

AIR QUALITY TECHNICAL MEMORANDUM

13TH STREET BRIDGE PROJECT

13th Street Bridge Project Crossing Over Santa Maria Creek at Maple Street and Walnut Street,
in the Unincorporated Community of Ramona, San Diego County

San Diego County, California
District 11-SD

Federal-Aid Project Number BRLO-NBIL(515)

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1. PROPOSED PROJECT DESCRIPTION

1.1 Introduction

The County of San Diego (County), in cooperation with the California Department of Transportation (Caltrans) District 11, proposes to construct a bridge where 13th Street/Maple Street crosses Santa Maria Creek in the unincorporated community of Ramona. The purpose of this study is to address potential air quality impacts associated with the 13th Street Bridge Project (proposed project) consistent with the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) review. The proposed project will be funded through the Federal Highway Administration (FHWA). The County of San Diego CEQA review is included as Attachment B to this memorandum.

1.2 Location and Background

The proposed 13th Street Bridge Project is located on 13th Street and Maple Street between Main Street (SR 67) and Walnut Street in the unincorporated community of Ramona. The project segment of 13th Street/Maple Street is a dirt roadway, with gravel at the Santa Maria Creek culvert crossing. The existing, undersized corrugated steel culvert does not have sufficient capacity to convey the creek water during storm events; flooding at this crossing makes the roadway impassable for motor vehicles and pedestrians during portions of the rainy season.

The objective of the project is to provide an adequate and safe crossing that allows for the conveyance of water from a 100-year storm event. The project would include replacement of the existing culvert crossing with a bridge designed to meet current federal standards, with roadway improvements along 13th Street/Maple Street and Walnut Street, and the addition of stormwater conveyance and treatment features that would ultimately discharge into Santa Maria Creek.

The proposed bridge would be a 4-span cast-in-place pre-stressed, post-tensioned concrete box girder structure, approximately 480-feet long and approximately 42-feet wide with three singular-column bents and two abutments. The bridge and approaches would include two 12-foot travel lanes, 3-foot shoulders on each side, and an approximately 8-foot wide multi-use pathway to accommodate pedestrians, bicyclists, and equestrians. In addition, three bridge barriers with a total width of approximately 4-feet, consisting of two edge deck rails and one pedestrian barrier would be installed to separate pathway users from the travel lane and creek. The pathway across the bridge would connect to the existing southern segment near the Ramona County Library and transition users across the bridge to existing and planned facilities north of the bridge. The grade of 13th Street/Maple Street would be raised approximately 10-feet at the Santa Maria Creek crossing to comply with current FHWA requirements.

Storm drain systems are proposed directly to the north and south of the bridge to capture runoff and direct it towards the existing creek. Permeable pavement areas would be incorporated into the project as Green Street features to facilitate meeting water quality requirements and for storm-water management. An existing bio-retention basin located south of the bridge that currently treats stormwater from the library and associated parking lot would be redesigned to continue treating those existing areas in addition to the proposed paved roads south of Santa Maria Creek.

The total quantity of cut for the project is approximately 6,200 cubic yards (cy), the total quantity of fill is approximately 8,442 cy, and the total quantity of import is approximately 13,000 cy. Construction is anticipated to last approximately 12 months. During the bridge foundation construction, dewatering may be required for the project.

1.3 Purpose and Need

As stated previously, the purpose of the proposed project is to replace the existing culvert crossing with a bridge designed to meet current federal requirements. The existing, undersized corrugated steel culvert does not have the sufficient capacity to convey the volume of water during storm events. In existing conditions, flooding at this crossing makes the roadway impassable for motor vehicles and pedestrians during portions of the rainy season.

2. REGULATORY SETTING

Many statutes, regulations, plans, and policies have been adopted at the federal, state, and local levels to address air quality issues related to transportation and other sources. The proposed project is subject to air quality regulations at each of these levels. This section introduces the pollutants governed by these regulations and describes the regulation and policies that are relevant to the proposed project.

2.1 Air Quality Background and Meteorological Setting

Air quality is defined by the concentration of pollutants in relation to their impact on human health. Concentrations of air pollutants are determined by the rate and location of pollutant emissions released by pollution sources, and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, and sunlight. Therefore, ambient air quality conditions within the local air basin are influenced by natural factors such as topography, meteorology, and climate, in addition to the amount of air pollutant emissions released by existing air pollutant sources.

The project site is located in San Diego County within the San Diego Air Basin (SDAB) under the jurisdiction of the San Diego Air Pollution Control District (SDAPCD). The SDAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountain ranges to the east. The topography in the SDAB region varies greatly, from beaches on the west, to mountains and then desert to the east. The climate of the SDAB is characterized by warm, dry summers and mild winters. One of the main determinants of its climatology is a semi-permanent high-pressure area in the eastern Pacific Ocean. This high-pressure cell maintains clear skies for much of the year. When the Pacific High moves southward during the winter, this pattern changes, and low-pressure storms are brought into the region, causing widespread precipitation. During fall, the region often experiences dry, warm easterly winds, locally referred to as Santa Ana winds, which raise temperatures and lower humidity, often to less than 20 percent.

The local meteorology of the area is represented by measurements recorded at the Ramona Fire Department (047228) station. The normal annual precipitation, which occurs primarily from October through April, is approximately 15 inches. Normal January temperatures range from an average minimum of 38 degrees Fahrenheit (°F) to an average maximum of 66°F, and August temperatures range from an average minimum of 57°F to an average maximum of 91°F (WRCC 2008).

Individual air pollutants at certain concentrations may adversely affect human or animal health, reduce visibility, damage property, and reduce the productivity or vigor of crops and natural vegetation.

2.2 Criteria Pollutants

Six air pollutants have been identified by the United States Environmental Protection Agency (USEPA) and the California Air Resources Board (ARB) as being of concern both on a nationwide and statewide level: ozone; carbon monoxide (CO); nitrogen dioxide (NO₂); sulfur dioxide (SO₂); lead; and particulate matter (PM), which is subdivided into two classes based on particle size: PM equal to or less than 10 micrometers in diameter (PM₁₀) and PM equal to or less than 2.5 micrometers in diameter (PM_{2.5}). Because the air quality standards for these air pollutants are regulated using human health and environmentally based criteria, they are commonly referred to as “criteria air pollutants.”

2.2.1 Ozone

Ozone is the principal component of smog and is formed in the atmosphere through a series of reactions involving volatile organic compounds (VOC) and nitrogen oxides (NO_x) in the presence

of sunlight. VOC and NO_x are called precursors of ozone. NO_x includes various combinations of nitrogen and oxygen, including nitric oxide (NO), NO₂, and others. Ozone is a principal cause of lung and eye irritation in the urban environment. Significant ozone concentrations are usually produced only in the summer, when atmospheric inversions are greatest and temperatures are high. VOC and NO_x emissions are both considered critical in ozone formation.

Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible sub-groups for ozone effects. Short-term exposure (lasting for a few hours) to ozone can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in communities with high ozone levels.

2.2.2 Carbon Monoxide

CO is a colorless and odorless gas that, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. Relatively high concentrations are typically found near crowded intersections and along heavily used roadways carrying slow-moving traffic. Even under most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within a relatively short distance (300 to 600 feet) of heavily traveled roadways. Vehicle traffic emissions can cause localized CO impacts, and severe vehicle congestion at major signalized intersections can generate elevated CO levels, called “hot spots,” which can be hazardous to human receptors adjacent to the intersections.

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise and electrocardiograph changes indicative of decreased oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with oxygen transport. Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes.

2.2.3 Nitrogen Dioxide

NO₂ is a product of combustion and is generated in vehicles and in stationary sources, such as power plants and boilers. It is also formed when ozone reacts with NO in the atmosphere. As noted above, NO₂ is part of the NO_x family and is a principal contributor to ozone and smog generation.

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children, is associated with long-term exposure to NO₂ at levels found in homes with gas stoves, which are higher than ambient levels found in southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO₂ in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups.

2.2.4 Sulfur Dioxide

SO₂ is a combustion product, with the primary source being power plants and heavy industries that use coal or oil as fuel. SO₂ is also a product of diesel engine combustion. SO₂ in the atmosphere contributes to the formation of acid rain.

In asthmatics, increase in resistance to air flow as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO₂. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO₂. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO₂ levels. In these studies, efforts to separate the effects of SO₂ from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically, or one pollutant alone is the predominant factor.

2.2.5 Lead

Lead is a highly toxic metal that may cause a range of human health effects. Previously, the lead used in gasoline anti-knock additives represented a major source of lead emissions to the atmosphere. USEPA began working to reduce lead emissions soon after its inception, issuing the first reduction standards in 1973. Lead emissions have significantly decreased due to the near elimination of leaded gasoline use.

Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central

nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and a lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure. Lead poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of lead on the respiratory system.

2.2.6 Particulate Matter

PM is a complex mixture of extremely small particles and liquid droplets. Particulate matter is made up of a complex mixture of solids and aerosols and vary widely in size, shape, and chemical composition. Particulate matter may contain inorganic ions, such as nitrates and sulfates, organic compounds, metallic compounds, and soil or dust particles. Natural sources of particulate matter include windblown dust and ocean spray. The size of PM is directly linked to the potential for causing health problems. USEPA is concerned about particles that are 10 micrometers in diameter or smaller because these particles generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. Health studies have shown a significant association between exposure to PM and premature death. Other important effects include aggravation of respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems, such as heart attacks and irregular heartbeat (USEPA 2003). Individuals particularly sensitive to fine particle exposure include older adults, people with heart and lung disease, and children. As previously discussed, USEPA groups particulate matter into two categories, which are described below.

2.2.7 PM_{2.5}

Fine particles, such as those found in smoke and haze, are PM_{2.5}. Sources of fine particles include all types of combustion activities (motor vehicles, power plants, wood burning, etc.) and certain industrial processes. PM_{2.5} is also formed through reactions of gases, such as SO₂ and NO_x, in the atmosphere. PM_{2.5} is the major cause of reduced visibility (haze) in California.

2.2.8 PM₁₀

PM₁₀ includes both fine and coarse dust particles; the fine particles are PM_{2.5}. Coarse particles, such as those found near roadways and dusty industries, are larger than 2.5 micrometers and smaller than 10 micrometers in diameter. Sources of coarse particles include crushing or grinding operations and dust from paved or unpaved roads. Control of PM₁₀ is primarily achieved through the control of dust at construction and industrial sites, the cleaning of paved roads, and the wetting or paving of frequently used unpaved roads.

2.3 Toxic Air Contaminants

In addition to criteria pollutants, air quality regulations also focus on hazardous air pollutants (HAPs), which are also called toxic air contaminants (TACs). Federal laws use the term HAPs to refer to the same types of compounds that are referred to as HAPs under state law. A HAP is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. HAPs are usually present in minute quantities in ambient air; however, their high toxicity may pose a threat to public health even at low concentrations. For those HAPs that may cause cancer, in general, there is no minimum concentration that does not present some risk (i.e., there is no threshold level below which adverse health impacts may not be expected to occur). This contrasts with the criteria air pollutants, for which acceptable levels of exposure can be determined and ambient standards have been established.

In 1998, ARB identified particulate emissions from diesel-fueled engines as a TAC.

2.4 Mobile Source Air Toxics

Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics defined by the Clean Air Act (CAA). USEPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risks. These MSATs include acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority MSATs, the list is subject to change and may be adjusted in consideration of future USEPA rules. MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through an engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

USEPA has issued a number of regulations that will dramatically decrease MSATs through cleaner fuels and cleaner engines. In February 2007, USEPA issued a final rule to reduce hazardous air pollutants from mobile sources. The final standards will significantly lower emissions of benzene and the other air toxics in three ways: (1) by lowering benzene content in gasoline; (2) by reducing exhaust emissions from passenger vehicles operated at cold temperatures (under 75 degrees); and (3) by reducing emissions that evaporate from, and permeate through, portable fuel containers.

According to an FHWA analysis, even if VMT increases by 45 percent from 2010 to 2050, as assumed, a combined reduction of 91 percent in the total annual emission rate for the priority MSATs is projected during the same period.

2.5 Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by state, federal, and international agencies and was identified as a toxic air contaminant by the ARB in 1986. All types of asbestos are hazardous and may cause lung disease and cancer.

Asbestos can be released from serpentine and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos-bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed.

Serpentine may contain chrysotile asbestos, especially near fault zones. Ultramafic rock, a rock closely related to serpentinite, may also contain asbestos minerals. Asbestos can also be associated with other rock types in California, though much less frequently than serpentinite and/or ultramafic rock. Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in counties of the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. According to the California Department of Conservation, Division of Mines and Geology has developed a map showing the general location of ultramafic rock in the state, ultra-mafic rock is not typically found in the geological formations present on the project site (CDC 2000). Thus, hazardous exposure to asbestos-containing serpentine materials would not be a concern within the project area.

2.6 Regulations

Air quality in the SDAB is regulated by USEPA, ARB, and SDAPCD. Each of these agencies develops rules, regulations, or policies, and/or goals to attain the directives imposed through legislation. Although USEPA regulation may not be superseded, both state and local regulations

may be more stringent. Applicable Caltrans minimization measures performed during construction of the proposed project are listed in Section 12, Minimization Measures.

2.6.1 Federal Standards

USEPA's air quality mandates are drawn primarily from the federal CAA, which was enacted in 1970 and amended in 1977 and 1990. The CAA requires USEPA to establish the National Ambient Air Quality Standards (NAAQS) and requires each state with regions that have not attained the NAAQS to prepare a State Implementation Plan (SIP), detailing how these standards are to be met in each local area. The SIP is a legal agreement between each state and the federal government to commit resources to improving air quality. It serves as the template for conducting regional and project-level air quality analysis. The SIP is not a single document, but a compilation of new and previously submitted attainment plans, emissions reduction programs, district rules, state regulations, and federal controls.

The CAA Amendments also require that states and local air quality agencies develop a Title V Operating Permit Program, which requires all "major sources" of pollutants to obtain Title V permits. The program is designed to ensure compliance with all applicable requirements of the CAA and to enhance USEPA's ability to enforce the CAA. Air pollution sources subject to the program must obtain an operating permit; states must develop and implement the program; and USEPA must issue permit program regulations, review each state's proposed program, and oversee the state's efforts to implement any approved program.

Before 1994, there were no standards to limit the amount of emissions from off-road equipment. In 1994, USEPA established emission standards for hydrocarbons, NOX, CO, and PM to regulate new pieces of off-road equipment. These emission standards came to be known as Tier 1. Since that time, increasingly more stringent Tier 2, Tier 3, and Tier 4 (interim and final) standards were adopted by USEPA, as well as by ARB. Tier 1 emission standards became effective in 1996. The more stringent Tier 2 and Tier 3 emission standards became effective between 2001 and 2008, with the effective date dependent on engine horsepower. Tier 4 interim standards became effective between 2008 and 2012, and Tier 4 final standards became effective in 2014 and 2015. Each adopted emission standard was phased in over time. New engines built in and after 2015 across all horsepower sizes must meet Tier 4 final emission standards. In other words, new manufactured engines cannot exceed the emissions established for Tier 4 final emissions standards.

2.6.2 Transportation Conformity

Under the 1990 CAA amendments, USEPA issued two types of SIP conformity guidelines: transportation conformity rules that apply to transportation plans and projects, and general conformity rules that apply to all other federal actions. The conformity requirement is based on Federal Clean Air Act Section 176 (c), which prohibits the United States Department of Transportation (USDOT) and other agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to SIP for attaining NAAQS. Transportation conformity applies to highway and transit projects and takes place on two levels: the regional (or planning or programming) level and the project level. The project must conform at both levels to be approved.

The transportation conformity rules establish the criteria and procedures for transportation agencies to demonstrate that air pollutant emissions for metropolitan transportation plans, transportation improvement programs and projects are consistent with the State's air quality goals in the SIP. Caltrans, which is the transportation agency in California that is responsible for implementation of the transportation conformity rules in the State, has developed the Environmental Handbook, Volume I: Guidance for Compliance, which details the recommended analysis methodologies for all part of NEPA analyses including air quality.

2.6.3 State Standards

ARB is the lead agency responsible for developing the SIP in California. Local air districts and other agencies prepare air quality attainment plans or air quality management plans, and submit them to ARB for review, approval, and incorporation into the applicable SIP.

ARB is also responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA was adopted in 1988 and requires ARB to establish California Ambient Air Quality Standards (CAAQS). In most cases, CAAQS are more stringent than NAAQS. Other ARB responsibilities include, but are not limited to, overseeing local air district compliance with state and federal laws; approving local air quality plans; submitting SIPs to USEPA; monitoring air quality; determining and updating area designations and maps; and setting emission standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels. ARB maintains air quality monitoring stations throughout the state in conjunction with local air districts. Data collected at these stations are used by ARB to classify air basins as being in attainment or nonattainment with respect to each pollutant and to monitor progress in attaining air quality standards.

The CCAA requires that each area exceeding the CAAQS for ozone, CO, SO₂, and NO₂ develop a plan aimed at achieving those standards. California Health and Safety Code Section 40914 requires air districts to design a plan that achieves an annual reduction in district-wide emissions of five percent or more, averaged every consecutive three-year period. To satisfy this requirement, the local air districts have to develop and implement air pollution reduction measures, which are described in their air quality attainment plans, and outline strategies for achieving the CAAQS for any criteria pollutants for which the region is classified as nonattainment.

ARB has established emission standards for vehicles sold in California and for various types of equipment. California gasoline specifications are governed by both state and federal agencies. During the past decade, federal and state agencies have imposed numerous requirements on the production and sale of gasoline in California. ARB has also adopted control measures for diesel PM and more stringent emissions standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators).

TACs in California are regulated primarily through the Tanner Air Toxics Act (Chapter 1047, Statutes of 1983) and the Air Toxics Hot Spots Information and Assessment Act (Chapter 1252, Statutes of 1987). Assembly Bill 1807 sets forth a formal procedure for ARB to designate substances as TACs. Research, public participation, and scientific peer review must occur before ARB can designate a substance as a TAC. The Air Toxics Hot Spots Information and Assessment Act requires that TAC emissions from stationary sources be quantified and compiled into an inventory according to criteria and guidelines developed by ARB, and if directed to do so by the local air district, an HRA must be prepared to determine the potential health impacts of such emissions.

The ARB adopted a Diesel Risk Reduction Plan, which recommends control measures to achieve a diesel PM reduction of 85 percent by 2020 from year 2000 levels. Recent regulations and programs include the low-sulfur diesel fuel requirement and more stringent emission standards for heavy-duty diesel trucks and off-road in-use diesel equipment. As emissions are reduced, it is expected that the risks associated with exposure to the emissions will also be reduced.

2.6.4 Regional and Local Standards

The USEPA has delegated responsibility to air districts to establish local rules to protect air quality. Caltrans' Standard Specification 14-9.02 (Caltrans 2015) requires compliance with all applicable air quality laws and regulations including local and air district ordinances and rules. In San Diego County, San Diego Air Pollution Control District (SDAPCD) is the agency responsible for the administration of federal and state air quality laws, regulations, and policies. State and local

government projects, as well as projects proposed by the private sector, are subject to requirements of the local air district, if the sources are regulated by SDAPCD. SDAPCD regulates most air pollutant sources, except for motor vehicles, marine vessels, aircraft, and agricultural equipment, which are regulated by ARB or USEPA. Included in SDAPCD's tasks are monitoring of air pollution, preparation of the SIP for the SDAB, and promulgation of rules and regulations.

The SIP includes strategies and tactics to be used to attain the federal ozone standard in the county. The SIP elements are taken from the Regional Air Quality Strategy (RAQS), which SDAPCD prepares. The 1991/1992 RAQS was adopted on March 27, 1992, and includes Transportation Control Measures (TCMs) for the air quality plan prepared by the San Diego Association of Governments (SANDAG). The required triennial updates of the RAQS and corresponding TCMs were adopted in 1995, 1998, 2001, 2004, 2009, and 2016. The 2016 RAQS Revision, which identifies emission control measures to provide expeditious progress toward attaining the state ozone standard, was adopted by SDAPCD in December 2016 (SDAPCD 2016). The rules and regulations include procedures and requirements to control the emission of pollutants and to prevent adverse impacts.

2.6.5 Air Quality Standards

Health-based air quality standards have been established for criteria pollutants by USEPA at the national level and by ARB at the state level. These standards were established to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution. California has also established standards for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. Table 1 presents the NAAQS and the CAAQS. The most current monitoring station data and attainment designations for the project study area are shown below.

Table 1
National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^a	National Standards ^b	
		Concentration ^c	Primary ^{c,d}	Secondary ^{c,e}
Ozone ^l	1 hour	0.09 ppm (180 µg/m ³)	–	Same as primary standard
	8 hours	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³)	
Respirable particulate matter (PM ₁₀) ^f	24 hours	50 µg/m ³	150 µg/m ³	Same as primary standard
	Annual arithmetic mean	20 µg/m ³	–	
Fine particulate matter (PM _{2.5}) ^f	24 hours	–	35 µg/m ³	Same as primary standard
	Annual arithmetic mean	12 µg/m ³	12 µg/m ³	
Carbon monoxide (CO)	8 hours	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	None
	1 hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	
	8 hours (Lake Tahoe)	6 ppm (7 mg/m ³)	–	
Nitrogen dioxide (NO ₂) ^g	Annual arithmetic mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	Same as primary standard
	1 hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)	None
Sulfur dioxide (SO ₂) ^h	Annual arithmetic mean	–	0.030 ppm (for certain areas) ^h	–
	24 hours	0.04 ppm (105 µg/m ³)	0.14 ppm (for certain areas) ^h	–
	3 hours	–	–	0.5 ppm (1,300 µg/m ³)
	1 hour	0.25 ppm (655 µg/m ³)	75 ppb (196 µg/m ³)	–
Lead ^{ij}	30-day average	1.5 µg/m ³	–	–
	Calendar quarter	–	1.5 µg/m ³ (for certain areas) ^j	Same as primary standard
	Rolling 3-month average	–	0.15 µg/m ³	
Visibility-reducing particles _k	8 hours	See footnote j	No national standards	
Sulfates	24 hours	25 µg/m ³		
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m ³)		
Vinyl chloride ⁱ	24 hours	0.01 ppm (26 µg/m ³)		

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

- ^a California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM₁₀, PM_{2.5}, and visibility-reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- ^b National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For PM_{2.5}, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standards.
- ^c Concentration expressed first in the units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 degrees Celsius and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and reference pressure of 760 torr; (ppm) in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- ^d National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- ^e National Secondary Standards: The levels of air quality necessary to protect public welfare from any known or anticipated adverse effects of a pollutant.
- ^f On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
- ^g To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards the units can be converted from 100 ppb to 0.100 ppm.
- ^h On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
- ⁱ ARB has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- ^j The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved.
- ^k In 1989, ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and the "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.
- ^l On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

Source: ARB 2016a

3. AFFECTED ENVIRONMENT

3.1 Existing Air Quality

Ambient air pollutant concentrations in the SDAB are measured at air quality monitoring stations operated by ARB and the SDAPCD. Data for the 2016 year was obtained from the El Cajon-Floyd Smith Drive monitoring station, located at 10537 Floyd Smith Drive, El Cajon, California, approximately twenty-three miles southwest of the project site. Data for 2017 and 2018 years were obtained from the El Cajon-Lexington Elementary School monitoring station, located at 533 First Street, El Cajon, California, approximately twenty-six miles southwest of the project site. Air quality monitoring data for CO were obtained from the SDAPCD Annual Air Quality Monitoring Network Plan (SDAPCD 2019a) and represent CO concentrations in San Diego County. Table 2 presents three years of the most recent information available, summarizing the exceedances of standards and the highest recorded pollutant.

3.2 Toxic Air Contaminant Levels in SDAB

SDAPCD samples for TACs at the El Cajon and Chula Vista monitoring stations. Excluding diesel PM, data from these stations indicate that the background cancer risk in 2018 due to TACs was 356 in one million in Chula Vista and 389 in one million in El Cajon (SDAPCD 2019b). There is no current methodology for directly measuring diesel PM. However, ARB estimates the excess cancer risk from diesel PM in California in 2012 as 520 in a million.

3.3 SDAB Attainment Status

Both USEPA and ARB use ambient air quality monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify the areas with air quality problems and initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. An “attainment” designation for an area signifies that pollutant concentrations did not exceed the established standard. Finally, an “unclassified” designation indicates that insufficient data exist to determine attainment or nonattainment. In most cases, areas designated or redesignated as attainment must develop and implement maintenance plans, which are designed to ensure continued compliance with the standard.

As shown in Table 3, the SDAB currently meets the NAAQS for all criteria air pollutants except ozone, and meets the CAAQS for all criteria air pollutants except ozone, PM₁₀, and PM_{2.5}. The SDAB currently falls under a federal maintenance plan for 8-hour ozone.

Table 2
Ambient Air Quality Summary

Pollutant Standards	2016	2017	2018
Ozone			
State max 1-hour concentration (ppm)	0.096	0.096	0.087
National maximum 8-hour concentration (ppm)	0.077	0.081	0.079
<u>Number of Days Standard Exceeded</u>			
CAAQS 1-hour (>0.09 ppm)	1	1	0
CAAQS 8-hour (>0.070 ppm)/NAAQS 8-hour (>0.070 ppm)	3/3	9/9	2/2
Carbon Monoxide (CO) ^a			
Maximum 8-hour concentration (ppm)	1.7	1.5	1.4
Maximum 1-hour concentration (ppm)	2.2	2.0	1.9
<u>Number of Days Standard Exceeded</u>			
NAAQS 8-hour (>9.0 ppm)	0	0	0
Nitrogen Dioxide (NO₂)			
State maximum 1-hour concentration (ppb)	57	45	45
Annual Average (ppb)	*	10	8
<u>Number of Days Standard Exceeded</u>			
NAAQS 1-hour (>100 ppb)	0	0	0
CAAQS 1-hour (>180 ppb)	0	0	0
Particulate Matter (PM₁₀)			
National maximum 24-hour concentration (µg/m ³)	39.0	50.0	43.0
State maximum 24-hour concentration (µg/m ³)	39.5	49.4	44.7
State annual average concentration (µg/m ³)	*	23.0	23.0
<u>Measured Number of Days Standard Exceeded</u>			
NAAQS 24-hour (>150 µg/m ³)	0	0	0
CAAQS 24-hour (>50 µg/m ³)	0	0	0
Particulate Matter (PM_{2.5})			
National maximum 24-hour concentration (µg/m ³)	19.3	31.8	36.2
State maximum 24-hour concentration (µg/m ³)	19.3	35.6	42.0
National annual average concentration (µg/m ³)	*	9.5	9.6
State annual average concentration (µg/m ³)	*	9.6	10.5
<u>Measured Number of Days Standard Exceeded</u>			
NAAQS 24-hour (>35 µg/m ³)	0	0	1

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

^a Data obtained from the SDAPCD 2018 Monitoring Network Plan, Table 4-9: CO Concentrations for San Diego.

*Insufficient data to determine the value.

Source: ARB 2016b; SDAPCD 2019a

Table 3
San Diego Air Basin Attainment Designations

Pollutant	State	Federal
Ozone (1-hour)	Nonattainment	Attainment*
Ozone (8-hour)	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Unclassified/Attainment	Unclassified/Attainment
Sulfur Dioxide	Unclassified/Attainment	Unclassified/Attainment
PM ₁₀	Nonattainment	Unclassified
PM _{2.5}	Nonattainment	Unclassified/Attainment
Sulfates	Attainment	N/A
Hydrogen Sulfide	Unclassified	N/A
Visibility Reducing Particles	Unclassified	N/A
Lead	Attainment	Unclassified/Attainment

Notes:

N/A = not applicable; no standard. * The federal ozone (1-hour) standard of 12 ppm was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because this benchmark is addressed in State Implementation Plans.

Source: ARB 2018; SDAPCD 2017.

3.4 Sensitive Receptors

Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. These groups include children, older adults, persons with preexisting respiratory or cardiovascular illness, athletes and others who engage in frequent exercise. The nearest sensitive receptors include multi-family residences located approximately 550 feet to the southwest of the project site.

3.5 Conformity Status

Conformity analysis focuses on the net increase in emissions compared to ongoing historical conditions. Projects that are exempt from conformity are generally those that are air quality neutral and are organized into the categories of Safety, Mass Transit, Air Quality, and Other. Per 40 Code of Federal Regulations (CFR) 93.126, projects that widen narrow pavements or reconstruct bridges, with no additional travel lanes, would be exempt from the requirement to determine conformity. As such, because the proposed project would replace the existing culvert crossing with a bridge designed to meet current federal requirements and improve safety, and the proposed project would not generate any new traffic, or construct additional through-traffic lanes, the proposed project would be an exempt project and no further transportation conformity analysis is required.

4. ENVIRONMENTAL CONSEQUENCES

4.1 Short-Term Construction Impacts

Construction of the proposed project would result in the temporary generation of VOCs, NO_x, SO_x, PM₁₀, and PM_{2.5} emissions associated primarily from off-road construction equipment, on-road motor vehicles, soil excavation, and material transport. Reactive organic gases (ROG), NO_x, and SO_x emissions are primarily associated with mobile equipment exhaust. Fugitive dust emissions are primarily associated with site preparation and vary as a function of parameters such as soil silt content, soil moisture, wind speed, acreage of disturbance area, and miles traveled by construction vehicles on- and off-site.

Federal conformity regulations require analysis of construction impacts for projects when construction activities will last for more than 5 years. The proposed project construction would last less than 5 years. For informational purposes only, quantitative emissions estimates were developed for construction activities. Although not adopted by Caltrans, the estimated construction emissions would be less than the County of San Diego significance thresholds. The construction-related emission estimates are presented in Attachment B.

4.1.1 Construction-Related Toxic Air Contaminant Impacts

The nearest sensitive receptors include multi-family residences located as near as 550 feet to the southwest of the project site. Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to pollutants present. The greatest potential for TAC emissions would be related to diesel PM emissions associated with heavy-duty construction equipment activity. The Office of Environmental Health Hazard Assessment (OEHHA) developed a Guidance Manual for the Preparation of Health Risk Assessments (OEHHA 2015). According to OEHHA methodology, health effects from carcinogenic TACs are usually described in terms of individual cancer risk, which is based on a 30-year lifetime exposure to TACs. Construction activities are anticipated to last approximately 12 months and would cease following completion of the proposed project. Therefore, the total exposure period for construction activities would be less than five percent of the total exposure period used for typical residential health risk calculations (i.e. 30 years). Given the limited number of heavy-duty construction equipment and the short-term construction schedule, the proposed project would not expose sensitive receptors to substantial construction TAC concentrations.

4.2.2 Construction-Related Odor Impacts

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are of short-term in nature and the odor emissions are expected cease upon the drying or hardening of the odor producing materials. Due to the short-term nature and limited amounts of odor producing materials being utilized, odor impacts would be minimized during construction of the proposed project.

4.3 Long-Term Operational Impacts

The proposed project would replace the existing culvert crossing with a bridge designed to meet current federal and safety requirements. As discussed in more detail in the TIA (LLG 2013) and Data Validation Memo (Chen Ryan 2019), the proposed improvements would not generate any new daily trips and would only redistribute background traffic within the study area. The proposed improvements would decrease intersection delay along Main Street due to the redistribution of traffic, which would result in a slight reduction in vehicle miles travelled (VMT) as well as vehicle hours of travel (VHT).

4.3.1 Carbon Monoxide Hot-Spot Analysis

In general, CO has the potential to exceed the California and national standards in concentration at congested roadway intersections. A CO hotspot occurs when the ambient concentrations of CO exceed these standards. However, advances in engine and emission control technology, as well as drivers' use of more efficient vehicles and low or no emission vehicles has significantly decreased the occurrence or potential for CO exceedances. The SDAB is in attainment for the NAAQS and CAAQS for CO concentrations. According to the Caltrans *Transportation Project-Level Carbon Monoxide Protocol* (UC Davis 1997), a project is likely to worsen air quality and require further analysis if: a) The project significantly increases the percentage of vehicles operating in cold start mode; b) the project significantly increases traffic volumes; and c) the project worsens traffic flow. The procedures of the CO Protocol are used to determine the level of analysis, if any, required for the project. According to the CO protocol, if the project is included in 40 CFR 93.126, the project is exempt from all emissions analyses to determine conformity of federal actions to state or federal implementation plans. Per 40 CFR 93.126, projects that widen narrow pavements or reconstruct bridges, with no additional travel lanes, would be exempt from the requirement to determine conformity. As such, because the proposed project would replace an existing crossing with a bridge designed to meet current County of San Diego and FHWA design standards, and future traffic volumes in the project study area would remain the same as existing conditions, the project would

be an exempt project and no further localized hotspot or regional analysis is required. Figure 1 in Attachment A contains the CO Protocol flow chart demonstrating the exemption.

Further, as shown in Table 4, although the level of service (LOS) at the Pine Street & Olive Street intersection would worsen from LOS C to LOS D in the PM peak hour with implementation of the proposed project, traffic in the project study area would be redistributed and LOS would improve from E to D at the 10th Street & Main Street intersection. In addition, intersection delay would also decrease at the 13th Street and Main Street intersection; thereby, improving traffic flow overall. Therefore, since implementation of the proposed project would not generate new vehicle trips and traffic flow would improve, no long term operational air emissions calculations are required for this analysis.

**Table 4
 Peak Hour Intersection Level of Service Results**

Intersection	AM Peak Hour LOS without the Project	PM Peak Hour LOS without the Project	AM Peak Hour LOS with the Project	PM Peak Hour LOS with the Project
Maple Street & Olive Street	A	A	A	A
Pine Street & Olive Street	D	C	D	D
Maple Street/13 th Street & Walnut Street	A	A	A	A
13 th Street & Main Street	B	B	B	B
10 th Street & Main Street	C	E	C	D

Notes:
 LOS = level of service
 Source: Chen Ryan 2019

4.3.2 PM_{2.5}/PM₁₀ Hot-Spot Analysis

Since the proposed project is an exempt project per 40 CFR 93.126, the proposed project is exempt from transportation conformity analysis, including PM_{2.5} and PM₁₀ hot-spot analysis. In addition, the proposed project is an area which is identified as an unclassified/attainment and unclassified under the NAAQS for PM_{2.5} and PM₁₀, respectively. Therefore, no quantitative PM_{2.5} or PM₁₀ analysis was conducted.

4.3.3 Mobile Source Air Toxics

The amount of MSATs emitted would be proportional to the vehicle miles traveled for the “build” and “no build” scenarios, assuming that other variables such as fleet mix are the same. FHWA has developed a tiered approach with three categories for analyzing MSATs in NEPA documents, depending on specific project circumstances, including Category 1, No analysis for projects with no potential for meaningful MSAT effects. Criteria for Category 1 projects include projects exempt under the Clean Air Act conformity rule under 40 CFR 93.126; or other projects with no meaningful impacts on traffic volumes or vehicle mix. Since the proposed project is exempt under 40 CFR 93.126 and operation of the proposed project would be generally similar to existing conditions, the proposed project meets the Category 1 criteria for projects with no potential for meaningful MSAT effects.

5. MINIMIZATION MEASURES

5.1 Caltrans Standard Specifications

The proposed project will follow Caltrans’ Standard Specification Section 14-9.01, “Air Pollution Control” and Section 14.02, “Dust Control” (Caltrans 2015). The following measures will be implemented:

- 14-9.02 Air Pollution Control:
 - Comply with air pollution control rules, regulations, ordinances, and statutes that apply to work performed under the Contract¹, including air pollution control rules, regulations, ordinances, and statutes provided in Government Code § 11017 (Pub Cont Code 10231).
 - No burning of construction waste material.
- 14-11.04 Dust Control
 - Excavation, transportation, and handling of material containing hazardous waste or contamination must result in no visible dust migration. When clearing, grubbing, and performing earthwork operations in areas containing hazardous waste or contamination, provide a water truck or tank on the job site.

¹ As defined by the 2018 Caltrans Standard Specifications: “Contract” refers to “Written and executed contract between the Department and the Contractor.”

5.2 San Diego Air Pollution Control District Rules

SDAPCD Rule 50 (Visible Emissions), Rule 51 (Nuisance), Rule 55 (Fugitive Dust Control), and Rule 67.7 (Cutback and Emulsified Asphalts) would be applicable to the proposed project.

5.2.1 Rule 50 – Visible Emissions

Rule 50 applies to the discharge of any air contaminant other than uncombined water vapor.

5.2.2 Rule 51 – Nuisance

Rule 51 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. Compliance with Rule 51 will reduce local air quality and odor impacts to nearby sensitive receptors.

5.2.3 Rule 55 – Fugitive Dust Control

Rule 55 applies to any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas. Per Rule 55, no person shall engage in construction or demolition activity subject to this rule in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60 minute period.

Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall: (i) be minimized by the use of any of the following or equally effective trackout/carry-out and erosion control measures that apply to the project or operation: track-out grates or gravel beds at each egress point, wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and for outbound transport trucks: using secured tarps or cargo covering, watering, or treating of transported material; and (ii) be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. If a street sweeper is used to remove any track-out/carry-out, only PM10-efficient street sweepers certified to meet the most current South Coast Air Quality Management District Rule 1186 requirements shall be used. The use of blowers for removal of track-out/carry-out is prohibited under any circumstances.

5.2.4 Rule 67.7 – Cutback and Emulsified Asphalts

Rule 67.7 applies to the application and sale of cutback and emulsified asphalt materials for the paving, construction or maintenance of parking lots, driveways, streets and highways. A person shall not sell, offer for sale, use or apply for paving, construction or maintenance of parking lots, driveways, streets or highways any cutback asphalt material or road oils which contain more than 0.5 percent by volume VOC which evaporate at 260° C (500° F) or less. (2) A person shall not sell, offer for sale, use or apply for paving, construction or maintenance of parking lots, driveways, streets or highways any emulsified asphalt material which contains more than 3.0 percent by volume VOC which evaporate at 260° C (500° F) or less.

6. REFERENCES

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ATTACHMENT A

CO PROTOCOL FLOW CHART

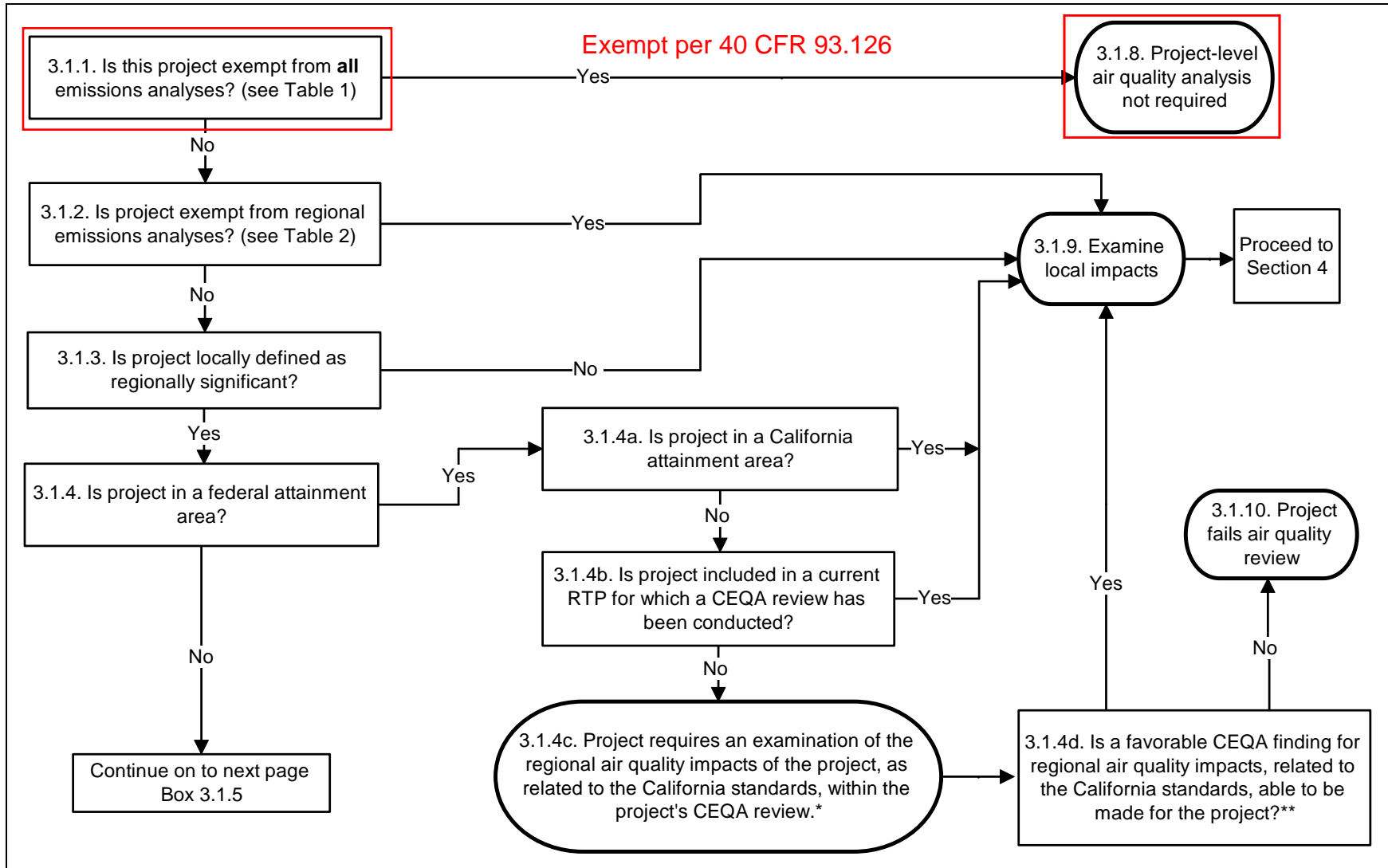


Figure 1. Requirements for New Projects

ATTACHMENT B

COUNTY OF SAN DIEGO

CEQA AIR QUALITY IMPACT ANALYSIS

Appendix B

County of San Diego CEQA Air Quality Impact Analysis

1. Introduction

This report is an appendix to the Caltrans Air Quality Impact Analysis (Caltrans Analysis) that was prepared to address potential air quality impacts associated with the 13th Street Bridge Project (proposed project). The County of San Diego is the lead agency under the California Environmental Quality Act (CEQA); therefore, it must also conform to County air quality standards be analyzed in terms of the County's CEQA significance criteria and thresholds.

2. Project Description

The proposed 13th Street Bridge Project is located on 13th Street and Maple Street between Main Street (SR 67) and Walnut Street in the unincorporated community of Ramona. The project segment of 13th Street/Maple Street is a dirt roadway, with gravel at the Santa Maria Creek culvert crossing. The existing, undersized corrugated steel culvert does not have sufficient capacity to convey the creek water during storm events; flooding at this crossing makes the roadway impassable for motor vehicles and pedestrians during portions of the rainy season.

The objective of the project is to provide an adequate and safe crossing that allows for the conveyance of water from a 100-year storm event. The project would include replacement of the existing culvert crossing with a bridge designed to meet current federal standards, with roadway improvements along 13th Street/Maple Street and Walnut Street, and the addition of stormwater conveyance and treatment features that would ultimately discharge into Santa Maria Creek.

The proposed bridge would be a 4-span cast-in-place pre-stressed, post-tensioned concrete box girder structure, approximately 480-feet long and approximately 42-feet wide with three singular-column bents and two abutments. The bridge and approaches would include two 12-foot travel lanes, 3-foot shoulders on each side, and an approximately 8-foot wide multi-use pathway to accommodate pedestrians, bicyclists, and equestrians. In addition, three bridge barriers with a total width of approximately 4-feet, consisting of two edge deck rails and one pedestrian barrier would be installed to separate pathway users from the travel lane and creek. The pathway across the bridge would connect to the existing southern segment near the Ramona County Library and transition users across the bridge to existing and planned facilities north of the bridge. The grade of 13th Street/Maple Street would be raised approximately 10-feet at the Santa Maria Creek crossing to comply with current Federal Highway Administration (FHWA) requirements.

Storm drain systems are proposed directly to the north and south of the bridge to capture runoff and direct it towards the existing creek. Permeable pavement areas would be incorporated into the project as Green Street features to facilitate meeting water quality requirements and for storm-water management. An existing bio-retention basin located south of the bridge that currently treats stormwater from the library and associated parking lot would be redesigned to continue treating those existing areas in addition to the proposed paved roads south of Santa Maria Creek.

The total quantity of cut for the project is approximately 6,200 cubic yards (cy), the total quantity of fill is approximately 8,442 cy, and the total quantity of import is approximately 13,000 cy. Construction is anticipated to last approximately 12 months. During the bridge foundation construction, dewatering may be required for the project. As explained in more detail in the Traffic Impact Analysis prepared in October 2013 (LLG 2013) and the Data Validation Memorandum prepared in October 2018 (Chen Ryan 2019), the proposed project would not generate any new traffic and would only redistribute background traffic within

the study area, which would result in a slight reduction in vehicle miles travelled (VMT) as well as vehicle hours of travel (VHT).

3. Thresholds of Significance

According to the County of San Diego Guidelines for Determining Significance of Air Quality (County of San Diego 2007), implementation of the proposed project may have a significant impact to air quality if implementation of the project would:

- conflict with or obstruct implementation of the San Diego Regional Air Quality Strategy (RAQS) or applicable portions of the State Implementation Plan (SIP),
- result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation,
- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable Federal or State ambient air quality standard (PM₁₀, PM_{2.5}, or exceed the quantitative thresholds for ozone precursors, NO_x, and VOC),
- expose sensitive receptors to substantial pollutant concentrations;
- create objectionable odors affecting a substantial number of people.

As stated in Appendix G of the CEQA Guidelines, the significance criteria established by the applicable air quality management board or air pollution control district may be relied on to make the impact determinations for specific program elements. SDAPCD has not developed quantitative significance standards for CEQA projects. However, the County of San Diego has established recommended screening level standards of significance for regional pollutant emissions. Therefore, the County of San Diego screening standards of significance for regional pollutant emissions were used to analyze the impacts of the proposed project. The screening level standards are shown in Table B.1.

Table B.1. Regional Pollutant Emission Screening Level Standards of Significance

	VOC ¹	NO _x	CO	SO _x	PM ₁₀	PM _{2.5} ²
Pounds per hour	–	25	100	25	–	–
Pounds per day	75	250	550	250	100	55
Tons per year	13.7	40	100	40	15	10

Notes:

¹ VOC threshold based on the threshold of significance for VOCs from the South Coast Air Quality Management District (SCAQMD) for the Coachella Valley.

² USEPA “Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards” (September 8, 2005) and also used by SCAQMD.

VOC = volatile organic compounds; NO_x = oxides of nitrogen; SO_x = sulfur oxides, CO = carbon monoxide; PM₁₀ = particulate matter less than 10 micrometers in diameter; PM_{2.5} = particulate matter less than 2.5 micrometers in diameter.

- = No standard proposed

Source: County of San Diego 2007

4. Air Quality Impacts

The following discussion summarizes the evaluation of air quality with respect to construction and use of the proposed project.

Would the proposed project:

- a) *Conflict with or obstruct implementation of the San Diego RAQS or applicable portions of the SIP?*

As explained previously, nonattainment areas must submit a SIP outlining the combination of local, state, and federal strategies aimed at bringing the area into attainment. To address this requirement, the SDAPCD updated its Attainment Plan for the 2008 Eight-Hour Ozone Standard (Attainment Plan) and RAQS in 2016 (SDAPCD 2016). A project's consistency with the RAQS and Attainment Plan is based on whether the project would exceed the estimated air basin emissions, which are based in part on equipment use assumptions, projections of population, and vehicle miles traveled (VMT). For instance, an increase in VMT beyond projections in such plans could result in a significant adverse incremental effect on a region's ability to attain or maintain ambient air quality standards.

The proposed project would involve primarily construction activities, which are short term and temporary. The use of construction equipment in the RAQS and Attainment Plan is estimated for the region on an annual basis, and the proposed project would not increase the regional assumptions for off-road equipment use. After construction of the proposed project, long-term operational emissions would be limited to those generated by infrequent maintenance activities. In addition, the proposed project would not increase population or employment in the planning area and as explained in the Traffic Impact Analysis, the proposed project would not generate new vehicle trips and would only redistribute the background traffic within the study area. Therefore, the proposed project would not exceed the current assumptions used to develop the RAQS, Attainment Plan, and SIP. Thus, project implementation would not conflict with or obstruct implementation of the applicable air quality plan. This impact would be less than significant.

- b) *Result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

Construction of the proposed project would result in the temporary generation of VOCs, NO_x, SO_x, PM₁₀, and PM_{2.5} emissions associated primarily from off-road construction equipment, on-road motor vehicles, soil excavation, and material transport. ROG, NO_x, and SO_x emissions are primarily associated with mobile equipment exhaust. Fugitive dust emissions are primarily associated with site preparation and vary as a function of parameters such as soil silt content, soil moisture, wind speed, acreage of disturbance area, and miles traveled by construction vehicles on- and off-site.

Project construction is anticipated to begin in 2023 and last approximately 12 months. The total quantity of cut for the project is approximately 6,200 cubic yards (cy), the total quantity of fill is approximately 8,442 cy, and the total quantity of import is approximately 13,000 cy. The fill and import added together is approximately 21,442 cy of materials being placed back during construction. The analysis assumed approximately 3,455 haul truck trips would be required for the import and export of materials during project construction. The maximum number workers during the peak construction period is anticipated to be approximately 30 workers per day.

Construction-related emissions associated with typical construction activities were modeled using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. CalEEMod allows the user to enter project-specific construction information, such as duration and types of construction phases, and types, number, and horsepower of construction equipment. The daily criteria pollutant construction emissions for the proposed project compared to the applicable CEQA thresholds are presented in Table B.2. Additional modeling assumptions and details are provided in Attachment C.

Table B.2. Construction-Related Maximum Daily Criteria Pollutant Emissions

	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Maximum Daily Emissions (lbs/day) ^(a)	5.74	59.94	41.08	0.16	10.18	5.55
CEQA Thresholds of Significance (lbs/day) ^(b)	75	250	550	550	250	100
Exceeds Thresholds	No	No	No	No	No	No

Notes:

(a) PM₁₀ and PM_{2.5} emissions include reductions in accordance with Caltrans' Standard Specification Section 14-9.01 to comply with SDAPCD dust abatement measures.

(b) CEQA thresholds from County of San Diego Guidelines for Determining Significance – Air Quality (County of San Diego 2007).

VOC = volatile organic compounds; NO_x = oxides of nitrogen; PM₁₀ = particulate matter with aerodynamic diameter less than 10 microns; PM_{2.5} = particulate matter with aerodynamic diameter less than 2.5 microns; lbs/day = pounds per day

As shown in Table B.2, construction of the proposed project would not exceed applicable mass emission CEQA thresholds of significance. Therefore, the proposed project would not violate an air quality standard or contribute substantially to an existing or projected air quality violation.

Post-construction regional operational emissions would be expected to remain the same as existing conditions. The project proposes to replace the existing culvert crossing to meet current design standards and FHWA requirements, and traffic volumes are not anticipated to increase with implementation of the proposed project. Thus, the proposed project would not generate new daily trips and therefore would not substantially increase emissions from the use of on-road motor vehicles or off-road equipment relative to existing conditions. Therefore, operational emissions would not violate an ambient air quality standard or contribute substantially to an existing violation. This impact would be less than significant.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

By its very nature, air pollution is largely a cumulative impact. A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects. For projects to be determined to not have a significant cumulative air quality impact, consistency with the applicable air quality plans and mitigation requirements must also be shown.

As stated earlier, construction of the proposed project would generate criteria air pollutant emissions through the use of off-road equipment, heavy-duty trucks, and worker commute trips, but at levels that do not exceed any of the regional thresholds for construction. The thresholds are designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards. Projects that would not exceed the thresholds of significance would not contribute a considerable amount of criteria air pollutant emissions to the region's emissions profile and would not impede attainment and maintenance of ambient air quality standards.

Based on the project-level analysis described above in section (b), the proposed project's construction emissions would not exceed the thresholds of significance. Further, operation of the proposed project would be generally similar to existing conditions. Therefore, emissions associated with the proposed project would not be cumulatively considerable and would result in a less than significant cumulative impact.

d) Expose sensitive receptors to substantial pollutant concentrations?

Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. These groups include children, older adults, and persons with preexisting respiratory or cardiovascular illness. The County of San Diego defines sensitive receptors to be schools, hospitals, resident care facilities, day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality, such as residences (County of San Diego 2007).. The nearest sensitive receptors include multi-family residences located approximately 550 feet to the southwest of the project site. Other receptors near the project site may include recreational visitors in the project vicinity, such as trail users and library visitors. However, these receptors would be transient users and would not be exposed to construction-related emissions for an extended period of time.

Criteria Pollutants

As shown in Table B.2, construction of the proposed project would result in emissions of criteria air pollutants, but at levels that would not exceed the County of San Diego thresholds of significance. The thresholds of significance were designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards, which were established using health-based criteria to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution. As such, the construction-related criteria air pollutant emissions associated with the proposed project would not expose sensitive receptors to substantial pollutant concentrations.

Toxic Air Contaminants

Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to pollutants present. The greatest potential for TAC emissions would be related to diesel PM emissions associated with heavy-duty construction equipment activity. The Office of Environmental Health Hazard Assessment (OEHHA) developed a Guidance Manual for the Preparation of Health Risk Assessments (OEHHA 2015). According to OEHHA methodology, health effects from carcinogenic TACs are usually described in terms of individual cancer risk, which is based on a 30-year lifetime exposure to TACs. Construction activities are anticipated to last approximately 10 months and would cease following completion of the proposed project. Therefore, the total exposure period for construction activities would be less than five percent of the total exposure period used for typical residential health risk calculations (i.e. 30 years). In addition to the considerable buffer distance to the nearest sensitive receptors and the highly dispersive nature of diesel PM emissions, construction of the proposed project would not exceed the County of San Diego mass emissions thresholds. Therefore, the proposed project would not expose sensitive receptors to substantial construction TAC concentrations. Accordingly, air quality impacts on sensitive receptors during construction would be less than significant.

As such, because implementation of the proposed project would not generate new vehicle trips and the proposed improvements would decrease intersection delay along Main Street due to the redistribution of traffic, which would result in a slight reduction in vehicle miles traveled and vehicle hours traveled, operational emissions would remain similar to or less than existing conditions, and sensitive receptors would not be exposed to substantial pollutant concentrations.

Carbon Monoxide

Carbon Monoxide concentration is a direct function of motor vehicle activity, particularly during peak commute hours, and meteorological conditions. Under specific meteorological conditions, CO concentrations may reach unhealthy levels with respect to local sensitive land uses, such as residential

areas, schools, preschools, playgrounds, and hospitals. As a result, air districts typically recommend analysis of CO emissions at a local, rather than a regional, level.

The County of San Diego Guidelines for Determining Significance for Air Quality indicate that projects that cause road intersections to operate at or below a level of service (LOS) E, could cause a localized significant air quality impact and would require further localized hotspot analysis.

As explained in more detail in the TIA (LLG 2013) and Data Validation Memo (Chen Ryan 2019), although the level of service (LOS) at the Pine Street & Olive Street intersection would worsen from LOS C to LOS D in the PM peak hour with implementation of the proposed project, traffic in the project study area would be redistributed and LOS would improve from E to D at the 10th Street & Main Street intersection. In addition, intersection delay would also decrease at the 13th Street and Main Street intersection; thereby, improving traffic flow overall. Therefore, since implementation of the proposed project would not generate new vehicle trips and the proposed project would not cause road intersection to operate at or below a LOS E, further localized CO hotspot analysis is not required and the CO concentrations resulting from the proposed project would not violate the CAAQS for either the 1-hour period (20 parts per million [ppm]) or the 8-hour period (9.0 ppm). This impact would be less than significant.

Based on the analysis and results presented above, the proposed project would not expose sensitive receptors to substantial construction or operational pollutant concentrations, and impacts would be less than significant.

e) Create objectionable odors affecting a substantial number of people?

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

Construction activities associated with the proposed project could result in short-term odor emissions from diesel exhaust associated with construction equipment. However, due to the substantial distance to the nearest sensitive receptors and the highly diffusive properties of diesel exhaust, nearby receptors would not be affected by diesel exhaust odors associated with project construction. The proposed project would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. Operation of the proposed project would not add any new odor sources beyond existing conditions. As a result, the proposed project would not create objectionable odors affecting a substantial number of people. Accordingly, odor impacts would be less than significant.

5. References

- California Air Resources Board (ARB). 2005. Air Quality and Land Use Handbook: A Community Health Perspective. Available: <https://www.arb.ca.gov/ch/handbook.pdf>. Accessed December 2018.
- Chen Ryan Associates (Chen Ryan). 2019. 13th Street Bridge – Data Validation Memorandum. February 2019.
- County of San Diego. 2007. Guidelines for Determining Significance and Report Format and Content Requirements – Air Quality. Available: <https://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/docs/AQ-Guidelines.pdf>. Accessed December 2018.
- Linscott Law & Greenspan (LLG). 2013. Traffic Impact Analysis - 13th Street Bridge Project. October 2013.
- Office of Environmental Health Hazard Assessment (OEHHA). 2015. Adoption of Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Available: http://www.oehha.ca.gov/air/hot_spots/hotspots2015.html. Accessed December 2018.
- San Diego Air Pollution Control District (SDAPCD). 2016. 2016 Revision of the Regional Air Quality Strategy for San Diego County. Available: <https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/2016%20RAQS.pdf>. Accessed December 2018.

ATTACHMENT C

**CALEEMOD OUTPUT –
CONSTRUCTION EMISSIONS**

13th Street Bridge - San Diego County, Winter

13th Street Bridge
San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	1.48	Acre	1.48	64,564.98	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2024
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

13th Street Bridge - San Diego County, Winter

Project Characteristics -

Land Use - Based on 70% design permanent impacts of 64,565 square feet.

Construction Phase - Project specific data provided by County of SD - Based on a 12 month construction schedule.

Off-road Equipment - Project specific equipment provided by County of SD. Concrete boom pump modeled as off-highway truck.

Off-road Equipment - Project specific equipment provided by County of SD. Concrete boom pump modeled as off-highway truck.

Off-road Equipment - Project specific equipment provided by County of SD.

Off-road Equipment - Project specific equipment provided by County of SD.

Off-road Equipment - Project specific equipment provided by County of SD.

Off-road Equipment - Project specific equipment provided by County of SD. Water truck modeled as off-highway truck.

Off-road Equipment - Project specific equipment provided by County of SD. Water truck modeled as off-highway truck.

Off-road Equipment - Project specific equipment provided by County of SD. Water truck modeled as off-highway truck.

Off-road Equipment - Project specific equipment provided by County of SD. Water truck modeled as off-highway truck.

Off-road Equipment - Project specific equipment provided by County of SD.

Off-road Equipment - No off-road equipment.

Off-road Equipment - Project specific equipment provided by County of SD. Water truck modeled as off-highway truck.

Off-road Equipment - Project specific equipment provided by County of SD. Water truck modeled as off-highway truck.

Off-road Equipment - Project specific equipment provided by County of SD. 18-wheeler modeled as off-highway truck.

Off-road Equipment - No off-road equipment.

Off-road Equipment - Project specific equipment provided by County of SD.

Off-road Equipment - Project specific equipment provided by County of SD. 18-wheeler truck modeled as off-highway truck.

Off-road Equipment - No off-road equipment.

Off-road Equipment - Project specific equipment provided by County of SD.

Grading - Assumes approximately 13,000 CY of import and 6,200 CY of export. Additional 8,442 CY associated with AC, CL-2 Base, CTPB, Rock, Bio Soil, CIDH Pile included in haul trucks in Trips and VMT screen/

Trips and VMT - Assumes 5 workers at start/end of construction, 30 workers at peak construction. Pickup trucks modeled as vendor trips. Additional vendor trips added to account for general site up-keep.

13th Street Bridge - San Diego County, Winter

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13th Street Bridge - San Diego County, Winter

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13th Street Bridge - San Diego County, Winter

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13th Street Bridge - San Diego County, Winter

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13th Street Bridge - San Diego County, Winter

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13th Street Bridge - San Diego County, Winter

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2.0 Emissions Summary

13th Street Bridge - San Diego County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0352	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.2000e-004	3.2000e-004	0.0000		3.5000e-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
Total	0.0352	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		3.2000e-004	3.2000e-004	0.0000	0.0000	3.5000e-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	0.0352	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.2000e-004	3.2000e-004	0.0000		3.5000e-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
Total	0.0352	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		3.2000e-004	3.2000e-004	0.0000	0.0000	3.5000e-004

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
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	Clearing Grubbing WP Measures	Site Preparation	1/2/2023	2/2/2023	5	24	
2	Traffic Control Set Up 1A	Site Preparation	1/16/2023	1/16/2023	5	1	
3	Traffic Control Set Up 1B	Site Preparation	1/16/2023	1/23/2023	5	6	
4	Traffic Control Set Up 1C	Site Preparation	1/16/2023	1/17/2023	5	2	
5	Green Street A	Site Preparation	4/3/2023	5/3/2023	5	23	
6	Green Street B	Site Preparation	10/6/2023	12/6/2023	5	44	
7	Traffic Control Set Up 2A	Site Preparation	12/8/2023	12/8/2023	5	1	
8	Traffic Control Set Up 2B	Site Preparation	12/9/2023	12/15/2023	5	5	
9	Traffic Control Set Up 2C	Site Preparation	12/8/2023	12/11/2023	5	2	
10	Roadway Opening	Site Preparation	12/15/2023	12/29/2023	5	11	
11	Roadway Excavation	Grading	2/3/2023	4/3/2023	5	42	
12	Roadway Construction A	Grading	2/3/2023	4/3/2023	5	42	
13	Channel Grading	Grading	4/4/2023	5/4/2023	5	23	
14	Roadway Construction B	Grading	7/5/2023	9/5/2023	5	45	
15	Bridge Construction A	Building Construction	2/3/2023	7/3/2023	5	107	
16	Bridge Construction B	Building Construction	7/5/2023	10/5/2023	5	67	
17	Roadway Paving A	Paving	4/4/2023	5/4/2023	5	23	
18	Roadway Paving B	Paving	9/6/2023	10/6/2023	5	23	
19	Bridge Interior/Exterior Sidewalk	Paving	10/7/2023	12/7/2023	5	44	

13th Street Bridge - San Diego County, Winter

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.48

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
Clearing Grubbing WP Measures	Graders	1	8.00	187	0.41
Clearing Grubbing WP Measures	Rubber Tired Dozers	0	0.00	247	0.40
Clearing Grubbing WP Measures	Skid Steer Loaders	2	8.00	65	0.37
Clearing Grubbing WP Measures	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Traffic Control Set Up 1A	Graders	0	0.00	187	0.41
Traffic Control Set Up 1A	Off-Highway Trucks	2	8.00	402	0.38
Traffic Control Set Up 1A	Rubber Tired Dozers	0	0.00	247	0.40
Traffic Control Set Up 1A	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Traffic Control Set Up 1B	Cranes	0	0.00	231	0.29
Traffic Control Set Up 1B	Forklifts	0	0.00	89	0.20
Traffic Control Set Up 1B	Generator Sets	0	0.00	84	0.74
Traffic Control Set Up 1B	Graders	0	0.00	187	0.41
Traffic Control Set Up 1B	Rubber Tired Dozers	0	0.00	247	0.40
Traffic Control Set Up 1B	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Traffic Control Set Up 1B	Welders	0	0.00	46	0.45
Traffic Control Set Up 1C	Cement and Mortar Mixers	0	0.00	9	0.56
Traffic Control Set Up 1C	Cranes	1	4.00	231	0.29
Traffic Control Set Up 1C	Graders	0	0.00	187	0.41

13th Street Bridge - San Diego County, Winter

Traffic Control Set Up 1C	Pavers	0	0.00	130	0.42
Traffic Control Set Up 1C	Paving Equipment	0	0.00	132	0.36
Traffic Control Set Up 1C	Rollers	0	0.00	80	0.38
Traffic Control Set Up 1C	Rubber Tired Dozers	0	0.00	247	0.40
Traffic Control Set Up 1C	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Roadway Excavation	Air Compressors	0	0.00	78	0.48
Roadway Excavation	Dumpers/Tenders	4	8.00	16	0.38
Roadway Excavation	Graders	0	0.00	187	0.41
Roadway Excavation	Rubber Tired Dozers	2	8.00	247	0.40
Roadway Excavation	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Roadway Construction A	Graders	1	8.00	187	0.41
Roadway Construction A	Off-Highway Trucks	1	4.00	402	0.38
Roadway Construction A	Rollers	1	4.00	80	0.38
Roadway Construction A	Rubber Tired Dozers	0	0.00	247	0.40
Roadway Construction A	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Bridge Construction A	Bore/Drill Rigs	1	8.00	221	0.50
Bridge Construction A	Cranes	1	8.00	231	0.29
Bridge Construction A	Excavators	1	4.00	158	0.38
Bridge Construction A	Forklifts	0	0.00	89	0.20
Bridge Construction A	Generator Sets	0	0.00	84	0.74
Bridge Construction A	Off-Highway Trucks	1	8.00	402	0.38
Bridge Construction A	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Bridge Construction A	Welders	0	0.00	46	0.45
Green Street A	Excavators	1	8.00	158	0.38
Green Street A	Graders	1	8.00	187	0.41
Green Street A	Off-Highway Trucks	1	8.00	402	0.38
Green Street A	Rollers	1	8.00	80	0.38

13th Street Bridge - San Diego County, Winter

Green Street A	Rubber Tired Dozers	0	0.00	247	0.40
Green Street A	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Channel Grading	Dumpers/Tenders	4	4.00	16	0.38
Channel Grading	Excavators	1	4.00	158	0.38
Channel Grading	Graders	0	0.00	187	0.41
Channel Grading	Rubber Tired Dozers	1	4.00	247	0.40
Channel Grading	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Roadway Paving A	Cement and Mortar Mixers	0	0.00	9	0.56
Roadway Paving A	Off-Highway Trucks	1	4.00	402	0.38
Roadway Paving A	Pavers	1	8.00	130	0.42
Roadway Paving A	Paving Equipment	0	0.00	132	0.36
Roadway Paving A	Rollers	2	8.00	80	0.38
Roadway Paving A	Skid Steer Loaders	2	8.00	65	0.37
Roadway Paving A	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Roadway Construction B	Graders	1	8.00	187	0.41
Roadway Construction B	Off-Highway Trucks	1	4.00	402	0.38
Roadway Construction B	Rollers	1	4.00	80	0.38
Roadway Construction B	Rubber Tired Dozers	0	0.00	247	0.40
Roadway Construction B	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Bridge Construction B	Bore/Drill Rigs	1	8.00	221	0.50
Bridge Construction B	Cranes	1	8.00	231	0.29
Bridge Construction B	Excavators	1	4.00	158	0.38
Bridge Construction B	Forklifts	0	0.00	89	0.20
Bridge Construction B	Generator Sets	0	0.00	84	0.74
Bridge Construction B	Off-Highway Trucks	1	8.00	402	0.38
Bridge Construction B	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Bridge Construction B	Welders	0	0.00	46	0.45

13th Street Bridge - San Diego County, Winter

Roadway Paving B	Cement and Mortar Mixers	0	0.00	9	0.56
Roadway Paving B	Off-Highway Trucks	1	4.00	402	0.38
Roadway Paving B	Pavers	1	8.00	130	0.42
Roadway Paving B	Paving Equipment	0	0.00	132	0.36
Roadway Paving B	Rollers	2	8.00	80	0.38
Roadway Paving B	Skid Steer Loaders	2	8.00	65	0.37
Roadway Paving B	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Green Street B	Excavators	1	8.00	158	0.38
Green Street B	Graders	1	8.00	187	0.41
Green Street B	Off-Highway Trucks	1	8.00	402	0.38
Green Street B	Rollers	1	8.00	80	0.38
Green Street B	Rubber Tired Dozers	0	0.00	247	0.40
Green Street B	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Bridge Interior/Exterior Sidewalk	Cement and Mortar Mixers	0	0.00	9	0.56
Bridge Interior/Exterior Sidewalk	Excavators	1	4.00	158	0.38
Bridge Interior/Exterior Sidewalk	Pavers	0	0.00	130	0.42
Bridge Interior/Exterior Sidewalk	Paving Equipment	0	0.00	132	0.36
Bridge Interior/Exterior Sidewalk	Rollers	0	0.00	80	0.38
Bridge Interior/Exterior Sidewalk	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Traffic Control Set Up 2A	Graders	0	0.00	187	0.41
Traffic Control Set Up 2A	Off-Highway Trucks	2	8.00	402	0.38
Traffic Control Set Up 2A	Rubber Tired Dozers	0	0.00	247	0.40
Traffic Control Set Up 2A	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Traffic Control Set Up 2B	Graders	0	0.00	187	0.41
Traffic Control Set Up 2B	Rubber Tired Dozers	0	0.00	247	0.40
Traffic Control Set Up 2B	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Traffic Control Set Up 2C	Cranes	1	4.00	231	0.29

13th Street Bridge - San Diego County, Winter

Traffic Control Set Up 2C	Graders	0	0.00	187	0.41
Traffic Control Set Up 2C	Rubber Tired Dozers	0	0.00	247	0.40
Traffic Control Set Up 2C	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Roadway Opening	Graders	0	0.00	187	0.41
Roadway Opening	Rubber Tired Dozers	0	0.00	247	0.40
Roadway Opening	Tractors/Loaders/Backhoes	0	0.00	97	0.37

Trips and VMT

13th Street Bridge - San Diego County, Winter

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
Clearing Grubbing WP Measures	3	10.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Traffic Control Set Up 1A	2	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Traffic Control Set Up 1B	0	0.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Traffic Control Set Up 1C	1	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Roadway Excavation	7	0.00	0.00	2,400.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Roadway Construction A	3	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Bridge Construction A	5	60.00	12.00	1,055.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Green Street A	5	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Channel Grading	6	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Roadway Paving A	6	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Roadway Construction R	3	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Bridge Construction B	5	60.00	12.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Roadway Paving B	6	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Green Street B	5	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Bridge Interior/Exterior Sidewalk	2	60.00	8.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Traffic Control Set Up 2A	2	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Traffic Control Set Up 2B	0	10.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Traffic Control Set Up 2C	1	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Roadway Opening	0	10.00	4.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

13th Street Bridge - San Diego County, Winter

3.2 Clearing Grubbing WP Measures - 2023

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					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.5136	6.3824	4.4634	0.0108		0.2093	0.2093		0.1925	0.1925		1,041.8276	1,041.8276	0.3370		1,050.2513
Total	0.5136	6.3824	4.4634	0.0108	0.5303	0.2093	0.7395	0.0573	0.1925	0.2498		1,041.8276	1,041.8276	0.3370		1,050.2513

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
Vendor	4.3400e-003	0.1460	0.0472	4.7000e-004	0.0123	1.7000e-004	0.0124	3.5300e-003	1.7000e-004	3.6900e-003		50.5326	50.5326	3.6900e-003		50.6250
Worker	0.0504	0.0313	0.3101	1.0900e-003	0.1277	8.1000e-004	0.1285	0.0339	7.5000e-004	0.0346		109.0610	109.0610	2.7400e-003		109.1295
Total	0.0547	0.1773	0.3574	1.5600e-003	0.1400	9.8000e-004	0.1410	0.0374	9.2000e-004	0.0383		159.5936	159.5936	6.4300e-003		159.7544

13th Street Bridge - San Diego County, Winter

3.2 Clearing Grubbing WP Measures - 2023

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					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.5136	6.3824	4.4634	0.0108		0.2093	0.2093		0.1925	0.1925	0.0000	1,041.8276	1,041.8276	0.3370		1,050.2513
Total	0.5136	6.3824	4.4634	0.0108	0.2386	0.2093	0.4479	0.0258	0.1925	0.2183	0.0000	1,041.8276	1,041.8276	0.3370		1,050.2513

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
Vendor	4.3400e-003	0.1460	0.0472	4.7000e-004	0.0123	1.7000e-004	0.0124	3.5300e-003	1.7000e-004	3.6900e-003		50.5326	50.5326	3.6900e-003		50.6250
Worker	0.0504	0.0313	0.3101	1.0900e-003	0.1277	8.1000e-004	0.1285	0.0339	7.5000e-004	0.0346		109.0610	109.0610	2.7400e-003		109.1295
Total	0.0547	0.1773	0.3574	1.5600e-003	0.1400	9.8000e-004	0.1410	0.0374	9.2000e-004	0.0383		159.5936	159.5936	6.4300e-003		159.7544

13th Street Bridge - San Diego County, Winter

3.3 Traffic Control Set Up 1A - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.0077	7.1358	6.5770	0.0265		0.2580	0.2580		0.2374	0.2374		2,559.777 0	2,559.777 0	0.8279		2,580.474 1
Total	1.0077	7.1358	6.5770	0.0265	0.0000	0.2580	0.2580	0.0000	0.2374	0.2374		2,559.777 0	2,559.777 0	0.8279		2,580.474 1

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.3 Traffic Control Set Up 1A - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.0077	7.1358	6.5770	0.0265		0.2580	0.2580		0.2374	0.2374	0.0000	2,559.777 0	2,559.777 0	0.8279		2,580.474 1
Total	1.0077	7.1358	6.5770	0.0265	0.0000	0.2580	0.2580	0.0000	0.2374	0.2374	0.0000	2,559.777 0	2,559.777 0	0.8279		2,580.474 1

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.4 Traffic Control Set Up 1B - 2023

Unmitigated Construction On-Site

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

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
Vendor	4.3400e-003	0.1460	0.0472	4.7000e-004	0.0123	1.7000e-004	0.0124	3.5300e-003	1.7000e-004	3.6900e-003		50.5326	50.5326	3.6900e-003		50.6250
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
Total	4.3400e-003	0.1460	0.0472	4.7000e-004	0.0123	1.7000e-004	0.0124	3.5300e-003	1.7000e-004	3.6900e-003		50.5326	50.5326	3.6900e-003		50.6250

13th Street Bridge - San Diego County, Winter

3.4 Traffic Control Set Up 1B - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	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 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
Vendor	4.3400e-003	0.1460	0.0472	4.7000e-004	0.0123	1.7000e-004	0.0124	3.5300e-003	1.7000e-004	3.6900e-003		50.5326	50.5326	3.6900e-003		50.6250
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
Total	4.3400e-003	0.1460	0.0472	4.7000e-004	0.0123	1.7000e-004	0.0124	3.5300e-003	1.7000e-004	3.6900e-003		50.5326	50.5326	3.6900e-003		50.6250

13th Street Bridge - San Diego County, Winter

3.5 Traffic Control Set Up 1C - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1757	1.9078	0.9172	2.8900e-003		0.0797	0.0797		0.0733	0.0733		279.4096	279.4096	0.0904		281.6688
Total	0.1757	1.9078	0.9172	2.8900e-003	0.0000	0.0797	0.0797	0.0000	0.0733	0.0733		279.4096	279.4096	0.0904		281.6688

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.5 Traffic Control Set Up 1C - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1757	1.9078	0.9172	2.8900e-003		0.0797	0.0797		0.0733	0.0733	0.0000	279.4096	279.4096	0.0904		281.6688
Total	0.1757	1.9078	0.9172	2.8900e-003	0.0000	0.0797	0.0797	0.0000	0.0733	0.0733	0.0000	279.4096	279.4096	0.0904		281.6688

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.6 Green Street A - 2023

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					0.5072	0.0000	0.5072	0.0548	0.0000	0.0548			0.0000			0.0000
Off-Road	1.3054	12.1475	11.2068	0.0292		0.4821	0.4821		0.4435	0.4435		2,825.745 2	2,825.745 2	0.9139		2,848.592 8
Total	1.3054	12.1475	11.2068	0.0292	0.5072	0.4821	0.9893	0.0548	0.4435	0.4983		2,825.745 2	2,825.745 2	0.9139		2,848.592 8

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.6 Green Street A - 2023

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					0.2282	0.0000	0.2282	0.0246	0.0000	0.0246			0.0000			0.0000
Off-Road	1.3054	12.1475	11.2068	0.0292		0.4821	0.4821		0.4435	0.4435	0.0000	2,825.745 2	2,825.745 2	0.9139		2,848.592 8
Total	1.3054	12.1475	11.2068	0.0292	0.2282	0.4821	0.7103	0.0246	0.4435	0.4681	0.0000	2,825.745 2	2,825.745 2	0.9139		2,848.592 8

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.7 Green Street B - 2023

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					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.3811	12.9154	12.3224	0.0308		0.5200	0.5200		0.4784	0.4784		2,976.5335	2,976.5335	0.9627		3,000.6002
Total	1.3811	12.9154	12.3224	0.0308	0.5303	0.5200	1.0502	0.0573	0.4784	0.5356		2,976.5335	2,976.5335	0.9627		3,000.6002

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.7 Green Street B - 2023

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					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	1.3811	12.9154	12.3224	0.0308		0.5200	0.5200		0.4784	0.4784	0.0000	2,976.5335	2,976.5335	0.9627		3,000.6002
Total	1.3811	12.9154	12.3224	0.0308	0.2386	0.5200	0.7586	0.0258	0.4784	0.5041	0.0000	2,976.5335	2,976.5335	0.9627		3,000.6002

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.8 Traffic Control Set Up 2A - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.0077	7.1358	6.5770	0.0265		0.2580	0.2580		0.2374	0.2374		2,559.777 0	2,559.777 0	0.8279		2,580.474 1
Total	1.0077	7.1358	6.5770	0.0265	0.0000	0.2580	0.2580	0.0000	0.2374	0.2374		2,559.777 0	2,559.777 0	0.8279		2,580.474 1

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.8 Traffic Control Set Up 2A - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.0077	7.1358	6.5770	0.0265		0.2580	0.2580		0.2374	0.2374	0.0000	2,559.777 0	2,559.777 0	0.8279		2,580.474 1
Total	1.0077	7.1358	6.5770	0.0265	0.0000	0.2580	0.2580	0.0000	0.2374	0.2374	0.0000	2,559.777 0	2,559.777 0	0.8279		2,580.474 1

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.9 Traffic Control Set Up 2B - 2023

Unmitigated Construction On-Site

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

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
Vendor	4.3400e-003	0.1460	0.0472	4.7000e-004	0.0123	1.7000e-004	0.0124	3.5300e-003	1.7000e-004	3.6900e-003		50.5326	50.5326	3.6900e-003		50.6250
Worker	0.0504	0.0313	0.3101	1.0900e-003	0.1277	8.1000e-004	0.1285	0.0339	7.5000e-004	0.0346		109.0610	109.0610	2.7400e-003		109.1295
Total	0.0547	0.1773	0.3574	1.5600e-003	0.1400	9.8000e-004	0.1410	0.0374	9.2000e-004	0.0383		159.5936	159.5936	6.4300e-003		159.7544

13th Street Bridge - San Diego County, Winter

3.9 Traffic Control Set Up 2B - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	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 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
Vendor	4.3400e-003	0.1460	0.0472	4.7000e-004	0.0123	1.7000e-004	0.0124	3.5300e-003	1.7000e-004	3.6900e-003		50.5326	50.5326	3.6900e-003		50.6250
Worker	0.0504	0.0313	0.3101	1.0900e-003	0.1277	8.1000e-004	0.1285	0.0339	7.5000e-004	0.0346		109.0610	109.0610	2.7400e-003		109.1295
Total	0.0547	0.1773	0.3574	1.5600e-003	0.1400	9.8000e-004	0.1410	0.0374	9.2000e-004	0.0383		159.5936	159.5936	6.4300e-003		159.7544

13th Street Bridge - San Diego County, Winter

3.10 Traffic Control Set Up 2C - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1757	1.9078	0.9172	2.8900e-003		0.0797	0.0797		0.0733	0.0733		279.4096	279.4096	0.0904		281.6688
Total	0.1757	1.9078	0.9172	2.8900e-003	0.0000	0.0797	0.0797	0.0000	0.0733	0.0733		279.4096	279.4096	0.0904		281.6688

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.10 Traffic Control Set Up 2C - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1757	1.9078	0.9172	2.8900e-003		0.0797	0.0797		0.0733	0.0733	0.0000	279.4096	279.4096	0.0904		281.6688
Total	0.1757	1.9078	0.9172	2.8900e-003	0.0000	0.0797	0.0797	0.0000	0.0733	0.0733	0.0000	279.4096	279.4096	0.0904		281.6688

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.11 Roadway Opening - 2023

Unmitigated Construction On-Site

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

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
Vendor	8.6800e-003	0.2921	0.0944	9.4000e-004	0.0245	3.5000e-004	0.0248	7.0500e-003	3.3000e-004	7.3800e-003		101.0653	101.0653	7.3900e-003		101.2499
Worker	0.0504	0.0313	0.3101	1.0900e-003	0.1277	8.1000e-004	0.1285	0.0339	7.5000e-004	0.0346		109.0610	109.0610	2.7400e-003		109.1295
Total	0.0591	0.3233	0.4046	2.0300e-003	0.1522	1.1600e-003	0.1534	0.0409	1.0800e-003	0.0420		210.1263	210.1263	0.0101		210.3794

13th Street Bridge - San Diego County, Winter

3.11 Roadway Opening - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	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 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
Vendor	8.6800e-003	0.2921	0.0944	9.4000e-004	0.0245	3.5000e-004	0.0248	7.0500e-003	3.3000e-004	7.3800e-003		101.0653	101.0653	7.3900e-003		101.2499
Worker	0.0504	0.0313	0.3101	1.0900e-003	0.1277	8.1000e-004	0.1285	0.0339	7.5000e-004	0.0346		109.0610	109.0610	2.7400e-003		109.1295
Total	0.0591	0.3233	0.4046	2.0300e-003	0.1522	1.1600e-003	0.1534	0.0409	1.0800e-003	0.0420		210.1263	210.1263	0.0101		210.3794

13th Street Bridge - San Diego County, Winter

3.12 Roadway Excavation - 2023

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					12.6819	0.0000	12.6819	6.9454	0.0000	6.9454			0.0000			0.0000
Off-Road	1.7388	16.8803	8.3316	0.0216		0.7492	0.7492		0.6949	0.6949		2,048.5509	2,048.5509	0.6099		2,063.7977
Total	1.7388	16.8803	8.3316	0.0216	12.6819	0.7492	13.4312	6.9454	0.6949	7.6403		2,048.5509	2,048.5509	0.6099		2,063.7977

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	0.2927	9.2764	3.5096	0.0410	0.9985	0.0177	1.0162	0.2736	0.0169	0.2905		4,527.3617	4,527.3617	0.4153		4,537.7432
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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	0.2927	9.2764	3.5096	0.0410	0.9985	0.0177	1.0162	0.2736	0.0169	0.2905		4,527.3617	4,527.3617	0.4153		4,537.7432

13th Street Bridge - San Diego County, Winter

3.12 Roadway Excavation - 2023

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					5.7069	0.0000	5.7069	3.1255	0.0000	3.1255			0.0000			0.0000
Off-Road	1.7388	16.8803	8.3316	0.0216		0.7492	0.7492		0.6949	0.6949	0.0000	2,048.5509	2,048.5509	0.6099		2,063.7977
Total	1.7388	16.8803	8.3316	0.0216	5.7069	0.7492	6.4561	3.1255	0.6949	3.8203	0.0000	2,048.5509	2,048.5509	0.6099		2,063.7977

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	0.2927	9.2764	3.5096	0.0410	0.9985	0.0177	1.0162	0.2736	0.0169	0.2905		4,527.3617	4,527.3617	0.4153		4,537.7432
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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	0.2927	9.2764	3.5096	0.0410	0.9985	0.0177	1.0162	0.2736	0.0169	0.2905		4,527.3617	4,527.3617	0.4153		4,537.7432

13th Street Bridge - San Diego County, Winter

3.13 Roadway Construction A - 2023

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					0.5555	0.0000	0.5555	0.0600	0.0000	0.0600			0.0000			0.0000
Off-Road	0.7123	7.2420	4.2630	0.0145		0.2596	0.2596		0.2388	0.2388		1,407.8533	1,407.8533	0.4553		1,419.2365
Total	0.7123	7.2420	4.2630	0.0145	0.5555	0.2596	0.8151	0.0600	0.2388	0.2988		1,407.8533	1,407.8533	0.4553		1,419.2365

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.13 Roadway Construction A - 2023

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					0.2500	0.0000	0.2500	0.0270	0.0000	0.0270			0.0000			0.0000
Off-Road	0.7123	7.2420	4.2630	0.0145		0.2596	0.2596		0.2388	0.2388	0.0000	1,407.853 2	1,407.853 2	0.4553		1,419.236 5
Total	0.7123	7.2420	4.2630	0.0145	0.2500	0.2596	0.5095	0.0270	0.2388	0.2658	0.0000	1,407.853 2	1,407.853 2	0.4553		1,419.236 5

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.14 Channel Grading - 2023

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					2.8801	0.0000	2.8801	1.5832	0.0000	1.5832			0.0000			0.0000
Off-Road	0.5836	5.2670	3.6837	8.3500e-003		0.2331	0.2331		0.2172	0.2172		785.4338	785.4338	0.2277		791.1260
Total	0.5836	5.2670	3.6837	8.3500e-003	2.8801	0.2331	3.1132	1.5832	0.2172	1.8004		785.4338	785.4338	0.2277		791.1260

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.14 Channel Grading - 2023

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					1.2961	0.0000	1.2961	0.7124	0.0000	0.7124			0.0000			0.0000
Off-Road	0.5836	5.2670	3.6837	8.3500e-003		0.2331	0.2331		0.2172	0.2172	0.0000	785.4338	785.4338	0.2277		791.1260
Total	0.5836	5.2670	3.6837	8.3500e-003	1.2961	0.2331	1.5292	0.7124	0.2172	0.9297	0.0000	785.4338	785.4338	0.2277		791.1260

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.15 Roadway Construction B - 2023

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					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.7123	7.2420	4.2630	0.0145		0.2596	0.2596		0.2388	0.2388		1,407.853 3	1,407.853 3	0.4553		1,419.236 5
Total	0.7123	7.2420	4.2630	0.0145	0.5303	0.2596	0.7898	0.0573	0.2388	0.2960		1,407.853 3	1,407.853 3	0.4553		1,419.236 5

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.15 Roadway Construction B - 2023

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					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.7123	7.2420	4.2630	0.0145		0.2596	0.2596		0.2388	0.2388	0.0000	1,407.853 2	1,407.853 2	0.4553		1,419.236 5
Total	0.7123	7.2420	4.2630	0.0145	0.2386	0.2596	0.4982	0.0258	0.2388	0.2646	0.0000	1,407.853 2	1,407.853 2	0.4553		1,419.236 5

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.16 Bridge Construction A - 2023

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	1.3161	11.7330	11.0160	0.0342		0.4681	0.4681		0.4307	0.4307		3,305.7403	3,305.7403	1.0691		3,332.4689
Total	1.3161	11.7330	11.0160	0.0342		0.4681	0.4681		0.4307	0.4307		3,305.7403	3,305.7403	1.0691		3,332.4689

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	0.0505	1.6006	0.6056	7.0800e-003	0.1723	3.0500e-003	0.1753	0.0472	2.9200e-003	0.0501		781.1815	781.1815	0.0717		782.9727
Vendor	0.0261	0.8763	0.2832	2.8100e-003	0.0735	1.0400e-003	0.0745	0.0212	1.0000e-003	0.0222		303.1958	303.1958	0.0222		303.7497
Worker	0.3023	0.1876	1.8609	6.5600e-003	0.7664	4.8800e-003	0.7713	0.2032	4.4900e-003	0.2077		654.3660	654.3660	0.0164		654.7767
Total	0.3789	2.6644	2.7496	0.0165	1.0121	8.9700e-003	1.0211	0.2716	8.4100e-003	0.2800		1,738.7433	1,738.7433	0.1102		1,741.4992

13th Street Bridge - San Diego County, Winter

3.16 Bridge Construction A - 2023

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	1.3161	11.7330	11.0160	0.0342		0.4681	0.4681		0.4307	0.4307	0.0000	3,305.7403	3,305.7403	1.0691		3,332.4689
Total	1.3161	11.7330	11.0160	0.0342		0.4681	0.4681		0.4307	0.4307	0.0000	3,305.7403	3,305.7403	1.0691		3,332.4689

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	0.0505	1.6006	0.6056	7.0800e-003	0.1723	3.0500e-003	0.1753	0.0472	2.9200e-003	0.0501		781.1815	781.1815	0.0717		782.9727
Vendor	0.0261	0.8763	0.2832	2.8100e-003	0.0735	1.0400e-003	0.0745	0.0212	1.0000e-003	0.0222		303.1958	303.1958	0.0222		303.7497
Worker	0.3023	0.1876	1.8609	6.5600e-003	0.7664	4.8800e-003	0.7713	0.2032	4.4900e-003	0.2077		654.3660	654.3660	0.0164		654.7767
Total	0.3789	2.6644	2.7496	0.0165	1.0121	8.9700e-003	1.0211	0.2716	8.4100e-003	0.2800		1,738.7433	1,738.7433	0.1102		1,741.4992

13th Street Bridge - San Diego County, Winter

3.17 Bridge Construction B - 2023

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	1.3161	11.7330	11.0160	0.0342		0.4681	0.4681		0.4307	0.4307		3,305.7403	3,305.7403	1.0691		3,332.4689
Total	1.3161	11.7330	11.0160	0.0342		0.4681	0.4681		0.4307	0.4307		3,305.7403	3,305.7403	1.0691		3,332.4689

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
Vendor	0.0261	0.8763	0.2832	2.8100e-003	0.0735	1.0400e-003	0.0745	0.0212	1.0000e-003	0.0222		303.1958	303.1958	0.0222		303.7497
Worker	0.3023	0.1876	1.8609	6.5600e-003	0.7664	4.8800e-003	0.7713	0.2032	4.4900e-003	0.2077		654.3660	654.3660	0.0164		654.7767
Total	0.3284	1.0638	2.1441	9.3700e-003	0.8399	5.9200e-003	0.8458	0.2244	5.4900e-003	0.2299		957.5618	957.5618	0.0386		958.5264

13th Street Bridge - San Diego County, Winter

3.17 Bridge Construction B - 2023

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	1.3161	11.7330	11.0160	0.0342		0.4681	0.4681		0.4307	0.4307	0.0000	3,305.7403	3,305.7403	1.0691		3,332.4689
Total	1.3161	11.7330	11.0160	0.0342		0.4681	0.4681		0.4307	0.4307	0.0000	3,305.7403	3,305.7403	1.0691		3,332.4689

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
Vendor	0.0261	0.8763	0.2832	2.8100e-003	0.0735	1.0400e-003	0.0745	0.0212	1.0000e-003	0.0222		303.1958	303.1958	0.0222		303.7497
Worker	0.3023	0.1876	1.8609	6.5600e-003	0.7664	4.8800e-003	0.7713	0.2032	4.4900e-003	0.2077		654.3660	654.3660	0.0164		654.7767
Total	0.3284	1.0638	2.1441	9.3700e-003	0.8399	5.9200e-003	0.8458	0.2244	5.4900e-003	0.2299		957.5618	957.5618	0.0386		958.5264

13th Street Bridge - San Diego County, Winter

3.18 Roadway Paving A - 2023

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	0.8815	8.6163	11.0026	0.0207		0.3888	0.3888		0.3577	0.3577		2,004.3494	2,004.3494	0.6483		2,020.5556
Paving	0.1686					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0501	8.6163	11.0026	0.0207		0.3888	0.3888		0.3577	0.3577		2,004.3494	2,004.3494	0.6483		2,020.5556

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.18 Roadway Paving A - 2023

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	0.8815	8.6163	11.0026	0.0207		0.3888	0.3888		0.3577	0.3577	0.0000	2,004.3494	2,004.3494	0.6483		2,020.5556
Paving	0.1686					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0501	8.6163	11.0026	0.0207		0.3888	0.3888		0.3577	0.3577	0.0000	2,004.3494	2,004.3494	0.6483		2,020.5556

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.19 Roadway Paving B - 2023

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	0.8815	8.6163	11.0026	0.0207		0.3888	0.3888		0.3577	0.3577		2,004.3494	2,004.3494	0.6483		2,020.5556
Paving	0.1686					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0501	8.6163	11.0026	0.0207		0.3888	0.3888		0.3577	0.3577		2,004.3494	2,004.3494	0.6483		2,020.5556

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.19 Roadway Paving B - 2023

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	0.8815	8.6163	11.0026	0.0207		0.3888	0.3888		0.3577	0.3577	0.0000	2,004.3494	2,004.3494	0.6483		2,020.5556
Paving	0.1686					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0501	8.6163	11.0026	0.0207		0.3888	0.3888		0.3577	0.3577	0.0000	2,004.3494	2,004.3494	0.6483		2,020.5556

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
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	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

13th Street Bridge - San Diego County, Winter

3.20 Bridge Interior/Exterior Sidewalk - 2023

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	0.1700	1.5422	2.7445	4.1400e-003		0.0758	0.0758		0.0697	0.0697		400.8411	400.8411	0.1296		404.0821
Paving	0.0881					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.2582	1.5422	2.7445	4.1400e-003		0.0758	0.0758		0.0697	0.0697		400.8411	400.8411	0.1296		404.0821

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
Vendor	0.0174	0.5842	0.1888	1.8700e-003	0.0490	7.0000e-004	0.0497	0.0141	6.7000e-004	0.0148		202.1306	202.1306	0.0148		202.4998
Worker	0.3023	0.1876	1.8609	6.5600e-003	0.7664	4.8800e-003	0.7713	0.2032	4.4900e-003	0.2077		654.3660	654.3660	0.0164		654.7767
Total	0.3197	0.7717	2.0497	8.4300e-003	0.8154	5.5800e-003	0.8209	0.2173	5.1600e-003	0.2225		856.4965	856.4965	0.0312		857.2765

13th Street Bridge - San Diego County, Winter

3.20 Bridge Interior/Exterior Sidewalk - 2023

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	0.1700	1.5422	2.7445	4.1400e-003		0.0758	0.0758		0.0697	0.0697	0.0000	400.8411	400.8411	0.1296		404.0821
Paving	0.0881					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.2582	1.5422	2.7445	4.1400e-003		0.0758	0.0758		0.0697	0.0697	0.0000	400.8411	400.8411	0.1296		404.0821

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
Vendor	0.0174	0.5842	0.1888	1.8700e-003	0.0490	7.0000e-004	0.0497	0.0141	6.7000e-004	0.0148		202.1306	202.1306	0.0148		202.4998
Worker	0.3023	0.1876	1.8609	6.5600e-003	0.7664	4.8800e-003	0.7713	0.2032	4.4900e-003	0.2077		654.3660	654.3660	0.0164		654.7767
Total	0.3197	0.7717	2.0497	8.4300e-003	0.8154	5.5800e-003	0.8209	0.2173	5.1600e-003	0.2225		856.4965	856.4965	0.0312		857.2765

4.0 Operational Detail - Mobile

13th Street Bridge - San Diego County, Winter

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193

13th Street Bridge - San Diego County, Winter

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

13th Street Bridge - San Diego County, Winter

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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

13th Street Bridge - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0352	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.2000e-004	3.2000e-004	0.0000		3.5000e-004
Unmitigated	0.0352	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.2000e-004	3.2000e-004	0.0000		3.5000e-004

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	0.0123					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0229					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.2000e-004	3.2000e-004	0.0000		3.5000e-004
Total	0.0352	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.2000e-004	3.2000e-004	0.0000		3.5000e-004

13th Street Bridge - San Diego County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0123					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0229					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.2000e-004	3.2000e-004	0.0000		3.5000e-004
Total	0.0352	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.2000e-004	3.2000e-004	0.0000		3.5000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

13th Street Bridge - San Diego County, Winter

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

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

Equipment Type	Number
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11.0 Vegetation
