-08	8.55E-05
582471.13_4129474.56	582471.13	4129474.56	1.09E-05	1.42E-08	8.49E-09	1.42E-08	2.81E-07	1.60E-09	6.05E-07	2.83E-08	2.11E-08	7.97E-05
582527.7_4129474.56	582527.7	4129474.56	1.03E-05	1.33E-08	7.97E-09	1.33E-08	2.63E-07	1.50E-09	5.68E-07	2.66E-08	1.98E-08	7.48E-05
582584.27_4129474.56	582584.27	4129474.56	9.65E-06	1.24E-08	7.44E-09	1.24E-08	2.46E-07	1.40E-09	5.30E-07	2.48E-08	1.85E-08	6.98E-05
582640.84_4129474.56	582640.84	4129474.56	9.01E-06	1.15E-08	6.90E-09	1.15E-08	2.28E-07	1.30E-09	4.91E-07	2.30E-08	1.71E-08	6.47E-05
582244.85_4129558.47	582244.85	4129558.47	1.37E-05	1.76E-08	1.06E-08	1.76E-08	3.50E-07	1.99E-09	7.53E-07	3.53E-08	2.63E-08	9.92E-05
582301.42_4129558.47	582301.42	4129558.47	1.34E-05	1.77E-08	1.06E-08	1.77E-08	3.51E-07	1.99E-09	7.55E-07	3.53E-08	2.64E-08	9.95E-05
582357.99_4129558.47	582357.99	4129558.47	1.26E-05	1.66E-08	9.97E-09	1.66E-08	3.30E-07	1.88E-09	7.11E-07	3.32E-08	2.48E-08	9.36E-05
582414.56_4129558.47	582414.56	4129558.47	1.18E-05	1.55E-08	9.28E-09	1.55E-08	3.07E-07	1.75E-09	6.61E-07	3.09E-08	2.31E-08	8.71E-05
582471.13_4129558.47	582471.13	4129558.47	1.10E-05	1.43E-08	8.59E-09	1.43E-08	2.84E-07	1.62E-09	6.12E-07	2.86E-08	2.14E-08	8.06E-05
582527.7_4129558.47	582527.7	4129558.47	1.03E-05	1.33E-08	7.99E-09	1.33E-08	2.64E-07	1.50E-09	5.69E-07	2.66E-08	1.99E-08	7.49E-05
582584.27_4129558.47	582584.27	4129558.47	9.66E-06	1.24E-08	7.43E-09	1.24E-08	2.46E-07	1.40E-09	5.29E-07	2.48E-08	1.85E-08	6.97E-05
582640.84_4129558.47	582640.84	4129558.47	9.11E-06	1.16E-08	6.96E-09	1.16E-08	2.30E-07	1.31E-09	4.96E-07	2.32E-08	1.73E-08	6.53E-05
582697.41_4129558.47	582697.41	4129558.47	8.58E-06	1.09E-08	6.52E-09	1.09E-08	2.15E-07	1.23E-09	4.64E-07	2.17E-08	1.62E-08	6.11E-05
582244.85_4129642.38	582244.85	4129642.38	1.24E-05	1.50E-08	9.00E-09	1.50E-08	2.97E-07	1.70E-09	6.39E-07	3.00E-08	2.23E-08	8.42E-05
582301.42_4129642.38	582301.42	4129642.38	1.32E-05	1.70E-08	1.02E-08	1.70E-08	3.37E-07	1.92E-09	7.25E-07	3.40E-08	2.53E-08	9.55E-05
582357.99_4129642.38	582357.99	4129642.38	1.28E-05	1.68E-08	1.01E-08	1.68E-08	3.34E-07	1.90E-09	7.20E-07	3.37E-08	2.52E-08	9.48E-05
582414.56_4129642.38	582414.56	4129642.38	1.20E-05	1.57E-08	9.43E-09	1.57E-08	3.12E-07	1.77E-09	6.72E-07	3.14E-08	2.35E-08	8.85E-05
582471.13_4129642.38	582471.13	4129642.38	1.13E-05	1.46E-08	8.78E-09	1.46E-08	2.90E-07	1.65E-09	6.26E-07	2.93E-08	2.19E-08	8.24E-05
582527.7_4129642.38	582527.7	4129642.38	1.06E-05	1.37E-08	8.20E-09	1.37E-08	2.71E-07	1.54E-09	5.84E-07	2.73E-08	2.04E-08	7.69E-05
582584.27_4129642.38	582584.27	4129642.38	9.84E-06	1.26E-08	7.58E-09	1.26E-08	2.51E-07	1.43E-09	5.40E-07	2.53E-08	1.89E-08	7.12E-05

Chronic Calculation, ΣC_{TAC}/REL

Total HI	Receptor Type
0.00055633	CT House
0.000383995	Res
2.0132E-05	Acute
4.17598E-05	Acute
0.001756077	Res
0.003554185	Res
0.00161475	Res
0.004295471	Res
0.000289155	Res
0.000863806	Res
0.000200494	Acute
9.29423E-05	Res
8.64056E-05	Res
8.04285E-05	Res
7.49901E-05	Res
7.0359E-05	Res
6.56808E-05	Res
6.08835E-05	Res
9.34052E-05	Res
9.35626E-05	Res
8.80389E-05	Res
8.1947E-05	Res
7.5834E-05	Res
7.05197E-05	Res
6.55829E-05	Res
6.14681E-05	Res
5.75696E-05	Res
7.94233E-05	Res
8.9913E-05	Res
8.91874E-05	Res
8.33083E-05	Res
7.75148E-05	Res
7.23905E-05	Res
6.69914E-05	Res

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Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)										Chronic Calculation, ΣC _{TAC} /REL	
	UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Copper	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica	Total HI	Receptor Type
582640.84_4129642.38	582640.84	4129642.38	9.22E-06	1.18E-08	7.06E-09	1.18E-08	2.33E-07	1.33E-09	5.03E-07	2.35E-08	1.76E-08	6.63E-05	6.23743E-05	Res
582697.41_4129642.38	582697.41	4129642.38	8.66E-06	1.10E-08	6.59E-09	1.10E-08	2.18E-07	1.24E-09	4.69E-07	2.20E-08	1.64E-08	6.18E-05	5.81932E-05	Res
582753.98_4129642.38	582753.98	4129642.38	8.11E-06	1.02E-08	6.14E-09	1.02E-08	2.03E-07	1.16E-09	4.37E-07	2.05E-08	1.53E-08	5.75E-05	5.41808E-05	Res
582810.55_4129642.38	582810.55	4129642.38	7.63E-06	9.55E-09	5.73E-09	9.55E-09	1.89E-07	1.08E-09	4.08E-07	1.91E-08	1.42E-08	5.37E-05	5.06132E-05	Res
582867.12_4129642.38	582867.12	4129642.38	7.11E-06	8.83E-09	5.30E-09	8.83E-09	1.75E-07	9.98E-10	3.77E-07	1.77E-08	1.32E-08	4.96E-05	4.67699E-05	Res
582244.85_4129726.29	582244.85	4129726.29	1.33E-05	1.66E-08	9.94E-09	1.66E-08	3.28E-07	1.87E-09	7.07E-07	3.31E-08	2.47E-08	9.32E-05	8.77756E-05	Res
582301.42_4129726.29	582301.42	4129726.29	1.29E-05	1.63E-08	9.77E-09	1.63E-08	3.23E-07	1.84E-09	6.96E-07	3.26E-08	2.43E-08	9.16E-05	8.62702E-05	Res
582357.99_4129726.29	582357.99	4129726.29	1.29E-05	1.69E-08	1.01E-08	1.69E-08	3.35E-07	1.90E-09	7.22E-07	3.38E-08	2.52E-08	9.51E-05	8.94463E-05	Res
582414.56_4129726.29	582414.56	4129726.29	1.22E-05	1.60E-08	9.59E-09	1.60E-08	3.17E-07	1.80E-09	6.84E-07	3.20E-08	2.39E-08	9.00E-05	8.47099E-05	Res
582471.13_4129726.29	582471.13	4129726.29	1.15E-05	1.50E-08	8.98E-09	1.50E-08	2.97E-07	1.69E-09	6.40E-07	2.99E-08	2.24E-08	8.43E-05	7.93159E-05	Res
582527.7_4129726.29	582527.7	4129726.29	1.08E-05	1.40E-08	8.38E-09	1.40E-08	2.77E-07	1.58E-09	5.98E-07	2.79E-08	2.09E-08	7.87E-05	7.40541E-05	Res
582584.27_4129726.29	582584.27	4129726.29	1.01E-05	1.30E-08	7.81E-09	1.30E-08	2.58E-07	1.47E-09	5.57E-07	2.60E-08	1.95E-08	7.33E-05	6.90072E-05	Res
582640.84_4129726.29	582640.84	4129726.29	9.43E-06	1.21E-08	7.26E-09	1.21E-08	2.40E-07	1.37E-09	5.18E-07	2.42E-08	1.81E-08	6.82E-05	6.41581E-05	Res
582697.41_4129726.29	582697.41	4129726.29	8.76E-06	1.12E-08	6.70E-09	1.12E-08	2.21E-07	1.26E-09	4.77E-07	2.23E-08	1.67E-08	6.28E-05	5.91443E-05	Res
582753.98_4129726.29	582753.98	4129726.29	8.11E-06	1.02E-08	6.14E-09	1.02E-08	2.03E-07	1.16E-09	4.37E-07	2.05E-08	1.53E-08	5.76E-05	5.42463E-05	Res
582810.55_4129726.29	582810.55	4129726.29	7.44E-06	9.29E-09	5.58E-09	9.29E-09	1.84E-07	1.05E-09	3.97E-07	1.86E-08	1.38E-08	5.23E-05	4.92253E-05	Res
582244.85_4129810.2	582244.85	4129810.2	1.30E-05	1.59E-08	9.57E-09	1.59E-08	3.16E-07	1.80E-09	6.80E-07	3.19E-08	2.37E-08	8.96E-05	8.44644E-05	Res
582301.42_4129810.2	582301.42	4129810.2	1.29E-05	1.65E-08	9.88E-09	1.65E-08	3.27E-07	1.86E-09	7.03E-07	3.29E-08	2.46E-08	9.27E-05	8.72287E-05	Res
582357.99_4129810.2	582357.99	4129810.2	1.27E-05	1.65E-08	9.93E-09	1.65E-08	3.28E-07	1.87E-09	7.08E-07	3.31E-08	2.47E-08	9.32E-05	8.76812E-05	Res
582414.56_4129810.2	582414.56	4129810.2	1.22E-05	1.61E-08	9.63E-09	1.61E-08	3.19E-07	1.81E-09	6.87E-07	3.21E-08	2.40E-08	9.04E-05	8.50737E-05	Res
582471.13_4129810.2	582471.13	4129810.2	1.16E-05	1.52E-08	9.11E-09	1.52E-08	3.01E-07	1.71E-09	6.50E-07	3.04E-08	2.27E-08	8.55E-05	8.04707E-05	Res
582527.7_4129810.2	582527.7	4129810.2	1.09E-05	1.42E-08	8.50E-09	1.42E-08	2.81E-07	1.60E-09	6.06E-07	2.83E-08	2.12E-08	7.98E-05	7.50549E-05	Res
582584.27_4129810.2	582584.27	4129810.2	1.01E-05	1.31E-08	7.87E-09	1.31E-08	2.60E-07	1.48E-09	5.61E-07	2.62E-08	1.96E-08	7.39E-05	6.95468E-05	Res
582640.84_4129810.2	582640.84	4129810.2	9.30E-06	1.19E-08	7.17E-09	1.19E-08	2.37E-07	1.35E-09	5.11E-07	2.39E-08	1.79E-08	6.73E-05	6.33373E-05	Res
582697.41_4129810.2	582697.41	4129810.2	8.56E-06	1.09E-08	6.54E-09	1.09E-08	2.16E-07	1.23E-09	4.66E-07	2.18E-08	1.63E-08	6.14E-05	5.78019E-05	Res
581905.43_4129894.11	581905.43	4129894.11	1.57E-05	2.11E-08	1.26E-08	2.11E-08	4.19E-07	2.37E-09	9.03E-07	4.21E-08	3.16E-08	1.19E-04	0.000111724	Res
581962_4129894.11	581962	4129894.11	1.67E-05	2.11E-08	1.27E-08	2.11E-08	4.19E-07	2.39E-09	9.03E-07	4.23E-08	3.15E-08	1.19E-04	0.000111941	Res
582131.71_4129894.11	582131.71	4129894.11	1.48E-05	1.83E-08	1.10E-08	1.83E-08	3.62E-07	2.07E-09	7.81E-07	3.66E-08	2.72E-08	1.03E-04	9.68905E-05	Res
582188.28_4129894.11	582188.28	4129894.11	1.41E-05	1.76E-08	1.06E-08	1.76E-08	3.50E-07	1.99E-09	7.53E-07	3.53E-08	2.63E-08	9.92E-05	9.34546E-05	Res
582244.85_4129894.11	582244.85	4129894.11	1.37E-05	1.75E-08	1.05E-08	1.75E-08	3.46E-07	1.97E-09	7.46E-07	3.49E-08	2.61E-08	9.82E-05	9.24921E-05	Res
582301.42_4129894.11	582301.42	4129894.11	1.31E-05	1.70E-08	1.02E-08	1.70E-08	3.38E-07	1.92E-09	7.28E-07	3.41E-08	2.54E-08	9.59E-05	9.02437E-05	Res
582357.99_4129894.11	582357.99	4129894.11	1.25E-05	1.63E-08	9.79E-09	1.63E-08	3.24E-07	1.84E-09	6.98E-07	3.26E-08	2.44E-08	9.19E-05	8.64831E-05	Res
582414.56_4129894.11	582414.56	4129894.11	1.24E-05	1.64E-08	9.87E-09	1.64E-08	3.27E-07	1.85E-09	7.04E-07	3.29E-08	2.46E-08	9.27E-05	8.71815E-05	Res
582471.13_4129894.11	582471.13	4129894.11	1.16E-05	1.53E-08	9.17E-09	1.53E-08	3.03E-07	1.72E-09	6.54E-07	3.06E-08	2.29E-08	8.61E-05	8.10175E-05	Res
582527.7_4129894.11	582527.7	4129894.11	1.07E-05	1.40E-08	8.41E-09	1.40E-08	2.78E-07	1.58E-09	6.00E-07	2.80E-08	2.10E-08	7.90E-05	7.43108E-05	Res
582584.27_4129894.11	582584.27	4129894.11	9.85E-06	1.28E-08	7.67E-09	1.28E-08	2.54E-07	1.44E-09	5.47E-07	2.56E-08	1.91E-08	7.20E-05	6.77906E-05	Res
582640.84_4129894.11	582640.84	4129894.11	9.04E-06	1.16E-08	6.98E-09	1.16E-08	2.31E-07	1.31E-09	4.97E-07	2.33E-08	1.74E-08	6.55E-05	6.16308E-05	Res
582697.41_4129894.11	582697.41	4129894.11	8.29E-06	1.06E-08	6.33E-09	1.06E-08	2.09E-07	1.19E-09	4.51E-07	2.11E-08	1.58E-08	5.94E-05	5.59269E-05	Res
581962_4129978.02	581962	4129978.02	1.72E-05	2.19E-08	1.32E-08	2.19E-08	4.35E-07	2.48E-09	9.37E-07	4.39E-08	3.28E-08	1.23E-04	0.000116223	Res
582018.57_4129978.02	582018.57	4129978.02	1.64E-05	2.05E-08	1.23E-08	2.05E-08	4.07E-07	2.32E-09	8.77E-07	4.11E-08	3.06E-08	1.16E-04	0.000108837	Res
582075.14_4129978.02	582075.14	4129978.02	1.67E-05	2.14E-08	1.28E-08	2.14E-08	4.24E-07	2.41E-09	9.14E-07	4.28E-08	3.19E-08	1.20E-04	0.000113347	Res
582131.71_4129978.02	582131.71	4129978.02	1.64E-05	2.16E-08	1.29E-08	2.16E-08	4.28E-07	2.43E-09	9.22E-07	4.31E-08	3.23E-08	1.21E-04	0.000114269	Res
582188.28_4129978.02	582188.28	4129978.02	1.62E-05	2.19E-08	1.31E-08	2.19E-08	4.35E-07	2.47E-09	9.38E-07	4.38E-08	3.28E-08	1.24E-04	0.000116136	Res
582244.85_4129978.02	582244.85	4129978.02	1.47E-05	1.97E-08	1.18E-08	1.97E-08	3.91E-07	2.22E-09	8.44E-07	3.94E-08	2.95E-08	1.11E-04	0.000104445	Res
582301.42_4129978.02	582301.42	4129978.02	1.44E-05	1.94E-08	1.16E-08	1.94E-08	3.86E-07	2.19E-09	8.32E-07	3.88E-08	2.91E-08	1.09E-04	0.000102914	Res
582357.99_4129978.02	582357.99	4129978.02	1.35E-05	1.82E-08	1.09E-08	1.82E-08	3.61E-07	2.05E-09	7.79E-07	3.64E-08	2.73E-08	1.03E-04	9.64085E-05	Res
582414.56_4129978.02	582414.56	4129978.02	1.25E-05	1.67E-08	1.00E-08	1.67E-08	3.32E-07	1.88E-09	7.16E-07	3.34E-08	2.51E-08	9.43E-05	8.86615E-05	Res

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Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)										Chronic Calculation, ΣC _{TAC} /REL		
			DPM	Arsenic	Beryllium	Cadmium	Copper	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica	Total HI	Receptor Type	
	UTM X	UTM Y													
582471.13_4129978.02	582471.13	4129978.02	1.15E-05	1.52E-08	9.15E-09	1.52E-08	3.03E-07	1.72E-09	6.53E-07	3.05E-08	2.28E-08	8.60E-05	8.08426E-05	Res	
582527.7_4129978.02	582527.7	4129978.02	1.05E-05	1.38E-08	8.30E-09	1.38E-08	2.75E-07	1.56E-09	5.92E-07	2.77E-08	2.07E-08	7.79E-05	7.33072E-05	Res	
582584.27_4129978.02	582584.27	4129978.02	9.61E-06	1.25E-08	7.51E-09	1.25E-08	2.48E-07	1.41E-09	5.36E-07	2.50E-08	1.87E-08	7.05E-05	6.63521E-05	Res	
582640.84_4129978.02	582640.84	4129978.02	8.79E-06	1.13E-08	6.81E-09	1.13E-08	2.25E-07	1.28E-09	4.85E-07	2.27E-08	1.70E-08	6.39E-05	6.01225E-05	Res	
582697.41_4129978.02	582697.41	4129978.02	8.05E-06	1.03E-08	6.16E-09	1.03E-08	2.04E-07	1.16E-09	4.39E-07	2.05E-08	1.53E-08	5.78E-05	5.44045E-05	Res	
582753.98_4129978.02	582753.98	4129978.02	7.32E-06	9.21E-09	5.53E-09	9.21E-09	1.83E-07	1.04E-09	3.93E-07	1.84E-08	1.37E-08	5.18E-05	4.88064E-05	Res	
582810.55_4129978.02	582810.55	4129978.02	6.53E-06	8.08E-09	4.85E-09	8.08E-09	1.60E-07	9.13E-10	3.45E-07	1.62E-08	1.20E-08	4.54E-05	4.27722E-05	Res	
581905.43_4130061.93	581905.43	4130061.93	2.37E-05	3.27E-08	1.96E-08	3.27E-08	6.50E-07	3.68E-09	1.40E-06	6.54E-08	4.91E-08	1.85E-04	0.000173386	Res	
581962_4130061.93	581962	4130061.93	2.23E-05	3.07E-08	1.84E-08	3.07E-08	6.11E-07	3.46E-09	1.32E-06	6.14E-08	4.61E-08	1.73E-04	0.000162865	Res	
582018.57_4130061.93	582018.57	4130061.93	1.92E-05	2.56E-08	1.54E-08	2.56E-08	5.09E-07	2.88E-09	1.10E-06	5.12E-08	3.84E-08	1.44E-04	0.000135751	Res	
582075.14_4130061.93	582075.14	4130061.93	1.72E-05	2.27E-08	1.36E-08	2.27E-08	4.50E-07	2.56E-09	9.70E-07	4.53E-08	3.39E-08	1.28E-04	0.00012019	Res	
582131.71_4130061.93	582131.71	4130061.93	1.67E-05	2.25E-08	1.35E-08	2.25E-08	4.47E-07	2.53E-09	9.63E-07	4.50E-08	3.37E-08	1.27E-04	0.000119231	Res	
582188.28_4130061.93	582188.28	4130061.93	1.63E-05	2.22E-08	1.33E-08	2.22E-08	4.42E-07	2.50E-09	9.53E-07	4.45E-08	3.34E-08	1.25E-04	0.000117924	Res	
582244.85_4130061.93	582244.85	4130061.93	1.58E-05	2.17E-08	1.30E-08	2.17E-08	4.32E-07	2.45E-09	9.32E-07	4.35E-08	3.26E-08	1.23E-04	0.000115261	Res	
582301.42_4130061.93	582301.42	4130061.93	1.46E-05	2.00E-08	1.20E-08	2.00E-08	3.98E-07	2.26E-09	8.59E-07	4.01E-08	3.01E-08	1.13E-04	0.000106255	Res	
582357.99_4130061.93	582357.99	4130061.93	1.36E-05	1.85E-08	1.11E-08	1.85E-08	3.67E-07	2.08E-09	7.91E-07	3.69E-08	2.77E-08	1.04E-04	9.79115E-05	Res	
582414.56_4130061.93	582414.56	4130061.93	1.25E-05	1.68E-08	1.01E-08	1.68E-08	3.35E-07	1.90E-09	7.22E-07	3.37E-08	2.53E-08	9.50E-05	8.93053E-05	Res	
582471.13_4130061.93	582471.13	4130061.93	1.13E-05	1.52E-08	9.12E-09	1.52E-08	3.02E-07	1.71E-09	6.52E-07	3.04E-08	2.28E-08	8.58E-05	8.06551E-05	Res	
582527.7_4130061.93	582527.7	4130061.93	1.03E-05	1.37E-08	8.20E-09	1.37E-08	2.72E-07	1.54E-09	5.85E-07	2.73E-08	2.05E-08	7.71E-05	7.24791E-05	Res	
582584.27_4130061.93	582584.27	4130061.93	9.36E-06	1.23E-08	7.38E-09	1.23E-08	2.44E-07	1.39E-09	5.26E-07	2.46E-08	1.84E-08	6.93E-05	6.51932E-05	Res	
582640.84_4130061.93	582640.84	4130061.93	8.50E-06	1.10E-08	6.62E-09	1.10E-08	2.19E-07	1.24E-09	4.72E-07	2.21E-08	1.65E-08	6.21E-05	5.84579E-05	Res	
582697.41_4130061.93	582697.41	4130061.93	7.74E-06	9.92E-09	5.95E-09	9.92E-09	1.97E-07	1.12E-09	4.24E-07	1.98E-08	1.48E-08	5.59E-05	5.26006E-05	Res	
582753.98_4130061.93	582753.98	4130061.93	7.08E-06	8.96E-09	5.38E-09	8.96E-09	1.78E-07	1.01E-09	3.83E-07	1.79E-08	1.34E-08	5.04E-05	4.7475E-05	Res	
582810.55_4130061.93	582810.55	4130061.93	6.47E-06	8.08E-09	4.85E-09	8.08E-09	1.60E-07	9.13E-10	3.45E-07	1.62E-08	1.20E-08	4.55E-05	4.28251E-05	Res	
581962_4130145.84	581962	4130145.84	2.52E-05	3.64E-08	2.18E-08	3.64E-08	7.25E-07	4.09E-09	1.56E-06	7.28E-08	5.49E-08	2.06E-04	0.000193231	Res	
582018.57_4130145.84	582018.57	4130145.84	2.33E-05	3.35E-08	2.01E-08	3.35E-08	6.68E-07	3.77E-09	1.44E-06	6.70E-08	5.05E-08	1.90E-04	0.0001779	Res	
582075.14_4130145.84	582075.14	4130145.84	2.00E-05	2.81E-08	1.69E-08	2.81E-08	5.60E-07	3.17E-09	1.21E-06	5.63E-08	4.23E-08	1.59E-04	0.000149284	Res	
582131.71_4130145.84	582131.71	4130145.84	1.85E-05	2.61E-08	1.56E-08	2.61E-08	5.19E-07	2.93E-09	1.12E-06	5.21E-08	3.92E-08	1.47E-04	0.000138323	Res	
582188.28_4130145.84	582188.28	4130145.84	1.77E-05	2.50E-08	1.50E-08	2.50E-08	4.98E-07	2.81E-09	1.07E-06	5.00E-08	3.76E-08	1.41E-04	0.000132727	Res	
582244.85_4130145.84	582244.85	4130145.84	1.62E-05	2.27E-08	1.36E-08	2.27E-08	4.51E-07	2.55E-09	9.73E-07	4.53E-08	3.41E-08	1.28E-04	0.000120296	Res	
582301.42_4130145.84	582301.42	4130145.84	1.47E-05	2.05E-08	1.23E-08	2.05E-08	4.07E-07	2.30E-09	8.78E-07	4.09E-08	3.08E-08	1.16E-04	0.0001086	Res	
582357.99_4130145.84	582357.99	4130145.84	1.35E-05	1.85E-08	1.11E-08	1.85E-08	3.69E-07	2.09E-09	7.96E-07	3.71E-08	2.79E-08	1.05E-04	9.84296E-05	Res	
582414.56_4130145.84	582414.56	4130145.84	1.23E-05	1.68E-08	1.01E-08	1.68E-08	3.33E-07	1.89E-09	7.19E-07	3.35E-08	2.52E-08	9.46E-05	8.89291E-05	Res	
582471.13_4130145.84	582471.13	4130145.84	1.11E-05	1.50E-08	9.01E-09	1.50E-08	2.99E-07	1.69E-09	6.44E-07	3.00E-08	2.25E-08	8.48E-05	7.96893E-05	Res	
582527.7_4130145.84	582527.7	4130145.84	9.97E-06	1.33E-08	8.01E-09	1.33E-08	2.65E-07	1.50E-09	5.72E-07	2.67E-08	2.00E-08	7.53E-05	7.08045E-05	Res	
582584.27_4130145.84	582584.27	4130145.84	8.96E-06	1.18E-08	7.10E-09	1.18E-08	2.35E-07	1.33E-09	5.07E-07	2.37E-08	1.77E-08	6.67E-05	6.27729E-05	Res	
582640.84_4130145.84	582640.84	4130145.84	8.08E-06	1.05E-08	6.32E-09	1.05E-08	2.09E-07	1.19E-09	4.51E-07	2.11E-08	1.58E-08	5.94E-05	5.58585E-05	Res	
582697.41_4130145.84	582697.41	4130145.84	7.33E-06	9.43E-09	5.66E-09	9.43E-09	1.87E-07	1.06E-09	4.03E-07	1.89E-08	1.41E-08	5.31E-05	5.00022E-05	Res	
582753.98_4130145.84	582753.98	4130145.84	6.70E-06	8.52E-09	5.11E-09	8.52E-09	1.69E-07	9.61E-10	3.64E-07	1.70E-08	1.27E-08	4.79E-05	4.51345E-05	Res	
582810.55_4130145.84	582810.55	4130145.84	6.17E-06	7.75E-09	4.65E-09	7.75E-09	1.54E-07	8.75E-10	3.31E-07	1.55E-08	1.16E-08	4.36E-05	4.10445E-05	Res	
582867.12_4130145.84	582867.12	4130145.84	5.49E-06	6.77E-09	4.06E-09	6.77E-09	1.34E-07	7.66E-10	2.89E-07	1.35E-08	1.01E-08	3.81E-05	3.5889E-05	Res	
581962_4130229.75	581962	4130229.75	2.54E-05	3.67E-08	2.20E-08	3.67E-08	7.31E-07	4.12E-09	1.58E-06	7.33E-08	5.53E-08	2.07E-04	0.00019462	Res	
582018.57_4130229.75	582018.57	4130229.75	2.42E-05	3.50E-08	2.10E-08	3.50E-08	6.98E-07	3.94E-09	1.51E-06	7.00E-08	5.28E-08	1.98E-04	0.000185903	Res	
582075.14_4130229.75	582075.14	4130229.75	2.24E-05	3.23E-08	1.94E-08	3.23E-08	6.44E-07	3.63E-09	1.39E-06	6.46E-08	4.87E-08	1.83E-04	0.000171461	Res	
582131.71_4130229.75	582131.71	4130229.75	2.02E-05	2.89E-08	1.73E-08	2.89E-08	5.76E-07	3.25E-09	1.24E-06	5.78E-08	4.36E-08	1.63E-04	0.000153363	Res	
582188.28_4130229.75	582188.28	4130229.75	1.80E-05	2.56E-08	1.54E-08	2.56E-08	5.11E-07	2.88E-09	1.10E-06	5.13E-08	3.86E-08	1.45E-04	0.000136076	Res	
582244.85_4130229.75	582244.85	4130229.75	1.62E-05	2.28E-08	1.37E-08	2.28E-08	4.54E-07	2.57E-09	9.80E-07	4.56E-08	3.44E-08	1.29E-04	0.000121124	Res	

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)									
	UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Copper	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
582188.28_4131068.85	582188.28	4131068.85	8.86E-06	1.28E-08	7.68E-09	1.28E-08	2.55E-07	1.44E-09	5.50E-07	2.56E-08	1.93E-08	7.24E-05
582244.85_4131068.85	582244.85	4131068.85	7.68E-06	1.10E-08	6.60E-09	1.10E-08	2.19E-07	1.24E-09	4.73E-07	2.20E-08	1.66E-08	6.23E-05
582301.42_4131068.85	582301.42	4131068.85	6.77E-06	9.62E-09	5.77E-09	9.62E-09	1.92E-07	1.08E-09	4.13E-07	1.92E-08	1.45E-08	5.44E-05
582357.99_4131068.85	582357.99	4131068.85	6.05E-06	8.52E-09	5.11E-09	8.52E-09	1.70E-07	9.59E-10	3.66E-07	1.70E-08	1.28E-08	4.82E-05
582414.56_4131068.85	582414.56	4131068.85	5.47E-06	7.65E-09	4.59E-09	7.65E-09	1.52E-07	8.61E-10	3.28E-07	1.53E-08	1.15E-08	4.32E-05
582471.13_4131068.85	582471.13	4131068.85	4.99E-06	6.93E-09	4.16E-09	6.93E-09	1.38E-07	7.80E-10	2.97E-07	1.39E-08	1.04E-08	3.91E-05
582527.7_4131068.85	582527.7	4131068.85	4.59E-06	6.33E-09	3.80E-09	6.33E-09	1.26E-07	7.12E-10	2.71E-07	1.27E-08	9.51E-09	3.57E-05
582584.27_4131068.85	582584.27	4131068.85	4.25E-06	5.81E-09	3.48E-09	5.81E-09	1.15E-07	6.54E-10	2.49E-07	1.16E-08	8.72E-09	3.28E-05
582640.84_4131068.85	582640.84	4131068.85	4.00E-06	5.43E-09	3.26E-09	5.43E-09	1.08E-07	6.11E-10	2.33E-07	1.09E-08	8.14E-09	3.06E-05
582697.41_4131068.85	582697.41	4131068.85	3.77E-06	5.08E-09	3.05E-09	5.08E-09	1.01E-07	5.72E-10	2.18E-07	1.02E-08	7.62E-09	2.86E-05
582753.98_4131068.85	582753.98	4131068.85	3.59E-06	4.80E-09	2.88E-09	4.80E-09	9.53E-08	5.41E-10	2.05E-07	9.59E-09	7.19E-09	2.70E-05
582810.55_4131068.85	582810.55	4131068.85	3.43E-06	4.55E-09	2.73E-09	4.55E-09	9.03E-08	5.12E-10	1.95E-07	9.09E-09	6.81E-09	2.56E-05
582867.12_4131068.85	582867.12	4131068.85	3.27E-06	4.28E-09	2.57E-09	4.28E-09	8.50E-08	4.83E-10	1.83E-07	8.56E-09	6.41E-09	2.41E-05
582018.57_4131152.76	582018.57	4131152.76	1.07E-05	1.56E-08	9.36E-09	1.56E-08	3.11E-07	1.75E-09	6.72E-07	3.12E-08	2.36E-08	8.83E-05
582244.85_4131152.76	582244.85	4131152.76	6.54E-06	9.24E-09	5.55E-09	9.24E-09	1.84E-07	1.04E-09	3.97E-07	1.85E-08	1.39E-08	5.23E-05
582301.42_4131152.76	582301.42	4131152.76	5.90E-06	8.28E-09	4.97E-09	8.28E-09	1.65E-07	9.31E-10	3.55E-07	1.66E-08	1.25E-08	4.68E-05
582357.99_4131152.76	582357.99	4131152.76	5.34E-06	7.43E-09	4.46E-09	7.43E-09	1.48E-07	8.36E-10	3.19E-07	1.49E-08	1.12E-08	4.20E-05
582414.56_4131152.76	582414.56	4131152.76	4.87E-06	6.73E-09	4.04E-09	6.73E-09	1.34E-07	7.57E-10	2.89E-07	1.35E-08	1.01E-08	3.80E-05
582471.13_4131152.76	582471.13	4131152.76	4.42E-06	6.07E-09	3.64E-09	6.07E-09	1.21E-07	6.83E-10	2.60E-07	1.21E-08	9.11E-09	3.43E-05
582527.7_4131152.76	582527.7	4131152.76	4.07E-06	5.54E-09	3.33E-09	5.54E-09	1.10E-07	6.24E-10	2.38E-07	1.11E-08	8.32E-09	3.13E-05
582584.27_4131152.76	582584.27	4131152.76	3.76E-06	5.09E-09	3.06E-09	5.09E-09	1.01E-07	5.74E-10	2.18E-07	1.02E-08	7.64E-09	2.87E-05
582640.84_4131152.76	582640.84	4131152.76	3.52E-06	4.73E-09	2.84E-09	4.73E-09	9.41E-08	5.33E-10	2.03E-07	9.47E-09	7.10E-09	2.67E-05
582697.41_4131152.76	582697.41	4131152.76	3.31E-06	4.43E-09	2.66E-09	4.43E-09	8.80E-08	4.99E-10	1.90E-07	8.85E-09	6.63E-09	2.50E-05
582753.98_4131152.76	582753.98	4131152.76	3.16E-06	4.20E-09	2.52E-09	4.20E-09	8.34E-08	4.73E-10	1.80E-07	8.40E-09	6.29E-09	2.37E-05
582810.55_4131152.76	582810.55	4131152.76	3.02E-06	3.99E-09	2.39E-09	3.99E-09	7.92E-08	4.50E-10	1.71E-07	7.98E-09	5.97E-09	2.25E-05
582867.12_4131152.76	582867.12	4131152.76	2.87E-06	3.76E-09	2.26E-09	3.76E-09	7.47E-08	4.24E-10	1.61E-07	7.52E-09	5.63E-09	2.12E-05

Chronic Calculation, ΣC_{TAC}/REL

Total HI	Receptor Type
6.79589E-05	Res
5.84452E-05	Res
5.10824E-05	Res
4.52432E-05	Res
4.0595E-05	Res
3.67696E-05	Res
3.35686E-05	Res
3.08026E-05	Res
2.87784E-05	Res
2.69287E-05	Res
2.54338E-05	Res
2.41006E-05	Res
2.26966E-05	Res
8.28988E-05	Res
4.9068E-05	Res
4.39276E-05	Res
3.9421E-05	Res
3.56938E-05	Res
3.21855E-05	Res
2.94021E-05	Res
2.70195E-05	Res
2.51029E-05	Res
2.34727E-05	Res
2.22655E-05	Res
2.11408E-05	Res
1.99394E-05	Res

HRA Permanente Creek Restoration Project

Construction Year 2025

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(tons/year)	speciation	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2024_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Rock Pile Area 2025	2025_CHAN_RCK	1.698E-04	9.08E-09	5.45E-09	9.08E-09	4.65E-08	1.02E-07	9.08E-09	1.45E-09	1.67E-07	1.82E-08	7.26E-10	2.70E-05
Paved road	2025_PAVED	1.711E-04	8.77E-08	5.26E-08	8.77E-08	5.61E-08	1.75E-06	1.61E-07	9.82E-09	3.79E-06	1.75E-07	1.33E-07	4.98E-04
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material Removal 2028	2028_MATRMVL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2028_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Unpaved road	2028_UNPAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Chronic REL

TAC	UOM	
DPM	µg/m ³	5
Arsenic	µg/m ³	0.015
Beryllium	µg/m ³	0.007
Cadmium	µg/m ³	0.02
Copper	µg/m ³	100
Mercury	µg/m ³	0.032
Nickel	µg/m ³	0.014
Selenium	µg/m ³	20
Chromium VI	µg/m ³	0.2
Crystalline Silica	µg/m ³	3

	Max
CT House	0.001
Res	0.008

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)									
			DPM	Arsenic	Beryllium	Cadmium	Copper	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
	UTM X	UTM Y	5	0.015	0.007	0.02	100	0.032	0.014	20	0.2	3
581336.22_4131207.48	581336.22	4131207.48	2.00E-04	1.01E-07	6.05E-08	1.01E-07	2.01E-06	1.13E-08	4.35E-06	2.02E-07	1.53E-07	5.72E-04
581554.22_4130688.06	581554.22	4130688.06	1.37E-04	6.70E-08	4.02E-08	6.70E-08	1.34E-06	7.52E-09	2.88E-06	1.34E-07	1.01E-07	3.79E-04
579793.36_4131503.29	579793.36	4131503.29	1.25E-05	3.69E-09	2.21E-09	3.69E-09	7.10E-08	4.28E-10	1.51E-07	7.38E-09	5.15E-09	2.01E-05
580488.37_4131517.71	580488.37	4131517.71	1.58E-05	6.54E-09	3.92E-09	6.54E-09	1.29E-07	7.41E-10	2.78E-07	1.31E-08	9.68E-09	3.66E-05
581678.43_4131040.03	581678.43	4131040.03	6.34E-04	3.23E-07	1.94E-07	3.23E-07	6.46E-06	3.62E-08	1.39E-05	6.46E-07	4.91E-07	1.83E-03
581635.43_4130978.54	581635.43	4130978.54	1.28E-03	6.55E-07	3.93E-07	6.55E-07	1.31E-05	7.34E-08	2.83E-05	1.31E-06	9.95E-07	3.72E-03
581830.06_4131027.55	581830.06	4131027.55	5.84E-04	2.97E-07	1.78E-07	2.97E-07	5.95E-06	3.33E-08	1.28E-05	5.95E-07	4.52E-07	1.69E-03
581727.48_4130976.54	581727.48	4130976.54	1.55E-03	7.93E-07	4.76E-07	7.93E-07	1.59E-05	8.88E-08	3.43E-05	1.59E-06	1.21E-06	4.50E-03
581789.11_4130419.65	581789.11	4130419.65	1.07E-04	5.04E-08	3.02E-08	5.04E-08	1.00E-06	5.67E-09	2.16E-06	1.01E-07	7.59E-08	2.85E-04
581700.32_4130781.89	581700.32	4130781.89	3.09E-04	1.56E-07	9.37E-08	1.56E-07	3.12E-06	1.75E-08	6.74E-06	3.12E-07	2.37E-07	8.86E-04
581426.07_4131299.01	581426.07	4131299.01	7.29E-05	3.59E-08	2.15E-08	3.59E-08	7.16E-07	4.03E-09	1.55E-06	7.18E-08	5.43E-08	2.03E-04
582301.42_4129474.56	582301.42	4129474.56	3.79E-05	1.55E-08	9.29E-09	1.55E-08	3.06E-07	1.76E-09	6.57E-07	3.10E-08	2.29E-08	8.67E-05
582357.99_4129474.56	582357.99	4129474.56	3.55E-05	1.45E-08	8.67E-09	1.45E-08	2.85E-07	1.64E-09	6.14E-07	2.89E-08	2.13E-08	8.09E-05
582414.56_4129474.56	582414.56	4129474.56	3.33E-05	1.35E-08	8.11E-09	1.35E-08	2.67E-07	1.53E-09	5.74E-07	2.70E-08	2.00E-08	7.57E-05
582471.13_4129474.56	582471.13	4129474.56	3.14E-05	1.27E-08	7.61E-09	1.27E-08	2.50E-07	1.44E-09	5.38E-07	2.54E-08	1.87E-08	7.10E-05
582527.7_4129474.56	582527.7	4129474.56	2.96E-05	1.20E-08	7.18E-09	1.20E-08	2.36E-07	1.36E-09	5.08E-07	2.39E-08	1.76E-08	6.69E-05
582584.27_4129474.56	582584.27	4129474.56	2.79E-05	1.12E-08	6.74E-09	1.12E-08	2.22E-07	1.28E-09	4.77E-07	2.25E-08	1.66E-08	6.28E-05
582640.84_4129474.56	582640.84	4129474.56	2.61E-05	1.05E-08	6.27E-09	1.05E-08	2.06E-07	1.19E-09	4.43E-07	2.09E-08	1.54E-08	5.85E-05
582244.85_4129558.47	582244.85	4129558.47	3.95E-05	1.57E-08	9.41E-09	1.57E-08	3.09E-07	1.78E-09	6.64E-07	3.14E-08	2.31E-08	8.76E-05
582301.42_4129558.47	582301.42	4129558.47	3.84E-05	1.56E-08	9.34E-09	1.56E-08	3.07E-07	1.77E-09	6.60E-07	3.11E-08	2.30E-08	8.71E-05
582357.99_4129558.47	582357.99	4129558.47	3.63E-05	1.48E-08	8.85E-09	1.48E-08	2.91E-07	1.67E-09	6.26E-07	2.95E-08	2.18E-08	8.26E-05
582414.56_4129558.47	582414.56	4129558.47	3.41E-05	1.38E-08	8.30E-09	1.38E-08	2.73E-07	1.57E-09	5.87E-07	2.77E-08	2.04E-08	7.74E-05
582471.13_4129558.47	582471.13	4129558.47	3.19E-05	1.29E-08	7.76E-09	1.29E-08	2.55E-07	1.47E-09	5.49E-07	2.59E-08	1.91E-08	7.24E-05
582527.7_4129558.47	582527.7	4129558.47	2.99E-05	1.21E-08	7.25E-09	1.21E-08	2.38E-07	1.37E-09	5.13E-07	2.42E-08	1.78E-08	6.76E-05
582584.27_4129558.47	582584.27	4129558.47	2.80E-05	1.13E-08	6.77E-09	1.13E-08	2.22E-07	1.28E-09	4.78E-07	2.26E-08	1.66E-08	6.31E-05
582640.84_4129558.47	582640.84	4129558.47	2.64E-05	1.06E-08	6.36E-09	1.06E-08	2.09E-07	1.20E-09	4.50E-07	2.12E-08	1.56E-08	5.93E-05
582697.41_4129558.47	582697.41	4129558.47	2.49E-05	9.96E-09	5.98E-09	9.96E-09	1.96E-07	1.13E-09	4.22E-07	1.99E-08	1.47E-08	5.57E-05
582244.85_4129642.38	582244.85	4129642.38	3.62E-05	1.37E-08	8.24E-09	1.37E-08	2.70E-07	1.56E-09	5.79E-07	2.75E-08	2.01E-08	7.64E-05
582301.42_4129642.38	582301.42	4129642.38	3.80E-05	1.52E-08	9.10E-09	1.52E-08	2.99E-07	1.72E-09	6.42E-07	3.03E-08	2.23E-08	8.47E-05
582357.99_4129642.38	582357.99	4129642.38	3.68E-05	1.50E-08	9.00E-09	1.50E-08	2.96E-07	1.70E-09	6.37E-07	3.00E-08	2.22E-08	8.40E-05
582414.56_4129642.38	582414.56	4129642.38	3.47E-05	1.42E-08	8.50E-09	1.42E-08	2.80E-07	1.61E-09	6.01E-07	2.83E-08	2.09E-08	7.93E-05
582471.13_4129642.38	582471.13	4129642.38	3.26E-05	1.33E-08	7.97E-09	1.33E-08	2.62E-07	1.51E-09	5.64E-07	2.66E-08	1.96E-08	7.43E-05
582527.7_4129642.38	582527.7	4129642.38	3.06E-05	1.25E-08	7.48E-09	1.25E-08	2.46E-07	1.41E-09	5.29E-07	2.49E-08	1.84E-08	6.98E-05
582584.27_4129642.38	582584.27	4129642.38	2.86E-05	1.16E-08	6.95E-09	1.16E-08	2.28E-07	1.31E-09	4.91E-07	2.32E-08	1.71E-08	6.48E-05

Chronic Calculation, ΣC_{TAC}/REL

Total HI	Receptor Type
0.000562861	CT House
0.000374111	Res
2.07994E-05	Acute
3.66295E-05	Acute
0.001803105	Res
0.003655914	Res
0.00166085	Res
0.004427427	Res
0.000281652	Res
0.000872258	Res
0.000200416	Acute
8.67539E-05	Res
8.09969E-05	Res
7.57839E-05	Res
7.10824E-05	Res
6.70479E-05	Res
6.29665E-05	Res
5.8606E-05	Res
8.78876E-05	Res
8.71879E-05	Res
8.26903E-05	Res
7.75121E-05	Res
7.24555E-05	Res
6.77076E-05	Res
6.32098E-05	Res
5.9436E-05	Res
5.5819E-05	Res
7.70155E-05	Res
8.49699E-05	Res
8.40786E-05	Res
7.93599E-05	Res
7.44057E-05	Res
6.98425E-05	Res
6.48679E-05	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)										Chronic Calculation, ΣC _{TAC} /REL	
	UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Copper	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica	Total HI	Receptor Type
582640.84_4129642.38	582640.84	4129642.38	2.68E-05	1.08E-08	6.48E-09	1.08E-08	2.13E-07	1.23E-09	4.58E-07	2.16E-08	1.59E-08	6.05E-05	6.0564E-05	Res
582697.41_4129642.38	582697.41	4129642.38	2.52E-05	1.01E-08	6.06E-09	1.01E-08	1.99E-07	1.15E-09	4.28E-07	2.02E-08	1.49E-08	5.65E-05	5.66283E-05	Res
582753.98_4129642.38	582753.98	4129642.38	2.36E-05	9.42E-09	5.65E-09	9.42E-09	1.86E-07	1.07E-09	3.99E-07	1.88E-08	1.39E-08	5.27E-05	5.28044E-05	Res
582810.55_4129642.38	582810.55	4129642.38	2.22E-05	8.81E-09	5.28E-09	8.81E-09	1.74E-07	1.00E-09	3.73E-07	1.76E-08	1.30E-08	4.92E-05	4.9372E-05	Res
582867.12_4129642.38	582867.12	4129642.38	2.07E-05	8.14E-09	4.88E-09	8.14E-09	1.60E-07	9.26E-10	3.45E-07	1.63E-08	1.20E-08	4.55E-05	4.5641E-05	Res
582244.85_4129726.29	582244.85	4129726.29	3.86E-05	1.51E-08	9.08E-09	1.51E-08	2.98E-07	1.72E-09	6.40E-07	3.03E-08	2.22E-08	8.44E-05	8.48269E-05	Res
582301.42_4129726.29	582301.42	4129726.29	3.72E-05	1.48E-08	8.85E-09	1.48E-08	2.91E-07	1.68E-09	6.25E-07	2.95E-08	2.17E-08	8.24E-05	8.2707E-05	Res
582357.99_4129726.29	582357.99	4129726.29	3.70E-05	1.51E-08	9.07E-09	1.51E-08	2.98E-07	1.71E-09	6.42E-07	3.02E-08	2.23E-08	8.46E-05	8.4673E-05	Res
582414.56_4129726.29	582414.56	4129726.29	3.52E-05	1.44E-08	8.67E-09	1.44E-08	2.85E-07	1.64E-09	6.14E-07	2.89E-08	2.13E-08	8.09E-05	8.09141E-05	Res
582471.13_4129726.29	582471.13	4129726.29	3.32E-05	1.36E-08	8.17E-09	1.36E-08	2.69E-07	1.54E-09	5.78E-07	2.72E-08	2.01E-08	7.63E-05	7.62938E-05	Res
582527.7_4129726.29	582527.7	4129726.29	3.12E-05	1.28E-08	7.68E-09	1.28E-08	2.53E-07	1.45E-09	5.44E-07	2.56E-08	1.89E-08	7.17E-05	7.16882E-05	Res
582584.27_4129726.29	582584.27	4129726.29	2.93E-05	1.20E-08	7.18E-09	1.20E-08	2.36E-07	1.36E-09	5.08E-07	2.39E-08	1.77E-08	6.70E-05	6.70531E-05	Res
582640.84_4129726.29	582640.84	4129726.29	2.74E-05	1.12E-08	6.69E-09	1.12E-08	2.20E-07	1.27E-09	4.73E-07	2.23E-08	1.65E-08	6.24E-05	6.2486E-05	Res
582697.41_4129726.29	582697.41	4129726.29	2.55E-05	1.03E-08	6.18E-09	1.03E-08	2.03E-07	1.17E-09	4.37E-07	2.06E-08	1.52E-08	5.76E-05	5.7687E-05	Res
582753.98_4129726.29	582753.98	4129726.29	2.36E-05	9.45E-09	5.67E-09	9.45E-09	1.86E-07	1.07E-09	4.00E-07	1.89E-08	1.39E-08	5.28E-05	5.29482E-05	Res
582810.55_4129726.29	582810.55	4129726.29	2.17E-05	8.57E-09	5.14E-09	8.57E-09	1.69E-07	9.74E-10	3.63E-07	1.71E-08	1.26E-08	4.79E-05	4.80575E-05	Res
582244.85_4129810.2	582244.85	4129810.2	3.78E-05	1.47E-08	8.82E-09	1.47E-08	2.89E-07	1.67E-09	6.22E-07	2.94E-08	2.16E-08	8.21E-05	8.24756E-05	Res
582301.42_4129810.2	582301.42	4129810.2	3.74E-05	1.50E-08	8.98E-09	1.50E-08	2.95E-07	1.70E-09	6.35E-07	2.99E-08	2.21E-08	8.37E-05	8.39175E-05	Res
582357.99_4129810.2	582357.99	4129810.2	3.66E-05	1.49E-08	8.95E-09	1.49E-08	2.94E-07	1.69E-09	6.33E-07	2.98E-08	2.20E-08	8.35E-05	8.35447E-05	Res
582414.56_4129810.2	582414.56	4129810.2	3.53E-05	1.46E-08	8.73E-09	1.46E-08	2.87E-07	1.65E-09	6.18E-07	2.91E-08	2.15E-08	8.15E-05	8.15297E-05	Res
582471.13_4129810.2	582471.13	4129810.2	3.36E-05	1.39E-08	8.34E-09	1.39E-08	2.74E-07	1.57E-09	5.91E-07	2.78E-08	2.06E-08	7.79E-05	7.78289E-05	Res
582527.7_4129810.2	582527.7	4129810.2	3.15E-05	1.30E-08	7.81E-09	1.30E-08	2.57E-07	1.47E-09	5.53E-07	2.60E-08	1.92E-08	7.29E-05	7.28852E-05	Res
582584.27_4129810.2	582584.27	4129810.2	2.94E-05	1.21E-08	7.26E-09	1.21E-08	2.39E-07	1.37E-09	5.14E-07	2.42E-08	1.79E-08	6.78E-05	6.77606E-05	Res
582640.84_4129810.2	582640.84	4129810.2	2.71E-05	1.10E-08	6.62E-09	1.10E-08	2.18E-07	1.25E-09	4.68E-07	2.21E-08	1.63E-08	6.18E-05	6.18123E-05	Res
582697.41_4129810.2	582697.41	4129810.2	2.49E-05	1.01E-08	6.04E-09	1.01E-08	1.99E-07	1.14E-09	4.27E-07	2.01E-08	1.49E-08	5.63E-05	5.64412E-05	Res
581905.43_4129894.11	581905.43	4129894.11	4.55E-05	1.93E-08	1.16E-08	1.93E-08	3.81E-07	2.18E-09	8.21E-07	3.85E-08	2.86E-08	1.08E-04	0.000107918	Res
581962_4129894.11	581962	4129894.11	4.85E-05	1.95E-08	1.17E-08	1.95E-08	3.84E-07	2.21E-09	8.25E-07	3.89E-08	2.87E-08	1.09E-04	0.000109108	Res
582131.71_4129894.11	582131.71	4129894.11	4.31E-05	1.69E-08	1.02E-08	1.69E-08	3.34E-07	1.93E-09	7.17E-07	3.39E-08	2.49E-08	9.46E-05	9.49771E-05	Res
582188.28_4129894.11	582188.28	4129894.11	4.11E-05	1.63E-08	9.79E-09	1.63E-08	3.21E-07	1.85E-09	6.91E-07	3.26E-08	2.40E-08	9.11E-05	9.14318E-05	Res
582244.85_4129894.11	582244.85	4129894.11	3.97E-05	1.60E-08	9.60E-09	1.60E-08	3.16E-07	1.82E-09	6.79E-07	3.20E-08	2.36E-08	8.95E-05	8.9677E-05	Res
582301.42_4129894.11	582301.42	4129894.11	3.80E-05	1.55E-08	9.28E-09	1.55E-08	3.05E-07	1.76E-09	6.57E-07	3.09E-08	2.28E-08	8.66E-05	8.66775E-05	Res
582357.99_4129894.11	582357.99	4129894.11	3.61E-05	1.48E-08	8.86E-09	1.48E-08	2.92E-07	1.68E-09	6.27E-07	2.95E-08	2.18E-08	8.27E-05	8.27653E-05	Res
582414.56_4129894.11	582414.56	4129894.11	3.60E-05	1.51E-08	9.03E-09	1.51E-08	2.98E-07	1.70E-09	6.40E-07	3.01E-08	2.23E-08	8.44E-05	8.4289E-05	Res
582471.13_4129894.11	582471.13	4129894.11	3.37E-05	1.41E-08	8.45E-09	1.41E-08	2.78E-07	1.60E-09	5.99E-07	2.82E-08	2.09E-08	7.90E-05	7.88859E-05	Res
582527.7_4129894.11	582527.7	4129894.11	3.12E-05	1.29E-08	7.77E-09	1.29E-08	2.56E-07	1.47E-09	5.51E-07	2.59E-08	1.92E-08	7.26E-05	7.25093E-05	Res
582584.27_4129894.11	582584.27	4129894.11	2.87E-05	1.18E-08	7.09E-09	1.18E-08	2.33E-07	1.34E-09	5.02E-07	2.36E-08	1.75E-08	6.62E-05	6.62045E-05	Res
582640.84_4129894.11	582640.84	4129894.11	2.63E-05	1.07E-08	6.45E-09	1.07E-08	2.12E-07	1.22E-09	4.56E-07	2.15E-08	1.59E-08	6.02E-05	6.02105E-05	Res
582697.41_4129894.11	582697.41	4129894.11	2.41E-05	9.75E-09	5.85E-09	9.75E-09	1.92E-07	1.11E-09	4.14E-07	1.95E-08	1.44E-08	5.45E-05	5.46395E-05	Res
581962_4129978.02	581962	4129978.02	5.00E-05	2.03E-08	1.22E-08	2.03E-08	4.01E-07	2.31E-09	8.62E-07	4.06E-08	3.00E-08	1.14E-04	0.000113835	Res
582018.57_4129978.02	582018.57	4129978.02	4.79E-05	1.91E-08	1.15E-08	1.91E-08	3.77E-07	2.17E-09	8.10E-07	3.82E-08	2.82E-08	1.07E-04	0.000107159	Res
582075.14_4129978.02	582075.14	4129978.02	4.86E-05	1.98E-08	1.19E-08	1.98E-08	3.91E-07	2.25E-09	8.40E-07	3.96E-08	2.92E-08	1.11E-04	0.000110907	Res
582131.71_4129978.02	582131.71	4129978.02	4.77E-05	1.98E-08	1.19E-08	1.98E-08	3.91E-07	2.24E-09	8.42E-07	3.96E-08	2.93E-08	1.11E-04	0.00011092	Res
582188.28_4129978.02	582188.28	4129978.02	4.69E-05	1.98E-08	1.19E-08	1.98E-08	3.92E-07	2.24E-09	8.44E-07	3.97E-08	2.94E-08	1.11E-04	0.000111024	Res
582244.85_4129978.02	582244.85	4129978.02	4.26E-05	1.79E-08	1.07E-08	1.79E-08	3.53E-07	2.02E-09	7.61E-07	3.57E-08	2.65E-08	1.00E-04	0.000100098	Res
582301.42_4129978.02	582301.42	4129978.02	4.16E-05	1.77E-08	1.06E-08	1.77E-08	3.50E-07	2.00E-09	7.53E-07	3.54E-08	2.63E-08	9.93E-05	9.90007E-05	Res
582357.99_4129978.02	582357.99	4129978.02	3.92E-05	1.67E-08	1.00E-08	1.67E-08	3.31E-07	1.89E-09	7.12E-07	3.34E-08	2.48E-08	9.39E-05	9.35852E-05	Res
582414.56_4129978.02	582414.56	4129978.02	3.63E-05	1.54E-08	9.26E-09	1.54E-08	3.05E-07	1.75E-09	6.57E-07	3.09E-08	2.29E-08	8.66E-05	8.64067E-05	Res

HRA Permanente Creek Restoration Project

Chronic Calculation, $\Sigma C_{TAC}/REL$

Receptor Lookup	Receptor Location		TAC Concentration, C_{AIR} ($\mu\text{g}/\text{m}^3$)										Total HI	Receptor Type
	UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Copper	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica		
582471.13_4129978.02	582471.13	4129978.02	3.34E-05	1.41E-08	8.46E-09	1.41E-08	2.79E-07	1.60E-09	6.00E-07	2.82E-08	2.09E-08	7.91E-05	7.89552E-05	Res
582527.7_4129978.02	582527.7	4129978.02	3.06E-05	1.28E-08	7.68E-09	1.28E-08	2.53E-07	1.45E-09	5.44E-07	2.56E-08	1.90E-08	7.18E-05	7.16507E-05	Res
582584.27_4129978.02	582584.27	4129978.02	2.80E-05	1.16E-08	6.95E-09	1.16E-08	2.29E-07	1.31E-09	4.92E-07	2.32E-08	1.71E-08	6.49E-05	6.48741E-05	Res
582640.84_4129978.02	582640.84	4129978.02	2.56E-05	1.05E-08	6.30E-09	1.05E-08	2.07E-07	1.19E-09	4.46E-07	2.10E-08	1.55E-08	5.88E-05	5.87864E-05	Res
582697.41_4129978.02	582697.41	4129978.02	2.34E-05	9.49E-09	5.70E-09	9.49E-09	1.87E-07	1.08E-09	4.03E-07	1.90E-08	1.40E-08	5.31E-05	5.31934E-05	Res
582753.98_4129978.02	582753.98	4129978.02	2.13E-05	8.51E-09	5.11E-09	8.51E-09	1.68E-07	9.67E-10	3.61E-07	1.70E-08	1.25E-08	4.76E-05	4.7719E-05	Res
582810.55_4129978.02	582810.55	4129978.02	1.90E-05	7.46E-09	4.47E-09	7.46E-09	1.47E-07	8.48E-10	3.15E-07	1.49E-08	1.09E-08	4.16E-05	4.18032E-05	Res
581905.43_4130061.93	581905.43	4130061.93	6.85E-05	2.97E-08	1.78E-08	2.97E-08	5.87E-07	3.35E-09	1.27E-06	5.93E-08	4.42E-08	1.67E-04	0.000165961	Res
581962_4130061.93	581962	4130061.93	6.44E-05	2.80E-08	1.68E-08	2.80E-08	5.54E-07	3.16E-09	1.19E-06	5.59E-08	4.16E-08	1.57E-04	0.00015644	Res
582018.57_4130061.93	582018.57	4130061.93	5.58E-05	2.37E-08	1.42E-08	2.37E-08	4.68E-07	2.68E-09	1.01E-06	4.73E-08	3.52E-08	1.33E-04	0.000132518	Res
582075.14_4130061.93	582075.14	4130061.93	5.01E-05	2.11E-08	1.26E-08	2.11E-08	4.16E-07	2.38E-09	8.96E-07	4.21E-08	3.12E-08	1.18E-04	0.0001179	Res
582131.71_4130061.93	582131.71	4130061.93	4.86E-05	2.07E-08	1.24E-08	2.07E-08	4.10E-07	2.34E-09	8.82E-07	4.14E-08	3.07E-08	1.16E-04	0.000115862	Res
582188.28_4130061.93	582188.28	4130061.93	4.70E-05	2.02E-08	1.21E-08	2.02E-08	4.01E-07	2.29E-09	8.63E-07	4.05E-08	3.01E-08	1.14E-04	0.000113302	Res
582244.85_4130061.93	582244.85	4130061.93	4.56E-05	1.99E-08	1.19E-08	1.99E-08	3.93E-07	2.24E-09	8.47E-07	3.97E-08	2.96E-08	1.12E-04	0.000111111	Res
582301.42_4130061.93	582301.42	4130061.93	4.24E-05	1.84E-08	1.10E-08	1.84E-08	3.65E-07	2.08E-09	7.86E-07	3.68E-08	2.74E-08	1.04E-04	0.000103041	Res
582357.99_4130061.93	582357.99	4130061.93	3.94E-05	1.70E-08	1.02E-08	1.70E-08	3.38E-07	1.93E-09	7.27E-07	3.41E-08	2.54E-08	9.58E-05	9.54113E-05	Res
582414.56_4130061.93	582414.56	4130061.93	3.62E-05	1.56E-08	9.35E-09	1.56E-08	3.09E-07	1.76E-09	6.65E-07	3.12E-08	2.32E-08	8.76E-05	8.72524E-05	Res
582471.13_4130061.93	582471.13	4130061.93	3.30E-05	1.41E-08	8.46E-09	1.41E-08	2.79E-07	1.59E-09	6.01E-07	2.82E-08	2.10E-08	7.92E-05	7.8917E-05	Res
582527.7_4130061.93	582527.7	4130061.93	3.00E-05	1.27E-08	7.60E-09	1.27E-08	2.51E-07	1.43E-09	5.40E-07	2.53E-08	1.88E-08	7.11E-05	7.09428E-05	Res
582584.27_4130061.93	582584.27	4130061.93	2.73E-05	1.14E-08	6.84E-09	1.14E-08	2.25E-07	1.29E-09	4.85E-07	2.28E-08	1.69E-08	6.39E-05	6.3824E-05	Res
582640.84_4130061.93	582640.84	4130061.93	2.48E-05	1.02E-08	6.13E-09	1.02E-08	2.02E-07	1.16E-09	4.34E-07	2.04E-08	1.51E-08	5.73E-05	5.72384E-05	Res
582697.41_4130061.93	582697.41	4130061.93	2.26E-05	9.19E-09	5.52E-09	9.19E-09	1.81E-07	1.04E-09	3.90E-07	1.84E-08	1.36E-08	5.15E-05	5.15119E-05	Res
582753.98_4130061.93	582753.98	4130061.93	2.06E-05	8.30E-09	4.98E-09	8.30E-09	1.64E-07	9.42E-10	3.52E-07	1.66E-08	1.22E-08	4.64E-05	4.65101E-05	Res
582810.55_4130061.93	582810.55	4130061.93	1.89E-05	7.49E-09	4.49E-09	7.49E-09	1.48E-07	8.51E-10	3.17E-07	1.50E-08	1.10E-08	4.18E-05	4.19794E-05	Res
581962_4130145.84	581962	4130145.84	7.24E-05	3.28E-08	1.97E-08	3.28E-08	6.51E-07	3.70E-09	1.40E-06	6.56E-08	4.91E-08	1.85E-04	0.000183347	Res
582018.57_4130145.84	582018.57	4130145.84	6.71E-05	3.03E-08	1.82E-08	3.03E-08	6.03E-07	3.42E-09	1.30E-06	6.07E-08	4.54E-08	1.71E-04	0.000169708	Res
582075.14_4130145.84	582075.14	4130145.84	5.78E-05	2.57E-08	1.54E-08	2.57E-08	5.10E-07	2.90E-09	1.10E-06	5.14E-08	3.84E-08	1.45E-04	0.000143811	Res
582131.71_4130145.84	582131.71	4130145.84	5.36E-05	2.38E-08	1.43E-08	2.38E-08	4.72E-07	2.68E-09	1.02E-06	4.76E-08	3.55E-08	1.34E-04	0.000133092	Res
582188.28_4130145.84	582188.28	4130145.84	5.14E-05	2.30E-08	1.38E-08	2.30E-08	4.56E-07	2.59E-09	9.84E-07	4.60E-08	3.44E-08	1.30E-04	0.00012864	Res
582244.85_4130145.84	582244.85	4130145.84	4.70E-05	2.09E-08	1.26E-08	2.09E-08	4.15E-07	2.36E-09	8.95E-07	4.19E-08	3.13E-08	1.18E-04	0.000117132	Res
582301.42_4130145.84	582301.42	4130145.84	4.28E-05	1.89E-08	1.14E-08	1.89E-08	3.76E-07	2.14E-09	8.10E-07	3.79E-08	2.83E-08	1.07E-04	0.000105973	Res
582357.99_4130145.84	582357.99	4130145.84	3.91E-05	1.72E-08	1.03E-08	1.72E-08	3.41E-07	1.94E-09	7.35E-07	3.44E-08	2.57E-08	9.68E-05	9.62608E-05	Res
582414.56_4130145.84	582414.56	4130145.84	3.57E-05	1.56E-08	9.34E-09	1.56E-08	3.08E-07	1.76E-09	6.65E-07	3.11E-08	2.32E-08	8.75E-05	8.71055E-05	Res
582471.13_4130145.84	582471.13	4130145.84	3.23E-05	1.40E-08	8.37E-09	1.40E-08	2.76E-07	1.58E-09	5.95E-07	2.79E-08	2.08E-08	7.84E-05	7.81252E-05	Res
582527.7_4130145.84	582527.7	4130145.84	2.90E-05	1.24E-08	7.44E-09	1.24E-08	2.45E-07	1.40E-09	5.29E-07	2.48E-08	1.84E-08	6.97E-05	6.94313E-05	Res
582584.27_4130145.84	582584.27	4130145.84	2.61E-05	1.10E-08	6.60E-09	1.10E-08	2.17E-07	1.24E-09	4.68E-07	2.20E-08	1.63E-08	6.17E-05	6.15612E-05	Res
582640.84_4130145.84	582640.84	4130145.84	2.35E-05	9.78E-09	5.87E-09	9.78E-09	1.93E-07	1.11E-09	4.16E-07	1.96E-08	1.45E-08	5.48E-05	5.47926E-05	Res
582697.41_4130145.84	582697.41	4130145.84	2.14E-05	8.76E-09	5.25E-09	8.76E-09	1.73E-07	9.93E-10	3.72E-07	1.75E-08	1.29E-08	4.90E-05	4.90631E-05	Res
582753.98_4130145.84	582753.98	4130145.84	1.95E-05	7.91E-09	4.74E-09	7.91E-09	1.56E-07	8.97E-10	3.36E-07	1.58E-08	1.17E-08	4.42E-05	4.43086E-05	Res
582810.55_4130145.84	582810.55	4130145.84	1.80E-05	7.19E-09	4.32E-09	7.19E-09	1.42E-07	8.17E-10	3.05E-07	1.44E-08	1.06E-08	4.02E-05	4.03211E-05	Res
582867.12_4130145.84	582867.12	4130145.84	1.60E-05	6.29E-09	3.77E-09	6.29E-09	1.24E-07	7.15E-10	2.66E-07	1.26E-08	9.24E-09	3.51E-05	3.52756E-05	Res
581962_4130229.75	581962	4130229.75	7.35E-05	3.35E-08	2.01E-08	3.35E-08	6.67E-07	3.78E-09	1.44E-06	6.71E-08	5.03E-08	1.89E-04	0.00018759	Res
582018.57_4130229.75	582018.57	4130229.75	6.98E-05	3.20E-08	1.92E-08	3.20E-08	6.36E-07	3.60E-09	1.37E-06	6.40E-08	4.80E-08	1.81E-04	0.000178914	Res
582075.14_4130229.75	582075.14	4130229.75	6.48E-05	2.97E-08	1.78E-08	2.97E-08	5.91E-07	3.35E-09	1.27E-06	5.94E-08	4.46E-08	1.68E-04	0.000166218	Res
582131.71_4130229.75	582131.71	4130229.75	5.85E-05	2.67E-08	1.60E-08	2.67E-08	5.31E-07	3.01E-09	1.14E-06	5.34E-08	4.00E-08	1.51E-04	0.000149325	Res
582188.28_4130229.75	582188.28	4130229.75	5.24E-05	2.37E-08	1.42E-08	2.37E-08	4.72E-07	2.68E-09	1.02E-06	4.75E-08	3.56E-08	1.34E-04	0.000132813	Res
582244.85_4130229.75	582244.85	4130229.75	4.70E-05	2.12E-08	1.27E-08	2.12E-08	4.21E-07	2.39E-09	9.06E-07	4.24E-08	3.17E-08	1.19E-04	0.000118457	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)									
	UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Copper	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
582188.28_4131068.85	582188.28	4131068.85	2.57E-05	1.19E-08	7.14E-09	1.19E-08	2.37E-07	1.34E-09	5.11E-07	2.38E-08	1.79E-08	6.72E-05
582244.85_4131068.85	582244.85	4131068.85	2.23E-05	1.02E-08	6.12E-09	1.02E-08	2.03E-07	1.15E-09	4.37E-07	2.04E-08	1.53E-08	5.76E-05
582301.42_4131068.85	582301.42	4131068.85	1.97E-05	8.90E-09	5.34E-09	8.90E-09	1.77E-07	1.00E-09	3.81E-07	1.78E-08	1.33E-08	5.02E-05
582357.99_4131068.85	582357.99	4131068.85	1.75E-05	7.86E-09	4.72E-09	7.86E-09	1.56E-07	8.87E-10	3.36E-07	1.57E-08	1.18E-08	4.43E-05
582414.56_4131068.85	582414.56	4131068.85	1.58E-05	7.04E-09	4.22E-09	7.04E-09	1.40E-07	7.95E-10	3.01E-07	1.41E-08	1.05E-08	3.97E-05
582471.13_4131068.85	582471.13	4131068.85	1.45E-05	6.37E-09	3.82E-09	6.37E-09	1.26E-07	7.19E-10	2.72E-07	1.27E-08	9.51E-09	3.58E-05
582527.7_4131068.85	582527.7	4131068.85	1.33E-05	5.81E-09	3.49E-09	5.81E-09	1.15E-07	6.56E-10	2.48E-07	1.16E-08	8.66E-09	3.27E-05
582584.27_4131068.85	582584.27	4131068.85	1.23E-05	5.33E-09	3.20E-09	5.33E-09	1.06E-07	6.02E-10	2.27E-07	1.07E-08	7.93E-09	3.00E-05
582640.84_4131068.85	582640.84	4131068.85	1.16E-05	4.98E-09	2.99E-09	4.98E-09	9.86E-08	5.63E-10	2.12E-07	9.95E-09	7.40E-09	2.80E-05
582697.41_4131068.85	582697.41	4131068.85	1.09E-05	4.66E-09	2.79E-09	4.66E-09	9.22E-08	5.27E-10	1.98E-07	9.31E-09	6.92E-09	2.62E-05
582753.98_4131068.85	582753.98	4131068.85	1.04E-05	4.40E-09	2.64E-09	4.40E-09	8.70E-08	4.98E-10	1.87E-07	8.80E-09	6.53E-09	2.47E-05
582810.55_4131068.85	582810.55	4131068.85	9.96E-06	4.17E-09	2.50E-09	4.17E-09	8.24E-08	4.72E-10	1.77E-07	8.34E-09	6.18E-09	2.34E-05
582867.12_4131068.85	582867.12	4131068.85	9.48E-06	3.93E-09	2.36E-09	3.93E-09	7.76E-08	4.45E-10	1.67E-07	7.86E-09	5.82E-09	2.20E-05
582018.57_4131152.76	582018.57	4131152.76	3.12E-05	1.45E-08	8.72E-09	1.45E-08	2.89E-07	1.64E-09	6.24E-07	2.91E-08	2.19E-08	8.21E-05
582244.85_4131152.76	582244.85	4131152.76	1.90E-05	8.51E-09	5.11E-09	8.51E-09	1.69E-07	9.60E-10	3.64E-07	1.70E-08	1.27E-08	4.80E-05
582301.42_4131152.76	582301.42	4131152.76	1.71E-05	7.61E-09	4.57E-09	7.61E-09	1.51E-07	8.59E-10	3.25E-07	1.52E-08	1.14E-08	4.29E-05
582357.99_4131152.76	582357.99	4131152.76	1.55E-05	6.82E-09	4.09E-09	6.82E-09	1.35E-07	7.70E-10	2.91E-07	1.36E-08	1.02E-08	3.84E-05
582414.56_4131152.76	582414.56	4131152.76	1.41E-05	6.16E-09	3.70E-09	6.16E-09	1.22E-07	6.96E-10	2.63E-07	1.23E-08	9.19E-09	3.47E-05
582471.13_4131152.76	582471.13	4131152.76	1.28E-05	5.55E-09	3.33E-09	5.55E-09	1.10E-07	6.27E-10	2.37E-07	1.11E-08	8.27E-09	3.12E-05
582527.7_4131152.76	582527.7	4131152.76	1.18E-05	5.07E-09	3.04E-09	5.07E-09	1.00E-07	5.73E-10	2.16E-07	1.01E-08	7.54E-09	2.85E-05
582584.27_4131152.76	582584.27	4131152.76	1.09E-05	4.65E-09	2.79E-09	4.65E-09	9.21E-08	5.26E-10	1.98E-07	9.31E-09	6.92E-09	2.61E-05
582640.84_4131152.76	582640.84	4131152.76	1.02E-05	4.32E-09	2.59E-09	4.32E-09	8.55E-08	4.89E-10	1.84E-07	8.64E-09	6.42E-09	2.43E-05
582697.41_4131152.76	582697.41	4131152.76	9.59E-06	4.04E-09	2.43E-09	4.04E-09	7.99E-08	4.58E-10	1.72E-07	8.08E-09	6.00E-09	2.27E-05
582753.98_4131152.76	582753.98	4131152.76	9.15E-06	3.84E-09	2.30E-09	3.84E-09	7.58E-08	4.34E-10	1.63E-07	7.67E-09	5.69E-09	2.15E-05
582810.55_4131152.76	582810.55	4131152.76	8.75E-06	3.64E-09	2.19E-09	3.64E-09	7.20E-08	4.13E-10	1.55E-07	7.29E-09	5.40E-09	2.04E-05
582867.12_4131152.76	582867.12	4131152.76	8.32E-06	3.44E-09	2.06E-09	3.44E-09	6.79E-08	3.90E-10	1.46E-07	6.88E-09	5.09E-09	1.93E-05

Chronic Calculation, ΣC_{TAC}/REL

Total HI	Receptor Type
6.65754E-05	Res
5.70755E-05	Res
4.97562E-05	Res
4.39774E-05	Res
3.93969E-05	Res
3.56428E-05	Res
3.25149E-05	Res
2.98223E-05	Res
2.78599E-05	Res
2.60728E-05	Res
2.46328E-05	Res
2.33524E-05	Res
2.20083E-05	Res
8.12939E-05	Res
4.76317E-05	Res
4.25713E-05	Res
3.81435E-05	Res
3.44914E-05	Res
3.10651E-05	Res
2.83568E-05	Res
2.60479E-05	Res
2.41993E-05	Res
2.26332E-05	Res
2.14784E-05	Res
2.0406E-05	Res
1.9265E-05	Res

HRA Permanente Creek Restoration Project

Construction Year 2026

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(tons/year)	speciation	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2024_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rock Pile Area 2026	2026_CHAN_RCK	1.698E-04	9.08E-09	5.45E-09	9.08E-09	4.65E-08	1.02E-07	9.08E-09	1.45E-09	1.67E-07	1.82E-08	7.26E-10	2.70E-05
Paved road	2026_PAVED	1.681E-04	8.77E-08	5.26E-08	8.77E-08	5.61E-08	1.75E-06	1.61E-07	9.82E-09	3.79E-06	1.75E-07	1.33E-07	4.98E-04
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material Removal 2028	2028_MATRMVL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2028_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Unpaved road	2028_UNPAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Chronic REL

TAC	UOM	
DPM	µg/m ³	5
Arsenic	µg/m ³	0.015
Beryllium	µg/m ³	0.007
Cadmium	µg/m ³	0.02
Copper	µg/m ³	100
Mercury	µg/m ³	0.032
Nickel	µg/m ³	0.014
Selenium	µg/m ³	20
Chromium VI	µg/m ³	0.2
Crystalline Silica	µg/m ³	3

	Max
CT House	0.001
Res	0.008

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)									
			DPM	Arsenic	Beryllium	Cadmium	Copper	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
	UTM X	UTM Y	5	0.015	0.007	0.02	100	0.032	0.014	20	0.2	3
581336.22_4131207.48	581336.22	4131207.48	1.96E-04	1.01E-07	6.05E-08	1.01E-07	2.01E-06	1.13E-08	4.35E-06	2.02E-07	1.53E-07	5.72E-04
581554.22_4130688.06	581554.22	4130688.06	1.35E-04	6.70E-08	4.02E-08	6.70E-08	1.34E-06	7.52E-09	2.88E-06	1.34E-07	1.01E-07	3.79E-04
579793.36_4131503.29	579793.36	4131503.29	1.24E-05	3.69E-09	2.21E-09	3.69E-09	7.10E-08	4.28E-10	1.51E-07	7.38E-09	5.15E-09	2.01E-05
580488.37_4131517.71	580488.37	4131517.71	1.56E-05	6.54E-09	3.92E-09	6.54E-09	1.29E-07	7.41E-10	2.78E-07	1.31E-08	9.68E-09	3.66E-05
581678.43_4131040.03	581678.43	4131040.03	6.23E-04	3.23E-07	1.94E-07	3.23E-07	6.46E-06	3.62E-08	1.39E-05	6.46E-07	4.91E-07	1.83E-03
581635.43_4130978.54	581635.43	4130978.54	1.26E-03	6.55E-07	3.93E-07	6.55E-07	1.31E-05	7.34E-08	2.83E-05	1.31E-06	9.95E-07	3.72E-03
581830.06_4131027.55	581830.06	4131027.55	5.74E-04	2.97E-07	1.78E-07	2.97E-07	5.95E-06	3.33E-08	1.28E-05	5.95E-07	4.52E-07	1.69E-03
581727.48_4130976.54	581727.48	4130976.54	1.52E-03	7.93E-07	4.76E-07	7.93E-07	1.59E-05	8.88E-08	3.43E-05	1.59E-06	1.21E-06	4.50E-03
581789.11_4130419.65	581789.11	4130419.65	1.05E-04	5.04E-08	3.02E-08	5.04E-08	1.00E-06	5.67E-09	2.16E-06	1.01E-07	7.59E-08	2.85E-04
581700.32_4130781.89	581700.32	4130781.89	3.04E-04	1.56E-07	9.37E-08	1.56E-07	3.12E-06	1.75E-08	6.74E-06	3.12E-07	2.37E-07	8.86E-04
581426.07_4131299.01	581426.07	4131299.01	7.16E-05	3.59E-08	2.15E-08	3.59E-08	7.16E-07	4.03E-09	1.55E-06	7.18E-08	5.43E-08	2.03E-04
582301.42_4129474.56	582301.42	4129474.56	3.74E-05	1.55E-08	9.29E-09	1.55E-08	3.06E-07	1.76E-09	6.57E-07	3.10E-08	2.29E-08	8.67E-05
582357.99_4129474.56	582357.99	4129474.56	3.50E-05	1.45E-08	8.67E-09	1.45E-08	2.85E-07	1.64E-09	6.14E-07	2.89E-08	2.13E-08	8.09E-05
582414.56_4129474.56	582414.56	4129474.56	3.29E-05	1.35E-08	8.11E-09	1.35E-08	2.67E-07	1.53E-09	5.74E-07	2.70E-08	2.00E-08	7.57E-05
582471.13_4129474.56	582471.13	4129474.56	3.09E-05	1.27E-08	7.61E-09	1.27E-08	2.50E-07	1.44E-09	5.38E-07	2.54E-08	1.87E-08	7.10E-05
582527.7_4129474.56	582527.7	4129474.56	2.92E-05	1.20E-08	7.18E-09	1.20E-08	2.36E-07	1.36E-09	5.08E-07	2.39E-08	1.76E-08	6.69E-05
582584.27_4129474.56	582584.27	4129474.56	2.75E-05	1.12E-08	6.74E-09	1.12E-08	2.22E-07	1.28E-09	4.77E-07	2.25E-08	1.66E-08	6.28E-05
582640.84_4129474.56	582640.84	4129474.56	2.58E-05	1.05E-08	6.27E-09	1.05E-08	2.06E-07	1.19E-09	4.43E-07	2.09E-08	1.54E-08	5.85E-05
582244.85_4129558.47	582244.85	4129558.47	3.90E-05	1.57E-08	9.41E-09	1.57E-08	3.09E-07	1.78E-09	6.64E-07	3.14E-08	2.31E-08	8.76E-05
582301.42_4129558.47	582301.42	4129558.47	3.79E-05	1.56E-08	9.34E-09	1.56E-08	3.07E-07	1.77E-09	6.60E-07	3.11E-08	2.30E-08	8.71E-05
582357.99_4129558.47	582357.99	4129558.47	3.58E-05	1.48E-08	8.85E-09	1.48E-08	2.91E-07	1.67E-09	6.26E-07	2.95E-08	2.18E-08	8.26E-05
582414.56_4129558.47	582414.56	4129558.47	3.36E-05	1.38E-08	8.30E-09	1.38E-08	2.73E-07	1.57E-09	5.87E-07	2.77E-08	2.04E-08	7.74E-05
582471.13_4129558.47	582471.13	4129558.47	3.14E-05	1.29E-08	7.76E-09	1.29E-08	2.55E-07	1.47E-09	5.49E-07	2.59E-08	1.91E-08	7.24E-05
582527.7_4129558.47	582527.7	4129558.47	2.95E-05	1.21E-08	7.25E-09	1.21E-08	2.38E-07	1.37E-09	5.13E-07	2.42E-08	1.78E-08	6.76E-05
582584.27_4129558.47	582584.27	4129558.47	2.76E-05	1.13E-08	6.77E-09	1.13E-08	2.22E-07	1.28E-09	4.78E-07	2.26E-08	1.66E-08	6.31E-05
582640.84_4129558.47	582640.84	4129558.47	2.61E-05	1.06E-08	6.36E-09	1.06E-08	2.09E-07	1.20E-09	4.50E-07	2.12E-08	1.56E-08	5.93E-05
582697.41_4129558.47	582697.41	4129558.47	2.46E-05	9.96E-09	5.98E-09	9.96E-09	1.96E-07	1.13E-09	4.22E-07	1.99E-08	1.47E-08	5.57E-05
582244.85_4129642.38	582244.85	4129642.38	3.57E-05	1.37E-08	8.24E-09	1.37E-08	2.70E-07	1.56E-09	5.79E-07	2.75E-08	2.01E-08	7.64E-05
582301.42_4129642.38	582301.42	4129642.38	3.75E-05	1.52E-08	9.10E-09	1.52E-08	2.99E-07	1.72E-09	6.42E-07	3.03E-08	2.23E-08	8.47E-05
582357.99_4129642.38	582357.99	4129642.38	3.63E-05	1.50E-08	9.00E-09	1.50E-08	2.96E-07	1.70E-09	6.37E-07	3.00E-08	2.22E-08	8.40E-05
582414.56_4129642.38	582414.56	4129642.38	3.42E-05	1.42E-08	8.50E-09	1.42E-08	2.80E-07	1.61E-09	6.01E-07	2.83E-08	2.09E-08	7.93E-05
582471.13_4129642.38	582471.13	4129642.38	3.21E-05	1.33E-08	7.97E-09	1.33E-08	2.62E-07	1.51E-09	5.64E-07	2.66E-08	1.96E-08	7.43E-05
582527.7_4129642.38	582527.7	4129642.38	3.02E-05	1.25E-08	7.48E-09	1.25E-08	2.46E-07	1.41E-09	5.29E-07	2.49E-08	1.84E-08	6.98E-05
582584.27_4129642.38	582584.27	4129642.38	2.82E-05	1.16E-08	6.95E-09	1.16E-08	2.28E-07	1.31E-09	4.91E-07	2.32E-08	1.71E-08	6.48E-05

Chronic Calculation, ΣC_{TAC}/REL

Total HI	Receptor Type
0.000562168	CT House
0.000373653	Res
2.07762E-05	Acute
3.65857E-05	Acute
0.001800882	Res
0.003651404	Res
0.001658802	Res
0.004421965	Res
0.000281308	Res
0.000871184	Res
0.00020017	Acute
8.66504E-05	Res
8.09003E-05	Res
7.56935E-05	Res
7.09977E-05	Res
6.69681E-05	Res
6.28916E-05	Res
5.85363E-05	Res
8.77832E-05	Res
8.70841E-05	Res
8.25917E-05	Res
7.74196E-05	Res
7.23692E-05	Res
6.7627E-05	Res
6.31346E-05	Res
5.93652E-05	Res
5.57526E-05	Res
7.69247E-05	Res
8.48689E-05	Res
8.39783E-05	Res
7.92652E-05	Res
7.43169E-05	Res
6.97592E-05	Res
6.47906E-05	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)									
	UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Copper	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
582188.28_4131068.85	582188.28	4131068.85	2.53E-05	1.19E-08	7.14E-09	1.19E-08	2.37E-07	1.34E-09	5.11E-07	2.38E-08	1.79E-08	6.72E-05
582244.85_4131068.85	582244.85	4131068.85	2.20E-05	1.02E-08	6.12E-09	1.02E-08	2.03E-07	1.15E-09	4.37E-07	2.04E-08	1.53E-08	5.76E-05
582301.42_4131068.85	582301.42	4131068.85	1.93E-05	8.90E-09	5.34E-09	8.90E-09	1.77E-07	1.00E-09	3.81E-07	1.78E-08	1.33E-08	5.02E-05
582357.99_4131068.85	582357.99	4131068.85	1.73E-05	7.86E-09	4.72E-09	7.86E-09	1.56E-07	8.87E-10	3.36E-07	1.57E-08	1.18E-08	4.43E-05
582414.56_4131068.85	582414.56	4131068.85	1.56E-05	7.04E-09	4.22E-09	7.04E-09	1.40E-07	7.95E-10	3.01E-07	1.41E-08	1.05E-08	3.97E-05
582471.13_4131068.85	582471.13	4131068.85	1.42E-05	6.37E-09	3.82E-09	6.37E-09	1.26E-07	7.19E-10	2.72E-07	1.27E-08	9.51E-09	3.58E-05
582527.7_4131068.85	582527.7	4131068.85	1.31E-05	5.81E-09	3.49E-09	5.81E-09	1.15E-07	6.56E-10	2.48E-07	1.16E-08	8.66E-09	3.27E-05
582584.27_4131068.85	582584.27	4131068.85	1.21E-05	5.33E-09	3.20E-09	5.33E-09	1.06E-07	6.02E-10	2.27E-07	1.07E-08	7.93E-09	3.00E-05
582640.84_4131068.85	582640.84	4131068.85	1.14E-05	4.98E-09	2.99E-09	4.98E-09	9.86E-08	5.63E-10	2.12E-07	9.95E-09	7.40E-09	2.80E-05
582697.41_4131068.85	582697.41	4131068.85	1.08E-05	4.66E-09	2.79E-09	4.66E-09	9.22E-08	5.27E-10	1.98E-07	9.31E-09	6.92E-09	2.62E-05
582753.98_4131068.85	582753.98	4131068.85	1.03E-05	4.40E-09	2.64E-09	4.40E-09	8.70E-08	4.98E-10	1.87E-07	8.80E-09	6.53E-09	2.47E-05
582810.55_4131068.85	582810.55	4131068.85	9.82E-06	4.17E-09	2.50E-09	4.17E-09	8.24E-08	4.72E-10	1.77E-07	8.34E-09	6.18E-09	2.34E-05
582867.12_4131068.85	582867.12	4131068.85	9.35E-06	3.93E-09	2.36E-09	3.93E-09	7.76E-08	4.45E-10	1.67E-07	7.86E-09	5.82E-09	2.20E-05
582018.57_4131152.76	582018.57	4131152.76	3.07E-05	1.45E-08	8.72E-09	1.45E-08	2.89E-07	1.64E-09	6.24E-07	2.91E-08	2.19E-08	8.21E-05
582244.85_4131152.76	582244.85	4131152.76	1.87E-05	8.51E-09	5.11E-09	8.51E-09	1.69E-07	9.60E-10	3.64E-07	1.70E-08	1.27E-08	4.80E-05
582301.42_4131152.76	582301.42	4131152.76	1.68E-05	7.61E-09	4.57E-09	7.61E-09	1.51E-07	8.59E-10	3.25E-07	1.52E-08	1.14E-08	4.29E-05
582357.99_4131152.76	582357.99	4131152.76	1.52E-05	6.82E-09	4.09E-09	6.82E-09	1.35E-07	7.70E-10	2.91E-07	1.36E-08	1.02E-08	3.84E-05
582414.56_4131152.76	582414.56	4131152.76	1.39E-05	6.16E-09	3.70E-09	6.16E-09	1.22E-07	6.96E-10	2.63E-07	1.23E-08	9.19E-09	3.47E-05
582471.13_4131152.76	582471.13	4131152.76	1.26E-05	5.55E-09	3.33E-09	5.55E-09	1.10E-07	6.27E-10	2.37E-07	1.11E-08	8.27E-09	3.12E-05
582527.7_4131152.76	582527.7	4131152.76	1.16E-05	5.07E-09	3.04E-09	5.07E-09	1.00E-07	5.73E-10	2.16E-07	1.01E-08	7.54E-09	2.85E-05
582584.27_4131152.76	582584.27	4131152.76	1.07E-05	4.65E-09	2.79E-09	4.65E-09	9.21E-08	5.26E-10	1.98E-07	9.31E-09	6.92E-09	2.61E-05
582640.84_4131152.76	582640.84	4131152.76	1.00E-05	4.32E-09	2.59E-09	4.32E-09	8.55E-08	4.89E-10	1.84E-07	8.64E-09	6.42E-09	2.43E-05
582697.41_4131152.76	582697.41	4131152.76	9.45E-06	4.04E-09	2.43E-09	4.04E-09	7.99E-08	4.58E-10	1.72E-07	8.08E-09	6.00E-09	2.27E-05
582753.98_4131152.76	582753.98	4131152.76	9.02E-06	3.84E-09	2.30E-09	3.84E-09	7.58E-08	4.34E-10	1.63E-07	7.67E-09	5.69E-09	2.15E-05
582810.55_4131152.76	582810.55	4131152.76	8.62E-06	3.64E-09	2.19E-09	3.64E-09	7.20E-08	4.13E-10	1.55E-07	7.29E-09	5.40E-09	2.04E-05
582867.12_4131152.76	582867.12	4131152.76	8.20E-06	3.44E-09	2.06E-09	3.44E-09	6.79E-08	3.90E-10	1.46E-07	6.88E-09	5.09E-09	1.93E-05

Chronic Calculation, ΣC_{TAC}/REL

Total HI	Receptor Type
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6.64944E-05	Res
5.70062E-05	Res
4.96959E-05	Res
4.39241E-05	Res
3.93493E-05	Res
3.55998E-05	Res
3.24757E-05	Res
2.97864E-05	Res
2.78264E-05	Res
2.60415E-05	Res
2.46033E-05	Res
2.33244E-05	Res
2.1982E-05	Res
8.11949E-05	Res
4.7574E-05	Res
4.25198E-05	Res
3.80974E-05	Res
3.44498E-05	Res
3.10276E-05	Res
2.83227E-05	Res
2.60166E-05	Res
2.41703E-05	Res
2.2606E-05	Res
2.14527E-05	Res
2.03815E-05	Res
1.9242E-05	Res

HRA Permanente Creek Restoration Project

Construction Year 2027

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(tons/year)	speciation	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2024_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2027	2027_CHAN_RCK	5.566E-05	3.53E-08	2.12E-08	3.53E-08	1.81E-07	3.95E-07	3.53E-08	5.65E-09	6.49E-07	7.06E-08	2.82E-09	1.05E-04
Paved road	2027_PAVED	1.614E-04	8.60E-08	5.16E-08	8.60E-08	5.50E-08	1.72E-06	1.58E-07	9.63E-09	3.71E-06	1.72E-07	1.31E-07	4.88E-04
Material Removal 2028	2028_MATRMVL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2028_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Unpaved road	2028_UNPAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Chronic REL

TAC	UOM	
DPM	µg/m ³	5
Arsenic	µg/m ³	0.015
Beryllium	µg/m ³	0.007
Cadmium	µg/m ³	0.02
Copper	µg/m ³	100
Mercury	µg/m ³	0.032
Nickel	µg/m ³	0.014
Selenium	µg/m ³	20
Chromium VI	µg/m ³	0.2
Crystalline Silica	µg/m ³	3

	Max
CT House	0.001
Res	0.008

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)									
			DPM	Arsenic	Beryllium	Cadmium	Copper	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
	UTM X	UTM Y	5	0.015	0.007	0.02	100	0.032	0.014	20	0.2	3
581336.22_4131207.48	581336.22	4131207.48	1.86E-04	9.94E-08	5.96E-08	9.94E-08	1.98E-06	1.12E-08	4.28E-06	1.99E-07	1.50E-07	5.62E-04
581554.22_4130688.06	581554.22	4130688.06	1.25E-04	6.68E-08	4.01E-08	6.68E-08	1.32E-06	7.55E-09	2.85E-06	1.34E-07	9.93E-08	3.75E-04
579793.36_4131503.29	579793.36	4131503.29	8.15E-06	4.54E-09	2.72E-09	4.54E-09	7.99E-08	5.67E-10	1.65E-07	9.07E-09	5.12E-09	2.24E-05
580488.37_4131517.71	580488.37	4131517.71	1.28E-05	6.94E-09	4.17E-09	6.94E-09	1.33E-07	8.12E-10	2.82E-07	1.39E-08	9.53E-09	3.75E-05
581678.43_4131040.03	581678.43	4131040.03	5.96E-04	3.17E-07	1.90E-07	3.17E-07	6.34E-06	3.56E-08	1.37E-05	6.35E-07	4.81E-07	1.80E-03
581635.43_4130978.54	581635.43	4130978.54	1.21E-03	6.43E-07	3.86E-07	6.43E-07	1.28E-05	7.20E-08	2.77E-05	1.29E-06	9.76E-07	3.65E-03
581830.06_4131027.55	581830.06	4131027.55	5.48E-04	2.92E-07	1.75E-07	2.92E-07	5.84E-06	3.28E-08	1.26E-05	5.85E-07	4.43E-07	1.66E-03
581727.48_4130976.54	581727.48	4130976.54	1.46E-03	7.78E-07	4.67E-07	7.78E-07	1.56E-05	8.72E-08	3.36E-05	1.56E-06	1.18E-06	4.42E-03
581789.11_4130419.65	581789.11	4130419.65	9.49E-05	5.09E-08	3.05E-08	5.09E-08	1.00E-06	5.79E-09	2.15E-06	1.02E-07	7.45E-08	2.84E-04
581700.32_4130781.89	581700.32	4130781.89	2.89E-04	1.54E-07	9.24E-08	1.54E-07	3.07E-06	1.73E-08	6.62E-06	3.08E-07	2.32E-07	8.72E-04
581426.07_4131299.01	581426.07	4131299.01	6.68E-05	3.57E-08	2.14E-08	3.57E-08	7.08E-07	4.03E-09	1.52E-06	7.13E-08	5.33E-08	2.01E-04
582301.42_4129474.56	582301.42	4129474.56	3.05E-05	1.65E-08	9.91E-09	1.65E-08	3.15E-07	1.94E-09	6.69E-07	3.30E-08	2.25E-08	8.90E-05
582357.99_4129474.56	582357.99	4129474.56	2.85E-05	1.54E-08	9.27E-09	1.54E-08	2.94E-07	1.81E-09	6.25E-07	3.09E-08	2.10E-08	8.31E-05
582414.56_4129474.56	582414.56	4129474.56	2.67E-05	1.45E-08	8.68E-09	1.45E-08	2.75E-07	1.70E-09	5.85E-07	2.89E-08	1.97E-08	7.78E-05
582471.13_4129474.56	582471.13	4129474.56	2.50E-05	1.36E-08	8.15E-09	1.36E-08	2.58E-07	1.59E-09	5.49E-07	2.72E-08	1.84E-08	7.30E-05
582527.7_4129474.56	582527.7	4129474.56	2.36E-05	1.28E-08	7.69E-09	1.28E-08	2.44E-07	1.51E-09	5.18E-07	2.56E-08	1.74E-08	6.89E-05
582584.27_4129474.56	582584.27	4129474.56	2.22E-05	1.21E-08	7.23E-09	1.21E-08	2.29E-07	1.42E-09	4.86E-07	2.41E-08	1.63E-08	6.47E-05
582640.84_4129474.56	582640.84	4129474.56	2.07E-05	1.12E-08	6.75E-09	1.12E-08	2.13E-07	1.32E-09	4.53E-07	2.25E-08	1.52E-08	6.03E-05
582244.85_4129558.47	582244.85	4129558.47	3.11E-05	1.69E-08	1.01E-08	1.69E-08	3.20E-07	1.99E-09	6.80E-07	3.38E-08	2.27E-08	9.05E-05
582301.42_4129558.47	582301.42	4129558.47	3.07E-05	1.67E-08	9.99E-09	1.67E-08	3.17E-07	1.96E-09	6.73E-07	3.33E-08	2.26E-08	8.95E-05
582357.99_4129558.47	582357.99	4129558.47	2.91E-05	1.58E-08	9.46E-09	1.58E-08	3.00E-07	1.85E-09	6.38E-07	3.15E-08	2.15E-08	8.48E-05
582414.56_4129558.47	582414.56	4129558.47	2.73E-05	1.48E-08	8.87E-09	1.48E-08	2.81E-07	1.74E-09	5.98E-07	2.96E-08	2.01E-08	7.96E-05
582471.13_4129558.47	582471.13	4129558.47	2.55E-05	1.38E-08	8.30E-09	1.38E-08	2.63E-07	1.62E-09	5.59E-07	2.77E-08	1.88E-08	7.44E-05
582527.7_4129558.47	582527.7	4129558.47	2.39E-05	1.29E-08	7.76E-09	1.29E-08	2.46E-07	1.52E-09	5.23E-07	2.59E-08	1.76E-08	6.95E-05
582584.27_4129558.47	582584.27	4129558.47	2.23E-05	1.21E-08	7.26E-09	1.21E-08	2.30E-07	1.42E-09	4.88E-07	2.42E-08	1.64E-08	6.49E-05
582640.84_4129558.47	582640.84	4129558.47	2.10E-05	1.14E-08	6.84E-09	1.14E-08	2.16E-07	1.34E-09	4.59E-07	2.28E-08	1.54E-08	6.11E-05
582697.41_4129558.47	582697.41	4129558.47	1.97E-05	1.07E-08	6.43E-09	1.07E-08	2.03E-07	1.26E-09	4.31E-07	2.14E-08	1.45E-08	5.74E-05
582244.85_4129642.38	582244.85	4129642.38	2.77E-05	1.51E-08	9.05E-09	1.51E-08	2.83E-07	1.79E-09	5.98E-07	3.02E-08	1.98E-08	7.98E-05
582301.42_4129642.38	582301.42	4129642.38	3.01E-05	1.63E-08	9.79E-09	1.63E-08	3.09E-07	1.92E-09	6.57E-07	3.26E-08	2.20E-08	8.74E-05
582357.99_4129642.38	582357.99	4129642.38	2.96E-05	1.60E-08	9.62E-09	1.60E-08	3.05E-07	1.88E-09	6.49E-07	3.21E-08	2.18E-08	8.63E-05
582414.56_4129642.38	582414.56	4129642.38	2.79E-05	1.51E-08	9.07E-09	1.51E-08	2.88E-07	1.77E-09	6.12E-07	3.02E-08	2.06E-08	8.14E-05
582471.13_4129642.38	582471.13	4129642.38	2.61E-05	1.42E-08	8.50E-09	1.42E-08	2.70E-07	1.66E-09	5.74E-07	2.83E-08	1.93E-08	7.63E-05
582527.7_4129642.38	582527.7	4129642.38	2.46E-05	1.33E-08	7.99E-09	1.33E-08	2.53E-07	1.56E-09	5.39E-07	2.66E-08	1.81E-08	7.17E-05
582584.27_4129642.38	582584.27	4129642.38	2.28E-05	1.24E-08	7.43E-09	1.24E-08	2.36E-07	1.45E-09	5.01E-07	2.48E-08	1.68E-08	6.66E-05

Chronic Calculation, ΣC_{TAC}/REL

Total HI	Receptor Type
0.00055138	CT House
0.000367763	Res
2.18837E-05	Acute
3.67147E-05	Acute
0.001764469	Res
0.003576516	Res
0.001625216	Res
0.004330893	Res
0.000277885	Res
0.000854354	Res
0.00019682	Acute
8.70881E-05	Res
8.13394E-05	Res
7.61347E-05	Res
7.1436E-05	Res
6.74019E-05	Res
6.33198E-05	Res
5.89722E-05	Res
8.85352E-05	Res
8.76145E-05	Res
8.30411E-05	Res
7.78593E-05	Res
7.27846E-05	Res
6.80462E-05	Res
6.35603E-05	Res
5.97936E-05	Res
5.61842E-05	Res
7.80518E-05	Res
8.55367E-05	Res
8.4424E-05	Res
7.96606E-05	Res
7.4697E-05	Res
7.01344E-05	Res
6.5177E-05	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)									
	UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Copper	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
582188.28_4131068.85	582188.28	4131068.85	2.26E-05	1.21E-08	7.27E-09	1.21E-08	2.37E-07	1.38E-09	5.09E-07	2.42E-08	1.76E-08	6.72E-05
582244.85_4131068.85	582244.85	4131068.85	1.94E-05	1.04E-08	6.25E-09	1.04E-08	2.04E-07	1.19E-09	4.36E-07	2.08E-08	1.50E-08	5.77E-05
582301.42_4131068.85	582301.42	4131068.85	1.70E-05	9.12E-09	5.47E-09	9.12E-09	1.78E-07	1.05E-09	3.81E-07	1.82E-08	1.31E-08	5.04E-05
582357.99_4131068.85	582357.99	4131068.85	1.50E-05	8.09E-09	4.85E-09	8.09E-09	1.57E-07	9.30E-10	3.37E-07	1.62E-08	1.16E-08	4.46E-05
582414.56_4131068.85	582414.56	4131068.85	1.35E-05	7.27E-09	4.36E-09	7.27E-09	1.41E-07	8.38E-10	3.02E-07	1.45E-08	1.03E-08	4.00E-05
582471.13_4131068.85	582471.13	4131068.85	1.22E-05	6.60E-09	3.96E-09	6.60E-09	1.28E-07	7.61E-10	2.73E-07	1.32E-08	9.35E-09	3.62E-05
582527.7_4131068.85	582527.7	4131068.85	1.12E-05	6.04E-09	3.62E-09	6.04E-09	1.17E-07	6.98E-10	2.50E-07	1.21E-08	8.52E-09	3.31E-05
582584.27_4131068.85	582584.27	4131068.85	1.03E-05	5.56E-09	3.33E-09	5.56E-09	1.07E-07	6.43E-10	2.29E-07	1.11E-08	7.81E-09	3.04E-05
582640.84_4131068.85	582640.84	4131068.85	9.64E-06	5.20E-09	3.12E-09	5.20E-09	1.00E-07	6.04E-10	2.14E-07	1.04E-08	7.29E-09	2.84E-05
582697.41_4131068.85	582697.41	4131068.85	9.04E-06	4.89E-09	2.93E-09	4.89E-09	9.40E-08	5.68E-10	2.00E-07	9.77E-09	6.81E-09	2.66E-05
582753.98_4131068.85	582753.98	4131068.85	8.57E-06	4.63E-09	2.78E-09	4.63E-09	8.89E-08	5.39E-10	1.90E-07	9.26E-09	6.43E-09	2.51E-05
582810.55_4131068.85	582810.55	4131068.85	8.14E-06	4.40E-09	2.64E-09	4.40E-09	8.44E-08	5.14E-10	1.80E-07	8.81E-09	6.09E-09	2.39E-05
582867.12_4131068.85	582867.12	4131068.85	7.70E-06	4.17E-09	2.50E-09	4.17E-09	7.96E-08	4.87E-10	1.70E-07	8.33E-09	5.73E-09	2.25E-05
582018.57_4131152.76	582018.57	4131152.76	2.75E-05	1.47E-08	8.85E-09	1.47E-08	2.89E-07	1.68E-09	6.21E-07	2.95E-08	2.15E-08	8.20E-05
582244.85_4131152.76	582244.85	4131152.76	1.63E-05	8.76E-09	5.25E-09	8.76E-09	1.70E-07	1.01E-09	3.65E-07	1.75E-08	1.25E-08	4.83E-05
582301.42_4131152.76	582301.42	4131152.76	1.46E-05	7.85E-09	4.71E-09	7.85E-09	1.52E-07	9.05E-10	3.26E-07	1.57E-08	1.12E-08	4.32E-05
582357.99_4131152.76	582357.99	4131152.76	1.31E-05	7.06E-09	4.23E-09	7.06E-09	1.37E-07	8.14E-10	2.93E-07	1.41E-08	1.00E-08	3.87E-05
582414.56_4131152.76	582414.56	4131152.76	1.19E-05	6.40E-09	3.84E-09	6.40E-09	1.24E-07	7.40E-10	2.65E-07	1.28E-08	9.04E-09	3.51E-05
582471.13_4131152.76	582471.13	4131152.76	1.07E-05	5.78E-09	3.47E-09	5.78E-09	1.12E-07	6.70E-10	2.39E-07	1.16E-08	8.13E-09	3.16E-05
582527.7_4131152.76	582527.7	4131152.76	9.81E-06	5.29E-09	3.18E-09	5.29E-09	1.02E-07	6.14E-10	2.18E-07	1.06E-08	7.42E-09	2.89E-05
582584.27_4131152.76	582584.27	4131152.76	9.03E-06	4.88E-09	2.93E-09	4.88E-09	9.38E-08	5.66E-10	2.00E-07	9.75E-09	6.81E-09	2.66E-05
582640.84_4131152.76	582640.84	4131152.76	8.40E-06	4.54E-09	2.73E-09	4.54E-09	8.73E-08	5.28E-10	1.86E-07	9.08E-09	6.32E-09	2.47E-05
582697.41_4131152.76	582697.41	4131152.76	7.88E-06	4.26E-09	2.55E-09	4.26E-09	8.17E-08	4.96E-10	1.74E-07	8.52E-09	5.90E-09	2.31E-05
582753.98_4131152.76	582753.98	4131152.76	7.49E-06	4.05E-09	2.43E-09	4.05E-09	7.76E-08	4.72E-10	1.65E-07	8.10E-09	5.60E-09	2.20E-05
582810.55_4131152.76	582810.55	4131152.76	7.13E-06	3.86E-09	2.31E-09	3.86E-09	7.38E-08	4.50E-10	1.57E-07	7.71E-09	5.32E-09	2.09E-05
582867.12_4131152.76	582867.12	4131152.76	6.74E-06	3.65E-09	2.19E-09	3.65E-09	6.97E-08	4.27E-10	1.48E-07	7.30E-09	5.01E-09	1.97E-05

Chronic Calculation, ΣC_{TAC}/REL

Total HI	Receptor Type
6.58378E-05	Res
5.65143E-05	Res
4.93251E-05	Res
4.36449E-05	Res
3.91399E-05	Res
3.5446E-05	Res
3.23681E-05	Res
2.97194E-05	Res
2.77892E-05	Res
2.60335E-05	Res
2.46209E-05	Res
2.33665E-05	Res
2.20498E-05	Res
8.03149E-05	Res
4.72664E-05	Res
4.2288E-05	Res
3.79291E-05	Res
3.43306E-05	Res
3.09533E-05	Res
2.82808E-05	Res
2.60012E-05	Res
2.41757E-05	Res
2.2629E-05	Res
2.14887E-05	Res
2.04319E-05	Res
1.93081E-05	Res

HRA Permanente Creek Restoration Project

Construction Year

2028

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(tons/year)	speciation	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2024_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material Removal 2028	2028_MATRMVL	3.324E-05	9.075E-09	5.445E-09	9.075E-09	4.647E-08	1.016E-07	9.075E-09	1.452E-09	1.670E-07	1.815E-08	7.260E-10	2.696E-05
Paved road	2028_PAVED	1.603E-04	8.608E-08	5.165E-08	8.608E-08	5.509E-08	1.722E-06	1.584E-07	9.641E-09	3.719E-06	1.722E-07	1.308E-07	4.889E-04
Unpaved road	2028_UNPAVED	9.795E-05	4.259E-07	2.555E-07	4.259E-07	2.726E-07	8.517E-06	7.836E-07	4.770E-08	1.840E-05	8.517E-07	6.473E-07	2.419E-03
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Chronic REL

TAC	UOM	
DPM	µg/m ³	5
Arsenic	µg/m ³	0.015
Beryllium	µg/m ³	0.007
Cadmium	µg/m ³	0.02
Copper	µg/m ³	100
Mercury	µg/m ³	0.032
Nickel	µg/m ³	0.014
Selenium	µg/m ³	20
Chromium VI	µg/m ³	0.2
Crystalline Silica	µg/m ³	3

	Max
CT House	0.001
Res	0.008

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)									
			DPM	Arsenic	Beryllium	Cadmium	Copper	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
	UTM X	UTM Y	5	0.015	0.007	0.02	100	0.032	0.014	20	0.2	3
581336.22_4131207.48	581336.22	4131207.48	1.87E-04	1.10E-07	6.58E-08	1.10E-07	2.19E-06	1.23E-08	4.73E-06	2.19E-07	1.66E-07	6.22E-04
581554.22_4130688.06	581554.22	4130688.06	1.25E-04	7.92E-08	4.75E-08	7.92E-08	1.58E-06	8.87E-09	3.42E-06	1.58E-07	1.20E-07	4.49E-04
579793.36_4131503.29	579793.36	4131503.29	1.11E-05	2.14E-08	1.29E-08	2.14E-08	4.26E-07	2.41E-09	9.20E-07	4.28E-08	3.22E-08	1.21E-04
580488.37_4131517.71	580488.37	4131517.71	1.46E-05	1.75E-08	1.05E-08	1.75E-08	3.49E-07	1.97E-09	7.53E-07	3.50E-08	2.64E-08	9.90E-05
581678.43_4131040.03	581678.43	4131040.03	5.93E-04	3.26E-07	1.96E-07	3.26E-07	6.52E-06	3.65E-08	1.41E-05	6.52E-07	4.96E-07	1.85E-03
581635.43_4130978.54	581635.43	4130978.54	1.20E-03	6.53E-07	3.92E-07	6.53E-07	1.30E-05	7.31E-08	2.82E-05	1.31E-06	9.92E-07	3.71E-03
581830.06_4131027.55	581830.06	4131027.55	5.46E-04	3.00E-07	1.80E-07	3.00E-07	6.01E-06	3.36E-08	1.30E-05	6.01E-07	4.56E-07	1.71E-03
581727.48_4130976.54	581727.48	4130976.54	1.45E-03	7.88E-07	4.73E-07	7.88E-07	1.58E-05	8.82E-08	3.40E-05	1.58E-06	1.20E-06	4.47E-03
581789.11_4130419.65	581789.11	4130419.65	9.48E-05	6.23E-08	3.74E-08	6.23E-08	1.24E-06	6.99E-09	2.69E-06	1.25E-07	9.45E-08	3.53E-04
581700.32_4130781.89	581700.32	4130781.89	2.88E-04	1.64E-07	9.85E-08	1.64E-07	3.28E-06	1.84E-08	7.09E-06	3.28E-07	2.49E-07	9.32E-04
581426.07_4131299.01	581426.07	4131299.01	6.79E-05	4.44E-08	2.67E-08	4.44E-08	8.88E-07	4.98E-09	1.92E-06	8.89E-08	6.74E-08	2.52E-04
582301.42_4129474.56	582301.42	4129474.56	3.02E-05	2.48E-08	1.49E-08	2.48E-08	4.95E-07	2.78E-09	1.07E-06	4.96E-08	3.75E-08	1.40E-04
582357.99_4129474.56	582357.99	4129474.56	2.83E-05	2.34E-08	1.40E-08	2.34E-08	4.66E-07	2.62E-09	1.01E-06	4.67E-08	3.53E-08	1.32E-04
582414.56_4129474.56	582414.56	4129474.56	2.65E-05	2.21E-08	1.32E-08	2.21E-08	4.40E-07	2.48E-09	9.50E-07	4.41E-08	3.34E-08	1.25E-04
582471.13_4129474.56	582471.13	4129474.56	2.49E-05	2.09E-08	1.25E-08	2.09E-08	4.17E-07	2.34E-09	8.99E-07	4.18E-08	3.16E-08	1.18E-04
582527.7_4129474.56	582527.7	4129474.56	2.35E-05	1.99E-08	1.19E-08	1.99E-08	3.96E-07	2.23E-09	8.55E-07	3.97E-08	3.00E-08	1.12E-04
582584.27_4129474.56	582584.27	4129474.56	2.22E-05	1.88E-08	1.13E-08	1.88E-08	3.76E-07	2.11E-09	8.10E-07	3.77E-08	2.85E-08	1.07E-04
582640.84_4129474.56	582640.84	4129474.56	2.07E-05	1.78E-08	1.07E-08	1.78E-08	3.55E-07	2.00E-09	7.65E-07	3.56E-08	2.69E-08	1.01E-04
582244.85_4129558.47	582244.85	4129558.47	3.05E-05	2.52E-08	1.51E-08	2.52E-08	5.02E-07	2.82E-09	1.08E-06	5.03E-08	3.80E-08	1.43E-04
582301.42_4129558.47	582301.42	4129558.47	3.03E-05	2.46E-08	1.48E-08	2.46E-08	4.91E-07	2.76E-09	1.06E-06	4.92E-08	3.72E-08	1.39E-04
582357.99_4129558.47	582357.99	4129558.47	2.88E-05	2.34E-08	1.40E-08	2.34E-08	4.67E-07	2.63E-09	1.01E-06	4.68E-08	3.54E-08	1.33E-04
582414.56_4129558.47	582414.56	4129558.47	2.70E-05	2.22E-08	1.33E-08	2.22E-08	4.42E-07	2.49E-09	9.54E-07	4.43E-08	3.35E-08	1.26E-04
582471.13_4129558.47	582471.13	4129558.47	2.53E-05	2.09E-08	1.26E-08	2.09E-08	4.17E-07	2.35E-09	9.01E-07	4.19E-08	3.16E-08	1.19E-04
582527.7_4129558.47	582527.7	4129558.47	2.37E-05	1.98E-08	1.19E-08	1.98E-08	3.95E-07	2.22E-09	8.53E-07	3.96E-08	2.99E-08	1.12E-04
582584.27_4129558.47	582584.27	4129558.47	2.22E-05	1.88E-08	1.13E-08	1.88E-08	3.74E-07	2.11E-09	8.07E-07	3.75E-08	2.83E-08	1.06E-04
582640.84_4129558.47	582640.84	4129558.47	2.09E-05	1.79E-08	1.07E-08	1.79E-08	3.56E-07	2.01E-09	7.69E-07	3.57E-08	2.70E-08	1.01E-04
582697.41_4129558.47	582697.41	4129558.47	1.97E-05	1.70E-08	1.02E-08	1.70E-08	3.39E-07	1.91E-09	7.32E-07	3.40E-08	2.57E-08	9.63E-05
582244.85_4129642.38	582244.85	4129642.38	2.69E-05	2.31E-08	1.39E-08	2.31E-08	4.61E-07	2.59E-09	9.94E-07	4.62E-08	3.49E-08	1.31E-04
582301.42_4129642.38	582301.42	4129642.38	2.95E-05	2.41E-08	1.45E-08	2.41E-08	4.81E-07	2.70E-09	1.04E-06	4.82E-08	3.64E-08	1.36E-04
582357.99_4129642.38	582357.99	4129642.38	2.92E-05	2.36E-08	1.41E-08	2.36E-08	4.70E-07	2.64E-09	1.01E-06	4.71E-08	3.56E-08	1.33E-04
582414.56_4129642.38	582414.56	4129642.38	2.76E-05	2.24E-08	1.34E-08	2.24E-08	4.47E-07	2.52E-09	9.65E-07	4.48E-08	3.39E-08	1.27E-04
582471.13_4129642.38	582471.13	4129642.38	2.60E-05	2.13E-08	1.28E-08	2.13E-08	4.24E-07	2.39E-09	9.15E-07	4.25E-08	3.21E-08	1.20E-04
582527.7_4129642.38	582527.7	4129642.38	2.44E-05	2.02E-08	1.21E-08	2.02E-08	4.03E-07	2.27E-09	8.70E-07	4.04E-08	3.05E-08	1.14E-04
582584.27_4129642.38	582584.27	4129642.38	2.28E-05	1.91E-08	1.15E-08	1.91E-08	3.81E-07	2.14E-09	8.22E-07	3.82E-08	2.88E-08	1.08E-04

Chronic Calculation, ΣC_{TAC}/REL

Total HI	Receptor Type
0.000606251	CT House
0.000435769	Res
0.000112855	Acute
9.34226E-05	Acute
0.00181177	Res
0.00362792	Res
0.001668443	Res
0.004379859	Res
0.000342076	Res
0.000909344	Res
0.000243978	Acute
0.000134382	Res
0.00012659	Res
0.000119517	Res
0.000113072	Res
0.000107487	Res
0.000101881	Res
9.61485E-05	Res
0.000136381	Res
0.000133416	Res
0.000126948	Res
0.000120123	Res
0.000113409	Res
0.00010729	Res
0.000101517	Res
9.66179E-05	Res
9.19568E-05	Res
0.000124939	Res
0.000130602	Res
0.000127811	Res
0.00012154	Res
0.000115225	Res
0.000109448	Res
0.000103349	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)									
	UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Copper	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
582188.28_4131068.85	582188.28	4131068.85	2.34E-05	1.83E-08	1.10E-08	1.83E-08	3.66E-07	2.06E-09	7.89E-07	3.66E-08	2.77E-08	1.04E-04
582244.85_4131068.85	582244.85	4131068.85	2.02E-05	1.64E-08	9.86E-09	1.64E-08	3.28E-07	1.84E-09	7.08E-07	3.29E-08	2.48E-08	9.31E-05
582301.42_4131068.85	582301.42	4131068.85	1.78E-05	1.49E-08	8.96E-09	1.49E-08	2.98E-07	1.68E-09	6.43E-07	2.99E-08	2.26E-08	8.46E-05
582357.99_4131068.85	582357.99	4131068.85	1.58E-05	1.37E-08	8.23E-09	1.37E-08	2.74E-07	1.54E-09	5.91E-07	2.74E-08	2.07E-08	7.77E-05
582414.56_4131068.85	582414.56	4131068.85	1.43E-05	1.27E-08	7.64E-09	1.27E-08	2.54E-07	1.43E-09	5.48E-07	2.55E-08	1.92E-08	7.21E-05
582471.13_4131068.85	582471.13	4131068.85	1.30E-05	1.19E-08	7.13E-09	1.19E-08	2.37E-07	1.34E-09	5.12E-07	2.38E-08	1.80E-08	6.73E-05
582527.7_4131068.85	582527.7	4131068.85	1.20E-05	1.12E-08	6.70E-09	1.12E-08	2.23E-07	1.25E-09	4.81E-07	2.23E-08	1.69E-08	6.32E-05
582584.27_4131068.85	582584.27	4131068.85	1.10E-05	1.05E-08	6.32E-09	1.05E-08	2.10E-07	1.18E-09	4.53E-07	2.11E-08	1.59E-08	5.96E-05
582640.84_4131068.85	582640.84	4131068.85	1.04E-05	1.00E-08	6.02E-09	1.00E-08	2.00E-07	1.13E-09	4.31E-07	2.01E-08	1.51E-08	5.68E-05
582697.41_4131068.85	582697.41	4131068.85	9.73E-06	9.56E-09	5.74E-09	9.56E-09	1.91E-07	1.07E-09	4.11E-07	1.91E-08	1.44E-08	5.41E-05
582753.98_4131068.85	582753.98	4131068.85	9.23E-06	9.17E-09	5.50E-09	9.17E-09	1.83E-07	1.03E-09	3.94E-07	1.83E-08	1.38E-08	5.19E-05
582810.55_4131068.85	582810.55	4131068.85	8.77E-06	8.81E-09	5.29E-09	8.81E-09	1.76E-07	9.90E-10	3.79E-07	1.76E-08	1.33E-08	4.99E-05
582867.12_4131068.85	582867.12	4131068.85	8.30E-06	8.44E-09	5.07E-09	8.44E-09	1.68E-07	9.49E-10	3.63E-07	1.69E-08	1.27E-08	4.78E-05
582018.57_4131152.76	582018.57	4131152.76	2.83E-05	2.15E-08	1.29E-08	2.15E-08	4.29E-07	2.41E-09	9.25E-07	4.30E-08	3.25E-08	1.22E-04
582244.85_4131152.76	582244.85	4131152.76	1.71E-05	1.47E-08	8.83E-09	1.47E-08	2.94E-07	1.65E-09	6.34E-07	2.94E-08	2.22E-08	8.33E-05
582301.42_4131152.76	582301.42	4131152.76	1.54E-05	1.36E-08	8.18E-09	1.36E-08	2.72E-07	1.53E-09	5.87E-07	2.73E-08	2.06E-08	7.72E-05
582357.99_4131152.76	582357.99	4131152.76	1.39E-05	1.27E-08	7.60E-09	1.27E-08	2.53E-07	1.42E-09	5.45E-07	2.53E-08	1.91E-08	7.17E-05
582414.56_4131152.76	582414.56	4131152.76	1.27E-05	1.18E-08	7.11E-09	1.18E-08	2.36E-07	1.33E-09	5.10E-07	2.37E-08	1.79E-08	6.70E-05
582471.13_4131152.76	582471.13	4131152.76	1.15E-05	1.11E-08	6.64E-09	1.11E-08	2.21E-07	1.24E-09	4.76E-07	2.21E-08	1.67E-08	6.26E-05
582527.7_4131152.76	582527.7	4131152.76	1.06E-05	1.04E-08	6.25E-09	1.04E-08	2.08E-07	1.17E-09	4.48E-07	2.08E-08	1.57E-08	5.89E-05
582584.27_4131152.76	582584.27	4131152.76	9.80E-06	9.84E-09	5.90E-09	9.84E-09	1.96E-07	1.11E-09	4.23E-07	1.97E-08	1.49E-08	5.57E-05
582640.84_4131152.76	582640.84	4131152.76	9.16E-06	9.36E-09	5.62E-09	9.36E-09	1.87E-07	1.05E-09	4.03E-07	1.87E-08	1.41E-08	5.30E-05
582697.41_4131152.76	582697.41	4131152.76	8.61E-06	8.93E-09	5.36E-09	8.93E-09	1.78E-07	1.00E-09	3.84E-07	1.79E-08	1.35E-08	5.05E-05
582753.98_4131152.76	582753.98	4131152.76	8.20E-06	8.59E-09	5.15E-09	8.59E-09	1.71E-07	9.65E-10	3.69E-07	1.72E-08	1.30E-08	4.86E-05
582810.55_4131152.76	582810.55	4131152.76	7.82E-06	8.27E-09	4.96E-09	8.27E-09	1.65E-07	9.29E-10	3.55E-07	1.65E-08	1.25E-08	4.68E-05
582867.12_4131152.76	582867.12	4131152.76	7.41E-06	7.93E-09	4.76E-09	7.93E-09	1.58E-07	8.91E-10	3.41E-07	1.59E-08	1.20E-08	4.49E-05

Chronic Calculation, ΣC_{TAC}/REL

Total HI	Receptor Type
9.95432E-05	Res
8.91214E-05	Res
8.08985E-05	Res
7.42024E-05	Res
6.87647E-05	Res
6.4132E-05	Res
6.01746E-05	Res
5.66837E-05	Res
5.3947E-05	Res
5.14003E-05	Res
4.92784E-05	Res
4.73324E-05	Res
4.53238E-05	Res
0.000116922	Res
7.9604E-05	Res
7.36335E-05	Res
6.83262E-05	Res
6.38206E-05	Res
5.95354E-05	Res
5.59945E-05	Res
5.28642E-05	Res
5.02467E-05	Res
4.79248E-05	Res
4.60457E-05	Res
4.43101E-05	Res
4.24852E-05	Res

HRA Permanente Creek Restoration Project

Construction Year 2029

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(tons/year)	speciation	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2024_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material Removal 2028	2028_MATRMVL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Paved road	2028_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Unpaved road	2028_UNPAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Material Removal 2029	2029_MATRMVL	3.324E-05	9.08E-09	5.45E-09	9.08E-09	4.65E-08	1.02E-07	9.08E-09	1.45E-09	1.67E-07	1.82E-08	7.26E-10	2.70E-05
Paved road	2029_PAVED	1.598E-04	8.67E-08	5.20E-08	8.67E-08	5.55E-08	1.73E-06	1.60E-07	9.71E-09	3.75E-06	1.73E-07	1.32E-07	4.93E-04
Unpaved road	2029_UNPAVED	9.761E-05	4.29E-07	2.57E-07	4.29E-07	2.75E-07	8.58E-06	7.89E-07	4.81E-08	1.85E-05	8.58E-07	6.52E-07	2.44E-03

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Chronic REL

TAC	UOM	
DPM	µg/m ³	5
Arsenic	µg/m ³	0.015
Beryllium	µg/m ³	0.007
Cadmium	µg/m ³	0.02
Copper	µg/m ³	100
Mercury	µg/m ³	0.032
Nickel	µg/m ³	0.014
Selenium	µg/m ³	20
Chromium VI	µg/m ³	0.2
Crystalline Silica	µg/m ³	3

	Max
CT House	0.001
Res	0.008

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)									
			DPM	Arsenic	Beryllium	Cadmium	Copper	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
	UTM X	UTM Y	5	0.015	0.007	0.02	100	0.032	0.014	20	0.2	3
581336.22_4131207.48	581336.22	4131207.48	1.86E-04	1.10E-07	6.63E-08	1.10E-07	2.21E-06	1.24E-08	4.77E-06	2.21E-07	1.68E-07	6.27E-04
581554.22_4130688.06	581554.22	4130688.06	1.25E-04	7.98E-08	4.79E-08	7.98E-08	1.59E-06	8.94E-09	3.44E-06	1.60E-07	1.21E-07	4.53E-04
579793.36_4131503.29	579793.36	4131503.29	1.11E-05	2.16E-08	1.29E-08	2.16E-08	4.30E-07	2.43E-09	9.27E-07	4.32E-08	3.25E-08	1.22E-04
580488.37_4131517.71	580488.37	4131517.71	1.46E-05	1.76E-08	1.06E-08	1.76E-08	3.51E-07	1.98E-09	7.58E-07	3.52E-08	2.66E-08	9.97E-05
581678.43_4131040.03	581678.43	4131040.03	5.91E-04	3.29E-07	1.97E-07	3.29E-07	6.57E-06	3.68E-08	1.42E-05	6.57E-07	4.99E-07	1.87E-03
581635.43_4130978.54	581635.43	4130978.54	1.20E-03	6.57E-07	3.94E-07	6.57E-07	1.31E-05	7.36E-08	2.84E-05	1.31E-06	9.99E-07	3.73E-03
581830.06_4131027.55	581830.06	4131027.55	5.44E-04	3.03E-07	1.82E-07	3.03E-07	6.05E-06	3.39E-08	1.31E-05	6.05E-07	4.60E-07	1.72E-03
581727.48_4130976.54	581727.48	4130976.54	1.45E-03	7.94E-07	4.76E-07	7.94E-07	1.59E-05	8.89E-08	3.43E-05	1.59E-06	1.21E-06	4.51E-03
581789.11_4130419.65	581789.11	4130419.65	9.45E-05	6.28E-08	3.77E-08	6.28E-08	1.25E-06	7.04E-09	2.71E-06	1.26E-07	9.52E-08	3.56E-04
581700.32_4130781.89	581700.32	4130781.89	2.87E-04	1.65E-07	9.92E-08	1.65E-07	3.31E-06	1.85E-08	7.14E-06	3.31E-07	2.51E-07	9.39E-04
581426.07_4131299.01	581426.07	4131299.01	6.77E-05	4.48E-08	2.69E-08	4.48E-08	8.94E-07	5.02E-09	1.93E-06	8.95E-08	6.79E-08	2.54E-04
582301.42_4129474.56	582301.42	4129474.56	3.01E-05	2.50E-08	1.50E-08	2.50E-08	4.98E-07	2.80E-09	1.08E-06	4.99E-08	3.78E-08	1.41E-04
582357.99_4129474.56	582357.99	4129474.56	2.82E-05	2.35E-08	1.41E-08	2.35E-08	4.69E-07	2.64E-09	1.01E-06	4.71E-08	3.56E-08	1.33E-04
582414.56_4129474.56	582414.56	4129474.56	2.64E-05	2.22E-08	1.33E-08	2.22E-08	4.43E-07	2.49E-09	9.57E-07	4.44E-08	3.36E-08	1.26E-04
582471.13_4129474.56	582471.13	4129474.56	2.48E-05	2.10E-08	1.26E-08	2.10E-08	4.20E-07	2.36E-09	9.06E-07	4.21E-08	3.18E-08	1.19E-04
582527.7_4129474.56	582527.7	4129474.56	2.35E-05	2.00E-08	1.20E-08	2.00E-08	3.99E-07	2.25E-09	8.61E-07	4.00E-08	3.02E-08	1.13E-04
582584.27_4129474.56	582584.27	4129474.56	2.21E-05	1.90E-08	1.14E-08	1.90E-08	3.78E-07	2.13E-09	8.17E-07	3.79E-08	2.87E-08	1.07E-04
582640.84_4129474.56	582640.84	4129474.56	2.06E-05	1.79E-08	1.07E-08	1.79E-08	3.57E-07	2.01E-09	7.71E-07	3.58E-08	2.71E-08	1.01E-04
582244.85_4129558.47	582244.85	4129558.47	3.04E-05	2.53E-08	1.52E-08	2.53E-08	5.06E-07	2.85E-09	1.09E-06	5.07E-08	3.83E-08	1.44E-04
582301.42_4129558.47	582301.42	4129558.47	3.02E-05	2.48E-08	1.49E-08	2.48E-08	4.94E-07	2.78E-09	1.07E-06	4.96E-08	3.75E-08	1.40E-04
582357.99_4129558.47	582357.99	4129558.47	2.87E-05	2.36E-08	1.41E-08	2.36E-08	4.70E-07	2.65E-09	1.02E-06	4.72E-08	3.57E-08	1.34E-04
582414.56_4129558.47	582414.56	4129558.47	2.69E-05	2.23E-08	1.34E-08	2.23E-08	4.45E-07	2.51E-09	9.61E-07	4.46E-08	3.38E-08	1.26E-04
582471.13_4129558.47	582471.13	4129558.47	2.52E-05	2.11E-08	1.27E-08	2.11E-08	4.21E-07	2.37E-09	9.08E-07	4.22E-08	3.19E-08	1.19E-04
582527.7_4129558.47	582527.7	4129558.47	2.36E-05	2.00E-08	1.20E-08	2.00E-08	3.98E-07	2.24E-09	8.59E-07	3.99E-08	3.02E-08	1.13E-04
582584.27_4129558.47	582584.27	4129558.47	2.21E-05	1.89E-08	1.13E-08	1.89E-08	3.77E-07	2.12E-09	8.13E-07	3.78E-08	2.86E-08	1.07E-04
582640.84_4129558.47	582640.84	4129558.47	2.09E-05	1.80E-08	1.08E-08	1.80E-08	3.59E-07	2.02E-09	7.74E-07	3.60E-08	2.72E-08	1.02E-04
582697.41_4129558.47	582697.41	4129558.47	1.97E-05	1.71E-08	1.03E-08	1.71E-08	3.42E-07	1.92E-09	7.37E-07	3.43E-08	2.59E-08	9.70E-05
582244.85_4129642.38	582244.85	4129642.38	2.68E-05	2.33E-08	1.40E-08	2.33E-08	4.64E-07	2.61E-09	1.00E-06	4.65E-08	3.52E-08	1.32E-04
582301.42_4129642.38	582301.42	4129642.38	2.94E-05	2.43E-08	1.46E-08	2.43E-08	4.84E-07	2.72E-09	1.04E-06	4.85E-08	3.67E-08	1.37E-04
582357.99_4129642.38	582357.99	4129642.38	2.91E-05	2.37E-08	1.42E-08	2.37E-08	4.74E-07	2.66E-09	1.02E-06	4.75E-08	3.59E-08	1.34E-04
582414.56_4129642.38	582414.56	4129642.38	2.75E-05	2.26E-08	1.35E-08	2.26E-08	4.50E-07	2.53E-09	9.72E-07	4.51E-08	3.41E-08	1.28E-04
582471.13_4129642.38	582471.13	4129642.38	2.59E-05	2.14E-08	1.28E-08	2.14E-08	4.27E-07	2.40E-09	9.22E-07	4.28E-08	3.24E-08	1.21E-04
582527.7_4129642.38	582527.7	4129642.38	2.44E-05	2.03E-08	1.22E-08	2.03E-08	4.06E-07	2.28E-09	8.76E-07	4.07E-08	3.08E-08	1.15E-04
582584.27_4129642.38	582584.27	4129642.38	2.27E-05	1.92E-08	1.15E-08	1.92E-08	3.84E-07	2.16E-09	8.28E-07	3.85E-08	2.91E-08	1.09E-04

Chronic Calculation, ΣC_{TAC}/REL

Total HI	Receptor Type
0.0006104	CT House
0.00043877	Res
0.000113676	Acute
9.40912E-05	Acute
0.001824101	Res
0.003652585	Res
0.001679798	Res
0.004409628	Res
0.000344439	Res
0.000915552	Res
0.000245663	Acute
0.000135325	Res
0.000127479	Res
0.000120356	Res
0.000113866	Res
0.000108242	Res
0.000102597	Res
9.68246E-05	Res
0.000137338	Res
0.000134351	Res
0.000127838	Res
0.000120965	Res
0.000114205	Res
0.000108043	Res
0.00010223	Res
9.7297E-05	Res
9.26035E-05	Res
0.000125818	Res
0.000131518	Res
0.000128707	Res
0.000122392	Res
0.000116033	Res
0.000110216	Res
0.000104075	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)									
	UTM X	UTM Y	DPM	Arsenic	Beryllium	Cadmium	Copper	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica
582188.28_4131068.85	582188.28	4131068.85	2.33E-05	1.85E-08	1.11E-08	1.85E-08	3.68E-07	2.07E-09	7.95E-07	3.69E-08	2.79E-08	1.05E-04
582244.85_4131068.85	582244.85	4131068.85	2.01E-05	1.66E-08	9.93E-09	1.66E-08	3.30E-07	1.86E-09	7.13E-07	3.31E-08	2.50E-08	9.38E-05
582301.42_4131068.85	582301.42	4131068.85	1.77E-05	1.51E-08	9.03E-09	1.51E-08	3.00E-07	1.69E-09	6.48E-07	3.01E-08	2.28E-08	8.52E-05
582357.99_4131068.85	582357.99	4131068.85	1.58E-05	1.38E-08	8.29E-09	1.38E-08	2.76E-07	1.55E-09	5.95E-07	2.76E-08	2.09E-08	7.83E-05
582414.56_4131068.85	582414.56	4131068.85	1.42E-05	1.28E-08	7.70E-09	1.28E-08	2.56E-07	1.44E-09	5.52E-07	2.57E-08	1.94E-08	7.26E-05
582471.13_4131068.85	582471.13	4131068.85	1.30E-05	1.20E-08	7.19E-09	1.20E-08	2.39E-07	1.35E-09	5.16E-07	2.40E-08	1.81E-08	6.78E-05
582527.7_4131068.85	582527.7	4131068.85	1.19E-05	1.13E-08	6.75E-09	1.13E-08	2.24E-07	1.26E-09	4.84E-07	2.25E-08	1.70E-08	6.37E-05
582584.27_4131068.85	582584.27	4131068.85	1.10E-05	1.06E-08	6.36E-09	1.06E-08	2.12E-07	1.19E-09	4.56E-07	2.12E-08	1.60E-08	6.00E-05
582640.84_4131068.85	582640.84	4131068.85	1.03E-05	1.01E-08	6.06E-09	1.01E-08	2.01E-07	1.14E-09	4.35E-07	2.02E-08	1.53E-08	5.72E-05
582697.41_4131068.85	582697.41	4131068.85	9.70E-06	9.63E-09	5.78E-09	9.63E-09	1.92E-07	1.08E-09	4.14E-07	1.93E-08	1.45E-08	5.45E-05
582753.98_4131068.85	582753.98	4131068.85	9.20E-06	9.24E-09	5.54E-09	9.24E-09	1.84E-07	1.04E-09	3.97E-07	1.85E-08	1.39E-08	5.23E-05
582810.55_4131068.85	582810.55	4131068.85	8.74E-06	8.88E-09	5.33E-09	8.88E-09	1.77E-07	9.98E-10	3.82E-07	1.78E-08	1.34E-08	5.02E-05
582867.12_4131068.85	582867.12	4131068.85	8.27E-06	8.51E-09	5.10E-09	8.51E-09	1.70E-07	9.56E-10	3.66E-07	1.70E-08	1.28E-08	4.81E-05
582018.57_4131152.76	582018.57	4131152.76	2.82E-05	2.16E-08	1.30E-08	2.16E-08	4.32E-07	2.43E-09	9.32E-07	4.33E-08	3.28E-08	1.23E-04
582244.85_4131152.76	582244.85	4131152.76	1.70E-05	1.48E-08	8.90E-09	1.48E-08	2.96E-07	1.66E-09	6.38E-07	2.97E-08	2.24E-08	8.40E-05
582301.42_4131152.76	582301.42	4131152.76	1.53E-05	1.37E-08	8.24E-09	1.37E-08	2.74E-07	1.54E-09	5.91E-07	2.75E-08	2.08E-08	7.78E-05
582357.99_4131152.76	582357.99	4131152.76	1.39E-05	1.28E-08	7.66E-09	1.28E-08	2.54E-07	1.43E-09	5.49E-07	2.55E-08	1.93E-08	7.22E-05
582414.56_4131152.76	582414.56	4131152.76	1.26E-05	1.19E-08	7.16E-09	1.19E-08	2.38E-07	1.34E-09	5.13E-07	2.39E-08	1.80E-08	6.76E-05
582471.13_4131152.76	582471.13	4131152.76	1.15E-05	1.11E-08	6.69E-09	1.11E-08	2.22E-07	1.25E-09	4.80E-07	2.23E-08	1.68E-08	6.31E-05
582527.7_4131152.76	582527.7	4131152.76	1.06E-05	1.05E-08	6.30E-09	1.05E-08	2.09E-07	1.18E-09	4.51E-07	2.10E-08	1.58E-08	5.94E-05
582584.27_4131152.76	582584.27	4131152.76	9.77E-06	9.91E-09	5.95E-09	9.91E-09	1.98E-07	1.11E-09	4.26E-07	1.98E-08	1.50E-08	5.61E-05
582640.84_4131152.76	582640.84	4131152.76	9.13E-06	9.43E-09	5.66E-09	9.43E-09	1.88E-07	1.06E-09	4.06E-07	1.89E-08	1.42E-08	5.34E-05
582697.41_4131152.76	582697.41	4131152.76	8.58E-06	9.00E-09	5.40E-09	9.00E-09	1.79E-07	1.01E-09	3.87E-07	1.80E-08	1.36E-08	5.09E-05
582753.98_4131152.76	582753.98	4131152.76	8.17E-06	8.65E-09	5.19E-09	8.65E-09	1.72E-07	9.72E-10	3.72E-07	1.73E-08	1.31E-08	4.89E-05
582810.55_4131152.76	582810.55	4131152.76	7.79E-06	8.33E-09	5.00E-09	8.33E-09	1.66E-07	9.36E-10	3.58E-07	1.67E-08	1.26E-08	4.71E-05
582867.12_4131152.76	582867.12	4131152.76	7.39E-06	7.99E-09	4.79E-09	7.99E-09	1.59E-07	8.98E-10	3.44E-07	1.60E-08	1.20E-08	4.52E-05

Chronic Calculation, ΣC_{TAC}/REL

Total HI	Receptor Type
0.000100239	Res
8.97462E-05	Res
8.14668E-05	Res
7.47246E-05	Res
6.92494E-05	Res
6.45846E-05	Res
6.05999E-05	Res
5.70847E-05	Res
5.43289E-05	Res
5.17644E-05	Res
4.96277E-05	Res
4.76681E-05	Res
4.56454E-05	Res
0.000117738	Res
8.0164E-05	Res
7.41523E-05	Res
6.88084E-05	Res
6.42716E-05	Res
5.99568E-05	Res
5.63913E-05	Res
5.32392E-05	Res
5.06034E-05	Res
4.82653E-05	Res
4.6373E-05	Res
4.46252E-05	Res
4.27875E-05	Res

B-5 Acute Hazard Index Calculations

HRA Permanente Creek Restoration Project

Construction Year 2024

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica	Vanadium
		(tons/year)	speciation	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09	4.42E-11
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04	1.59E-06
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03	3.89E-06
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04	3.11E-06
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02	4.54E-05
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04	4.80E-06
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02	4.63E-05
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04	4.80E-06
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02	4.63E-05
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03	1.87E-05
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02	4.54E-05
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04	4.80E-06
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02	4.55E-05
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02	2.25E-04
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04	4.80E-06
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02	4.58E-05
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02	2.27E-04

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica	Vanadium	No. of Workdays
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(days)
Concrete Channel 2024	2024_CONCRTE	8.077E-07	2.35E-13	1.41E-13	2.35E-13	1.20E-12	2.63E-12	2.35E-13	3.76E-14	4.32E-12	4.70E-13	1.88E-14	6.97E-10	3.57E-12	130.00
Paved road	2024_PAVED	1.670E-05	8.43E-09	5.06E-09	8.43E-09	5.40E-09	1.69E-07	1.55E-08	9.44E-10	3.64E-07	1.69E-08	1.28E-08	4.79E-05	1.28E-07	130.00
Unpaved road	2024_CCP_UNPV	5.060E-06	2.07E-08	1.24E-08	2.07E-08	1.32E-08	4.14E-07	3.81E-08	2.32E-09	8.94E-07	4.14E-08	3.15E-08	1.18E-04	3.15E-07	130.00
Channel Widening 2024	2024_CHAN_RCK	1.563E-04	1.653E-08	9.920E-09	1.653E-08	8.465E-08	1.852E-07	1.653E-08	2.645E-09	3.042E-07	3.307E-08	1.323E-09	4.911E-05	2.513E-07	130.00
Paved road	2024_PAVED	1.452E-04	2.414E-07	1.448E-07	2.414E-07	1.545E-07	4.828E-06	4.442E-07	2.704E-08	1.043E-05	4.828E-07	3.669E-07	1.371E-03	3.669E-06	130.00
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Material Removal 2028	2028_MATRMVL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Paved road	2028_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Unpaved road	2028_UNPAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)				Acute Calculation, ΣC _{TAC} /REL	
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium	Total HI	Receptor Type
582301.42_4129726.29	582301.42	4129726.29	2.23E-05	2.59E-06	9.15E-04	3.39E-04	0.005	Res
582357.99_4129726.29	582357.99	4129726.29	2.17E-05	2.51E-06	8.95E-04	3.29E-04	0.005	Res
582414.56_4129726.29	582414.56	4129726.29	2.05E-05	2.37E-06	8.46E-04	3.11E-04	0.004	Res
582471.13_4129726.29	582471.13	4129726.29	1.91E-05	2.21E-06	7.90E-04	2.90E-04	0.004	Res
582527.7_4129726.29	582527.7	4129726.29	1.75E-05	2.03E-06	7.23E-04	2.66E-04	0.004	Res
582584.27_4129726.29	582584.27	4129726.29	1.73E-05	2.00E-06	7.14E-04	2.63E-04	0.004	Res
582640.84_4129726.29	582640.84	4129726.29	1.79E-05	2.06E-06	7.44E-04	2.72E-04	0.004	Res
582697.41_4129726.29	582697.41	4129726.29	1.73E-05	2.00E-06	7.20E-04	2.64E-04	0.004	Res
582753.98_4129726.29	582753.98	4129726.29	1.65E-05	1.91E-06	6.87E-04	2.51E-04	0.004	Res
582810.55_4129726.29	582810.55	4129726.29	1.65E-05	1.89E-06	6.84E-04	2.50E-04	0.004	Res
582244.85_4129810.2	582244.85	4129810.2	2.19E-05	2.55E-06	8.98E-04	3.33E-04	0.005	Res
582301.42_4129810.2	582301.42	4129810.2	2.30E-05	2.67E-06	9.51E-04	3.50E-04	0.005	Res
582357.99_4129810.2	582357.99	4129810.2	2.34E-05	2.70E-06	9.72E-04	3.56E-04	0.005	Res
582414.56_4129810.2	582414.56	4129810.2	2.08E-05	2.40E-06	8.61E-04	3.16E-04	0.004	Res
582471.13_4129810.2	582471.13	4129810.2	1.84E-05	2.13E-06	7.62E-04	2.80E-04	0.004	Res
582527.7_4129810.2	582527.7	4129810.2	1.90E-05	2.19E-06	7.87E-04	2.88E-04	0.004	Res
582584.27_4129810.2	582584.27	4129810.2	1.91E-05	2.20E-06	7.94E-04	2.90E-04	0.004	Res
582640.84_4129810.2	582640.84	4129810.2	1.82E-05	2.10E-06	7.57E-04	2.77E-04	0.004	Res
582697.41_4129810.2	582697.41	4129810.2	1.79E-05	2.06E-06	7.42E-04	2.71E-04	0.004	Res
581905.43_4129894.11	581905.43	4129894.11	1.38E-05	1.61E-06	5.64E-04	2.10E-04	0.003	Res
581962_4129894.11	581962	4129894.11	1.77E-05	2.14E-06	6.88E-04	2.70E-04	0.004	Res
582131.71_4129894.11	582131.71	4129894.11	1.95E-05	2.30E-06	7.82E-04	2.97E-04	0.004	Res
582188.28_4129894.11	582188.28	4129894.11	1.96E-05	2.31E-06	7.92E-04	2.99E-04	0.004	Res
582244.85_4129894.11	582244.85	4129894.11	1.96E-05	2.29E-06	7.95E-04	2.98E-04	0.004	Res
582301.42_4129894.11	582301.42	4129894.11	2.09E-05	2.43E-06	8.57E-04	3.18E-04	0.004	Res
582357.99_4129894.11	582357.99	4129894.11	2.02E-05	2.35E-06	8.30E-04	3.07E-04	0.004	Res
582414.56_4129894.11	582414.56	4129894.11	1.97E-05	2.28E-06	8.10E-04	2.99E-04	0.004	Res
582471.13_4129894.11	582471.13	4129894.11	2.05E-05	2.36E-06	8.47E-04	3.11E-04	0.004	Res
582527.7_4129894.11	582527.7	4129894.11	2.01E-05	2.32E-06	8.32E-04	3.06E-04	0.004	Res
582584.27_4129894.11	582584.27	4129894.11	1.88E-05	2.17E-06	7.77E-04	2.86E-04	0.004	Res
582640.84_4129894.11	582640.84	4129894.11	1.89E-05	2.18E-06	7.81E-04	2.87E-04	0.004	Res
582697.41_4129894.11	582697.41	4129894.11	1.85E-05	2.14E-06	7.66E-04	2.81E-04	0.004	Res
581962_4129978.02	581962	4129978.02	1.98E-05	2.41E-06	7.57E-04	3.01E-04	0.004	Res
582018.57_4129978.02	582018.57	4129978.02	2.02E-05	2.46E-06	7.69E-04	3.07E-04	0.004	Res
582075.14_4129978.02	582075.14	4129978.02	2.31E-05	2.72E-06	9.33E-04	3.52E-04	0.005	Res
582131.71_4129978.02	582131.71	4129978.02	2.23E-05	2.60E-06	9.04E-04	3.38E-04	0.005	Res
582188.28_4129978.02	582188.28	4129978.02	2.48E-05	2.88E-06	1.02E-03	3.77E-04	0.005	Res
582244.85_4129978.02	582244.85	4129978.02	2.30E-05	2.68E-06	9.47E-04	3.50E-04	0.005	Res
582301.42_4129978.02	582301.42	4129978.02	2.10E-05	2.44E-06	8.64E-04	3.19E-04	0.004	Res
582357.99_4129978.02	582357.99	4129978.02	2.12E-05	2.45E-06	8.73E-04	3.22E-04	0.004	Res
582414.56_4129978.02	582414.56	4129978.02	2.21E-05	2.55E-06	9.14E-04	3.36E-04	0.005	Res
582471.13_4129978.02	582471.13	4129978.02	2.09E-05	2.41E-06	8.64E-04	3.17E-04	0.004	Res
582527.7_4129978.02	582527.7	4129978.02	2.00E-05	2.31E-06	8.28E-04	3.04E-04	0.004	Res
582584.27_4129978.02	582584.27	4129978.02	2.05E-05	2.37E-06	8.51E-04	3.12E-04	0.004	Res
582640.84_4129978.02	582640.84	4129978.02	2.01E-05	2.31E-06	8.32E-04	3.05E-04	0.004	Res
582697.41_4129978.02	582697.41	4129978.02	2.06E-05	2.37E-06	8.55E-04	3.13E-04	0.004	Res
582753.98_4129978.02	582753.98	4129978.02	1.90E-05	2.20E-06	7.91E-04	2.90E-04	0.004	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582414.56_4130481.48	582414.56	4130481.48	2.94E-05	3.36E-06	1.23E-03	4.46E-04
582471.13_4130481.48	582471.13	4130481.48	3.19E-05	3.65E-06	1.34E-03	4.86E-04
582527.7_4130481.48	582527.7	4130481.48	3.05E-05	3.48E-06	1.28E-03	4.63E-04
582584.27_4130481.48	582584.27	4130481.48	2.71E-05	3.10E-06	1.14E-03	4.12E-04
582640.84_4130481.48	582640.84	4130481.48	2.25E-05	2.58E-06	9.44E-04	3.43E-04
582697.41_4130481.48	582697.41	4130481.48	2.17E-05	2.48E-06	9.06E-04	3.29E-04
582753.98_4130481.48	582753.98	4130481.48	2.13E-05	2.45E-06	8.94E-04	3.24E-04
582810.55_4130481.48	582810.55	4130481.48	2.02E-05	2.32E-06	8.45E-04	3.07E-04
582867.12_4130481.48	582867.12	4130481.48	1.98E-05	2.28E-06	8.30E-04	3.02E-04
581735.72_4130565.39	581735.72	4130565.39	3.44E-05	3.94E-06	1.45E-03	5.23E-04
581792.29_4130565.39	581792.29	4130565.39	3.25E-05	3.73E-06	1.36E-03	4.94E-04
581848.86_4130565.39	581848.86	4130565.39	3.29E-05	3.78E-06	1.38E-03	5.01E-04
581905.43_4130565.39	581905.43	4130565.39	3.78E-05	4.33E-06	1.59E-03	5.75E-04
581962_4130565.39	581962	4130565.39	3.70E-05	4.23E-06	1.55E-03	5.62E-04
582018.57_4130565.39	582018.57	4130565.39	3.76E-05	4.30E-06	1.58E-03	5.71E-04
582075.14_4130565.39	582075.14	4130565.39	3.74E-05	4.28E-06	1.57E-03	5.69E-04
582131.71_4130565.39	582131.71	4130565.39	3.44E-05	3.94E-06	1.44E-03	5.24E-04
582188.28_4130565.39	582188.28	4130565.39	3.71E-05	4.23E-06	1.56E-03	5.63E-04
582244.85_4130565.39	582244.85	4130565.39	3.52E-05	4.03E-06	1.48E-03	5.36E-04
582301.42_4130565.39	582301.42	4130565.39	3.59E-05	4.10E-06	1.51E-03	5.46E-04
582357.99_4130565.39	582357.99	4130565.39	3.68E-05	4.20E-06	1.55E-03	5.60E-04
582414.56_4130565.39	582414.56	4130565.39	3.39E-05	3.87E-06	1.43E-03	5.15E-04
582471.13_4130565.39	582471.13	4130565.39	2.91E-05	3.33E-06	1.22E-03	4.43E-04
582527.7_4130565.39	582527.7	4130565.39	2.57E-05	2.95E-06	1.08E-03	3.91E-04
582584.27_4130565.39	582584.27	4130565.39	2.55E-05	2.92E-06	1.07E-03	3.87E-04
582640.84_4130565.39	582640.84	4130565.39	2.39E-05	2.74E-06	1.00E-03	3.63E-04
582697.41_4130565.39	582697.41	4130565.39	2.32E-05	2.67E-06	9.72E-04	3.53E-04
582753.98_4130565.39	582753.98	4130565.39	2.16E-05	2.48E-06	9.03E-04	3.29E-04
582810.55_4130565.39	582810.55	4130565.39	1.94E-05	2.23E-06	8.09E-04	2.95E-04
582867.12_4130565.39	582867.12	4130565.39	1.69E-05	1.95E-06	7.02E-04	2.57E-04
581735.72_4130649.3	581735.72	4130649.3	2.67E-05	3.06E-06	1.12E-03	4.06E-04
581792.29_4130649.3	581792.29	4130649.3	2.74E-05	3.12E-06	1.16E-03	4.17E-04
581905.43_4130649.3	581905.43	4130649.3	4.23E-05	4.80E-06	1.79E-03	6.43E-04
581962_4130649.3	581962	4130649.3	4.40E-05	5.00E-06	1.87E-03	6.69E-04
582018.57_4130649.3	582018.57	4130649.3	4.08E-05	4.64E-06	1.72E-03	6.20E-04
582075.14_4130649.3	582075.14	4130649.3	4.32E-05	4.92E-06	1.83E-03	6.57E-04
582131.71_4130649.3	582131.71	4130649.3	4.09E-05	4.66E-06	1.73E-03	6.22E-04
582188.28_4130649.3	582188.28	4130649.3	4.31E-05	4.91E-06	1.82E-03	6.55E-04
582244.85_4130649.3	582244.85	4130649.3	4.24E-05	4.82E-06	1.79E-03	6.44E-04
582301.42_4130649.3	582301.42	4130649.3	3.75E-05	4.28E-06	1.58E-03	5.70E-04
582357.99_4130649.3	582357.99	4130649.3	3.16E-05	3.61E-06	1.33E-03	4.80E-04
582414.56_4130649.3	582414.56	4130649.3	3.15E-05	3.60E-06	1.32E-03	4.79E-04
582471.13_4130649.3	582471.13	4130649.3	2.96E-05	3.38E-06	1.24E-03	4.50E-04
582527.7_4130649.3	582527.7	4130649.3	2.80E-05	3.20E-06	1.18E-03	4.26E-04
582584.27_4130649.3	582584.27	4130649.3	2.53E-05	2.89E-06	1.06E-03	3.84E-04
582640.84_4130649.3	582640.84	4130649.3	2.18E-05	2.50E-06	9.09E-04	3.31E-04
582697.41_4130649.3	582697.41	4130649.3	1.98E-05	2.28E-06	8.25E-04	3.01E-04
582753.98_4130649.3	582753.98	4130649.3	2.06E-05	2.37E-06	8.61E-04	3.14E-04
582810.55_4130649.3	582810.55	4130649.3	2.13E-05	2.44E-06	8.89E-04	3.23E-04

Acute Calculation, $\sum C_{TAC} / REL$

Total HI	Receptor Type
0.006	Res
0.007	Res
0.007	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.004	Res
0.004	Res
0.007	Res
0.007	Res
0.007	Res
0.008	Res
0.008	Res
0.008	Res
0.008	Res
0.007	Res
0.008	Res
0.008	Res
0.008	Res
0.008	Res
0.008	Res
0.007	Res
0.007	Res
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.004	Res
0.004	Res
0.006	Res
0.006	Res
0.006	Res
0.009	Res
0.010	Res
0.009	Res
0.009	Res
0.009	Res
0.009	Res
0.009	Res
0.009	Res
0.009	Res
0.008	Res
0.007	Res
0.007	Res
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.004	Res
0.004	Res
0.005	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582867.12_4130649.3	582867.12	4130649.3	2.15E-05	2.46E-06	8.98E-04	3.26E-04
581848.86_4130733.21	581848.86	4130733.21	5.18E-05	5.86E-06	2.21E-03	7.88E-04
581905.43_4130733.21	581905.43	4130733.21	4.91E-05	5.55E-06	2.10E-03	7.47E-04
581962_4130733.21	581962	4130733.21	5.10E-05	5.76E-06	2.18E-03	7.76E-04
582018.57_4130733.21	582018.57	4130733.21	4.84E-05	5.47E-06	2.07E-03	7.36E-04
582075.14_4130733.21	582075.14	4130733.21	5.30E-05	5.98E-06	2.26E-03	8.05E-04
582131.71_4130733.21	582131.71	4130733.21	4.79E-05	5.42E-06	2.04E-03	7.28E-04
582188.28_4130733.21	582188.28	4130733.21	4.23E-05	4.80E-06	1.80E-03	6.44E-04
582244.85_4130733.21	582244.85	4130733.21	3.96E-05	4.50E-06	1.68E-03	6.02E-04
582301.42_4130733.21	582301.42	4130733.21	3.76E-05	4.28E-06	1.59E-03	5.72E-04
582357.99_4130733.21	582357.99	4130733.21	3.48E-05	3.97E-06	1.47E-03	5.29E-04
582414.56_4130733.21	582414.56	4130733.21	2.99E-05	3.41E-06	1.26E-03	4.54E-04
582471.13_4130733.21	582471.13	4130733.21	2.53E-05	2.90E-06	1.06E-03	3.85E-04
582527.7_4130733.21	582527.7	4130733.21	2.64E-05	3.02E-06	1.11E-03	4.01E-04
582584.27_4130733.21	582584.27	4130733.21	2.69E-05	3.07E-06	1.13E-03	4.09E-04
582640.84_4130733.21	582640.84	4130733.21	2.68E-05	3.06E-06	1.12E-03	4.07E-04
582697.41_4130733.21	582697.41	4130733.21	2.61E-05	2.99E-06	1.10E-03	3.97E-04
582753.98_4130733.21	582753.98	4130733.21	2.49E-05	2.85E-06	1.04E-03	3.78E-04
582810.55_4130733.21	582810.55	4130733.21	2.35E-05	2.69E-06	9.86E-04	3.57E-04
582867.12_4130733.21	582867.12	4130733.21	2.18E-05	2.49E-06	9.12E-04	3.31E-04
581735.72_4130817.12	581735.72	4130817.12	5.44E-05	6.18E-06	2.31E-03	8.27E-04
581792.29_4130817.12	581792.29	4130817.12	6.30E-05	7.13E-06	2.68E-03	9.57E-04
581848.86_4130817.12	581848.86	4130817.12	6.64E-05	7.52E-06	2.83E-03	1.01E-03
581905.43_4130817.12	581905.43	4130817.12	6.49E-05	7.34E-06	2.77E-03	9.86E-04
581962_4130817.12	581962	4130817.12	6.41E-05	7.23E-06	2.74E-03	9.74E-04
582018.57_4130817.12	582018.57	4130817.12	5.62E-05	6.35E-06	2.40E-03	8.54E-04
582075.14_4130817.12	582075.14	4130817.12	5.27E-05	5.94E-06	2.25E-03	8.01E-04
582131.71_4130817.12	582131.71	4130817.12	5.04E-05	5.68E-06	2.16E-03	7.66E-04
582188.28_4130817.12	582188.28	4130817.12	4.46E-05	5.04E-06	1.91E-03	6.78E-04
582244.85_4130817.12	582244.85	4130817.12	3.59E-05	4.06E-06	1.53E-03	5.45E-04
582301.42_4130817.12	582301.42	4130817.12	3.79E-05	4.29E-06	1.62E-03	5.77E-04
582357.99_4130817.12	582357.99	4130817.12	3.82E-05	4.32E-06	1.62E-03	5.80E-04
582414.56_4130817.12	582414.56	4130817.12	3.65E-05	4.14E-06	1.55E-03	5.55E-04
582471.13_4130817.12	582471.13	4130817.12	3.40E-05	3.86E-06	1.44E-03	5.16E-04
582527.7_4130817.12	582527.7	4130817.12	3.05E-05	3.47E-06	1.29E-03	4.63E-04
582584.27_4130817.12	582584.27	4130817.12	2.92E-05	3.33E-06	1.23E-03	4.44E-04
582640.84_4130817.12	582640.84	4130817.12	2.86E-05	3.26E-06	1.20E-03	4.34E-04
582697.41_4130817.12	582697.41	4130817.12	2.76E-05	3.15E-06	1.16E-03	4.19E-04
582753.98_4130817.12	582753.98	4130817.12	2.62E-05	2.99E-06	1.10E-03	3.98E-04
582810.55_4130817.12	582810.55	4130817.12	2.50E-05	2.85E-06	1.05E-03	3.80E-04
582867.12_4130817.12	582867.12	4130817.12	2.44E-05	2.79E-06	1.03E-03	3.71E-04
581735.72_4130901.03	581735.72	4130901.03	9.02E-05	1.02E-05	3.86E-03	1.37E-03
581792.29_4130901.03	581792.29	4130901.03	1.00E-04	1.13E-05	4.28E-03	1.52E-03
581848.86_4130901.03	581848.86	4130901.03	8.67E-05	9.79E-06	3.70E-03	1.32E-03
581905.43_4130901.03	581905.43	4130901.03	7.87E-05	8.89E-06	3.36E-03	1.20E-03
581962_4130901.03	581962	4130901.03	7.66E-05	8.64E-06	3.27E-03	1.16E-03
582018.57_4130901.03	582018.57	4130901.03	6.53E-05	7.37E-06	2.79E-03	9.92E-04
582075.14_4130901.03	582075.14	4130901.03	6.72E-05	7.58E-06	2.87E-03	1.02E-03
582131.71_4130901.03	582131.71	4130901.03	6.34E-05	7.15E-06	2.71E-03	9.64E-04

Acute Calculation, ΣC_{TAC} /REL

Total HI	Receptor Type
0.005	Res
0.011	Res
0.011	Res
0.011	Res
0.011	Res
0.012	Res
0.010	Res
0.009	Res
0.009	Res
0.008	Res
0.008	Res
0.006	Res
0.005	Res
0.006	Res
0.006	Res
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.012	Res
0.014	Res
0.015	Res
0.014	Res
0.014	Res
0.012	Res
0.012	Res
0.011	Res
0.010	Res
0.008	Res
0.008	Res
0.008	Res
0.008	Res
0.007	Res
0.007	Res
0.006	Res
0.006	Res
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.020	Res
0.022	Res
0.019	Res
0.017	Res
0.017	Res
0.014	Res
0.015	Res
0.014	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582188.28_4130901.03	582188.28	4130901.03	5.53E-05	6.24E-06	2.37E-03	8.41E-04
582244.85_4130901.03	582244.85	4130901.03	4.92E-05	5.54E-06	2.11E-03	7.47E-04
582301.42_4130901.03	582301.42	4130901.03	4.54E-05	5.12E-06	1.95E-03	6.91E-04
582357.99_4130901.03	582357.99	4130901.03	4.14E-05	4.67E-06	1.77E-03	6.29E-04
582414.56_4130901.03	582414.56	4130901.03	3.81E-05	4.30E-06	1.63E-03	5.78E-04
582471.13_4130901.03	582471.13	4130901.03	3.56E-05	4.02E-06	1.52E-03	5.41E-04
582527.7_4130901.03	582527.7	4130901.03	3.30E-05	3.74E-06	1.40E-03	5.01E-04
582584.27_4130901.03	582584.27	4130901.03	3.07E-05	3.48E-06	1.30E-03	4.66E-04
582640.84_4130901.03	582640.84	4130901.03	2.85E-05	3.23E-06	1.21E-03	4.33E-04
582697.41_4130901.03	582697.41	4130901.03	2.63E-05	3.00E-06	1.11E-03	4.00E-04
582753.98_4130901.03	582753.98	4130901.03	2.45E-05	2.80E-06	1.03E-03	3.73E-04
582810.55_4130901.03	582810.55	4130901.03	2.37E-05	2.71E-06	9.99E-04	3.61E-04
582867.12_4130901.03	582867.12	4130901.03	2.30E-05	2.63E-06	9.69E-04	3.50E-04
581735.72_4130984.94	581735.72	4130984.94	1.75E-04	1.97E-05	7.54E-03	2.66E-03
581792.29_4130984.94	581792.29	4130984.94	1.82E-04	2.05E-05	7.85E-03	2.77E-03
581848.86_4130984.94	581848.86	4130984.94	1.86E-04	2.10E-05	8.02E-03	2.83E-03
581905.43_4130984.94	581905.43	4130984.94	1.69E-04	1.89E-05	7.24E-03	2.56E-03
581962_4130984.94	581962	4130984.94	1.21E-04	1.36E-05	5.19E-03	1.84E-03
582018.57_4130984.94	582018.57	4130984.94	8.93E-05	1.01E-05	3.82E-03	1.36E-03
582075.14_4130984.94	582075.14	4130984.94	7.03E-05	7.94E-06	3.00E-03	1.07E-03
582131.71_4130984.94	582131.71	4130984.94	5.91E-05	6.67E-06	2.52E-03	8.98E-04
582188.28_4130984.94	582188.28	4130984.94	5.27E-05	5.96E-06	2.25E-03	8.01E-04
582244.85_4130984.94	582244.85	4130984.94	4.76E-05	5.38E-06	2.03E-03	7.23E-04
582301.42_4130984.94	582301.42	4130984.94	4.34E-05	4.90E-06	1.85E-03	6.60E-04
582357.99_4130984.94	582357.99	4130984.94	4.00E-05	4.51E-06	1.71E-03	6.08E-04
582414.56_4130984.94	582414.56	4130984.94	3.70E-05	4.18E-06	1.58E-03	5.63E-04
582471.13_4130984.94	582471.13	4130984.94	3.45E-05	3.89E-06	1.48E-03	5.24E-04
582527.7_4130984.94	582527.7	4130984.94	3.24E-05	3.65E-06	1.38E-03	4.92E-04
582584.27_4130984.94	582584.27	4130984.94	3.07E-05	3.47E-06	1.31E-03	4.67E-04
582640.84_4130984.94	582640.84	4130984.94	2.95E-05	3.34E-06	1.26E-03	4.49E-04
582697.41_4130984.94	582697.41	4130984.94	2.82E-05	3.19E-06	1.20E-03	4.28E-04
582753.98_4130984.94	582753.98	4130984.94	2.72E-05	3.09E-06	1.16E-03	4.14E-04
582810.55_4130984.94	582810.55	4130984.94	2.62E-05	2.98E-06	1.11E-03	3.98E-04
582867.12_4130984.94	582867.12	4130984.94	2.52E-05	2.87E-06	1.07E-03	3.84E-04
581735.72_4131068.85	581735.72	4131068.85	6.95E-05	7.84E-06	2.97E-03	1.06E-03
581792.29_4131068.85	581792.29	4131068.85	6.95E-05	7.84E-06	2.98E-03	1.06E-03
581848.86_4131068.85	581848.86	4131068.85	7.38E-05	8.33E-06	3.16E-03	1.12E-03
581905.43_4131068.85	581905.43	4131068.85	7.19E-05	8.11E-06	3.07E-03	1.09E-03
581962_4131068.85	581962	4131068.85	7.36E-05	8.31E-06	3.15E-03	1.12E-03
582018.57_4131068.85	582018.57	4131068.85	6.47E-05	7.31E-06	2.76E-03	9.84E-04
582075.14_4131068.85	582075.14	4131068.85	5.60E-05	6.33E-06	2.38E-03	8.50E-04
582131.71_4131068.85	582131.71	4131068.85	5.06E-05	5.73E-06	2.15E-03	7.70E-04
582188.28_4131068.85	582188.28	4131068.85	4.71E-05	5.34E-06	2.01E-03	7.16E-04
582244.85_4131068.85	582244.85	4131068.85	4.43E-05	5.02E-06	1.89E-03	6.74E-04
582301.42_4131068.85	582301.42	4131068.85	4.16E-05	4.71E-06	1.77E-03	6.33E-04
582357.99_4131068.85	582357.99	4131068.85	3.90E-05	4.41E-06	1.66E-03	5.93E-04
582414.56_4131068.85	582414.56	4131068.85	3.66E-05	4.14E-06	1.56E-03	5.56E-04
582471.13_4131068.85	582471.13	4131068.85	3.43E-05	3.87E-06	1.46E-03	5.21E-04
582527.7_4131068.85	582527.7	4131068.85	3.20E-05	3.62E-06	1.37E-03	4.87E-04

Acute Calculation, ΣC_{TAC} /REL

Total HI	Receptor Type
0.012	Res
0.011	Res
0.010	Res
0.009	Res
0.008	Res
0.008	Res
0.007	Res
0.007	Res
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.039	Res
0.040	Res
0.041	Res
0.037	Res
0.027	Res
0.020	Res
0.015	Res
0.013	Res
0.012	Res
0.010	Res
0.010	Res
0.009	Res
0.008	Res
0.008	Res
0.007	Res
0.007	Res
0.006	Res
0.006	Res
0.006	Res
0.006	Res
0.006	Res
0.006	Res
0.005	Res
0.015	Res
0.015	Res
0.015	Res
0.016	Res
0.016	Res
0.016	Res
0.014	Res
0.012	Res
0.011	Res
0.010	Res
0.010	Res
0.009	Res
0.009	Res
0.008	Res
0.008	Res
0.007	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582584.27_4131068.85	582584.27	4131068.85	2.98E-05	3.37E-06	1.28E-03	4.53E-04
582640.84_4131068.85	582640.84	4131068.85	2.88E-05	3.24E-06	1.23E-03	4.37E-04
582697.41_4131068.85	582697.41	4131068.85	2.76E-05	3.12E-06	1.18E-03	4.20E-04
582753.98_4131068.85	582753.98	4131068.85	2.69E-05	3.04E-06	1.15E-03	4.09E-04
582810.55_4131068.85	582810.55	4131068.85	2.61E-05	2.96E-06	1.11E-03	3.97E-04
582867.12_4131068.85	582867.12	4131068.85	2.49E-05	2.82E-06	1.06E-03	3.78E-04
582018.57_4131152.76	582018.57	4131152.76	4.60E-05	5.20E-06	1.96E-03	6.98E-04
582244.85_4131152.76	582244.85	4131152.76	3.89E-05	4.42E-06	1.65E-03	5.92E-04
582301.42_4131152.76	582301.42	4131152.76	3.70E-05	4.19E-06	1.57E-03	5.62E-04
582357.99_4131152.76	582357.99	4131152.76	3.46E-05	3.92E-06	1.47E-03	5.26E-04
582414.56_4131152.76	582414.56	4131152.76	3.22E-05	3.66E-06	1.37E-03	4.90E-04
582471.13_4131152.76	582471.13	4131152.76	2.91E-05	3.30E-06	1.23E-03	4.42E-04
582527.7_4131152.76	582527.7	4131152.76	2.64E-05	3.00E-06	1.12E-03	4.02E-04
582584.27_4131152.76	582584.27	4131152.76	2.46E-05	2.78E-06	1.04E-03	3.73E-04
582640.84_4131152.76	582640.84	4131152.76	2.38E-05	2.70E-06	1.01E-03	3.62E-04
582697.41_4131152.76	582697.41	4131152.76	2.31E-05	2.61E-06	9.83E-04	3.51E-04
582753.98_4131152.76	582753.98	4131152.76	2.28E-05	2.57E-06	9.73E-04	3.46E-04
582810.55_4131152.76	582810.55	4131152.76	2.23E-05	2.52E-06	9.54E-04	3.39E-04
582867.12_4131152.76	582867.12	4131152.76	2.13E-05	2.41E-06	9.12E-04	3.24E-04

Acute Calculation, $\sum C_{TAC} / REL$

Total HI	Receptor Type
0.007	Res
0.006	Res
0.006	Res
0.006	Res
0.006	Res
0.006	Res
0.005	Res
0.010	Res
0.008	Res
0.008	Res
0.008	Res
0.007	Res
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.005	Res
0.005	Res
0.005	Res
0.005	Res

HRA Permanente Creek Restoration Project

Construction Year

2025

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium	Crystalline Silica	Vanadium
		(tons/year)	speciation										VI		
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09	4.42E-11
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04	1.59E-06
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03	3.89E-06
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04	3.11E-06
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02	4.54E-05
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04	4.80E-06
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02	4.63E-05
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04	4.80E-06
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02	4.63E-05
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03	1.87E-05
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02	4.54E-05
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04	4.80E-06
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02	4.55E-05
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02	2.25E-04
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04	4.80E-06
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02	4.58E-05
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02	2.27E-04

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica	Vanadium	No. of Workdays
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(days)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Paved road	2024_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Rock Pile Area 2025	2025_CHAN_RCK	4.767E-04	2.55E-08	1.53E-08	2.55E-08	1.31E-07	2.86E-07	2.55E-08	4.08E-09	4.69E-07	5.10E-08	2.04E-09	7.57E-05	3.87E-07	130.00
Paved road	2025_PAVED	4.805E-04	2.46E-07	1.48E-07	2.46E-07	1.58E-07	4.92E-06	4.53E-07	2.76E-08	1.06E-05	4.92E-07	3.74E-07	1.40E-03	3.74E-06	130.00
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Material Removal 2028	2028_MATRMVL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Paved road	2028_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Unpaved road	2028_UNPAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Acute REL

TAC	UOM	
Arsenic	µg/m ³	0.2
Mercury	µg/m ³	0.61
Nickel	µg/m ³	0.2
Vanadium	µg/m ³	31

CT House
Res
Acute

Max
0.016
0.039
0.013

Acute Calculation, $\sum C_{TAC} / REL$

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)				Total HI	Receptor Type
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium		
			0.2	0.61	0.2	31		
581336.22_4131207.48	581336.22	4131207.48	7.36E-05	8.33E-06	3.13E-03	1.12E-03	0.016	CT House
581554.22_4130688.06	581554.22	4130688.06	2.02E-05	2.48E-06	7.63E-04	3.08E-04	0.004	Res
579793.36_4131503.29	579793.36	4131503.29	2.44E-06	3.00E-07	9.17E-05	3.71E-05	0.000	Acute
580488.37_4131517.71	580488.37	4131517.71	6.73E-06	8.14E-07	2.59E-04	1.02E-04	0.001	Acute
581678.43_4131040.03	581678.43	4131040.03	9.18E-05	1.04E-05	3.91E-03	1.40E-03	0.020	Res
581635.43_4130978.54	581635.43	4130978.54	1.19E-04	1.34E-05	5.08E-03	1.81E-03	0.026	Res
581830.06_4131027.55	581830.06	4131027.55	1.27E-04	1.43E-05	5.42E-03	1.92E-03	0.028	Res
581727.48_4130976.54	581727.48	4130976.54	1.41E-04	1.59E-05	6.06E-03	2.15E-03	0.031	Res
581789.11_4130419.65	581789.11	4130419.65	2.60E-05	3.11E-06	1.02E-03	3.95E-04	0.005	Res
581700.32_4130781.89	581700.32	4130781.89	3.85E-05	4.45E-06	1.59E-03	5.85E-04	0.008	Res
581426.07_4131299.01	581426.07	4131299.01	6.13E-05	6.95E-06	2.60E-03	9.32E-04	0.013	Acute
582301.42_4129474.56	582301.42	4129474.56	1.24E-05	1.51E-06	4.71E-04	1.88E-04	0.002	Res
582357.99_4129474.56	582357.99	4129474.56	1.21E-05	1.48E-06	4.62E-04	1.84E-04	0.002	Res
582414.56_4129474.56	582414.56	4129474.56	1.30E-05	1.57E-06	5.03E-04	1.98E-04	0.003	Res
582471.13_4129474.56	582471.13	4129474.56	1.30E-05	1.56E-06	5.05E-04	1.97E-04	0.003	Res
582527.7_4129474.56	582527.7	4129474.56	1.30E-05	1.56E-06	5.10E-04	1.98E-04	0.003	Res
582584.27_4129474.56	582584.27	4129474.56	1.25E-05	1.49E-06	4.90E-04	1.90E-04	0.003	Res
582640.84_4129474.56	582640.84	4129474.56	1.25E-05	1.49E-06	4.93E-04	1.90E-04	0.003	Res
582244.85_4129558.47	582244.85	4129558.47	1.65E-05	1.99E-06	6.43E-04	2.51E-04	0.003	Res
582301.42_4129558.47	582301.42	4129558.47	1.60E-05	1.92E-06	6.27E-04	2.43E-04	0.003	Res
582357.99_4129558.47	582357.99	4129558.47	1.55E-05	1.85E-06	6.08E-04	2.35E-04	0.003	Res
582414.56_4129558.47	582414.56	4129558.47	1.51E-05	1.81E-06	5.94E-04	2.30E-04	0.003	Res
582471.13_4129558.47	582471.13	4129558.47	1.44E-05	1.72E-06	5.64E-04	2.18E-04	0.003	Res
582527.7_4129558.47	582527.7	4129558.47	1.37E-05	1.64E-06	5.37E-04	2.08E-04	0.003	Res
582584.27_4129558.47	582584.27	4129558.47	1.30E-05	1.56E-06	5.07E-04	1.97E-04	0.003	Res
582640.84_4129558.47	582640.84	4129558.47	1.23E-05	1.48E-06	4.79E-04	1.87E-04	0.002	Res
582697.41_4129558.47	582697.41	4129558.47	1.18E-05	1.42E-06	4.60E-04	1.79E-04	0.002	Res
582244.85_4129642.38	582244.85	4129642.38	1.92E-05	2.32E-06	7.44E-04	2.92E-04	0.004	Res
582301.42_4129642.38	582301.42	4129642.38	1.67E-05	2.02E-06	6.51E-04	2.54E-04	0.003	Res
582357.99_4129642.38	582357.99	4129642.38	1.45E-05	1.75E-06	5.64E-04	2.21E-04	0.003	Res
582414.56_4129642.38	582414.56	4129642.38	1.42E-05	1.71E-06	5.53E-04	2.16E-04	0.003	Res
582471.13_4129642.38	582471.13	4129642.38	1.40E-05	1.68E-06	5.45E-04	2.12E-04	0.003	Res
582527.7_4129642.38	582527.7	4129642.38	1.38E-05	1.66E-06	5.42E-04	2.10E-04	0.003	Res
582584.27_4129642.38	582584.27	4129642.38	1.33E-05	1.59E-06	5.18E-04	2.01E-04	0.003	Res
582640.84_4129642.38	582640.84	4129642.38	1.31E-05	1.57E-06	5.16E-04	2.00E-04	0.003	Res
582697.41_4129642.38	582697.41	4129642.38	1.35E-05	1.61E-06	5.32E-04	2.05E-04	0.003	Res
582753.98_4129642.38	582753.98	4129642.38	1.32E-05	1.58E-06	5.24E-04	2.01E-04	0.003	Res
582810.55_4129642.38	582810.55	4129642.38	1.27E-05	1.51E-06	5.02E-04	1.93E-04	0.003	Res
582867.12_4129642.38	582867.12	4129642.38	1.33E-05	1.58E-06	5.29E-04	2.02E-04	0.003	Res
582244.85_4129726.29	582244.85	4129726.29	1.93E-05	2.32E-06	7.50E-04	2.93E-04	0.004	Res

Total HI	Receptor Type
0.016	CT House
0.004	Res
0.000	Acute

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)				Acute Calculation, ΣC _{TAC} /REL	
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium	Total HI	Receptor Type
582810.55_4129978.02	582810.55	4129978.02	1.37E-05	1.62E-06	5.42E-04	2.08E-04	0.003	Res
581905.43_4130061.93	581905.43	4130061.93	2.57E-05	3.07E-06	1.01E-03	3.90E-04	0.005	Res
581962_4130061.93	581962	4130061.93	2.47E-05	2.95E-06	9.74E-04	3.76E-04	0.005	Res
582018.57_4130061.93	582018.57	4130061.93	2.50E-05	2.98E-06	9.82E-04	3.79E-04	0.005	Res
582075.14_4130061.93	582075.14	4130061.93	2.43E-05	2.90E-06	9.55E-04	3.69E-04	0.005	Res
582131.71_4130061.93	582131.71	4130061.93	2.21E-05	2.64E-06	8.73E-04	3.36E-04	0.004	Res
582188.28_4130061.93	582188.28	4130061.93	2.07E-05	2.46E-06	8.18E-04	3.14E-04	0.004	Res
582244.85_4130061.93	582244.85	4130061.93	1.88E-05	2.24E-06	7.46E-04	2.86E-04	0.004	Res
582301.42_4130061.93	582301.42	4130061.93	1.81E-05	2.16E-06	7.19E-04	2.76E-04	0.004	Res
582357.99_4130061.93	582357.99	4130061.93	1.91E-05	2.25E-06	7.61E-04	2.90E-04	0.004	Res
582414.56_4130061.93	582414.56	4130061.93	1.79E-05	2.12E-06	7.13E-04	2.72E-04	0.004	Res
582471.13_4130061.93	582471.13	4130061.93	1.87E-05	2.21E-06	7.52E-04	2.85E-04	0.004	Res
582527.7_4130061.93	582527.7	4130061.93	1.84E-05	2.17E-06	7.40E-04	2.80E-04	0.004	Res
582584.27_4130061.93	582584.27	4130061.93	1.89E-05	2.22E-06	7.62E-04	2.87E-04	0.004	Res
582640.84_4130061.93	582640.84	4130061.93	1.84E-05	2.17E-06	7.44E-04	2.80E-04	0.004	Res
582697.41_4130061.93	582697.41	4130061.93	1.70E-05	2.01E-06	6.85E-04	2.59E-04	0.004	Res
582753.98_4130061.93	582753.98	4130061.93	1.64E-05	1.93E-06	6.59E-04	2.49E-04	0.003	Res
582810.55_4130061.93	582810.55	4130061.93	1.63E-05	1.92E-06	6.57E-04	2.48E-04	0.003	Res
581962_4130145.84	581962	4130145.84	2.27E-05	2.67E-06	9.10E-04	3.45E-04	0.005	Res
582018.57_4130145.84	582018.57	4130145.84	2.16E-05	2.55E-06	8.66E-04	3.28E-04	0.004	Res
582075.14_4130145.84	582075.14	4130145.84	2.17E-05	2.57E-06	8.71E-04	3.30E-04	0.004	Res
582131.71_4130145.84	582131.71	4130145.84	2.06E-05	2.43E-06	8.27E-04	3.14E-04	0.004	Res
582188.28_4130145.84	582188.28	4130145.84	1.88E-05	2.22E-06	7.52E-04	2.85E-04	0.004	Res
582244.85_4130145.84	582244.85	4130145.84	1.97E-05	2.32E-06	7.95E-04	3.00E-04	0.004	Res
582301.42_4130145.84	582301.42	4130145.84	1.97E-05	2.32E-06	7.98E-04	3.00E-04	0.004	Res
582357.99_4130145.84	582357.99	4130145.84	1.92E-05	2.26E-06	7.78E-04	2.92E-04	0.004	Res
582414.56_4130145.84	582414.56	4130145.84	1.98E-05	2.32E-06	8.05E-04	3.01E-04	0.004	Res
582471.13_4130145.84	582471.13	4130145.84	1.98E-05	2.31E-06	8.04E-04	3.01E-04	0.004	Res
582527.7_4130145.84	582527.7	4130145.84	2.02E-05	2.36E-06	8.26E-04	3.08E-04	0.004	Res
582584.27_4130145.84	582584.27	4130145.84	1.91E-05	2.23E-06	7.76E-04	2.90E-04	0.004	Res
582640.84_4130145.84	582640.84	4130145.84	1.77E-05	2.07E-06	7.17E-04	2.68E-04	0.004	Res
582697.41_4130145.84	582697.41	4130145.84	1.76E-05	2.06E-06	7.18E-04	2.68E-04	0.004	Res
582753.98_4130145.84	582753.98	4130145.84	1.85E-05	2.16E-06	7.56E-04	2.81E-04	0.004	Res
582810.55_4130145.84	582810.55	4130145.84	1.78E-05	2.07E-06	7.25E-04	2.70E-04	0.004	Res
582867.12_4130145.84	582867.12	4130145.84	1.42E-05	1.67E-06	5.72E-04	2.16E-04	0.003	Res
581962_4130229.75	581962	4130229.75	2.06E-05	2.47E-06	8.09E-04	3.14E-04	0.004	Res
582018.57_4130229.75	582018.57	4130229.75	1.94E-05	2.31E-06	7.63E-04	2.95E-04	0.004	Res
582075.14_4130229.75	582075.14	4130229.75	1.94E-05	2.31E-06	7.72E-04	2.96E-04	0.004	Res
582131.71_4130229.75	582131.71	4130229.75	1.98E-05	2.34E-06	7.93E-04	3.01E-04	0.004	Res
582188.28_4130229.75	582188.28	4130229.75	2.14E-05	2.51E-06	8.67E-04	3.26E-04	0.004	Res
582244.85_4130229.75	582244.85	4130229.75	2.06E-05	2.42E-06	8.37E-04	3.14E-04	0.004	Res
582301.42_4130229.75	582301.42	4130229.75	2.13E-05	2.48E-06	8.68E-04	3.23E-04	0.004	Res
582357.99_4130229.75	582357.99	4130229.75	2.05E-05	2.39E-06	8.40E-04	3.12E-04	0.004	Res
582414.56_4130229.75	582414.56	4130229.75	2.18E-05	2.53E-06	8.99E-04	3.32E-04	0.005	Res
582471.13_4130229.75	582471.13	4130229.75	2.07E-05	2.39E-06	8.52E-04	3.14E-04	0.004	Res
582527.7_4130229.75	582527.7	4130229.75	1.91E-05	2.21E-06	7.85E-04	2.90E-04	0.004	Res
582584.27_4130229.75	582584.27	4130229.75	1.93E-05	2.23E-06	7.94E-04	2.93E-04	0.004	Res
582640.84_4130229.75	582640.84	4130229.75	2.03E-05	2.34E-06	8.38E-04	3.08E-04	0.004	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)				Acute Calculation, ΣC _{TAC} /REL	
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium	Total HI	Receptor Type
582414.56_4130481.48	582414.56	4130481.48	2.65E-05	3.08E-06	1.09E-03	4.02E-04	0.006	Res
582471.13_4130481.48	582471.13	4130481.48	2.89E-05	3.35E-06	1.19E-03	4.40E-04	0.006	Res
582527.7_4130481.48	582527.7	4130481.48	2.75E-05	3.18E-06	1.14E-03	4.18E-04	0.006	Res
582584.27_4130481.48	582584.27	4130481.48	2.42E-05	2.80E-06	9.95E-04	3.67E-04	0.005	Res
582640.84_4130481.48	582640.84	4130481.48	1.98E-05	2.30E-06	8.07E-04	3.00E-04	0.004	Res
582697.41_4130481.48	582697.41	4130481.48	1.90E-05	2.21E-06	7.75E-04	2.89E-04	0.004	Res
582753.98_4130481.48	582753.98	4130481.48	1.88E-05	2.19E-06	7.69E-04	2.86E-04	0.004	Res
582810.55_4130481.48	582810.55	4130481.48	1.78E-05	2.08E-06	7.27E-04	2.71E-04	0.004	Res
582867.12_4130481.48	582867.12	4130481.48	1.76E-05	2.06E-06	7.19E-04	2.68E-04	0.004	Res
581735.72_4130565.39	581735.72	4130565.39	2.33E-05	2.74E-06	9.42E-04	3.55E-04	0.005	Res
581792.29_4130565.39	581792.29	4130565.39	2.29E-05	2.70E-06	9.19E-04	3.48E-04	0.005	Res
581848.86_4130565.39	581848.86	4130565.39	2.56E-05	3.00E-06	1.03E-03	3.88E-04	0.005	Res
581905.43_4130565.39	581905.43	4130565.39	3.18E-05	3.70E-06	1.30E-03	4.83E-04	0.007	Res
581962_4130565.39	581962	4130565.39	3.17E-05	3.69E-06	1.30E-03	4.82E-04	0.007	Res
582018.57_4130565.39	582018.57	4130565.39	3.29E-05	3.82E-06	1.35E-03	4.99E-04	0.007	Res
582075.14_4130565.39	582075.14	4130565.39	3.34E-05	3.88E-06	1.37E-03	5.08E-04	0.007	Res
582131.71_4130565.39	582131.71	4130565.39	3.06E-05	3.56E-06	1.25E-03	4.65E-04	0.006	Res
582188.28_4130565.39	582188.28	4130565.39	3.31E-05	3.83E-06	1.36E-03	5.03E-04	0.007	Res
582244.85_4130565.39	582244.85	4130565.39	3.13E-05	3.63E-06	1.29E-03	4.76E-04	0.007	Res
582301.42_4130565.39	582301.42	4130565.39	3.21E-05	3.72E-06	1.33E-03	4.88E-04	0.007	Res
582357.99_4130565.39	582357.99	4130565.39	3.31E-05	3.83E-06	1.37E-03	5.04E-04	0.007	Res
582414.56_4130565.39	582414.56	4130565.39	3.04E-05	3.51E-06	1.26E-03	4.62E-04	0.006	Res
582471.13_4130565.39	582471.13	4130565.39	2.59E-05	3.01E-06	1.07E-03	3.94E-04	0.005	Res
582527.7_4130565.39	582527.7	4130565.39	2.28E-05	2.66E-06	9.32E-04	3.47E-04	0.005	Res
582584.27_4130565.39	582584.27	4130565.39	2.27E-05	2.65E-06	9.29E-04	3.45E-04	0.005	Res
582640.84_4130565.39	582640.84	4130565.39	2.12E-05	2.48E-06	8.67E-04	3.23E-04	0.004	Res
582697.41_4130565.39	582697.41	4130565.39	2.06E-05	2.41E-06	8.42E-04	3.14E-04	0.004	Res
582753.98_4130565.39	582753.98	4130565.39	1.91E-05	2.23E-06	7.77E-04	2.90E-04	0.004	Res
582810.55_4130565.39	582810.55	4130565.39	1.70E-05	1.99E-06	6.88E-04	2.58E-04	0.004	Res
582867.12_4130565.39	582867.12	4130565.39	1.46E-05	1.71E-06	5.85E-04	2.21E-04	0.003	Res
581735.72_4130649.3	581735.72	4130649.3	2.03E-05	2.38E-06	8.23E-04	3.09E-04	0.004	Res
581792.29_4130649.3	581792.29	4130649.3	2.01E-05	2.34E-06	8.24E-04	3.05E-04	0.004	Res
581905.43_4130649.3	581905.43	4130649.3	3.60E-05	4.13E-06	1.50E-03	5.47E-04	0.008	Res
581962_4130649.3	581962	4130649.3	3.83E-05	4.40E-06	1.60E-03	5.82E-04	0.008	Res
582018.57_4130649.3	582018.57	4130649.3	3.54E-05	4.07E-06	1.47E-03	5.38E-04	0.008	Res
582075.14_4130649.3	582075.14	4130649.3	3.82E-05	4.39E-06	1.59E-03	5.80E-04	0.008	Res
582131.71_4130649.3	582131.71	4130649.3	3.63E-05	4.18E-06	1.51E-03	5.51E-04	0.008	Res
582188.28_4130649.3	582188.28	4130649.3	3.89E-05	4.47E-06	1.62E-03	5.91E-04	0.008	Res
582244.85_4130649.3	582244.85	4130649.3	3.83E-05	4.41E-06	1.59E-03	5.82E-04	0.008	Res
582301.42_4130649.3	582301.42	4130649.3	3.36E-05	3.88E-06	1.39E-03	5.11E-04	0.007	Res
582357.99_4130649.3	582357.99	4130649.3	2.79E-05	3.24E-06	1.15E-03	4.25E-04	0.006	Res
582414.56_4130649.3	582414.56	4130649.3	2.80E-05	3.24E-06	1.15E-03	4.25E-04	0.006	Res
582471.13_4130649.3	582471.13	4130649.3	2.63E-05	3.05E-06	1.08E-03	4.00E-04	0.006	Res
582527.7_4130649.3	582527.7	4130649.3	2.49E-05	2.90E-06	1.02E-03	3.79E-04	0.005	Res
582584.27_4130649.3	582584.27	4130649.3	2.23E-05	2.60E-06	9.12E-04	3.39E-04	0.005	Res
582640.84_4130649.3	582640.84	4130649.3	1.90E-05	2.22E-06	7.70E-04	2.88E-04	0.004	Res
582697.41_4130649.3	582697.41	4130649.3	1.71E-05	2.01E-06	6.93E-04	2.60E-04	0.004	Res
582753.98_4130649.3	582753.98	4130649.3	1.81E-05	2.11E-06	7.33E-04	2.74E-04	0.004	Res
582810.55_4130649.3	582810.55	4130649.3	1.88E-05	2.19E-06	7.66E-04	2.86E-04	0.004	Res

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Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)				Acute Calculation, ΣC _{TAC} /REL	
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium	Total HI	Receptor Type
582867.12_4130649.3	582867.12	4130649.3	1.91E-05	2.23E-06	7.80E-04	2.90E-04	0.004	Res
581848.86_4130733.21	581848.86	4130733.21	4.44E-05	5.07E-06	1.87E-03	6.75E-04	0.010	Res
581905.43_4130733.21	581905.43	4130733.21	4.25E-05	4.84E-06	1.80E-03	6.46E-04	0.009	Res
581962_4130733.21	581962	4130733.21	4.47E-05	5.07E-06	1.90E-03	6.80E-04	0.010	Res
582018.57_4130733.21	582018.57	4130733.21	4.26E-05	4.84E-06	1.80E-03	6.47E-04	0.009	Res
582075.14_4130733.21	582075.14	4130733.21	4.74E-05	5.39E-06	2.01E-03	7.21E-04	0.010	Res
582131.71_4130733.21	582131.71	4130733.21	4.28E-05	4.87E-06	1.80E-03	6.50E-04	0.009	Res
582188.28_4130733.21	582188.28	4130733.21	3.76E-05	4.30E-06	1.58E-03	5.72E-04	0.008	Res
582244.85_4130733.21	582244.85	4130733.21	3.52E-05	4.04E-06	1.47E-03	5.35E-04	0.008	Res
582301.42_4130733.21	582301.42	4130733.21	3.36E-05	3.86E-06	1.40E-03	5.11E-04	0.007	Res
582357.99_4130733.21	582357.99	4130733.21	3.11E-05	3.59E-06	1.29E-03	4.73E-04	0.007	Res
582414.56_4130733.21	582414.56	4130733.21	2.65E-05	3.07E-06	1.09E-03	4.03E-04	0.006	Res
582471.13_4130733.21	582471.13	4130733.21	2.23E-05	2.60E-06	9.10E-04	3.39E-04	0.005	Res
582527.7_4130733.21	582527.7	4130733.21	2.36E-05	2.74E-06	9.66E-04	3.58E-04	0.005	Res
582584.27_4130733.21	582584.27	4130733.21	2.42E-05	2.81E-06	9.97E-04	3.69E-04	0.005	Res
582640.84_4130733.21	582640.84	4130733.21	2.42E-05	2.81E-06	9.98E-04	3.68E-04	0.005	Res
582697.41_4130733.21	582697.41	4130733.21	2.37E-05	2.74E-06	9.75E-04	3.60E-04	0.005	Res
582753.98_4130733.21	582753.98	4130733.21	2.25E-05	2.61E-06	9.27E-04	3.42E-04	0.005	Res
582810.55_4130733.21	582810.55	4130733.21	2.12E-05	2.46E-06	8.70E-04	3.22E-04	0.004	Res
582867.12_4130733.21	582867.12	4130733.21	1.96E-05	2.28E-06	8.01E-04	2.97E-04	0.004	Res
581735.72_4130817.12	581735.72	4130817.12	4.46E-05	5.13E-06	1.86E-03	6.78E-04	0.010	Res
581792.29_4130817.12	581792.29	4130817.12	5.51E-05	6.30E-06	2.32E-03	8.38E-04	0.012	Res
581848.86_4130817.12	581848.86	4130817.12	5.93E-05	6.76E-06	2.50E-03	9.02E-04	0.013	Res
581905.43_4130817.12	581905.43	4130817.12	5.86E-05	6.67E-06	2.48E-03	8.91E-04	0.013	Res
581962_4130817.12	581962	4130817.12	5.82E-05	6.61E-06	2.47E-03	8.85E-04	0.013	Res
582018.57_4130817.12	582018.57	4130817.12	5.07E-05	5.75E-06	2.15E-03	7.71E-04	0.011	Res
582075.14_4130817.12	582075.14	4130817.12	4.74E-05	5.37E-06	2.02E-03	7.21E-04	0.010	Res
582131.71_4130817.12	582131.71	4130817.12	4.54E-05	5.13E-06	1.93E-03	6.90E-04	0.010	Res
582188.28_4130817.12	582188.28	4130817.12	4.00E-05	4.54E-06	1.70E-03	6.08E-04	0.009	Res
582244.85_4130817.12	582244.85	4130817.12	3.17E-05	3.62E-06	1.34E-03	4.82E-04	0.007	Res
582301.42_4130817.12	582301.42	4130817.12	3.40E-05	3.88E-06	1.43E-03	5.17E-04	0.007	Res
582357.99_4130817.12	582357.99	4130817.12	3.44E-05	3.93E-06	1.45E-03	5.23E-04	0.007	Res
582414.56_4130817.12	582414.56	4130817.12	3.30E-05	3.77E-06	1.38E-03	5.01E-04	0.007	Res
582471.13_4130817.12	582471.13	4130817.12	3.06E-05	3.52E-06	1.28E-03	4.66E-04	0.007	Res
582527.7_4130817.12	582527.7	4130817.12	2.74E-05	3.15E-06	1.14E-03	4.16E-04	0.006	Res
582584.27_4130817.12	582584.27	4130817.12	2.63E-05	3.03E-06	1.09E-03	3.99E-04	0.006	Res
582640.84_4130817.12	582640.84	4130817.12	2.58E-05	2.97E-06	1.07E-03	3.91E-04	0.005	Res
582697.41_4130817.12	582697.41	4130817.12	2.49E-05	2.88E-06	1.03E-03	3.78E-04	0.005	Res
582753.98_4130817.12	582753.98	4130817.12	2.36E-05	2.73E-06	9.75E-04	3.59E-04	0.005	Res
582810.55_4130817.12	582810.55	4130817.12	2.25E-05	2.61E-06	9.26E-04	3.42E-04	0.005	Res
582867.12_4130817.12	582867.12	4130817.12	2.19E-05	2.54E-06	9.04E-04	3.34E-04	0.005	Res
581735.72_4130901.03	581735.72	4130901.03	8.08E-05	9.17E-06	3.43E-03	1.23E-03	0.018	Res
581792.29_4130901.03	581792.29	4130901.03	9.15E-05	1.04E-05	3.89E-03	1.39E-03	0.020	Res
581848.86_4130901.03	581848.86	4130901.03	7.90E-05	8.97E-06	3.35E-03	1.20E-03	0.017	Res
581905.43_4130901.03	581905.43	4130901.03	7.17E-05	8.15E-06	3.04E-03	1.09E-03	0.016	Res
581962_4130901.03	581962	4130901.03	7.00E-05	7.94E-06	2.97E-03	1.06E-03	0.015	Res
582018.57_4130901.03	582018.57	4130901.03	5.92E-05	6.73E-06	2.51E-03	9.00E-04	0.013	Res
582075.14_4130901.03	582075.14	4130901.03	6.13E-05	6.96E-06	2.61E-03	9.32E-04	0.013	Res
582131.71_4130901.03	582131.71	4130901.03	5.79E-05	6.55E-06	2.46E-03	8.79E-04	0.013	Res

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Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582188.28_4130901.03	582188.28	4130901.03	5.01E-05	5.67E-06	2.13E-03	7.62E-04
582244.85_4130901.03	582244.85	4130901.03	4.42E-05	5.01E-06	1.88E-03	6.72E-04
582301.42_4130901.03	582301.42	4130901.03	4.07E-05	4.61E-06	1.74E-03	6.19E-04
582357.99_4130901.03	582357.99	4130901.03	3.70E-05	4.20E-06	1.58E-03	5.63E-04
582414.56_4130901.03	582414.56	4130901.03	3.40E-05	3.86E-06	1.44E-03	5.17E-04
582471.13_4130901.03	582471.13	4130901.03	3.18E-05	3.62E-06	1.34E-03	4.83E-04
582527.7_4130901.03	582527.7	4130901.03	2.94E-05	3.36E-06	1.24E-03	4.47E-04
582584.27_4130901.03	582584.27	4130901.03	2.73E-05	3.13E-06	1.15E-03	4.16E-04
582640.84_4130901.03	582640.84	4130901.03	2.53E-05	2.91E-06	1.06E-03	3.85E-04
582697.41_4130901.03	582697.41	4130901.03	2.34E-05	2.69E-06	9.72E-04	3.55E-04
582753.98_4130901.03	582753.98	4130901.03	2.17E-05	2.51E-06	8.99E-04	3.30E-04
582810.55_4130901.03	582810.55	4130901.03	2.11E-05	2.44E-06	8.69E-04	3.20E-04
582867.12_4130901.03	582867.12	4130901.03	2.05E-05	2.37E-06	8.44E-04	3.11E-04
581735.72_4130984.94	581735.72	4130984.94	1.65E-04	1.86E-05	7.08E-03	2.51E-03
581792.29_4130984.94	581792.29	4130984.94	1.73E-04	1.95E-05	7.43E-03	2.63E-03
581848.86_4130984.94	581848.86	4130984.94	1.78E-04	2.01E-05	7.64E-03	2.71E-03
581905.43_4130984.94	581905.43	4130984.94	1.61E-04	1.82E-05	6.91E-03	2.45E-03
581962_4130984.94	581962	4130984.94	1.15E-04	1.29E-05	4.89E-03	1.74E-03
582018.57_4130984.94	582018.57	4130984.94	8.38E-05	9.48E-06	3.56E-03	1.27E-03
582075.14_4130984.94	582075.14	4130984.94	6.53E-05	7.41E-06	2.77E-03	9.92E-04
582131.71_4130984.94	582131.71	4130984.94	5.43E-05	6.18E-06	2.30E-03	8.26E-04
582188.28_4130984.94	582188.28	4130984.94	4.83E-05	5.49E-06	2.04E-03	7.33E-04
582244.85_4130984.94	582244.85	4130984.94	4.33E-05	4.93E-06	1.83E-03	6.59E-04
582301.42_4130984.94	582301.42	4130984.94	3.94E-05	4.47E-06	1.67E-03	5.98E-04
582357.99_4130984.94	582357.99	4130984.94	3.61E-05	4.10E-06	1.53E-03	5.49E-04
582414.56_4130984.94	582414.56	4130984.94	3.33E-05	3.77E-06	1.41E-03	5.06E-04
582471.13_4130984.94	582471.13	4130984.94	3.09E-05	3.50E-06	1.31E-03	4.70E-04
582527.7_4130984.94	582527.7	4130984.94	2.90E-05	3.29E-06	1.23E-03	4.40E-04
582584.27_4130984.94	582584.27	4130984.94	2.75E-05	3.13E-06	1.17E-03	4.19E-04
582640.84_4130984.94	582640.84	4130984.94	2.65E-05	3.02E-06	1.12E-03	4.02E-04
582697.41_4130984.94	582697.41	4130984.94	2.53E-05	2.89E-06	1.06E-03	3.85E-04
582753.98_4130984.94	582753.98	4130984.94	2.45E-05	2.80E-06	1.03E-03	3.72E-04
582810.55_4130984.94	582810.55	4130984.94	2.36E-05	2.70E-06	9.87E-04	3.59E-04
582867.12_4130984.94	582867.12	4130984.94	2.27E-05	2.61E-06	9.49E-04	3.46E-04
581735.72_4131068.85	581735.72	4131068.85	6.00E-05	6.81E-06	2.54E-03	9.11E-04
581792.29_4131068.85	581792.29	4131068.85	6.08E-05	6.88E-06	2.58E-03	9.24E-04
581848.86_4131068.85	581848.86	4131068.85	6.59E-05	7.47E-06	2.80E-03	1.00E-03
581905.43_4131068.85	581905.43	4131068.85	6.50E-05	7.37E-06	2.76E-03	9.88E-04
581962_4131068.85	581962	4131068.85	6.71E-05	7.61E-06	2.85E-03	1.02E-03
582018.57_4131068.85	582018.57	4131068.85	5.87E-05	6.68E-06	2.49E-03	8.93E-04
582075.14_4131068.85	582075.14	4131068.85	5.05E-05	5.76E-06	2.13E-03	7.68E-04
582131.71_4131068.85	582131.71	4131068.85	4.56E-05	5.21E-06	1.92E-03	6.94E-04
582188.28_4131068.85	582188.28	4131068.85	4.25E-05	4.86E-06	1.79E-03	6.47E-04
582244.85_4131068.85	582244.85	4131068.85	4.01E-05	4.58E-06	1.69E-03	6.09E-04
582301.42_4131068.85	582301.42	4131068.85	3.78E-05	4.31E-06	1.59E-03	5.74E-04
582357.99_4131068.85	582357.99	4131068.85	3.54E-05	4.04E-06	1.49E-03	5.38E-04
582414.56_4131068.85	582414.56	4131068.85	3.33E-05	3.79E-06	1.41E-03	5.06E-04
582471.13_4131068.85	582471.13	4131068.85	3.12E-05	3.55E-06	1.32E-03	4.75E-04
582527.7_4131068.85	582527.7	4131068.85	2.93E-05	3.32E-06	1.24E-03	4.45E-04

Acute Calculation, ΣC_{TAC} /REL

Total HI	Receptor Type
0.011	Res
0.010	Res
0.009	Res
0.008	Res
0.007	Res
0.007	Res
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.004	Res
0.004	Res
0.004	Res
0.036	Res
0.038	Res
0.039	Res
0.035	Res
0.025	Res
0.018	Res
0.014	Res
0.012	Res
0.010	Res
0.009	Res
0.009	Res
0.008	Res
0.007	Res
0.007	Res
0.006	Res
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.005	Res
0.013	Res
0.013	Res
0.014	Res
0.014	Res
0.015	Res
0.013	Res
0.011	Res
0.010	Res
0.009	Res
0.009	Res
0.008	Res
0.008	Res
0.007	Res
0.007	Res
0.006	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582584.27_4131068.85	582584.27	4131068.85	2.73E-05	3.10E-06	1.16E-03	4.15E-04
582640.84_4131068.85	582640.84	4131068.85	2.62E-05	2.97E-06	1.12E-03	3.99E-04
582697.41_4131068.85	582697.41	4131068.85	2.52E-05	2.85E-06	1.07E-03	3.83E-04
582753.98_4131068.85	582753.98	4131068.85	2.45E-05	2.78E-06	1.04E-03	3.72E-04
582810.55_4131068.85	582810.55	4131068.85	2.38E-05	2.71E-06	1.01E-03	3.62E-04
582867.12_4131068.85	582867.12	4131068.85	2.27E-05	2.59E-06	9.55E-04	3.45E-04
582018.57_4131152.76	582018.57	4131152.76	4.00E-05	4.56E-06	1.68E-03	6.08E-04
582244.85_4131152.76	582244.85	4131152.76	3.46E-05	3.97E-06	1.45E-03	5.26E-04
582301.42_4131152.76	582301.42	4131152.76	3.30E-05	3.78E-06	1.38E-03	5.01E-04
582357.99_4131152.76	582357.99	4131152.76	3.07E-05	3.52E-06	1.29E-03	4.67E-04
582414.56_4131152.76	582414.56	4131152.76	2.85E-05	3.27E-06	1.19E-03	4.33E-04
582471.13_4131152.76	582471.13	4131152.76	2.56E-05	2.93E-06	1.07E-03	3.88E-04
582527.7_4131152.76	582527.7	4131152.76	2.31E-05	2.65E-06	9.67E-04	3.51E-04
582584.27_4131152.76	582584.27	4131152.76	2.14E-05	2.45E-06	8.96E-04	3.25E-04
582640.84_4131152.76	582640.84	4131152.76	2.08E-05	2.38E-06	8.74E-04	3.16E-04
582697.41_4131152.76	582697.41	4131152.76	2.02E-05	2.30E-06	8.52E-04	3.07E-04
582753.98_4131152.76	582753.98	4131152.76	2.00E-05	2.28E-06	8.46E-04	3.04E-04
582810.55_4131152.76	582810.55	4131152.76	1.96E-05	2.23E-06	8.33E-04	2.98E-04
582867.12_4131152.76	582867.12	4131152.76	1.89E-05	2.15E-06	8.01E-04	2.87E-04

Acute Calculation, $\sum C_{TAC} / REL$

Total HI	Receptor Type
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.005	Res
0.009	Res
0.007	Res
0.007	Res
0.007	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.004	Res
0.004	Res
0.004	Res
0.004	Res
0.004	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)				Acute Calculation, $\sum C_{TAC} / REL$	
			Arsenic	Mercury	Nickel	Vanadium	Total HI	Receptor Type
	UTM X	UTM Y						
582301.42_4129726.29	582301.42	4129726.29	1.87E-05	2.23E-06	7.32E-04	2.84E-04	0.004	Res
582357.99_4129726.29	582357.99	4129726.29	1.70E-05	2.02E-06	6.71E-04	2.58E-04	0.003	Res
582414.56_4129726.29	582414.56	4129726.29	1.59E-05	1.89E-06	6.29E-04	2.42E-04	0.003	Res
582471.13_4129726.29	582471.13	4129726.29	1.50E-05	1.79E-06	5.95E-04	2.29E-04	0.003	Res
582527.7_4129726.29	582527.7	4129726.29	1.43E-05	1.70E-06	5.64E-04	2.17E-04	0.003	Res
582584.27_4129726.29	582584.27	4129726.29	1.45E-05	1.72E-06	5.77E-04	2.20E-04	0.003	Res
582640.84_4129726.29	582640.84	4129726.29	1.50E-05	1.77E-06	6.02E-04	2.28E-04	0.003	Res
582697.41_4129726.29	582697.41	4129726.29	1.43E-05	1.69E-06	5.73E-04	2.17E-04	0.003	Res
582753.98_4129726.29	582753.98	4129726.29	1.36E-05	1.60E-06	5.43E-04	2.06E-04	0.003	Res
582810.55_4129726.29	582810.55	4129726.29	1.37E-05	1.62E-06	5.51E-04	2.09E-04	0.003	Res
582244.85_4129810.2	582244.85	4129810.2	2.03E-05	2.42E-06	8.00E-04	3.08E-04	0.004	Res
582301.42_4129810.2	582301.42	4129810.2	1.89E-05	2.25E-06	7.49E-04	2.88E-04	0.004	Res
582357.99_4129810.2	582357.99	4129810.2	1.76E-05	2.09E-06	6.97E-04	2.67E-04	0.004	Res
582414.56_4129810.2	582414.56	4129810.2	1.62E-05	1.92E-06	6.44E-04	2.46E-04	0.003	Res
582471.13_4129810.2	582471.13	4129810.2	1.51E-05	1.79E-06	5.98E-04	2.29E-04	0.003	Res
582527.7_4129810.2	582527.7	4129810.2	1.56E-05	1.84E-06	6.23E-04	2.37E-04	0.003	Res
582584.27_4129810.2	582584.27	4129810.2	1.57E-05	1.85E-06	6.28E-04	2.38E-04	0.003	Res
582640.84_4129810.2	582640.84	4129810.2	1.49E-05	1.76E-06	5.99E-04	2.27E-04	0.003	Res
582697.41_4129810.2	582697.41	4129810.2	1.49E-05	1.75E-06	5.97E-04	2.26E-04	0.003	Res
581905.43_4129894.11	581905.43	4129894.11	1.32E-05	1.58E-06	5.20E-04	2.01E-04	0.003	Res
581962_4129894.11	581962	4129894.11	1.79E-05	2.24E-06	6.52E-04	2.72E-04	0.003	Res
582131.71_4129894.11	582131.71	4129894.11	1.87E-05	2.27E-06	7.13E-04	2.84E-04	0.004	Res
582188.28_4129894.11	582188.28	4129894.11	1.82E-05	2.21E-06	7.00E-04	2.77E-04	0.004	Res
582244.85_4129894.11	582244.85	4129894.11	1.66E-05	2.01E-06	6.39E-04	2.52E-04	0.003	Res
582301.42_4129894.11	582301.42	4129894.11	1.60E-05	1.93E-06	6.20E-04	2.43E-04	0.003	Res
582357.99_4129894.11	582357.99	4129894.11	1.54E-05	1.86E-06	5.99E-04	2.34E-04	0.003	Res
582414.56_4129894.11	582414.56	4129894.11	1.58E-05	1.89E-06	6.22E-04	2.40E-04	0.003	Res
582471.13_4129894.11	582471.13	4129894.11	1.68E-05	2.00E-06	6.69E-04	2.56E-04	0.003	Res
582527.7_4129894.11	582527.7	4129894.11	1.66E-05	1.97E-06	6.61E-04	2.52E-04	0.003	Res
582584.27_4129894.11	582584.27	4129894.11	1.56E-05	1.85E-06	6.21E-04	2.38E-04	0.003	Res
582640.84_4129894.11	582640.84	4129894.11	1.62E-05	1.91E-06	6.46E-04	2.46E-04	0.003	Res
582697.41_4129894.11	582697.41	4129894.11	1.56E-05	1.85E-06	6.24E-04	2.37E-04	0.003	Res
581962_4129978.02	581962	4129978.02	2.04E-05	2.57E-06	7.27E-04	3.09E-04	0.004	Res
582018.57_4129978.02	582018.57	4129978.02	2.09E-05	2.65E-06	7.43E-04	3.18E-04	0.004	Res
582075.14_4129978.02	582075.14	4129978.02	2.21E-05	2.67E-06	8.52E-04	3.35E-04	0.004	Res
582131.71_4129978.02	582131.71	4129978.02	1.97E-05	2.38E-06	7.62E-04	3.00E-04	0.004	Res
582188.28_4129978.02	582188.28	4129978.02	1.84E-05	2.22E-06	7.19E-04	2.80E-04	0.004	Res
582244.85_4129978.02	582244.85	4129978.02	1.77E-05	2.13E-06	6.91E-04	2.69E-04	0.004	Res
582301.42_4129978.02	582301.42	4129978.02	1.64E-05	1.97E-06	6.41E-04	2.49E-04	0.003	Res
582357.99_4129978.02	582357.99	4129978.02	1.69E-05	2.02E-06	6.68E-04	2.57E-04	0.003	Res
582414.56_4129978.02	582414.56	4129978.02	1.81E-05	2.15E-06	7.22E-04	2.76E-04	0.004	Res
582471.13_4129978.02	582471.13	4129978.02	1.74E-05	2.06E-06	6.93E-04	2.65E-04	0.004	Res
582527.7_4129978.02	582527.7	4129978.02	1.70E-05	2.01E-06	6.76E-04	2.58E-04	0.003	Res
582584.27_4129978.02	582584.27	4129978.02	1.72E-05	2.03E-06	6.89E-04	2.62E-04	0.004	Res
582640.84_4129978.02	582640.84	4129978.02	1.67E-05	1.97E-06	6.69E-04	2.54E-04	0.003	Res
582697.41_4129978.02	582697.41	4129978.02	1.73E-05	2.04E-06	6.98E-04	2.64E-04	0.004	Res
582753.98_4129978.02	582753.98	4129978.02	1.62E-05	1.91E-06	6.49E-04	2.46E-04	0.003	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)				Acute Calculation, ΣC _{TAC} /REL	
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium	Total HI	Receptor Type
582810.55_4129978.02	582810.55	4129978.02	1.37E-05	1.62E-06	5.42E-04	2.08E-04	0.003	Res
581905.43_4130061.93	581905.43	4130061.93	2.57E-05	3.07E-06	1.01E-03	3.90E-04	0.005	Res
581962_4130061.93	581962	4130061.93	2.47E-05	2.95E-06	9.74E-04	3.76E-04	0.005	Res
582018.57_4130061.93	582018.57	4130061.93	2.50E-05	2.98E-06	9.82E-04	3.79E-04	0.005	Res
582075.14_4130061.93	582075.14	4130061.93	2.43E-05	2.90E-06	9.55E-04	3.69E-04	0.005	Res
582131.71_4130061.93	582131.71	4130061.93	2.21E-05	2.64E-06	8.73E-04	3.36E-04	0.004	Res
582188.28_4130061.93	582188.28	4130061.93	2.07E-05	2.46E-06	8.18E-04	3.14E-04	0.004	Res
582244.85_4130061.93	582244.85	4130061.93	1.88E-05	2.24E-06	7.46E-04	2.86E-04	0.004	Res
582301.42_4130061.93	582301.42	4130061.93	1.81E-05	2.16E-06	7.19E-04	2.76E-04	0.004	Res
582357.99_4130061.93	582357.99	4130061.93	1.91E-05	2.25E-06	7.61E-04	2.90E-04	0.004	Res
582414.56_4130061.93	582414.56	4130061.93	1.79E-05	2.12E-06	7.13E-04	2.72E-04	0.004	Res
582471.13_4130061.93	582471.13	4130061.93	1.87E-05	2.21E-06	7.52E-04	2.85E-04	0.004	Res
582527.7_4130061.93	582527.7	4130061.93	1.84E-05	2.17E-06	7.40E-04	2.80E-04	0.004	Res
582584.27_4130061.93	582584.27	4130061.93	1.89E-05	2.22E-06	7.62E-04	2.87E-04	0.004	Res
582640.84_4130061.93	582640.84	4130061.93	1.84E-05	2.17E-06	7.44E-04	2.80E-04	0.004	Res
582697.41_4130061.93	582697.41	4130061.93	1.70E-05	2.01E-06	6.85E-04	2.59E-04	0.004	Res
582753.98_4130061.93	582753.98	4130061.93	1.64E-05	1.93E-06	6.59E-04	2.49E-04	0.003	Res
582810.55_4130061.93	582810.55	4130061.93	1.63E-05	1.92E-06	6.57E-04	2.48E-04	0.003	Res
581962_4130145.84	581962	4130145.84	2.27E-05	2.67E-06	9.10E-04	3.45E-04	0.005	Res
582018.57_4130145.84	582018.57	4130145.84	2.16E-05	2.55E-06	8.66E-04	3.28E-04	0.004	Res
582075.14_4130145.84	582075.14	4130145.84	2.17E-05	2.57E-06	8.71E-04	3.30E-04	0.004	Res
582131.71_4130145.84	582131.71	4130145.84	2.06E-05	2.43E-06	8.27E-04	3.14E-04	0.004	Res
582188.28_4130145.84	582188.28	4130145.84	1.88E-05	2.22E-06	7.52E-04	2.85E-04	0.004	Res
582244.85_4130145.84	582244.85	4130145.84	1.97E-05	2.32E-06	7.95E-04	3.00E-04	0.004	Res
582301.42_4130145.84	582301.42	4130145.84	1.97E-05	2.32E-06	7.98E-04	3.00E-04	0.004	Res
582357.99_4130145.84	582357.99	4130145.84	1.92E-05	2.26E-06	7.78E-04	2.92E-04	0.004	Res
582414.56_4130145.84	582414.56	4130145.84	1.98E-05	2.32E-06	8.05E-04	3.01E-04	0.004	Res
582471.13_4130145.84	582471.13	4130145.84	1.98E-05	2.31E-06	8.04E-04	3.01E-04	0.004	Res
582527.7_4130145.84	582527.7	4130145.84	2.02E-05	2.36E-06	8.26E-04	3.08E-04	0.004	Res
582584.27_4130145.84	582584.27	4130145.84	1.91E-05	2.23E-06	7.76E-04	2.90E-04	0.004	Res
582640.84_4130145.84	582640.84	4130145.84	1.77E-05	2.07E-06	7.17E-04	2.68E-04	0.004	Res
582697.41_4130145.84	582697.41	4130145.84	1.76E-05	2.06E-06	7.18E-04	2.68E-04	0.004	Res
582753.98_4130145.84	582753.98	4130145.84	1.85E-05	2.16E-06	7.56E-04	2.81E-04	0.004	Res
582810.55_4130145.84	582810.55	4130145.84	1.78E-05	2.07E-06	7.25E-04	2.70E-04	0.004	Res
582867.12_4130145.84	582867.12	4130145.84	1.42E-05	1.67E-06	5.72E-04	2.16E-04	0.003	Res
581962_4130229.75	581962	4130229.75	2.06E-05	2.47E-06	8.09E-04	3.14E-04	0.004	Res
582018.57_4130229.75	582018.57	4130229.75	1.94E-05	2.31E-06	7.63E-04	2.95E-04	0.004	Res
582075.14_4130229.75	582075.14	4130229.75	1.94E-05	2.31E-06	7.72E-04	2.96E-04	0.004	Res
582131.71_4130229.75	582131.71	4130229.75	1.98E-05	2.34E-06	7.93E-04	3.01E-04	0.004	Res
582188.28_4130229.75	582188.28	4130229.75	2.14E-05	2.51E-06	8.67E-04	3.26E-04	0.004	Res
582244.85_4130229.75	582244.85	4130229.75	2.06E-05	2.42E-06	8.37E-04	3.14E-04	0.004	Res
582301.42_4130229.75	582301.42	4130229.75	2.13E-05	2.48E-06	8.68E-04	3.23E-04	0.004	Res
582357.99_4130229.75	582357.99	4130229.75	2.05E-05	2.39E-06	8.40E-04	3.12E-04	0.004	Res
582414.56_4130229.75	582414.56	4130229.75	2.18E-05	2.53E-06	8.99E-04	3.32E-04	0.005	Res
582471.13_4130229.75	582471.13	4130229.75	2.07E-05	2.39E-06	8.52E-04	3.14E-04	0.004	Res
582527.7_4130229.75	582527.7	4130229.75	1.91E-05	2.21E-06	7.85E-04	2.90E-04	0.004	Res
582584.27_4130229.75	582584.27	4130229.75	1.93E-05	2.23E-06	7.94E-04	2.93E-04	0.004	Res
582640.84_4130229.75	582640.84	4130229.75	2.03E-05	2.34E-06	8.38E-04	3.08E-04	0.004	Res

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Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)				Acute Calculation, $\Sigma C_{TAC} / REL$	
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium	Total HI	Receptor Type
582697.41_4130229.75	582697.41	4130229.75	1.96E-05	2.27E-06	8.09E-04	2.98E-04	0.004	Res
582753.98_4130229.75	582753.98	4130229.75	1.75E-05	2.03E-06	7.17E-04	2.65E-04	0.004	Res
582810.55_4130229.75	582810.55	4130229.75	1.78E-05	2.06E-06	7.31E-04	2.70E-04	0.004	Res
582867.12_4130229.75	582867.12	4130229.75	1.90E-05	2.19E-06	7.84E-04	2.88E-04	0.004	Res
582018.57_4130313.66	582018.57	4130313.66	1.95E-05	2.34E-06	7.67E-04	2.97E-04	0.004	Res
582075.14_4130313.66	582075.14	4130313.66	2.20E-05	2.60E-06	8.77E-04	3.34E-04	0.005	Res
582131.71_4130313.66	582131.71	4130313.66	2.37E-05	2.79E-06	9.55E-04	3.60E-04	0.005	Res
582188.28_4130313.66	582188.28	4130313.66	2.25E-05	2.65E-06	9.04E-04	3.42E-04	0.005	Res
582244.85_4130313.66	582244.85	4130313.66	2.36E-05	2.76E-06	9.56E-04	3.59E-04	0.005	Res
582301.42_4130313.66	582301.42	4130313.66	2.41E-05	2.82E-06	9.83E-04	3.67E-04	0.005	Res
582357.99_4130313.66	582357.99	4130313.66	2.37E-05	2.76E-06	9.66E-04	3.60E-04	0.005	Res
582414.56_4130313.66	582414.56	4130313.66	2.17E-05	2.54E-06	8.84E-04	3.30E-04	0.005	Res
582471.13_4130313.66	582471.13	4130313.66	2.18E-05	2.54E-06	8.88E-04	3.31E-04	0.005	Res
582527.7_4130313.66	582527.7	4130313.66	2.32E-05	2.70E-06	9.55E-04	3.53E-04	0.005	Res
582584.27_4130313.66	582584.27	4130313.66	2.21E-05	2.57E-06	9.10E-04	3.36E-04	0.005	Res
582640.84_4130313.66	582640.84	4130313.66	1.97E-05	2.30E-06	8.09E-04	3.00E-04	0.004	Res
582697.41_4130313.66	582697.41	4130313.66	2.08E-05	2.41E-06	8.56E-04	3.16E-04	0.004	Res
582753.98_4130313.66	582753.98	4130313.66	2.14E-05	2.48E-06	8.86E-04	3.26E-04	0.005	Res
582810.55_4130313.66	582810.55	4130313.66	2.02E-05	2.33E-06	8.34E-04	3.06E-04	0.004	Res
582867.12_4130313.66	582867.12	4130313.66	1.78E-05	2.06E-06	7.32E-04	2.70E-04	0.004	Res
581848.86_4130397.57	581848.86	4130397.57	2.44E-05	2.91E-06	9.59E-04	3.70E-04	0.005	Res
581905.43_4130397.57	581905.43	4130397.57	2.31E-05	2.76E-06	9.09E-04	3.51E-04	0.005	Res
581962_4130397.57	581962	4130397.57	2.23E-05	2.66E-06	8.82E-04	3.39E-04	0.005	Res
582018.57_4130397.57	582018.57	4130397.57	2.44E-05	2.89E-06	9.77E-04	3.71E-04	0.005	Res
582075.14_4130397.57	582075.14	4130397.57	2.59E-05	3.05E-06	1.05E-03	3.94E-04	0.005	Res
582131.71_4130397.57	582131.71	4130397.57	2.60E-05	3.05E-06	1.06E-03	3.96E-04	0.005	Res
582188.28_4130397.57	582188.28	4130397.57	2.56E-05	3.00E-06	1.04E-03	3.89E-04	0.005	Res
582244.85_4130397.57	582244.85	4130397.57	2.66E-05	3.10E-06	1.09E-03	4.04E-04	0.006	Res
582301.42_4130397.57	582301.42	4130397.57	2.44E-05	2.84E-06	9.95E-04	3.70E-04	0.005	Res
582357.99_4130397.57	582357.99	4130397.57	2.39E-05	2.79E-06	9.77E-04	3.64E-04	0.005	Res
582414.56_4130397.57	582414.56	4130397.57	2.58E-05	3.00E-06	1.06E-03	3.93E-04	0.005	Res
582471.13_4130397.57	582471.13	4130397.57	2.50E-05	2.91E-06	1.03E-03	3.81E-04	0.005	Res
582527.7_4130397.57	582527.7	4130397.57	2.24E-05	2.61E-06	9.15E-04	3.40E-04	0.005	Res
582584.27_4130397.57	582584.27	4130397.57	2.45E-05	2.84E-06	1.01E-03	3.73E-04	0.005	Res
582640.84_4130397.57	582640.84	4130397.57	2.45E-05	2.84E-06	1.01E-03	3.72E-04	0.005	Res
582697.41_4130397.57	582697.41	4130397.57	2.21E-05	2.57E-06	9.09E-04	3.36E-04	0.005	Res
582753.98_4130397.57	582753.98	4130397.57	1.89E-05	2.20E-06	7.72E-04	2.87E-04	0.004	Res
582810.55_4130397.57	582810.55	4130397.57	1.61E-05	1.89E-06	6.53E-04	2.45E-04	0.003	Res
582867.12_4130397.57	582867.12	4130397.57	1.64E-05	1.92E-06	6.68E-04	2.50E-04	0.003	Res
581848.86_4130481.48	581848.86	4130481.48	2.53E-05	3.00E-06	1.01E-03	3.84E-04	0.005	Res
581905.43_4130481.48	581905.43	4130481.48	2.58E-05	3.05E-06	1.03E-03	3.92E-04	0.005	Res
581962_4130481.48	581962	4130481.48	2.68E-05	3.16E-06	1.08E-03	4.08E-04	0.006	Res
582018.57_4130481.48	582018.57	4130481.48	2.77E-05	3.25E-06	1.12E-03	4.21E-04	0.006	Res
582075.14_4130481.48	582075.14	4130481.48	2.90E-05	3.39E-06	1.18E-03	4.41E-04	0.006	Res
582131.71_4130481.48	582131.71	4130481.48	3.01E-05	3.51E-06	1.23E-03	4.58E-04	0.006	Res
582188.28_4130481.48	582188.28	4130481.48	2.84E-05	3.32E-06	1.16E-03	4.32E-04	0.006	Res
582244.85_4130481.48	582244.85	4130481.48	2.71E-05	3.16E-06	1.10E-03	4.12E-04	0.006	Res
582301.42_4130481.48	582301.42	4130481.48	2.89E-05	3.36E-06	1.19E-03	4.40E-04	0.006	Res
582357.99_4130481.48	582357.99	4130481.48	2.78E-05	3.23E-06	1.14E-03	4.22E-04	0.006	Res

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Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)				Acute Calculation, ΣC _{TAC} /REL	
			Arsenic	Mercury	Nickel	Vanadium	Total HI	Receptor Type
	UTM X	UTM Y						
582414.56_4130481.48	582414.56	4130481.48	2.65E-05	3.08E-06	1.09E-03	4.02E-04	0.006	Res
582471.13_4130481.48	582471.13	4130481.48	2.89E-05	3.35E-06	1.19E-03	4.40E-04	0.006	Res
582527.7_4130481.48	582527.7	4130481.48	2.75E-05	3.18E-06	1.14E-03	4.18E-04	0.006	Res
582584.27_4130481.48	582584.27	4130481.48	2.42E-05	2.80E-06	9.95E-04	3.67E-04	0.005	Res
582640.84_4130481.48	582640.84	4130481.48	1.98E-05	2.30E-06	8.07E-04	3.00E-04	0.004	Res
582697.41_4130481.48	582697.41	4130481.48	1.90E-05	2.21E-06	7.75E-04	2.89E-04	0.004	Res
582753.98_4130481.48	582753.98	4130481.48	1.88E-05	2.19E-06	7.69E-04	2.86E-04	0.004	Res
582810.55_4130481.48	582810.55	4130481.48	1.78E-05	2.08E-06	7.27E-04	2.71E-04	0.004	Res
582867.12_4130481.48	582867.12	4130481.48	1.76E-05	2.06E-06	7.19E-04	2.68E-04	0.004	Res
581735.72_4130565.39	581735.72	4130565.39	2.33E-05	2.74E-06	9.42E-04	3.55E-04	0.005	Res
581792.29_4130565.39	581792.29	4130565.39	2.29E-05	2.70E-06	9.19E-04	3.48E-04	0.005	Res
581848.86_4130565.39	581848.86	4130565.39	2.56E-05	3.00E-06	1.03E-03	3.88E-04	0.005	Res
581905.43_4130565.39	581905.43	4130565.39	3.18E-05	3.70E-06	1.30E-03	4.83E-04	0.007	Res
581962_4130565.39	581962	4130565.39	3.17E-05	3.69E-06	1.30E-03	4.82E-04	0.007	Res
582018.57_4130565.39	582018.57	4130565.39	3.29E-05	3.82E-06	1.35E-03	4.99E-04	0.007	Res
582075.14_4130565.39	582075.14	4130565.39	3.34E-05	3.88E-06	1.37E-03	5.08E-04	0.007	Res
582131.71_4130565.39	582131.71	4130565.39	3.06E-05	3.56E-06	1.25E-03	4.65E-04	0.006	Res
582188.28_4130565.39	582188.28	4130565.39	3.31E-05	3.83E-06	1.36E-03	5.03E-04	0.007	Res
582244.85_4130565.39	582244.85	4130565.39	3.13E-05	3.63E-06	1.29E-03	4.76E-04	0.007	Res
582301.42_4130565.39	582301.42	4130565.39	3.21E-05	3.72E-06	1.33E-03	4.88E-04	0.007	Res
582357.99_4130565.39	582357.99	4130565.39	3.31E-05	3.83E-06	1.37E-03	5.04E-04	0.007	Res
582414.56_4130565.39	582414.56	4130565.39	3.04E-05	3.51E-06	1.26E-03	4.62E-04	0.006	Res
582471.13_4130565.39	582471.13	4130565.39	2.59E-05	3.01E-06	1.07E-03	3.94E-04	0.005	Res
582527.7_4130565.39	582527.7	4130565.39	2.28E-05	2.66E-06	9.32E-04	3.47E-04	0.005	Res
582584.27_4130565.39	582584.27	4130565.39	2.27E-05	2.65E-06	9.29E-04	3.45E-04	0.005	Res
582640.84_4130565.39	582640.84	4130565.39	2.12E-05	2.48E-06	8.67E-04	3.23E-04	0.004	Res
582697.41_4130565.39	582697.41	4130565.39	2.06E-05	2.41E-06	8.42E-04	3.14E-04	0.004	Res
582753.98_4130565.39	582753.98	4130565.39	1.91E-05	2.23E-06	7.77E-04	2.90E-04	0.004	Res
582810.55_4130565.39	582810.55	4130565.39	1.70E-05	1.99E-06	6.88E-04	2.58E-04	0.004	Res
582867.12_4130565.39	582867.12	4130565.39	1.46E-05	1.71E-06	5.85E-04	2.21E-04	0.003	Res
581735.72_4130649.3	581735.72	4130649.3	2.03E-05	2.38E-06	8.23E-04	3.09E-04	0.004	Res
581792.29_4130649.3	581792.29	4130649.3	2.01E-05	2.34E-06	8.24E-04	3.05E-04	0.004	Res
581905.43_4130649.3	581905.43	4130649.3	3.60E-05	4.13E-06	1.50E-03	5.47E-04	0.008	Res
581962_4130649.3	581962	4130649.3	3.83E-05	4.40E-06	1.60E-03	5.82E-04	0.008	Res
582018.57_4130649.3	582018.57	4130649.3	3.54E-05	4.07E-06	1.47E-03	5.38E-04	0.008	Res
582075.14_4130649.3	582075.14	4130649.3	3.82E-05	4.39E-06	1.59E-03	5.80E-04	0.008	Res
582131.71_4130649.3	582131.71	4130649.3	3.63E-05	4.18E-06	1.51E-03	5.51E-04	0.008	Res
582188.28_4130649.3	582188.28	4130649.3	3.89E-05	4.47E-06	1.62E-03	5.91E-04	0.008	Res
582244.85_4130649.3	582244.85	4130649.3	3.83E-05	4.41E-06	1.59E-03	5.82E-04	0.008	Res
582301.42_4130649.3	582301.42	4130649.3	3.36E-05	3.88E-06	1.39E-03	5.11E-04	0.007	Res
582357.99_4130649.3	582357.99	4130649.3	2.79E-05	3.24E-06	1.15E-03	4.25E-04	0.006	Res
582414.56_4130649.3	582414.56	4130649.3	2.80E-05	3.24E-06	1.15E-03	4.25E-04	0.006	Res
582471.13_4130649.3	582471.13	4130649.3	2.63E-05	3.05E-06	1.08E-03	4.00E-04	0.006	Res
582527.7_4130649.3	582527.7	4130649.3	2.49E-05	2.90E-06	1.02E-03	3.79E-04	0.005	Res
582584.27_4130649.3	582584.27	4130649.3	2.23E-05	2.60E-06	9.12E-04	3.39E-04	0.005	Res
582640.84_4130649.3	582640.84	4130649.3	1.90E-05	2.22E-06	7.70E-04	2.88E-04	0.004	Res
582697.41_4130649.3	582697.41	4130649.3	1.71E-05	2.01E-06	6.93E-04	2.60E-04	0.004	Res
582753.98_4130649.3	582753.98	4130649.3	1.81E-05	2.11E-06	7.33E-04	2.74E-04	0.004	Res
582810.55_4130649.3	582810.55	4130649.3	1.88E-05	2.19E-06	7.66E-04	2.86E-04	0.004	Res

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Receptor Lookup	Receptor Location		TAC Concentration, C_{AIR} ($\mu\text{g}/\text{m}^3$)				Acute Calculation, $\Sigma C_{TAC} / \text{REL}$	
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium	Total HI	Receptor Type
582867.12_4130649.3	582867.12	4130649.3	1.91E-05	2.23E-06	7.80E-04	2.90E-04	0.004	Res
581848.86_4130733.21	581848.86	4130733.21	4.44E-05	5.07E-06	1.87E-03	6.75E-04	0.010	Res
581905.43_4130733.21	581905.43	4130733.21	4.25E-05	4.84E-06	1.80E-03	6.46E-04	0.009	Res
581962_4130733.21	581962	4130733.21	4.47E-05	5.07E-06	1.90E-03	6.80E-04	0.010	Res
582018.57_4130733.21	582018.57	4130733.21	4.26E-05	4.84E-06	1.80E-03	6.47E-04	0.009	Res
582075.14_4130733.21	582075.14	4130733.21	4.74E-05	5.39E-06	2.01E-03	7.21E-04	0.010	Res
582131.71_4130733.21	582131.71	4130733.21	4.28E-05	4.87E-06	1.80E-03	6.50E-04	0.009	Res
582188.28_4130733.21	582188.28	4130733.21	3.76E-05	4.30E-06	1.58E-03	5.72E-04	0.008	Res
582244.85_4130733.21	582244.85	4130733.21	3.52E-05	4.04E-06	1.47E-03	5.35E-04	0.008	Res
582301.42_4130733.21	582301.42	4130733.21	3.36E-05	3.86E-06	1.40E-03	5.11E-04	0.007	Res
582357.99_4130733.21	582357.99	4130733.21	3.11E-05	3.59E-06	1.29E-03	4.73E-04	0.007	Res
582414.56_4130733.21	582414.56	4130733.21	2.65E-05	3.07E-06	1.09E-03	4.03E-04	0.006	Res
582471.13_4130733.21	582471.13	4130733.21	2.23E-05	2.60E-06	9.10E-04	3.39E-04	0.005	Res
582527.7_4130733.21	582527.7	4130733.21	2.36E-05	2.74E-06	9.66E-04	3.58E-04	0.005	Res
582584.27_4130733.21	582584.27	4130733.21	2.42E-05	2.81E-06	9.97E-04	3.69E-04	0.005	Res
582640.84_4130733.21	582640.84	4130733.21	2.42E-05	2.81E-06	9.98E-04	3.68E-04	0.005	Res
582697.41_4130733.21	582697.41	4130733.21	2.37E-05	2.74E-06	9.75E-04	3.60E-04	0.005	Res
582753.98_4130733.21	582753.98	4130733.21	2.25E-05	2.61E-06	9.27E-04	3.42E-04	0.005	Res
582810.55_4130733.21	582810.55	4130733.21	2.12E-05	2.46E-06	8.70E-04	3.22E-04	0.004	Res
582867.12_4130733.21	582867.12	4130733.21	1.96E-05	2.28E-06	8.01E-04	2.97E-04	0.004	Res
581735.72_4130817.12	581735.72	4130817.12	4.46E-05	5.13E-06	1.86E-03	6.78E-04	0.010	Res
581792.29_4130817.12	581792.29	4130817.12	5.51E-05	6.30E-06	2.32E-03	8.38E-04	0.012	Res
581848.86_4130817.12	581848.86	4130817.12	5.93E-05	6.76E-06	2.50E-03	9.02E-04	0.013	Res
581905.43_4130817.12	581905.43	4130817.12	5.86E-05	6.67E-06	2.48E-03	8.91E-04	0.013	Res
581962_4130817.12	581962	4130817.12	5.82E-05	6.61E-06	2.47E-03	8.85E-04	0.013	Res
582018.57_4130817.12	582018.57	4130817.12	5.07E-05	5.75E-06	2.15E-03	7.71E-04	0.011	Res
582075.14_4130817.12	582075.14	4130817.12	4.74E-05	5.37E-06	2.02E-03	7.21E-04	0.010	Res
582131.71_4130817.12	582131.71	4130817.12	4.54E-05	5.13E-06	1.93E-03	6.90E-04	0.010	Res
582188.28_4130817.12	582188.28	4130817.12	4.00E-05	4.54E-06	1.70E-03	6.08E-04	0.009	Res
582244.85_4130817.12	582244.85	4130817.12	3.17E-05	3.62E-06	1.34E-03	4.82E-04	0.007	Res
582301.42_4130817.12	582301.42	4130817.12	3.40E-05	3.88E-06	1.43E-03	5.17E-04	0.007	Res
582357.99_4130817.12	582357.99	4130817.12	3.44E-05	3.93E-06	1.45E-03	5.23E-04	0.007	Res
582414.56_4130817.12	582414.56	4130817.12	3.30E-05	3.77E-06	1.38E-03	5.01E-04	0.007	Res
582471.13_4130817.12	582471.13	4130817.12	3.06E-05	3.52E-06	1.28E-03	4.66E-04	0.007	Res
582527.7_4130817.12	582527.7	4130817.12	2.74E-05	3.15E-06	1.14E-03	4.16E-04	0.006	Res
582584.27_4130817.12	582584.27	4130817.12	2.63E-05	3.03E-06	1.09E-03	3.99E-04	0.006	Res
582640.84_4130817.12	582640.84	4130817.12	2.58E-05	2.97E-06	1.07E-03	3.91E-04	0.005	Res
582697.41_4130817.12	582697.41	4130817.12	2.49E-05	2.88E-06	1.03E-03	3.78E-04	0.005	Res
582753.98_4130817.12	582753.98	4130817.12	2.36E-05	2.73E-06	9.75E-04	3.59E-04	0.005	Res
582810.55_4130817.12	582810.55	4130817.12	2.25E-05	2.61E-06	9.26E-04	3.42E-04	0.005	Res
582867.12_4130817.12	582867.12	4130817.12	2.19E-05	2.54E-06	9.04E-04	3.34E-04	0.005	Res
581735.72_4130901.03	581735.72	4130901.03	8.08E-05	9.17E-06	3.43E-03	1.23E-03	0.018	Res
581792.29_4130901.03	581792.29	4130901.03	9.15E-05	1.04E-05	3.89E-03	1.39E-03	0.020	Res
581848.86_4130901.03	581848.86	4130901.03	7.90E-05	8.97E-06	3.35E-03	1.20E-03	0.017	Res
581905.43_4130901.03	581905.43	4130901.03	7.17E-05	8.15E-06	3.04E-03	1.09E-03	0.016	Res
581962_4130901.03	581962	4130901.03	7.00E-05	7.94E-06	2.97E-03	1.06E-03	0.015	Res
582018.57_4130901.03	582018.57	4130901.03	5.92E-05	6.73E-06	2.51E-03	9.00E-04	0.013	Res
582075.14_4130901.03	582075.14	4130901.03	6.13E-05	6.96E-06	2.61E-03	9.32E-04	0.013	Res
582131.71_4130901.03	582131.71	4130901.03	5.79E-05	6.55E-06	2.46E-03	8.79E-04	0.013	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582188.28_4130901.03	582188.28	4130901.03	5.01E-05	5.67E-06	2.13E-03	7.62E-04
582244.85_4130901.03	582244.85	4130901.03	4.42E-05	5.01E-06	1.88E-03	6.72E-04
582301.42_4130901.03	582301.42	4130901.03	4.07E-05	4.61E-06	1.74E-03	6.19E-04
582357.99_4130901.03	582357.99	4130901.03	3.70E-05	4.20E-06	1.58E-03	5.63E-04
582414.56_4130901.03	582414.56	4130901.03	3.40E-05	3.86E-06	1.44E-03	5.17E-04
582471.13_4130901.03	582471.13	4130901.03	3.18E-05	3.62E-06	1.34E-03	4.83E-04
582527.7_4130901.03	582527.7	4130901.03	2.94E-05	3.36E-06	1.24E-03	4.47E-04
582584.27_4130901.03	582584.27	4130901.03	2.73E-05	3.13E-06	1.15E-03	4.16E-04
582640.84_4130901.03	582640.84	4130901.03	2.53E-05	2.91E-06	1.06E-03	3.85E-04
582697.41_4130901.03	582697.41	4130901.03	2.34E-05	2.69E-06	9.72E-04	3.55E-04
582753.98_4130901.03	582753.98	4130901.03	2.17E-05	2.51E-06	8.99E-04	3.30E-04
582810.55_4130901.03	582810.55	4130901.03	2.11E-05	2.44E-06	8.69E-04	3.20E-04
582867.12_4130901.03	582867.12	4130901.03	2.05E-05	2.37E-06	8.44E-04	3.11E-04
581735.72_4130984.94	581735.72	4130984.94	1.65E-04	1.86E-05	7.08E-03	2.51E-03
581792.29_4130984.94	581792.29	4130984.94	1.73E-04	1.95E-05	7.43E-03	2.63E-03
581848.86_4130984.94	581848.86	4130984.94	1.78E-04	2.01E-05	7.64E-03	2.71E-03
581905.43_4130984.94	581905.43	4130984.94	1.61E-04	1.82E-05	6.91E-03	2.45E-03
581962_4130984.94	581962	4130984.94	1.15E-04	1.29E-05	4.89E-03	1.74E-03
582018.57_4130984.94	582018.57	4130984.94	8.38E-05	9.48E-06	3.56E-03	1.27E-03
582075.14_4130984.94	582075.14	4130984.94	6.53E-05	7.41E-06	2.77E-03	9.92E-04
582131.71_4130984.94	582131.71	4130984.94	5.43E-05	6.18E-06	2.30E-03	8.26E-04
582188.28_4130984.94	582188.28	4130984.94	4.83E-05	5.49E-06	2.04E-03	7.33E-04
582244.85_4130984.94	582244.85	4130984.94	4.33E-05	4.93E-06	1.83E-03	6.59E-04
582301.42_4130984.94	582301.42	4130984.94	3.94E-05	4.47E-06	1.67E-03	5.98E-04
582357.99_4130984.94	582357.99	4130984.94	3.61E-05	4.10E-06	1.53E-03	5.49E-04
582414.56_4130984.94	582414.56	4130984.94	3.33E-05	3.77E-06	1.41E-03	5.06E-04
582471.13_4130984.94	582471.13	4130984.94	3.09E-05	3.50E-06	1.31E-03	4.70E-04
582527.7_4130984.94	582527.7	4130984.94	2.90E-05	3.29E-06	1.23E-03	4.40E-04
582584.27_4130984.94	582584.27	4130984.94	2.75E-05	3.13E-06	1.17E-03	4.19E-04
582640.84_4130984.94	582640.84	4130984.94	2.65E-05	3.02E-06	1.12E-03	4.02E-04
582697.41_4130984.94	582697.41	4130984.94	2.53E-05	2.89E-06	1.06E-03	3.85E-04
582753.98_4130984.94	582753.98	4130984.94	2.45E-05	2.80E-06	1.03E-03	3.72E-04
582810.55_4130984.94	582810.55	4130984.94	2.36E-05	2.70E-06	9.87E-04	3.59E-04
582867.12_4130984.94	582867.12	4130984.94	2.27E-05	2.61E-06	9.49E-04	3.46E-04
581735.72_4131068.85	581735.72	4131068.85	6.00E-05	6.81E-06	2.54E-03	9.11E-04
581792.29_4131068.85	581792.29	4131068.85	6.08E-05	6.88E-06	2.58E-03	9.24E-04
581848.86_4131068.85	581848.86	4131068.85	6.59E-05	7.47E-06	2.80E-03	1.00E-03
581905.43_4131068.85	581905.43	4131068.85	6.50E-05	7.37E-06	2.76E-03	9.88E-04
581962_4131068.85	581962	4131068.85	6.71E-05	7.61E-06	2.85E-03	1.02E-03
582018.57_4131068.85	582018.57	4131068.85	5.87E-05	6.68E-06	2.49E-03	8.93E-04
582075.14_4131068.85	582075.14	4131068.85	5.05E-05	5.76E-06	2.13E-03	7.68E-04
582131.71_4131068.85	582131.71	4131068.85	4.56E-05	5.21E-06	1.92E-03	6.94E-04
582188.28_4131068.85	582188.28	4131068.85	4.25E-05	4.86E-06	1.79E-03	6.47E-04
582244.85_4131068.85	582244.85	4131068.85	4.01E-05	4.58E-06	1.69E-03	6.09E-04
582301.42_4131068.85	582301.42	4131068.85	3.78E-05	4.31E-06	1.59E-03	5.74E-04
582357.99_4131068.85	582357.99	4131068.85	3.54E-05	4.04E-06	1.49E-03	5.38E-04
582414.56_4131068.85	582414.56	4131068.85	3.33E-05	3.79E-06	1.41E-03	5.06E-04
582471.13_4131068.85	582471.13	4131068.85	3.12E-05	3.55E-06	1.32E-03	4.75E-04
582527.7_4131068.85	582527.7	4131068.85	2.93E-05	3.32E-06	1.24E-03	4.45E-04

Acute Calculation, ΣC_{TAC} /REL

Total HI	Receptor Type
0.011	Res
0.010	Res
0.009	Res
0.008	Res
0.007	Res
0.007	Res
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.004	Res
0.004	Res
0.036	Res
0.038	Res
0.039	Res
0.035	Res
0.025	Res
0.018	Res
0.014	Res
0.012	Res
0.010	Res
0.009	Res
0.009	Res
0.008	Res
0.007	Res
0.007	Res
0.006	Res
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.005	Res
0.013	Res
0.013	Res
0.014	Res
0.014	Res
0.015	Res
0.013	Res
0.011	Res
0.010	Res
0.009	Res
0.009	Res
0.008	Res
0.008	Res
0.007	Res
0.007	Res
0.006	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582584.27_4131068.85	582584.27	4131068.85	2.73E-05	3.10E-06	1.16E-03	4.15E-04
582640.84_4131068.85	582640.84	4131068.85	2.62E-05	2.97E-06	1.12E-03	3.99E-04
582697.41_4131068.85	582697.41	4131068.85	2.52E-05	2.85E-06	1.07E-03	3.83E-04
582753.98_4131068.85	582753.98	4131068.85	2.45E-05	2.78E-06	1.04E-03	3.72E-04
582810.55_4131068.85	582810.55	4131068.85	2.38E-05	2.71E-06	1.01E-03	3.62E-04
582867.12_4131068.85	582867.12	4131068.85	2.27E-05	2.59E-06	9.55E-04	3.45E-04
582018.57_4131152.76	582018.57	4131152.76	4.00E-05	4.56E-06	1.68E-03	6.08E-04
582244.85_4131152.76	582244.85	4131152.76	3.46E-05	3.97E-06	1.45E-03	5.26E-04
582301.42_4131152.76	582301.42	4131152.76	3.30E-05	3.78E-06	1.38E-03	5.01E-04
582357.99_4131152.76	582357.99	4131152.76	3.07E-05	3.52E-06	1.29E-03	4.67E-04
582414.56_4131152.76	582414.56	4131152.76	2.85E-05	3.27E-06	1.19E-03	4.33E-04
582471.13_4131152.76	582471.13	4131152.76	2.56E-05	2.93E-06	1.07E-03	3.88E-04
582527.7_4131152.76	582527.7	4131152.76	2.31E-05	2.65E-06	9.67E-04	3.51E-04
582584.27_4131152.76	582584.27	4131152.76	2.14E-05	2.45E-06	8.96E-04	3.25E-04
582640.84_4131152.76	582640.84	4131152.76	2.08E-05	2.38E-06	8.74E-04	3.16E-04
582697.41_4131152.76	582697.41	4131152.76	2.02E-05	2.30E-06	8.52E-04	3.07E-04
582753.98_4131152.76	582753.98	4131152.76	2.00E-05	2.28E-06	8.46E-04	3.04E-04
582810.55_4131152.76	582810.55	4131152.76	1.96E-05	2.23E-06	8.33E-04	2.98E-04
582867.12_4131152.76	582867.12	4131152.76	1.89E-05	2.15E-06	8.01E-04	2.87E-04

Acute Calculation, $\sum C_{TAC} / REL$

Total HI	Receptor Type
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.005	Res
0.009	Res
0.007	Res
0.007	Res
0.007	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.004	Res
0.004	Res
0.004	Res
0.004	Res
0.004	Res

HRA Permanente Creek Restoration Project

Construction Year 2027

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica	Vanadium
		(tons/year)	speciation (tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09	4.42E-11
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04	1.59E-06
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03	3.89E-06
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04	3.11E-06
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02	4.54E-05
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04	4.80E-06
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02	4.63E-05
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04	4.80E-06
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02	4.63E-05
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03	1.87E-05
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02	4.54E-05
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04	4.80E-06
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02	4.55E-05
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02	2.25E-04
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04	4.80E-06
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02	4.58E-05
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02	2.27E-04

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica	Vanadium	No. of Workdays
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(days)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Paved road	2024_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Channel Widening 2027	2027_CHAN_RCK	1.563E-04	9.91E-08	5.95E-08	9.91E-08	5.07E-07	1.11E-06	9.91E-08	1.59E-08	1.82E-06	1.98E-07	7.93E-09	2.94E-04	1.51E-06	130.00
Paved road	2027_PAVED	4.532E-04	2.41E-07	1.45E-07	2.41E-07	1.54E-07	4.83E-06	4.44E-07	2.70E-08	1.04E-05	4.83E-07	3.67E-07	1.37E-03	3.67E-06	130.00
Material Removal 2028	2028_MATRMVL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Paved road	2028_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Unpaved road	2028_UNPAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

HRA Permanente Creek Restoration Project

Acute Calculation, $\Sigma C_{TAC} / REL$

Receptor Lookup	Receptor Location		TAC Concentration, C_{AIR} ($\mu g/m^3$)				Total HI	Receptor Type
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium		
582301.42_4129726.29	582301.42	4129726.29	2.70E-05	3.58E-06	8.78E-04	4.10E-04	0.005	Res
582357.99_4129726.29	582357.99	4129726.29	2.41E-05	3.17E-06	7.94E-04	3.66E-04	0.004	Res
582414.56_4129726.29	582414.56	4129726.29	2.24E-05	2.95E-06	7.43E-04	3.41E-04	0.004	Res
582471.13_4129726.29	582471.13	4129726.29	2.12E-05	2.79E-06	7.02E-04	3.22E-04	0.004	Res
582527.7_4129726.29	582527.7	4129726.29	2.00E-05	2.63E-06	6.65E-04	3.05E-04	0.003	Res
582584.27_4129726.29	582584.27	4129726.29	2.00E-05	2.61E-06	6.72E-04	3.03E-04	0.003	Res
582640.84_4129726.29	582640.84	4129726.29	2.02E-05	2.61E-06	6.91E-04	3.07E-04	0.004	Res
582697.41_4129726.29	582697.41	4129726.29	1.92E-05	2.48E-06	6.58E-04	2.92E-04	0.003	Res
582753.98_4129726.29	582753.98	4129726.29	1.83E-05	2.37E-06	6.25E-04	2.78E-04	0.003	Res
582810.55_4129726.29	582810.55	4129726.29	1.83E-05	2.37E-06	6.30E-04	2.79E-04	0.003	Res
582244.85_4129810.2	582244.85	4129810.2	2.88E-05	3.80E-06	9.49E-04	4.38E-04	0.005	Res
582301.42_4129810.2	582301.42	4129810.2	2.65E-05	3.48E-06	8.81E-04	4.03E-04	0.005	Res
582357.99_4129810.2	582357.99	4129810.2	2.44E-05	3.19E-06	8.16E-04	3.71E-04	0.004	Res
582414.56_4129810.2	582414.56	4129810.2	2.25E-05	2.94E-06	7.52E-04	3.41E-04	0.004	Res
582471.13_4129810.2	582471.13	4129810.2	2.09E-05	2.74E-06	7.00E-04	3.18E-04	0.004	Res
582527.7_4129810.2	582527.7	4129810.2	2.12E-05	2.76E-06	7.20E-04	3.23E-04	0.004	Res
582584.27_4129810.2	582584.27	4129810.2	2.10E-05	2.72E-06	7.21E-04	3.20E-04	0.004	Res
582640.84_4129810.2	582640.84	4129810.2	2.01E-05	2.61E-06	6.88E-04	3.06E-04	0.004	Res
582697.41_4129810.2	582697.41	4129810.2	1.98E-05	2.56E-06	6.82E-04	3.02E-04	0.004	Res
581905.43_4129894.11	581905.43	4129894.11	1.89E-05	2.50E-06	6.19E-04	2.87E-04	0.003	Res
581962_4129894.11	581962	4129894.11	3.17E-05	4.46E-06	8.99E-04	4.82E-04	0.005	Res
582131.71_4129894.11	582131.71	4129894.11	2.93E-05	3.99E-06	9.02E-04	4.46E-04	0.005	Res
582188.28_4129894.11	582188.28	4129894.11	2.81E-05	3.80E-06	8.74E-04	4.26E-04	0.005	Res
582244.85_4129894.11	582244.85	4129894.11	2.55E-05	3.44E-06	7.95E-04	3.87E-04	0.004	Res
582301.42_4129894.11	582301.42	4129894.11	2.41E-05	3.24E-06	7.63E-04	3.67E-04	0.004	Res
582357.99_4129894.11	582357.99	4129894.11	2.30E-05	3.07E-06	7.32E-04	3.49E-04	0.004	Res
582414.56_4129894.11	582414.56	4129894.11	2.26E-05	2.98E-06	7.40E-04	3.43E-04	0.004	Res
582471.13_4129894.11	582471.13	4129894.11	2.33E-05	3.04E-06	7.81E-04	3.54E-04	0.004	Res
582527.7_4129894.11	582527.7	4129894.11	2.28E-05	2.97E-06	7.69E-04	3.47E-04	0.004	Res
582584.27_4129894.11	582584.27	4129894.11	2.17E-05	2.83E-06	7.26E-04	3.29E-04	0.004	Res
582640.84_4129894.11	582640.84	4129894.11	2.20E-05	2.86E-06	7.46E-04	3.34E-04	0.004	Res
582697.41_4129894.11	582697.41	4129894.11	2.13E-05	2.76E-06	7.21E-04	3.23E-04	0.004	Res
581962_4129978.02	581962	4129978.02	3.78E-05	5.37E-06	1.04E-03	5.74E-04	0.005	Res
582018.57_4129978.02	582018.57	4129978.02	3.92E-05	5.59E-06	1.07E-03	5.96E-04	0.006	Res
582075.14_4129978.02	582075.14	4129978.02	3.35E-05	4.51E-06	1.05E-03	5.09E-04	0.005	Res
582131.71_4129978.02	582131.71	4129978.02	2.98E-05	4.00E-06	9.40E-04	4.52E-04	0.005	Res
582188.28_4129978.02	582188.28	4129978.02	2.72E-05	3.64E-06	8.73E-04	4.14E-04	0.005	Res
582244.85_4129978.02	582244.85	4129978.02	2.62E-05	3.49E-06	8.39E-04	3.98E-04	0.004	Res
582301.42_4129978.02	582301.42	4129978.02	2.40E-05	3.20E-06	7.75E-04	3.65E-04	0.004	Res
582357.99_4129978.02	582357.99	4129978.02	2.41E-05	3.18E-06	7.92E-04	3.66E-04	0.004	Res
582414.56_4129978.02	582414.56	4129978.02	2.50E-05	3.26E-06	8.40E-04	3.79E-04	0.004	Res
582471.13_4129978.02	582471.13	4129978.02	2.40E-05	3.13E-06	8.06E-04	3.64E-04	0.004	Res
582527.7_4129978.02	582527.7	4129978.02	2.33E-05	3.04E-06	7.85E-04	3.54E-04	0.004	Res
582584.27_4129978.02	582584.27	4129978.02	2.33E-05	3.02E-06	7.94E-04	3.54E-04	0.004	Res
582640.84_4129978.02	582640.84	4129978.02	2.26E-05	2.93E-06	7.70E-04	3.44E-04	0.004	Res
582697.41_4129978.02	582697.41	4129978.02	2.30E-05	2.96E-06	7.95E-04	3.50E-04	0.004	Res
582753.98_4129978.02	582753.98	4129978.02	2.17E-05	2.80E-06	7.43E-04	3.29E-04	0.004	Res

HRA Permanente Creek Restoration Project

Acute Calculation, $\Sigma C_{TAC} / REL$

Receptor Lookup	Receptor Location		TAC Concentration, C_{AIR} ($\mu\text{g}/\text{m}^3$)				Total HI	Receptor Type
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium		
582697.41_4130229.75	582697.41	4130229.75	2.36E-05	2.92E-06	8.74E-04	3.58E-04	0.005	Res
582753.98_4130229.75	582753.98	4130229.75	2.14E-05	2.68E-06	7.83E-04	3.26E-04	0.004	Res
582810.55_4130229.75	582810.55	4130229.75	2.16E-05	2.70E-06	7.94E-04	3.29E-04	0.004	Res
582867.12_4130229.75	582867.12	4130229.75	2.28E-05	2.82E-06	8.46E-04	3.46E-04	0.004	Res
582018.57_4130313.66	582018.57	4130313.66	2.81E-05	3.73E-06	9.18E-04	4.28E-04	0.005	Res
582075.14_4130313.66	582075.14	4130313.66	3.00E-05	3.91E-06	1.02E-03	4.56E-04	0.005	Res
582131.71_4130313.66	582131.71	4130313.66	3.14E-05	4.03E-06	1.09E-03	4.77E-04	0.006	Res
582188.28_4130313.66	582188.28	4130313.66	2.98E-05	3.84E-06	1.03E-03	4.53E-04	0.005	Res
582244.85_4130313.66	582244.85	4130313.66	3.06E-05	3.90E-06	1.07E-03	4.64E-04	0.006	Res
582301.42_4130313.66	582301.42	4130313.66	3.07E-05	3.90E-06	1.09E-03	4.67E-04	0.006	Res
582357.99_4130313.66	582357.99	4130313.66	3.00E-05	3.79E-06	1.07E-03	4.55E-04	0.006	Res
582414.56_4130313.66	582414.56	4130313.66	2.77E-05	3.51E-06	9.84E-04	4.21E-04	0.005	Res
582471.13_4130313.66	582471.13	4130313.66	2.74E-05	3.46E-06	9.82E-04	4.16E-04	0.005	Res
582527.7_4130313.66	582527.7	4130313.66	2.85E-05	3.56E-06	1.04E-03	4.34E-04	0.005	Res
582584.27_4130313.66	582584.27	4130313.66	2.71E-05	3.39E-06	9.92E-04	4.13E-04	0.005	Res
582640.84_4130313.66	582640.84	4130313.66	2.45E-05	3.08E-06	8.88E-04	3.73E-04	0.005	Res
582697.41_4130313.66	582697.41	4130313.66	2.53E-05	3.14E-06	9.29E-04	3.84E-04	0.005	Res
582753.98_4130313.66	582753.98	4130313.66	2.56E-05	3.16E-06	9.54E-04	3.89E-04	0.005	Res
582810.55_4130313.66	582810.55	4130313.66	2.41E-05	2.98E-06	8.98E-04	3.67E-04	0.005	Res
582867.12_4130313.66	582867.12	4130313.66	2.15E-05	2.68E-06	7.94E-04	3.27E-04	0.004	Res
581848.86_4130397.57	581848.86	4130397.57	3.49E-05	4.62E-06	1.14E-03	5.31E-04	0.006	Res
581905.43_4130397.57	581905.43	4130397.57	3.30E-05	4.36E-06	1.08E-03	5.01E-04	0.006	Res
581962_4130397.57	581962	4130397.57	3.16E-05	4.16E-06	1.04E-03	4.80E-04	0.005	Res
582018.57_4130397.57	582018.57	4130397.57	3.32E-05	4.31E-06	1.13E-03	5.04E-04	0.006	Res
582075.14_4130397.57	582075.14	4130397.57	3.41E-05	4.38E-06	1.19E-03	5.19E-04	0.006	Res
582131.71_4130397.57	582131.71	4130397.57	3.37E-05	4.31E-06	1.19E-03	5.13E-04	0.006	Res
582188.28_4130397.57	582188.28	4130397.57	3.28E-05	4.17E-06	1.16E-03	4.99E-04	0.006	Res
582244.85_4130397.57	582244.85	4130397.57	3.33E-05	4.19E-06	1.20E-03	5.06E-04	0.006	Res
582301.42_4130397.57	582301.42	4130397.57	3.07E-05	3.88E-06	1.10E-03	4.67E-04	0.006	Res
582357.99_4130397.57	582357.99	4130397.57	3.01E-05	3.80E-06	1.08E-03	4.58E-04	0.006	Res
582414.56_4130397.57	582414.56	4130397.57	3.18E-05	3.98E-06	1.16E-03	4.84E-04	0.006	Res
582471.13_4130397.57	582471.13	4130397.57	3.09E-05	3.86E-06	1.12E-03	4.69E-04	0.006	Res
582527.7_4130397.57	582527.7	4130397.57	2.81E-05	3.53E-06	1.01E-03	4.26E-04	0.005	Res
582584.27_4130397.57	582584.27	4130397.57	2.99E-05	3.73E-06	1.10E-03	4.55E-04	0.006	Res
582640.84_4130397.57	582640.84	4130397.57	2.97E-05	3.69E-06	1.09E-03	4.52E-04	0.006	Res
582697.41_4130397.57	582697.41	4130397.57	2.72E-05	3.40E-06	9.92E-04	4.13E-04	0.005	Res
582753.98_4130397.57	582753.98	4130397.57	2.38E-05	3.01E-06	8.54E-04	3.62E-04	0.004	Res
582810.55_4130397.57	582810.55	4130397.57	2.09E-05	2.67E-06	7.34E-04	3.18E-04	0.004	Res
582867.12_4130397.57	582867.12	4130397.57	2.10E-05	2.66E-06	7.45E-04	3.19E-04	0.004	Res
581848.86_4130481.48	581848.86	4130481.48	3.50E-05	4.58E-06	1.17E-03	5.32E-04	0.006	Res
581905.43_4130481.48	581905.43	4130481.48	3.50E-05	4.55E-06	1.19E-03	5.32E-04	0.006	Res
581962_4130481.48	581962	4130481.48	3.57E-05	4.61E-06	1.23E-03	5.43E-04	0.006	Res
582018.57_4130481.48	582018.57	4130481.48	3.61E-05	4.62E-06	1.26E-03	5.49E-04	0.007	Res
582075.14_4130481.48	582075.14	4130481.48	3.68E-05	4.67E-06	1.31E-03	5.60E-04	0.007	Res
582131.71_4130481.48	582131.71	4130481.48	3.76E-05	4.72E-06	1.36E-03	5.71E-04	0.007	Res
582188.28_4130481.48	582188.28	4130481.48	3.57E-05	4.51E-06	1.28E-03	5.43E-04	0.007	Res
582244.85_4130481.48	582244.85	4130481.48	3.42E-05	4.32E-06	1.22E-03	5.20E-04	0.006	Res
582301.42_4130481.48	582301.42	4130481.48	3.58E-05	4.48E-06	1.30E-03	5.44E-04	0.007	Res
582357.99_4130481.48	582357.99	4130481.48	3.43E-05	4.30E-06	1.25E-03	5.22E-04	0.006	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)				Acute Calculation, ΣC _{TAC} /REL	
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium	Total HI	Receptor Type
582414.56_4130481.48	582414.56	4130481.48	3.27E-05	4.10E-06	1.19E-03	4.98E-04	0.006	Res
582471.13_4130481.48	582471.13	4130481.48	3.48E-05	4.31E-06	1.29E-03	5.29E-04	0.007	Res
582527.7_4130481.48	582527.7	4130481.48	3.31E-05	4.10E-06	1.23E-03	5.03E-04	0.006	Res
582584.27_4130481.48	582584.27	4130481.48	2.95E-05	3.67E-06	1.08E-03	4.48E-04	0.006	Res
582640.84_4130481.48	582640.84	4130481.48	2.48E-05	3.13E-06	8.91E-04	3.77E-04	0.005	Res
582697.41_4130481.48	582697.41	4130481.48	2.39E-05	3.01E-06	8.57E-04	3.63E-04	0.004	Res
582753.98_4130481.48	582753.98	4130481.48	2.36E-05	2.98E-06	8.49E-04	3.59E-04	0.004	Res
582810.55_4130481.48	582810.55	4130481.48	2.26E-05	2.85E-06	8.06E-04	3.43E-04	0.004	Res
582867.12_4130481.48	582867.12	4130481.48	2.23E-05	2.81E-06	7.96E-04	3.38E-04	0.004	Res
581735.72_4130565.39	581735.72	4130565.39	3.06E-05	3.92E-06	1.07E-03	4.65E-04	0.006	Res
581792.29_4130565.39	581792.29	4130565.39	3.06E-05	3.95E-06	1.05E-03	4.65E-04	0.005	Res
581848.86_4130565.39	581848.86	4130565.39	3.35E-05	4.30E-06	1.17E-03	5.10E-04	0.006	Res
581905.43_4130565.39	581905.43	4130565.39	3.97E-05	5.00E-06	1.43E-03	6.04E-04	0.007	Res
581962_4130565.39	581962	4130565.39	3.97E-05	5.00E-06	1.43E-03	6.03E-04	0.007	Res
582018.57_4130565.39	582018.57	4130565.39	4.08E-05	5.11E-06	1.48E-03	6.19E-04	0.008	Res
582075.14_4130565.39	582075.14	4130565.39	4.11E-05	5.14E-06	1.50E-03	6.25E-04	0.008	Res
582131.71_4130565.39	582131.71	4130565.39	3.81E-05	4.78E-06	1.38E-03	5.79E-04	0.007	Res
582188.28_4130565.39	582188.28	4130565.39	4.02E-05	5.00E-06	1.48E-03	6.11E-04	0.008	Res
582244.85_4130565.39	582244.85	4130565.39	3.82E-05	4.76E-06	1.40E-03	5.81E-04	0.007	Res
582301.42_4130565.39	582301.42	4130565.39	3.87E-05	4.79E-06	1.43E-03	5.88E-04	0.007	Res
582357.99_4130565.39	582357.99	4130565.39	3.93E-05	4.84E-06	1.47E-03	5.98E-04	0.008	Res
582414.56_4130565.39	582414.56	4130565.39	3.64E-05	4.49E-06	1.35E-03	5.53E-04	0.007	Res
582471.13_4130565.39	582471.13	4130565.39	3.19E-05	3.99E-06	1.16E-03	4.85E-04	0.006	Res
582527.7_4130565.39	582527.7	4130565.39	2.87E-05	3.62E-06	1.03E-03	4.36E-04	0.005	Res
582584.27_4130565.39	582584.27	4130565.39	2.84E-05	3.58E-06	1.02E-03	4.32E-04	0.005	Res
582640.84_4130565.39	582640.84	4130565.39	2.68E-05	3.38E-06	9.60E-04	4.07E-04	0.005	Res
582697.41_4130565.39	582697.41	4130565.39	2.60E-05	3.28E-06	9.32E-04	3.95E-04	0.005	Res
582753.98_4130565.39	582753.98	4130565.39	2.43E-05	3.07E-06	8.64E-04	3.69E-04	0.004	Res
582810.55_4130565.39	582810.55	4130565.39	2.19E-05	2.80E-06	7.72E-04	3.33E-04	0.004	Res
582867.12_4130565.39	582867.12	4130565.39	1.93E-05	2.49E-06	6.67E-04	2.94E-04	0.003	Res
581735.72_4130649.3	581735.72	4130649.3	2.64E-05	3.36E-06	9.26E-04	4.01E-04	0.005	Res
581792.29_4130649.3	581792.29	4130649.3	2.49E-05	3.11E-06	9.03E-04	3.78E-04	0.005	Res
581905.43_4130649.3	581905.43	4130649.3	4.12E-05	5.00E-06	1.58E-03	6.27E-04	0.008	Res
581962_4130649.3	581962	4130649.3	4.39E-05	5.33E-06	1.69E-03	6.68E-04	0.009	Res
582018.57_4130649.3	582018.57	4130649.3	4.14E-05	5.07E-06	1.57E-03	6.30E-04	0.008	Res
582075.14_4130649.3	582075.14	4130649.3	4.44E-05	5.42E-06	1.69E-03	6.75E-04	0.009	Res
582131.71_4130649.3	582131.71	4130649.3	4.27E-05	5.24E-06	1.61E-03	6.49E-04	0.008	Res
582188.28_4130649.3	582188.28	4130649.3	4.53E-05	5.54E-06	1.72E-03	6.89E-04	0.009	Res
582244.85_4130649.3	582244.85	4130649.3	4.47E-05	5.47E-06	1.69E-03	6.80E-04	0.009	Res
582301.42_4130649.3	582301.42	4130649.3	4.00E-05	4.94E-06	1.50E-03	6.09E-04	0.008	Res
582357.99_4130649.3	582357.99	4130649.3	3.43E-05	4.28E-06	1.25E-03	5.21E-04	0.006	Res
582414.56_4130649.3	582414.56	4130649.3	3.41E-05	4.24E-06	1.25E-03	5.18E-04	0.006	Res
582471.13_4130649.3	582471.13	4130649.3	3.22E-05	4.02E-06	1.18E-03	4.90E-04	0.006	Res
582527.7_4130649.3	582527.7	4130649.3	3.07E-05	3.84E-06	1.12E-03	4.66E-04	0.006	Res
582584.27_4130649.3	582584.27	4130649.3	2.78E-05	3.50E-06	1.00E-03	4.23E-04	0.005	Res
582640.84_4130649.3	582640.84	4130649.3	2.43E-05	3.09E-06	8.60E-04	3.69E-04	0.004	Res
582697.41_4130649.3	582697.41	4130649.3	2.23E-05	2.85E-06	7.81E-04	3.39E-04	0.004	Res
582753.98_4130649.3	582753.98	4130649.3	2.32E-05	2.94E-06	8.20E-04	3.52E-04	0.004	Res
582810.55_4130649.3	582810.55	4130649.3	2.38E-05	3.01E-06	8.50E-04	3.62E-04	0.004	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582867.12_4130649.3	582867.12	4130649.3	2.40E-05	3.03E-06	8.62E-04	3.65E-04
581848.86_4130733.21	581848.86	4130733.21	4.92E-05	5.88E-06	1.94E-03	7.48E-04
581905.43_4130733.21	581905.43	4130733.21	4.63E-05	5.49E-06	1.85E-03	7.04E-04
581962_4130733.21	581962	4130733.21	4.77E-05	5.59E-06	1.93E-03	7.25E-04
582018.57_4130733.21	582018.57	4130733.21	4.60E-05	5.44E-06	1.85E-03	7.00E-04
582075.14_4130733.21	582075.14	4130733.21	5.13E-05	6.05E-06	2.06E-03	7.79E-04
582131.71_4130733.21	582131.71	4130733.21	4.71E-05	5.61E-06	1.86E-03	7.16E-04
582188.28_4130733.21	582188.28	4130733.21	4.24E-05	5.10E-06	1.65E-03	6.45E-04
582244.85_4130733.21	582244.85	4130733.21	4.03E-05	4.89E-06	1.55E-03	6.13E-04
582301.42_4130733.21	582301.42	4130733.21	3.89E-05	4.75E-06	1.48E-03	5.92E-04
582357.99_4130733.21	582357.99	4130733.21	3.66E-05	4.49E-06	1.38E-03	5.57E-04
582414.56_4130733.21	582414.56	4130733.21	3.21E-05	4.00E-06	1.18E-03	4.89E-04
582471.13_4130733.21	582471.13	4130733.21	2.80E-05	3.53E-06	1.01E-03	4.26E-04
582527.7_4130733.21	582527.7	4130733.21	2.92E-05	3.66E-06	1.06E-03	4.44E-04
582584.27_4130733.21	582584.27	4130733.21	2.97E-05	3.71E-06	1.09E-03	4.52E-04
582640.84_4130733.21	582640.84	4130733.21	2.95E-05	3.68E-06	1.08E-03	4.49E-04
582697.41_4130733.21	582697.41	4130733.21	2.88E-05	3.59E-06	1.06E-03	4.38E-04
582753.98_4130733.21	582753.98	4130733.21	2.76E-05	3.44E-06	1.01E-03	4.19E-04
582810.55_4130733.21	582810.55	4130733.21	2.61E-05	3.27E-06	9.52E-04	3.97E-04
582867.12_4130733.21	582867.12	4130733.21	2.43E-05	3.05E-06	8.80E-04	3.69E-04
581735.72_4130817.12	581735.72	4130817.12	5.20E-05	6.36E-06	1.97E-03	7.91E-04
581792.29_4130817.12	581792.29	4130817.12	6.17E-05	7.40E-06	2.41E-03	9.38E-04
581848.86_4130817.12	581848.86	4130817.12	6.52E-05	7.75E-06	2.58E-03	9.90E-04
581905.43_4130817.12	581905.43	4130817.12	6.37E-05	7.53E-06	2.55E-03	9.68E-04
581962_4130817.12	581962	4130817.12	6.25E-05	7.34E-06	2.52E-03	9.49E-04
582018.57_4130817.12	582018.57	4130817.12	5.43E-05	6.38E-06	2.19E-03	8.26E-04
582075.14_4130817.12	582075.14	4130817.12	5.03E-05	5.89E-06	2.05E-03	7.65E-04
582131.71_4130817.12	582131.71	4130817.12	4.77E-05	5.54E-06	1.95E-03	7.25E-04
582188.28_4130817.12	582188.28	4130817.12	4.28E-05	5.02E-06	1.73E-03	6.50E-04
582244.85_4130817.12	582244.85	4130817.12	3.51E-05	4.18E-06	1.38E-03	5.33E-04
582301.42_4130817.12	582301.42	4130817.12	3.76E-05	4.49E-06	1.48E-03	5.72E-04
582357.99_4130817.12	582357.99	4130817.12	3.84E-05	4.59E-06	1.50E-03	5.83E-04
582414.56_4130817.12	582414.56	4130817.12	3.72E-05	4.48E-06	1.45E-03	5.66E-04
582471.13_4130817.12	582471.13	4130817.12	3.51E-05	4.26E-06	1.35E-03	5.34E-04
582527.7_4130817.12	582527.7	4130817.12	3.21E-05	3.93E-06	1.21E-03	4.88E-04
582584.27_4130817.12	582584.27	4130817.12	3.11E-05	3.82E-06	1.17E-03	4.73E-04
582640.84_4130817.12	582640.84	4130817.12	3.06E-05	3.78E-06	1.14E-03	4.66E-04
582697.41_4130817.12	582697.41	4130817.12	2.98E-05	3.68E-06	1.11E-03	4.53E-04
582753.98_4130817.12	582753.98	4130817.12	2.85E-05	3.54E-06	1.05E-03	4.33E-04
582810.55_4130817.12	582810.55	4130817.12	2.73E-05	3.40E-06	1.01E-03	4.15E-04
582867.12_4130817.12	582867.12	4130817.12	2.67E-05	3.32E-06	9.81E-04	4.05E-04
581735.72_4130901.03	581735.72	4130901.03	8.66E-05	1.02E-05	3.50E-03	1.32E-03
581792.29_4130901.03	581792.29	4130901.03	9.72E-05	1.14E-05	3.95E-03	1.48E-03
581848.86_4130901.03	581848.86	4130901.03	8.48E-05	9.96E-06	3.42E-03	1.29E-03
581905.43_4130901.03	581905.43	4130901.03	7.72E-05	9.10E-06	3.11E-03	1.17E-03
581962_4130901.03	581962	4130901.03	7.51E-05	8.82E-06	3.03E-03	1.14E-03
582018.57_4130901.03	582018.57	4130901.03	6.39E-05	7.53E-06	2.57E-03	9.71E-04
582075.14_4130901.03	582075.14	4130901.03	6.53E-05	7.65E-06	2.65E-03	9.93E-04
582131.71_4130901.03	582131.71	4130901.03	6.12E-05	7.15E-06	2.50E-03	9.31E-04

Acute Calculation, ΣC_{TAC} /REL

Total HI	Receptor Type
0.004	Res
0.010	Res
0.009	Res
0.010	Res
0.009	Res
0.011	Res
0.010	Res
0.008	Res
0.008	Res
0.008	Res
0.007	Res
0.006	Res
0.005	Res
0.005	Res
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.005	Res
0.010	Res
0.012	Res
0.013	Res
0.013	Res
0.013	Res
0.011	Res
0.011	Res
0.010	Res
0.009	Res
0.007	Res
0.008	Res
0.007	Res
0.007	Res
0.006	Res
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.018	Res
0.020	Res
0.018	Res
0.016	Res
0.016	Res
0.013	Res
0.014	Res
0.013	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582188.28_4130901.03	582188.28	4130901.03	5.30E-05	6.18E-06	2.16E-03	8.05E-04
582244.85_4130901.03	582244.85	4130901.03	4.66E-05	5.43E-06	1.91E-03	7.08E-04
582301.42_4130901.03	582301.42	4130901.03	4.26E-05	4.95E-06	1.75E-03	6.48E-04
582357.99_4130901.03	582357.99	4130901.03	3.93E-05	4.59E-06	1.60E-03	5.97E-04
582414.56_4130901.03	582414.56	4130901.03	3.66E-05	4.31E-06	1.47E-03	5.57E-04
582471.13_4130901.03	582471.13	4130901.03	3.48E-05	4.12E-06	1.38E-03	5.28E-04
582527.7_4130901.03	582527.7	4130901.03	3.28E-05	3.92E-06	1.29E-03	4.98E-04
582584.27_4130901.03	582584.27	4130901.03	3.09E-05	3.73E-06	1.20E-03	4.70E-04
582640.84_4130901.03	582640.84	4130901.03	2.92E-05	3.55E-06	1.12E-03	4.44E-04
582697.41_4130901.03	582697.41	4130901.03	2.75E-05	3.36E-06	1.04E-03	4.17E-04
582753.98_4130901.03	582753.98	4130901.03	2.60E-05	3.21E-06	9.67E-04	3.95E-04
582810.55_4130901.03	582810.55	4130901.03	2.54E-05	3.15E-06	9.39E-04	3.86E-04
582867.12_4130901.03	582867.12	4130901.03	2.49E-05	3.09E-06	9.15E-04	3.78E-04
581735.72_4130984.94	581735.72	4130984.94	1.68E-04	1.92E-05	7.05E-03	2.55E-03
581792.29_4130984.94	581792.29	4130984.94	1.76E-04	2.01E-05	7.40E-03	2.68E-03
581848.86_4130984.94	581848.86	4130984.94	1.81E-04	2.07E-05	7.62E-03	2.76E-03
581905.43_4130984.94	581905.43	4130984.94	1.65E-04	1.89E-05	6.90E-03	2.50E-03
581962_4130984.94	581962	4130984.94	1.19E-04	1.37E-05	4.92E-03	1.81E-03
582018.57_4130984.94	582018.57	4130984.94	8.85E-05	1.03E-05	3.61E-03	1.34E-03
582075.14_4130984.94	582075.14	4130984.94	7.00E-05	8.22E-06	2.82E-03	1.06E-03
582131.71_4130984.94	582131.71	4130984.94	5.88E-05	6.93E-06	2.36E-03	8.93E-04
582188.28_4130984.94	582188.28	4130984.94	5.22E-05	6.17E-06	2.09E-03	7.94E-04
582244.85_4130984.94	582244.85	4130984.94	4.69E-05	5.53E-06	1.88E-03	7.12E-04
582301.42_4130984.94	582301.42	4130984.94	4.24E-05	4.99E-06	1.71E-03	6.44E-04
582357.99_4130984.94	582357.99	4130984.94	3.86E-05	4.54E-06	1.56E-03	5.87E-04
582414.56_4130984.94	582414.56	4130984.94	3.54E-05	4.14E-06	1.44E-03	5.38E-04
582471.13_4130984.94	582471.13	4130984.94	3.26E-05	3.80E-06	1.33E-03	4.96E-04
582527.7_4130984.94	582527.7	4130984.94	3.09E-05	3.62E-06	1.25E-03	4.70E-04
582584.27_4130984.94	582584.27	4130984.94	2.98E-05	3.52E-06	1.19E-03	4.53E-04
582640.84_4130984.94	582640.84	4130984.94	2.90E-05	3.45E-06	1.15E-03	4.41E-04
582697.41_4130984.94	582697.41	4130984.94	2.81E-05	3.36E-06	1.11E-03	4.28E-04
582753.98_4130984.94	582753.98	4130984.94	2.76E-05	3.31E-06	1.07E-03	4.19E-04
582810.55_4130984.94	582810.55	4130984.94	2.69E-05	3.25E-06	1.04E-03	4.09E-04
582867.12_4130984.94	582867.12	4130984.94	2.62E-05	3.19E-06	1.00E-03	3.99E-04
581735.72_4131068.85	581735.72	4131068.85	6.44E-05	7.57E-06	2.60E-03	9.78E-04
581792.29_4131068.85	581792.29	4131068.85	6.43E-05	7.51E-06	2.62E-03	9.78E-04
581848.86_4131068.85	581848.86	4131068.85	6.99E-05	8.17E-06	2.85E-03	1.06E-03
581905.43_4131068.85	581905.43	4131068.85	6.94E-05	8.13E-06	2.81E-03	1.05E-03
581962_4131068.85	581962	4131068.85	7.17E-05	8.42E-06	2.90E-03	1.09E-03
582018.57_4131068.85	582018.57	4131068.85	6.36E-05	7.51E-06	2.55E-03	9.67E-04
582075.14_4131068.85	582075.14	4131068.85	5.55E-05	6.60E-06	2.20E-03	8.44E-04
582131.71_4131068.85	582131.71	4131068.85	5.06E-05	6.04E-06	1.99E-03	7.69E-04
582188.28_4131068.85	582188.28	4131068.85	4.72E-05	5.65E-06	1.86E-03	7.18E-04
582244.85_4131068.85	582244.85	4131068.85	4.45E-05	5.31E-06	1.75E-03	6.76E-04
582301.42_4131068.85	582301.42	4131068.85	4.17E-05	4.98E-06	1.65E-03	6.34E-04
582357.99_4131068.85	582357.99	4131068.85	3.90E-05	4.63E-06	1.54E-03	5.92E-04
582414.56_4131068.85	582414.56	4131068.85	3.64E-05	4.31E-06	1.45E-03	5.53E-04
582471.13_4131068.85	582471.13	4131068.85	3.39E-05	4.00E-06	1.36E-03	5.15E-04
582527.7_4131068.85	582527.7	4131068.85	3.15E-05	3.71E-06	1.27E-03	4.79E-04

Acute Calculation, ΣC_{TAC} /REL

Total HI	Receptor Type
0.011	Res
0.010	Res
0.009	Res
0.008	Res
0.008	Res
0.007	Res
0.007	Res
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.005	Res
0.005	Res
0.036	Res
0.038	Res
0.039	Res
0.035	Res
0.025	Res
0.019	Res
0.015	Res
0.012	Res
0.011	Res
0.010	Res
0.009	Res
0.008	Res
0.007	Res
0.007	Res
0.006	Res
0.006	Res
0.006	Res
0.006	Res
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.013	Res
0.013	Res
0.015	Res
0.014	Res
0.015	Res
0.013	Res
0.011	Res
0.010	Res
0.010	Res
0.009	Res
0.008	Res
0.008	Res
0.007	Res
0.007	Res
0.007	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582584.27_4131068.85	582584.27	4131068.85	2.92E-05	3.42E-06	1.18E-03	4.43E-04
582640.84_4131068.85	582640.84	4131068.85	2.77E-05	3.24E-06	1.13E-03	4.22E-04
582697.41_4131068.85	582697.41	4131068.85	2.68E-05	3.14E-06	1.09E-03	4.08E-04
582753.98_4131068.85	582753.98	4131068.85	2.64E-05	3.11E-06	1.06E-03	4.02E-04
582810.55_4131068.85	582810.55	4131068.85	2.60E-05	3.08E-06	1.04E-03	3.95E-04
582867.12_4131068.85	582867.12	4131068.85	2.51E-05	3.00E-06	9.89E-04	3.82E-04
582018.57_4131152.76	582018.57	4131152.76	4.44E-05	5.30E-06	1.75E-03	6.74E-04
582244.85_4131152.76	582244.85	4131152.76	3.93E-05	4.75E-06	1.52E-03	5.98E-04
582301.42_4131152.76	582301.42	4131152.76	3.75E-05	4.53E-06	1.45E-03	5.70E-04
582357.99_4131152.76	582357.99	4131152.76	3.50E-05	4.23E-06	1.35E-03	5.32E-04
582414.56_4131152.76	582414.56	4131152.76	3.24E-05	3.92E-06	1.25E-03	4.93E-04
582471.13_4131152.76	582471.13	4131152.76	2.91E-05	3.53E-06	1.12E-03	4.43E-04
582527.7_4131152.76	582527.7	4131152.76	2.63E-05	3.18E-06	1.02E-03	4.00E-04
582584.27_4131152.76	582584.27	4131152.76	2.42E-05	2.92E-06	9.38E-04	3.68E-04
582640.84_4131152.76	582640.84	4131152.76	2.32E-05	2.78E-06	9.09E-04	3.53E-04
582697.41_4131152.76	582697.41	4131152.76	2.22E-05	2.65E-06	8.80E-04	3.38E-04
582753.98_4131152.76	582753.98	4131152.76	2.17E-05	2.57E-06	8.68E-04	3.30E-04
582810.55_4131152.76	582810.55	4131152.76	2.10E-05	2.47E-06	8.50E-04	3.20E-04
582867.12_4131152.76	582867.12	4131152.76	2.04E-05	2.40E-06	8.19E-04	3.10E-04

Acute Calculation, $\sum C_{TAC} / REL$

Total HI	Receptor Type
0.006	Res
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.009	Res
0.008	Res
0.007	Res
0.007	Res
0.006	Res
0.006	Res
0.005	Res
0.005	Res
0.005	Res
0.005	Res
0.005	Res
0.005	Res
0.005	Res
0.005	Res
0.004	Res
0.004	Res
0.004	Res

HRA Permanente Creek Restoration Project

Construction Year 2028

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica	Vanadium
		(tons/year)	speciation	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09	4.42E-11
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04	1.59E-06
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03	3.89E-06
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04	3.11E-06
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02	4.54E-05
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04	4.80E-06
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02	4.63E-05
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04	4.80E-06
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02	4.63E-05
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03	1.87E-05
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02	4.54E-05
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04	4.80E-06
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02	4.55E-05
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02	2.25E-04
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04	4.80E-06
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02	4.58E-05
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02	2.27E-04

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica	Vanadium	No. of Workdays
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(days)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Paved road	2024_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Material Removal 2028	2028_MATRMVL	9.332E-05	2.548E-08	1.529E-08	2.548E-08	1.305E-07	2.854E-07	2.548E-08	4.077E-09	4.688E-07	5.096E-08	2.038E-09	7.568E-05	3.873E-07	130.00
Paved road	2028_PAVED	4.502E-04	2.417E-07	1.450E-07	2.417E-07	1.547E-07	4.834E-06	4.447E-07	2.707E-08	1.044E-05	4.834E-07	3.673E-07	1.373E-03	3.673E-06	130.00
Unpaved road	2028_UNPAVED	2.750E-04	1.196E-06	7.174E-07	1.196E-06	7.653E-07	2.391E-05	2.200E-06	1.339E-07	5.166E-05	2.391E-06	1.817E-06	6.791E-03	1.817E-05	130.00
Material Removal 2029	2029_MATRMVL	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2029_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Unpaved road	2029_UNPAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Acute REL

TAC	UOM	
Arsenic	µg/m ³	0.2
Mercury	µg/m ³	0.61
Nickel	µg/m ³	0.2
Vanadium	µg/m ³	31

CT House
Res
Acute

Max
0.036
0.055
0.033

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
			0.2	0.61	0.2	31
581336.22_4131207.48	581336.22	4131207.48	1.64E-04	1.85E-05	7.06E-03	2.50E-03
581554.22_4130688.06	581554.22	4130688.06	1.09E-04	1.22E-05	4.67E-03	1.65E-03
579793.36_4131503.29	579793.36	4131503.29	8.12E-05	9.19E-06	3.46E-03	1.23E-03
580488.37_4131517.71	580488.37	4131517.71	8.46E-05	9.52E-06	3.63E-03	1.29E-03
581678.43_4131040.03	581678.43	4131040.03	1.73E-04	1.94E-05	7.43E-03	2.62E-03
581635.43_4130978.54	581635.43	4130978.54	2.00E-04	2.25E-05	8.63E-03	3.05E-03
581830.06_4131027.55	581830.06	4131027.55	2.01E-04	2.26E-05	8.67E-03	3.06E-03
581727.48_4130976.54	581727.48	4130976.54	2.18E-04	2.44E-05	9.38E-03	3.31E-03
581789.11_4130419.65	581789.11	4130419.65	1.07E-04	1.20E-05	4.57E-03	1.62E-03
581700.32_4130781.89	581700.32	4130781.89	1.10E-04	1.24E-05	4.73E-03	1.67E-03
581426.07_4131299.01	581426.07	4131299.01	1.47E-04	1.66E-05	6.33E-03	2.24E-03
582301.42_4129474.56	582301.42	4129474.56	6.94E-05	7.82E-06	2.97E-03	1.06E-03
582357.99_4129474.56	582357.99	4129474.56	6.59E-05	7.43E-06	2.82E-03	1.00E-03
582414.56_4129474.56	582414.56	4129474.56	6.33E-05	7.13E-06	2.71E-03	9.61E-04
582471.13_4129474.56	582471.13	4129474.56	5.95E-05	6.71E-06	2.55E-03	9.04E-04
582527.7_4129474.56	582527.7	4129474.56	5.57E-05	6.29E-06	2.39E-03	8.47E-04
582584.27_4129474.56	582584.27	4129474.56	5.14E-05	5.80E-06	2.20E-03	7.81E-04
582640.84_4129474.56	582640.84	4129474.56	4.84E-05	5.47E-06	2.07E-03	7.36E-04
582244.85_4129558.47	582244.85	4129558.47	6.84E-05	7.71E-06	2.93E-03	1.04E-03
582301.42_4129558.47	582301.42	4129558.47	6.37E-05	7.18E-06	2.73E-03	9.68E-04
582357.99_4129558.47	582357.99	4129558.47	5.88E-05	6.63E-06	2.52E-03	8.93E-04
582414.56_4129558.47	582414.56	4129558.47	5.55E-05	6.26E-06	2.37E-03	8.43E-04
582471.13_4129558.47	582471.13	4129558.47	5.65E-05	6.37E-06	2.42E-03	8.59E-04
582527.7_4129558.47	582527.7	4129558.47	5.74E-05	6.47E-06	2.46E-03	8.73E-04
582584.27_4129558.47	582584.27	4129558.47	5.82E-05	6.55E-06	2.49E-03	8.84E-04
582640.84_4129558.47	582640.84	4129558.47	5.88E-05	6.62E-06	2.52E-03	8.93E-04
582697.41_4129558.47	582697.41	4129558.47	5.94E-05	6.69E-06	2.54E-03	9.03E-04
582244.85_4129642.38	582244.85	4129642.38	6.65E-05	7.49E-06	2.85E-03	1.01E-03
582301.42_4129642.38	582301.42	4129642.38	6.63E-05	7.47E-06	2.84E-03	1.01E-03
582357.99_4129642.38	582357.99	4129642.38	6.59E-05	7.42E-06	2.82E-03	1.00E-03
582414.56_4129642.38	582414.56	4129642.38	6.69E-05	7.54E-06	2.87E-03	1.02E-03
582471.13_4129642.38	582471.13	4129642.38	6.77E-05	7.63E-06	2.90E-03	1.03E-03
582527.7_4129642.38	582527.7	4129642.38	6.83E-05	7.70E-06	2.93E-03	1.04E-03
582584.27_4129642.38	582584.27	4129642.38	6.83E-05	7.69E-06	2.93E-03	1.04E-03
582640.84_4129642.38	582640.84	4129642.38	6.84E-05	7.70E-06	2.93E-03	1.04E-03
582697.41_4129642.38	582697.41	4129642.38	6.87E-05	7.74E-06	2.95E-03	1.04E-03
582753.98_4129642.38	582753.98	4129642.38	6.82E-05	7.68E-06	2.92E-03	1.04E-03
582810.55_4129642.38	582810.55	4129642.38	6.72E-05	7.56E-06	2.88E-03	1.02E-03
582867.12_4129642.38	582867.12	4129642.38	6.70E-05	7.55E-06	2.87E-03	1.02E-03
582244.85_4129726.29	582244.85	4129726.29	7.96E-05	8.97E-06	3.42E-03	1.21E-03

Acute Calculation, $\Sigma C_{TAC} / REL$

Total HI	Receptor Type
0.036	CT House
0.024	Res
0.018	Acute
0.019	Acute
0.038	Res
0.044	Res
0.044	Res
0.048	Res
0.023	Res
0.024	Res
0.033	Acute
0.015	Res
0.014	Res
0.014	Res
0.013	Res
0.012	Res
0.011	Res
0.011	Res
0.015	Res
0.014	Res
0.013	Res
0.012	Res
0.012	Res
0.013	Res
0.013	Res
0.013	Res
0.013	Res
0.013	Res
0.013	Res
0.013	Res
0.013	Res
0.013	Res
0.013	Res
0.013	Res
0.013	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
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0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.018	Res

Acute Calculation, $\sum C_{TAC} / REL$

Receptor Lookup	Receptor Location		TAC Concentration, C_{AIR} ($\mu g/m^3$)				Total HI	Receptor Type
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium		
582301.42_4129726.29	582301.42	4129726.29	7.98E-05	8.99E-06	3.42E-03	1.21E-03	0.018	Res
582357.99_4129726.29	582357.99	4129726.29	7.88E-05	8.87E-06	3.38E-03	1.20E-03	0.017	Res
582414.56_4129726.29	582414.56	4129726.29	7.77E-05	8.75E-06	3.33E-03	1.18E-03	0.017	Res
582471.13_4129726.29	582471.13	4129726.29	7.65E-05	8.61E-06	3.28E-03	1.16E-03	0.017	Res
582527.7_4129726.29	582527.7	4129726.29	7.51E-05	8.45E-06	3.22E-03	1.14E-03	0.017	Res
582584.27_4129726.29	582584.27	4129726.29	7.44E-05	8.38E-06	3.19E-03	1.13E-03	0.016	Res
582640.84_4129726.29	582640.84	4129726.29	7.38E-05	8.30E-06	3.16E-03	1.12E-03	0.016	Res
582697.41_4129726.29	582697.41	4129726.29	7.17E-05	8.07E-06	3.07E-03	1.09E-03	0.016	Res
582753.98_4129726.29	582753.98	4129726.29	6.93E-05	7.81E-06	2.97E-03	1.05E-03	0.015	Res
582810.55_4129726.29	582810.55	4129726.29	6.77E-05	7.63E-06	2.91E-03	1.03E-03	0.015	Res
582244.85_4129810.2	582244.85	4129810.2	8.81E-05	9.92E-06	3.78E-03	1.34E-03	0.019	Res
582301.42_4129810.2	582301.42	4129810.2	8.57E-05	9.64E-06	3.68E-03	1.30E-03	0.019	Res
582357.99_4129810.2	582357.99	4129810.2	8.30E-05	9.34E-06	3.56E-03	1.26E-03	0.018	Res
582414.56_4129810.2	582414.56	4129810.2	7.99E-05	9.00E-06	3.43E-03	1.21E-03	0.018	Res
582471.13_4129810.2	582471.13	4129810.2	7.68E-05	8.65E-06	3.30E-03	1.17E-03	0.017	Res
582527.7_4129810.2	582527.7	4129810.2	7.52E-05	8.46E-06	3.22E-03	1.14E-03	0.017	Res
582584.27_4129810.2	582584.27	4129810.2	7.29E-05	8.21E-06	3.13E-03	1.11E-03	0.016	Res
582640.84_4129810.2	582640.84	4129810.2	6.98E-05	7.86E-06	2.99E-03	1.06E-03	0.015	Res
582697.41_4129810.2	582697.41	4129810.2	6.72E-05	7.57E-06	2.88E-03	1.02E-03	0.015	Res
581905.43_4129894.11	581905.43	4129894.11	9.39E-05	1.06E-05	4.03E-03	1.43E-03	0.021	Res
581962_4129894.11	581962	4129894.11	9.40E-05	1.06E-05	4.03E-03	1.43E-03	0.021	Res
582131.71_4129894.11	582131.71	4129894.11	8.92E-05	1.00E-05	3.83E-03	1.36E-03	0.020	Res
582188.28_4129894.11	582188.28	4129894.11	8.63E-05	9.71E-06	3.70E-03	1.31E-03	0.019	Res
582244.85_4129894.11	582244.85	4129894.11	8.21E-05	9.24E-06	3.52E-03	1.25E-03	0.018	Res
582301.42_4129894.11	582301.42	4129894.11	7.87E-05	8.86E-06	3.37E-03	1.20E-03	0.017	Res
582357.99_4129894.11	582357.99	4129894.11	7.54E-05	8.50E-06	3.23E-03	1.15E-03	0.017	Res
582414.56_4129894.11	582414.56	4129894.11	7.61E-05	8.57E-06	3.26E-03	1.16E-03	0.017	Res
582471.13_4129894.11	582471.13	4129894.11	7.71E-05	8.69E-06	3.31E-03	1.17E-03	0.017	Res
582527.7_4129894.11	582527.7	4129894.11	7.67E-05	8.63E-06	3.29E-03	1.17E-03	0.017	Res
582584.27_4129894.11	582584.27	4129894.11	7.53E-05	8.48E-06	3.23E-03	1.14E-03	0.017	Res
582640.84_4129894.11	582640.84	4129894.11	7.54E-05	8.48E-06	3.23E-03	1.15E-03	0.017	Res
582697.41_4129894.11	582697.41	4129894.11	7.41E-05	8.34E-06	3.18E-03	1.13E-03	0.016	Res
581962_4129978.02	581962	4129978.02	9.13E-05	1.03E-05	3.92E-03	1.39E-03	0.020	Res
582018.57_4129978.02	582018.57	4129978.02	8.87E-05	9.99E-06	3.81E-03	1.35E-03	0.020	Res
582075.14_4129978.02	582075.14	4129978.02	9.20E-05	1.04E-05	3.95E-03	1.40E-03	0.020	Res
582131.71_4129978.02	582131.71	4129978.02	8.97E-05	1.01E-05	3.85E-03	1.36E-03	0.020	Res
582188.28_4129978.02	582188.28	4129978.02	8.83E-05	9.94E-06	3.79E-03	1.34E-03	0.019	Res
582244.85_4129978.02	582244.85	4129978.02	8.68E-05	9.77E-06	3.73E-03	1.32E-03	0.019	Res
582301.42_4129978.02	582301.42	4129978.02	8.48E-05	9.54E-06	3.64E-03	1.29E-03	0.019	Res
582357.99_4129978.02	582357.99	4129978.02	8.43E-05	9.48E-06	3.62E-03	1.28E-03	0.019	Res
582414.56_4129978.02	582414.56	4129978.02	8.42E-05	9.47E-06	3.61E-03	1.28E-03	0.019	Res
582471.13_4129978.02	582471.13	4129978.02	8.21E-05	9.24E-06	3.52E-03	1.25E-03	0.018	Res
582527.7_4129978.02	582527.7	4129978.02	8.02E-05	9.02E-06	3.44E-03	1.22E-03	0.018	Res
582584.27_4129978.02	582584.27	4129978.02	7.88E-05	8.87E-06	3.39E-03	1.20E-03	0.017	Res
582640.84_4129978.02	582640.84	4129978.02	7.67E-05	8.63E-06	3.29E-03	1.17E-03	0.017	Res
582697.41_4129978.02	582697.41	4129978.02	7.56E-05	8.50E-06	3.25E-03	1.15E-03	0.017	Res
582753.98_4129978.02	582753.98	4129978.02	7.34E-05	8.26E-06	3.15E-03	1.12E-03	0.016	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582810.55_4129978.02	582810.55	4129978.02	7.03E-05	7.91E-06	3.02E-03	1.07E-03
581905.43_4130061.93	581905.43	4130061.93	1.07E-04	1.20E-05	4.59E-03	1.62E-03
581962_4130061.93	581962	4130061.93	1.04E-04	1.17E-05	4.48E-03	1.59E-03
582018.57_4130061.93	582018.57	4130061.93	1.03E-04	1.15E-05	4.40E-03	1.56E-03
582075.14_4130061.93	582075.14	4130061.93	9.99E-05	1.12E-05	4.29E-03	1.52E-03
582131.71_4130061.93	582131.71	4130061.93	9.60E-05	1.08E-05	4.12E-03	1.46E-03
582188.28_4130061.93	582188.28	4130061.93	9.26E-05	1.04E-05	3.98E-03	1.41E-03
582244.85_4130061.93	582244.85	4130061.93	8.87E-05	9.97E-06	3.81E-03	1.35E-03
582301.42_4130061.93	582301.42	4130061.93	8.69E-05	9.77E-06	3.73E-03	1.32E-03
582357.99_4130061.93	582357.99	4130061.93	8.68E-05	9.77E-06	3.73E-03	1.32E-03
582414.56_4130061.93	582414.56	4130061.93	8.46E-05	9.52E-06	3.63E-03	1.29E-03
582471.13_4130061.93	582471.13	4130061.93	8.43E-05	9.48E-06	3.62E-03	1.28E-03
582527.7_4130061.93	582527.7	4130061.93	8.27E-05	9.31E-06	3.55E-03	1.26E-03
582584.27_4130061.93	582584.27	4130061.93	8.19E-05	9.21E-06	3.52E-03	1.24E-03
582640.84_4130061.93	582640.84	4130061.93	8.01E-05	9.01E-06	3.44E-03	1.22E-03
582697.41_4130061.93	582697.41	4130061.93	7.73E-05	8.69E-06	3.32E-03	1.17E-03
582753.98_4130061.93	582753.98	4130061.93	7.52E-05	8.46E-06	3.23E-03	1.14E-03
582810.55_4130061.93	582810.55	4130061.93	7.37E-05	8.29E-06	3.16E-03	1.12E-03
581962_4130145.84	581962	4130145.84	1.05E-04	1.18E-05	4.49E-03	1.59E-03
582018.57_4130145.84	582018.57	4130145.84	1.02E-04	1.14E-05	4.37E-03	1.55E-03
582075.14_4130145.84	582075.14	4130145.84	9.98E-05	1.12E-05	4.29E-03	1.52E-03
582131.71_4130145.84	582131.71	4130145.84	9.68E-05	1.09E-05	4.16E-03	1.47E-03
582188.28_4130145.84	582188.28	4130145.84	9.30E-05	1.05E-05	3.99E-03	1.41E-03
582244.85_4130145.84	582244.85	4130145.84	9.18E-05	1.03E-05	3.94E-03	1.40E-03
582301.42_4130145.84	582301.42	4130145.84	8.97E-05	1.01E-05	3.85E-03	1.36E-03
582357.99_4130145.84	582357.99	4130145.84	8.71E-05	9.80E-06	3.74E-03	1.32E-03
582414.56_4130145.84	582414.56	4130145.84	8.55E-05	9.62E-06	3.67E-03	1.30E-03
582471.13_4130145.84	582471.13	4130145.84	8.33E-05	9.38E-06	3.58E-03	1.27E-03
582527.7_4130145.84	582527.7	4130145.84	8.17E-05	9.19E-06	3.51E-03	1.24E-03
582584.27_4130145.84	582584.27	4130145.84	7.84E-05	8.82E-06	3.37E-03	1.19E-03
582640.84_4130145.84	582640.84	4130145.84	7.49E-05	8.43E-06	3.22E-03	1.14E-03
582697.41_4130145.84	582697.41	4130145.84	7.29E-05	8.20E-06	3.13E-03	1.11E-03
582753.98_4130145.84	582753.98	4130145.84	7.17E-05	8.07E-06	3.08E-03	1.09E-03
582810.55_4130145.84	582810.55	4130145.84	6.90E-05	7.76E-06	2.96E-03	1.05E-03
582867.12_4130145.84	582867.12	4130145.84	6.36E-05	7.15E-06	2.73E-03	9.66E-04
581962_4130229.75	581962	4130229.75	9.83E-05	1.11E-05	4.22E-03	1.49E-03
582018.57_4130229.75	582018.57	4130229.75	9.42E-05	1.06E-05	4.05E-03	1.43E-03
582075.14_4130229.75	582075.14	4130229.75	9.14E-05	1.03E-05	3.92E-03	1.39E-03
582131.71_4130229.75	582131.71	4130229.75	8.88E-05	1.00E-05	3.81E-03	1.35E-03
582188.28_4130229.75	582188.28	4130229.75	8.76E-05	9.86E-06	3.76E-03	1.33E-03
582244.85_4130229.75	582244.85	4130229.75	8.41E-05	9.46E-06	3.61E-03	1.28E-03
582301.42_4130229.75	582301.42	4130229.75	8.20E-05	9.23E-06	3.52E-03	1.25E-03
582357.99_4130229.75	582357.99	4130229.75	7.97E-05	8.97E-06	3.42E-03	1.21E-03
582414.56_4130229.75	582414.56	4130229.75	8.01E-05	9.01E-06	3.44E-03	1.22E-03
582471.13_4130229.75	582471.13	4130229.75	7.81E-05	8.79E-06	3.35E-03	1.19E-03
582527.7_4130229.75	582527.7	4130229.75	7.56E-05	8.51E-06	3.25E-03	1.15E-03
582584.27_4130229.75	582584.27	4130229.75	7.48E-05	8.42E-06	3.21E-03	1.14E-03
582640.84_4130229.75	582640.84	4130229.75	7.49E-05	8.42E-06	3.22E-03	1.14E-03

Acute Calculation, ΣC_{TAC} /REL

Total HI	Receptor Type
0.015	Res
0.024	Res
0.023	Res
0.023	Res
0.022	Res
0.021	Res
0.020	Res
0.020	Res
0.019	Res
0.019	Res
0.019	Res
0.018	Res
0.018	Res
0.018	Res
0.017	Res
0.017	Res
0.016	Res
0.023	Res
0.022	Res
0.022	Res
0.021	Res
0.020	Res
0.020	Res
0.020	Res
0.019	Res
0.019	Res
0.019	Res
0.017	Res
0.016	Res
0.016	Res
0.015	Res
0.014	Res
0.022	Res
0.021	Res
0.020	Res
0.020	Res
0.019	Res
0.019	Res
0.018	Res
0.018	Res
0.017	Res
0.017	Res
0.016	Res
0.017	Res
0.016	Res
0.017	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582697.41_4130229.75	582697.41	4130229.75	7.32E-05	8.23E-06	3.14E-03	1.11E-03
582753.98_4130229.75	582753.98	4130229.75	7.02E-05	7.89E-06	3.01E-03	1.07E-03
582810.55_4130229.75	582810.55	4130229.75	6.95E-05	7.82E-06	2.98E-03	1.06E-03
582867.12_4130229.75	582867.12	4130229.75	6.98E-05	7.85E-06	3.00E-03	1.06E-03
582018.57_4130313.66	582018.57	4130313.66	9.07E-05	1.02E-05	3.89E-03	1.38E-03
582075.14_4130313.66	582075.14	4130313.66	9.15E-05	1.03E-05	3.93E-03	1.39E-03
582131.71_4130313.66	582131.71	4130313.66	9.16E-05	1.03E-05	3.93E-03	1.39E-03
582188.28_4130313.66	582188.28	4130313.66	8.87E-05	9.99E-06	3.81E-03	1.35E-03
582244.85_4130313.66	582244.85	4130313.66	8.83E-05	9.94E-06	3.79E-03	1.34E-03
582301.42_4130313.66	582301.42	4130313.66	8.73E-05	9.83E-06	3.75E-03	1.33E-03
582357.99_4130313.66	582357.99	4130313.66	8.54E-05	9.61E-06	3.66E-03	1.30E-03
582414.56_4130313.66	582414.56	4130313.66	8.20E-05	9.23E-06	3.52E-03	1.25E-03
582471.13_4130313.66	582471.13	4130313.66	8.06E-05	9.07E-06	3.46E-03	1.23E-03
582527.7_4130313.66	582527.7	4130313.66	8.06E-05	9.07E-06	3.46E-03	1.23E-03
582584.27_4130313.66	582584.27	4130313.66	7.82E-05	8.80E-06	3.35E-03	1.19E-03
582640.84_4130313.66	582640.84	4130313.66	7.45E-05	8.39E-06	3.20E-03	1.13E-03
582697.41_4130313.66	582697.41	4130313.66	7.42E-05	8.36E-06	3.19E-03	1.13E-03
582753.98_4130313.66	582753.98	4130313.66	7.36E-05	8.29E-06	3.16E-03	1.12E-03
582810.55_4130313.66	582810.55	4130313.66	7.11E-05	8.01E-06	3.05E-03	1.08E-03
582867.12_4130313.66	582867.12	4130313.66	6.76E-05	7.61E-06	2.90E-03	1.03E-03
581848.86_4130397.57	581848.86	4130397.57	9.90E-05	1.11E-05	4.25E-03	1.50E-03
581905.43_4130397.57	581905.43	4130397.57	9.64E-05	1.09E-05	4.13E-03	1.46E-03
581962_4130397.57	581962	4130397.57	9.43E-05	1.06E-05	4.04E-03	1.43E-03
582018.57_4130397.57	582018.57	4130397.57	9.50E-05	1.07E-05	4.07E-03	1.44E-03
582075.14_4130397.57	582075.14	4130397.57	9.52E-05	1.07E-05	4.08E-03	1.45E-03
582131.71_4130397.57	582131.71	4130397.57	9.41E-05	1.06E-05	4.04E-03	1.43E-03
582188.28_4130397.57	582188.28	4130397.57	9.24E-05	1.04E-05	3.97E-03	1.40E-03
582244.85_4130397.57	582244.85	4130397.57	9.22E-05	1.04E-05	3.96E-03	1.40E-03
582301.42_4130397.57	582301.42	4130397.57	8.89E-05	1.00E-05	3.81E-03	1.35E-03
582357.99_4130397.57	582357.99	4130397.57	8.72E-05	9.82E-06	3.74E-03	1.33E-03
582414.56_4130397.57	582414.56	4130397.57	8.80E-05	9.90E-06	3.78E-03	1.34E-03
582471.13_4130397.57	582471.13	4130397.57	8.61E-05	9.69E-06	3.69E-03	1.31E-03
582527.7_4130397.57	582527.7	4130397.57	8.24E-05	9.27E-06	3.53E-03	1.25E-03
582584.27_4130397.57	582584.27	4130397.57	8.34E-05	9.39E-06	3.58E-03	1.27E-03
582640.84_4130397.57	582640.84	4130397.57	8.23E-05	9.27E-06	3.53E-03	1.25E-03
582697.41_4130397.57	582697.41	4130397.57	7.91E-05	8.90E-06	3.39E-03	1.20E-03
582753.98_4130397.57	582753.98	4130397.57	7.50E-05	8.44E-06	3.22E-03	1.14E-03
582810.55_4130397.57	582810.55	4130397.57	7.13E-05	8.03E-06	3.06E-03	1.08E-03
582867.12_4130397.57	582867.12	4130397.57	7.07E-05	7.96E-06	3.03E-03	1.08E-03
581848.86_4130481.48	581848.86	4130481.48	1.12E-04	1.26E-05	4.82E-03	1.71E-03
581905.43_4130481.48	581905.43	4130481.48	1.11E-04	1.25E-05	4.75E-03	1.68E-03
581962_4130481.48	581962	4130481.48	1.10E-04	1.23E-05	4.71E-03	1.67E-03
582018.57_4130481.48	582018.57	4130481.48	1.09E-04	1.22E-05	4.66E-03	1.65E-03
582075.14_4130481.48	582075.14	4130481.48	1.08E-04	1.21E-05	4.64E-03	1.64E-03
582131.71_4130481.48	582131.71	4130481.48	1.07E-04	1.21E-05	4.61E-03	1.63E-03
582188.28_4130481.48	582188.28	4130481.48	1.04E-04	1.17E-05	4.46E-03	1.58E-03
582244.85_4130481.48	582244.85	4130481.48	1.01E-04	1.13E-05	4.33E-03	1.53E-03
582301.42_4130481.48	582301.42	4130481.48	1.01E-04	1.14E-05	4.34E-03	1.53E-03
582357.99_4130481.48	582357.99	4130481.48	9.83E-05	1.11E-05	4.22E-03	1.49E-03

Acute Calculation, ΣC_{TAC} /REL

Total HI	Receptor Type
0.016	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.020	Res
0.020	Res
0.020	Res
0.020	Res
0.020	Res
0.020	Res
0.019	Res
0.019	Res
0.019	Res
0.018	Res
0.018	Res
0.018	Res
0.017	Res
0.016	Res
0.016	Res
0.016	Res
0.016	Res
0.015	Res
0.022	Res
0.021	Res
0.021	Res
0.021	Res
0.021	Res
0.021	Res
0.021	Res
0.021	Res
0.020	Res
0.020	Res
0.020	Res
0.020	Res
0.019	Res
0.019	Res
0.019	Res
0.018	Res
0.018	Res
0.018	Res
0.018	Res
0.017	Res
0.017	Res
0.017	Res
0.016	Res
0.016	Res
0.016	Res
0.025	Res
0.024	Res
0.024	Res
0.024	Res
0.024	Res
0.024	Res
0.024	Res
0.023	Res
0.022	Res
0.022	Res
0.022	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582414.56_4130481.48	582414.56	4130481.48	9.55E-05	1.07E-05	4.10E-03	1.45E-03
582471.13_4130481.48	582471.13	4130481.48	9.64E-05	1.08E-05	4.14E-03	1.47E-03
582527.7_4130481.48	582527.7	4130481.48	9.36E-05	1.05E-05	4.02E-03	1.42E-03
582584.27_4130481.48	582584.27	4130481.48	8.90E-05	1.00E-05	3.82E-03	1.35E-03
582640.84_4130481.48	582640.84	4130481.48	8.34E-05	9.39E-06	3.58E-03	1.27E-03
582697.41_4130481.48	582697.41	4130481.48	8.14E-05	9.16E-06	3.49E-03	1.24E-03
582753.98_4130481.48	582753.98	4130481.48	8.00E-05	9.00E-06	3.43E-03	1.22E-03
582810.55_4130481.48	582810.55	4130481.48	7.78E-05	8.75E-06	3.34E-03	1.18E-03
582867.12_4130481.48	582867.12	4130481.48	7.64E-05	8.59E-06	3.28E-03	1.16E-03
581735.72_4130565.39	581735.72	4130565.39	1.15E-04	1.29E-05	4.92E-03	1.74E-03
581792.29_4130565.39	581792.29	4130565.39	1.11E-04	1.25E-05	4.78E-03	1.69E-03
581848.86_4130565.39	581848.86	4130565.39	1.11E-04	1.25E-05	4.78E-03	1.69E-03
581905.43_4130565.39	581905.43	4130565.39	1.15E-04	1.29E-05	4.94E-03	1.75E-03
581962_4130565.39	581962	4130565.39	1.13E-04	1.27E-05	4.84E-03	1.71E-03
582018.57_4130565.39	582018.57	4130565.39	1.12E-04	1.26E-05	4.80E-03	1.70E-03
582075.14_4130565.39	582075.14	4130565.39	1.10E-04	1.24E-05	4.73E-03	1.68E-03
582131.71_4130565.39	582131.71	4130565.39	1.06E-04	1.19E-05	4.54E-03	1.61E-03
582188.28_4130565.39	582188.28	4130565.39	1.06E-04	1.20E-05	4.56E-03	1.62E-03
582244.85_4130565.39	582244.85	4130565.39	1.03E-04	1.16E-05	4.41E-03	1.56E-03
582301.42_4130565.39	582301.42	4130565.39	1.02E-04	1.15E-05	4.38E-03	1.55E-03
582357.99_4130565.39	582357.99	4130565.39	1.01E-04	1.14E-05	4.36E-03	1.54E-03
582414.56_4130565.39	582414.56	4130565.39	9.73E-05	1.09E-05	4.18E-03	1.48E-03
582471.13_4130565.39	582471.13	4130565.39	9.14E-05	1.03E-05	3.92E-03	1.39E-03
582527.7_4130565.39	582527.7	4130565.39	8.69E-05	9.77E-06	3.73E-03	1.32E-03
582584.27_4130565.39	582584.27	4130565.39	8.54E-05	9.61E-06	3.66E-03	1.30E-03
582640.84_4130565.39	582640.84	4130565.39	8.26E-05	9.29E-06	3.54E-03	1.26E-03
582697.41_4130565.39	582697.41	4130565.39	8.07E-05	9.08E-06	3.46E-03	1.23E-03
582753.98_4130565.39	582753.98	4130565.39	7.80E-05	8.77E-06	3.35E-03	1.18E-03
582810.55_4130565.39	582810.55	4130565.39	7.47E-05	8.41E-06	3.20E-03	1.14E-03
582867.12_4130565.39	582867.12	4130565.39	7.12E-05	8.01E-06	3.05E-03	1.08E-03
581735.72_4130649.3	581735.72	4130649.3	1.10E-04	1.24E-05	4.72E-03	1.67E-03
581792.29_4130649.3	581792.29	4130649.3	1.08E-04	1.21E-05	4.63E-03	1.64E-03
581905.43_4130649.3	581905.43	4130649.3	1.19E-04	1.34E-05	5.10E-03	1.80E-03
581962_4130649.3	581962	4130649.3	1.19E-04	1.34E-05	5.10E-03	1.81E-03
582018.57_4130649.3	582018.57	4130649.3	1.14E-04	1.28E-05	4.89E-03	1.73E-03
582075.14_4130649.3	582075.14	4130649.3	1.15E-04	1.29E-05	4.92E-03	1.74E-03
582131.71_4130649.3	582131.71	4130649.3	1.11E-04	1.25E-05	4.76E-03	1.68E-03
582188.28_4130649.3	582188.28	4130649.3	1.12E-04	1.25E-05	4.80E-03	1.70E-03
582244.85_4130649.3	582244.85	4130649.3	1.09E-04	1.23E-05	4.70E-03	1.66E-03
582301.42_4130649.3	582301.42	4130649.3	1.03E-04	1.16E-05	4.44E-03	1.57E-03
582357.99_4130649.3	582357.99	4130649.3	9.62E-05	1.08E-05	4.13E-03	1.46E-03
582414.56_4130649.3	582414.56	4130649.3	9.48E-05	1.07E-05	4.07E-03	1.44E-03
582471.13_4130649.3	582471.13	4130649.3	9.17E-05	1.03E-05	3.94E-03	1.39E-03
582527.7_4130649.3	582527.7	4130649.3	8.91E-05	1.00E-05	3.82E-03	1.35E-03
582584.27_4130649.3	582584.27	4130649.3	8.52E-05	9.58E-06	3.66E-03	1.29E-03
582640.84_4130649.3	582640.84	4130649.3	8.07E-05	9.08E-06	3.46E-03	1.23E-03
582697.41_4130649.3	582697.41	4130649.3	7.77E-05	8.74E-06	3.33E-03	1.18E-03
582753.98_4130649.3	582753.98	4130649.3	7.74E-05	8.71E-06	3.32E-03	1.18E-03
582810.55_4130649.3	582810.55	4130649.3	7.69E-05	8.66E-06	3.30E-03	1.17E-03

Acute Calculation, ΣC_{TAC} /REL

Total HI	Receptor Type
0.021	Res
0.021	Res
0.021	Res
0.020	Res
0.018	Res
0.018	Res
0.018	Res
0.017	Res
0.017	Res
0.025	Res
0.025	Res
0.025	Res
0.025	Res
0.025	Res
0.025	Res
0.024	Res
0.023	Res
0.023	Res
0.023	Res
0.022	Res
0.022	Res
0.021	Res
0.020	Res
0.019	Res
0.019	Res
0.018	Res
0.018	Res
0.017	Res
0.016	Res
0.016	Res
0.024	Res
0.024	Res
0.026	Res
0.026	Res
0.025	Res
0.025	Res
0.025	Res
0.024	Res
0.025	Res
0.024	Res
0.024	Res
0.023	Res
0.021	Res
0.021	Res
0.020	Res
0.020	Res
0.019	Res
0.018	Res
0.017	Res
0.017	Res
0.017	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582867.12_4130649.3	582867.12	4130649.3	7.61E-05	8.57E-06	3.27E-03	1.16E-03
581848.86_4130733.21	581848.86	4130733.21	1.19E-04	1.34E-05	5.12E-03	1.81E-03
581905.43_4130733.21	581905.43	4130733.21	1.16E-04	1.30E-05	4.97E-03	1.76E-03
581962_4130733.21	581962	4130733.21	1.17E-04	1.31E-05	5.01E-03	1.77E-03
582018.57_4130733.21	582018.57	4130733.21	1.13E-04	1.27E-05	4.84E-03	1.71E-03
582075.14_4130733.21	582075.14	4130733.21	1.16E-04	1.30E-05	4.97E-03	1.76E-03
582131.71_4130733.21	582131.71	4130733.21	1.09E-04	1.23E-05	4.70E-03	1.66E-03
582188.28_4130733.21	582188.28	4130733.21	1.03E-04	1.15E-05	4.41E-03	1.56E-03
582244.85_4130733.21	582244.85	4130733.21	9.87E-05	1.11E-05	4.24E-03	1.50E-03
582301.42_4130733.21	582301.42	4130733.21	9.57E-05	1.08E-05	4.11E-03	1.45E-03
582357.99_4130733.21	582357.99	4130733.21	9.18E-05	1.03E-05	3.94E-03	1.40E-03
582414.56_4130733.21	582414.56	4130733.21	8.59E-05	9.66E-06	3.69E-03	1.31E-03
582471.13_4130733.21	582471.13	4130733.21	8.05E-05	9.05E-06	3.45E-03	1.22E-03
582527.7_4130733.21	582527.7	4130733.21	8.05E-05	9.06E-06	3.46E-03	1.22E-03
582584.27_4130733.21	582584.27	4130733.21	8.00E-05	9.00E-06	3.43E-03	1.22E-03
582640.84_4130733.21	582640.84	4130733.21	7.89E-05	8.87E-06	3.39E-03	1.20E-03
582697.41_4130733.21	582697.41	4130733.21	7.72E-05	8.68E-06	3.31E-03	1.17E-03
582753.98_4130733.21	582753.98	4130733.21	7.50E-05	8.44E-06	3.22E-03	1.14E-03
582810.55_4130733.21	582810.55	4130733.21	7.27E-05	8.18E-06	3.12E-03	1.11E-03
582867.12_4130733.21	582867.12	4130733.21	7.03E-05	7.91E-06	3.02E-03	1.07E-03
581735.72_4130817.12	581735.72	4130817.12	1.08E-04	1.22E-05	4.65E-03	1.65E-03
581792.29_4130817.12	581792.29	4130817.12	1.18E-04	1.32E-05	5.07E-03	1.79E-03
581848.86_4130817.12	581848.86	4130817.12	1.21E-04	1.36E-05	5.21E-03	1.84E-03
581905.43_4130817.12	581905.43	4130817.12	1.20E-04	1.35E-05	5.15E-03	1.82E-03
581962_4130817.12	581962	4130817.12	1.19E-04	1.33E-05	5.11E-03	1.81E-03
582018.57_4130817.12	582018.57	4130817.12	1.11E-04	1.24E-05	4.76E-03	1.68E-03
582075.14_4130817.12	582075.14	4130817.12	1.07E-04	1.20E-05	4.59E-03	1.62E-03
582131.71_4130817.12	582131.71	4130817.12	1.04E-04	1.17E-05	4.48E-03	1.58E-03
582188.28_4130817.12	582188.28	4130817.12	9.79E-05	1.10E-05	4.21E-03	1.49E-03
582244.85_4130817.12	582244.85	4130817.12	8.87E-05	9.98E-06	3.81E-03	1.35E-03
582301.42_4130817.12	582301.42	4130817.12	8.99E-05	1.01E-05	3.86E-03	1.37E-03
582357.99_4130817.12	582357.99	4130817.12	8.93E-05	1.00E-05	3.84E-03	1.36E-03
582414.56_4130817.12	582414.56	4130817.12	8.70E-05	9.78E-06	3.74E-03	1.32E-03
582471.13_4130817.12	582471.13	4130817.12	8.38E-05	9.42E-06	3.60E-03	1.27E-03
582527.7_4130817.12	582527.7	4130817.12	7.97E-05	8.96E-06	3.42E-03	1.21E-03
582584.27_4130817.12	582584.27	4130817.12	7.77E-05	8.74E-06	3.34E-03	1.18E-03
582640.84_4130817.12	582640.84	4130817.12	7.63E-05	8.58E-06	3.28E-03	1.16E-03
582697.41_4130817.12	582697.41	4130817.12	7.47E-05	8.40E-06	3.21E-03	1.14E-03
582753.98_4130817.12	582753.98	4130817.12	7.27E-05	8.18E-06	3.12E-03	1.11E-03
582810.55_4130817.12	582810.55	4130817.12	7.09E-05	7.97E-06	3.04E-03	1.08E-03
582867.12_4130817.12	582867.12	4130817.12	6.96E-05	7.83E-06	2.99E-03	1.06E-03
581735.72_4130901.03	581735.72	4130901.03	1.48E-04	1.66E-05	6.37E-03	2.25E-03
581792.29_4130901.03	581792.29	4130901.03	1.55E-04	1.74E-05	6.69E-03	2.36E-03
581848.86_4130901.03	581848.86	4130901.03	1.40E-04	1.57E-05	6.04E-03	2.13E-03
581905.43_4130901.03	581905.43	4130901.03	1.30E-04	1.46E-05	5.60E-03	1.98E-03
581962_4130901.03	581962	4130901.03	1.26E-04	1.41E-05	5.42E-03	1.91E-03
582018.57_4130901.03	582018.57	4130901.03	1.13E-04	1.27E-05	4.85E-03	1.71E-03
582075.14_4130901.03	582075.14	4130901.03	1.12E-04	1.26E-05	4.84E-03	1.71E-03
582131.71_4130901.03	582131.71	4130901.03	1.07E-04	1.20E-05	4.59E-03	1.62E-03

Acute Calculation, ΣC_{TAC} /REL

Total HI	Receptor Type
0.017	Res
0.026	Res
0.026	Res
0.026	Res
0.025	Res
0.025	Res
0.024	Res
0.023	Res
0.022	Res
0.021	Res
0.020	Res
0.019	Res
0.018	Res
0.018	Res
0.018	Res
0.017	Res
0.017	Res
0.017	Res
0.016	Res
0.015	Res
0.015	Res
0.024	Res
0.026	Res
0.027	Res
0.026	Res
0.026	Res
0.024	Res
0.024	Res
0.023	Res
0.022	Res
0.020	Res
0.020	Res
0.019	Res
0.018	Res
0.017	Res
0.017	Res
0.016	Res
0.016	Res
0.016	Res
0.015	Res
0.033	Res
0.034	Res
0.031	Res
0.029	Res
0.028	Res
0.025	Res
0.025	Res
0.024	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582188.28_4130901.03	582188.28	4130901.03	9.69E-05	1.09E-05	4.17E-03	1.47E-03
582244.85_4130901.03	582244.85	4130901.03	8.89E-05	1.00E-05	3.82E-03	1.35E-03
582301.42_4130901.03	582301.42	4130901.03	8.44E-05	9.49E-06	3.63E-03	1.28E-03
582357.99_4130901.03	582357.99	4130901.03	8.05E-05	9.05E-06	3.46E-03	1.22E-03
582414.56_4130901.03	582414.56	4130901.03	7.71E-05	8.67E-06	3.31E-03	1.17E-03
582471.13_4130901.03	582471.13	4130901.03	7.45E-05	8.38E-06	3.20E-03	1.13E-03
582527.7_4130901.03	582527.7	4130901.03	7.18E-05	8.08E-06	3.09E-03	1.09E-03
582584.27_4130901.03	582584.27	4130901.03	6.94E-05	7.80E-06	2.98E-03	1.05E-03
582640.84_4130901.03	582640.84	4130901.03	6.70E-05	7.54E-06	2.88E-03	1.02E-03
582697.41_4130901.03	582697.41	4130901.03	6.47E-05	7.28E-06	2.78E-03	9.83E-04
582753.98_4130901.03	582753.98	4130901.03	6.27E-05	7.05E-06	2.69E-03	9.52E-04
582810.55_4130901.03	582810.55	4130901.03	6.17E-05	6.94E-06	2.65E-03	9.37E-04
582867.12_4130901.03	582867.12	4130901.03	6.08E-05	6.84E-06	2.61E-03	9.23E-04
581735.72_4130984.94	581735.72	4130984.94	2.41E-04	2.71E-05	1.04E-02	3.67E-03
581792.29_4130984.94	581792.29	4130984.94	2.46E-04	2.76E-05	1.06E-02	3.74E-03
581848.86_4130984.94	581848.86	4130984.94	2.48E-04	2.79E-05	1.07E-02	3.77E-03
581905.43_4130984.94	581905.43	4130984.94	2.29E-04	2.57E-05	9.86E-03	3.48E-03
581962_4130984.94	581962	4130984.94	1.80E-04	2.03E-05	7.77E-03	2.74E-03
582018.57_4130984.94	582018.57	4130984.94	1.48E-04	1.66E-05	6.36E-03	2.24E-03
582075.14_4130984.94	582075.14	4130984.94	1.27E-04	1.43E-05	5.47E-03	1.93E-03
582131.71_4130984.94	582131.71	4130984.94	1.14E-04	1.28E-05	4.90E-03	1.73E-03
582188.28_4130984.94	582188.28	4130984.94	1.06E-04	1.19E-05	4.55E-03	1.61E-03
582244.85_4130984.94	582244.85	4130984.94	9.88E-05	1.11E-05	4.25E-03	1.50E-03
582301.42_4130984.94	582301.42	4130984.94	9.27E-05	1.04E-05	3.99E-03	1.41E-03
582357.99_4130984.94	582357.99	4130984.94	8.74E-05	9.82E-06	3.76E-03	1.33E-03
582414.56_4130984.94	582414.56	4130984.94	8.26E-05	9.29E-06	3.55E-03	1.26E-03
582471.13_4130984.94	582471.13	4130984.94	7.82E-05	8.79E-06	3.36E-03	1.19E-03
582527.7_4130984.94	582527.7	4130984.94	7.43E-05	8.35E-06	3.19E-03	1.13E-03
582584.27_4130984.94	582584.27	4130984.94	7.07E-05	7.95E-06	3.04E-03	1.07E-03
582640.84_4130984.94	582640.84	4130984.94	6.76E-05	7.59E-06	2.91E-03	1.03E-03
582697.41_4130984.94	582697.41	4130984.94	6.46E-05	7.26E-06	2.78E-03	9.81E-04
582753.98_4130984.94	582753.98	4130984.94	6.18E-05	6.95E-06	2.66E-03	9.39E-04
582810.55_4130984.94	582810.55	4130984.94	5.91E-05	6.64E-06	2.54E-03	8.98E-04
582867.12_4130984.94	582867.12	4130984.94	5.69E-05	6.40E-06	2.44E-03	8.65E-04
581735.72_4131068.85	581735.72	4131068.85	1.38E-04	1.56E-05	5.95E-03	2.10E-03
581792.29_4131068.85	581792.29	4131068.85	1.38E-04	1.55E-05	5.93E-03	2.10E-03
581848.86_4131068.85	581848.86	4131068.85	1.41E-04	1.59E-05	6.07E-03	2.14E-03
581905.43_4131068.85	581905.43	4131068.85	1.38E-04	1.55E-05	5.95E-03	2.10E-03
581962_4131068.85	581962	4131068.85	1.39E-04	1.56E-05	5.96E-03	2.11E-03
582018.57_4131068.85	582018.57	4131068.85	1.28E-04	1.44E-05	5.52E-03	1.95E-03
582075.14_4131068.85	582075.14	4131068.85	1.18E-04	1.33E-05	5.09E-03	1.80E-03
582131.71_4131068.85	582131.71	4131068.85	1.12E-04	1.26E-05	4.80E-03	1.70E-03
582188.28_4131068.85	582188.28	4131068.85	1.07E-04	1.20E-05	4.59E-03	1.62E-03
582244.85_4131068.85	582244.85	4131068.85	1.03E-04	1.15E-05	4.41E-03	1.56E-03
582301.42_4131068.85	582301.42	4131068.85	9.84E-05	1.11E-05	4.23E-03	1.50E-03
582357.99_4131068.85	582357.99	4131068.85	9.43E-05	1.06E-05	4.06E-03	1.43E-03
582414.56_4131068.85	582414.56	4131068.85	9.04E-05	1.02E-05	3.89E-03	1.37E-03
582471.13_4131068.85	582471.13	4131068.85	8.67E-05	9.75E-06	3.73E-03	1.32E-03
582527.7_4131068.85	582527.7	4131068.85	8.29E-05	9.32E-06	3.56E-03	1.26E-03

Acute Calculation, ΣC_{TAC} /REL

Total HI	Receptor Type
0.021	Res
0.020	Res
0.019	Res
0.018	Res
0.017	Res
0.016	Res
0.016	Res
0.015	Res
0.015	Res
0.014	Res
0.014	Res
0.014	Res
0.013	Res
0.013	Res
0.053	Res
0.054	Res
0.055	Res
0.051	Res
0.040	Res
0.033	Res
0.028	Res
0.025	Res
0.023	Res
0.022	Res
0.020	Res
0.019	Res
0.018	Res
0.017	Res
0.016	Res
0.016	Res
0.015	Res
0.014	Res
0.014	Res
0.013	Res
0.031	Res
0.030	Res
0.031	Res
0.031	Res
0.031	Res
0.028	Res
0.026	Res
0.025	Res
0.024	Res
0.023	Res
0.022	Res
0.021	Res
0.020	Res
0.019	Res
0.018	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582584.27_4131068.85	582584.27	4131068.85	7.93E-05	8.91E-06	3.41E-03	1.21E-03
582640.84_4131068.85	582640.84	4131068.85	7.64E-05	8.59E-06	3.29E-03	1.16E-03
582697.41_4131068.85	582697.41	4131068.85	7.35E-05	8.26E-06	3.16E-03	1.12E-03
582753.98_4131068.85	582753.98	4131068.85	7.10E-05	7.98E-06	3.05E-03	1.08E-03
582810.55_4131068.85	582810.55	4131068.85	6.84E-05	7.69E-06	2.94E-03	1.04E-03
582867.12_4131068.85	582867.12	4131068.85	6.55E-05	7.37E-06	2.82E-03	9.96E-04
582018.57_4131152.76	582018.57	4131152.76	1.07E-04	1.20E-05	4.58E-03	1.62E-03
582244.85_4131152.76	582244.85	4131152.76	9.79E-05	1.10E-05	4.20E-03	1.49E-03
582301.42_4131152.76	582301.42	4131152.76	9.51E-05	1.07E-05	4.09E-03	1.45E-03
582357.99_4131152.76	582357.99	4131152.76	9.19E-05	1.03E-05	3.95E-03	1.40E-03
582414.56_4131152.76	582414.56	4131152.76	8.85E-05	9.95E-06	3.80E-03	1.35E-03
582471.13_4131152.76	582471.13	4131152.76	8.45E-05	9.50E-06	3.63E-03	1.28E-03
582527.7_4131152.76	582527.7	4131152.76	8.08E-05	9.09E-06	3.47E-03	1.23E-03
582584.27_4131152.76	582584.27	4131152.76	7.78E-05	8.75E-06	3.34E-03	1.18E-03
582640.84_4131152.76	582640.84	4131152.76	7.59E-05	8.54E-06	3.26E-03	1.15E-03
582697.41_4131152.76	582697.41	4131152.76	7.40E-05	8.33E-06	3.18E-03	1.13E-03
582753.98_4131152.76	582753.98	4131152.76	7.24E-05	8.15E-06	3.11E-03	1.10E-03
582810.55_4131152.76	582810.55	4131152.76	7.07E-05	7.96E-06	3.04E-03	1.08E-03
582867.12_4131152.76	582867.12	4131152.76	6.84E-05	7.69E-06	2.94E-03	1.04E-03

Acute Calculation, $\sum C_{TAC} / REL$

Total HI	Receptor Type
0.017	Res
0.017	Res
0.016	Res
0.016	Res
0.015	Res
0.014	Res
0.024	Res
0.022	Res
0.021	Res
0.020	Res
0.020	Res
0.019	Res
0.018	Res
0.017	Res
0.017	Res
0.016	Res
0.016	Res
0.016	Res
0.015	Res

HRA Permanente Creek Restoration Project

Construction Year 2029

Emissions Inputs

Construction Activity	Construction Year & Source	DPM Exhaust	PM10 Dust for	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica	Vanadium
		(tons/year)	speciation	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)	(tons/year)
Concrete Channel 2024	2024_CONCRTE	0.000	0.00	2.91E-12	1.74E-12	2.91E-12	1.49E-11	3.26E-11	2.91E-12	4.65E-13	5.35E-11	5.81E-12	2.33E-13	8.63E-09	4.42E-11
Paved road	2024_PAVED	2.07E-04	0.08	1.04E-07	6.26E-08	1.04E-07	6.68E-08	2.09E-06	1.92E-07	1.17E-08	4.51E-06	2.09E-07	1.59E-07	5.93E-04	1.59E-06
Unpaved road	2024_CCP_UNPV	6.27E-05	0.20	2.56E-07	1.54E-07	2.56E-07	1.64E-07	5.12E-06	4.71E-07	2.87E-08	1.11E-05	5.12E-07	3.89E-07	1.46E-03	3.89E-06
Channel Widening 2024	2024_CHAN_RCK	0.002	0.16	2.05E-07	1.23E-07	2.05E-07	1.05E-06	2.29E-06	2.05E-07	3.28E-08	3.77E-06	4.09E-07	1.64E-08	6.08E-04	3.11E-06
Paved road	2024_PAVED	1.80E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02	4.54E-05
Rock Pile Area 2025	2025_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04	4.80E-06
Paved road	2025_PAVED	5.95E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02	4.63E-05
Rock Pile Area 2026	2026_CHAN_RCK	0.006	0.25	3.16E-07	1.89E-07	3.16E-07	1.62E-06	3.54E-06	3.16E-07	5.05E-08	5.81E-06	6.31E-07	2.53E-08	9.37E-04	4.80E-06
Paved road	2026_PAVED	5.84E-03	2.44	3.05E-06	1.83E-06	3.05E-06	1.95E-06	6.10E-05	5.61E-06	3.41E-07	1.32E-04	6.10E-06	4.63E-06	1.73E-02	4.63E-05
Channel Widening 2027	2027_CHAN_RCK	0.002	0.98	1.23E-06	7.36E-07	1.23E-06	6.28E-06	1.37E-05	1.23E-06	1.96E-07	2.26E-05	2.45E-06	9.82E-08	3.64E-03	1.87E-05
Paved road	2027_PAVED	5.61E-03	2.39	2.99E-06	1.79E-06	2.99E-06	1.91E-06	5.98E-05	5.50E-06	3.35E-07	1.29E-04	5.98E-06	4.54E-06	1.70E-02	4.54E-05
Material Removal 2028	2028_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04	4.80E-06
Paved road	2028_PAVED	5.57E-03	2.39	2.99E-06	1.80E-06	2.99E-06	1.92E-06	5.98E-05	5.51E-06	3.35E-07	1.29E-04	5.98E-06	4.55E-06	1.70E-02	4.55E-05
Unpaved road	2028_UNPAVED	3.40E-03	11.84	1.48E-05	8.88E-06	1.48E-05	9.47E-06	2.96E-04	2.72E-05	1.66E-06	6.40E-04	2.96E-05	2.25E-05	8.41E-02	2.25E-04
Material Removal 2029	2029_MATRMVL	0.001	0.25	3.15E-07	1.89E-07	3.15E-07	1.62E-06	3.53E-06	3.15E-07	5.05E-08	5.80E-06	6.31E-07	2.52E-08	9.37E-04	4.80E-06
Paved road	2029_PAVED	5.56E-03	2.41	3.01E-06	1.81E-06	3.01E-06	1.93E-06	6.03E-05	5.55E-06	3.38E-07	1.30E-04	6.03E-06	4.58E-06	1.71E-02	4.58E-05
Unpaved road	2029_UNPAVED	3.39E-03	11.93	1.49E-05	8.95E-06	1.49E-05	9.55E-06	2.98E-04	2.74E-05	1.67E-06	6.44E-04	2.98E-05	2.27E-05	8.47E-02	2.27E-04

Construction Activity	Construction Year	DPM	Arsenic	Beryllium	Cadmium	Cobalt	Copper	Lead	Mercury	Nickel	Selenium	Chromium VI	Crystalline Silica	Vanadium	No. of Workdays
		(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(days)
Concrete Channel 2024	2024_CONCRTE	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2024_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Unpaved road	2024_CCP_UNPV	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Channel Widening 2024	2024_CHAN_RCK	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Paved road	2024_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Rock Pile Area 2025	2025_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2025_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Rock Pile Area 2026	2026_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2026_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Channel Widening 2027	2027_CHAN_RCK	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Paved road	2027_PAVED	0.000E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	130.00
Material Removal 2028	2028_MATRMVL	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Paved road	2028_PAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Unpaved road	2028_UNPAVED	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	130.00
Material Removal 2029	2029_MATRMVL	9.332E-05	2.55E-08	1.53E-08	2.55E-08	1.30E-07	2.85E-07	2.55E-08	4.08E-09	4.69E-07	5.10E-08	2.04E-09	7.57E-05	3.87E-07	130.00
Paved road	2029_PAVED	4.487E-04	2.43E-07	1.46E-07	2.43E-07	1.56E-07	4.87E-06	4.48E-07	2.73E-08	1.05E-05	4.87E-07	3.70E-07	1.38E-03	3.70E-06	130.00
Unpaved road	2029_UNPAVED	2.741E-04	1.20E-06	7.23E-07	1.20E-06	7.71E-07	2.41E-05	2.22E-06	1.35E-07	5.20E-05	2.41E-06	1.83E-06	6.84E-03	1.83E-05	130.00

N/A = not including PM10 on-site dust in HRA calculation; it is only for speciating metals.

Acute REL

TAC	UOM	
Arsenic	µg/m ³	0.2
Mercury	µg/m ³	0.61
Nickel	µg/m ³	0.2
Vanadium	µg/m ³	31

	Max
CT House	0.037
Res	0.055
Acute	0.033

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
			Arsenic	Mercury	Nickel	Vanadium
	UTM X	UTM Y	0.2	0.61	0.2	31
581336.22_4131207.48	581336.22	4131207.48	1.66E-04	1.86E-05	7.12E-03	2.52E-03
581554.22_4130688.06	581554.22	4130688.06	1.10E-04	1.23E-05	4.70E-03	1.66E-03
579793.36_4131503.29	579793.36	4131503.29	8.18E-05	9.26E-06	3.48E-03	1.24E-03
580488.37_4131517.71	580488.37	4131517.71	8.52E-05	9.59E-06	3.66E-03	1.30E-03
581678.43_4131040.03	581678.43	4131040.03	1.74E-04	1.95E-05	7.48E-03	2.64E-03
581635.43_4130978.54	581635.43	4130978.54	2.02E-04	2.27E-05	8.69E-03	3.07E-03
581830.06_4131027.55	581830.06	4131027.55	2.03E-04	2.28E-05	8.73E-03	3.08E-03
581727.48_4130976.54	581727.48	4130976.54	2.19E-04	2.46E-05	9.45E-03	3.33E-03
581789.11_4130419.65	581789.11	4130419.65	1.07E-04	1.21E-05	4.60E-03	1.63E-03
581700.32_4130781.89	581700.32	4130781.89	1.11E-04	1.25E-05	4.76E-03	1.69E-03
581426.07_4131299.01	581426.07	4131299.01	1.49E-04	1.67E-05	6.38E-03	2.26E-03
582301.42_4129474.56	582301.42	4129474.56	6.99E-05	7.88E-06	3.00E-03	1.06E-03
582357.99_4129474.56	582357.99	4129474.56	6.64E-05	7.49E-06	2.84E-03	1.01E-03
582414.56_4129474.56	582414.56	4129474.56	6.37E-05	7.18E-06	2.73E-03	9.69E-04
582471.13_4129474.56	582471.13	4129474.56	5.99E-05	6.76E-06	2.57E-03	9.11E-04
582527.7_4129474.56	582527.7	4129474.56	5.61E-05	6.33E-06	2.40E-03	8.53E-04
582584.27_4129474.56	582584.27	4129474.56	5.18E-05	5.84E-06	2.21E-03	7.87E-04
582640.84_4129474.56	582640.84	4129474.56	4.88E-05	5.51E-06	2.09E-03	7.42E-04
582244.85_4129558.47	582244.85	4129558.47	6.90E-05	7.77E-06	2.95E-03	1.05E-03
582301.42_4129558.47	582301.42	4129558.47	6.42E-05	7.23E-06	2.75E-03	9.75E-04
582357.99_4129558.47	582357.99	4129558.47	5.92E-05	6.68E-06	2.53E-03	9.00E-04
582414.56_4129558.47	582414.56	4129558.47	5.59E-05	6.30E-06	2.39E-03	8.50E-04
582471.13_4129558.47	582471.13	4129558.47	5.69E-05	6.42E-06	2.44E-03	8.65E-04
582527.7_4129558.47	582527.7	4129558.47	5.79E-05	6.52E-06	2.48E-03	8.80E-04
582584.27_4129558.47	582584.27	4129558.47	5.86E-05	6.60E-06	2.51E-03	8.91E-04
582640.84_4129558.47	582640.84	4129558.47	5.92E-05	6.67E-06	2.54E-03	9.00E-04
582697.41_4129558.47	582697.41	4129558.47	5.98E-05	6.74E-06	2.56E-03	9.09E-04
582244.85_4129642.38	582244.85	4129642.38	6.70E-05	7.55E-06	2.87E-03	1.02E-03
582301.42_4129642.38	582301.42	4129642.38	6.67E-05	7.52E-06	2.86E-03	1.01E-03
582357.99_4129642.38	582357.99	4129642.38	6.64E-05	7.48E-06	2.84E-03	1.01E-03
582414.56_4129642.38	582414.56	4129642.38	6.74E-05	7.59E-06	2.89E-03	1.02E-03
582471.13_4129642.38	582471.13	4129642.38	6.82E-05	7.68E-06	2.92E-03	1.04E-03
582527.7_4129642.38	582527.7	4129642.38	6.88E-05	7.75E-06	2.95E-03	1.05E-03
582584.27_4129642.38	582584.27	4129642.38	6.88E-05	7.75E-06	2.95E-03	1.05E-03
582640.84_4129642.38	582640.84	4129642.38	6.89E-05	7.76E-06	2.95E-03	1.05E-03
582697.41_4129642.38	582697.41	4129642.38	6.92E-05	7.79E-06	2.97E-03	1.05E-03
582753.98_4129642.38	582753.98	4129642.38	6.87E-05	7.74E-06	2.95E-03	1.04E-03
582810.55_4129642.38	582810.55	4129642.38	6.77E-05	7.62E-06	2.90E-03	1.03E-03
582867.12_4129642.38	582867.12	4129642.38	6.75E-05	7.60E-06	2.90E-03	1.03E-03
582244.85_4129726.29	582244.85	4129726.29	8.02E-05	9.04E-06	3.44E-03	1.22E-03

Acute Calculation, $\sum C_{TAC} / REL$

Total HI	Receptor Type
0.037	CT House
0.024	Res
0.018	Acute
0.019	Acute
0.038	Res
0.045	Res
0.045	Res
0.048	Res
0.024	Res
0.024	Res
0.033	Acute
0.015	Res
0.015	Res
0.014	Res
0.013	Res
0.012	Res
0.011	Res
0.011	Res
0.015	Res
0.014	Res
0.013	Res
0.013	Res
0.013	Res
0.013	Res
0.013	Res
0.013	Res
0.013	Res
0.013	Res
0.013	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.015	Res
0.018	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582301.42_4129726.29	582301.42	4129726.29	8.04E-05	9.06E-06	3.45E-03	1.22E-03
582357.99_4129726.29	582357.99	4129726.29	7.93E-05	8.93E-06	3.40E-03	1.21E-03
582414.56_4129726.29	582414.56	4129726.29	7.83E-05	8.81E-06	3.36E-03	1.19E-03
582471.13_4129726.29	582471.13	4129726.29	7.71E-05	8.68E-06	3.30E-03	1.17E-03
582527.7_4129726.29	582527.7	4129726.29	7.56E-05	8.51E-06	3.24E-03	1.15E-03
582584.27_4129726.29	582584.27	4129726.29	7.50E-05	8.44E-06	3.22E-03	1.14E-03
582640.84_4129726.29	582640.84	4129726.29	7.43E-05	8.37E-06	3.19E-03	1.13E-03
582697.41_4129726.29	582697.41	4129726.29	7.22E-05	8.13E-06	3.10E-03	1.10E-03
582753.98_4129726.29	582753.98	4129726.29	6.99E-05	7.87E-06	3.00E-03	1.06E-03
582810.55_4129726.29	582810.55	4129726.29	6.83E-05	7.68E-06	2.93E-03	1.04E-03
582244.85_4129810.2	582244.85	4129810.2	8.87E-05	9.99E-06	3.81E-03	1.35E-03
582301.42_4129810.2	582301.42	4129810.2	8.63E-05	9.72E-06	3.70E-03	1.31E-03
582357.99_4129810.2	582357.99	4129810.2	8.36E-05	9.41E-06	3.59E-03	1.27E-03
582414.56_4129810.2	582414.56	4129810.2	8.05E-05	9.06E-06	3.45E-03	1.22E-03
582471.13_4129810.2	582471.13	4129810.2	7.74E-05	8.71E-06	3.32E-03	1.18E-03
582527.7_4129810.2	582527.7	4129810.2	7.57E-05	8.52E-06	3.25E-03	1.15E-03
582584.27_4129810.2	582584.27	4129810.2	7.35E-05	8.27E-06	3.15E-03	1.12E-03
582640.84_4129810.2	582640.84	4129810.2	7.03E-05	7.92E-06	3.01E-03	1.07E-03
582697.41_4129810.2	582697.41	4129810.2	6.77E-05	7.62E-06	2.90E-03	1.03E-03
581905.43_4129894.11	581905.43	4129894.11	9.46E-05	1.06E-05	4.06E-03	1.44E-03
581962_4129894.11	581962	4129894.11	9.47E-05	1.07E-05	4.06E-03	1.44E-03
582131.71_4129894.11	582131.71	4129894.11	8.99E-05	1.01E-05	3.86E-03	1.37E-03
582188.28_4129894.11	582188.28	4129894.11	8.69E-05	9.79E-06	3.73E-03	1.32E-03
582244.85_4129894.11	582244.85	4129894.11	8.27E-05	9.31E-06	3.55E-03	1.26E-03
582301.42_4129894.11	582301.42	4129894.11	7.93E-05	8.93E-06	3.40E-03	1.20E-03
582357.99_4129894.11	582357.99	4129894.11	7.60E-05	8.56E-06	3.26E-03	1.16E-03
582414.56_4129894.11	582414.56	4129894.11	7.67E-05	8.63E-06	3.29E-03	1.17E-03
582471.13_4129894.11	582471.13	4129894.11	7.77E-05	8.75E-06	3.33E-03	1.18E-03
582527.7_4129894.11	582527.7	4129894.11	7.72E-05	8.70E-06	3.31E-03	1.17E-03
582584.27_4129894.11	582584.27	4129894.11	7.59E-05	8.54E-06	3.26E-03	1.15E-03
582640.84_4129894.11	582640.84	4129894.11	7.59E-05	8.55E-06	3.26E-03	1.15E-03
582697.41_4129894.11	582697.41	4129894.11	7.47E-05	8.41E-06	3.20E-03	1.14E-03
581962_4129978.02	581962	4129978.02	9.20E-05	1.04E-05	3.95E-03	1.40E-03
582018.57_4129978.02	582018.57	4129978.02	8.94E-05	1.01E-05	3.83E-03	1.36E-03
582075.14_4129978.02	582075.14	4129978.02	9.27E-05	1.04E-05	3.98E-03	1.41E-03
582131.71_4129978.02	582131.71	4129978.02	9.04E-05	1.02E-05	3.88E-03	1.37E-03
582188.28_4129978.02	582188.28	4129978.02	8.89E-05	1.00E-05	3.82E-03	1.35E-03
582244.85_4129978.02	582244.85	4129978.02	8.75E-05	9.85E-06	3.75E-03	1.33E-03
582301.42_4129978.02	582301.42	4129978.02	8.54E-05	9.61E-06	3.66E-03	1.30E-03
582357.99_4129978.02	582357.99	4129978.02	8.49E-05	9.56E-06	3.64E-03	1.29E-03
582414.56_4129978.02	582414.56	4129978.02	8.48E-05	9.54E-06	3.64E-03	1.29E-03
582471.13_4129978.02	582471.13	4129978.02	8.27E-05	9.31E-06	3.55E-03	1.26E-03
582527.7_4129978.02	582527.7	4129978.02	8.08E-05	9.09E-06	3.47E-03	1.23E-03
582584.27_4129978.02	582584.27	4129978.02	7.94E-05	8.94E-06	3.41E-03	1.21E-03
582640.84_4129978.02	582640.84	4129978.02	7.73E-05	8.69E-06	3.32E-03	1.17E-03
582697.41_4129978.02	582697.41	4129978.02	7.62E-05	8.57E-06	3.27E-03	1.16E-03
582753.98_4129978.02	582753.98	4129978.02	7.40E-05	8.32E-06	3.18E-03	1.12E-03

Acute Calculation, ΣC_{TAC} /REL

Total HI	Receptor Type
0.018	Res
0.017	Res
0.017	Res
0.017	Res
0.017	Res
0.017	Res
0.016	Res
0.016	Res
0.015	Res
0.015	Res
0.020	Res
0.019	Res
0.018	Res
0.018	Res
0.017	Res
0.017	Res
0.016	Res
0.015	Res
0.021	Res
0.021	Res
0.020	Res
0.019	Res
0.018	Res
0.017	Res
0.017	Res
0.017	Res
0.017	Res
0.017	Res
0.017	Res
0.017	Res
0.017	Res
0.020	Res
0.020	Res
0.020	Res
0.020	Res
0.019	Res
0.019	Res
0.019	Res
0.019	Res
0.019	Res
0.019	Res
0.019	Res
0.019	Res
0.018	Res
0.018	Res
0.018	Res
0.017	Res
0.017	Res
0.016	Res
0.016	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582810.55_4129978.02	582810.55	4129978.02	7.08E-05	7.97E-06	3.04E-03	1.08E-03
581905.43_4130061.93	581905.43	4130061.93	1.08E-04	1.21E-05	4.62E-03	1.64E-03
581962_4130061.93	581962	4130061.93	1.05E-04	1.18E-05	4.52E-03	1.60E-03
582018.57_4130061.93	582018.57	4130061.93	1.03E-04	1.16E-05	4.44E-03	1.57E-03
582075.14_4130061.93	582075.14	4130061.93	1.01E-04	1.13E-05	4.32E-03	1.53E-03
582131.71_4130061.93	582131.71	4130061.93	9.67E-05	1.09E-05	4.15E-03	1.47E-03
582188.28_4130061.93	582188.28	4130061.93	9.32E-05	1.05E-05	4.01E-03	1.42E-03
582244.85_4130061.93	582244.85	4130061.93	8.93E-05	1.00E-05	3.84E-03	1.36E-03
582301.42_4130061.93	582301.42	4130061.93	8.75E-05	9.85E-06	3.76E-03	1.33E-03
582357.99_4130061.93	582357.99	4130061.93	8.75E-05	9.84E-06	3.76E-03	1.33E-03
582414.56_4130061.93	582414.56	4130061.93	8.53E-05	9.59E-06	3.66E-03	1.30E-03
582471.13_4130061.93	582471.13	4130061.93	8.49E-05	9.55E-06	3.65E-03	1.29E-03
582527.7_4130061.93	582527.7	4130061.93	8.34E-05	9.37E-06	3.58E-03	1.27E-03
582584.27_4130061.93	582584.27	4130061.93	8.25E-05	9.28E-06	3.54E-03	1.25E-03
582640.84_4130061.93	582640.84	4130061.93	8.07E-05	9.08E-06	3.47E-03	1.23E-03
582697.41_4130061.93	582697.41	4130061.93	7.79E-05	8.76E-06	3.34E-03	1.18E-03
582753.98_4130061.93	582753.98	4130061.93	7.58E-05	8.53E-06	3.26E-03	1.15E-03
582810.55_4130061.93	582810.55	4130061.93	7.42E-05	8.35E-06	3.19E-03	1.13E-03
581962_4130145.84	581962	4130145.84	1.05E-04	1.19E-05	4.53E-03	1.60E-03
582018.57_4130145.84	582018.57	4130145.84	1.03E-04	1.15E-05	4.40E-03	1.56E-03
582075.14_4130145.84	582075.14	4130145.84	1.01E-04	1.13E-05	4.32E-03	1.53E-03
582131.71_4130145.84	582131.71	4130145.84	9.75E-05	1.10E-05	4.19E-03	1.48E-03
582188.28_4130145.84	582188.28	4130145.84	9.37E-05	1.05E-05	4.02E-03	1.42E-03
582244.85_4130145.84	582244.85	4130145.84	9.25E-05	1.04E-05	3.97E-03	1.41E-03
582301.42_4130145.84	582301.42	4130145.84	9.04E-05	1.02E-05	3.88E-03	1.37E-03
582357.99_4130145.84	582357.99	4130145.84	8.78E-05	9.87E-06	3.77E-03	1.33E-03
582414.56_4130145.84	582414.56	4130145.84	8.62E-05	9.69E-06	3.70E-03	1.31E-03
582471.13_4130145.84	582471.13	4130145.84	8.40E-05	9.45E-06	3.61E-03	1.28E-03
582527.7_4130145.84	582527.7	4130145.84	8.23E-05	9.25E-06	3.53E-03	1.25E-03
582584.27_4130145.84	582584.27	4130145.84	7.90E-05	8.88E-06	3.39E-03	1.20E-03
582640.84_4130145.84	582640.84	4130145.84	7.55E-05	8.49E-06	3.24E-03	1.15E-03
582697.41_4130145.84	582697.41	4130145.84	7.34E-05	8.26E-06	3.15E-03	1.12E-03
582753.98_4130145.84	582753.98	4130145.84	7.22E-05	8.13E-06	3.10E-03	1.10E-03
582810.55_4130145.84	582810.55	4130145.84	6.95E-05	7.82E-06	2.98E-03	1.06E-03
582867.12_4130145.84	582867.12	4130145.84	6.40E-05	7.21E-06	2.75E-03	9.73E-04
581962_4130229.75	581962	4130229.75	9.91E-05	1.11E-05	4.25E-03	1.51E-03
582018.57_4130229.75	582018.57	4130229.75	9.49E-05	1.07E-05	4.08E-03	1.44E-03
582075.14_4130229.75	582075.14	4130229.75	9.21E-05	1.04E-05	3.95E-03	1.40E-03
582131.71_4130229.75	582131.71	4130229.75	8.95E-05	1.01E-05	3.84E-03	1.36E-03
582188.28_4130229.75	582188.28	4130229.75	8.83E-05	9.93E-06	3.79E-03	1.34E-03
582244.85_4130229.75	582244.85	4130229.75	8.47E-05	9.53E-06	3.64E-03	1.29E-03
582301.42_4130229.75	582301.42	4130229.75	8.26E-05	9.29E-06	3.55E-03	1.26E-03
582357.99_4130229.75	582357.99	4130229.75	8.03E-05	9.03E-06	3.45E-03	1.22E-03
582414.56_4130229.75	582414.56	4130229.75	8.07E-05	9.08E-06	3.46E-03	1.23E-03
582471.13_4130229.75	582471.13	4130229.75	7.87E-05	8.85E-06	3.38E-03	1.20E-03
582527.7_4130229.75	582527.7	4130229.75	7.62E-05	8.57E-06	3.27E-03	1.16E-03
582584.27_4130229.75	582584.27	4130229.75	7.54E-05	8.48E-06	3.24E-03	1.15E-03
582640.84_4130229.75	582640.84	4130229.75	7.54E-05	8.49E-06	3.24E-03	1.15E-03

Acute Calculation, ΣC_{TAC} /REL

Total HI	Receptor Type
0.016	Res
0.024	Res
0.023	Res
0.023	Res
0.022	Res
0.021	Res
0.021	Res
0.020	Res
0.019	Res
0.019	Res
0.019	Res
0.019	Res
0.018	Res
0.018	Res
0.018	Res
0.017	Res
0.017	Res
0.016	Res
0.016	Res
0.016	Res
0.015	Res
0.014	Res
0.022	Res
0.021	Res
0.020	Res
0.020	Res
0.019	Res
0.019	Res
0.019	Res
0.018	Res
0.018	Res
0.017	Res
0.017	Res
0.017	Res
0.017	Res
0.017	Res
0.017	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582697.41_4130229.75	582697.41	4130229.75	7.37E-05	8.29E-06	3.17E-03	1.12E-03
582753.98_4130229.75	582753.98	4130229.75	7.07E-05	7.95E-06	3.04E-03	1.07E-03
582810.55_4130229.75	582810.55	4130229.75	7.00E-05	7.88E-06	3.01E-03	1.06E-03
582867.12_4130229.75	582867.12	4130229.75	7.03E-05	7.91E-06	3.02E-03	1.07E-03
582018.57_4130313.66	582018.57	4130313.66	9.14E-05	1.03E-05	3.92E-03	1.39E-03
582075.14_4130313.66	582075.14	4130313.66	9.22E-05	1.04E-05	3.96E-03	1.40E-03
582131.71_4130313.66	582131.71	4130313.66	9.22E-05	1.04E-05	3.96E-03	1.40E-03
582188.28_4130313.66	582188.28	4130313.66	8.94E-05	1.01E-05	3.84E-03	1.36E-03
582244.85_4130313.66	582244.85	4130313.66	8.89E-05	1.00E-05	3.82E-03	1.35E-03
582301.42_4130313.66	582301.42	4130313.66	8.80E-05	9.90E-06	3.78E-03	1.34E-03
582357.99_4130313.66	582357.99	4130313.66	8.60E-05	9.68E-06	3.69E-03	1.31E-03
582414.56_4130313.66	582414.56	4130313.66	8.26E-05	9.30E-06	3.55E-03	1.26E-03
582471.13_4130313.66	582471.13	4130313.66	8.12E-05	9.14E-06	3.49E-03	1.23E-03
582527.7_4130313.66	582527.7	4130313.66	8.12E-05	9.14E-06	3.49E-03	1.23E-03
582584.27_4130313.66	582584.27	4130313.66	7.88E-05	8.86E-06	3.38E-03	1.20E-03
582640.84_4130313.66	582640.84	4130313.66	7.51E-05	8.45E-06	3.22E-03	1.14E-03
582697.41_4130313.66	582697.41	4130313.66	7.48E-05	8.42E-06	3.21E-03	1.14E-03
582753.98_4130313.66	582753.98	4130313.66	7.42E-05	8.35E-06	3.18E-03	1.13E-03
582810.55_4130313.66	582810.55	4130313.66	7.17E-05	8.07E-06	3.08E-03	1.09E-03
582867.12_4130313.66	582867.12	4130313.66	6.81E-05	7.66E-06	2.92E-03	1.03E-03
581848.86_4130397.57	581848.86	4130397.57	9.97E-05	1.12E-05	4.28E-03	1.52E-03
581905.43_4130397.57	581905.43	4130397.57	9.71E-05	1.09E-05	4.16E-03	1.48E-03
581962_4130397.57	581962	4130397.57	9.50E-05	1.07E-05	4.07E-03	1.44E-03
582018.57_4130397.57	582018.57	4130397.57	9.57E-05	1.08E-05	4.10E-03	1.45E-03
582075.14_4130397.57	582075.14	4130397.57	9.59E-05	1.08E-05	4.11E-03	1.46E-03
582131.71_4130397.57	582131.71	4130397.57	9.48E-05	1.07E-05	4.07E-03	1.44E-03
582188.28_4130397.57	582188.28	4130397.57	9.31E-05	1.05E-05	3.99E-03	1.42E-03
582244.85_4130397.57	582244.85	4130397.57	9.29E-05	1.05E-05	3.99E-03	1.41E-03
582301.42_4130397.57	582301.42	4130397.57	8.95E-05	1.01E-05	3.84E-03	1.36E-03
582357.99_4130397.57	582357.99	4130397.57	8.79E-05	9.89E-06	3.77E-03	1.34E-03
582414.56_4130397.57	582414.56	4130397.57	8.86E-05	9.98E-06	3.80E-03	1.35E-03
582471.13_4130397.57	582471.13	4130397.57	8.67E-05	9.76E-06	3.72E-03	1.32E-03
582527.7_4130397.57	582527.7	4130397.57	8.30E-05	9.34E-06	3.56E-03	1.26E-03
582584.27_4130397.57	582584.27	4130397.57	8.40E-05	9.45E-06	3.61E-03	1.28E-03
582640.84_4130397.57	582640.84	4130397.57	8.30E-05	9.34E-06	3.56E-03	1.26E-03
582697.41_4130397.57	582697.41	4130397.57	7.97E-05	8.97E-06	3.42E-03	1.21E-03
582753.98_4130397.57	582753.98	4130397.57	7.55E-05	8.50E-06	3.24E-03	1.15E-03
582810.55_4130397.57	582810.55	4130397.57	7.19E-05	8.09E-06	3.08E-03	1.09E-03
582867.12_4130397.57	582867.12	4130397.57	7.13E-05	8.02E-06	3.06E-03	1.08E-03
581848.86_4130481.48	581848.86	4130481.48	1.13E-04	1.27E-05	4.86E-03	1.72E-03
581905.43_4130481.48	581905.43	4130481.48	1.11E-04	1.25E-05	4.79E-03	1.69E-03
581962_4130481.48	581962	4130481.48	1.10E-04	1.24E-05	4.74E-03	1.68E-03
582018.57_4130481.48	582018.57	4130481.48	1.09E-04	1.23E-05	4.70E-03	1.66E-03
582075.14_4130481.48	582075.14	4130481.48	1.09E-04	1.22E-05	4.67E-03	1.65E-03
582131.71_4130481.48	582131.71	4130481.48	1.08E-04	1.22E-05	4.64E-03	1.64E-03
582188.28_4130481.48	582188.28	4130481.48	1.05E-04	1.18E-05	4.49E-03	1.59E-03
582244.85_4130481.48	582244.85	4130481.48	1.02E-04	1.14E-05	4.36E-03	1.54E-03
582301.42_4130481.48	582301.42	4130481.48	1.02E-04	1.14E-05	4.37E-03	1.55E-03
582357.99_4130481.48	582357.99	4130481.48	9.90E-05	1.11E-05	4.25E-03	1.51E-03

Acute Calculation, ΣC_{TAC} /REL

Total HI	Receptor Type
0.016	Res
0.016	Res
0.015	Res
0.015	Res
0.020	Res
0.020	Res
0.020	Res
0.020	Res
0.020	Res
0.019	Res
0.019	Res
0.018	Res
0.018	Res
0.017	Res
0.017	Res
0.016	Res
0.016	Res
0.016	Res
0.015	Res
0.022	Res
0.021	Res
0.021	Res
0.021	Res
0.021	Res
0.021	Res
0.021	Res
0.020	Res
0.020	Res
0.019	Res
0.020	Res
0.019	Res
0.020	Res
0.019	Res
0.018	Res
0.019	Res
0.018	Res
0.017	Res
0.016	Res
0.016	Res
0.025	Res
0.025	Res
0.024	Res
0.024	Res
0.024	Res
0.024	Res
0.023	Res
0.022	Res
0.022	Res
0.022	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582414.56_4130481.48	582414.56	4130481.48	9.62E-05	1.08E-05	4.13E-03	1.46E-03
582471.13_4130481.48	582471.13	4130481.48	9.71E-05	1.09E-05	4.17E-03	1.48E-03
582527.7_4130481.48	582527.7	4130481.48	9.43E-05	1.06E-05	4.05E-03	1.43E-03
582584.27_4130481.48	582584.27	4130481.48	8.97E-05	1.01E-05	3.85E-03	1.36E-03
582640.84_4130481.48	582640.84	4130481.48	8.40E-05	9.46E-06	3.61E-03	1.28E-03
582697.41_4130481.48	582697.41	4130481.48	8.20E-05	9.23E-06	3.52E-03	1.25E-03
582753.98_4130481.48	582753.98	4130481.48	8.05E-05	9.06E-06	3.46E-03	1.22E-03
582810.55_4130481.48	582810.55	4130481.48	7.83E-05	8.82E-06	3.36E-03	1.19E-03
582867.12_4130481.48	582867.12	4130481.48	7.69E-05	8.66E-06	3.30E-03	1.17E-03
581735.72_4130565.39	581735.72	4130565.39	1.15E-04	1.30E-05	4.96E-03	1.76E-03
581792.29_4130565.39	581792.29	4130565.39	1.12E-04	1.26E-05	4.82E-03	1.71E-03
581848.86_4130565.39	581848.86	4130565.39	1.12E-04	1.26E-05	4.82E-03	1.71E-03
581905.43_4130565.39	581905.43	4130565.39	1.16E-04	1.30E-05	4.98E-03	1.76E-03
581962_4130565.39	581962	4130565.39	1.14E-04	1.28E-05	4.88E-03	1.73E-03
582018.57_4130565.39	582018.57	4130565.39	1.13E-04	1.27E-05	4.83E-03	1.71E-03
582075.14_4130565.39	582075.14	4130565.39	1.11E-04	1.25E-05	4.77E-03	1.69E-03
582131.71_4130565.39	582131.71	4130565.39	1.06E-04	1.20E-05	4.57E-03	1.62E-03
582188.28_4130565.39	582188.28	4130565.39	1.07E-04	1.20E-05	4.60E-03	1.63E-03
582244.85_4130565.39	582244.85	4130565.39	1.04E-04	1.17E-05	4.45E-03	1.57E-03
582301.42_4130565.39	582301.42	4130565.39	1.03E-04	1.16E-05	4.41E-03	1.56E-03
582357.99_4130565.39	582357.99	4130565.39	1.02E-04	1.15E-05	4.39E-03	1.55E-03
582414.56_4130565.39	582414.56	4130565.39	9.80E-05	1.10E-05	4.21E-03	1.49E-03
582471.13_4130565.39	582471.13	4130565.39	9.20E-05	1.04E-05	3.95E-03	1.40E-03
582527.7_4130565.39	582527.7	4130565.39	8.75E-05	9.85E-06	3.76E-03	1.33E-03
582584.27_4130565.39	582584.27	4130565.39	8.60E-05	9.68E-06	3.69E-03	1.31E-03
582640.84_4130565.39	582640.84	4130565.39	8.32E-05	9.36E-06	3.57E-03	1.26E-03
582697.41_4130565.39	582697.41	4130565.39	8.13E-05	9.15E-06	3.49E-03	1.24E-03
582753.98_4130565.39	582753.98	4130565.39	7.85E-05	8.84E-06	3.37E-03	1.19E-03
582810.55_4130565.39	582810.55	4130565.39	7.52E-05	8.47E-06	3.23E-03	1.14E-03
582867.12_4130565.39	582867.12	4130565.39	7.17E-05	8.07E-06	3.08E-03	1.09E-03
581735.72_4130649.3	581735.72	4130649.3	1.11E-04	1.25E-05	4.75E-03	1.68E-03
581792.29_4130649.3	581792.29	4130649.3	1.09E-04	1.22E-05	4.66E-03	1.65E-03
581905.43_4130649.3	581905.43	4130649.3	1.20E-04	1.35E-05	5.14E-03	1.82E-03
581962_4130649.3	581962	4130649.3	1.20E-04	1.35E-05	5.14E-03	1.82E-03
582018.57_4130649.3	582018.57	4130649.3	1.15E-04	1.29E-05	4.93E-03	1.74E-03
582075.14_4130649.3	582075.14	4130649.3	1.15E-04	1.30E-05	4.96E-03	1.75E-03
582131.71_4130649.3	582131.71	4130649.3	1.12E-04	1.26E-05	4.80E-03	1.70E-03
582188.28_4130649.3	582188.28	4130649.3	1.12E-04	1.26E-05	4.83E-03	1.71E-03
582244.85_4130649.3	582244.85	4130649.3	1.10E-04	1.24E-05	4.74E-03	1.68E-03
582301.42_4130649.3	582301.42	4130649.3	1.04E-04	1.17E-05	4.47E-03	1.58E-03
582357.99_4130649.3	582357.99	4130649.3	9.69E-05	1.09E-05	4.16E-03	1.47E-03
582414.56_4130649.3	582414.56	4130649.3	9.55E-05	1.07E-05	4.10E-03	1.45E-03
582471.13_4130649.3	582471.13	4130649.3	9.24E-05	1.04E-05	3.97E-03	1.40E-03
582527.7_4130649.3	582527.7	4130649.3	8.97E-05	1.01E-05	3.85E-03	1.36E-03
582584.27_4130649.3	582584.27	4130649.3	8.58E-05	9.65E-06	3.68E-03	1.30E-03
582640.84_4130649.3	582640.84	4130649.3	8.13E-05	9.14E-06	3.49E-03	1.24E-03
582697.41_4130649.3	582697.41	4130649.3	7.82E-05	8.81E-06	3.36E-03	1.19E-03
582753.98_4130649.3	582753.98	4130649.3	7.79E-05	8.77E-06	3.35E-03	1.18E-03
582810.55_4130649.3	582810.55	4130649.3	7.75E-05	8.72E-06	3.33E-03	1.18E-03

Acute Calculation, ΣC_{TAC} /REL

Total HI	Receptor Type
0.021	Res
0.021	Res
0.021	Res
0.020	Res
0.019	Res
0.018	Res
0.018	Res
0.017	Res
0.017	Res
0.025	Res
0.025	Res
0.025	Res
0.026	Res
0.025	Res
0.025	Res
0.024	Res
0.023	Res
0.024	Res
0.023	Res
0.023	Res
0.023	Res
0.022	Res
0.020	Res
0.019	Res
0.019	Res
0.018	Res
0.018	Res
0.017	Res
0.017	Res
0.016	Res
0.024	Res
0.024	Res
0.026	Res
0.026	Res
0.025	Res
0.025	Res
0.025	Res
0.025	Res
0.025	Res
0.024	Res
0.023	Res
0.023	Res
0.021	Res
0.021	Res
0.020	Res
0.020	Res
0.019	Res
0.018	Res
0.017	Res
0.017	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582867.12_4130649.3	582867.12	4130649.3	7.67E-05	8.63E-06	3.29E-03	1.17E-03
581848.86_4130733.21	581848.86	4130733.21	1.20E-04	1.35E-05	5.16E-03	1.82E-03
581905.43_4130733.21	581905.43	4130733.21	1.17E-04	1.31E-05	5.01E-03	1.77E-03
581962_4130733.21	581962	4130733.21	1.17E-04	1.32E-05	5.05E-03	1.78E-03
582018.57_4130733.21	582018.57	4130733.21	1.13E-04	1.27E-05	4.87E-03	1.72E-03
582075.14_4130733.21	582075.14	4130733.21	1.16E-04	1.31E-05	5.00E-03	1.77E-03
582131.71_4130733.21	582131.71	4130733.21	1.10E-04	1.24E-05	4.73E-03	1.67E-03
582188.28_4130733.21	582188.28	4130733.21	1.03E-04	1.16E-05	4.44E-03	1.57E-03
582244.85_4130733.21	582244.85	4130733.21	9.95E-05	1.12E-05	4.27E-03	1.51E-03
582301.42_4130733.21	582301.42	4130733.21	9.64E-05	1.08E-05	4.14E-03	1.46E-03
582357.99_4130733.21	582357.99	4130733.21	9.25E-05	1.04E-05	3.97E-03	1.41E-03
582414.56_4130733.21	582414.56	4130733.21	8.65E-05	9.73E-06	3.72E-03	1.32E-03
582471.13_4130733.21	582471.13	4130733.21	8.11E-05	9.12E-06	3.48E-03	1.23E-03
582527.7_4130733.21	582527.7	4130733.21	8.11E-05	9.12E-06	3.48E-03	1.23E-03
582584.27_4130733.21	582584.27	4130733.21	8.06E-05	9.07E-06	3.46E-03	1.22E-03
582640.84_4130733.21	582640.84	4130733.21	7.94E-05	8.94E-06	3.41E-03	1.21E-03
582697.41_4130733.21	582697.41	4130733.21	7.78E-05	8.75E-06	3.34E-03	1.18E-03
582753.98_4130733.21	582753.98	4130733.21	7.55E-05	8.50E-06	3.24E-03	1.15E-03
582810.55_4130733.21	582810.55	4130733.21	7.33E-05	8.24E-06	3.15E-03	1.11E-03
582867.12_4130733.21	582867.12	4130733.21	7.08E-05	7.97E-06	3.04E-03	1.08E-03
581735.72_4130817.12	581735.72	4130817.12	1.09E-04	1.23E-05	4.69E-03	1.66E-03
581792.29_4130817.12	581792.29	4130817.12	1.19E-04	1.33E-05	5.11E-03	1.80E-03
581848.86_4130817.12	581848.86	4130817.12	1.22E-04	1.37E-05	5.25E-03	1.86E-03
581905.43_4130817.12	581905.43	4130817.12	1.21E-04	1.36E-05	5.19E-03	1.83E-03
581962_4130817.12	581962	4130817.12	1.20E-04	1.34E-05	5.15E-03	1.82E-03
582018.57_4130817.12	582018.57	4130817.12	1.12E-04	1.25E-05	4.80E-03	1.70E-03
582075.14_4130817.12	582075.14	4130817.12	1.08E-04	1.21E-05	4.63E-03	1.64E-03
582131.71_4130817.12	582131.71	4130817.12	1.05E-04	1.18E-05	4.51E-03	1.59E-03
582188.28_4130817.12	582188.28	4130817.12	9.86E-05	1.11E-05	4.24E-03	1.50E-03
582244.85_4130817.12	582244.85	4130817.12	8.94E-05	1.01E-05	3.84E-03	1.36E-03
582301.42_4130817.12	582301.42	4130817.12	9.05E-05	1.02E-05	3.89E-03	1.38E-03
582357.99_4130817.12	582357.99	4130817.12	9.00E-05	1.01E-05	3.87E-03	1.37E-03
582414.56_4130817.12	582414.56	4130817.12	8.76E-05	9.85E-06	3.76E-03	1.33E-03
582471.13_4130817.12	582471.13	4130817.12	8.44E-05	9.49E-06	3.63E-03	1.28E-03
582527.7_4130817.12	582527.7	4130817.12	8.03E-05	9.03E-06	3.45E-03	1.22E-03
582584.27_4130817.12	582584.27	4130817.12	7.82E-05	8.80E-06	3.36E-03	1.19E-03
582640.84_4130817.12	582640.84	4130817.12	7.69E-05	8.65E-06	3.30E-03	1.17E-03
582697.41_4130817.12	582697.41	4130817.12	7.52E-05	8.46E-06	3.23E-03	1.14E-03
582753.98_4130817.12	582753.98	4130817.12	7.32E-05	8.24E-06	3.15E-03	1.11E-03
582810.55_4130817.12	582810.55	4130817.12	7.14E-05	8.03E-06	3.07E-03	1.09E-03
582867.12_4130817.12	582867.12	4130817.12	7.01E-05	7.89E-06	3.01E-03	1.07E-03
581735.72_4130901.03	581735.72	4130901.03	1.49E-04	1.67E-05	6.42E-03	2.27E-03
581792.29_4130901.03	581792.29	4130901.03	1.57E-04	1.76E-05	6.74E-03	2.38E-03
581848.86_4130901.03	581848.86	4130901.03	1.41E-04	1.59E-05	6.08E-03	2.15E-03
581905.43_4130901.03	581905.43	4130901.03	1.31E-04	1.47E-05	5.64E-03	1.99E-03
581962_4130901.03	581962	4130901.03	1.27E-04	1.42E-05	5.46E-03	1.93E-03
582018.57_4130901.03	582018.57	4130901.03	1.14E-04	1.28E-05	4.89E-03	1.73E-03
582075.14_4130901.03	582075.14	4130901.03	1.13E-04	1.27E-05	4.87E-03	1.72E-03
582131.71_4130901.03	582131.71	4130901.03	1.08E-04	1.21E-05	4.63E-03	1.63E-03

Acute Calculation, ΣC_{TAC} /REL

Total HI	Receptor Type
0.017	Res
0.026	Res
0.026	Res
0.026	Res
0.025	Res
0.026	Res
0.024	Res
0.023	Res
0.022	Res
0.021	Res
0.020	Res
0.019	Res
0.018	Res
0.018	Res
0.018	Res
0.018	Res
0.017	Res
0.017	Res
0.016	Res
0.016	Res
0.016	Res
0.024	Res
0.026	Res
0.027	Res
0.027	Res
0.026	Res
0.025	Res
0.024	Res
0.023	Res
0.022	Res
0.020	Res
0.020	Res
0.020	Res
0.019	Res
0.019	Res
0.018	Res
0.017	Res
0.017	Res
0.016	Res
0.016	Res
0.033	Res
0.035	Res
0.031	Res
0.029	Res
0.028	Res
0.025	Res
0.025	Res
0.024	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582188.28_4130901.03	582188.28	4130901.03	9.76E-05	1.10E-05	4.20E-03	1.48E-03
582244.85_4130901.03	582244.85	4130901.03	8.96E-05	1.01E-05	3.85E-03	1.36E-03
582301.42_4130901.03	582301.42	4130901.03	8.50E-05	9.56E-06	3.66E-03	1.29E-03
582357.99_4130901.03	582357.99	4130901.03	8.11E-05	9.11E-06	3.48E-03	1.23E-03
582414.56_4130901.03	582414.56	4130901.03	7.77E-05	8.74E-06	3.34E-03	1.18E-03
582471.13_4130901.03	582471.13	4130901.03	7.50E-05	8.44E-06	3.22E-03	1.14E-03
582527.7_4130901.03	582527.7	4130901.03	7.24E-05	8.14E-06	3.11E-03	1.10E-03
582584.27_4130901.03	582584.27	4130901.03	6.99E-05	7.86E-06	3.00E-03	1.06E-03
582640.84_4130901.03	582640.84	4130901.03	6.75E-05	7.60E-06	2.90E-03	1.03E-03
582697.41_4130901.03	582697.41	4130901.03	6.52E-05	7.33E-06	2.80E-03	9.90E-04
582753.98_4130901.03	582753.98	4130901.03	6.31E-05	7.10E-06	2.71E-03	9.59E-04
582810.55_4130901.03	582810.55	4130901.03	6.21E-05	6.99E-06	2.67E-03	9.44E-04
582867.12_4130901.03	582867.12	4130901.03	6.12E-05	6.89E-06	2.63E-03	9.30E-04
581735.72_4130984.94	581735.72	4130984.94	2.43E-04	2.73E-05	1.05E-02	3.69E-03
581792.29_4130984.94	581792.29	4130984.94	2.48E-04	2.78E-05	1.07E-02	3.77E-03
581848.86_4130984.94	581848.86	4130984.94	2.50E-04	2.81E-05	1.08E-02	3.80E-03
581905.43_4130984.94	581905.43	4130984.94	2.31E-04	2.59E-05	9.94E-03	3.50E-03
581962_4130984.94	581962	4130984.94	1.82E-04	2.04E-05	7.83E-03	2.76E-03
582018.57_4130984.94	582018.57	4130984.94	1.49E-04	1.67E-05	6.40E-03	2.26E-03
582075.14_4130984.94	582075.14	4130984.94	1.28E-04	1.44E-05	5.51E-03	1.95E-03
582131.71_4130984.94	582131.71	4130984.94	1.15E-04	1.29E-05	4.94E-03	1.75E-03
582188.28_4130984.94	582188.28	4130984.94	1.06E-04	1.20E-05	4.58E-03	1.62E-03
582244.85_4130984.94	582244.85	4130984.94	9.95E-05	1.12E-05	4.28E-03	1.51E-03
582301.42_4130984.94	582301.42	4130984.94	9.33E-05	1.05E-05	4.02E-03	1.42E-03
582357.99_4130984.94	582357.99	4130984.94	8.80E-05	9.89E-06	3.79E-03	1.34E-03
582414.56_4130984.94	582414.56	4130984.94	8.33E-05	9.35E-06	3.58E-03	1.27E-03
582471.13_4130984.94	582471.13	4130984.94	7.88E-05	8.85E-06	3.39E-03	1.20E-03
582527.7_4130984.94	582527.7	4130984.94	7.48E-05	8.41E-06	3.22E-03	1.14E-03
582584.27_4130984.94	582584.27	4130984.94	7.12E-05	8.01E-06	3.06E-03	1.08E-03
582640.84_4130984.94	582640.84	4130984.94	6.81E-05	7.65E-06	2.93E-03	1.03E-03
582697.41_4130984.94	582697.41	4130984.94	6.51E-05	7.31E-06	2.80E-03	9.89E-04
582753.98_4130984.94	582753.98	4130984.94	6.23E-05	7.00E-06	2.68E-03	9.46E-04
582810.55_4130984.94	582810.55	4130984.94	5.95E-05	6.69E-06	2.56E-03	9.05E-04
582867.12_4130984.94	582867.12	4130984.94	5.73E-05	6.45E-06	2.46E-03	8.71E-04
581735.72_4131068.85	581735.72	4131068.85	1.39E-04	1.57E-05	5.99E-03	2.12E-03
581792.29_4131068.85	581792.29	4131068.85	1.39E-04	1.56E-05	5.97E-03	2.11E-03
581848.86_4131068.85	581848.86	4131068.85	1.42E-04	1.60E-05	6.11E-03	2.16E-03
581905.43_4131068.85	581905.43	4131068.85	1.39E-04	1.57E-05	5.99E-03	2.12E-03
581962_4131068.85	581962	4131068.85	1.40E-04	1.57E-05	6.00E-03	2.12E-03
582018.57_4131068.85	582018.57	4131068.85	1.29E-04	1.45E-05	5.56E-03	1.97E-03
582075.14_4131068.85	582075.14	4131068.85	1.19E-04	1.34E-05	5.13E-03	1.81E-03
582131.71_4131068.85	582131.71	4131068.85	1.13E-04	1.26E-05	4.84E-03	1.71E-03
582188.28_4131068.85	582188.28	4131068.85	1.08E-04	1.21E-05	4.63E-03	1.64E-03
582244.85_4131068.85	582244.85	4131068.85	1.03E-04	1.16E-05	4.44E-03	1.57E-03
582301.42_4131068.85	582301.42	4131068.85	9.92E-05	1.11E-05	4.26E-03	1.51E-03
582357.99_4131068.85	582357.99	4131068.85	9.50E-05	1.07E-05	4.09E-03	1.44E-03
582414.56_4131068.85	582414.56	4131068.85	9.11E-05	1.02E-05	3.92E-03	1.38E-03
582471.13_4131068.85	582471.13	4131068.85	8.73E-05	9.82E-06	3.75E-03	1.33E-03
582527.7_4131068.85	582527.7	4131068.85	8.35E-05	9.39E-06	3.59E-03	1.27E-03

Acute Calculation, ΣC_{TAC} /REL

Total HI	Receptor Type
0.022	Res
0.020	Res
0.019	Res
0.018	Res
0.017	Res
0.017	Res
0.016	Res
0.015	Res
0.015	Res
0.014	Res
0.014	Res
0.014	Res
0.013	Res
0.054	Res
0.055	Res
0.055	Res
0.051	Res
0.040	Res
0.033	Res
0.028	Res
0.025	Res
0.024	Res
0.022	Res
0.021	Res
0.019	Res
0.018	Res
0.017	Res
0.017	Res
0.016	Res
0.015	Res
0.014	Res
0.014	Res
0.013	Res
0.031	Res
0.031	Res
0.031	Res
0.031	Res
0.029	Res
0.026	Res
0.025	Res
0.024	Res
0.023	Res
0.022	Res
0.021	Res
0.020	Res
0.019	Res
0.018	Res

HRA Permanente Creek Restoration Project

Receptor Lookup	Receptor Location		TAC Concentration, C _{AIR} (µg/m ³)			
	UTM X	UTM Y	Arsenic	Mercury	Nickel	Vanadium
582584.27_4131068.85	582584.27	4131068.85	7.99E-05	8.98E-06	3.43E-03	1.21E-03
582640.84_4131068.85	582640.84	4131068.85	7.70E-05	8.66E-06	3.31E-03	1.17E-03
582697.41_4131068.85	582697.41	4131068.85	7.40E-05	8.32E-06	3.18E-03	1.13E-03
582753.98_4131068.85	582753.98	4131068.85	7.15E-05	8.04E-06	3.07E-03	1.09E-03
582810.55_4131068.85	582810.55	4131068.85	6.89E-05	7.75E-06	2.96E-03	1.05E-03
582867.12_4131068.85	582867.12	4131068.85	6.60E-05	7.42E-06	2.84E-03	1.00E-03
582018.57_4131152.76	582018.57	4131152.76	1.07E-04	1.21E-05	4.62E-03	1.63E-03
582244.85_4131152.76	582244.85	4131152.76	9.86E-05	1.11E-05	4.24E-03	1.50E-03
582301.42_4131152.76	582301.42	4131152.76	9.58E-05	1.08E-05	4.12E-03	1.46E-03
582357.99_4131152.76	582357.99	4131152.76	9.25E-05	1.04E-05	3.98E-03	1.41E-03
582414.56_4131152.76	582414.56	4131152.76	8.92E-05	1.00E-05	3.83E-03	1.36E-03
582471.13_4131152.76	582471.13	4131152.76	8.51E-05	9.57E-06	3.65E-03	1.29E-03
582527.7_4131152.76	582527.7	4131152.76	8.14E-05	9.15E-06	3.50E-03	1.24E-03
582584.27_4131152.76	582584.27	4131152.76	7.84E-05	8.82E-06	3.37E-03	1.19E-03
582640.84_4131152.76	582640.84	4131152.76	7.65E-05	8.60E-06	3.28E-03	1.16E-03
582697.41_4131152.76	582697.41	4131152.76	7.46E-05	8.39E-06	3.20E-03	1.13E-03
582753.98_4131152.76	582753.98	4131152.76	7.30E-05	8.21E-06	3.13E-03	1.11E-03
582810.55_4131152.76	582810.55	4131152.76	7.13E-05	8.01E-06	3.06E-03	1.08E-03
582867.12_4131152.76	582867.12	4131152.76	6.89E-05	7.75E-06	2.96E-03	1.05E-03

Acute Calculation, $\sum C_{TAC} / REL$

Total HI	Receptor Type
0.018	Res
0.017	Res
0.016	Res
0.016	Res
0.015	Res
0.015	Res
0.024	Res
0.022	Res
0.021	Res
0.020	Res
0.020	Res
0.019	Res
0.018	Res
0.017	Res
0.017	Res
0.016	Res
0.016	Res
0.016	Res
0.015	Res

B-6 Aermod Output Plot Files
by Source

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*          AERMOD ( 191 91): C:\Lakes\PCR\PCR.isc
*          AERMET ( 141 34):
*          MODELING OPTIONS USED: Regional Default Concentration
*          PLOT FILE OF ANNUAL VALUES AVERAGE
*          FOR A TOTAL OF 10 RECEPTORS.
*          FORM AT: (3(1X,F13.5),3(1X,F8.2),
*          X          Y          AVERAGE CONC
*
*          MATRMVL      CHAN_RCK      CONCRTE      UNPAVED      PAVED      CCP_UNPV
581336.22_4131207 581336.22 4131207.48 0.01546 0.02114 0.10034 0.02517 1.1474 0.32144
581554.22_4130688 581554.22 4130688.06 0.01642 0.04303 0.17671 0.03208 0.75927 0.6034
579793.36_4131503 579793.36 4131503.29 0.02495 0.03484 0.04993 0.042 0.03845 0.02634
580488.37_4131517 580488.37 4131517.71 0.01365 0.02017 0.10858 0.02613 0.07249 0.17866
581678.43_4131040 581678.43 4131040.03 0.01232 0.02584 0.10671 0.02166 3.68051 0.3229
581635.43_4130978 581635.43 4130978.54 0.01275 0.02846 0.14556 0.02306 7.46525 0.47181
581830.06_4131027 581830.06 4131027.55 0.01141 0.02275 0.08991 0.01975 3.39026 0.22463
581727.48_4130976 581727.48 4130976.54 0.01215 0.02587 0.12164 0.02163 9.04165 0.33828
581789.11_4130419 581789.11 4130419.65 0.01677 0.05525 0.18162 0.03094 0.56897 0.47297
581700.32_4130781 581700.32 4130781.89 0.01388 0.03025 0.21366 0.02556 1.7784 0.53937
581426.07_4131299 581426.07 4131299.01 0.01462 0.01865 0.07415 0.02172 0.40726 0.18495
582301.42_4129474 582301.42 4129474.56 0.014 0.05076 0.16902 0.02326 0.17134 0.27119
582357.99_4129474 582357.99 4129474.56 0.01369 0.04808 0.15121 0.02223 0.15989 0.24417
582414.56_4129474 582414.56 4129474.56 0.01341 0.04567 0.13571 0.02129 0.14952 0.21821
582471.13_4129474 582471.13 4129474.56 0.01313 0.04339 0.12161 0.02041 0.14018 0.19348
582527.7_4129474 582527.7 4129474.56 0.01287 0.04139 0.11037 0.01963 0.13217 0.17315
582584.27_4129474 582584.27 4129474.56 0.01259 0.03934 0.09859 0.01886 0.12407 0.15274
582640.84_4129474 582640.84 4129474.56 0.01233 0.03746 0.08901 0.01816 0.11538 0.13636
582244.85_4129558 582244.85 4129558.47 0.01468 0.0584 0.12054 0.02384 0.17277 0.26059
582301.42_4129558 582301.42 4129558.47 0.01429 0.05306 0.15191 0.02269 0.17196 0.27813
582357.99_4129558 582357.99 4129558.47 0.01392 0.04911 0.14808 0.02167 0.16323 0.24482
582414.56_4129558 582414.56 4129558.47 0.01362 0.04645 0.13219 0.02082 0.15296 0.21483
582471.13_4129558 582471.13 4129558.47 0.01329 0.04352 0.11315 0.01996 0.14297 0.18105
582527.7_4129558 582527.7 4129558.47 0.013 0.04137 0.10183 0.01925 0.13352 0.16079
582584.27_4129558 582584.27 4129558.47 0.01272 0.0394 0.09247 0.01859 0.12456 0.14417
582640.84_4129558 582640.84 4129558.47 0.01247 0.03768 0.08503 0.01801 0.11705 0.13088
582697.41_4129558 582697.41 4129558.47 0.01222 0.03605 0.07842 0.01747 0.10985 0.11933
582244.85_4129642 582244.85 4129642.38 0.01496 0.06176 0.08853 0.02356 0.15017 0.1735
582301.42_4129642 582301.42 4129642.38 0.01451 0.05512 0.11835 0.02245 0.16719 0.2408
582357.99_4129642 582357.99 4129642.38 0.01409 0.04968 0.14225 0.02146 0.166 0.24022
582414.56_4129642 582414.56 4129642.38 0.01374 0.04632 0.12459 0.02064 0.15675 0.20371
582471.13_4129642 582471.13 4129642.38 0.01342 0.04364 0.10943 0.01992 0.14694 0.17582
582527.7_4129642 582527.7 4129642.38 0.01311 0.04138 0.09828 0.01928 0.13788 0.15577
582584.27_4129642 582584.27 4129642.38 0.01281 0.03929 0.08867 0.01868 0.12796 0.13903
582640.84_4129642 582640.84 4129642.38 0.01255 0.03746 0.08121 0.01815 0.11938 0.12593
582697.41_4129642 582697.41 4129642.38 0.01229 0.03582 0.07498 0.01766 0.11153 0.11504
582753.98_4129642 582753.98 4129642.38 0.01203 0.03434 0.06963 0.01721 0.10389 0.10583
582810.55_4129642 582810.55 4129642.38 0.01178 0.03303 0.06534 0.0168 0.09703 0.09846
582867.12_4129642 582867.12 4129642.38 0.01156 0.03172 0.0609 0.0164 0.08956 0.09143
582244.85_4129726 582244.85 4129726.29 0.01499 0.05993 0.09752 0.02338 0.16634 0.1927
582301.42_4129726 582301.42 4129726.29 0.01461 0.05544 0.10272 0.02252 0.16253 0.20344
582357.99_4129726 582357.99 4129726.29 0.01418 0.04963 0.13012 0.02161 0.16722 0.23202
582414.56_4129726 582414.56 4129726.29 0.01381 0.04619 0.12059 0.02087 0.15994 0.20098
582471.13_4129726 582471.13 4129726.29 0.01348 0.04353 0.10754 0.02021 0.15081 0.17508
582527.7_4129726 582527.7 4129726.29 0.01315 0.04104 0.0953 0.01959 0.14169 0.15236
582584.27_4129726 582584.27 4129726.29 0.01284 0.03898 0.08629 0.01903 0.13246 0.13626
582640.84_4129726 582640.84 4129726.29 0.01256 0.03717 0.07915 0.01852 0.12334 0.12376
582697.41_4129726 582697.41 4129726.29 0.01229 0.0355 0.07273 0.01803 0.11373 0.11291
582753.98_4129726 582753.98 4129726.29 0.01201 0.03394 0.06702 0.01757 0.10423 0.10363
582810.55_4129726 582810.55 4129726.29 0.01173 0.03238 0.06137 0.0171 0.09442 0.09497

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582244.85_4129810	582244.85	4129810.2	0.01499	0.05947	0.08814	0.02371	0.16159	0.16554
582301.42_4129810	582301.42	4129810.2	0.01456	0.054	0.10103	0.02282	0.16517	0.19686
582357.99_4129810	582357.99	4129810.2	0.01416	0.04933	0.11581	0.02202	0.16495	0.21438
582414.56_4129810	582414.56	4129810.2	0.01377	0.04548	0.114	0.02126	0.16128	0.19446
582471.13_4129810	582471.13	4129810.2	0.0134	0.04246	0.10052	0.02057	0.15407	0.16574
582527.7_4129810	582527.7	4129810.2	0.01307	0.04031	0.09093	0.01998	0.14422	0.14775
582584.27_4129810	582584.27	4129810.2	0.01275	0.03825	0.08212	0.0194	0.13399	0.13197
582640.84_4129810	582640.84	4129810.2	0.01245	0.03634	0.07435	0.01885	0.12206	0.11877
582697.41_4129810	582697.41	4129810.2	0.01216	0.03468	0.06826	0.01834	0.11128	0.10875
581905.43_4129894	581905.43	4129894.11	0.01782	0.05159	0.11215	0.03073	0.21448	0.22809
581962_4129894.11	581962	4129894.11	0.01716	0.06893	0.1076	0.02915	0.2149	0.21692
582131.71_4129894	582131.71	4129894.11	0.01569	0.06584	0.09214	0.02587	0.18639	0.17891
582188.28_4129894	582188.28	4129894.11	0.01524	0.06099	0.09168	0.02492	0.17971	0.17511
582244.85_4129894	582244.85	4129894.11	0.01479	0.05586	0.09721	0.02401	0.17672	0.19028
582301.42_4129894	582301.42	4129894.11	0.01438	0.05157	0.10417	0.02319	0.17109	0.20396
582357.99_4129894	582357.99	4129894.11	0.014	0.04793	0.10708	0.02241	0.16352	0.20185
582414.56_4129894	582414.56	4129894.11	0.01357	0.04347	0.10445	0.02156	0.16715	0.17843
582471.13_4129894	582471.13	4129894.11	0.0132	0.04073	0.0911	0.02083	0.15643	0.15214
582527.7_4129894	582527.7	4129894.11	0.01287	0.03869	0.08257	0.02021	0.14364	0.1367
582584.27_4129894	582584.27	4129894.11	0.01256	0.03688	0.07559	0.01962	0.13097	0.12446
582640.84_4129894	582640.84	4129894.11	0.01227	0.0352	0.06939	0.01906	0.11892	0.11386
582697.41_4129894	582697.41	4129894.11	0.01199	0.03364	0.06388	0.01851	0.10772	0.10456
581962_4129978.0	581962	4129978.02	0.01694	0.06838	0.10294	0.02962	0.22462	0.20898
582018.57_4129978	582018.57	4129978.02	0.01643	0.06943	0.09464	0.02845	0.21086	0.18579
582075.14_4129978	582075.14	4129978.02	0.01586	0.0656	0.10185	0.02714	0.21896	0.20579
582131.71_4129978	582131.71	4129978.02	0.01537	0.05946	0.10879	0.02604	0.2197	0.22468
582188.28_4129978	582188.28	4129978.02	0.0149	0.05369	0.12874	0.02501	0.22058	0.26608
582244.85_4129978	582244.85	4129978.02	0.01451	0.05085	0.11709	0.02418	0.19859	0.23492
582301.42_4129978	582301.42	4129978.02	0.01407	0.04635	0.12056	0.02324	0.19687	0.2194
582357.99_4129978	582357.99	4129978.02	0.01367	0.04322	0.10538	0.0224	0.18617	0.18429
582414.56_4129978	582414.56	4129978.02	0.01332	0.04085	0.094	0.02165	0.17178	0.16176
582471.13_4129978	582471.13	4129978.02	0.01299	0.03876	0.08475	0.02095	0.1568	0.14441
582527.7_4129978	582527.7	4129978.02	0.01266	0.03693	0.07741	0.02029	0.14209	0.13091
582584.27_4129978	582584.27	4129978.02	0.01234	0.03526	0.07106	0.01967	0.12844	0.11933
582640.84_4129978	582640.84	4129978.02	0.01205	0.03374	0.06569	0.01907	0.11618	0.10939
582697.41_4129978	582697.41	4129978.02	0.01178	0.03231	0.06094	0.01851	0.10492	0.10037
582753.98_4129978	582753.98	4129978.02	0.0115	0.0309	0.0563	0.01794	0.0939	0.0915
582810.55_4129978	582810.55	4129978.02	0.01121	0.02939	0.05128	0.01736	0.08199	0.08232
581905.43_4130061	581905.43	4130061.93	0.0169	0.06964	0.15888	0.03046	0.33096	0.38419
581962_4130061.9	581962	4130061.93	0.01641	0.06473	0.14652	0.02925	0.31208	0.3466
582018.57_4130061	582018.57	4130061.93	0.01601	0.06291	0.11437	0.02828	0.26342	0.24252
582075.14_4130061	582075.14	4130061.93	0.01558	0.05953	0.10119	0.02726	0.23395	0.20324
582131.71_4130061	582131.71	4130061.93	0.01509	0.05416	0.10839	0.02613	0.23041	0.22542
582188.28_4130061	582188.28	4130061.93	0.01464	0.0495	0.12153	0.02507	0.22572	0.25216
582244.85_4130061	582244.85	4130061.93	0.01419	0.04523	0.12467	0.02405	0.22174	0.2349
582301.42_4130061	582301.42	4130061.93	0.01381	0.04251	0.11091	0.02316	0.20557	0.20184
582357.99_4130061	582357.99	4130061.93	0.01344	0.04012	0.0987	0.02234	0.19026	0.17515
582414.56_4130061	582414.56	4130061.93	0.0131	0.03807	0.08888	0.02156	0.17383	0.15517
582471.13_4130061	582471.13	4130061.93	0.01277	0.03619	0.08053	0.02083	0.15702	0.13859
582527.7_4130061	582527.7	4130061.93	0.01246	0.03455	0.07393	0.02014	0.14092	0.12542
582584.27_4130061	582584.27	4130061.93	0.01215	0.03306	0.06834	0.0195	0.12655	0.11398
582640.84_4130061	582640.84	4130061.93	0.01186	0.03165	0.06333	0.01888	0.11326	0.1035
582697.41_4130061	582697.41	4130061.93	0.01159	0.03037	0.0591	0.01829	0.10171	0.09433
582753.98_4130061	582753.98	4130061.93	0.01134	0.02918	0.05536	0.01773	0.09163	0.08602
582810.55_4130061	582810.55	4130061.93	0.01107	0.02801	0.05182	0.01719	0.08251	0.07824
581962_4130145.84	581962	4130145.84	0.01604	0.05557	0.18835	0.02895	0.36811	0.4519
582018.57_4130145	582018.57	4130145.84	0.01559	0.05192	0.17484	0.02778	0.34067	0.39389
582075.14_4130145	582075.14	4130145.84	0.01522	0.05041	0.13577	0.02682	0.28794	0.30061

582131.71_4130145	582131.71	4130145.84	0.01479	0.04699	0.13335	0.02575	0.26644	0.28273
582188.28_4130145	582188.28	4130145.84	0.01433	0.04306	0.12855	0.02463	0.2578	0.24641
582244.85_4130145	582244.85	4130145.84	0.01394	0.04058	0.11397	0.02369	0.23458	0.21097
582301.42_4130145	582301.42	4130145.84	0.01359	0.03854	0.10284	0.02283	0.21202	0.18613
582357.99_4130145	582357.99	4130145.84	0.01324	0.03663	0.0931	0.02201	0.1924	0.16468
582414.56_4130145	582414.56	4130145.84	0.01291	0.03488	0.08489	0.02124	0.1739	0.14672
582471.13_4130145	582471.13	4130145.84	0.0126	0.03328	0.07784	0.02051	0.15574	0.13124
582527.7_4130145	582527.7	4130145.84	0.01229	0.03181	0.07186	0.01981	0.13815	0.11787
582584.27_4130145	582584.27	4130145.84	0.012	0.03045	0.06663	0.01916	0.12223	0.10604
582640.84_4130145	582640.84	4130145.84	0.01171	0.02918	0.06202	0.01853	0.10855	0.09561
582697.41_4130145	582697.41	4130145.84	0.01144	0.02802	0.05808	0.01794	0.09698	0.08663
582753.98_4130145	582753.98	4130145.84	0.01119	0.02696	0.05468	0.01739	0.08739	0.0789
582810.55_4130145	582810.55	4130145.84	0.01095	0.02596	0.0516	0.01686	0.07936	0.07214
582867.12_4130145	582867.12	4130145.84	0.01067	0.02469	0.04692	0.01627	0.0692	0.06409
581962_4130229.75	581962	4130229.75	0.01585	0.05262	0.16018	0.02861	0.37712	0.37943
582018.57_4130229.75	582018.57	4130229.75	0.01538	0.04827	0.16427	0.02734	0.3599	0.36778
582075.14_4130229.75	582075.14	4130229.75	0.01493	0.04476	0.15161	0.02617	0.33437	0.30929
582131.71_4130229.75	582131.71	4130229.75	0.01452	0.04201	0.13425	0.02511	0.30018	0.26178
582188.28_4130229.75	582188.28	4130229.75	0.01414	0.03966	0.1201	0.02414	0.26672	0.22606
582244.85_4130229.75	582244.85	4130229.75	0.01378	0.03753	0.10818	0.02323	0.23764	0.19695
582301.42_4130229.75	582301.42	4130229.75	0.01343	0.0356	0.09824	0.02238	0.21302	0.17314
582357.99_4130229.75	582357.99	4130229.75	0.01309	0.03383	0.08975	0.02157	0.19142	0.15292
582414.56_4130229.75	582414.56	4130229.75	0.01277	0.03222	0.08248	0.02081	0.17002	0.13567
582471.13_4130229.75	582471.13	4130229.75	0.01247	0.03075	0.07624	0.02009	0.1492	0.12086
582527.7_4130229.75	582527.7	4130229.75	0.01217	0.02939	0.07074	0.01941	0.13086	0.10804
582584.27_4130229.75	582584.27	4130229.75	0.01189	0.02813	0.0659	0.01877	0.1153	0.09702
582640.84_4130229.75	582640.84	4130229.75	0.01162	0.02696	0.06163	0.01816	0.10232	0.08762
582697.41_4130229.75	582697.41	4130229.75	0.01136	0.02592	0.05805	0.01759	0.09197	0.07989
582753.98_4130229.75	582753.98	4130229.75	0.0111	0.02491	0.05457	0.01704	0.08317	0.07293
582810.55_4130229.75	582810.55	4130229.75	0.01086	0.02398	0.05153	0.01652	0.07602	0.0671
582867.12_4130229.75	582867.12	4130229.75	0.01063	0.02314	0.0489	0.01603	0.07004	0.0622
582018.57_4130313.66	582018.57	4130313.66	0.0152	0.04611	0.15991	0.02671	0.38949	0.34087
582075.14_4130313.66	582075.14	4130313.66	0.01475	0.04263	0.1411	0.02554	0.36052	0.27581
582131.71_4130313.66	582131.71	4130313.66	0.01436	0.04016	0.1263	0.02454	0.31439	0.23624
582188.28_4130313.66	582188.28	4130313.66	0.014	0.03794	0.11434	0.02361	0.27368	0.2053
582244.85_4130313.66	582244.85	4130313.66	0.01364	0.03591	0.10425	0.02273	0.24052	0.17953
582301.42_4130313.66	582301.42	4130313.66	0.0133	0.03403	0.09546	0.02191	0.21266	0.15747
582357.99_4130313.66	582357.99	4130313.66	0.01297	0.0323	0.08781	0.02113	0.18594	0.13876
582414.56_4130313.66	582414.56	4130313.66	0.01266	0.03072	0.08113	0.0204	0.16103	0.12297
582471.13_4130313.66	582471.13	4130313.66	0.01236	0.02926	0.07528	0.0197	0.13968	0.10974
582527.7_4130313.66	582527.7	4130313.66	0.01207	0.02791	0.07013	0.01905	0.12225	0.09868
582584.27_4130313.66	582584.27	4130313.66	0.0118	0.02667	0.0655	0.01843	0.1079	0.08932
582640.84_4130313.66	582640.84	4130313.66	0.01154	0.02553	0.06142	0.01784	0.09644	0.08151
582697.41_4130313.66	582697.41	4130313.66	0.01128	0.02446	0.05769	0.01728	0.08694	0.07482
582753.98_4130313.66	582753.98	4130313.66	0.01103	0.02349	0.05441	0.01676	0.07891	0.0692
582810.55_4130313.66	582810.55	4130313.66	0.0108	0.02259	0.05143	0.01626	0.07183	0.06435
582867.12_4130313.66	582867.12	4130313.66	0.01057	0.02176	0.04879	0.01579	0.06567	0.06023
581848.86_4130397.57	581848.86	4130397.57	0.01633	0.05341	0.17882	0.02971	0.53782	0.45333
581905.43_4130397.57	581905.43	4130397.57	0.01585	0.04971	0.18048	0.02837	0.52179	0.43154
581962_4130397.57	581962	4130397.57	0.01538	0.04631	0.1713	0.0271	0.49325	0.36042
582018.57_4130397.57	582018.57	4130397.57	0.01495	0.04358	0.15116	0.02597	0.44128	0.2948
582075.14_4130397.57	582075.14	4130397.57	0.01454	0.04109	0.13375	0.02491	0.38522	0.24529
582131.71_4130397.57	582131.71	4130397.57	0.01417	0.03897	0.12106	0.02397	0.32783	0.21109
582188.28_4130397.57	582188.28	4130397.57	0.01381	0.03697	0.11022	0.02308	0.28313	0.18294
582244.85_4130397.57	582244.85	4130397.57	0.01348	0.03513	0.10149	0.02225	0.24261	0.16072
582301.42_4130397.57	582301.42	4130397.57	0.01315	0.03337	0.09343	0.02147	0.20745	0.14161
582357.99_4130397.57	582357.99	4130397.57	0.01283	0.03172	0.08629	0.02073	0.176	0.12577
582414.56_4130397.57	582414.56	4130397.57	0.01252	0.03014	0.07977	0.02002	0.15092	0.11241

582471.13_413039;	582471.13	4130397.57	0.01223	0.02871	0.07422	0.01936	0.13105	0.10164
582527.7_4130397.	582527.7	4130397.57	0.01195	0.02737	0.06928	0.01874	0.11498	0.09267
582584.27_413039;	582584.27	4130397.57	0.01168	0.02611	0.06473	0.01815	0.10186	0.08495
582640.84_413039;	582640.84	4130397.57	0.01143	0.02497	0.0608	0.01759	0.091	0.07857
582697.41_413039;	582697.41	4130397.57	0.01118	0.02388	0.05705	0.01705	0.0814	0.07287
582753.98_413039;	582753.98	4130397.57	0.01094	0.02289	0.05387	0.01655	0.07341	0.06815
582810.55_413039;	582810.55	4130397.57	0.01071	0.02198	0.05098	0.01607	0.06658	0.06404
582867.12_413039;	582867.12	4130397.57	0.01048	0.02112	0.04831	0.01562	0.06065	0.06038
581848.86_413048;	581848.86	4130481.48	0.01585	0.04456	0.20657	0.02849	0.70241	0.46033
581905.43_413048;	581905.43	4130481.48	0.01541	0.04297	0.18113	0.0273	0.65022	0.37157
581962_4130481.48	581962	4130481.48	0.01503	0.04179	0.16342	0.02627	0.55177	0.31757
582018.57_413048;	582018.57	4130481.48	0.0146	0.0399	0.14364	0.02519	0.48423	0.25821
582075.14_413048;	582075.14	4130481.48	0.01422	0.0383	0.12859	0.02422	0.40694	0.21836
582131.71_413048;	582131.71	4130481.48	0.01386	0.03675	0.11627	0.02332	0.34309	0.18785
582188.28_413048;	582188.28	4130481.48	0.01352	0.03528	0.10653	0.02249	0.28766	0.16469
582244.85_413048;	582244.85	4130481.48	0.0132	0.03386	0.09835	0.02171	0.2373	0.1464
582301.42_413048;	582301.42	4130481.48	0.01288	0.03242	0.09058	0.02097	0.19677	0.13079
582357.99_413048;	582357.99	4130481.48	0.01258	0.03103	0.08385	0.02027	0.16571	0.11812
582414.56_413048;	582414.56	4130481.48	0.01229	0.02967	0.07767	0.01961	0.14228	0.10732
582471.13_413048;	582471.13	4130481.48	0.01201	0.02841	0.07269	0.01899	0.12349	0.09882
582527.7_4130481.	582527.7	4130481.48	0.01174	0.02717	0.0677	0.01839	0.10788	0.09099
582584.27_413048;	582584.27	4130481.48	0.01149	0.026	0.06347	0.01783	0.09514	0.08451
582640.84_413048;	582640.84	4130481.48	0.01123	0.02487	0.05937	0.01729	0.08425	0.07856
582697.41_413048;	582697.41	4130481.48	0.01099	0.02381	0.05575	0.01678	0.07519	0.07341
582753.98_413048;	582753.98	4130481.48	0.01076	0.02284	0.05267	0.0163	0.0678	0.06904
582810.55_413048;	582810.55	4130481.48	0.01054	0.02192	0.0499	0.01585	0.06159	0.0652
582867.12_413048;	582867.12	4130481.48	0.01033	0.02105	0.04736	0.01541	0.05628	0.06171
581735.72_413056;	581735.72	4130565.39	0.01617	0.03966	0.2366	0.02979	0.85884	0.63705
581792.29_413056;	581792.29	4130565.39	0.01572	0.03841	0.21641	0.02852	0.84619	0.51303
581848.86_413056;	581848.86	4130565.39	0.01529	0.03738	0.19565	0.02734	0.80459	0.41418
581905.43_413056;	581905.43	4130565.39	0.01484	0.03603	0.17007	0.02615	0.76831	0.32453
581962_4130565.39	581962	4130565.39	0.01444	0.03513	0.14927	0.0251	0.66085	0.26775
582018.57_413056;	582018.57	4130565.39	0.01408	0.03443	0.13489	0.02417	0.53151	0.22961
582075.14_413056;	582075.14	4130565.39	0.01373	0.03366	0.12189	0.02328	0.42863	0.1988
582131.71_413056;	582131.71	4130565.39	0.01339	0.03284	0.11063	0.02246	0.34881	0.1744
582188.28_413056;	582188.28	4130565.39	0.01307	0.03205	0.102	0.0217	0.27743	0.15626
582244.85_413056;	582244.85	4130565.39	0.01277	0.0312	0.09407	0.02097	0.22283	0.14094
582301.42_413056;	582301.42	4130565.39	0.01247	0.03025	0.08639	0.02027	0.18561	0.12733
582357.99_413056;	582357.99	4130565.39	0.01218	0.02932	0.08	0.01962	0.15535	0.11633
582414.56_413056;	582414.56	4130565.39	0.01191	0.02836	0.07436	0.019	0.13201	0.10696
582471.13_413056;	582471.13	4130565.39	0.01165	0.0274	0.0693	0.01841	0.11369	0.09881
582527.7_4130565.	582527.7	4130565.39	0.01139	0.02643	0.06467	0.01786	0.099	0.09153
582584.27_413056;	582584.27	4130565.39	0.01115	0.02551	0.06077	0.01734	0.08733	0.08544
582640.84_413056;	582640.84	4130565.39	0.01091	0.02455	0.05678	0.01683	0.07723	0.07944
582697.41_413056;	582697.41	4130565.39	0.01068	0.02365	0.05353	0.01635	0.06929	0.07449
582753.98_413056;	582753.98	4130565.39	0.01047	0.02278	0.05061	0.0159	0.06275	0.07004
582810.55_413056;	582810.55	4130565.39	0.01026	0.02195	0.04802	0.01547	0.05741	0.06611
582867.12_413056;	582867.12	4130565.39	0.01006	0.02114	0.04565	0.01506	0.05295	0.06251
581735.72_413064;	581735.72	4130649.3	0.01533	0.03482	0.1816	0.02823	0.93348	0.47623
581792.29_413064;	581792.29	4130649.3	0.01493	0.03335	0.16947	0.02706	0.90355	0.40787
581905.43_413064;	581905.43	4130649.3	0.01406	0.02994	0.15861	0.0247	0.9054	0.29645
581962_4130649.3	581962	4130649.3	0.01369	0.02916	0.13832	0.02372	0.74906	0.24817
582018.57_413064;	582018.57	4130649.3	0.01336	0.02873	0.12535	0.02287	0.56505	0.2173
582075.14_413064;	582075.14	4130649.3	0.01304	0.02831	0.11345	0.02206	0.43534	0.19154
582131.71_413064;	582131.71	4130649.3	0.01274	0.02794	0.10342	0.0213	0.33492	0.17087
582188.28_413064;	582188.28	4130649.3	0.01244	0.02756	0.09462	0.02058	0.26046	0.15362
582244.85_413064;	582244.85	4130649.3	0.01216	0.0272	0.08738	0.01991	0.20678	0.13966
582301.42_413064;	582301.42	4130649.3	0.01189	0.02676	0.08047	0.01927	0.16852	0.127

582357.99_4130649	582357.99	4130649.3	0.01163	0.02631	0.07475	0.01867	0.1407	0.11656
582414.56_4130649	582414.56	4130649.3	0.01138	0.02584	0.06988	0.01811	0.11994	0.10772
582471.13_4130649	582471.13	4130649.3	0.01114	0.02527	0.0649	0.01756	0.10325	0.09909
582527.7_4130649	582527.7	4130649.3	0.0109	0.02469	0.06068	0.01705	0.09022	0.09176
582584.27_4130649	582584.27	4130649.3	0.01068	0.02409	0.05698	0.01657	0.08001	0.08535
582640.84_4130649	582640.84	4130649.3	0.01046	0.02347	0.05369	0.01611	0.07192	0.07965
582697.41_4130649	582697.41	4130649.3	0.01025	0.02282	0.05059	0.01566	0.06534	0.07439
582753.98_4130649	582753.98	4130649.3	0.01005	0.02217	0.04793	0.01525	0.06009	0.06983
582810.55_4130649	582810.55	4130649.3	0.00986	0.02154	0.0456	0.01485	0.05581	0.06584
582867.12_4130649	582867.12	4130649.3	0.00967	0.02088	0.04333	0.01447	0.05206	0.06201
581848.86_4130733	581848.86	4130733.21	0.0135	0.02701	0.16244	0.02393	1.35525	0.33279
581905.43_4130733	581905.43	4130733.21	0.01315	0.02574	0.14095	0.02297	1.15487	0.27812
581962_4130733.21	581962	4130733.21	0.01283	0.02485	0.12525	0.0221	0.84513	0.2399
582018.57_4130733	582018.57	4130733.21	0.01253	0.02424	0.11381	0.02132	0.5885	0.21206
582075.14_4130733	582075.14	4130733.21	0.01225	0.02378	0.1039	0.02058	0.41178	0.18903
582131.71_4130733	582131.71	4130733.21	0.01197	0.02343	0.09498	0.01988	0.29739	0.16931
582188.28_4130733	582188.28	4130733.21	0.01171	0.02317	0.08724	0.01923	0.2274	0.1526
582244.85_4130733	582244.85	4130733.21	0.01145	0.02295	0.08029	0.01861	0.18022	0.13809
582301.42_4130733	582301.42	4130733.21	0.0112	0.02277	0.07431	0.01803	0.14767	0.12577
582357.99_4130733	582357.99	4130733.21	0.01097	0.0226	0.06909	0.01749	0.12432	0.11515
582414.56_4130733	582414.56	4130733.21	0.01074	0.02242	0.06427	0.01696	0.10706	0.1056
582471.13_4130733	582471.13	4130733.21	0.01052	0.02221	0.06005	0.01646	0.09419	0.09733
582527.7_4130733	582527.7	4130733.21	0.0103	0.02197	0.05621	0.01599	0.08428	0.08992
582584.27_4130733	582584.27	4130733.21	0.0101	0.0217	0.05282	0.01555	0.0765	0.08344
582640.84_4130733	582640.84	4130733.21	0.0099	0.02141	0.04982	0.01513	0.07017	0.07771
582697.41_4130733	582697.41	4130733.21	0.00972	0.02108	0.04716	0.01474	0.0649	0.07271
582753.98_4130733	582753.98	4130733.21	0.00953	0.02072	0.04473	0.01436	0.06035	0.06818
582810.55_4130733	582810.55	4130733.21	0.00936	0.02036	0.04277	0.014	0.05661	0.06445
582867.12_4130733	582867.12	4130733.21	0.00919	0.01996	0.04081	0.01366	0.0531	0.06084
581735.72_4130817	581735.72	4130817.12	0.01328	0.02858	0.18488	0.02415	1.99892	0.46451
581792.29_4130817	581792.29	4130817.12	0.0129	0.02645	0.15731	0.02308	2.25873	0.36698
581848.86_4130817	581848.86	4130817.12	0.01258	0.02496	0.13974	0.02217	2.02531	0.31029
581905.43_4130817	581905.43	4130817.12	0.01226	0.02355	0.12312	0.02129	1.52846	0.2627
581962_4130817.12	581962	4130817.12	0.01198	0.02246	0.11148	0.02051	0.92195	0.22923
582018.57_4130817	582018.57	4130817.12	0.01171	0.02155	0.1019	0.01979	0.5472	0.20266
582075.14_4130817	582075.14	4130817.12	0.01145	0.02084	0.09381	0.01911	0.35006	0.18106
582131.71_4130817	582131.71	4130817.12	0.0112	0.02026	0.08632	0.01847	0.24902	0.16234
582188.28_4130817	582188.28	4130817.12	0.01096	0.01982	0.07963	0.01786	0.19094	0.14632
582244.85_4130817	582244.85	4130817.12	0.01073	0.01948	0.07353	0.01729	0.1545	0.13234
582301.42_4130817	582301.42	4130817.12	0.0105	0.01925	0.06822	0.01675	0.13042	0.12046
582357.99_4130817	582357.99	4130817.12	0.01028	0.01909	0.06342	0.01624	0.11343	0.11007
582414.56_4130817	582414.56	4130817.12	0.01007	0.01898	0.05906	0.01575	0.1006	0.10087
582471.13_4130817	582471.13	4130817.12	0.00987	0.01892	0.05537	0.0153	0.0908	0.09316
582527.7_4130817	582527.7	4130817.12	0.00968	0.01885	0.0519	0.01487	0.08257	0.08611
582584.27_4130817	582584.27	4130817.12	0.0095	0.0188	0.04894	0.01447	0.07586	0.08013
582640.84_4130817	582640.84	4130817.12	0.00932	0.01874	0.04631	0.01408	0.07014	0.07489
582697.41_4130817	582697.41	4130817.12	0.00915	0.01866	0.04393	0.01372	0.06514	0.07021
582753.98_4130817	582753.98	4130817.12	0.00898	0.01854	0.04163	0.01337	0.06057	0.06582
582810.55_4130817	582810.55	4130817.12	0.00883	0.0184	0.03966	0.01305	0.05661	0.06203
582867.12_4130817	582867.12	4130817.12	0.00867	0.01824	0.0379	0.01273	0.05311	0.05868
581735.72_4130901	581735.72	4130901.03	0.0125	0.02681	0.147	0.0225	3.99035	0.39064
581792.29_4130901	581792.29	4130901.03	0.01216	0.02518	0.12991	0.0216	4.26291	0.32207
581848.86_4130901	581848.86	4130901.03	0.01185	0.02378	0.1175	0.02077	3.79835	0.2741
581905.43_4130901	581905.43	4130901.03	0.01155	0.02246	0.10643	0.01997	1.98839	0.23564
581962_4130901.03	581962	4130901.03	0.01128	0.02131	0.098	0.01926	0.79956	0.20696
582018.57_4130901	582018.57	4130901.03	0.01102	0.02024	0.09009	0.01856	0.42352	0.18269
582075.14_4130901	582075.14	4130901.03	0.01077	0.01935	0.08397	0.01793	0.28056	0.16411
582131.71_4130901	582131.71	4130901.03	0.01053	0.01853	0.07787	0.01732	0.21243	0.14751

582188.28_4130901	582188.28	4130901.03	0.01031	0.01785	0.07246	0.01675	0.17238	0.13356
582244.85_4130901	582244.85	4130901.03	0.01009	0.01729	0.0674	0.0162	0.14526	0.12136
582301.42_4130901	582301.42	4130901.03	0.00987	0.01685	0.06274	0.01568	0.12524	0.11068
582357.99_4130901	582357.99	4130901.03	0.00967	0.01652	0.05861	0.0152	0.11	0.10154
582414.56_4130901	582414.56	4130901.03	0.00947	0.01628	0.05479	0.01474	0.09777	0.09344
582471.13_4130901	582471.13	4130901.03	0.00929	0.01613	0.05143	0.0143	0.08798	0.08645
582527.7_4130901.	582527.7	4130901.03	0.00911	0.01604	0.04833	0.01389	0.07979	0.0802
582584.27_4130901	582584.27	4130901.03	0.00894	0.01601	0.04564	0.01351	0.07312	0.07485
582640.84_4130901	582640.84	4130901.03	0.00877	0.01601	0.04326	0.01314	0.06751	0.07015
582697.41_4130901	582697.41	4130901.03	0.00861	0.01602	0.04109	0.0128	0.06266	0.06595
582753.98_4130901	582753.98	4130901.03	0.00846	0.01604	0.03906	0.01247	0.0584	0.06216
582810.55_4130901	582810.55	4130901.03	0.00831	0.01605	0.03717	0.01216	0.05454	0.05863
582867.12_4130901	582867.12	4130901.03	0.00817	0.01605	0.03552	0.01186	0.05122	0.05558
581735.72_4130984	581735.72	4130984.94	0.01207	0.02552	0.11682	0.02142	10.66172	0.32238
581792.29_4130984	581792.29	4130984.94	0.01173	0.02411	0.10612	0.02061	14.00216	0.27156
581848.86_4130984	581848.86	4130984.94	0.01141	0.02285	0.09756	0.01985	16.29253	0.23312
581905.43_4130984	581905.43	4130984.94	0.01112	0.02174	0.09127	0.01915	1.28529	0.20455
581962_4130984.94	581962	4130984.94	0.01084	0.02063	0.08468	0.01846	0.5449	0.17958
582018.57_4130984	582018.57	4130984.94	0.01057	0.01958	0.07883	0.0178	0.34689	0.15916
582075.14_4130984	582075.14	4130984.94	0.01032	0.01863	0.07391	0.01718	0.25291	0.14274
582131.71_4130984	582131.71	4130984.94	0.01008	0.01775	0.06949	0.0166	0.19785	0.12901
582188.28_4130984	582188.28	4130984.94	0.00985	0.01693	0.06529	0.01604	0.16134	0.11715
582244.85_4130984	582244.85	4130984.94	0.00963	0.01621	0.06136	0.01551	0.1355	0.10689
582301.42_4130984	582301.42	4130984.94	0.00942	0.01557	0.05771	0.015	0.11643	0.098
582357.99_4130984	582357.99	4130984.94	0.00921	0.01504	0.05434	0.01453	0.1019	0.09028
582414.56_4130984	582414.56	4130984.94	0.00902	0.01461	0.05119	0.01407	0.09044	0.08347
582471.13_4130984	582471.13	4130984.94	0.00884	0.01427	0.04827	0.01364	0.0812	0.07743
582527.7_4130984.	582527.7	4130984.94	0.00866	0.01402	0.04554	0.01323	0.07358	0.07204
582584.27_4130984	582584.27	4130984.94	0.00849	0.01386	0.04315	0.01285	0.06745	0.06741
582640.84_4130984	582640.84	4130984.94	0.00833	0.01377	0.04106	0.01249	0.06248	0.06345
582697.41_4130984	582697.41	4130984.94	0.00817	0.01373	0.03897	0.01215	0.05798	0.05968
582753.98_4130984	582753.98	4130984.94	0.00803	0.01374	0.03716	0.01182	0.0543	0.05649
582810.55_4130984	582810.55	4130984.94	0.00788	0.01376	0.03545	0.01151	0.05095	0.05347
582867.12_4130984	582867.12	4130984.94	0.00774	0.0138	0.03378	0.01122	0.04795	0.05068
581735.72_4131068	581735.72	4131068.85	0.01196	0.0242	0.09102	0.02067	1.7308	0.25597
581792.29_4131068	581792.29	4131068.85	0.0116	0.02301	0.08428	0.01994	1.37832	0.22396
581848.86_4131068	581848.86	4131068.85	0.01127	0.02193	0.07898	0.01926	0.73631	0.19799
581905.43_4131068	581905.43	4131068.85	0.01095	0.02087	0.074	0.0186	0.46486	0.17514
581962_4131068.85	581962	4131068.85	0.01066	0.01994	0.07033	0.01798	0.33372	0.15696
582018.57_4131068	582018.57	4131068.85	0.01038	0.01903	0.06664	0.01737	0.25042	0.14065
582075.14_4131068	582075.14	4131068.85	0.01011	0.01815	0.06324	0.01679	0.19657	0.12658
582131.71_4131068	582131.71	4131068.85	0.00986	0.01732	0.06024	0.01624	0.16035	0.11468
582188.28_4131068	582188.28	4131068.85	0.00962	0.01651	0.05733	0.0157	0.13409	0.10427
582244.85_4131068	582244.85	4131068.85	0.00939	0.01576	0.05468	0.01518	0.11477	0.09534
582301.42_4131068	582301.42	4131068.85	0.00917	0.01505	0.05211	0.01469	0.0999	0.08751
582357.99_4131068	582357.99	4131068.85	0.00896	0.0144	0.04963	0.01421	0.08817	0.08059
582414.56_4131068	582414.56	4131068.85	0.00876	0.01382	0.04728	0.01377	0.07888	0.07454
582471.13_4131068	582471.13	4131068.85	0.00857	0.01331	0.04499	0.01333	0.07127	0.06915
582527.7_4131068.	582527.7	4131068.85	0.00838	0.01288	0.04274	0.01292	0.06493	0.0643
582584.27_4131068	582584.27	4131068.85	0.0082	0.01253	0.04052	0.01253	0.05947	0.05987
582640.84_4131068	582640.84	4131068.85	0.00804	0.01228	0.03885	0.01216	0.05549	0.05643
582697.41_4131068	582697.41	4131068.85	0.00788	0.0121	0.03711	0.0118	0.05186	0.05317
582753.98_4131068	582753.98	4131068.85	0.00773	0.012	0.03566	0.01148	0.04893	0.05046
582810.55_4131068	582810.55	4131068.85	0.00759	0.01195	0.03427	0.01117	0.04632	0.04798
582867.12_4131068	582867.12	4131068.85	0.00744	0.0119	0.03255	0.01086	0.04358	0.04526
582018.57_4131152	582018.57	4131152.76	0.01041	0.01839	0.0546	0.01707	0.16394	0.12383
582244.85_4131152	582244.85	4131152.76	0.00935	0.01548	0.04672	0.01505	0.09551	0.0889
582301.42_4131152	582301.42	4131152.76	0.00911	0.01481	0.04517	0.01458	0.08525	0.08206

582357.99_4131152	582357.99	4131152.76	0.00889	0.01416	0.04362	0.01413	0.07628	0.0758
582414.56_4131152	582414.56	4131152.76	0.00868	0.01355	0.04223	0.0137	0.06889	0.07032
582471.13_4131152	582471.13	4131152.76	0.00847	0.01295	0.04046	0.01327	0.06196	0.06486
582527.7_4131152	582527.7	4131152.76	0.00827	0.01241	0.03894	0.01286	0.05649	0.06023
582584.27_4131152	582584.27	4131152.76	0.00808	0.01192	0.0374	0.01246	0.05183	0.05601
582640.84_4131152	582640.84	4131152.76	0.0079	0.01152	0.03602	0.01209	0.0481	0.05239
582697.41_4131152	582697.41	4131152.76	0.00773	0.01118	0.0347	0.01173	0.04494	0.04916
582753.98_4131152	582753.98	4131152.76	0.00758	0.01093	0.03375	0.01139	0.04261	0.04664
582810.55_4131152	582810.55	4131152.76	0.00743	0.01075	0.03269	0.01108	0.04044	0.04425
582867.12_4131152	582867.12	4131152.76	0.00728	0.01057	0.03123	0.01076	0.03813	0.04159

* AERMOD (191 91): C:\Lakes\P CRP\PCRP.isc
 * AERMET (141 34):
 * MODELING OPT IONS USED: Re gDFAULT CONC
 * PLOT FILE OF ANNUAL VALUES AVERA
 * FOR A TOTAL OF 1 0 RECEPTORS.
 * FORM AT: (3(1X,F13.5),3(1X,F8.2),
 * X Y AVERAGE CONC

			MATRMVL	CHAN_RCK	CONCRTE	UNPAVED	PAVED	CCP_UNPV
58133	581336.22	4131207.48	57.09191	76.20496	302.36092	77.41213	290.9752	594.83419
58155	581554.22	4130688.06	47.97161	175.22527	42.90898	76.94998	64.03871	96.34793
57979	579793.36	4131503.29	80.12044	21.79723	17.77155	64.6571	7.66508	29.71855
58048	580488.37	4131517.71	37.84138	49.63809	28.08359	65.45945	22.18574	48.49792
58167	581678.43	4131040.03	46.1998	83.43209	193.19146	69.79188	364.1903	499.98746
58163	581635.43	4130978.54	43.45856	83.95915	267.30043	70.84095	474.1072	555.57861
58183	581830.06	4131027.55	41.42779	78.79922	187.83163	65.10715	506.2539	368.26775
58172	581727.48	4130976.54	40.53569	80.63016	237.83863	66.78055	565.9552	409.42597
58178	581789.11	4130419.65	50.31901	164.39326	78.42603	70.13251	88.53486	259.74389
58170	581700.32	4130781.89	41.0028	115.74497	266.28964	62.00052	144.3693	508.93389
58142	581426.07	4131299.01	55.65347	71.31808	250.32099	73.26407	241.6693	482.27922
58230	582301.42	4129474.56	39.22386	100.73061	147.70978	49.16282	39.85151	219.43663
58235	582357.99	4129474.56	38.44397	96.57674	132.46603	46.38902	39.22951	221.62473
58241	582414.56	4129474.56	37.56939	92.18279	124.18092	43.35442	43.27102	203.10324
58247	582471.13	4129474.56	36.65568	87.56428	119.99878	40.15559	43.62292	174.59731
58252	582527.7	4129474.56	35.66092	83.01269	115.82051	36.89733	44.30665	180.39844
58258	582584.27	4129474.56	34.66986	78.13337	105.63847	33.61993	42.59249	167.58492
58264	582640.84	4129474.56	33.62031	75.71267	96.56604	31.09311	43.01057	159.09466
58224	582244.85	4129558.47	39.04368	113.72203	71.94707	45.2103	55.41423	208.70454
58230	582301.42	4129558.47	37.78526	102.18067	145.78659	41.45396	54.47838	265.17306
58235	582357.99	4129558.47	36.51993	96.22876	144.91857	37.66681	52.96271	228.7212
58241	582414.56	4129558.47	35.2255	93.42625	136.79977	35.19361	51.77004	208.84728
58247	582471.13	4129558.47	33.90702	89.81737	115.06921	36.62507	49.04205	187.09731
58252	582527.7	4129558.47	32.61505	87.1729	105.17675	37.92425	46.62857	170.32648
58258	582584.27	4129558.47	32.43504	84.44433	100.00825	39.08205	43.92142	175.25681
58264	582640.84	4129558.47	32.44638	81.76069	100.36587	40.0876	41.46875	171.22947
58269	582697.41	4129558.47	32.38626	78.91171	99.20664	40.93546	39.77675	155.91252
58224	582244.85	4129642.38	37.03235	136.72771	37.23062	41.88868	63.94152	98.81403
58230	582301.42	4129642.38	36.968	114.55602	90.98319	43.27294	56.14877	248.60183
58235	582357.99	4129642.38	36.78958	100.33905	150.40235	44.48893	48.62181	250.10957
58241	582414.56	4129642.38	36.56739	95.18484	130.60547	45.4962	47.79977	217.2393
58247	582471.13	4129642.38	36.28551	91.60537	118.36362	46.29186	47.20287	197.94243
58252	582527.7	4129642.38	35.96448	88.46249	113.4186	46.87661	47.03917	193.27935
58258	582584.27	4129642.38	35.59021	85.41941	107.81229	47.23941	44.97855	176.09906
58264	582640.84	4129642.38	35.16404	82.51012	103.40824	47.3878	44.85791	151.59439
58269	582697.41	4129642.38	34.71587	79.58709	98.56659	47.31036	46.47258	139.79392
58275	582753.98	4129642.38	34.20379	76.83132	92.91856	47.02905	45.8502	144.40769
58281	582810.55	4129642.38	33.66379	74.12226	87.28959	46.5652	43.9588	152.31651
58286	582867.12	4129642.38	33.12297	71.46159	79.52289	45.92603	46.61719	151.10447
58224	582244.85	4129726.29	40.34288	129.39619	50.84879	52.63998	64.84739	138.41981
58230	582301.42	4129726.29	39.73553	117.19578	71.98721	53.05202	63.6672	215.08427
58235	582357.99	4129726.29	39.05829	99.98046	152.65063	53.17613	58.65155	258.65373
58241	582414.56	4129726.29	38.36951	92.41706	146.258	53.03633	55.04359	250.79188
58247	582471.13	4129726.29	37.64854	86.91455	135.34212	52.63404	52.09147	224.74459

58252	582527.7	4129726.29	36.9057	81.88908	120.4001	51.99649	49.40649	184.35346
58258	582584.27	4129726.29	36.17644	77.67446	110.28665	51.17871	50.82544	159.10883
58264	582640.84	4129726.29	35.37509	73.71283	101.6622	50.14476	53.37592	162.26529
58269	582697.41	4129726.29	34.55003	70.02926	91.83088	48.92902	50.83048	168.15934
58275	582753.98	4129726.29	33.76392	67.63293	81.5421	47.56244	48.06767	164.74655
58281	582810.55	4129726.29	32.93114	65.85292	77.10171	46.06776	48.92325	151.69681
58224	582244.85	4129810.2	40.29861	120.50102	39.46883	58.68443	69.89375	119.70709
58230	582301.42	4129810.2	39.27006	107.57979	76.62813	57.53822	65.69354	234.46716
58235	582357.99	4129810.2	38.31045	96.80518	137.82629	56.16581	61.30987	313.85097
58241	582414.56	4129810.2	37.86508	88.70735	148.25431	54.58659	56.62456	248.98048
58247	582471.13	4129810.2	37.39018	83.28203	127.44287	52.82423	52.57373	188.99009
58252	582527.7	4129810.2	36.88702	80.00114	113.90295	50.93214	55.07444	187.87839
58258	582584.27	4129810.2	36.36778	76.80098	98.56024	48.94941	55.66405	189.5301
58264	582640.84	4129810.2	35.81589	73.8231	88.71063	46.86169	53.06037	180.79266
58269	582697.41	4129810.2	35.23223	71.27058	85.80929	44.7301	52.96551	166.49463
58190	581905.43	4129894.11	45.58613	80.10465	19.87424	68.36795	45.38225	55.65882
58196	581962	4129894.11	44.91966	190.93557	21.31236	67.0045	52.84329	67.24095
58213	582131.71	4129894.11	42.7426	148.42799	32.71283	61.47993	60.53269	93.30912
58218	582188.28	4129894.11	41.95175	137.48228	39.64275	59.17845	59.76792	118.11145
58224	582244.85	4129894.11	41.15919	123.95917	61.74168	56.73626	54.57637	188.04041
58230	582301.42	4129894.11	40.35372	113.68564	98.40187	54.16303	53.29389	276.7808
58235	582357.99	4129894.11	39.53417	105.80266	131.00089	51.79452	51.68197	268.92332
58241	582414.56	4129894.11	38.73424	95.52731	126.10523	51.84535	54.25272	219.03871
58247	582471.13	4129894.11	37.93483	91.27389	100.62318	51.79538	58.91217	204.84931
58252	582527.7	4129894.11	37.07213	88.20546	96.13746	51.55442	58.29618	197.12828
58258	582584.27	4129894.11	36.22389	85.40041	92.11404	51.17947	54.64259	180.67524
58264	582640.84	4129894.11	35.41864	82.75253	87.84694	50.72693	57.07053	156.37478
58269	582697.41	4129894.11	34.58789	80.26166	84.6851	50.11823	55.08952	164.7093
58196	581962	4129978.02	45.47523	240.34259	23.89368	63.74064	57.78081	66.94065
58201	582018.57	4129978.02	44.30177	252.26952	25.25948	61.39466	58.75972	65.285
58207	582075.14	4129978.02	43.17392	160.17953	37.29535	61.26402	73.05657	107.57183
58213	582131.71	4129978.02	41.99302	140.78006	57.45925	60.90586	65.4798	172.56353
58218	582188.28	4129978.02	40.84959	123.30976	127.18673	60.39016	62.16136	350.27994
58224	582244.85	4129978.02	39.77251	118.55923	124.65426	59.70028	59.71964	298.05428
58230	582301.42	4129978.02	38.66892	107.03512	138.0336	58.83388	55.59334	258.4874
58235	582357.99	4129978.02	37.53569	101.0638	114.44313	57.89383	58.32186	238.05407
58241	582414.56	4129978.02	36.46542	96.89268	106.124	56.78044	63.61108	221.54799
58247	582471.13	4129978.02	35.46931	93.1842	99.51479	55.56307	61.03816	197.59475
58252	582527.7	4129978.02	34.40191	89.85117	95.28831	54.27431	59.60559	175.88979
58258	582584.27	4129978.02	33.36181	86.74876	90.73782	52.90727	60.96732	186.19735
58264	582640.84	4129978.02	32.37838	83.88104	86.2407	51.47385	59.1974	187.64002
58269	582697.41	4129978.02	31.47683	81.18559	81.19496	50.0053	62.04828	179.96992
58275	582753.98	4129978.02	30.50265	78.57175	74.50144	49.1302	57.51635	163.40514
58281	582810.55	4129978.02	29.55389	76.02897	65.43397	48.5544	47.5912	141.52812
58190	581905.43	4130061.93	43.16616	157.73523	55.92276	70.62034	87.90651	171.29101
58196	581962	4130061.93	41.69087	148.26104	62.0139	69.19175	85.04456	193.01076
58201	582018.57	4130061.93	40.32349	152.99431	42.55531	67.61586	85.55442	127.77116
58207	582075.14	4130061.93	38.96021	148.24446	40.87672	65.91037	83.27542	109.47008
58213	582131.71	4130061.93	37.55398	131.35828	67.04067	64.0643	76.26998	198.54145
58218	582188.28	4130061.93	36.25809	117.88455	118.43836	62.14351	71.68347	324.43284
58224	582244.85	4130061.93	35.06075	107.02568	130.54559	60.18976	65.43957	301.25827
58230	582301.42	4130061.93	33.84293	101.99838	122.73146	59.19268	63.11966	272.23834

58235	582357.99	4130061.93	33.26738	97.76868	113.8997	58.32275	67.26509	230.58261
58241	582414.56	4130061.93	32.81645	94.16354	105.6789	57.36659	62.85829	209.34872
58247	582471.13	4130061.93	32.38511	90.8391	97.15541	56.31587	66.74263	212.30518
58252	582527.7	4130061.93	31.93459	87.86233	90.15714	55.24091	65.68046	207.58907
58258	582584.27	4130061.93	31.48092	85.10545	83.36528	54.09375	67.8539	193.69215
58264	582640.84	4130061.93	31.0341	82.48575	80.63256	52.9167	66.35295	171.70567
58269	582697.41	4130061.93	30.59056	80.04671	80.64427	51.67604	60.92611	145.96703
58275	582753.98	4130061.93	30.15444	77.73663	80.29858	50.44657	58.52574	125.57144
58281	582810.55	4130061.93	29.71687	75.49856	78.88605	49.17572	58.41648	120.36658
58196	581962	4130145.84	39.97293	109.99755	162.73305	70.3441	80.69585	449.51153
58201	582018.57	4130145.84	39.22374	105.28259	169.56328	68.73855	76.80526	390.05785
58207	582075.14	4130145.84	38.48496	107.88385	108.68652	67.05416	77.15166	338.9956
58213	582131.71	4130145.84	37.76284	101.79759	132.36017	65.32018	73.24358	367.48648
58218	582188.28	4130145.84	37.05403	93.276	133.83305	63.52746	66.61857	309.77348
58224	582244.85	4130145.84	36.35262	89.65297	122.8077	61.72312	70.8198	259.40779
58230	582301.42	4130145.84	35.65748	86.88037	113.86122	59.90557	71.20481	249.52914
58235	582357.99	4130145.84	34.97744	84.0999	103.89503	58.06788	69.45788	247.11256
58241	582414.56	4130145.84	34.31725	81.47792	101.67558	56.22346	72.07006	232.66002
58247	582471.13	4130145.84	33.67062	79.03023	99.49553	54.40641	72.13979	208.39671
58252	582527.7	4130145.84	33.03264	76.74379	97.38777	52.5758	74.26577	178.28249
58258	582584.27	4130145.84	32.4076	74.54742	94.93257	50.76473	69.68742	145.62083
58264	582640.84	4130145.84	31.7978	72.44124	92.17867	48.99606	64.21044	139.0969
58269	582697.41	4130145.84	31.20587	70.47965	89.59392	47.27494	64.36827	137.84392
58275	582753.98	4130145.84	30.6315	68.6478	87.20486	45.55717	68.01752	133.70832
58281	582810.55	4130145.84	30.07376	66.86949	84.47382	43.87071	65.26738	126.68144
58286	582867.12	4130145.84	29.51558	64.64325	75.40689	42.23318	50.90845	114.94887
58196	581962	4130229.75	40.15185	130.9501	112.17313	67.16551	70.30964	362.62229
58201	582018.57	4130229.75	39.2038	117.29752	151.84776	64.51562	66.5845	395.3312
58207	582075.14	4130229.75	38.2905	107.13561	144.21208	61.88051	67.89089	359.39338
58213	582131.71	4130229.75	37.3912	99.483	133.8497	59.32697	70.16132	301.54398
58218	582188.28	4130229.75	36.50345	92.53477	130.22779	56.83605	77.47602	295.19058
58224	582244.85	4130229.75	35.64103	86.22037	126.02775	54.41514	74.90087	283.03664
58230	582301.42	4130229.75	34.81148	80.2677	121.86822	52.05048	78.06964	258.17908
58235	582357.99	4130229.75	34.01784	74.77554	117.32066	50.61824	75.73204	222.97266
58241	582414.56	4130229.75	33.25641	69.75136	112.67755	49.81614	81.41374	182.8928
58247	582471.13	4130229.75	32.52357	64.96882	108.05189	49.0123	77.23843	165.61787
58252	582527.7	4130229.75	31.80846	61.71566	103.08189	48.17135	71.09162	162.46519
58258	582584.27	4130229.75	31.09098	60.87981	98.13089	47.37603	71.97992	154.9626
58264	582640.84	4130229.75	30.38642	59.97009	93.21007	46.57861	76.17467	144.74276
58269	582697.41	4130229.75	29.70355	59.06705	89.03639	45.73335	73.44048	141.32528
58275	582753.98	4130229.75	29.20291	58.12921	85.87129	44.9361	64.90029	133.75618
58281	582810.55	4130229.75	28.83773	57.24932	83.84892	44.14886	66.17604	124.76727
58286	582867.12	4130229.75	28.4874	56.40829	82.21715	43.33804	71.25025	114.8836
58201	582018.57	4130313.66	41.63812	121.19392	160.84429	61.4942	66.80439	382.34522
58207	582075.14	4130313.66	40.91057	114.28943	150.56782	60.01733	77.42533	336.08736
58213	582131.71	4130313.66	40.19402	109.567	143.24247	58.54843	84.96148	312.56894
58218	582188.28	4130313.66	39.49536	104.93038	136.94559	57.11432	80.41451	278.14512
58224	582244.85	4130313.66	38.82091	100.19751	130.5552	55.74177	85.43337	233.13322
58230	582301.42	4130313.66	38.16839	95.49246	123.53608	54.38456	88.17662	198.67559
58235	582357.99	4130313.66	37.5382	90.78493	116.32975	53.04563	86.8187	193.52889
58241	582414.56	4130313.66	36.92686	86.27522	112.23679	51.7638	79.28029	182.83517
58247	582471.13	4130313.66	36.3348	81.82384	108.16807	50.49089	79.88302	171.70709

58252	582527.7	4130313.66	35.75974	77.55253	104.1993	49.21291	86.36812	163.85221
58258	582584.27	4130313.66	35.19855	73.46319	100.12949	47.99643	82.29256	152.53533
58264	582640.84	4130313.66	34.64754	69.50403	96.37845	46.82479	73.01305	139.58321
58269	582697.41	4130313.66	34.10522	65.81024	92.42369	45.67689	77.58863	125.00546
58275	582753.98	4130313.66	33.56987	62.209	88.88602	44.56123	80.57405	110.46531
58281	582810.55	4130313.66	33.04418	58.83941	86.09069	43.47393	75.78926	96.11818
58286	582867.12	4130313.66	32.53049	55.71447	83.95965	42.40698	66.36941	98.04054
58184	581848.86	4130397.57	48.69756	148.89076	114.44404	64.86929	83.58578	375.22293
58190	581905.43	4130397.57	47.65578	139.58476	162.91881	63.54225	79.33732	471.63254
58196	581962	4130397.57	46.64955	131.02559	173.576	62.24672	77.15737	425.68924
58201	582018.57	4130397.57	45.67584	124.21925	160.70929	60.99877	86.40833	358.51854
58207	582075.14	4130397.57	44.73409	117.43699	148.52675	59.80371	93.14941	288.86325
58213	582131.71	4130397.57	43.8247	110.78001	142.10007	58.65843	94.32211	234.6363
58218	582188.28	4130397.57	42.94628	104.00622	135.65304	57.51569	93.29388	227.31185
58224	582244.85	4130397.57	42.09807	97.30981	131.08025	56.41149	97.99556	215.7784
58230	582301.42	4130397.57	41.27851	91.87624	125.29577	55.3472	89.49791	204.25898
58235	582357.99	4130397.57	40.48628	89.87307	120.28768	54.32712	87.90535	191.52911
58241	582414.56	4130397.57	39.71949	87.55665	114.66604	53.34282	95.92103	173.93259
58247	582471.13	4130397.57	38.9777	85.08948	110.00997	52.37228	92.90807	155.59837
58252	582527.7	4130397.57	38.25964	82.47483	105.65526	51.41676	82.35972	136.44748
58258	582584.27	4130397.57	37.56374	79.73449	100.92316	50.48319	91.30705	120.42151
58264	582640.84	4130397.57	36.8892	76.96633	96.95991	49.58958	91.47703	125.049
58269	582697.41	4130397.57	36.23511	74.15792	92.50739	48.74437	82.18389	127.15907
58275	582753.98	4130397.57	35.60083	71.34579	88.92947	47.92711	69.41829	128.68142
58281	582810.55	4130397.57	34.98467	68.60386	85.4653	47.11674	58.39148	128.75361
58286	582867.12	4130397.57	34.38562	65.82738	82.08838	46.2988	59.95257	127.40385
58184	581848.86	4130481.48	48.50065	138.01071	195.63776	75.00294	88.43543	463.30357
58190	581905.43	4130481.48	47.40847	131.78157	183.29005	73.13489	91.0173	390.23679
58196	581962	4130481.48	46.35789	127.26931	179.94636	71.33932	95.81651	344.82538
58201	582018.57	4130481.48	45.34666	120.47868	161.96563	69.60141	100.1581	280.58148
58207	582075.14	4130481.48	44.37271	113.62946	150.11484	67.93222	105.9825	253.04396
58213	582131.71	4130481.48	43.43413	108.15237	140.53505	66.33239	111.1845	236.18385
58218	582188.28	4130481.48	42.52914	106.0284	133.95234	64.78804	104.5544	218.22089
58224	582244.85	4130481.48	41.65606	103.1927	128.46711	63.31677	99.30389	197.35814
58230	582301.42	4130481.48	40.81326	99.7002	121.41186	61.90607	107.2654	171.7507
58235	582357.99	4130481.48	39.99937	95.78636	114.97023	60.53118	102.9723	159.72828
58241	582414.56	4130481.48	39.21284	91.48652	108.18692	59.18617	98.06932	162.32903
58247	582471.13	4130481.48	38.45245	87.1201	103.43466	57.89654	108.4533	164.76505
58252	582527.7	4130481.48	37.71693	82.56433	97.21725	56.65768	103.0869	162.595
58258	582584.27	4130481.48	37.00525	77.94993	93.63007	55.45375	90.09243	159.73297
58264	582640.84	4130481.48	36.31627	73.38055	89.68954	54.30339	72.65784	153.8587
58269	582697.41	4130481.48	35.64895	71.16204	86.20145	53.20004	69.76441	147.20778
58275	582753.98	4130481.48	35.00237	69.98393	83.55761	52.13702	69.18438	140.44593
58281	582810.55	4130481.48	34.37565	68.64938	81.11565	51.10696	65.2945	133.23987
58286	582867.12	4130481.48	33.76786	67.16683	78.80716	50.09319	64.6057	125.44557
58173	581735.72	4130565.39	50.90415	103.87419	199.30291	77.80606	83.98865	567.22767
58179	581792.29	4130565.39	49.74719	109.98728	209.88048	75.62581	81.57509	499.31848
58184	581848.86	4130565.39	48.63437	114.27797	199.22646	73.55439	91.96951	389.63085
58190	581905.43	4130565.39	47.56287	115.41526	178.03488	71.56748	117.1191	322.10804
58196	581962	4130565.39	46.53079	116.00593	161.20407	69.67299	116.77	283.77462
58201	582018.57	4130565.39	45.53593	115.12148	154.35357	67.86671	121.5664	255.84449
58207	582075.14	4130565.39	44.57637	112.63627	146.06781	66.15756	124.0175	220.71951

58213	582131.71	4130565.39	43.65042	108.81525	138.2568	64.5443	113.1055	211.98137
58218	582188.28	4130565.39	42.75576	104.85381	134.28512	62.99353	123.5784	215.06153
58224	582244.85	4130565.39	41.89168	101.2623	129.50043	61.50108	116.6965	213.14441
58230	582301.42	4130565.39	41.05643	96.85486	122.85476	60.07316	120.4776	204.9812
58235	582357.99	4130565.39	40.24939	91.967	117.91888	58.70659	125.1252	196.44238
58241	582414.56	4130565.39	39.46927	88.27471	113.44782	57.38316	114.4133	186.23842
58247	582471.13	4130565.39	38.71491	87.03732	109.15123	56.10209	96.36622	174.71245
58252	582527.7	4130565.39	37.98502	85.24772	104.84631	54.86738	83.90062	161.81509
58258	582584.27	4130565.39	37.27859	83.05058	101.70188	53.67318	83.73032	153.80737
58264	582640.84	4130565.39	36.59449	80.47858	97.17432	52.51983	77.97826	149.54698
58269	582697.41	4130565.39	35.93161	77.68851	94.14948	51.40757	75.79306	146.25116
58275	582753.98	4130565.39	35.28917	74.68136	91.42702	50.33247	69.81396	142.32471
58281	582810.55	4130565.39	34.66609	71.60368	89.12033	49.29342	61.49123	138.18662
58286	582867.12	4130565.39	34.06168	68.38477	86.93757	48.29031	52.02485	133.5902
58173	581735.72	4130649.3	47.2263	86.64902	116.93209	76.0136	73.6084	334.395
58179	581792.29	4130649.3	46.28869	69.4647	135.37662	74.09599	74.43287	370.0592
58190	581905.43	4130649.3	44.512	79.97298	190.98671	70.46687	137.9313	313.66414
58196	581962	4130649.3	43.67105	85.99403	169.30702	68.76355	146.7393	286.38155
58201	582018.57	4130649.3	42.85449	90.857	162.18335	67.13086	134.3321	276.71069
58207	582075.14	4130649.3	42.06248	94.34525	153.08127	65.55267	145.2818	259.75366
58213	582131.71	4130649.3	41.29265	96.3782	145.46617	64.0351	137.3807	241.53108
58218	582188.28	4130649.3	40.54451	97.12302	138.21089	62.59583	147.808	221.56824
58224	582244.85	4130649.3	39.81541	96.70053	132.83332	61.2172	145.5392	213.28906
58230	582301.42	4130649.3	39.10479	95.0623	126.13796	59.8792	126.8403	204.83415
58235	582357.99	4130649.3	38.41316	92.54032	121.24131	58.5931	103.9389	197.13493
58241	582414.56	4130649.3	37.74185	89.27417	117.28544	57.35152	104.4409	189.46808
58247	582471.13	4130649.3	37.09042	86.87676	111.50547	56.14901	97.87352	178.21482
58252	582527.7	4130649.3	36.45869	83.99497	106.97224	54.98893	92.63589	168.55225
58258	582584.27	4130649.3	35.84481	80.63779	103.01353	53.84658	82.2392	163.02714
58264	582640.84	4130649.3	35.24861	76.95816	99.52793	52.7495	69.04291	157.27206
58269	582697.41	4130649.3	34.66819	74.33264	95.89987	51.70839	61.85986	150.79361
58275	582753.98	4130649.3	34.10359	73.66244	93.03696	50.69298	65.71623	144.90755
58281	582810.55	4130649.3	33.55341	72.62897	90.79479	49.71314	68.81407	139.47341
58286	582867.12	4130649.3	33.01749	71.19202	88.16095	48.77632	70.18845	133.22849
58184	581848.86	4130733.21	41.64533	76.26546	196.31023	63.80802	172.6148	359.56886
58190	581905.43	4130733.21	40.84168	63.14518	172.61108	62.3497	166.0525	319.64462
58196	581962	4130733.21	40.05606	51.72044	158.81342	60.94491	176.3586	295.45336
58201	582018.57	4130733.21	39.28792	58.37609	152.03676	59.57327	166.801	278.37886
58207	582075.14	4130733.21	38.54118	64.57806	145.65665	58.24238	185.9161	263.36794
58213	582131.71	4130733.21	37.81743	70.04597	138.75221	56.94207	166.4431	249.85955
58218	582188.28	4130733.21	37.11289	74.6631	132.53737	55.70459	145.0306	235.91916
58224	582244.85	4130733.21	36.42575	78.25848	126.32193	54.51077	134.9801	221.41568
58230	582301.42	4130733.21	35.75492	80.91142	121.03582	53.35044	128.116	207.72241
58235	582357.99	4130733.21	35.09964	82.5595	116.42673	52.21877	117.8376	194.71837
58241	582414.56	4130733.21	34.45949	83.24525	111.48459	51.08902	98.99984	181.34775
58247	582471.13	4130733.21	33.83683	83.05408	107.18407	50.00256	81.94142	168.9456
58252	582527.7	4130733.21	33.23112	82.02212	102.96343	48.96812	87.25505	156.99919
58258	582584.27	4130733.21	32.64199	80.29527	99.29833	47.97031	90.18961	146.00817
58264	582640.84	4130733.21	32.06795	77.99484	96.09372	47.00073	90.3814	139.65154
58269	582697.41	4130733.21	31.50851	75.94771	93.43266	46.03678	88.30515	135.30513
58275	582753.98	4130733.21	30.96209	74.07439	90.82632	45.09388	83.85996	131.07871
58281	582810.55	4130733.21	30.42608	71.8457	89.44341	44.28047	78.68275	128.21794

58286	582867.12	4130733.21	29.9021	69.21348	87.47518	43.55295	72.282	124.55686
58173	581735.72	4130817.12	37.88813	111.99594	262.27239	55.46	169.4913	494.17717
58179	581792.29	4130817.12	37.40391	103.2714	218.66058	54.67036	213.2475	385.19392
58184	581848.86	4130817.12	36.92116	94.16225	199.65121	53.81395	231.2931	343.31211
58190	581905.43	4130817.12	36.43538	83.66592	177.16896	53.06093	229.4388	299.50695
58196	581962	4130817.12	35.9493	72.78529	164.94968	52.30984	228.902	273.97312
58201	582018.57	4130817.12	35.46497	62.08018	154.80857	51.53682	199.5411	257.94665
58207	582075.14	4130817.12	34.97563	52.02857	146.42597	50.72087	187.1789	244.11253
58213	582131.71	4130817.12	34.50291	42.89299	136.99797	50.00112	179.858	229.68895
58218	582188.28	4130817.12	34.03657	47.97997	127.93211	49.28629	157.5824	215.82634
58224	582244.85	4130817.12	33.5673	53.18907	118.84063	48.5456	123.3702	202.11127
58230	582301.42	4130817.12	33.09922	57.96632	110.60971	47.7614	132.0564	192.64081
58235	582357.99	4130817.12	32.63018	62.15138	102.79977	47.02106	133.3582	184.04109
58241	582414.56	4130817.12	32.16843	65.71673	95.95866	46.33389	127.1801	175.65271
58247	582471.13	4130817.12	31.7166	68.59032	93.14445	45.65929	117.3804	168.91503
58252	582527.7	4130817.12	31.26983	70.6886	90.0258	44.96539	103.866	161.81138
58258	582584.27	4130817.12	30.83305	72.04871	87.59462	44.23884	99.2205	156.04946
58264	582640.84	4130817.12	30.40233	72.74327	85.60406	43.55187	97.07391	150.89405
58269	582697.41	4130817.12	29.97362	72.79584	83.75427	42.92105	93.543	146.20887
58275	582753.98	4130817.12	29.54859	72.19603	81.46462	42.29397	88.46064	141.0817
58281	582810.55	4130817.12	29.13274	71.03239	79.70566	41.6661	83.97402	136.97653
58286	582867.12	4130817.12	28.7262	69.43412	78.34112	41.01385	81.96363	133.47828
58173	581735.72	4130901.03	33.14782	100.27373	251.46019	58.85706	317.6474	444.58779
58179	581792.29	4130901.03	31.60725	100.69045	218.93563	56.21181	361.3062	392.22932
58184	581848.86	4130901.03	30.13971	98.43516	202.74213	53.77	310.7117	359.08172
58190	581905.43	4130901.03	29.66197	93.52377	186.12731	51.26722	281.6094	329.12378
58196	581962	4130901.03	29.48705	86.69283	174.64453	48.9452	275.3293	307.10235
58201	582018.57	4130901.03	29.29592	78.53157	161.58451	46.67472	232.4374	285.96926
58207	582075.14	4130901.03	29.08037	69.72147	152.09885	44.44639	241.9706	270.59413
58213	582131.71	4130901.03	28.88818	60.65992	144.93133	42.43294	228.7599	254.49449
58218	582188.28	4130901.03	28.68644	51.86001	139.04566	40.34505	198.142	240.34099
58224	582244.85	4130901.03	28.46909	43.71412	132.51082	38.37967	175.1193	226.66277
58230	582301.42	4130901.03	28.24211	36.2504	125.70558	37.3004	161.7326	213.79445
58235	582357.99	4130901.03	28.00812	40.03069	119.40426	37.11932	146.3572	202.42882
58241	582414.56	4130901.03	27.76377	44.44957	112.96873	36.91391	133.5139	191.75264
58247	582471.13	4130901.03	27.53203	48.62491	107.31166	36.62807	124.0509	182.35459
58252	582527.7	4130901.03	27.29831	52.48463	101.49071	36.41082	114.1546	173.53808
58258	582584.27	4130901.03	27.05215	55.83193	96.56232	36.16595	105.2616	166.18396
58264	582640.84	4130901.03	26.79844	58.70681	92.1142	35.91744	96.83742	159.65056
58269	582697.41	4130901.03	26.54916	61.04387	87.82833	35.60367	88.66422	153.68294
58275	582753.98	4130901.03	26.30056	62.83364	83.49975	35.31699	81.74844	148.20207
58281	582810.55	4130901.03	26.04731	64.03076	79.56443	35.0674	78.8971	142.75009
58286	582867.12	4130901.03	25.79352	64.70662	75.52845	34.80079	76.4743	138.36805
58173	581735.72	4130984.94	40.99446	79.29431	229.27421	66.93679	662.2798	413.19466
58179	581792.29	4130984.94	39.36184	85.33002	214.75514	64.64295	695.0566	356.89116
58184	581848.86	4130984.94	37.80617	89.0359	201.97955	62.39385	714.7421	310.84973
58190	581905.43	4130984.94	36.23669	90.31781	192.8947	60.13297	645.4449	278.51889
58196	581962	4130984.94	34.71665	89.04104	179.59954	57.93961	456.3143	261.14753
58201	582018.57	4130984.94	33.28692	85.5174	167.54839	55.77988	331.352	245.68301
58207	582075.14	4130984.94	31.89343	80.30577	156.66159	53.67218	256.833	233.09691
58213	582131.71	4130984.94	30.54042	73.86007	151.30361	51.60439	213.1165	221.86653
58218	582188.28	4130984.94	29.24156	66.54571	144.92984	49.55714	189.1259	210.97233

58224	582244.85	4130984.94	28.03331	58.91905	137.64934	47.64664	169.929	200.67866
58230	582301.42	4130984.94	26.84071	51.2497	130.0929	45.67597	154.5726	191.00485
58235	582357.99	4130984.94	25.68295	44.02413	122.61072	43.83732	142.0271	182.02404
58241	582414.56	4130984.94	24.58937	37.20913	115.05092	42.02894	131.3841	173.606
58247	582471.13	4130984.94	23.5745	31.16582	108.011	40.19749	122.2691	165.54409
58252	582527.7	4130984.94	22.56019	33.86578	104.37629	38.55798	114.1993	157.91798
58258	582584.27	4130984.94	22.13873	37.71755	101.46495	36.84358	107.9694	151.50052
58264	582640.84	4130984.94	22.06438	41.36633	98.78716	35.16686	103.2672	146.33487
58269	582697.41	4130984.94	21.98316	44.80022	95.6585	33.69433	98.16015	140.4777
58275	582753.98	4130984.94	21.91037	47.97658	92.90236	32.12103	94.45446	136.49734
58281	582810.55	4130984.94	21.82044	50.75218	89.98251	30.63519	90.57103	132.52955
58286	582867.12	4130984.94	21.72095	53.10501	86.4732	29.57207	86.87763	128.57298
58173	581735.72	4131068.85	45.94029	75.29341	173.49339	67.09992	235.7764	451.17598
58179	581792.29	4131068.85	44.54543	63.84149	150.78517	65.8131	240.2302	409.40963
58184	581848.86	4131068.85	43.17352	71.00515	159.05918	64.43905	260.5216	366.56362
58190	581905.43	4131068.85	41.76444	76.47328	161.946	63.01403	256.0047	322.7075
58196	581962	4131068.85	40.35649	80.12798	164.04316	61.55605	264.3251	303.95271
58201	582018.57	4131068.85	39.01488	81.61648	161.69685	59.99164	230.0722	284.04056
58207	582075.14	4131068.85	37.66309	81.04721	157.36063	58.44244	196.7628	263.63313
58213	582131.71	4131068.85	36.32113	78.59204	151.6196	56.80182	177.2387	244.06736
58218	582188.28	4131068.85	35.04291	74.65194	144.36227	55.22269	165.0651	224.81414
58224	582244.85	4131068.85	33.7903	69.45379	138.12696	53.56401	155.694	206.63591
58230	582301.42	4131068.85	32.54708	63.48754	131.15972	51.96217	146.8143	189.26214
58235	582357.99	4131068.85	31.3499	57.0279	123.41382	50.33866	137.9703	172.82248
58241	582414.56	4131068.85	30.22655	50.45882	119.64924	48.69746	130.0035	157.56901
58247	582471.13	4131068.85	29.09979	43.94183	115.45602	47.15816	122.3413	143.34882
58252	582527.7	4131068.85	27.99182	37.83209	110.60317	45.51786	114.9256	129.99386
58258	582584.27	4131068.85	26.95568	32.21324	105.26105	44.00511	107.56	117.52267
58264	582640.84	4131068.85	25.96695	27.0958	101.81338	42.40823	103.7694	115.35513
58269	582697.41	4131068.85	24.96933	29.0004	97.02905	40.8781	99.24722	113.46385
58275	582753.98	4131068.85	24.00235	32.38156	93.09904	39.42396	96.15088	112.53538
58281	582810.55	4131068.85	23.11153	35.65382	89.45095	37.91325	93.06158	111.49559
58286	582867.12	4131068.85	22.24978	38.65241	84.92493	36.52293	88.12906	108.18425
58201	582018.57	4131152.76	41.80675	69.22122	117.54256	56.9488	155.3221	290.15344
58224	582244.85	4131152.76	37.5934	72.6175	130.20788	54.13304	133.1691	215.66834
58230	582301.42	4131152.76	36.51525	69.60109	128.48863	53.16192	126.6844	200.63945
58235	582357.99	4131152.76	35.4818	65.46459	125.3728	52.20701	118.0184	193.93391
58241	582414.56	4131152.76	34.42664	60.5876	121.54683	51.1617	109.4584	186.84328
58247	582471.13	4131152.76	33.3715	55.10264	114.88028	50.08807	98.10712	176.57613
58252	582527.7	4131152.76	32.37057	49.35761	110.07426	48.92693	88.75288	167.22624
58258	582584.27	4131152.76	31.37266	43.60918	104.42008	47.76036	82.36156	157.37308
58264	582640.84	4131152.76	30.35511	38.1881	99.18718	46.56754	80.52131	148.27265
58269	582697.41	4131152.76	29.37383	32.9654	96.67243	45.38438	78.63665	139.41748
58275	582753.98	4131152.76	28.45019	28.19991	96.41887	44.13284	78.34121	132.55538
58281	582810.55	4131152.76	27.50547	23.96185	95.27361	42.94796	77.29049	125.4808
58286	582867.12	4131152.76	26.57334	25.05022	91.12903	41.6492	74.18563	115.90009

B-7 AERMOD Input File

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**
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**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.8.3
** Lakes Environmental Software Inc.
** Date: 6/23/2021
** File: C:\Lakes\PCRP\PCRP.ADI
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*****

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** AERMOD Control Pathway
*****
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CO STARTING
  TITLEONE C:\Lakes\PCRP\PCRP.isc
  MODELOPT DFAULT CONC
  AVERTIME 1 ANNUAL
  POLLUTID PM_10
  FLAGPOLE 1.80
  RUNORNOT RUN
  ERRORFIL PCRP.err

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CO FINISHED
**
*****

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** AERMOD Source Pathway
*****
**
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SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
  LOCATION MATRMVL      AREAPOLY   578632.279  4130448.278    358.130
** DESCRSRC Material Removal
  LOCATION CHAN_RCK      AREAPOLY   580202.060  4129976.283    197.930
** DESCRSRC Channel Widening and Rock Pile
  LOCATION CONCRTE      AREAPOLY   581057.474  4130833.749    151.220
** DESCRSRC Concrete Channel Planting Area

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** Line Source Represented by Area Sources
** LINE AREA Source ID = UNPAVED
** DESCRSRC Unpaved Road
** PREFIX
** Length of Side = 16.00
** Ratio = 10
** Vertical Dimension = 2.37
** Emission Rate = 0.0000387657
** Nodes = 17
** 580018.939, 4130299.860, 291.35, 2.55
** 579980.203, 4130396.699, 307.22, 2.55

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** 579935.012, 4130431.131, 313.77, 2.55
** 579831.717, 4130497.842, 323.68, 2.55
** 579758.549, 4130568.858, 332.31, 2.55
** 579706.902, 4130648.481, 334.13, 2.55
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** 579526.136, 4130657.089, 344.94, 2.55
** 579442.208, 4130639.873, 352.07, 2.55
** 579328.154, 4130639.873, 361.23, 2.55
** 579310.938, 4130659.241, 359.64, 2.55
** 579272.202, 4130674.305, 358.08, 2.55
** 579242.074, 4130672.153, 355.32, 2.55
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LOCATION A0000059	AREA	579985.052	4130403.063	306.99
LOCATION A0000060	AREA	579939.352	4130437.851	314.26
LOCATION A0000061	AREA	579837.288	4130503.583	332.50
LOCATION A0000062	AREA	579765.261	4130573.211	335.97
LOCATION A0000063	AREA	579709.186	4130656.148	343.39
LOCATION A0000064	AREA	579603.672	4130686.331	348.64
LOCATION A0000065	AREA	579524.528	4130664.926	348.65
LOCATION A0000066	AREA	579442.208	4130647.873	361.38
LOCATION A0000067	AREA	579334.133	4130645.188	361.52
LOCATION A0000068	AREA	579313.837	4130666.697	359.77
LOCATION A0000069	AREA	579271.632	4130682.284	356.71
LOCATION A0000070	AREA	579237.966	4130679.017	350.53
LOCATION A0000071	AREA	579101.316	4130597.242	340.58
LOCATION A0000072	AREA	578966.293	4130516.208	341.93
LOCATION A0000073	AREA	578868.631	4130484.239	346.98
LOCATION A0000074	AREA	578750.759	4130467.079	351.45

** End of LINE AREA Source ID = UNPAVED

** -----

** Line Source Represented by Area Sources

** LINE AREA Source ID = PAVED

** DESCRSRC Paved Road

** PREFIX

** Length of Side = 9.00

** Ratio = 10

** Vertical Dimension = 2.37

** Emission Rate = 0.0000420952

** Nodes = 32

** 581860.761, 4131004.678, 124.58, 2.55
** 581706.259, 4131008.510, 130.45, 2.55
** 581645.330, 4131015.641, 133.72, 2.55
** 581584.791, 4131034.708, 137.49, 2.55
** 581386.111, 4131122.290, 150.52, 0.00
** 581350.603, 4131125.518, 152.64, 0.00
** 581321.551, 4131119.062, 154.50, 0.00
** 581305.411, 4131110.992, 154.95, 0.00
** 581284.429, 4131098.080, 155.79, 0.00

** 581237.624, 4131036.749, 156.37, 0.00
 ** 581215.028, 4131014.153, 155.88, 0.00
 ** 581190.818, 4131006.083, 156.18, 0.00
 ** 581069.769, 4130978.645, 160.03, 0.00
 ** 581058.471, 4130968.961, 161.01, 0.00
 ** 580977.771, 4130873.736, 168.22, 0.00
 ** 580788.935, 4130565.464, 169.31, 0.00
 ** 580822.828, 4130429.889, 165.24, 0.00
 ** 580822.828, 4130405.679, 166.84, 0.00
 ** 580755.041, 4130229.754, 171.25, 0.00
 ** 580732.445, 4130184.563, 172.65, 0.00
 ** 580675.955, 4130100.635, 175.07, 0.00
 ** 580651.746, 4130097.407, 175.11, 0.00
 ** 580608.168, 4130069.969, 178.81, 0.00
 ** 580504.873, 4130039.304, 195.83, 0.00
 ** 580462.909, 4130045.759, 201.83, 0.00
 ** 580364.456, 4130076.425, 219.01, 0.00
 ** 580307.966, 4130100.635, 231.11, 0.00
 ** 580230.494, 4130107.091, 242.69, 0.00
 ** 580159.479, 4130111.933, 254.80, 0.00
 ** 580109.445, 4130144.213, 265.01, 0.00
 ** 580083.621, 4130186.177, 272.29, 0.00
 ** 580020.676, 4130291.086, 292.35, 0.00
 **

LOCATION A0000123	AREA	581860.873	4131009.176	124.55
LOCATION A0000124	AREA	581783.622	4131011.092	126.64
LOCATION A0000125	AREA	581706.783	4131012.979	129.75
LOCATION A0000126	AREA	581646.682	4131019.933	133.39
LOCATION A0000127	AREA	581586.606	4131038.826	136.70
LOCATION A0000128	AREA	581520.380	4131068.020	141.44
LOCATION A0000129	AREA	581454.153	4131097.214	145.30
LOCATION A0000130	AREA	581386.518	4131126.772	150.89
LOCATION A0000131	AREA	581349.627	4131129.911	154.69
LOCATION A0000132	AREA	581319.539	4131123.087	154.39
LOCATION A0000133	AREA	581303.053	4131114.825	154.16
LOCATION A0000134	AREA	581280.852	4131100.810	155.98
LOCATION A0000135	AREA	581234.442	4131039.931	156.19
LOCATION A0000136	AREA	581213.605	4131018.422	155.78
LOCATION A0000137	AREA	581189.823	4131010.472	155.83
LOCATION A0000138	AREA	581129.299	4130996.753	147.70
LOCATION A0000139	AREA	581066.840	4130982.062	160.11
LOCATION A0000140	AREA	581055.038	4130971.871	161.19
LOCATION A0000141	AREA	581014.688	4130924.258	165.04
LOCATION A0000142	AREA	580973.934	4130876.087	168.26
LOCATION A0000143	AREA	580936.167	4130814.432	168.62
LOCATION A0000144	AREA	580898.399	4130752.778	169.57
LOCATION A0000145	AREA	580860.632	4130691.123	169.77
LOCATION A0000146	AREA	580822.865	4130629.469	169.92
LOCATION A0000147	AREA	580784.569	4130564.373	169.39
LOCATION A0000148	AREA	580801.516	4130496.585	163.09
LOCATION A0000149	AREA	580818.328	4130429.889	164.72
LOCATION A0000150	AREA	580818.629	4130407.297	165.46
LOCATION A0000151	AREA	580796.034	4130348.655	167.24

LOCATION A0000152	AREA	580773.438	4130290.014	168.33
LOCATION A0000153	AREA	580751.016	4130231.767	170.42
LOCATION A0000154	AREA	580728.712	4130187.075	172.17
LOCATION A0000155	AREA	580700.467	4130145.112	174.29
LOCATION A0000156	AREA	580675.361	4130105.096	174.79
LOCATION A0000157	AREA	580649.348	4130101.215	174.64
LOCATION A0000158	AREA	580606.887	4130074.283	179.62
LOCATION A0000159	AREA	580555.240	4130058.950	187.41
LOCATION A0000160	AREA	580505.557	4130043.751	195.31
LOCATION A0000161	AREA	580464.247	4130050.056	202.66
LOCATION A0000162	AREA	580415.020	4130065.389	211.17
LOCATION A0000163	AREA	580366.228	4130080.561	219.84
LOCATION A0000164	AREA	580308.340	4130105.120	231.50
LOCATION A0000165	AREA	580230.801	4130111.581	244.67
LOCATION A0000166	AREA	580161.918	4130115.714	254.54
LOCATION A0000167	AREA	580113.278	4130146.571	264.42
LOCATION A0000168	AREA	580087.480	4130188.492	272.95
LOCATION A0000169	AREA	580056.007	4130240.946	282.91

** End of LINE AREA Source ID = PAVED

** -----

** Line Source Represented by Area Sources

** LINE AREA Source ID = CCP_UNPV

** DESCRSRC Concrete Channel Planting Unpaved Road

** PREFIX

** Length of Side = 9.00

** Ratio = 10

** Vertical Dimension = 2.37

** Emission Rate = 0.0004578927

** Nodes = 7

** 581189.242, 4130998.911, 156.49, 2.55
** 581184.678, 4130979.514, 155.78, 2.55
** 581161.858, 4130928.169, 155.47, 2.55
** 581151.589, 4130915.618, 155.48, 2.55
** 581131.051, 4130897.362, 155.65, 2.55
** 581112.795, 4130846.018, 160.37, 2.55
** 581075.143, 4130788.968, 163.48, 2.55

** -----

LOCATION A0000117	AREA	581184.862	4130999.941	156.45
LOCATION A0000118	AREA	581180.566	4130981.341	156.01
LOCATION A0000119	AREA	581158.375	4130931.019	155.43
LOCATION A0000120	AREA	581148.600	4130918.982	155.53
LOCATION A0000121	AREA	581126.811	4130898.870	155.47
LOCATION A0000122	AREA	581109.040	4130848.497	158.43

** End of LINE AREA Source ID = CCP_UNPV

** Source Parameters **

SRCPARAM MATRMVL	0.0000632236	5.000	8	1.400
AREAVERT MATRMVL	578632.279	4130448.278	578595.156	4130493.356
AREAVERT MATRMVL	578451.967	4130541.086	578377.720	4130535.783
AREAVERT MATRMVL	578343.249	4130519.873	578303.474	4130506.614
AREAVERT MATRMVL	578385.675	4130477.446	578478.483	4130464.188
SRCPARAM CHAN_RCK	0.0000730653	5.000	12	1.400
AREAVERT CHAN_RCK	580202.060	4129976.283	580196.756	4130005.451
AREAVERT CHAN_RCK	580289.564	4130010.755	580499.045	4129970.980

AREAVERT	CHAN_RCK	580533.517	4129986.890	580586.550	4130026.665	
AREAVERT	CHAN_RCK	580599.808	4130042.575	580605.111	4130016.058	
AREAVERT	CHAN_RCK	580573.292	4129973.632	580514.955	4129941.812	
AREAVERT	CHAN_RCK	580355.856	4129957.722	580281.609	4129981.587	
SRCPARAM	CONCRTE	0.0001515202	5.000	6	1.400	
AREAVERT	CONCRTE	581057.474	4130833.749	581068.904	4130826.414	
AREAVERT	CONCRTE	580867.455	4130533.014	580837.452	4130443.527	
AREAVERT	CONCRTE	580820.308	4130449.395	580850.311	4130530.080	
**	LINE AREA Source ID = UNPAVED					
SRCPARAM	A0000058	0.0000387657	2.550	104.299	16.000	-111.801
	2.372					
SRCPARAM	A0000059	0.0000387657	2.550	56.814	16.000	-142.696
	2.372					
SRCPARAM	A0000060	0.0000387657	2.550	122.964	16.000	-147.144
	2.372					
SRCPARAM	A0000061	0.0000387657	2.550	101.964	16.000	-135.855
	2.372					
SRCPARAM	A0000062	0.0000387657	2.550	94.907	16.000	-122.969
	2.372					
SRCPARAM	A0000063	0.0000387657	2.550	105.535	16.000	-163.413
	2.372					
SRCPARAM	A0000064	0.0000387657	2.550	82.480	16.000	164.876
	2.372					
SRCPARAM	A0000065	0.0000387657	2.550	85.675	16.000	168.408
	2.372					
SRCPARAM	A0000066	0.0000387657	2.550	114.055	16.000	180.000
	2.372					
SRCPARAM	A0000067	0.0000387657	2.550	25.913	16.000	-131.634
	2.372					
SRCPARAM	A0000068	0.0000387657	2.550	41.562	16.000	-158.749
	2.372					
SRCPARAM	A0000069	0.0000387657	2.550	30.204	16.000	175.914
	2.372					
SRCPARAM	A0000070	0.0000387657	2.550	159.250	16.000	149.103
	2.372					
SRCPARAM	A0000071	0.0000387657	2.550	159.250	16.000	149.103
	2.372					
SRCPARAM	A0000072	0.0000387657	2.550	104.121	16.000	161.940
	2.372					
SRCPARAM	A0000073	0.0000387657	2.550	119.604	16.000	171.724
	2.372					
SRCPARAM	A0000074	0.0000387657	2.550	103.653	16.000	175.236
	2.372					
**	-----					
**	LINE AREA Source ID = PAVED					
SRCPARAM	A0000123	0.0000420952	2.550	77.275	9.000	-178.579
	2.372					
SRCPARAM	A0000124	0.0000420952	2.550	77.275	9.000	-178.579
	2.372					
SRCPARAM	A0000125	0.0000420952	2.550	61.345	9.000	-173.324
	2.372					
SRCPARAM	A0000126	0.0000420952	2.550	63.471	9.000	-162.518
	2.372					

SRCPARAM A0000127 2.372	0.0000420952	2.125	72.376	9.000	-156.211
SRCPARAM A0000128 2.372	0.0000420952	1.275	72.376	9.000	-156.211
SRCPARAM A0000129 2.372	0.0000420952	0.425	72.376	9.000	-156.211
SRCPARAM A0000130 2.372	0.0000420952	0.000	35.654	9.000	-174.806
SRCPARAM A0000131 2.372	0.0000420952	0.000	29.760	9.000	167.471
SRCPARAM A0000132 2.372	0.0000420952	0.000	18.045	9.000	153.435
SRCPARAM A0000133 2.372	0.0000420952	0.000	24.636	9.000	148.392
SRCPARAM A0000134 2.372	0.0000420952	0.000	77.151	9.000	127.349
SRCPARAM A0000135 2.372	0.0000420952	0.000	31.955	9.000	135.000
SRCPARAM A0000136 2.372	0.0000420952	0.000	25.519	9.000	161.565
SRCPARAM A0000137 2.372	0.0000420952	0.000	62.060	9.000	167.229
SRCPARAM A0000138 2.372	0.0000420952	0.000	62.060	9.000	167.229
SRCPARAM A0000139 2.372	0.0000420952	0.000	14.880	9.000	139.399
SRCPARAM A0000140 2.372	0.0000420952	0.000	62.410	9.000	130.280
SRCPARAM A0000141 2.372	0.0000420952	0.000	62.410	9.000	130.280
SRCPARAM A0000142 2.372	0.0000420952	0.000	72.302	9.000	121.490
SRCPARAM A0000143 2.372	0.0000420952	0.000	72.302	9.000	121.490
SRCPARAM A0000144 2.372	0.0000420952	0.000	72.302	9.000	121.490
SRCPARAM A0000145 2.372	0.0000420952	0.000	72.302	9.000	121.490
SRCPARAM A0000146 2.372	0.0000420952	0.000	72.302	9.000	121.490
SRCPARAM A0000147 2.372	0.0000420952	0.000	69.874	9.000	75.964
SRCPARAM A0000148 2.372	0.0000420952	0.000	69.874	9.000	75.964
SRCPARAM A0000149 2.372	0.0000420952	0.000	24.210	9.000	90.000
SRCPARAM A0000150 2.372	0.0000420952	0.000	62.844	9.000	111.073
SRCPARAM A0000151 2.372	0.0000420952	0.000	62.844	9.000	111.073
SRCPARAM A0000152 2.372	0.0000420952	0.000	62.844	9.000	111.073
SRCPARAM A0000153	0.0000420952	0.000	50.526	9.000	116.565

SRCGROUP PAVED A0000135 A0000136 A0000137 A0000138 A0000139 A0000140
SRCGROUP PAVED A0000141 A0000142 A0000143 A0000144 A0000145 A0000146
SRCGROUP PAVED A0000147 A0000148 A0000149 A0000150 A0000151 A0000152
SRCGROUP PAVED A0000153 A0000154 A0000155 A0000156 A0000157 A0000158
SRCGROUP PAVED A0000159 A0000160 A0000161 A0000162 A0000163 A0000164
SRCGROUP PAVED A0000165 A0000166 A0000167 A0000168 A0000169
SRCGROUP UNPAVED A0000058 A0000059 A0000060 A0000061 A0000062 A0000063
SRCGROUP UNPAVED A0000064 A0000065 A0000066 A0000067 A0000068 A0000069
SRCGROUP UNPAVED A0000070 A0000071 A0000072 A0000073 A0000074
SRCGROUP ALL

SO FINISHED

**

** AERMOD Receptor Pathway

**

**

RE STARTING

INCLUDED PCRP.rou

RE FINISHED

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** AERMOD Meteorology Pathway

**

**

ME STARTING

SURFFILE "Moffett Field Met\745090.SFC"

PROFFILE "Moffett Field Met\745090.PFL"

SURFDATA 23244 2009

UAIRDATA 23230 2009 OAKLAND/WSO_AP

PROFBASE 11.9 METERS

ME FINISHED

**

** AERMOD Output Pathway

**

**

OU STARTING

RECTABLE ALLAVE 1ST

RECTABLE 1 1ST

** Auto-Generated Plotfiles

PLOTFILE 1 ALL 1ST PCRP.AD\01H1GALL.PLT 31

PLOTFILE 1 CCP_UNPV 1ST PCRP.AD\01H1G001.PLT 32

PLOTFILE 1 CHAN_RCK 1ST PCRP.AD\01H1G002.PLT 33

PLOTFILE 1 CONCRTE 1ST PCRP.AD\01H1G003.PLT 34

PLOTFILE 1 MATRMVL 1ST PCRP.AD\01H1G004.PLT 35

PLOTFILE 1 PAVED 1ST PCRP.AD\01H1G005.PLT 36

PLOTFILE 1 UNPAVED 1ST PCRP.AD\01H1G006.PLT 37

PLOTFILE ANNUAL ALL PCRP.AD\AN00GALL.PLT 38

PLOTFILE ANNUAL CCP_UNPV PCRP.AD\AN00G001.PLT 39

PLOTFILE ANNUAL CHAN_RCK PCRP.AD\AN00G002.PLT 40

PLOTFILE ANNUAL CONCRTE PCRP.AD\AN00G003.PLT 41
PLOTFILE ANNUAL MATRMVL PCRP.AD\AN00G004.PLT 42
PLOTFILE ANNUAL PAVED PCRP.AD\AN00G005.PLT 43
PLOTFILE ANNUAL UNPAVED PCRP.AD\AN00G006.PLT 44
SUMMFILE PCRP.sum

OU FINISHED

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** Project Parameters

** PROJCTN CoordinateSystemUTM
** DESCPTN UTM: Universal Transverse Mercator
** DATUM World Geodetic System 1984
** DTMRGN Global Definition
** UNITS m
** ZONE 10
** ZONEINX 0
**

B-8 Health Risk Summary

HRA Permanente Creek Restoration Project
Health Risk Assessment Summary of Results - OEHHA 2003 Guidance

Risk Impact	Residence near Stevens Creek Blvd.	Caretaker's House	Year
Cancer (per million)	0.5098	0.0365	2024-2029
PM _{2.5} Impact (µg/m ³)	0.0014	0.0001	2025/2026
Chronic Hazard Index	0.0080	0.0006	2025
Acute Hazard Index	0.0553	0.0365	2029

Chronic Hazard Index	Residence near Stevens Creek Blvd.	Caretaker's House
2024	0.008	0.001
2025	0.008	0.001
2026	0.008	0.001
2027	0.008	0.001
2028	0.008	0.001
2029	0.008	0.001

Acute Hazard Index	Residence near Stevens Creek Blvd.	Caretaker's House
2024	0.041	0.019
2025	0.039	0.016
2026	0.039	0.016
2027	0.039	0.016
2028	0.055	0.036
2029	0.055	0.037

HRA Permanente Creek Restoration Project
Health Risk Assessment Summary of Results - OEHHA 2015 Guidance

Risk Impact	Residence near Stevens Creek Blvd.	Caretaker's House	Year
Cancer (per million)	0.7797	0.0559	2024-2029
PM _{2.5} Impact (µg/m ³)	0.0014	0.0001	2025/2026
Chronic Hazard Index	0.01	0.0006	2025
Acute Hazard Index	0.06	0.0365	2029

Chronic Hazard Index	Residence near Stevens Creek Blvd.	Caretaker's House
2024	0.008	0.001
2025	0.008	0.001
2026	0.008	0.001
2027	0.008	0.001
2028	0.008	0.001
2029	0.008	0.001

Acute Hazard Index	Residence near Stevens Creek Blvd.	Caretaker's House
2024	0.041	0.019
2025	0.039	0.016
2026	0.039	0.016
2027	0.039	0.016
2028	0.055	0.036
2029	0.055	0.037



PG&E Train

Paved road

Canyon Oak Way
Madrone Ct
Hammond St
Lider Loop Way
California Oak Way

Stevens Creek Blvd
Longdown Rd

Paved road

Unpaved road

Concrete Channel and Planting

Voss Ave

Avenida Ln

Material Removal

Unpaved road

Permanente

Permanente Rd

Rock Pile and Channel Widening

El Cerrito Rd

Majstrpm25: 0.003121
Railpm25: 0.001608
Railcan: 1.007598
Majstrcancer: 0.145183
Highpm25: 0.107606
Highcancer: 3.847426

