Clawiter Road Industrial Project

Initial Study

prepared by

City of Hayward
777 B Street
Hayward, California 94541
Contact: Elizabeth Blanton, Associate Planner

prepared with the assistance of

Rincon Consultants, Inc.
449 15th Street, Suite 303
Oakland, California 94612

December 2020

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Initial Study

1. Project Title

Clawiter Road Industrial Project

2. Lead Agency Name and Address

City of Hayward
Planning Division
777 B Street
Hayward, California 94541

3. Contact Person and Phone Number

Elizabeth Blanton, Associate Planner
Elizabeth.Blanton@hayward-ca.gov
(510) 583-4206

4. Project Location

The project site encompasses approximately 26 acres located at 25800 and 25858 Clawiter Road in the City of Hayward. The site is on the east side of Clawiter Road just north of its intersection with State Route 92 (SR 92) and consists of six assessor's parcel numbers (APN): 439-0080-003-07, 439-0080-003-12, 439-0080-003-10, 439-0080-003-09, 439-0080-010-00, and 439-0080-005-02. A railroad spur bisects the site from east to west.

Figure 1 shows the location of the project site in the regional context. Figure 2 shows an aerial view of the project site and immediate surroundings. Figure 3 shows site photographs.

5. Project Sponsor's Name and Address

Hines
101 California Street, Suite 1000
San Francisco, California 94104

6. General Plan Designation

Industrial Corridor (IC)

7. Zoning

General Industrial (IG) north of the railroad spur and Industrial Park (IP) south of the spur.

Figure 1 Regional Location

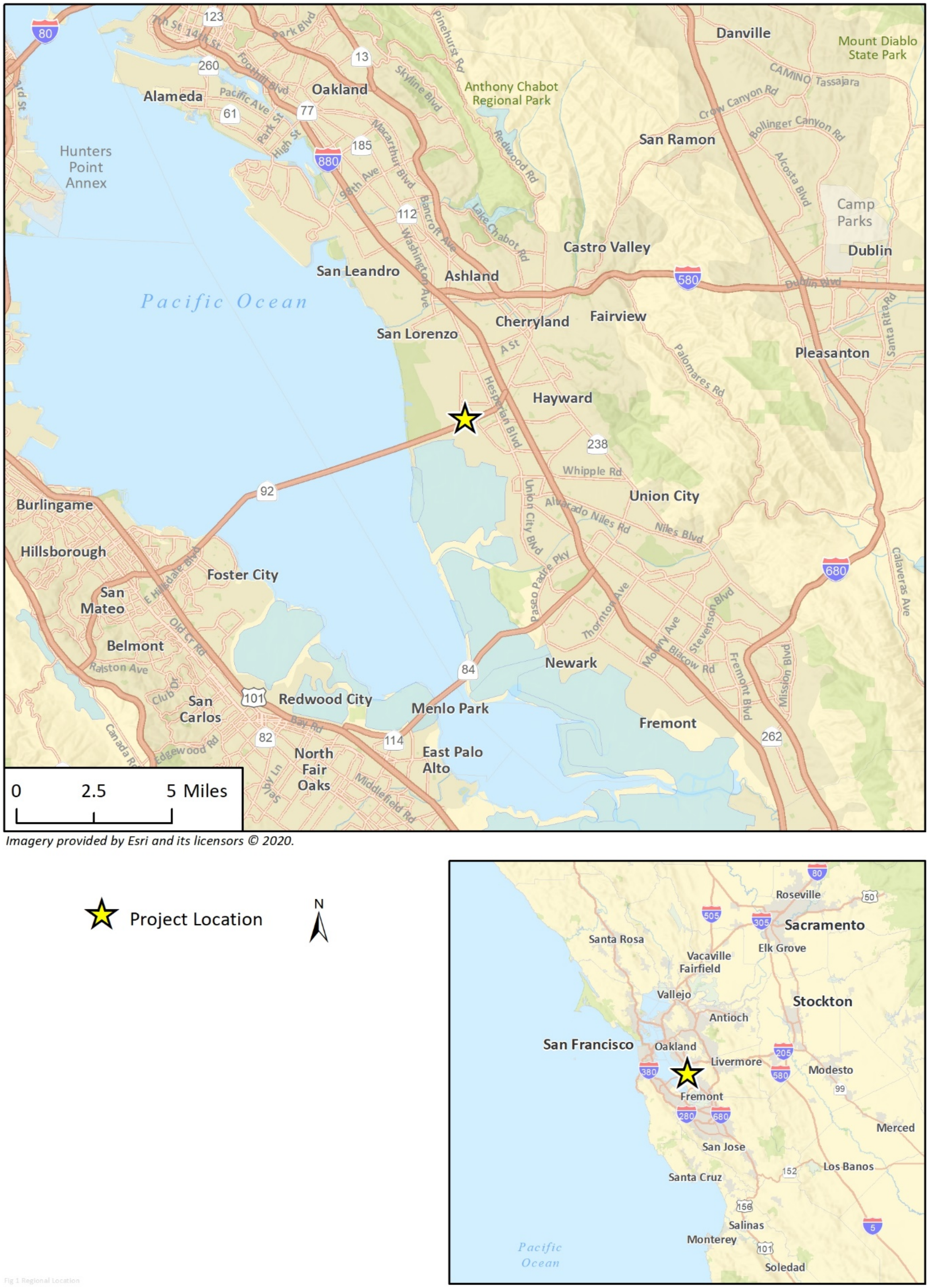

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Figure 2 Project Site Location

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8. Surrounding Land Uses and Setting

The project site is surrounded by industrial uses to the north, east, south and west. Neighboring uses include commercial vehicle service and repair shops, garages, recycling facilities, warehousing, manufacturing, machining and metal fabrication facilities, and one research and development industrial park. SR 92 runs parallel to the southeast edge of the site. The SR 92/Clawiter Road interchange is located southwest of the project site.

The project site is located in an urban business park and industrial area and is surrounded by existing development and major highways. Figure 3 shows photographs of the site and surrounding area. The site is relatively flat and developed with an existing manufacturing facility and vehicle storage yard. Most of the site is paved or covered by existing structures. Vegetation on-site and in the area is primarily ornamental landscaping. There are approximately 53 existing redwood trees along the southern project site adjacent to SR 92, along with some parking lot trees in the western parking lot.

The project site was used for agricultural purposes with associated agricultural and/or residential structures until it was developed in the late 1960s by GILLIG for bus manufacturing purposes. GILLIG ceased bus manufacturing operations in 2017 and is currently in the process of vacating the site. The southern portion of the project site is not developed with structures but is leased to an automobile auction company for vehicle parking and delivery vehicle parking. The northern portion of the project site is currently improved with:

- 196,000 square-foot former manufacturing building
- 28,000 square-foot warehouse
- 35,000 square-foot fabrication and machine building
- 7,000 square-foot, two-story office building
- 3,000 square-foot building
- Ancillary structures including water testing canopy, drying area for parts, and hazardous waste storage.

9. Description of Project

The project would involve demolition of four existing on-site structures, ancillary structures, and on-site improvements in order to develop an industrial park consisting of four industrial core and shell structures totaling approximately 616,000 square feet and a transformer yard. The project includes a lot line adjustment to establish a lot for each building, for a total of four lots. Although the City will be approving the core and shell in the initial project approval, this analysis assumes occupied buildings and associated equipment for the purposes of the CEQA analysis. Three of the proposed buildings (Building 1, 2, and 3) would be designed for occupation by industrial uses allowed in the IP and IG zoning districts, which could consist of, but not be limited to, manufacturing, research and development, warehouses and distribution, and wholesale establishments. A fourth building (Building 4) is proposed to be occupied by a data center which would house computer servers for private clients and would be designed to provide 49 megawatts (MW) of information technology (IT) power. Building 4 would incorporate variable speed drives and variable frequency drives on fans and motors, LED lighting, and an electronic power management system for the data center. Table 1 summarizes details of the proposed project, and Figure 4 shows the proposed site plan.

Figure 3a Site Photographs

View of the northern project site looking northeast from the southwest corner of the site

View of the northern project site looking west from the eastern area of the site

Figure 3b Site Photographs

View from the southern project site looking northwest to the railroad spur and northern structures

View from the southern project site looking east of the vehicle storage

The project would also involve the construction of a new 49 megavolt amps (MVA) transformer yard at the northeast portion of the site. The transformer yard would connect to the nearby Pacific Gas and Electric (PG&E) Eastshore Power Substation located 0.4 miles south of the project site via two transmission lines traveling in one route to the substation, as shown in Figure 2 and detailed below under Off-site Improvements. The transformer yard would distribute power to the data center and would include four 34.5-kilovolt (kV) feeders between the transformer yard and the data center's 35kV switchgear. The transformer yard would cover approximately 34,000 square feet north of Building 2 and east of Building 4, adjacent to the existing railroad right of way and railroad spur, as seen in Figure 4. The components of the transformer yard would range from 18 to 70 feet in height.

Building Architecture and Design

Buildings 1 through 3 would be single-story concrete tilt up structures. Building 4 would be a three story streel structure with custom metal panels. Proposed elevations of the structures are shown in Figure 5 and a rendering of the project is shown in Figure 6. Building 4 would provide rooftop screening walls that would extend to a height of 108 feet to screen mechanical equipment on the roof which would house the air and ventilation infrastructure for the building's evaporative cooling system.

The buildings would have various architectural details to increase the level of design and visual interest on elevations which are visible from SR 92 and Clawiter Road. The buildings would have multiple building materials and colors on their elevations, including areas of glass, wood siding, concrete in various neutral colors, metal, and various glazing. The buildings would include articulation in plane and parapet heights and would have pronounced main entries. Figure 5 shows representative elevations of the proposed one-story and three-story buildings. The project would include a gateway sign along Clawiter Road consisting of the Hayward "H," and would provide a public art feature facing SR 92 between Buildings 1 and 2.

Access and Parking

Access to buildings 3 and 4 north of the railroad easement would be provided by two driveways on Clawiter Road. The driveways would be approximately 35 feet in width, as per the Hayward Standard Detail 110, and would be in similar locations as the existing driveway entrances to the site. Access to buildings 1 and 2 would also be provided off Clawiter Road, through an existing ingress/egress access easement from the adjacent property, as shown in Figure 4. Due to the railroad spur separating the northern and southern portions of the project site, connectivity within the site between the two northern buildings and two southern buildings is infeasible. However, emergency access between the northern and southern project sites across the railroad spur is proposed.

Building 3 would provide over 180 feet of turning area in the northern driveway for trucks accessing one of the 26 proposed loading docks. As detailed in Table 1, 320 vehicle parking spaces and 45 trailer parking spaces would be provided throughout the project site. Of the 320 vehicle spaces, 19 would be ADA accessible and 31 would be clean air/electric vehicle (EV) charging spaces.

Table 1 Project Summary

	Building 1	Building 2	Building 3	Building 4	Total
Building Features					
Use and Size (sf)	Industrial: 61,444 Office: 5,000	Industrial: 51,720 Office: 5,000	Industrial: 208,931 Office: 5,000	Data Center: 273,526 Office: 5,000	615,621
Floor Area Ratio (FAR)	0.34	0.31	0.46	0.97	0.54
Height (feet)	40'6" (exterior) 32' (interior)	40'6" (exterior) 32' (interior)	47' (exterior) 36' (interior)	89'11" (exterior) 87' (interior)	–
Vehicle and Bicycle Parking (number of spaces)					
Standard Parking Spaces	63 Standard	53 Standard	114 Standard	42 Standard	272 Standard
Trailer Parking Spaces	0	0	45	0	45
ADA	5	4	6	2	17
Clean Air/EV	8	6	11	6	31
Bicycle Parking	4 Short-term 4 Long-term	4 Short-term 4 Long-term	9 Short-term 9 Long-term	3 Short-term 3 Long-term	20 Short-term 20 Long-term
Landscaping					
Landscaped Area (sf)	82,949 (combined buildings 1 and 2)		65,437	58,326	206,712
Parking Lot Trees	20	10	16	12	58

sf = square feet

ADA = Americans with Disabilities Act compliant

Figure 4 Proposed Site Plan

Figure 5 Proposed Building 1 and Building 4 North and West Representative Elevations

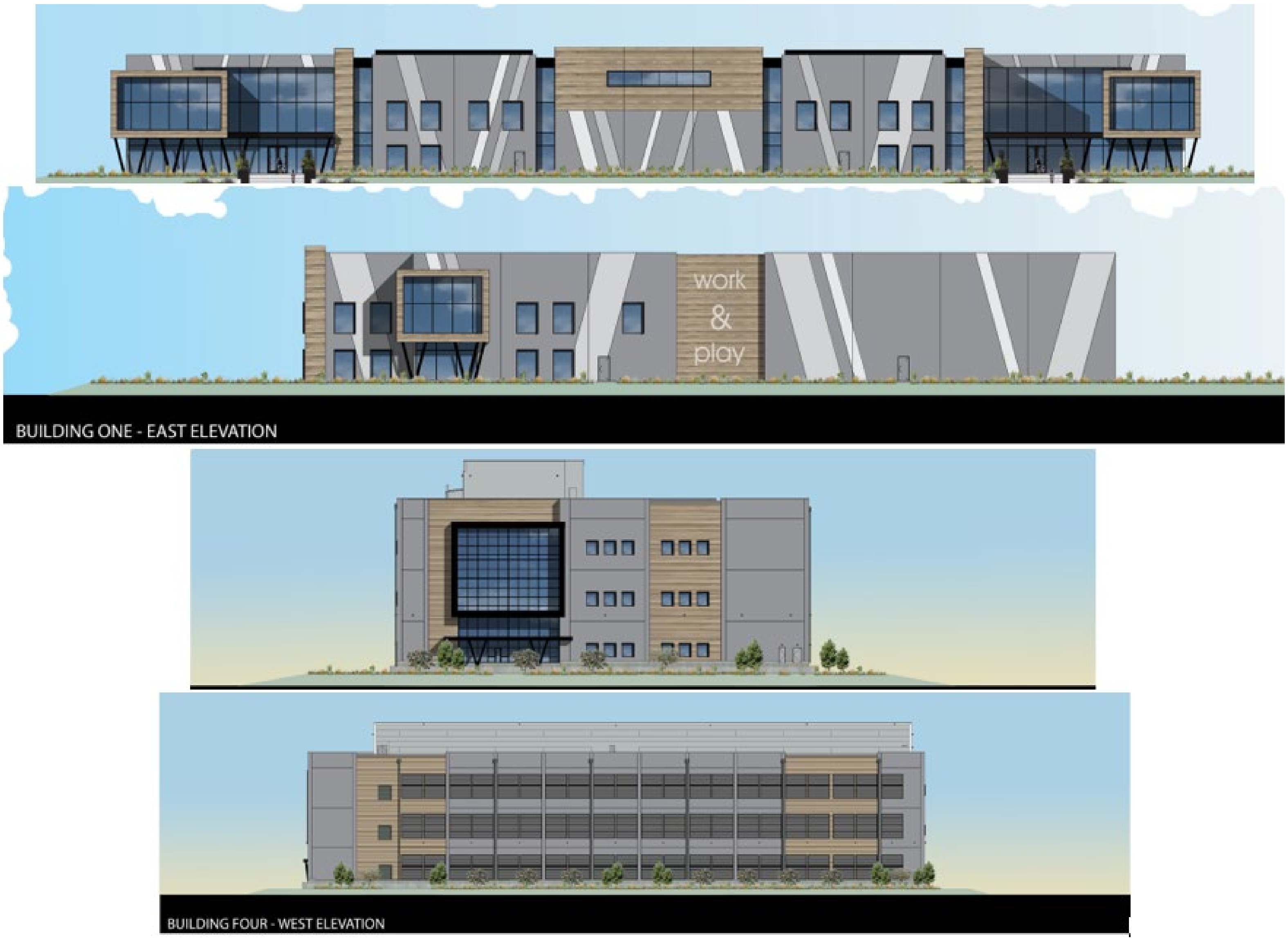

Figure 6 Proposed Rendering of Building 1 and Building 2 Southwest Elevation

Common Space and Landscaping

Buildings 1 and 2 would provide approximately 12,000 square feet of employee amenity area, which would include various seating areas for individual or group settings, shade structures, landscaping, and areas for potential food truck turn out and parking. Building 3 would provide approximately 4,000 square feet of employee amenity area along the south side of the building, which would include seating areas and shade structures, special paving, and an exercise/stretching area. Building 4 would provide 586 square feet of employee amenity area with seating.

Landscaping would be provided along the perimeters of the proposed buildings within the proposed stormwater treatment areas, within the common area between Building 1 and 2, and along the perimeters of the project site. The project would provide approximately 207,000 square feet of landscaped areas in total. The project would require the removal of 67 protected trees and the preservation of 45 protected trees. There are approximately 53 existing redwood trees located along the southern and southeastern perimeter of the site. The project would include the removal of 14 redwood trees from this area. Upon implementation, over 250 trees would be planted throughout the project site, including 58 parking lot trees. The final location of the transmission line alignment would determine whether additional trees would need to be removed, which would be then be replaced with an equal value tree pursuant to the City's Tree Preservation Ordinance.

Utilities

Utility services to the project site, including water, sanitary sewer, storm drain, fire protection, and police protection would be provided by the City of Hayward. The proposed project would connect into existing water infrastructure located along Clawiter Road and sewer infrastructure between the northern and southern project site that connects to Clawiter Road. Solid waste collection and recycling would be provided by Waste Management of Alameda County.

Pacific Gas and Electric (PG&E) would provide gas and electric services to the project site. The project would also involve the construction of a transformer yard and two overhead transmission lines to connect to the nearby existing PG&E substation to handle the electricity requirements of the proposed data center. The proposed data center is anticipated to use 23 2.5-MW standby generators and one 600-kW standby generator for backup power sources.

The project would also include new stormwater collection and conveyance systems designed to mimic the existing conditions of the site. Portions of the project site drain to the west, east, and south sides of the site. The grading and drainage design would include approximately 31,065 square feet of bioretention planters in accordance with the stormwater treatment requirements for new development projects per the San Francisco Regional Water Quality Control Board and the City of Hayward. The project storm drain systems also include stormwater detention as needed to comply with development requirements of the Alameda County Flood Control & Water Conservation District (the District). The District requires that the discharge flow rate of development projects be less than or equal to the pre-development discharge flow rate. Stormwater treatment and detention needs would be met through a combination of bioretention planters, underground storm drain pipes, and stormwater pumps.

Green Building Features

The proposed buildings would be designed to comply with CALGreen requirements, which includes solar ready roof designs, LED lighting, and low-flow appliances. In addition, the City of Hayward adopted a Reach Code ordinance in March 2020 which encourages all-electric non-residential buildings and has more advanced standards than California Building Code (CBC) requirements. The project would comply with the Reach Code checklist and requirements, including those related to the provision of Electric Vehicle Charging Stations (EVCS).

The buildings would be designed with white roofing to reduce heat absorption and cooling demand. In addition, two percent skylights on the buildings would reduce lighting demand during daytime hours.

Building 4 would use an evaporative cooling system which would eliminate the need for cooling towers and would allow the data center to accommodate a wider temperature range compared to typical data centers. Building 4 would also have a dual plumbing system to allow for future connection to the City's purple pipe reclaimed water system.

The Building 4 tenant is committed to working with the local utility to procure a 100 percent renewable energy mix by 2025. In addition, the Building 4 tenant is committed to achieving net-zero carbon by 2040. The analysis in Section 4 below does not account for these commitments, as a conservative approach.

Off-site Improvements

The transformer yard would require construction of two PG&E overhead 230kV transmission lines connecting to the PG&E Eastshore Substation 0.4 miles to the south, as shown in Figure 2. The transmission lines would be supported by approximately six to ten steel poles, ranging in height from 85 to 145 feet. The typical distance between structures would be 700 to 900 feet. The transmission line poles would require a foundation ranging 7 to 10 feet in diameter and 45 feet in depth. The transmission line length would be approximately 0.6 to 0.8 miles, along the alignment shown in Figure 3. The transmission lines would be included in a PG&E project submitted to the California Public Utilities Commission (CPUC).

Construction and Grading

Construction of the structures and on-site facilities is expected to occur over approximately 15 months and would involve the following general phases:

1. The first phase of construction would involve demolition and removal of the existing improvements and structures on-site, which would take approximately three months.
2. The second phase would include initial site preparation to remove remnant concrete foundations and remaining miscellaneous debris and vegetation within the development area to prepare it for rough grading, which would take approximately one month.
3. The third phase would include grading of the site to prepare it for construction activities, which would involve up to approximately 29,000 cubic yards (CY) of soil exported from the site. This phase would take approximately two months.
4. The fourth phase would involve construction and painting of the industrial park structures and on-site amenities, which would take approximately eight months.
5. The fifth phase would involve paving and striping of the parking areas, as well as the installation of site landscaping, lighting, and signage, which would take approximately one month.

Construction of the on-site transformer yard and off-site transmission line improvements would start in 2022 and last approximately eight months.

For Buildings 1, 2, and 3, because the topography of the site is generally flat, and no underground structures are proposed, minimal subsurface excavation would be required. For Building 4, excavation for utilities would extend to depth of up to 15 feet below the proposed base elevation.

10. Required Approvals

The following approvals and permits from the City of Hayward would be required for the proposed project:

- Major Site Plan Review
- Conditional Use Permit
- Lot Line Adjustment
- Demolition Permit
- Grading Permit
- Building Permit
- Water and Wastewater Connection Approval

11. Other Public Agencies Whose Approval is Required

- California Public Utilities Commission: Transformer yard approval
- California Public Utilities Commission: Transmission line approval

12. Have California Native American Tribes Traditionally and Culturally Affiliated with the Project Area Requested Consultation Pursuant to Public Resources Code Section 21080.3.1?

On September 15, 2020, the City of Hayward sent the Ione Band of Miwok Indians an Assembly Bill (AB) 52 notification letter via certified mail. Under AB 52, Native American tribes have 30 days to respond and request further project information and request formal consultation. The City did not receive a request for formal consultation under AB 52. Copies of AB 52 correspondence for this project are included in Appendix I.

Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

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

Determination

Based on this initial evaluation:

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

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

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

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

☐ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

	December 4, 2020
Signature	Date
Elizabeth Blanton	Associate Planner
Printed Name	Title

Environmental Checklist

1 Aesthetics

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

Impact Analysis

a. Would the project have a substantial adverse effect on a scenic vista?

A scenic vista is generally defined as an expansive view of highly valued landscape as observable from a publicly accessible vantage point. According to the *Hayward 2040 General Plan*, the City's scenic vistas are designated as views of natural topography, open grass and vegetation, the East Bay hills, and the San Francisco Bay shoreline. The project site is developed with a manufacturing facility and vehicle storage and is located in an industrial, developed area within the City. The project would not impact natural topography or open grasslands or impacts views of these scenic resources because the site does not contain natural resources such as grasslands and the site is already generally flat and partially paved with a surface parking lot and a spur line. In addition, there are no views of the East Bay hills or San Francisco Bay shoreline available from or through the site from public viewpoints such as roads, trails or parks due to the distance from such features and the intervening buildings and vegetation.

The proposed transmission line route would also not impact scenic vistas because the route travels through developed areas with no natural topography, open grassland, or views of the shoreline. The East Bay Hills can be seen from SR 92 but the hillsides are far in the distance and views are already partially obstructed by existing transmission lines. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The closest designated state scenic highway is a portion of I-580 at the northern edge of the City, approximately 4.5 miles north of the project site (California Department of Transportation [Caltrans] 2019). The project site is not visible from I-580, and therefore the proposed project would not damage scenic resources from there.

In addition to I-580, SR 92 is designated as an Alameda County scenic highway in the Alameda County Scenic Route Element, and the project site is adjacent to and visible from SR 92. There are no rock outcroppings or historic buildings which would be impacted by the project. The project would remove 67 protected trees on-site, including 14 redwood trees along the southern project site adjacent to SR 92. However, the redwood trees that would be removed are in low health and the remaining on-site trees that would be removed would be replaced by approximately 250 on-site trees. The proposed transmission lines would also not impact scenic resources from SR 92 because the route is in a developed area with no scenic resources and there are existing transmission lines traveling across SR 92 to the nearby PG&E substation. Therefore, the project's impacts on scenic resources would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The project is in an urbanized area. Construction of the project would alter the visual character of the project site by increasing the building coverage over existing conditions with new structures and installing two overhead transmission lines. However, the surrounding area is developed with industrial structures and existing overhead transmission lines, which is similar to the proposed project. The project would improve the existing visual character of the site with an updated industrial development with structures that incorporate various building materials and colors in the building elevations, including areas of glass, IPE wood siding, concrete in various neutral colors, metal, and various glazing, as shown in Figure 5. In addition, the project would provide landscaping along the perimeters of the proposed buildings and the project site. Over 250 trees would be planted throughout the project site as part of the project, including 58 parking lot trees, which would also improve the character of the site compared to existing conditions.

As detailed under Table 1, Buildings 1 through 3 would range from 38 to 43 feet in height, which would not exceed the maximum allowable height of 75 feet in the IG and IP zones. Building 4 would be approximately 88 feet in height, which would exceed the 75 height limits. The project requires Major Site Plan Review, and pursuant to Section 10-1.1604 of the Hayward Municipal Code (HMC), building height may be increased through Major Site Plan Review approval upon findings that the increase is necessary to provide a more beneficial site layout or will result in public benefits/amenities that could not be achieved under current zoning standards. As shown in Figure 4, Building 4 would be located on the north-east side of the site and set back from Clawiter Road and SR 92. Building 4 would also include roof-top screening walls consistent with the design of the building to screen the mechanical equipment. This building design with the increased building height would include a greater setback from Clawiter Road as well as roof screening.

The proposed project would also include a transformer yard, which would require construction of two PG&E overhead 230kV transmission lines connecting to the PG&E Eastshore Substation. The transformer yard would be sited away from Clawiter Road and away from SR 92, behind three of the proposed buildings and near the existing railroad right of way and railroad spur. The overhead transmission line infrastructure would resemble the existing transmission lines in the area and those connected to other data centers in the vicinity.

Upon approval of the requested discretionary actions, development of the proposed project would comply with City zoning standards, including height regulations, yard and lot area, and front and side setbacks. Therefore, the proposed project would not conflict with applicable zoning and other regulations governing scenic quality. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

The project site is in an urbanized area with moderate to high levels of existing light typical of industrial areas and highways. The surrounding industrial, commercial, and roadway uses generate light and glare along all sides of the project site. Primary sources of light adjacent to the project site include interior and exterior lighting associated with the existing industrial and commercial buildings, vehicle headlights, and streetlights. The primary source of glare adjacent to the project site is the sun's reflection from the on-site vehicle storage yard and metallic, glass and light-colored surfaces on buildings.

The project would introduce new sources of light and glare to the area by increasing the number and size of buildings on the site which would have windows, exterior lighting, parking lot lighting, and internal lighting. No highly-reflective glass or metallic elements are proposed as part of the proposed project. Building 1 and Building 2 would be located adjacent to SR 92, which travels east and west, and could impact drivers from sun reflection during the morning or afternoon. Building 2 would not impact drivers as it would be located lower in elevation than SR 92 due to the nearby overpass. Building 1's southern and western elevation would have limited windows, which are consistent with the surrounding development, and would be partially blocked by existing redwoods and proposed landscaping along the southern project site.

The project would also introduce light and glare from headlights from vehicles entering and exiting the project. However, the project would replace an existing source of glare in the area from the existing on-site vehicle storage lot. The project would be required to comply with Section 10-1.1606 of the HMC, which requires light from the project to be confined to the property and not create light or glare upon adjacent properties or public rights-of-way. The sources of light and glare from the project would be generally similar to existing sources of light and glare on and surrounding the site and would be consistent with other uses in the area. Therefore, the project would not create a new source of substantial light or glare and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	□	□	□	■
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	□	□	□	■
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	□	□	□	■
d. Result in the loss of forest land or conversion of forest land to non-forest use?	□	□	□	■
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	□	□	□	■

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

b. Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

e. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

The project site is located in an urbanized area of Hayward and is designated for Industrial Corridor land use in the City's General Plan. Neither the project site nor adjacent properties are identified as any of the farmland types under the Farmland Mapping and Monitoring Program or enrolled in Williamson Act contracts, nor do they support forest land or resources (California Department of Conservation [DOC] 2016). The project site is not located on or adjacent to agricultural land or forest land and the project would not involve development that could result in the conversion of farmland to non-agricultural uses. For these reasons, the proposed project would have no impact with respect to conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use; conflict with existing agricultural zoning or Williamson Act contract; result in the loss of forest land or conversion of forest land to non-forest use; or other conversion of farmland to non-agricultural use.

NO IMPACT

3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	□	■	□	□
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	□	■	□	□
c. Expose sensitive receptors to substantial pollutant concentrations?	□	□	■	□
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	□	□	□	■

Environmental Setting

The project site is located in the Southwestern Alameda County subregion of the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). This subregion is bordered on the east by the East Bay hills and on the west by the San Francisco Bay (Bay), and most of the area is flat. This subregion is indirectly affected by marine air flow and sea breezes, although less so than regions closer to the Golden Gate Bridge. The climate is also affected by its close proximity to the Bay. During warm weather, the Bay cools the air it comes in contact with, while during cold weather the Bay warms the air. The normal northwest wind pattern carries this air onshore during the daytime while bay breezes draw air from the land offshore at night. Wind speeds are moderate in this subregion with annual average wind speeds of approximately seven miles per hour close to the Bay and approximately six miles per hour further inland. Air temperatures are moderated by the subregion's proximity to the Bay and to the sea breeze. Average maximum temperatures are in the mid-70 degrees Fahrenheit (°F) during the summer months and in the high 50°F to low 60°F during the winter months (BAAQMD 2017a).

Air pollutant emissions in the SFBAAB are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat. Area sources are distributed widely and include those such as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be operated legally on roadways and highways. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment such as when high winds suspend fine dust particles (BAAQMD 2017a).

Air pollution sources in this subregion include light and heavy industry, and motor vehicles, and pollution potential is relatively high during the summer and fall. When the Pacific high pressure system dominates, low mixing depths and Bay and ocean wind patterns can concentrate and carry pollutants from other cities to this area, adding to the locally-emitted pollutant mix. The polluted air is then pushed up against the East Bay hills. In the wintertime, the air pollution potential in southwestern Alameda County is moderate. Increasing motor vehicle traffic and congestion in the subregion may increase Southwest Alameda County pollution as well as that of its neighboring subregions (BAAQMD 2017a).

Regulatory Setting

The U.S. Environmental Protection Agency (U.S. EPA) has set primary national ambient air quality standards (NAAQS) for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter with diameters of up to ten microns (PM_{10}) and up to 2.5 microns ($PM_{2.5}$), and lead (Pb). Primary standards are those levels of air quality deemed necessary, with an adequate margin of safety, to protect public health. In addition, California has established health-based ambient air quality standards (known as the California ambient air quality standards [CAAQS]) for these and other pollutants, some of which are more stringent than the federal standards.

As the local air quality management agency, the BAAQMD is required to monitor air pollutant levels to ensure that state and federal air quality standards are met and, if they are not met, to develop strategies to meet them. Depending on whether or not standards are met or exceeded, the SFBAAB is classified as in "attainment" or "non-attainment." The BAAQMD is in non-attainment for the federal and state ozone standards, the state PM_{10} standard, and the federal and state $PM_{2.5}$ standards (BAAQMD 2017b). Table 2 describes the health effects associated with criteria pollutants for which the BAAQMD is in non-attainment.

Table 2 Health Effects Associated with Non-Attainment Criteria Pollutants

Pollutant	Adverse Effects
Ozone	(1) Short-term exposures: pulmonary function decrements and localized lung edema in humans and animals and risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Suspended particulate matter (PM_{10} and $PM_{2.5}$)[1]	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma).

[1] More detailed discussions on the health effects associated with exposure to suspended particulate matter can be found in U.S. EPA's Air Quality Criteria for Particulate Matter, October 2004.

Source: U.S. EPA 2018a

The 2017 Clean Air Plan (2017 Plan), adopted by BAAQMD as an update to the 2010 Clean Air Plan, provides a regional strategy to protect public health and the climate. To fulfill state ozone planning requirements, the 2017 control strategy includes all feasible measures to reduce emissions of ozone precursors (reactive organic gases [ROG] and nitrogen oxides [NO_X]) and reduce transport of ozone and its precursors to neighboring air basins. In addition, the 2017 Plan builds upon and enhances the BAAQMD's efforts to reduce emissions of fine particulate matter and toxic air contaminants (TACs; BAAQMD 2017c).

In 2006, the U.S. EPA reduced the national 24-hour $PM_{2.5}$ standard regarding short-term exposure to fine particulate matter from 65 micrograms per cubic meter ($\mu g/m^3$) to 35 $\mu g/m^3$. Based on air quality monitoring data for the 2006-2008 cycle showing that the region was slightly above the standard, the U.S. EPA designated the SFBAAB as non-attainment for the 24-hour national standard in December 2008. This triggered the requirement for the BAAQMD to prepare a State Implementation Plan (SIP) submittal to demonstrate how the region would attain the standard. However, data for both the 2008-2010 and the 2009-2011 cycles showed that $PM_{2.5}$ levels in the Basin currently meet the standard. On October 29, 2012, the U.S. EPA issued a proposed rule-making to determine that the SFBAAB now attains the 24-hour $PM_{2.5}$ national standard. Based on this, the SFBAAB is required to prepare an abbreviated SIP submittal, which includes an emission inventory for primary (directly-emitted) $PM_{2.5}$, as well as precursor pollutants that contribute to formation of secondary PM in the atmosphere; and amendments to BAAQMD New Source Review (NSR) to address $PM_{2.5}$ (adopted December 2012). However, key SIP requirements to demonstrate how the region will achieve the standard (i.e., the requirement to develop a plan to attain the standard) will be suspended as long as monitoring data continues to show that the SFBAAB attains the standard. In addition to preparing the "abbreviated" SIP submittal, the BAAQMD has prepared a report entitled *Understanding Particulate Matter: Protecting Public Health in the San Francisco Bay Area* (BAAQMD 2012). The report helps guide the BAAQMD's on-going efforts to analyze and reduce PM in the Bay Area in order to better protect public health.[1] The SFBAAB will continue to be designated as nonattainment for the federal 24-hour $PM_{2.5}$ standard until such time as the BAAQMD elects to submit a "redesignation request" and a "maintenance plan" to the U.S. EPA, and the U.S. EPA approves the proposed redesignation.

A number of communities within the Bay Area experience relatively high exposure to TACs as compared to other communities. For this reason, the BAAQMD established the Community Air Risk Evaluation (CARE) program in 2004 to identify impacted communities. The project site is located in the Western Alameda County impacted community of the BAAQMD's Community Health Protection Program. The BAAQMD prioritizes these impacted communities in the design and implementation of air pollution mitigation strategies via the Clean Air Communities initiative (BAAQMD 2014).

Sensitive Receptors

Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with a margin of safety, to protect public health and welfare. They are designed to protect that segment of the public most susceptible to respiratory distress, such as children under 14; the elderly over 65; persons engaged in strenuous work or exercise; and people with cardiovascular and chronic respiratory diseases. The BAAQMD defines sensitive receptors as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and the chronically ill (BAAQMD 2017). These facilities include residences, schools, and hospitals. The nearest sensitive receptors to the project site are residences located approximately 0.2 mile to the east and a school, the California Crosspoint

[1] PM is made up of particles that are emitted directly, such as soot and fugitive dust, as well as secondary particles that are formed in the atmosphere from chemical reactions involving precursor pollutants such as oxides of nitrogen, sulfur oxides, volatile organic compounds, and ammonia.

Academy, located approximately 0.2 mile to the north. The City of Hayward has not yet adopted environmental justice policies or associated thresholds as part of their General Plan; however, the project site is located in an area defined as a disadvantaged community per Senate Bill (SB) 1000 and California Health and Safety Code Section 39711 (California Office of Environmental Health Hazard Assessment 2018).

Air Emission Thresholds

The BAAQMD developed screening criteria in its May 2017 CEQA Air Quality Guidelines to provide lead agencies and project applicants with a conservative indication of whether a project could result in potentially significant air quality impacts. If a project meets the screening criteria, then the lead agency or applicant would not need to perform a detailed air quality assessment of their project's air pollutant emissions. For an industrial park, the Operational Criteria Pollutant Screening Sizes are 553,000 square feet, 61 acres, or 1,154 employees, and the Construction Criteria Pollutant Screening Sizes are 259,000 square feet, 11 acres, or 577 employees. The proposed project would include four industrial structures totaling approximately 616,000 square feet, which would exceed the Operational Criteria Pollutant Screening Size of 553,000 square feet and the Construction Criteria Pollutant Screening Size of 259,000 square feet and would occupy an approximately 26-acre site, which would exceed the Construction Criteria Pollutant Screening Size of 11 acres. As a result, the BAAQMD significance thresholds for criteria air pollutants, shown in Table 3, are used to evaluate the project's potential air quality impacts.

Table 3 BAAQMD Air Quality Significance Thresholds

Pollutant/Precursor	Construction Emissions (average lbs/day)	Operational Emissions (average lbs/day)
ROG	54	54
NO_X	54	54
PM_{10}	82[1]	82
$PM_{2.5}$	54[1]	54
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	None

lbs/day = pounds per day; ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter 10 microns in diameter or less; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; BAAQMD = Bay Area Air Quality Management District

[1] The construction thresholds for PM_{10} and $PM_{2.5}$ emissions apply to exhaust emissions only.

Source: BAAQMD 2017a

The BAAQMD also provides a preliminary screening methodology to conservatively determine whether a proposed project would exceed CO thresholds. If the following criteria are met, a project would result in a less-than-significant impact related to localized CO concentrations:

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

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

For health risks associated with TAC and $PM_{2.5}$ emissions, the BAAQMD May 2017 CEQA Air Quality Guidelines state a project would result in a significant impact if the any of the following thresholds are exceeded (BAAQMD 2017a):

- Non-compliance with Qualified Community Risk Reduction Plan;
- Increased cancer risk of > 10.0 in a million;
- Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute); or
- Ambient $PM_{2.5}$ increase of > 0.3 $\mu g/m^3$ annual average

In addition, a project would have a cumulatively considerably impact associated with health risks from TAC and $PM_{2.5}$ emissions if the aggregate total emissions of all past, present, and foreseeable future sources within a 1,000 foot radius of the fenceline of the source plus the project's contribution exceed any of the following thresholds (BAAQMD 2017a):

- Non-compliance with Qualified Community Risk Reduction Plan;
- Increased cancer risk of > 100.0 in a million;
- Increased non-cancer risk of > 10.0 Hazard Index (Chronic or Acute); or
- Ambient $PM_{2.5}$ increase of > 0.8 $\mu g/m^3$ annual average

The BAAQMD provides recommended odor screening distances for the siting of new odor sources, which are shown in Table 4. A significant impact would potentially occur if the project would site a new odor source within the specified distances of existing sensitive receptors.

Table 4 BAAQMD Odor Screening Distances

Land Use/Type of Operation	Screening Distance
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Metal Smelting Plants	2 miles

Source: BAAQMD 2017a

Impact Analysis

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

The California Clean Air Act requires air districts to create a Clean Air Plan that describes how the jurisdiction will meet air quality standards, and these plans must be updated every three years. The most recently adopted air quality plan for the SFBAAB is the 2017 Plan. The control strategy of the 2017 Plan includes measures related to stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-greenhouse gas (GHG) pollutants (BAAQMD 2017c).

The 2017 Plan focuses on two paramount goals (BAAQMD 2017c):

- Protect air quality and health at the regional and local scale by attaining all state and national air quality standards and eliminating disparities among Bay Area communities in cancer health risk from TACs; and
- Protect the climate by reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050

Under BAAQMD's methodology, a determination of consistency with the 2017 Plan should demonstrate that a project:

- Supports the primary goals of the 2017 Plan;
- Includes applicable control measures from the 2017 Plan; and

- Would not disrupt or hinder implementation of any control measures in the 2017 Plan.

A project that would not support the 2017 Plan's goals would not be considered consistent with the plan. On an individual project basis, consistency with BAAQMD's quantitative thresholds is interpreted as demonstrating support for the 2017 Plan's goals. As shown in the discussion under Thresholds 2 and 3 (see below), the project would not result in exceedances of the BAAQMD's thresholds for criteria air pollutants with implementation of Mitigation Measure AQ-1 and thus would not conflict with the 2017 Plan's goal to attain air quality standards. Furthermore, as shown in Table 5, the proposed project would include applicable control measures from the 2017 Plan and would not disrupt or hinder implementation of such control measures. Therefore, project impacts related to consistency with the 2017 Plan would be less than significant with implementation of Mitigation Measure AQ-1.

Table 5 Project Consistency with Applicable Control Measures of 2017 Plan

Control Measure	Evaluation
TR9: Bicycle and Pedestrian Access and Facilities. Encourage planning for bicycle and pedestrian facilities in local plans, e.g., general and specific plans, fund bike lanes, routes, paths and bicycle parking facilities.	**Consistent**. The project would include 20 short-term and 20 long-term bicycle parking spaces. In addition, as a condition of approval, the project applicant would be required to contribute financially to a future roadway project that would entail installation of a bicycle lane on Clawiter Road.
EN2: Decrease Electricity Demand. Work with local governments to adopt additional energy-efficiency policies and programs. Support local government energy efficiency program via best practices, model ordinances, and technical support. Work with partners to develop messaging to decrease electricity demand during peak times.	**Consistent**. The proposed project would be required to comply with all energy efficiency standards of Title 24 (including the California Energy Code and CALGreen) that are in effect at that time. For example, the current 2019 CALGreen standards require inspections of energy systems to ensure optimal working efficiency. The Title 24 standards are updated every three years and become increasingly more stringent over time. In addition, the project would be required to comply with the City's Reach Code (Ordinance No. 20-05), which includes more stringent requirements in some areas than the Title 24 standards. For example, the City's Reach Code requires installation additional electric vehicle charging stations and achievement of greater energy efficiency than required under the Title 24 standards for nonresidential land uses. Furthermore, the proposed data center in Building 4 would utilize direct evaporative cooling units for climate control that lower indoor temperatures by cooling incoming air with evaporated water for approximately two percent of the year. For the remainder of the year, these units would be able to supply outdoor air directly to the interior without further conditioning because outdoor temperatures would be sufficiently cool. After the cooling air has absorbed heat from the computer servers, the heated air would then be removed via arrays of rooftop exhaust fans. This design would reduce the project's energy consumption related to climate control as compared to conventional data centers, which tend to use a combination of more energy-intensive chillers and heat rejection equipment. Furthermore, all buildings would have white roofs, which would reflect sunlight and thereby reduce the cooling demand for the proposed buildings. Lastly, according to SB 100, renewable energy resources must supply 100 percent of retail sales of electricity in California to end-use customers by 2045.

Control Measure	Evaluation
BL1: Green Buildings. Collaborate with partners such as KyotoUSA to identify energy-related improvements and opportunities for on-site renewable energy systems in school districts; investigate funding strategies to implement upgrades. Identify barriers to effective local implementation of the CALGreen (Title 24) statewide building energy code; develop solutions to improve implementation/enforcement. Work with ABAG's BayREN program to make additional funding available for energy-related projects in the buildings sector. Engage with additional partners to target reducing emissions from specific types of buildings.	**Consistent**. The proposed project would be required to comply with all energy standards of CALGreen and the City's Reach Code (Ordinance No. 20-05) that are in effect at that time as well as local sustainability requirements. For example, the current 2019 CALGreen standards require a minimum 65 percent diversion of construction/demolition waste, use of low-pollutant emitting exterior and interior finish materials, and dedicated circuitry for electric vehicle charging stations. The CALGreen standards are updated every three years and become increasingly more stringent over time. In addition, the City requires 100 percent recycling of all asphalt, concrete, and similar materials (City of Hayward 2020c).
WR2: Support Water Conservation. Develop a list of best practices that reduce water consumption and increase on-site water recycling in new and existing buildings; incorporate into local planning guidance.	**Consistent**. The proposed project would be required to comply with all water conservation standards of CALGreen that are in effect at that time. For example, the current 2019 CALGreen standards require a 20 percent reduction in indoor water use relative to specified baseline levels. The CALGreen standards are updated every three years and become increasingly more stringent over time. In addition, in compliance with State requirements, the City of Hayward requires projects with new landscaped area of 500 square feet or greater and renovated landscaped area of 2,500 square feet or greater to comply with the City's Bay-Friendly Water Efficient Landscape Ordinance (HMC Chapter 10, Article 12), which requires implementation of water conservation best practices for landscape irrigation. The project would also be required to comply with the City's water conservation regulations outlined in HMC Section 11-2.47, which is a list of best practices that reduce water consumption.

Source: BAAQMD 2017c

Mitigation Measure

See Mitigation Measure AQ-1 under item (b).

Significance After Mitigation

As detailed further under item (b), implementation of Mitigation Measure AQ-1 would reduce net new operational criteria air pollutant emissions to below the BAAQMD thresholds, thereby achieving project consistency with the 2017 Plan. As such, implementation of Mitigation Measure AQ-1 would reduce impacts to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The project's construction and operational emissions were estimated primarily using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. CalEEMod uses project-specific information, including the project's land uses, square footages for different uses (e.g., industrial park, surface parking lot), and location, to model a project's emissions.

Construction emissions modeled include emissions generated by construction equipment used on-site and emissions generated by vehicle trips off-site associated with construction, such as worker and vendor trips. CalEEMod estimates construction emissions by multiplying the amount of time equipment is in operation by emission factors. Construction of the proposed project was analyzed based on the applicant-provided construction schedule, equipment list, and soil export volume. It is assumed that all construction equipment used would be diesel-powered. This analysis assumes that the project would comply with all applicable regulatory standards. In particular, the project would be required to comply with BAAQMD Regulation 8, Rule 3 (Architectural Coatings) and HMC Section 10-8.32(g) (Grading and Clearing – Performance Standards - Dust Control).

Operational emissions modeled include mobile source emissions (i.e., vehicle emissions), energy emissions, area source emissions, and stationary source emissions. Mobile source emissions are generated by vehicle trips to and from the project site and were estimated using the trip generation rates provided by Kittelson & Associates in the Traffic Study (Appendix H). Emissions attributed to energy use include natural gas consumption for space and water heating. Area source emissions are generated by landscape maintenance equipment, consumer products and architectural coatings. Stationary source emissions include emissions from testing of the anticipated 24 backup generators. Estimated emissions were calculated outside of CalEEMod using emission factors for representative Tier II generators (CAT 3516C [2.5 MW] and C18 [600 kW] generators), conservatively assuming maximum permitted operations of 50 hours per year for each generator or an average of 3.3 total operational hours per day (see Appendix A for representative generator specifications). Operational emissions from existing uses were also modeled in CalEEMod using the trip generation rates provided by Kittelson & Associates in the Traffic Impact Analysis and were subtracted from the project's emissions to calculate net new operational emissions.

Construction Emissions

Criteria Air Pollutants

Project construction would involve demolition, site preparation, grading, building construction, paving, and architectural coating activities that have the potential to generate air pollutant emissions. Table 6 summarizes the estimated maximum daily emissions of ROG, NO_X, PM_{10} and $PM_{2.5}$ during project construction. As shown in Table 6, project construction emissions for all criteria pollutants would be below the BAAQMD thresholds of significance. Therefore, project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the SFBAAB is non-attainment, and construction impacts related to criteria air pollutants would be less than significant.

Table 6 Project Construction Emissions

	ROG	NO_X	PM_{10} (exhaust)	$PM_{2.5}$ (exhaust)
Maximum Daily Emissions (lbs/day)	53.5[1]	50.7	1.2	1.1
BAAQMD Thresholds (lbs/day)	54	54	82	54
Threshold Exceeded?	**No**	**No**	**No**	**No**

ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter 10 microns in diameter or less; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; lbs/day = pounds per day; BAAQMD = Bay Area Air Quality Management District

[1] Analysis is conservative in that it assumes architectural coating (painting) all the buildings at the same time.

Source: See CalEEMod worksheets in Appendix A (Table 2.1 "Overall Construction-Mitigated Construction" emissions). Emissions are the highest of winter and summer emission estimates.

Fugitive Dust

Site preparation and grading may cause wind-blown dust that could contribute particulate matter into the local atmosphere. The BAAQMD has not established a quantitative threshold for fugitive dust emissions but rather states that projects that incorporate best management practices (BMPs) for fugitive dust control during construction would have a less than significant impact related to fugitive dust emissions. The project would be required to implement dust control measures during grading and clearing activities per HMC Section 10-8.32, which includes requirements to use watering or dust palliative to contain dust and to immediately remove any earth material spilling or accumulating on a public street. Therefore, construction-related fugitive dust emissions would be less than significant.

Operational Emissions

Table 7 and Table 8 summarize the project's estimated net new average daily and annual operational criteria air pollutant emissions, respectively, taking into account emissions generated by existing uses (i.e., the existing vehicle storage area used by an automobile auction company).[2] As shown therein, net new average daily and annual emissions would exceed the BAAQMD thresholds for NO_X emissions, primarily due to high emissions associated with testing and maintenance of the anticipated 24 backup generators. Emissions would not exceed other average daily or annual thresholds. Because average daily and annual NO_X emissions would exceed the thresholds, project operation would potentially result in a cumulatively considerable net increase of NO_X emissions, and implementation of Mitigation Measure AQ-1 would be required.

[2] Air pollutant emissions associated with the existing use of the project site as a vehicle storage area for an automobile auction company is limited to mobile sources (i.e., vehicle trips to and from the project site). No air pollutant emissions associated with area or energy sources are assumed to be part of the baseline because the existing buildings on-site are currently vacant.

Table 7 Estimated Average Daily Operational Emissions

	Average Daily Emissions (lbs/day)			
Emissions Source	**ROG**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	14.8	< 0.1	< 0.1	< 0.1
Energy Sources	0.2	2.3	0.2	0.2
Mobile Sources	2.7	12.5	11.6	3.2
Stationary Sources[1]	1.6	87.7	0.7	0.7
Total Proposed Project Emissions	19.8	127.5	12.6	4.2
Existing Emissions	1.2	4.7	4.9	1.3
Net New Emissions (Proposed Project – Existing)	**18.1**	**97.8**	**7.6**	**2.8**
BAAQMD Thresholds	54	54	82	54
Threshold Exceeded?	**No**	**Yes**	**No**	**No**

ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter 10 microns in diameter or less; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; lbs/day = pounds per day; BAAQMD = Bay Area Air Quality Management District

[1] Conservatively assumes maximum permitted operations of 50 hours per year for each generator, or an average of 3.3 total operational hours per day.

Source: See CalEEMod worksheets in Appendix A (Table 2.2 "Overall Operational-Mitigated Operational" emissions) and generator calculation sheets. Emissions for area, energy, and mobile sources are the highest of winter and summer emission estimates.

Table 8 Estimated Annual Operational Emissions

	Annual Emissions (tons/year)			
Emissions Source	**ROG**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	2.7	< 0.1	< 0.1	< 0.1
Energy Sources	0.1	0.4	< 0.1	< 0.1
Mobile Sources	0.4	1.8	1.6	0.4
Stationary Sources[1]	0.3	16.0	0.1	0.1
Total Proposed Project Emissions	3.6	22.8	1.8	0.6
Existing Emissions	0.2	0.6	0.6	0.2
Net New Emissions (Proposed Project – Existing)	**3.3**	**17.6**	**1.1**	**0.3**
BAAQMD Thresholds	10	10	15	10
Threshold Exceeded?	**No**	**Yes**	**No**	**No**

ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter 10 microns in diameter or less; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; BAAQMD = Bay Area Air Quality Management District

[1] Conservatively assumes maximum permitted operations of 50 hours per year for each generator, or an average of 3.3 total operational hours per day.

Source: See CalEEMod worksheets in Appendix A (Table 2.2 "Overall Operational-Mitigated Operational" emissions) and generator calculation sheets.

Mitigation Measure

AQ-1 Generator Operational Restrictions

One of the following measures shall be implemented to reduce average daily nitrogen oxide (NO_X) emissions from generator operation for maintenance and testing purposes to a less than significant level:

- Generator operation for maintenance and testing purposes shall be limited so that the combined operation of the generator engines for testing and maintenance purposes does not exceed 600 hours (25 hours per generator) in any consecutive 12-month period. The operator shall retain records that include the dates and times of all reliable testing. The Bay Area Air Quality Management District (BAAQMD) regulates the maximum number of hours of operation of the generators for maintenance and testing. The BAAQMD will issue individual Permits to Operate for each generator (or groups of generators) as they are constructed. The conditions in each Permit to Operate will be enforceable by the BAAQMD. Prior to issuance of an occupancy permit for Building 4, the applicant shall provide a letter to the Director of Development Services from the BAAQMD and/or a qualified consultant that documents that the sum of the hours of operation permitted and regulated by BAAQMD for the data center combined does not exceed 600 hours in any consecutive 12-month period. This letter shall include a copy of the BAAQMD-approved Permit to Operate. Any change to the number of generators, the model of generators, or the number of hours the generators will be tested shall require additional air quality analysis. Request for such change shall be made to the City of Hayward Development Services Department with documentation that total emissions from maintenance and testing for the data center would not exceed the significance thresholds for NO_X on both an average daily period (54 pounds per day) and annual averaging period (10 tons per year). This documentation shall be reviewed and approved by the Planning Manager or designated representative of the Development Services Department prior to the issuance of any planning permits approving changes to the generators**; OR:**
- The future tenant of Building 4 shall comply with the offset requirements in Section 2-2-302 of BAAQMD Regulation 2, Rule 2 (New Source Review) as part of the air permitting process for the proposed generators. These requirements are enforced for any facility with the potential to emit more than 10 tons per year of NO_X or precursor organic compounds. For facilities that have the potential to emit more than 10 tons per year but less than 35 tons per year, offsets must be purchased at a 1:1 ratio from the BAAQMD’s Small Facility Banking Account or, if the Small Facility Banking Account is exhausted or the permit applicant owns or controls offsets, the permit applicant must provide the required offsets. For facilities that have the potential to emit more than 35 tons per year, federally-enforceable offsets must be purchased at a 1.15:1 ratio. Offsets represent ongoing emission reductions that continue every year, year after year, in perpetuity. The BAAQMD regulates the use of offsets for new air emission sources. The BAAQMD will issue individual Permits to Operate for each generator (or groups of generators) as they are constructed and will include offset requirements as part of the Permits to Operate. The conditions in each Permit to Operate will be enforceable by the BAAQMD. Prior to issuance of an occupancy permit for Building 4, the applicant shall provide a letter to the Director of Development Services from the BAAQMD and/or a qualified consultant that documents that the required offsets have been purchased. This letter shall include a copy of the BAAQMD-approved Permit to Operate. Any change to the number of generators or the model of generators or an increase in the number of hours the generators will be tested shall require additional air quality analysis. Request for such change shall be made to the City of Hayward Development Services

Department with documentation that additional offsets will be purchased, as necessary, to reduce total emissions from maintenance and testing for the data center such that emissions would not exceed the significance thresholds for NO_X on both an average daily period (54 pounds per day) and annual averaging period (10 tons per year). This documentation shall be reviewed and approved by the Planning Manager or designated representative of the Development Services Department prior to the issuance of any planning permits approving changes to the generators.

Significance After Mitigation

Table 9 and Table 10 summarize mitigated average daily and annual operational criteria air pollutant emissions, respectively, assuming testing is limited to 600 total hours per year (or 25 hours per generator per year), which equates to an average of one total hour per day. As shown therein, the project's mitigated average daily and annual net new emissions would not exceed BAAQMD thresholds.

Table 9 Mitigated Average Daily Operational Emissions – 600 Annual Hours of Generator Operation

	Average Daily Emissions (lbs/day)			
Emissions Source	**ROG**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	14.8	< 0.1	< 0.1	< 0.1
Energy Sources	0.2	2.3	0.2	0.2
Mobile Sources	2.7	12.5	11.6	3.2
Stationary Sources	0.8	43.8	0.3	0.3
Total Proposed Project Emissions	18.5	56.5	12.1	3.7
Existing Emissions	1.2	4.7	4.9	1.3
Net New Emissions (Proposed Project – Existing)	**17.3**	**53.9**	**7.2**	**2.4**
BAAQMD Thresholds	54	54	82	54
Threshold Exceeded?	**No**	**No**	**No**	**No**

lbs/day = pounds per day; ROG = reactive organic gases; NO_X = nitrogen oxides, PM_{10} = particulate matter 10 microns in diameter or less, $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; BAAQMD = Bay Area Air Quality Management District

Source: See CalEEMod worksheets in Appendix A (Table 2.2 "Overall Operational-Mitigated Operational" emissions) and generator calculation sheets. Emissions for area, energy, and mobile sources are the highest of winter and summer emission estimates.

Table 10 Mitigated Annual Operational Emissions – 600 Annual Hours of Generator Operation

Emissions Source	Annual Emissions (tons/year)			
	ROG	NO_x	PM_{10}	$PM_{2.5}$
Area Sources	2.7	< 0.1	< 0.1	< 0.1
Energy Sources	0.1	0.4	< 0.1	< 0.1
Mobile Sources	0.4	1.8	1.6	0.4
Stationary Sources	0.1	8.0	0.1	0.1
Total Proposed Project Emissions	3.3	9.8	1.7	0.5
Existing Emissions	0.2	0.6	0.6	0.2
Net New Emissions (Proposed Project – Existing)	**3.1**	**9.6**	**1.1**	**0.3**
BAAQMD Thresholds	10	10	15	10
Threshold Exceeded?	**No**	**No**	**No**	**No**

ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter 10 microns in diameter or less; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; BAAQMD = Bay Area Air Quality Management District

Source: See CalEEMod worksheets in Appendix A (Table 2.2 "Overall Operational-Mitigated Operational" emissions) and generator calculation sheets.

Table 11 and Table 12 summarize mitigated net new average daily and annual operational criteria air pollutant emissions, respectively, assuming compliance with BAAQMD Regulation 2, Rule 2. To prevent the Small Facility Banking Account from over-withdrawal by facilities with new backup generators, the BAAQMD determines a facility's eligibility to obtain emission reduction credits from the Small Facility Banking Account by calculating the backup generators' potential to emit assuming emergency operation for 100 hours per year per backup generator in addition to the permitted limit for readiness testing and maintenance (typically 50 hours per year or less per backup generator; BAAQMD 2019). However, once applicability of offsets is determined, the potential to emit used to determine the actual offset requirement is calculated using only the permitted limit for readiness testing and maintenance. Using this methodology, the facility's potential to emit at full build-out would be greater than 10 tons per year, assuming 150 hours of operation annually (conservatively assumes the maximum permitted 50 hours for testing and maintenance and 100 hours for emergency operation per BAAQMD guidance; see Appendix A for calculations). Therefore, the future tenant of Building 4 would be required to offsets prior to the issuance of the facility's permit to operate. The exact amount of offsets to be provided will be determined during BAAQMD's permitting process but will be required at a minimum 1:1 ratio.[3] . As a result of providing the required offsets for BAAQMD Regulation 2, Rule 2, the project's mitigated average daily and annual net new emissions would not exceed BAAQMD thresholds. Therefore, implementation of either option provided in Mitigation Measure AQ-1 would reduce impacts to a less-than-significant level.

[3] Generators installed and offset prior to the Facility NOx PTE reaching 35 tpy are required to provide offsets at a 1:1 ratio. Once the Facility NOx PTE reaches 35 tpy, offsets are required at a 1:1.15 ratio.

Table 11 Mitigated Average Daily Operational Emissions – Compliance with BAAQMD Regulation 2, Rule 2

	Average Daily Emissions (lbs/day)			
Emissions Source	**ROG**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	14.8	< 0.1	< 0.1	< 0.1
Energy Sources	0.2	2.3	0.2	0.2
Mobile Sources	2.7	12.5	11.6	3.2
Stationary Sources	1.6	87.7	0.7	0.7
Total Proposed Project Emissions	19.8	127.5	12.6	4.2
Existing Emissions	1.2	4.7	4.9	1.3
Net New Emissions (Proposed Project – Existing)	**18.1**	**97.8**	**7.6**	**2.8**
Offset Purchase Required by BAAQMD Regulation 2, Rule 2[1]	N/A	87.7	N/A	N/A
Mitigated Net New Emissions (Net New Emissions – Offset Purchase)	**18.1**	**10.1**	**7.6**	**2.8**
BAAQMD Thresholds	54	54	82	54
Threshold Exceeded?	**No**	**No**	**No**	**No**

lbs/day = pounds per day; ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter 10 microns in diameter or less; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; BAAQMD = Bay Area Air Quality Management District

[1] The future tenant of Building 4 will provide offsets at the ratio required per BAAQMD Rule 2-2-302 as determined during BAAQMD's review of the Authority to Construct application at a minimum 1:1 ratio. To provide a conservative estimate of project impacts, this analysis assumes emissions would be offset at the minimum 1:1 ratio. However, if the facility's potential to emit is greater than 35 tons per year as calculated using BAAQMD guidance, the future tenant of Building 4 would be required to offset emissions at a 1.15:1 ratio, which would further reduce emissions below those estimated herein.

Source: See CalEEMod worksheets in Appendix A (Table 2.2 "Overall Operational-Mitigated Operational" emissions) and generator calculation sheets. Emissions for area, energy, and mobile sources are the highest of winter and summer emission estimates.

Table 12 Mitigated Annual Operational Emissions – Compliance with BAAQMD Regulation 2, Rule 2

	Annual Emissions (tons/year)			
Emissions Source	**ROG**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	2.7	< 0.1	< 0.1	< 0.1
Energy Sources	0.1	0.4	< 0.1	< 0.1
Mobile Sources	0.4	1.8	1.6	0.4
Stationary Sources	0.3	16.0	0.1	0.1
Total Proposed Project Emissions	3.6	22.8	1.8	0.6
Existing Emissions	0.2	0.6	0.6	0.2
Net New Emissions (Proposed Project – Existing)	**3.3**	**17.6**	**1.1**	**0.3**
Offset Purchase Required by BAAQMD Regulation 2, Rule 2[1]	N/A	16.0	N/A	N/A
Mitigated Net New Emissions (Net New Emissions – Offset Purchase)	**3.3**	**1.6**	**1.1**	**0.3**
BAAQMD Thresholds	10	10	15	10
Threshold Exceeded?	**No**	**No**	**No**	**No**

ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter 10 microns in diameter or less; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; BAAQMD = Bay Area Air Quality Management District

[1] The future tenant of Building 4 will provide offsets at the ratio required per BAAQMD Rule 2-2-302 as determined during BAAQMD's review of the Authority to Construct application at a minimum 1:1 ratio. To provide a conservative estimate of project impacts, this analysis assumes emissions would be offset at the minimum 1:1 ratio. However, if the facility's potential to emit is greater than 35 tons per year as calculated using BAAQMD guidance, the future tenant of Building 4 would be required to offset emissions at a 1.15:1 ratio, which would further reduce emissions below those estimated herein.

Source: See CalEEMod worksheets in Appendix A (Table 2.2 "Overall Operational-Mitigated Operational" emissions) and generator calculation sheets.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

As discussed above under *Sensitive Receptors*, the nearest sensitive receptors to the project site are residences located approximately 0.2 mile to the east and California Crosspoint Academy located approximately 0.2 mile to the north. The project's potential to expose these sensitive receptors to substantial concentrations of CO and TACs is discussed in the following subsections.

Localized Carbon Monoxide Hotspots

A CO hotspot is a localized concentration of CO that is above a CO ambient air quality standard. Localized CO hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the federal one-hour standard of 35.0 parts per million (ppm) or the federal and state eight-hour standard of 9.0 ppm (CARB 2016).

As stated in the BAAQMD May 2017 CEQA Air Quality Guidelines, the proposed project would result in a less than significant impact related to local CO concentrations if the project is consistent with an applicable CMP; would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

The CMP network routes nearest to the project site are Clawiter Road, SR 92, and Industrial Boulevard/Parkway West. The segment of Clawiter Road north of SR 92 to Winton Avenue, which runs immediately west of the project site, currently operates at LOS B/C during PM peak hour; the segment of SR 92 between the Toll Plaza and Interstate 880 that runs immediately south of the project site currently operates at LOS E during the PM peak hour; and the segment of Industrial Boulevard between Clawiter Road and Mission Boulevard, which runs approximately 0.2 mile east of the project site, currently operates at LOS B/C during PM peak hour. The LOS standard for these roadways is LOS E (Alameda County Transportation Commission 2018). A CMP analysis was not conducted as part of the CEQA analysis as Level of Service (LOS) thresholds are not considered CEQA impacts per Senate Bill 743. However, based on the trip generation and distribution show in the CEQA Transportation Analysis report (Kittelson & Associates 2020, Appendix H), the project would generate up to 181 peak hour trips that would travel on Clawiter Road between Winton Avenue and SR 92 with 50 percent of trips (i.e., approximately 91 trips) traveling on the segment of SR 92 between the Toll Plaza and Interstate 880. These additional project-related peak hour traffic volumes are not anticipated to cause LOS to fall below acceptable levels such that the project would conflict with the CMP.

The highest volume intersection that would accommodate project traffic is the Industrial Boulevard and Clawiter Road (east) intersection. Weekday PM peak hour traffic volumes at this intersection under cumulative (2035) plus project conditions would be approximately 2,404 vehicles which is substantially below the 44,000 vehicle-per-hour threshold described above (Figure 12 in Appendix H). Furthermore, none of the study area intersections are located in areas where vertical and/or horizontal mixing is substantially limited. Therefore, the project would not expose sensitive receptors to substantial CO concentrations, and impacts would be less than significant.

Toxic Air Contaminants

Construction Impacts

One of the main sources of TACs in California is diesel engines that emit exhaust containing solid material known as diesel particulate matter (DPM; CARB 2020). Construction-related activities would result in temporary project-generated emissions of DPM exhaust emissions from off-road, heavy-duty diesel equipment for site preparation, grading, building construction, and other construction activities.

Generation of DPM from construction projects typically occurs in a single area for a short period. Construction of the proposed project would occur over approximately 15 months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the California Office of Environmental Health

Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of proposed construction activities (i.e., 15 months) is approximately two percent of the total exposure period used for health risk calculation. Current models and methodologies for conducting health-risk assessments are associated with longer-term exposure periods of 9, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities, resulting in difficulties in producing accurate estimates of health risk (BAAQMD 2017a). Therefore, this analysis qualitatively discusses potential health risks associated with construction-related emissions of TACs, focusing on construction activities most likely to generate substantial TAC emissions and the duration of such activities relative to established, longer-term health risk exposure periods.

Maximum PM_{10} and $PM_{2.5}$ emissions would occur during demolition activities, which would last for approximately one month. PM emissions would decrease for the remaining construction period because activities such as building construction and architectural coating would require fewer pieces of construction equipment. While the maximum DPM emissions associated with demolition activities would only occur for a portion of the overall construction period, these activities represent the maximum exposure condition for the total construction period. The duration of demolition activities would represent less than one percent of the total exposure period for a 70-year health risk calculation. Furthermore, there are no sensitive receptors within 1,000 feet of the project site. Therefore, DPM generated by project construction would not create conditions where the probability is greater than 10 in one million of contracting cancer for the Maximally Exposed Individual or to generate ground-level concentrations of non-carcinogenic TACs that exceed a Hazard Index greater than one for the Maximally Exposed Individual. Thus, project construction activities would not expose sensitive receptors to substantial TAC concentrations, and impacts would be less than significant.

Operational Impacts

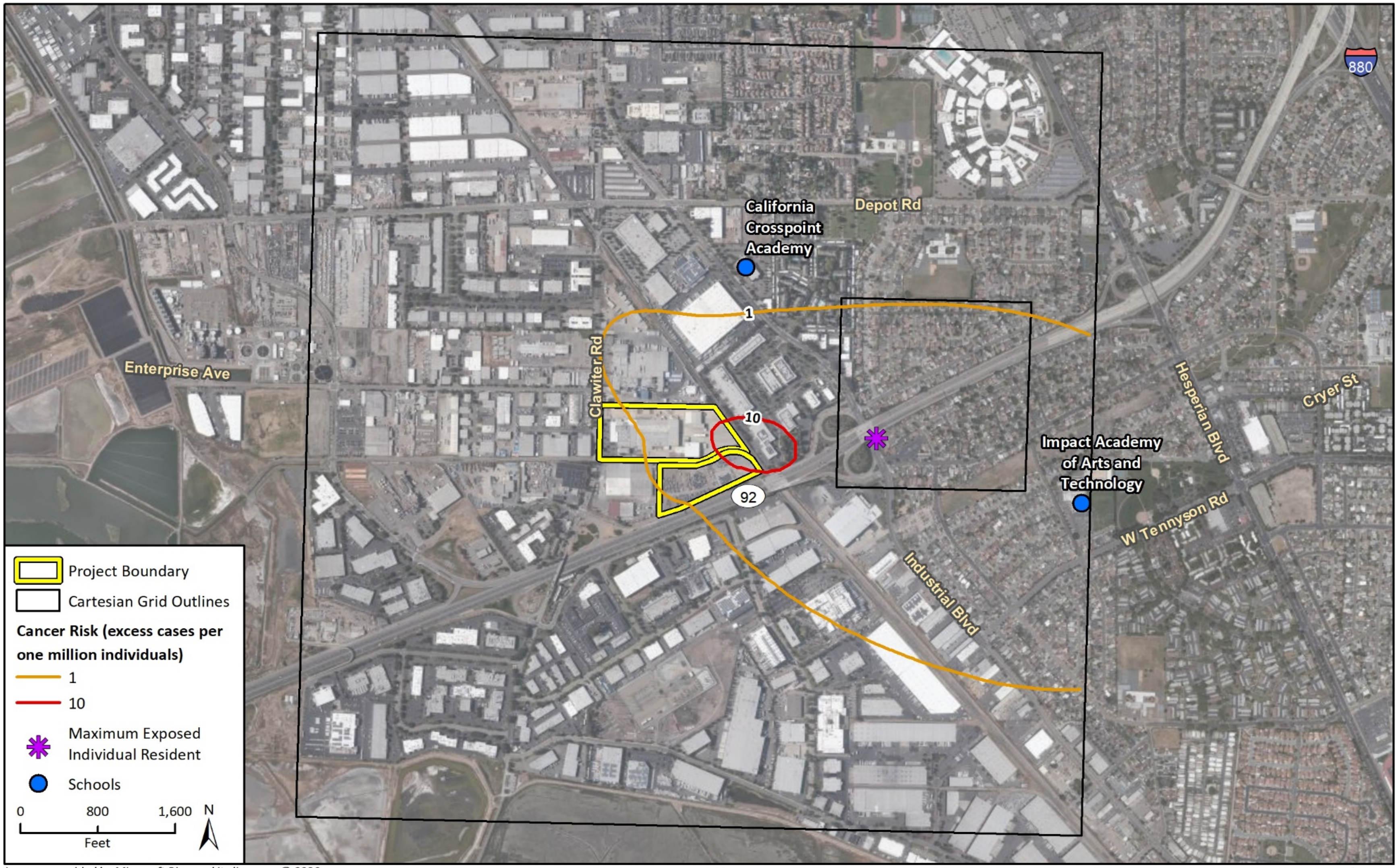
The proposed data center would require 23 2.5-MW standby generators and one 600-kW standby generator with maximum permitted operations of 50 hours per year for each generator. These standby generators would require air permits from the BAAQMD because they would generate TAC emissions in the form of DPM. Therefore, a health risk assessment was prepared to evaluate whether TAC emissions exposure at the Maximum Exposed Individual Resident (MEIR) would exceed the BAAQMD health risk criteria. The following discussion is based on the results of this health risk assessment, which is included in full as Appendix B.

A Tier 1 health risk assessment (HRA) was completed following the California Office of Environmental Health Hazard Assessment (OEHHA; 2015) guidelines using air dispersion modeling conducted via the U.S. EPA's AERMOD dispersion model and the California Air Resources Board's (CARB) Hotspots Analysis and Reporting Program Version (HARP) risk analysis tool, consistent with BAAQMD Regulation 2, Rule 5, with the exception that Tier 2 breathing rates adjusted using the 95^{th} percentile (high end) were utilized to provide a conservative estimate of risk. A Tier 1 analysis is a point estimate analysis using OEHHA-specified exposure parameters and exposure durations that are based on standards and guidelines developed by OEHHA to be protective of human health. The 24 proposed standby diesel generators were modeled as point sources of emissions at their proposed locations adjacent to Building 4 using the manufacturer exhaust system characteristics and the particulate matter exhaust emissions rate for representative Tier 2 generators (CAT 3516C [2.5 MW] and C18 [600 kW] generators). This analysis conservatively assumes maximum permitted operations of 50 hours per year for each generator, although the actual maintenance and testing routine is anticipated to only require bimonthly 15-minute operation of each generator (i.e., six hours per year per generator). Version 19121 of the CARB HARP 2.0 was used to calculate the potential risk values associated with the worst case one-hour and average annual toxic emission concentrations at surrounding receptors. The MEIR receptor was determined to be located approximately 1,210 feet east of the project site (see Figure 7). Cancer risk was evaluated for the MEIR using the OEHHA intake rate derived method, the U.S. EPA-recommended lifetime residency period of 70 years and the fraction of time-at-home OEHHA assumptions for only age bins greater than 16 years of age because a school (Impact Academy of Arts and Technology) is located within the one-in-a-million cancer risk isopleth.

The BAAQMD has health risk criteria for cancer risk, non-cancer risk (i.e., chronic and acute), and annual average $PM_{2.5}$ concentration. Cancer risk is expressed as the maximum number of new cancer cases projected to occur in a population of one million people due to exposure to a cancer-causing substance. Potential acute health risks include severe symptoms that develop rapidly and lead quickly to a health issue due to exposure to a harmful substance, whereas chronic health risks include health crises, such as lung inflammation, immune suppression, and immune sensitization, which develop due to exposure to a harmful substance over a long period of time. The BAAQMD considers compliance with a Qualified Community Risk Reduction Plan to indicate project impacts are less than significant. The City of Hayward's Community Risk Reduction Plan is encompassed in the Hayward 2040 General Plan; however, measures related to the reduction of communitywide exposure to TAC and $PM_{2.5}$ emissions are not directly applicable to the proposed project. Therefore, the following quantitative thresholds recommended by the BAAQMD are utilized in this analysis to evaluate project-level impacts to local community risks and hazards associated with TACs and $PM_{2.5}$ (BAAQMD 2017; see discussion under *Air Emission Thresholds*).

Table 13 summarizes the project-level health risk results associated with operation of the proposed standby generators at the MEIR receptor located approximately 1,210 feet east of the project site (see Figure 7). As shown in Table 13, the excess cancer risk, chronic health risk, and annual average $PM_{2.5}$ concentration at the MEIR would not exceed BAAQMD thresholds. Because the excess cancer risk at the MEIR is greater than one in one million, the proposed project would be required to equip all generators with Best Available Control Technology (BACT) pursuant to BAAQMD Regulation 2, Rule 5 Section 2-5-301, which would further reduce cancer risk, chronic hazard, and annual average $PM_{2.5}$ concentration at the MEIR below the BAAQMD significance thresholds. As a result, the project would also not be inconsistent with SB 1000.

Figure 7 Location of MEIR and Cancer Risk Contours



Imagery provided by Microsoft Bing and its licensors © 2020.

Fig 5 Cancer Risk at MEIR

Table 13 Health Risks from Generator Operation (50 Hours Per Year at 1,210 Feet)

Scenario	Excess Cancer Risk (per million)	Chronic Health Risk[1,2]	$PM_{2.5}$ Annual Average ($\mu g/m^3$)
MEIR	4.4	8.9E-04	0.004
BAAQMD Significance Threshold	>10	>1	>0.3
Threshold Exceeded?	**No**	**No**	**No**

$PM_{2.5}$ = particulate matter measuring 2.5 microns or less in diameter; $\mu g/m^3$ = micrograms per cubic meter; MEIR = maximum exposed individual resident; OEHHA = Office of Environmental Health Hazard Assessment; DPM = diesel particulate matter

[1] Noncancer health impacts are determined by dividing the airborne concentration at the receptor by the appropriate Reference Exposure Level (REL) for that substance. A REL is defined as the concentration at which no adverse noncancer health effects are anticipated. Because noncancer health impacts are assessed as the ratio of airborne concentration versus the REL, the resulting hazard index is unitless.

[2] There is no acute reference exposure level for diesel exhaust to calculate acute health risk. Furthermore, except for unusual circumstances of high exposure, OEHHA does not recommend acute analysis for DPM.

Source: Appendix B

The BAAQMD requires assessment of health risks associated with the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fence-line of the project site. Six permitted emission sources were identified within 1,000 feet of the project's fence line using BAAQMD's Stationary Source Screening Analysis Tool (BAAQMD 2020):

- Bay Equipment and Repair (3393 Enterprise Avenue; ID 3255) – coating operations/abrasives blasting
- Berkeley Farms, Inc. (25500 Clawiter Road; ID 11596) – boilers, generators
- Customer Commercial Dry Cleaners (3201 Investment Boulevard, Suite A; ID 12249) – dry cleaning operations
- Illumina, Inc. (25861 Industrial Boulevard; ID 20398) - generators
- J Jr's Truck Repair and Maintenance (25601 Clawiter Road; ID 21185) – coating operations
- Breakwater 76 (3500 Breakwater Avenue; ID 111545) – gasoline dispensing facility

In addition, one highway (State Route 92) and a railroad line are located within 1,000 feet of the project site.

The health risk associated with the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fence line of the project site is summarized in Table 14. As shown therein, the cumulative cancer risk, chronic hazard index, and annual average $PM_{2.5}$ concentrations associated with existing and proposed TAC sources would not exceed BAAQMD cumulative thresholds at the MEIR. Therefore, no cumulative impact would occur, and the project would also not be inconsistent with SB 1000.

Table 14 Cumulative Impacts – MEIR

Source	Cancer Risk (in one million)	Chronic Hazard Index	Annual Average $PM_{2.5}$ Concentration ($\mu g/m^3$)
Proposed Project	4.4	8.9E-04	0.004
Stationary Source – ID 11596[1]	1.6	2.6E-03	0.071
Stationary Source – ID 3255[1]	0.0	0.0	0.040
Stationary Source – ID 21185[1]	0.0	2.1E-04	0.0
Stationary Source – ID 20398[1]	0.6	1.3E-03	0.001
Stationary Source – ID 111545[1]	0.2	1.0E-03	0.0
Stationary Source – ID 12249[1]	0.5	1.3E-03	0.0
State Route 92	48.4	0	0.593
Railroad	2.0	0	0.003
Cumulative Total	**57.7**	**7.0E-03**	**0.712**
BAAQMD Cumulative Threshold	100	10.0	0.8
Threshold Exceeded?	**No**	**No**	**No**

$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; $\mu g/m^3$ = micrograms per cubic meter; BAAQMD = Bay Area Air Quality Management District; MEIR = Most Exposed Individual Resident

[1] Calculated using values provided by the BAAQMD and the BAAQMD Risk and Hazards Emissions Screen Calculator Beta 4.0 (BAAQMD 2019; Flores 2020). All stationary sources are located more than 984 feet (300 meters) from the MEIR; however, the BAAQMD does not provide distance multiplier values for distances greater than 984 feet. Therefore, this analysis conservatively assumes a distance of 984 feet from the MEIR for all stationary sources, which provides an overestimate of cumulative cancer risk, chronic hazard, and annual average $PM_{2.5}$ concentrations at the MEIR.

Source: Appendix B

LESS THAN SIGNIFICANT IMPACT

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Project construction could generate odors associated with heavy-duty equipment operation and earth-moving activities. Such odors would be temporary in nature, would dissipate quickly with distance, and would be limited to the duration of construction in the vicinity of the project site. The proposed project would be consistent with the existing uses of the project site and surrounding properties, which include general industrial uses. HMC Section 10-1.150 prohibits the creation of nuisances, including odors, that are detrimental to or incompatible with adjacent properties so as to create dangerous, noxious, or objectionable conditions. In addition, HMC Section 10-1.1607(D) prohibits uses, activities, and processes that emit excessive odors within industrial districts, and HMC Section 10-1.3030(f) requires implementation of adequate safeguards against the emission of odors as part of the conditions of approval for site plan review. Furthermore, the project would be required to adhere to BAAQMD Regulation 7 (Odorous Substances), which sets restrictions on the discharge of odorous substances. Adherence to existing laws and regulations would ensure that the project operation would not create objectionable odors. Therefore, no impact would occur.

NO IMPACT

4 Biological Resources

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

Existing Setting

The project site is located in an urban business park and industrial area and is surrounded by existing development and major highways. The site is relatively flat and developed with an existing manufacturing facility and vehicle storage yard. Most of the site is paved or covered by existing structures. Vegetation is limited primarily to parking lot and perimeter trees for landscaping.

Impact Analysis

a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

The project site, including off-site improvement area for transmissions lines, has no natural or native vegetation communities that would support special status animal species. However, the project site includes several uninhabited buildings and ancillary structures. These structures may present suitable habitat for pallid bat (*Antrozous pallidus*) Townsend's big-eared bat (*Corynorhinus townsendii*), and western mastiff bat (*Eumops perotis californicus*). If bat species are present on the project site, construction activities such as building demolition or tree removal could result in impacts to special status bats. Impacts to these species are potentially significant and mitigation is required.

Although vegetation communities observed in the project site are primarily non-native, ornamental, and/or disturbed, the site could be used by numerous species of migratory birds that utilize the ornamental trees and surrounding landscaping as nesting habitat. Ornamental trees along the transmissions line route could also be used by migratory birds. Native bird nests are protected by California Fish & Game Code (CFGC) Section 3503. The nesting season generally extends from February 1st through August 31st in California but can vary based upon annual climatic conditions. Thus, construction activities could also result in the direct take of birds or their nests during vegetation removal, or disturbance-related nest abandonment. Mitigation is required to reduce potential impacts on nesting birds.

Mitigation Measures

The following mitigation measure would be required to avoid or reduce the proposed project's potentially significant impacts to nesting birds and special status wildlife.

BIO-1 Nesting Bird Avoidance and Minimization Efforts

If project construction activities occur during the nesting season (between February 1st and August 31st) a qualified biologist shall conduct a pre-construction survey for nesting birds no more than 14 days prior to construction. The survey shall include the entire project site and a 300-foot buffer to account for nesting raptors. If nests are found the qualified biologist shall establish an appropriate species-specific avoidance buffer of sufficient size to prevent disturbance by project activity to the nest (up to 300 feet for raptors, up to 150 feet for all other birds). The qualified biologist shall perform at least two hours of pre-construction monitoring of the nest to characterize "typical" bird behavior.

During construction, active nests identified during the preconstruction survey shall be monitored by the qualified biologist to determine if construction activities are causing any disturbance to the bird and shall increase the buffer if it is determined the birds are showing signs of unusual or distressed behavior associated with project activities. Atypical nesting behaviors that may cause nest abandonment include, but are not limited to, defensive flights, vocalizations directed towards project personnel/activities, standing up from a brooding position, and flying away from the nest. The qualified biologist shall have authority, through the resident engineer, to order the cessation of all project activities if the nesting birds exhibit atypical behavior that may cause nest failure (nest abandonment and loss of eggs and/or young) until a refined appropriate buffer is established. To prevent encroachment, the established buffer(s) should be clearly marked by high visibility material. The established buffer(s) should remain in effect until the young have fledged or the nest has been abandoned as confirmed by the qualified biologist. The monitoring biologist, in consultation with the resident engineer and project manager shall determine the appropriate protection for active nests on a case by case basis using the criteria described above. The qualified biologist shall prepare a nest monitoring report at the time monitoring has been completed. The report will document the methods and results of the monitoring, and the final status of the nest (i.e., successful fledging of the nest, nest depredation, nest failure due to construction activity).

BIO-2 Special-status Bat Species Avoidance and Minimization

Focused surveys to determine the presence/absence of roosting bats shall be conducted prior to the initiation of demolition of buildings and removal of mature trees large enough to contain crevices and hollows that could support bat roosting. If no bats or signs of roosting by bats are observed, no further actions are required. If bats or signs of roosting by bats are observed, a qualified biologist will prepare specific recommendations for either partial dismantling to cause bats to abandon the roost, or humane eviction, both to be conducted during seasonal periods of bat activity, if required. If active maternity roosts are identified, the roost shall not be removed during the breeding season (April 15 to August 31) to the extent practicable. If a structure or tree containing a maternity roost must be removed during the breeding season then measures recommended by the qualified biologist shall be implemented to remove or relocate bats from the roost prior to the onset of demolition activities. Such measures may include removal of roosting site during the time of day the roost is unoccupied or the installation of one-way doors, allowing the bats to leave the roost but not to re-enter.

Significance After Mitigation

Implementation of mitigation measures BIO-1 and BIO-2 would ensure protection of nesting birds and special-status bat species that may be on-site during construction activities. These measures would reduce the potentially significant impact to special-status species to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The project site is developed with urban uses. No riparian habitat or other sensitive natural community exists on the project site and proposed transmission line route. According to the U.S.

Fish and Wildfire Service (USFWS) National Wetlands Inventory, there are no wetlands located within or in the vicinity of the project site (USFWS 2019). The nearest wetlands are Estuarian and Marine wetlands located approximately one mile southwest of the project site near the San Francisco Bay. Therefore, the project would have no impacts on riparian habitat or protected wetlands.

NO IMPACT

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The project site is developed and primarily has ornamental vegetation. Land use in the vicinity is industrial and commercial with no connectivity to natural habitats and therefore does not support substantial wildlife movement. No impacts to wildlife movement corridors would occur as a result of project activities

NO IMPACT

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The City's Tree Preservation Ordinance, included in Hayward Municipal Code (HMC) Chapter 10, Article 15, requires a permit for removal of native trees four inches and greater in trunk diameter and all trees eight inches and greater in trunk diameter. A permit is also required for the removal or cutting of branches over one inch in diameter, or disfigurement of any Protected Tree, among other requirements.

According to the Preliminary Landscape Plan and Tree Protection Plan, there are 116 protected trees on-site (Appendix C). The project would require the removal of 67 of the protected trees and the preservation of 45 protected trees in order to accommodate on-site structures, parking, the transformer yard, and the on-site portion of the transmission lines from the transformer yard to the existing PG&E substation. The project would not require the removal of off-site trees for the off-site portion of the proposed transmission lines. The total estimated value of the 67 trees to be removed is $47,730. Because a number of protected trees proposed for removal are at the request of the City due to their declining health, the estimated value of tree the project would be responsible for replacing is $33,440.

The Landscape Plan for the project includes over 250 new trees. Of the trees that would comply with the HMC requirement for replacement with an equal value tree or trees as those trees planned for removal, the project would provide on-site trees which value approximately $42,450. This would exceed the required mitigation requirement of $33,440.

In addition to the required replacement of the 67 protected trees proposed for removal, the project would need to maintain the 45 protected trees that are proposed to remain. The protected trees retained on the project site have the potential to decline or die during construction or if they are inadequately maintained. The Tree Protection Plan recommends measures to protect these retained protected trees. Therefore, mitigation is required to protect these trees during and after construction to ensure long-term health and sustainability of the preserved protected trees.

Mitigation Measures

The following mitigation measure would be required to avoid or reduce the proposed project's potentially significant impacts to protected trees.

BIO-3 Tree Preservation Measures

As outlined in the Tree Protection Plan (Traverso Tree Service, June 2019), the following tree preservation measures are required to protect trees that will be preserved in place as required by HMC Chapter 10, Article 15.

PRE-CONSTRUCTION MEASURES

1. Establish a Tree Protection Zone around each tree to be preserved. For design purposes, the Tree Protection Zone shall be the dripline or property line for trees. No grading excavation, construction or storage of materials shall occur within the protection zone.
2. Spread a 4" thick layer of arborist wood chips beneath the driplines of the redwoods along the southeast property line, up to the proposed limit of grading.
3. Prior to construction or grading, but after wood chips are spread, the contractor shall install 6' chain-link fencing to construct a temporary Tree Protection Zone (TPZ) around the redwoods along the southeast property line, as indicated on the tree protection plan.
4. TPZ fencing shall remain in an upright sturdy manner from the start of grading until the completion of construction. Fencing shall not be adjusted or removed without consulting the project arborist.
5. Trees to be preserved may require pruning to provide clearance and/or correct defects in structure. All pruning shall be performed by an ISA Certified Arborist or Certified Tree Worker and shall adhere to the latest edition of the ANSI Z133 and A300 safety standards as well as the ISA Best Management Practices for Tree Pruning with a tree pruning permit from the City. The pruning contractor shall have the C-27/D-49 license specification.
6. All tree work shall comply with the Migratory Bird Treaty Act as well as California Fish and Wildlife Code 3503-3513 to not disturb nesting birds. To the extend feasible tree pruning and removal should be scheduled outside of the breeding season. Breeding bird surveys should be conducted prior to tree work by a qualified biologist. Qualified biologists should be involved in establishing work buffers for active nests if needed.

CONSTRUCTION MEASURES

1. Prior to beginning work, the contractors working in the vicinity of trees for preservation are required to meet with the Project Arborist at the site to review all work procedure, access routes, storage areas and tree protection measures.
2. Any grading, construction, demolition or other work that is expected to encounter tree roots should be monitored by the Project Arborist. Any necessary root pruning shall be performed by a qualified arborist and not by construction personnel. Roots shall be cleanly pruned with a handsaw or sawzall, immediately covered with wet burlap, and kept moist until backfilled.
3. Should TPZ encroachment be necessary, the contractor shall contact the project arborist for consultation and recommendations.

4. The contractor shall keep TPZs free of all construction-related materials including but not limited to debris, fill soil, equipment. The only acceptable material is mulch spread out beneath the trees.
5. If damages should occur to any tree during construction, it should be evaluated as soon as possible by the Project Arborist so that appropriate treatments can be applied. If the damages to tree result in removal, removed tree shall be replaced to its appraised value provided by the Project Arborist and approved by City Landscape Architect.

LANDSCAPING MEASURES

1. Tree Protection Zone (TPZ) fencing shall remain in place with the same restrictions until landscape contractor notifies and meets with project arborist. Fences may not be relocated or removed without permission of the Project Arborist.
2. Proposed irrigation trenching shall be done by hand and shall occur as far from the redwoods along the southeast property line as possible. Permanent drip irrigation shall be provided to all preserved redwoods.
3. Wood chips shall not be removed; processed mulch made of organic chipped wood in dark brown color may be placed on top of the wood chips for aesthetics.
4. Avoid all fill work, grade changes, and trenching within driplines unless it is performed by hand. Pipes shall be threaded under or through large roots without damaging them.
5. Any additional tree pruning needed for clearance during construction must be performed by a qualified arborist and not by construction personnel with a tree pruning permit from City Landscape Architect. Trees shall be irrigated on a schedule to be determined by the Project Arborist. Each irrigation session shall be wet the soil within the Tree Protection Zone to a depth of 30 inch.

Significance After Mitigation

Implementation of Mitigation Measure BIO-3 would ensure preservation and maintenance of existing on-site protected trees during and after construction activities. These measures would follow the local tree ordinance and would reduce the potentially significant impact to protected trees to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

There are no habitat conservation plans, natural community conservation plans, or other similar plans that govern activities on the project site. Therefore, the proposed project would not conflict with a habitat conservation plan.

NO IMPACT

5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	■
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	■	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	■	☐

Cultural Resources Setting

This section provides an analysis of the project's impacts on cultural resources, including historical and archaeological resources, as well as human remains. The California Environmental Quality Act (CEQA) requires a lead agency determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC], Section 21084.1) and tribal cultural resources (PRC Section 21074 [a][1][A]-[B]). A historical resource is a resource listed in, or determined to be eligible for listing, in the California Register of Historical Resources (CRHR), a resource included in a local register of historical resources, or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (State CEQA Guidelines, Section 15064.5[a][1-3]).

A resource shall be considered historically significant if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC, Section 21083.2[a], [b]).

PRC, Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

a. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
b. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
c. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Rincon Consultants prepared a cultural resources study in support of the project in August and September 2020, which includes a cultural resources records search, Native American consultation, a field survey, and historical resources evaluation, and preparation a memorandum to summarize the results (Appendix D). Rincon received search results of the California Historical Resources Information System (CHRIS) at the Northwest Information Center (NWIC) located at Sonoma State University on August 25, 2020. The search was performed to identify previously recorded cultural resources, as well as previously conducted cultural resources studies within the project site and a 0.5-mile radius surrounding it. The CHRIS search included a review of available records at the NWIC, as well as the National Register of Historic Places (NRHP), the CRHR, the Office of Historic Preservation Historic Properties Directory, the California Inventory of Historic Resources, the Archaeological Determinations of Eligibility list, and historic maps.

The NWIC records search identified 29 cultural resources studies conducted within a 0.5-mile radius of the project site, one of which included the project site. The study that includes the project site consists of an archaeological report for the Hayward-San Leandro Transportation Corridor and did not identify cultural resources within the project site. The NWIC records search also identified four previously recorded cultural resources within a 0.5-mile radius of the project site. One, P-01-001783, which intersects the project site, is a linear resource recorded as the Union Pacific Railroad. Although several segments of the resource have been recorded, a review of the documentation provided by NWIC reveals the segment intersecting the project site has not been subject to formal recordation and evaluation. Two segments in Alameda County were recommended eligible for state or federal designation. A segment located in Tracy, California was recorded as the Central Pacific Railroad/Transcontinental Railroad, Niles-Sacramento Line and was recommended eligible for listing in the CRHR under Criterion 1. It was not evaluated for the NRHP. In addition, the Southern Pacific Railroad Dumbarton Cutoff—including as contributing elements the Southern Pacific Dumbarton Bridge and the Southern Pacific Newark Slough Bridge—was recommended eligible for the NRHP under Criteria A, B, and C. The Dumbarton Bridge was recommended individually eligible for listing in the NRHP under Criterion A. Additional segments of the resource were either recommended ineligible for listing in the NRHP and/or CRHR—often due to a loss of integrity—or were recorded without being evaluated.

As a result of the field survey, one property on the project site, the Gillig Brother bus manufacturing facility, was recorded and evaluated for historical resources eligibility on California Department of Parks and Recreation (DPR) 523 series forms. The property is an industrial facility consisting of five large industrial and office buildings and six smaller ancillary buildings. Among these, the Manufacturing Building and a nearby ancillary building, both completed by 1968, are the oldest buildings on the property. The Manufacturing Building is a sprawling, highly altered industrial building. Its irregular plan owes to the successive additions constructed on the north, east, and west elevations between 1968 and 2004. Constructed between 1968 and 1974, the Fabrication and Machining Building is utilitarian industrial building is a prefabricated industrial building. It has also been subject to multiple additions, the last of which was a sizable rear extension built sometime between 1993 and 2002. As detailed further in Appendix D, the study ultimately concluded the property was ineligible for listing in the NRHP, CRHR, or for local designation due to a lack of architectural or historical significance and integrity.

Impact Analysis

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

The proposed project involves demolition of the four existing on-site structures. One property within the project site was recorded and evaluated through the field survey completed for this project, the former Gillig Brother bus manufacturing facility at 25800 and 25858 Clawiter Road. As discussed in the Cultural Resources Study included in Appendix D, the property is recommended ineligible for federal, state, and local designation as a result of this study and therefore does not qualify as a historical resource under CEQA. The CHRIS records search also confirmed that the Union Pacific Railroad (P-01-001783) intersects the project site. Other segments of this linear resource have been previously evaluated and have been found eligible or ineligible for federal and state designation. However, regardless of any potential historical resources eligibility the segment intersecting the project site may possess, the project would not directly affect the resource. Further, the setting of the rail line has substantially changed since the historic period and the proposed development would be consistent with the resource's current setting. As such, the project would not cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5

NO IMPACT

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

The project site and off-site transmission line route have been disturbed by previous development and no archaeological resources have been recorded within the project site. Rincon Consultants archaeologists reviewed historical aerials and topographic maps from HistoricAerials.com. These images were reviewed to identify potential cultural resource concerns on the project site. Aerial imagery from 1946 to 1966 depicts the project site as undeveloped land next to the Union Pacific Railroad with development emerging by 1968 (NETR Online 2020). Imagery from 1980 to 2002 depict the project site through further development into its current condition. Historic topographic maps from 1899 to 1966 confirm the site's history of undeveloped land with the Union Pacific Railroad to the east-northeast. The 1969 historic topographic map depicts the project site with emerging development through the 1980 topographic map. The project site has been disturbed by grading and site preparation as well as construction of the buildings and surface parking lots.

Although no archaeological resources are known to exist within the project site, there is always the possibility of unanticipated discoveries during ground disturbance. Impacts to unknown archaeological resources would be potentially significant and mitigation measures would be required.

Mitigation Measure

The following mitigation measure is required.

CR-1 Unanticipated Archaeological Resources.

If archaeological resources are encountered during ground-disturbing activities, work within 50 feet of the find shall be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for CRHR eligibility. If the discovery proves to be eligible for the CRHR and cannot be avoided by the project, additional work, such as data recovery excavation, may be warranted to mitigate any significant impacts to historical resources.

Significance After Mitigation

Implementation of Mitigation Measure CR-1 would reduce potential impacts to unanticipated archeological resources to less than significant levels.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

No cemeteries are known to exist within the project site; however, the discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance may occur until the county coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the county coroner would be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a most likely descendant (MLD). The MLD will complete the inspection of the site within 48 hours of being granted access to the site. With adherence to existing regulations, impacts to human remains would be less than significant.

LESS THAN SIGNIFICANT IMPACT

6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	□	□	■	□
2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	□	□	□	■

Energy Setting

Energy use relates directly to environmental quality because it can adversely affect air quality and can generate GHG emissions that contribute to climate change. Fossil fuels are burned to create electricity, heat and cool buildings, and power vehicles. Transportation energy use is related to the fuel efficiency of cars, trucks, and public transportation; choice of different travel modes such as auto, carpool, and public transit; and miles traveled by these modes.

Energy use is typically quantified using the British thermal unit (Btu). The Btu is the amount of energy that is required to raise the temperature of one pound of water by 1 degree Fahrenheit. As points of reference, the approximate amount of energy contained in a cubic foot of natural gas, a kilowatt hour (kWh) of electricity, and a gallon of gasoline are 1,000 Btus, 3,400 Btus, and 123,000 Btus, respectively. Natural gas usage is expressed in U.S. therms with one U.S. therm equal to 100,000 Btu.

Electricity and Natural Gas

In 2018, California used approximately 284,436 gigawatt-hours (GWh) of electricity, 31 percent of which was from renewable resources (California Energy Commission [CEC] 2020a and 2020b). California also consumed approximately 12,666 million U.S. therms of natural gas in 2018 (CEC 2020a). The project would be supplied electricity by PG&E. Table 15 and Table 16 show electricity and natural gas consumption, respectively, by sector and in total for PG&E. In 2018, PG&E supplied approximately 28 percent of the total electricity and approximately 38 percent of the total natural gas used in California (CEC 2020a).

Table 15 Electricity Consumption in the PG&E Service Area in 2018

Agriculture and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Streetlight	Total Usage
5,831.5	30,148.4	4,265.6	10,518.6	1,593.7	27,700.3	310.6	80,368.7

Notes: All usage expressed in gigawatt-hours

Source: CEC 2020a

Table 16 Natural Gas Consumption in PG&E Service Area in 2018

Agriculture and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Total Usage
37.2	899.1	59.0	1,776.0	190.2	1,832.8	4,794.4

Notes: All usage expressed in million U.S. therms.

Source: CEC 2020a

Petroleum

In 2018, approximately 40 percent of the state’s energy consumption was used for transportation activities (United States Energy Information Administration 2020). Californians presently consume over 17 billion gallons of motor vehicle fuels per year (CEC 2020c). Though California’s population and economy are expected to grow, gasoline demand is projected to decline from roughly 15.6 billion gallons in 2017 to between 12.1 billion and 12.6 billion gallons in 2030 (a 19 percent to 22 percent reduction) in response to both increasing vehicle electrification and higher fuel economy for new gasoline vehicles (CEC 2018a).

Impact Analysis

a. *Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

Construction

Project construction would require energy resources primarily in the form of fuel consumption to operate heavy equipment, light-duty vehicles, machinery, and generators. Temporary power may also be provided for construction trailers and electric construction equipment. Table 17 summarizes the anticipated energy consumption from construction equipment and vehicles, including construction worker trips to and from the project site, which was calculated based on the inputs and assumptions for the air quality modeling as detailed in Section 3, *Air Quality*. As shown therein, project construction would require approximately 40,700 gallons of gasoline and approximately 90,521 gallons of diesel fuel.

Table 17 Proposed Project Construction Energy Usage

	Fuel Consumption (gallons)	
Source	**Gasoline**	**Diesel**
Construction Equipment & Hauling Trips	–	90,521
Construction Worker Vehicle Trips	40,700	–

See Appendix E for energy calculation sheets.

Energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of California Code of Regulations, Title 13, Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes and would minimize unnecessary fuel consumption. Construction equipment would be subject to the U.S. EPA Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption.

Electrical power would be consumed to construct the project, and the demand, to the extent required, would be supplied from existing electrical infrastructure in the area. However, construction activities would require minimal electricity consumption and would not be expected to have any adverse impact on available electricity supplies or infrastructure. In addition, per applicable regulatory requirements such as 2019 CALGreen, the project would be required to comply with construction waste management practices to divert a minimum of 65 percent of construction and demolition debris. These practices would result in efficient use of energy necessary to construct the project. Furthermore, in the interest of cost-efficiency, construction contractors would not utilize fuel in a manner that is wasteful or unnecessary. Therefore, project construction would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy, and impacts would be less than significant.

Operation

Energy consumption during project operation would consist of transportation fuels for employee, delivery, and other vehicle trips; diesel fuels for backup generator testing; natural gas usage for space and water heating as well as natural-gas powered equipment; and electricity usage for exterior and interior lighting, appliances, computer servers; and any electrically-powered heating, ventilation, and air conditioning equipment. Table 18 summarizes estimated net new operational energy consumption for the proposed project, accounting for the energy consumption of existing uses. As shown therein, project operation would require net new annual consumption of approximately 188,615 gallons of gasoline and 41,817 gallons of diesel fuel for transportation fuels, 110,597 MWh of electricity, 11,803 million Btu of natural gas, and 203,730 gallons of diesel fuel for generator testing.[4] The project would provide a transformer yard and two overhead transmission lines to connect to the nearby PG&E substation to handle the electricity requirements of the proposed data center in Building 4.

[4] Energy consumption associated with the existing use of the project site as a vehicle storage area for an automobile auction company is limited to consumption of transportation fuels for vehicle trips. No electricity or natural gas consumption is assumed to be part of the baseline because the existing buildings on-site are currently vacant.

Table 18 Net New Operational Energy Usage

Source	Energy Consumption	
Transportation Fuels[1]		
Gasoline	188,615 gallons	20,707 MMBtu
Diesel	41,817 gallons	5,330 MMBtu
Electricity		
Buildings 1 to 3 and Parking Lot	2,997 MWh	10,226 MMBtu
Building 4	107,600 MWh	367,131 MMBtu
Natural Gas Usage	11,803 MMBtu	11,803 MMBtu
Generator Diesel Fuel[2]	203,730 gallons	25,967 MMBtu

kBtu = thousand British thermal units, MMBtu = million British thermal units

[1] Transportation fuel estimates are based on net new vehicle miles traveled associated with the proposed project, accounting for existing uses.

[2] Assumes maximum permitted operations of 50 hours per year for each generator and that diesel fuel consumption rates for generator testing at 100 percent load with fan are approximately 42.7 gallons per hour for the 600-kW generator and 175.3 gallons per hour for the 2.5-MW generators based on specification sheets for representative generators (see Appendix A for generator specifications).

See Appendix E for transportation energy calculation sheets.

The project would be required to comply with all standards set in the latest iteration of California Code of Regulations, Title 24, and the City's Reach Code (Ordinance No. 20-52), which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources by the built environment during operation**.** California's CALGreen standards (California Code of Regulations, Title 24, Part 11) require implementation of energy-efficient light fixtures and building materials into the design of new construction projects. Furthermore, the 2019 California Energy Code (California Code of Regulations, Title 24, Part 6) require newly-constructed buildings to meet energy performance standards set by the CEC. These standards are specifically crafted for new buildings to result in energy efficient performance so that the buildings do not result in wasteful, inefficient, or unnecessary consumption of energy. For example, according to the CEC, nonresidential buildings will use about 30 percent less energy under the 2019 California Energy Code as compared to the 2016 California Energy Code, mainly due to lighting upgrades (CEC 2018b). In addition, per CALGreen, all plumbing fixtures used in the proposed buildings would be high-efficiency fixtures, which would minimize the potential the inefficient or wasteful consumption of energy related to water and wastewater. In addition, the City's Reach Code, which would apply to the proposed project, includes more stringent requirements in some areas than the Title 24 standards. For example, the City's Reach Code requires installation of solar panels and additional electric vehicle charging stations and achievement of greater energy efficiency than required under the Title 24 standards for nonresidential land uses. Furthermore, the proposed data center in Building 4 would utilize direct evaporative cooling units for climate control that lower indoor temperatures by cooling incoming air with evaporated water for approximately two percent of the year. For the remainder of the year, these units would be able to supply outdoor air directly to the interior without further conditioning because outdoor temperatures would be sufficiently cool. After the cooling air has absorbed heat from the computer servers, the heated air would then be removed via arrays of rooftop exhaust fans. This design would reduce the project's energy consumption related to climate control as compared to conventional data centers, which tend to use a combination of more energy-intensive chillers and heat rejection equipment. In addition, all buildings would have white roofs, which would reflect sunlight and thereby reduce the cooling demand for the proposed buildings. Furthermore, the project's use of nonrenewable energy resources would be further reduced over time because the percentage of electricity generated by renewable resources supplied by PG&E continues to increase to comply with state requirements through Senate Bill (SB) 100, which requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. Therefore, the project's built environment would not result in the wasteful, inefficient, or unnecessary consumption of energy during project operation.

The data center industry evaluates the efficiency of data centers using the Power Usage Effectiveness (PUE) factor. The PUE is calculated by dividing the total demand of the data center by the critical IT load. The closer the PUE is to a value of 1, the more efficient data center operations are. Table 19 summarizes the range and relative efficiency level associated with different PUE factors. As shown therein, a PUE between 1.5 and 2.0 is considered "efficient" while a PUE between 1.2 to 1.5 is considered "very efficient." The global average PUE for data centers is currently 1.59 (Uptime Institute 2020).

Table 19 Power Usage Effectiveness Factors and Efficiency Levels

Power Usage Effectiveness Factor	Level of Efficiency
3.0	Very Inefficient
2.5	Inefficient
2.0	Average
1.5	Efficient
1.2	Very Efficient

Source: 42U 2020

The proposed data center in Building 4 would be designed to provide up to 37.8 MW of critical information technology (IT) load. The project would have a peak load of 49 MW; however, during average operating conditions, the project would have a total load of 40.7 MW and an expected critical IT load of 37.8 MW. Accordingly, at peak operating capacity, the PUE for the proposed project would be 1.30;[5] however, the average annualized PUE for the proposed project would be 1.08.[6] As shown in Table 19, a PUE between 1.2 and 1.5 is considered "efficient," and a PUE of 1.2 and below is considered "very efficient." Therefore, under peak conditions, the project would operate at an "efficient" level, and under average operating conditions, the project would operate at a "very efficient" level. Furthermore, the proposed data center would be a hyperscale data center, which is capable of achieving higher server utilization rates than a traditional data center. The proposed data center would also incorporate variable speed drives and variable frequency drives on fans and motors, LED lighting, and an electronic power management system. These features would further ensure the efficient use of energy by data center operations.[7] Furthermore,

[5] Peak demand of 49 MW divided by peak critical IT load of 37.8 MW

[6] Average demand of 40.7 MW divided by expected critical IT load of 37.8 MW

[7] The tenant of Building 4 has committed to procuring a 100 percent renewable energy mix by 2025, which would reduce the project's consumption of nonrenewable energy resources. However, for the purpose of providing a conservative estimate of project impacts related to energy consumption, this commitment is not considered in the analysis.

the proposed data center operations would not result in the wasteful, inefficient, or unnecessary consumption of electricity.

The project would include Clean Air/EV spaces in accordance with the requirements of the City's Reach Code, which would encourage the use of electric vehicles and reduce gasoline fuel consumption by employee vehicle trips. In addition, the project would include 40 bicycle parking spaces that would facilitate employees' use of alternative transportation. Furthermore, the project would include employee amenity areas, including seating, an area for potential food truck parking, and a fitness system, which would reduce employee vehicle trips to off-site destinations during the work day. In addition, because use of the backup generators would be limited to routine maintenance and extended power outages, deliveries to re-supply diesel fuel stored on-site would be infrequent and only on an as-needed basis. In addition, vehicles driven by future employees of the project would be subject to increasingly stringent federal and state fuel efficiency standards, minimizing the potential for the inefficient consumption of vehicle fuels. Therefore, transportation fuel consumption by employee and delivery vehicle trips would not be wasteful, inefficient, or unnecessary.

Maintenance and emergency use of the backup generators would not result in the wasteful, inefficient, or unnecessary consumption of energy because routine maintenance would only be conducted periodically based on the minimum requirements to ensure reliability and operation would only occur during infrequent extended power outage events.

Overall, project operation would consume electricity, natural gas, and gasoline and diesel fuels. However, because of project design features that would maximize energy efficiency and conservation, overall project operation would not result in the wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, operational energy impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Hayward's Climate Action Plan (CAP) was adopted by the Hayward City Council on July 28, 2009 and incorporated into the City's General Plan in 2014 (City of Hayward 2014). The purpose of the CAP is to advance Hayward in becoming a more environmentally and socially sustainable community. Those policies in the CAP specifically pertaining to energy efficiency and renewable energy include NR-4.1 through NR-4.15 relating to energy-efficient design of new development and renewable energy generation. As detailed further in Section 8, *Greenhouse Gas Emissions*, the proposed project would be consistent with applicable policies from the City's CAP. In addition, as described under question (a), the project would implement a host of energy efficiency design measures. Therefore, the proposed project would not interfere with the energy-related measures of the CAP and therefore would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. As such, no impact would occur.

NO IMPACT

7 Geology and Soils

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

Setting

Geotechnical Investigations for the proposed project were prepared by Cornerstone Earth Group in January 2020. One report was prepared for Buildings 1, 2, and 3 and one report was prepared for Building 4. Both reports are included in Appendix F. The purpose of the investigations were to evaluate physical and engineering properties of the subsurface soils, engineering analysis to prepare recommendations for site work and grading, building foundations, flatwork, retaining walls, and pavements. Much of the analysis in this section is based on the information in this report.

Seismic Setting

Similar to much of California, the site is located in a seismically active region. The United States Geological Survey (USGS) defines active faults as those that have had surface displacement within the Holocene period (about the last 11,000 years). Surface displacement can be recognized by the existence of cliffs in alluvium, terraces, offset stream courses, fault troughs and saddles, the alignment of depressions, sag ponds, and the existence of steep mountain fronts. Potentially active faults are those that have had surface displacement during the last 1.6 million years, and inactive faults have not had surface displacement within that period. Several faults are within and near the site, including the San Andreas Fault and the Hayward Fault. The Hayward Fault is the closest major fault to the project site and is one of ten major faults that make up the San Andreas Fault Zone. As a result of its location and geologic setting, the City of Hayward is subject to a variety of seismic and geologic hazards, including fault rupture, strong ground shaking, liquefaction, and landslides.

Ground Shaking

Seismically induced ground shaking covers a wide area and is greatly influenced by the distance of the site to the seismic source, soil conditions, and depth to groundwater. The USGS and Associated Bay Area Governments (ABAG) have worked together to map the likely intensity of ground-shaking throughout the Bay Area under various earthquake scenarios. The most intense ground-shaking scenario mapped in the Bay Area assumes a 6.9 magnitude earthquake on the Hayward Fault system. The predicted ground-shaking from such an earthquake would be “very violent” or “violent” throughout the City of Hayward (ABAG 2016).

Liquefaction and Seismically Induced Settlement

Liquefaction is defined as the sudden loss of soil strength due to a rapid increase in soil pore water pressure resulting from seismic ground shaking. Liquefaction potential is dependent on such factors as soil type, depth to ground water, degree of seismic shaking, and the relative density of the soil. When liquefaction of the soil occurs, buildings and other objects on the ground surface may tilt or sink, and lightweight buried structures (such as pipelines) may float toward the ground surface. Liquefied soil may be unable to support its own weight or that of structures, which could result in loss of foundation bearing or differential settlement. Liquefaction may also result in cracks in the ground surface followed by the emergence of a sand-water mixture. Figure 9-2 of the 2040 General Plan Background Report shows that the project site is located in an area of liquefaction potential (City of Hayward 2014b).

Landslides

Landslides result when the driving forces that act on a slope (i.e., the weight of the slope material, and the weight of objects placed on it) are greater than the slope’s natural resisting forces (i.e., the shear strength of the slope material). Slope instability may result from natural processes, such as the erosion of the toe of a slope by a stream, or by ground shaking caused by an earthquake. Slopes can also be modified artificially by grading, or by the addition of water or structures to a slope. Development that occurs on a slope can substantially increase the frequency and extent of potential slope stability hazards.

Areas susceptible to landslides are typically characterized by steep, unstable slopes in weak soil/bedrock units which have a record of previous slope failure. There are numerous factors that affect the stability of the slope, including: slope height and steepness, type of materials, material strength, structural geologic relationships, ground water level, and level of seismic shaking. The project site is located in a generally flat, developed area.

Expansive Soils

Expansive soils can change dramatically in volume depending on moisture content. When wet, these soils can expand; conversely, when dry, they can contract or shrink. Sources of moistures that can trigger this shrink-swell phenomenon include seasonal rainfall, landscape irrigation, utility leakage, and/or perched groundwater. Expansive soil can develop wide cracks in the dry season, and changes in soil volume have the potential to damage concrete slabs, foundations, and pavement. Special building/structure design or soil treatment are often needed in areas with expansive soils. The geotechnical investigations identify the presence of expansive soils as a potential hazard at the project site.

Erosion

Erosion is the wearing away of the soil mantle by running water, wind or geologic forces. It is a naturally occurring phenomenon and ordinarily is not hazardous. However, excessive erosion can contribute to landslides, siltation of streams, undermining of foundations, and ultimately the loss of structures. Removal of vegetation tends to heighten erosion hazards. The City of Hayward enforces grading and erosion control ordinances to reduce these hazards.

Impact Analysis

a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

According to the California Department of Conservation (DOC) and the Geotechnical Reports, there are no known faults located on or adjacent to the project site (DOC 2020). The nearest known faults are the Hayward and Calaveras faults which are respectively 3.5 miles and 11 miles from the project site, respectively. Therefore, the proposed project would not directly or indirectly cause substantial adverse impacts associated with surface fault rupture. No impact would occur.

NO IMPACT

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The project site is located in an area of relatively high seismic potential. The faults in the area are capable of generating earthquakes that could produce violent to very violent ground shaking at the project site. The U.S. Geological Survey (USGS) Working Group on California Earthquake Probabilities estimates that each region of California will experience a magnitude 6.7 or larger earthquake in the next 30 years. Additionally, there is a 63 percent chance of at least one magnitude 6.7 or greater earthquake occurring in the Bay Area region between 2007 and 2036 (Appendix F).

The faults considered capable of generating significant earthquakes near the project site include:

- Hayward fault, 3.5 from the site
- Calaveras fault, 11 miles
- San Andreas fault, 15 miles
- Monte Vista-Shannon fault, 15 miles

The effects of earthquake-related ground shaking could include damage to the proposed structures, as well as damage to streets and utilities, and impacts to workers or people on the project site. However, compliance with the current CBC requirements would ensure that the proposed structures and transmissions lines would be able to: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage, but with some non-structural damage; and (3) resist major earthquakes without collapse, but with some structural as well as nonstructural damage. By adhering to applicable State and City building code requirements, the direct or indirect impacts from development of the proposed project as they relate to strong seismic ground shaking would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

c. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

According to the Geotechnical Investigations, the northern and southern project site is not located on an area susceptible to lateral spreading. However, the northern and southern project site is located within a state-designated liquefaction zone (DOC 2020). The factors known to influence liquefaction potential include grain size, relative density, groundwater conditions, effective confining pressures, and intensity and duration of ground shaking. Loose, saturated, near-surface, cohesionless soils exhibit the highest liquefaction potential, while dense, cohesionless soils and cohesive soils exhibit low to negligible liquefaction potential. The Geotechnical Investigation indicated that there are several layers on the project site which could potentially experience liquefaction-induced settlement ranging from 0.1 to 3.1 inches for Buildings 1 through 3 and 0.46 to 0.66 for Building 4, which could result in differential settlement up 1.5 inches at the southwest portion of building 3 and 0.75 inch for the northwest and eastern portions of Building 3 and Building 1, Building 2, and Building 4 (Appendix F).

In addition, loose unsaturated sandy soils can settle during strong seismic shaking. The project site near Buildings 1 through Building 3 could experience up to 0.7 inches of movement after a strong seismic event and the project site near Building 4 could experience 0.36 inches of movement after a strong seismic event. With the potential for liquefaction and settlement, the Geotechnical Investigation concluded that from a geotechnical viewpoint, the project is feasible provided the considerations included in Mitigation Measure GEO-1 below are addressed in the project design.

Mitigation Measure

The following mitigation measure is required:

GEO-1 Geotechnical Considerations

The project applicant shall implement the Foundation Recommendations set forth in Section 7 (Foundations) of the Geotechnical Investigations prepared by Cornerstone Earth Group for Buildings 1, 2, 3, and 4 in January 2020. Recommendations include but are not limited to the seismic design criteria (Section 7.2) and shallow foundations (Section 7.3).

In addition, a comprehensive site-specific design-level geotechnical exploration shall be prepared as part of the design process. The exploration may include borings and laboratory soil testing to provide data for preparation of specific recommendations regarding grading, foundation design, corrosion potential, and drainage for the proposed project. The recommendations set forth in the design-level geotechnical exploration shall be implemented.

Significance After Mitigation

According to the Geotechnical Investigations, the proposed structures may be supported on shallow foundations provided the specific recommendations in the reports are followed. Therefore, implementation of Mitigation Measure GEO-1 would reduce the liquefaction and unstable geologic soil impacts through foundational design to tolerate total and differential settlement. Impacts from liquefaction or unstable soils would be less than significant with implementation of mitigation.

LESS THAN SIGNIFICANT IMPACT

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The project site and surroundings are generally flat and developed. There are no steep slopes located on or near the site or proposed transmission line route. Therefore, there is no potential for landslides at the site. No impact would occur.

NO IMPACT

b. Would the project result in substantial soil erosion or the loss of topsoil?

Construction of the proposed project would require earthwork activities to prepare the site for the construction of the industrial structures. As the proposed project would disturb over one acre of land, the applicant would be required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ or 2009-0009-DWQ General Permit) to comply with Clean Water Act (CWA) National Pollutant Discharge Elimination System (NPDES) requirements. Compliance with these requirements would include preparation of a Storm Water Pollution Prevention Plan (SWPPP), which would specify Best Management Practices (BMP) to reduce erosion during construction activities. In accordance with HMC Section 10-3.705, the project applicant is also required to prepare and implement an Erosion and Sediment Control Plan to prevent illicit discharge. Appropriate erosion control and permanent site surface drainage elements per the latest California Building Code would also be implemented, which would reduce soil erosion upon completion and operation of the project. With required implementation of these plans, permits, and BMPs, substantial erosion or the loss of topsoil would not occur at the project site. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

The project site contains moderately expansive soils over its entire area (Appendix F). Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dried and expand and soften when wetted. These soils could impact the proposed structures and development on-site. The Geotechnical Investigation concluded that from a geotechnical viewpoint, the project is feasible provided the recommendations included in Mitigation Measure GEO-1 are addressed in the project design.

Mitigation Measure

GEO-2 Geotechnical Considerations

The project applicant shall implement the Grading and Foundation Recommendations set forth in Section 6 (Earthwork) and Section 7 (Foundations) of the Geotechnical Investigations for Buildings 1, 2, 3, and 4 prepared by Cornerstone Earth Group in January 2020.

In addition, a comprehensive site-specific design-level geotechnical exploration shall be prepared as part of the design process. The exploration may include borings and laboratory soil testing to provide data for preparation of specific recommendations regarding grading, foundation design, corrosion potential, and drainage for the proposed project. The recommendations set forth in the design-level geotechnical exploration shall be implemented.

Significance After Mitigation

Implementation of Mitigation Measure GEO-2 would reduce expansive soils impacts by requiring slabs-on-grade to have sufficient reinforcement and be supported on a layer of non-expansive fill, footings to extend below the zone of seasonal moisture fluctuation, and limiting moisture changes in the surficial soils by using positive drainage away from buildings as well as limiting landscaping watering. Impacts from expansive soil would be less than significant with implementation of mitigation.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The proposed project would not include components that would require the use of septic tanks. The proposed project would connect to the City of Hayward municipal sewer system. There would be no impact.

NO IMPACT

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The paleontological sensitivities of the geologic units underlying the project site were evaluated in order to determine if activity conducted under the proposed project could result in significant impacts to paleontological resources. The analysis was based on the results of an online paleontological locality search and review of existing information in the scientific literature concerning known fossils within geologic units mapped within the project site. Fossil collections records from the Paleobiology Database and University of California Museum of Paleontology (UCMP) online database were reviewed for known fossil localities in Alameda County (Paleobiology Database 2020; UCMP 2020). Based on available information contained within existing scientific literature and the UCMP database, paleontological sensitivities were assigned to the geologic units underlying the project site. The potential for impacts to scientifically important paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units. The Society of Vertebrate Paleontology (SVP) has developed a system for assessing paleontological sensitivity and describes sedimentary rock units as having high, low, undetermined, or no potential for containing scientifically significant nonrenewable paleontological resources (SVP 2010). This system is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present.

The project site is entirely mapped as Quaternary young (middle to late Holocene) alluvium (Qa), consisting of alluvial gravel, sand, and clay of valley areas, as well as gravel and sand of major stream channels (Dibblee and Minch 2005). Locally, middle to late Holocene alluvial (basin) deposits are generally very fine silty clays and clays deposited near the distal edge of alluvial fans and adjacent to Bay Mud, which may extend partially onto the western or southern edge of the site (Cornerstone Earth Group 2020; Appendix F). Quaternary young (middle to late Holocene) sedimentary deposits, particularly those younger than 5,000 years old, are generally too young to preserve paleontological resources and are determined to have a low paleontological sensitivity according to SVP standards (2010). However, middle to late Holocene deposits may grade downward into early Holocene to late Pleistocene deposits that could preserve fossil remains at moderate or unknown depths. Quaternary old (early Holocene to Pleistocene) alluvial sediments have a well-documented record of abundant and diverse vertebrate fauna throughout California. Localities have produced fossil specimens of mammoth (*Mammuthus columbi*), horse (*Equus*), camel (*Camelops*), and bison (*Bison*), as well as various birds, rodents, and reptiles (Agenbroad 2003; Jefferson 2010; Paleobiology Database 2020; Savage 1954; UCMP 2020). Therefore, Quaternary old (early Holocene to Pleistocene) alluvial deposits are assigned a high paleontological sensitivity.

Accurately assessing the boundaries between younger and older units within the project site generally requires site-specific geochronological data, some form of radiometric dating, or fossil analysis from nearby sites. Conservative estimates of the depth at which paleontologically sensitive units may occur reduces potential for impacts to paleontological resources. The depths at which these units become old enough to yield fossils is highly variable, but generally does not occur at depths of less than 10 feet.

Project-related ground disturbance would involve cut and fill activities and grading for the proposed building foundations. As discussed above, the project site is in an urbanized area and has been previously developed. Given the nature of the proposed project and existing site conditions, project-related ground disturbance (i.e., excavations) is not likely to extend below the boundary between artificial fill and native (i.e., previously undisturbed) sediments within the project site, and is thus unlikely to impact fossiliferous deposits. Although project implementation is not expected to uncover paleontological resources, a remote possibility for such resources to be uncovered exists, and therefore the potential for impacts that would be potentially significant cannot be excluded. Therefore, impacts are potentially significant and mitigation is required.

Mitigation Measure

GEO-2 Unanticipated Discovery of Paleontological Resources

In the event an unanticipated fossil discovery is made during the course of project development, construction activity should be halted in the immediate vicinity of the fossil, and a qualified professional paleontologist should be notified and retained to evaluate the discovery, determine its significance, and determine if additional mitigation or treatment is warranted. Work in the area of the discovery will resume once the find is properly documented and authorization is given to resume construction work. Any significant paleontological resources found during construction monitoring will be prepared, identified, analyzed, and permanently curated in an approved regional museum repository under the oversight of the qualified paleontologist.

Significance After Mitigation

Mitigation Measure GEO- 2 would avoid impacts to paleontological resources in the case of unanticipated fossil discoveries. This measure would apply to all phases of project construction and would reduce the potential for impacts to unanticipated fossils present on site by providing for the recovery, identification, and curation of paleontological resources.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	□	■	□	□
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	□	□	■	□

Greenhouse Gases and Climate Change Setting

Climate change is the observed increase in the average temperature of the earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. The baseline against which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming during the past 150 years. Per the United Nations Intergovernmental Panel on Climate Change, the understanding of anthropogenic warming and cooling influences on climate has led to a high confidence (95 percent or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-twentieth century (Intergovernmental Panel on Climate Change 2007).

GHGs are gases that absorb and re-emit infrared radiation in the atmosphere. The gases widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane, nitrous oxide, fluorinated gases such as hydrofluorocarbons and perfluorocarbons, and sulfur hexafluoride. Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and methane are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. Anthropogenic GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and sulfur hexafluoride (United States Environmental Protection Agency 2020).

The accumulation of GHGs in the atmosphere regulates Earth's temperature. Without the natural heat-trapping effect of GHGs, Earth's surface would be about 34 degrees Celsius cooler (California

Environmental Protection Agency 2006). However, emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of GHGs in the atmosphere beyond the level of naturally occurring concentrations. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Some of the potential impacts of climate change in California may include loss of snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (State of California 2018). While these potential impacts identify the possible effects of climate change at a statewide level, in general, scientific modeling tools are currently unable to predict what impacts would occur locally.

The City of Hayward completed a baseline 2005 GHG emissions inventory that estimated communitywide emissions of 1,183,279 metric tons (MT) of CO_2 equivalents (CO_2e) per year. The primary emissions sources were transportation (approximately 62 percent), commercial/industrial energy (approximately 20 percent), and residential energy (approximately 13 percent; City of Hayward 2013). The City has adopted GHG reduction goals of 20 percent below 2005 emission levels by 2020, 30 percent below 2005 emission levels by 2025, and 55 percent below 2005 emission levels by 2030. The City is also striving to achieve carbon neutrality by 2045 (City of Hayward 2020a).

Methodology

GHG emissions for project construction and operation were calculated using CalEEMod version 2016.3.2. CalEEMod calculates emissions of CO_2, methane, and nitrous oxide associated with construction activities, energy use, area sources, waste generation, and water use and conveyance as well as emissions of CO_2 and methane associated with mobile sources. Operational emissions were modeled for the year 2030 to be consistent with the State's next GHG emission reduction milestone target of achieving 40 percent reduction in 1990 GHG emission levels by 2030. Emissions of all GHGs are converted into their equivalent global warming potential in terms of CO_2 (i.e., CO_2e).

Electricity emissions are calculated by multiplying the energy use times the carbon intensity of the utility district per kilowatt hour (California Air Pollution Control Officers Association 2017). The project would be served by PG&E; therefore, PG&E's specific energy intensity factors (i.e., the amount of CO_2, methane, and nitrous oxide per kilowatt-hour) are used in the calculations of GHG emissions. The energy intensity factors included in CalEEMod are based on 2009 data by default at which time PG&E had only achieved a 14.1 percent procurement of renewable energy. Per SB 100, the statewide Renewable Portfolio Standard (RPS) Program requires electricity providers to increase procurement from eligible renewable energy sources to 60 percent by 2030. To account for the continuing effects of the RPS, the energy intensity factors included in CalEEMod were reduced based on the percentage of renewables reported by PG&E. PG&E energy intensity factors that include this reduction are shown in Table 20.

Table 20 PG&E Energy Intensity Factors

	2009 (lbs/MWh)	2030 (lbs/MWh)[2]
Percent procurement	14.1%[1]	60%
Carbon dioxide (CO_2)	641.35	298.65
Methane (CH_4)	0.029	0.014
Nitrous oxide (N_2O)	0.006	0.003

[1] Source: California Public Utilities Commission 2011

[2] RPS goal established by SB 100

Because project construction is projected to begin in the first quarter of 2021, the project would be constructed in accordance with the 2019 Building Energy Efficiency Standards. Nonresidential buildings built in accordance with the 2019 Building Energy Efficiency Standards will use approximately 30 percent less electricity than those constructed under the 2016 standards (CEC 2018b).[8] Therefore, electricity usage for Buildings 1 through 3 was reduced by 30 percent to account for the requirements of 2019 Title 24 standards. Based on applicant-provided information, Building 4 would consume approximately 107,600 megawatt-hours (MWh) of electricity per year. Because CalEEMod does not provide an appropriate proxy for data center operations, these energy emissions were calculated separately using CalEEMod energy emissions factors for PG&E as adjusted for the 2030 Renewable Portfolio Standard requirement (see Table 20).[9] See Appendix A for calculations.

CalEEMod does not provide a default outdoor water use estimate for industrial park land uses; therefore, to estimate GHG emissions associated with outdoor water use, a vegetation water use factor for the San Francisco region of 2.43 acre-feet per year of water per acre of landscaped area was used (Pacific Institute 2003). The project would include approximately 4.8 acres of landscaped area, which would require approximately 11.7 acre-feet (or 3,812,456 gallons) of water per year. In addition, all wastewater generated by the project would be treated by the Hayward Wastewater Treatment Plant, which does not utilize septic tanks or facultative lagoons (City of Hayward 2020b). As a result, CalEEMod was adjusted to account for 100 percent aerobic treatment of the project's wastewater.

The City of Hayward has achieved an approximately 77 percent solid waste diversion rate (City of Hayward 2015); therefore, the default solid waste generation rate in CalEEMod was adjusted to account for increased solid waste diversion.

Significance Thresholds

The majority of individual projects do not generate sufficient GHG emissions to create significant project-specific environmental effects. However, the environmental effects of a project's GHG emissions can contribute incrementally to cumulative environmental effects that are significant, contributing to climate change, even if an individual project's environmental effects are limited (CEQA Guidelines Section 15064[h][1]). The issue of a project's environmental effects and

[8] Compliance with the City's Reach Code (Ordinance No. 20-52) would further reduce energy usage; however, exact details on compliance methods are not available at this stage of design. Therefore, this analysis conservatively does not include an additional reduction in energy usage and associated GHG emissions for compliance with the Reach Code.

[9] The Building 4 tenant has committed to procuring a 100 percent renewable energy mix by 2025. However, for the purposes of providing a conservative estimate of project impacts, it was assumed that all electricity required for Building 4 would be supplied by PG&E's standard electricity mix for 2030 with 60 percent procurement from eligible renewable energy sources.

contribution towards climate change typically involves an analysis of whether or not a project's contribution towards climate change is cumulatively considerable. Cumulatively considerable means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines Section 15064[h][1]).

According to the CEQA Guidelines, projects can tier from a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through a comparison of the project's consistency with the GHG reduction policies included in a qualified GHG reduction plan. This approach is considered by the Association of Environmental Professionals in their white paper, *Beyond Newhall and 2020*, to be the most defensible approach presently available under CEQA to determine the significance of a project's GHG emissions (Association of Environmental Professionals 2016). The City of Hayward has developed a CAP, which has been adopted as a part of the City's General Plan. However, the CAP does not demonstrate a pathway for the City to achieve the 40 percent reduction target by 2030 required by SB 32. Therefore, the CAP does not qualify as a GHG reduction plan under CEQA Guidelines Section 15183.5 and thus cannot be used for project tiering. In its 2017 CEQA Air Quality Guidelines, the BAAQMD outlines an approach to determine the significance of GHG emissions associated with land use development projects. For residential, commercial, industrial, and public projects, the thresholds of significance for operational-related GHG emissions are as follows:

- Compliance with a qualified GHG Reduction Strategy
- Annual emissions less than 1,100 MT per year of CO_2e
- Per service person emissions of 4.6 MT of CO_2e per service person per year (residents + employees)

As discussed above, the City has not adopted a qualified GHG Reduction Strategy; therefore, it is not appropriate to use the first recommended threshold of significance. The BAAQMD mass emissions threshold of 1,100 MT of CO_2e per year was designed to capture 90 percent of all emissions associated with projects in the SFBAAB and require implementation of mitigation so that a considerable reduction in emissions from new projects would be achieved. According to the California Air Pollution Control Officers Association white paper *CEQA & Climate Change*, a quantitative threshold based on a 90 percent market capture rate is generally consistent with AB 32 (California Air Pollution Control Officers Association 2008). SB 32, codified in 2016, sets a more stringent emission reduction target of 40 percent below the 1990 level by 2030. Because the previously established threshold of 1,100 MT of CO_2e was not developed to meet the targets established by SB 32, it is adjusted for the purposes of this analysis to meet the new, more stringent emission reduction target of a 40 percent reduction below the 1990 level by 2030. Because BAAQMD has not adopted a threshold for 2030 yet, this analysis uses a bright-line threshold of 660 MT of CO_2e per year (equivalent to a 40 percent reduction of the 1,100 MT of CO_2e per year threshold based on the State's 2030 target). The bright-line threshold is applicable to the proposed project because the City of Hayward does not have a qualified GHG reduction plan and the project is not a residential or mixed-use project for which impacts would be more appropriately evaluated using a service population threshold to reflect per-person emission efficiency.

Impact Analysis

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction Emissions

Project construction would generate temporary GHG emissions primarily due to the operation of construction equipment and truck trips. Site preparation and grading typically generate the greatest amount of emissions due to the use of grading equipment and soil hauling. The BAAQMD has not established a quantitative significance threshold for evaluating construction-related emissions; however, the BAAQMD does recommend quantifying and disclosing construction-related GHG emissions. Therefore, construction-related GHG emissions were quantified for informational purposes. Emissions generated by construction of the proposed project would be approximately 1,265 MT of CO_2e, or approximately 42 MT of CO_2e per year when amortized over a 30-year period (i.e., the lifetime of the project).

Operational Emissions

Table 21 summarizes net new operational GHG emissions associated with the proposed project and shows the net increase in emissions generated by the proposed project as compared to existing uses. As shown therein, net new operational emissions associated with the proposed project would be approximately 16,772 MT of CO_2e per year in year 2030, which would exceed the threshold of 660 MT of CO_2e per year. Therefore, GHG emissions would be potentially significant. It is noted that the tenant of Building 4 has committed to achieving carbon neutrality by 2040; therefore, GHG emissions from Building 4 along with total project emissions would decrease accordingly after year 2030. However, in accordance with guidance provided by AEP, the project's GHG emissions are evaluated for consistency with the State's next milestone target year of 2030.

Table 21 Combined Annual Emissions of GHGs

Emission Source	Annual Emissions (MT of CO_2e/year)
Operational	
Area	< 1
Energy[1]	15,615
Solid Waste	136
Water	155
Mobile	
CO_2 and CH_4	1,365
N_2O	25
Total Proposed Project Emissions	17,296
Existing Emissions	524
Net New Emissions (Proposed Project – Existing)	**16,772**
BAAQMD Land Use Threshold (Adjusted for SB 32)	660
Exceeds Threshold?	**Yes**

MT = metric tons; CO_2e = carbon dioxide equivalents

[1] The Building 4 tenant has committed to procuring a 100 percent renewable energy mix by 2025. However, for the purposes of providing a conservative estimate of project impacts, it was assumed that all electricity required for Building 4 would be supplied by PG&E's standard electricity mix for 2030 with 60 percent procurement from eligible renewable energy sources.

Source: See CalEEMod worksheets in Appendix A (Table 2.1 "Overall Operational-Mitigated Operational" emissions) and standalone electricity emission calculations for Building 4.

Stationary Source Emissions

Standby generators are stationary sources permitted by BAAQMD. Per the BAAQMD May 2017 CEQA Air Quality Guidelines, stationary source emissions should not be combined with operational emissions but should instead be compared to the BAAQMD stationary source threshold of 10,000 MT of CO_2e. The data center component of the project would include one 600-kW and 23 2.5-MW standby diesel generators. Generator emissions were calculated using fuel emissions rates for Diesel #2 for CO_2, methane, and nitrous oxide from U.S. EPA data (U.S. EPA 2018b). Fuel use rates were used for representative Tier 2 generators identified for the project (see Appendix A for generator specifications). As shown in Table 22, total emissions generated from maximum permitted annual generator operations at the project site would generate in approximately 2,087 MT of CO_2e per year, which would not exceed the BAAQMD's stationary source threshold of 10,000 MT CO_2e. Therefore, GHG emissions associated with generator testing would be less than significant.

Table 22 Stationary Source GHG Emissions

Emission Source[1]	Annual Emissions (MT of CO_2e/year)
Generator Testing and Operations[1]	2,087
BAAQMD Stationary Source Threshold	10,000
Exceeds Threshold?	**No**

MT = metric tons; CO_2e = carbon dioxide equivalents

[1] Conservatively assumes maximum permitted operations of 50 hours per year for each generator.

Source: Appendix A

Mitigation Measure

GHG-1 Greenhouse Gas Reduction Plan

The project applicant shall prepare and implement a GHG Reduction Plan (GHGRP) that demonstrates emissions reductions from project operation by approximately 16,112 MT of CO_2e per year to 660 MT of CO_2e per year for the lifetime of the project, or by an amount determined through further analysis of project GHG emissions at the time of GHGRP preparation. Potential GHG reduction measures included in the GHGRP may include, but would not be limited to, the following:

- Procure greater than 60 percent of the electricity consumed by Buildings 1 through 4 from eligible renewable and zero-carbon energy sources by 2030;
- Implement a transportation demand management program for employees, which may include the following measures:
  - Priority parking for carpools and vanpools
  - Subsidized transit passes for employees
  - Retention of a transportation demand management coordinator or creation of a website to provide transit information and/or coordinate ridesharing
  - Inclusion of shower and changing facilities in building design
  - Bicycle sharing
  - Emergency ride home program
  - Telecommuting or flexible schedule options to reduce transit time, vehicle miles traveled (VMT), and associated GHG emissions

- Directly undertake or fund activities that reduce or sequester GHG emissions (“Direct Reduction Activities”) and retire the associated “GHG Mitigation Reduction Credits.” A “GHG Mitigation Reduction Credit” shall mean an instrument issued by an Approved Registry and shall represent the estimated reduction or sequestration of 1 MT of CO_2e that shall be achieved by a Direct Reduction Activity that is not otherwise required (CEQA Guidelines Section 15126.4[c][3]). A “GHG Mitigation Reduction Credit” must achieve GHG emission reductions that are real, permanent, quantifiable, verifiable, enforceable, and in addition to any GHG emission reduction required by law or regulation or any other GHG emission reduction that otherwise would occur in accordance with the criteria set forth in the California Air Resources Board’s most recent *Process for the Review and Approval of Compliance Offset Protocols in Support of the Cap-and-Trade Regulation* (2013). An “Approved Registry” is an accredited carbon registry that follows approved California Air Resources Board Compliance Offset Protocols. At this time, Approved

Registries include American Carbon Registry, Climate Action Reserve, and Verra (California Air Resources Board 2018). Credits from other sources will not be allowed unless they are shown to be validated by protocols and methods equivalent to or more stringent than the California Air Resources Board standards. In the event that a project or program providing GHG Mitigation Reduction Credits to the project applicant loses its accreditation, the project applicant shall comply with the rules and procedures of retiring GHG Mitigation Reduction Credits specific to the registry involved and shall undertake additional direct investments to recoup the loss.

- Obtain and retire "Carbon Offsets." "Carbon Offset" shall mean an instrument issued by an Approved Registry and shall represent the past reduction or sequestration of 1 MT of CO_2e achieved by a Direct Reduction Activity or any other GHG emission reduction project or activity that is not otherwise required (CEQA Guidelines Section 15126.4[c][3]). A "Carbon Offset" must achieve GHG emission reductions that are real, permanent, quantifiable, verifiable, enforceable, and in addition to any GHG emission reduction required by law or regulation or any other GHG emission reduction that otherwise would occur in accordance with the criteria set forth in the California Air Resources Board's most recent *Process for the Review and Approval of Compliance Offset Protocols in Support of the Cap-and-Trade Regulation* (2013). If the project applicant chooses to meet some of the GHG reduction requirements by purchasing offsets on an annual and permanent basis, the offsets shall be purchased according to the City's preference, which is, in order of the City's preference: (1) within Hayward; (2) within the BAAQMD jurisdictional area; (3) within the State of California; then (4) elsewhere in the United States. In the event that a project or program providing offsets to the project applicant loses its accreditation, the project applicant shall comply with the rules and procedures of retiring offsets specific to the registry involved and shall purchase an equivalent number of credits to recoup the loss.

The GHGRP shall be submitted by the project developer and reviewed and approved by the City of Hayward as being in compliance with this measure prior to grading or building permit issuance. Applicable elements of the approved GHGRP shall be reflected on project site plans prior to certificate of occupancy. No more than 50 percent of the project's total requisite emission reduction over the project's lifetime may be achieved through direct reduction activities and carbon offsets. Condition compliance shall include monitoring and verifying implementation of measures included in the GHGRP.

Significance After Mitigation

To implement Mitigation Measure GHG-1, the project applicant may choose to apply a wide variety of GHG emission reduction measures to reduce project-related emissions to 660 MT of CO_2e per year. For example, the following combination of measures would reduce GHG emissions by approximately 16,112 MT of CO_2e per year, which would be sufficient to achieve the requisite reduction specified by Mitigation Measure GHG-1:

- Supply all on-site electricity for Buildings 1 through 4 from renewable energy sources (approximately 15,161 MT of CO_2e per year, equivalent to the project's estimated electricity demand for Buildings 1 through 4)
- Obtain and retire 951 Carbon Offsets (951 MT of CO_2e per year, or six percent of the project's requisite GHG emission reduction)

The above combination of measures is just one example of a combination of measures the project applicant could implement to achieve a reduction of 16,112 MT of CO_2e per year. The intent of the above list is to demonstrate that implementation of Mitigation Measure GHG-1 is technically feasible, and as such, a reduction of project-related GHG emissions to at or below 660 MT of CO_2e per year is achievable. Therefore, implementation of Mitigation Measure GHG-1 would reduce project-related emissions below the threshold of significance of 660 MT of CO_2e per year. Impacts would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

2017 Scoping Plan

The principal state plan and policy is AB 32, the California Global Warming Solutions Act of 2006, and the follow-up, SB 32. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020 and the goal of SB 32 is to reduce GHG emissions to 40 percent below 1990 levels by 2030. Pursuant to the SB 32 goal, the 2017 Scoping Plan was created to outline goals and measures for the state to achieve the reductions. The 2017 Scoping Plan's goals include reducing fossil fuel use and energy demand and maximizing recycling and diversion from landfills. The project would be consistent with these goals through project design, which includes complying with the latest Title 24 Green Building Code and Building Efficiency Energy Standards, utilizing direct evaporative cooling units, achieving carbon neutrality for Building 4 by 2040, designating Clean Air/EV spaces in accordance with the requirements of the City's Reach Code, installing white roofs and 40 bicycle parking spaces, and constructing employee amenity areas such as a fitness system and outdoor seating to reduce off-site vehicle trips. Therefore, impacts would be less than significant.

City of Hayward Climate Action Plan

Hayward's CAP was adopted by the Hayward City Council on July 28, 2009 and incorporated into the City's General Plan in 2014 (City of Hayward 2014). The purpose of the CAP is to make Hayward a more environmentally and socially sustainable community. The overall objective of the CAP is to reduce Hayward's GHG emissions by:

- 20 percent below 2005 baseline levels by 2020,
- 62.7 percent below 2005 baseline levels by 2040, and
- 82.5 percent below 2005 baseline levels by 2050.

In June 2020, these goals were revised to reflect California's goal of achieving economy-wide carbon neutrality by 2045. The City's current goals are to reduce GHG emissions by:

- 30 percent below 2005 levels by 2025,
- 55 percent below 2005 levels by 2030, and
- 100 percent below 2005 levels (i.e., carbon neutrality) by 2045.

The CAP includes GHG reduction strategies and actions relating to transportation, land use, energy, solid waste, carbon sequestration, climate change adaptation, and community engagement. The proposed project includes several design features that are consistent with strategies and actions from the City's CAP. Policy LU-1.8, *Green Building and Landscaping Requirements*, states the City's intention to maintain and implement green building and landscaping requirements for private development. Policy NR-4.3, *Efficient Construction and Development Practices*, calls for the City to encourage construction and building development practices that maximize the use of renewable resources and minimize the use of non-renewable resources throughout the life-cycle of a structure. Policy NR-4.11, *Green Building Standards,* requires that newly constructed buildings meet energy efficiency design and operations standards. Policy NR-2.6, *Greenhouse Gas Reduction in New Development,* calls for the City to reduce potential GHG emissions by such means as promoting infill development and energy-efficient building design. The proposed project is an infill redevelopment project that would be required to comply with CALGreen and other green building requirements as well as HMC Chapter 10, Article 20 (Bay-Friendly Landscaping Ordinance). Moreover, as described in Section 6, *Energy,* construction and operation of the project would not involve the wasteful or inefficient use of energy.

Policy M-1.6, *Bicycle, Walking, and Transit Amenities*, encourages the development of facilities and services to enable bicycling, walking, and transit use, and Policy M-6.2, *Encourage Bicycle Use*, encourages bicycle use in all neighborhoods. In addition, Policy NR-2.10, *Zero-Emission and Low-Emission Vehicle Use*, calls for the City to encourage the use of zero-emission vehicles, low-emission vehicles, and bicycles by requiring sufficient and convenient parking facilities. The proposed project would include 20 short-term and 20 long-term bicycle parking spaces as well as Clean Air/EV spaces in accordance with the requirements of the City's Reach Code, which would facilitate the use of bicycling and electric vehicles as means of transportation for employees.

Policy NR-6.11, *Reclaimed Water Usage*, states the City's policy to increase the use of reclaimed water, and Policy NR-6.12, *Dual Plumbing Systems*, encourages the installation of dual plumbing systems in new buildings to recycle graywater. Building 4 of the proposed project would include a dual plumbing system to allow for a future connection to the City's purple pipe reclaimed water system. In addition, until reclaimed water is available for use, the evaporative cooling system of Building 4 would be designed to reuse potable water a minimum of three times before discharge to the sewer system.

Policy HQL-8.4, *Urban Heat Island Effects*, promotes planting shade trees with substantial canopies to shade parking lots and reduce heat island effects. The project would include planting of over 250 trees throughout the project site, including 52 parking lot trees.

PFS-7.12, *Construction and Demolition Waste Recycling*, requires new development to salvage or recycle asphalt and concrete and all other non-hazardous construction and demolition materials to the maximum extent practicable. In accordance with CALGreen standards, the proposed project would be required to divert at least 65 percent of its construction and demolition waste.

Given the above discussion, the proposed project would support and implement the applicable measures of the City's CAP, and impacts would be less than significant.

Plan Bay Area 2040

SB 375, signed in August 2008, requires the inclusion of Sustainable Communities Strategies in Regional Transportation Plans to reduce GHG emissions. The Metropolitan Transportation Commission and ABAG adopted a Sustainable Communities Strategy that meets the GHG reduction targets set forth by CARB. *Plan Bay Area 2040* is a state-mandated, integrated long-range transportation, land-use, and housing plan that supports a growing economy, provides more housing and transportation choices and reduces transportation-related pollution in the nine-county San Francisco Bay Area (ABAG 2017). *Plan Bay Area 2040* builds on earlier efforts to develop an efficient transportation network and grow in a financially and environmentally responsible way and will be updated every four years to reflect new priorities. The goals of *Plan Bay Area 2040* related to GHG emissions include (ABAG 2017):

1. **Climate Protection.** Reduce per capita CO_2 emissions.
2. **Healthy and Safe Communities.** Reduce adverse health impacts.
3. **Open Space and Agricultural Preservation.** Direct development within urban footprint.
4. **Transportation.** Increase non-auto mode share.

The proposed project would redevelop an existing industrial site within the urban footprint of Hayward with new industrial land uses. The project would be located in an area with below-average VMT per employee and would include low-VMT supporting features such as Clean Air/EV spaces in accordance with the requirements of the City's Reach Code, 20 short-term and 20 long-term bicycle parking spaces, fitness facilities, showers, and an on-site food truck space. Furthermore, the project would increase density while decreasing parking to support no net increase in VMT per industrial employee (Appendix H). These features would facilitate the use of non-auto transportation modes and reduce adverse health impacts and CO_2 emissions associated with gasoline-powered vehicles. Therefore, the project would be consistent with *Plan Bay Area 2040*, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	■	☐	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	■	☐	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	■	☐	☐
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	■	☐	☐
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	■	☐
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	■	☐

Setting

The project site was formerly occupied by a Gillig bus manufacturing facility and consists of four industrial buildings on six assessor's parcels. The former onsite bus manufacturing facility included the use of petroleum products, solvents, adhesives, paint, and other chemicals including 1,1,1-trichloroethane (1,1,1-TCA), acetone, xylene, motor oil, hydraulic oil, oily rags, absorbent, paint and paint-related materials, zinc fume or dust, nickel, chromium, ethylene glycol, chlorodifluoromethane, liquids with small concentrations of halogenated organic compounds, spent non-halogenated solvents, and benzene.

Five environmental documents were reviewed for this hazards and hazardous materials section, as follows:

- Phase I ESA, Former Gillig Corp. Facility, 25800 and 25858 Clawiter Road, Hayward, California, Ramboll Environ, September 2017.
- Soil Gas Sampling Results for 25800 and 25858 Clawiter Road, Hayward, California (redacted), Stellar Environmental Solutions, June 2018.
- Phase I ESA, 25800 and 25858 Clawiter Road, Hayward, California, West Environmental Services & Technology, March 2019.
- Hayward Vapor Tables, Tables 1 and 2, Apex Companies, LLC, June 2019.
- Soil Vapor and Sub-Slab Vapor Investigation Report, 25800 and 25858 Clawiter Road, Hayward, California, APEX Companies, LLC, August 2019.

In addition, the following documents available on the Regional Water Quality Control Board (RWQCB) Geotracker Website or provided by RMD Environmental Solutions were reviewed:

- Phase I ESA, Gillig Corporation, 25800 Clawiter Road, Hayward, California, ERM, February 2008.
- Underground Storage Tank Removal Report, AEI Consultants, October 10, 2019.
- Lead Agency Determination for 25800 & 25858 Clawiter Road, Hayward, Alameda County, RWQCB, October 31, 2019.
- Data Gap Investigation Workplan, 25800 & 25858 Clawiter Road, Hayward, RMD Environmental Solutions, November 27, 2019.
- Data Gap Investigation Workplan Addendum, 25800 & 25858 Clawiter Road, Hayward, RMD Environmental Solutions, January 10, 2020.
- Approval of Data Gap Investigation Workplan/Addendum and Requirement for Completion Report – Clawiter Innovation Site, 25800 & 25858 Clawiter Road, Hayward, Alameda County, RMD Environmental Solutions, January 17, 2020.
- Removal of a Double-Walled 12,000-gallon Diesel Underground Storage Tank on August 22, 2019 at Hines Property (Former Gillig Bus Manufacturing Site) located at 25800 Clawiter Road, Hayward CA, Hayward Fire Department, March 20, 2020.
- Approval of Data Gap Investigation Completion Report and Requirement for Construction Site Management Plan, Post-Construction Soil Vapor Monitoring Workplan, and Post-Construction Risk Management Plan – Clawiter Innovation, 25800 & 25858 Clawiter Road, Hayward, Alameda County, RWQCB, July 2, 2020.
- Response to San Francisco Bay RWQCB's Approval of Data Gap Investigation Completion Report and Requirement for a Post-Construction Soil Vapor Monitoring Workplan 25800 and 25858 Clawiter Road, Hayward, California, RMD Environmental Solutions, July 23, 2020.

- Response to Letter, Withdrawal of Requirement – Clawiter Innovation, 25800 and 25858 Clawiter Road, Hayward, California, RWQCB, August 10, 2020.
- Data Gap Investigation Completion Report, 25800 and 25858 Clawiter Road, Hayward, California, RMD Environmental Solutions, March 27, 2020.
- Construction Site Management Plan (revised), 25800 and 25858 Clawiter Road, Hayward, California, RMD Environmental Solutions, September 22, 2020.
- Approval of Revised Construction Site Management Plan – Clawiter Innovation, 25800 & 25858 Clawiter Road, Hayward, Alameda County, RWQCB, September 25, 2020.
- Post-Construction Risk Management Plan (revised), 25800 and 25858 Clawiter Road, Hayward, California, RMD Environmental Solutions, September 25, 2020.
- Approval of Revised Post-Construction Risk Management Plan – Clawiter Innovation, 25800 & 25858 Clawiter Road, Hayward, Alameda County, RWQCB, October 5, 2020.

The RWQCB letter dated October 31, 2019, indicates that Clawiter Innovation, LLC applied for agency oversight of a brownfield site and that RWQCB was assigned to be the lead agency for assessment and remediation activities. The Data Gap Investigation Completion Report indicates that chemicals of potential concern (COPCs) in subsurface media are not at levels that warrant active remediation. However, the presence of COPCs in subsurface media warrant administrative controls in the form of a Construction Site Management Plan (SMP) for use during project site grading and redevelopment.

The Construction Site Management Plan provides guidance for managing soil and groundwater during demolition and construction activities and procedures for the handling, management, and disposal of impacted soil and groundwater, if encountered.

The Post-Construction Risk Management Plan (RMP) identifies the requirements for the long-term management of activities at the project site to mitigate potential risks and reduce/minimize exposure to construction workers, occupants, and other project site users associated with residual chemical concentrations detected in soil, soil vapor, and groundwater that do not warrant active remediation. In addition, the Post-Construction RMP indicates that the RMP is expected to be incorporated by reference in a Covenant and Environmental Restriction on Property (Land Use Covenant, or LUC), which will be recorded for the Site in the Official Records of Alameda County, California.

Based on a review of these documents, the following Environmental Concerns were identified at the project location:

Former Onsite Automobile Storage

Onsite storage of automobiles occurred at the southern portion of the property (25858 Clawiter Road) since the 1990s. Soil gas at the automobile storage area was investigated in 2018 and 2019 and the following hazardous chemicals were detected: gasoline, benzene, toluene, xylenes, naphthalene, trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1-2-DCE), tetrachloroethene (PCE), and vinyl chloride. Benzene and vinyl chloride were detected above the San Francisco Bay Regional Water Quality Control Board (SFB RWQCB) 2019 Environmental Screening Level (ESLs) of 14 micrograms per cubic meter (μg/m^3) and 5.2 μg/m^3, respectively.

Per RMD and concurred with by RWQCB, benzene concentrations in soil vapor are heterogeneously distributed and do not pose an unacceptable risk to future receptors. Furthermore, bioattenuation of benzene will occur in the presence of oxygen levels measured in the vadose zone (RWQCB, August 10, 2020).

As reported in the Data Gap Report, the vinyl chloride concentration exceeded the ESL in only one soil vapor sample collected at 4.5 feet below ground surface (bgs). Subsequently, five step-out soil vapor samples were collected and vinyl chloride was not detected above laboratory reporting limits. Both benzene and vinyl chloride concentrations greater than the ESL were located on the site periphery or outside the footprint of the proposed buildings (RMD, March 27, 2020). The RWQCB concurred that the extent of benzene and vinyl chloride concentrations above the ESL are limited and not indicative of a significant release area/source zone, with RWQCB approval letters dated July 2, 2020 and August 10, 2020.

Closed UST Known Release Site

The project site (25800 Clawiter Road) is a listed as a UST site by the Hayward Fire Department (HFD), that the case is closed with SFB RWQCB concurrence, residual soil, soil vapor, and groundwater impacts remain present onsite at the bus wash canopy, and that closure of the UST case stipulates that should soil and/or groundwater '*be disturbed during future development and contamination is found, the HFD must be notified and disposal properly managed and a clearance for the proposed future site use obtained from the RWQCB or the Department of Toxic Substances Control (DTSC)*'.

Three USTs were formerly present onsite: a 10,000-gallon diesel UST (located west of the water testing canopy/bush wash canopy) and two 1,000-gallon USTs located north of the water testing canopy (formerly utilized to store gasoline, waste oil, waste paint, paint thinner, and/or diesel). Known soil gas impacts at this location include detectable concentrations of 1,1,1-trichloroethane (TCA), benzene, toluene, and vinyl chloride. Benzene was detected above the RWQCB 2019 ESL of 14 µg/m3. Residual soil and groundwater impacts also remain onsite in the vicinity of the former USTs located north of the water testing canopy.

Per RMD and concurred by RWQCB, the extent of benzene concentrations above the ESL are limited and not indicative of a significant release area/source zone (RMD, July 23, 2020 and RWQCB, August 10, 2020).

Based on the results of soil vapor sampling and analysis conducted in 2018 and 2019, the benzene concentrations detected in soil vapor at 5 feet bgs are well below the State Water Resources Control Board – Low Threat UST Closure Policy commercial screening levels, as a former petroleum UST Site with a bioattenuation zone. Downgradient of the former USTs at borings GW-09 and GW-10, TPH and VOC concentrations in groundwater do not exceed ESLs. Therefore, potential migration of COPCs from the former UST area does not pose a potential risk to off-site receptors (RMD, March 27, 2020).

Onsite USTs

One 12,000-gallon diesel UST (located east of water testing canopy) is present onsite. Based on the documents reviewed, 12,000-gallon diesel UST was permitted by HFD (Permit number 201904782) for removal in July 2019 and was removed on August 22, 2019. Based on the results of soil sampling and analysis conducted after the UST removal, diesel soil gas impacts from this UST are below the RWQCB 2019 ESLs. A no further action letter related to the UST was issued by the Hayward Fire Department (March 20, 2020).

The reports reviewed indicate that a 1,200-gallon waste paint and thinner UST was noted as being located along the southern edge of 25800 Clawiter Road, however, a ground penetrating radar survey to evaluate the presence of the reported UST was completed and a UST was not identified.

Hazardous Materials Storage and Use Permit

The HFD issued a facility closure to Gillig for its hazardous materials storage and use permit in December 2018. This closure document reportedly indicates that "Gillig opted not to conduct subsurface investigation and that a subsurface investigation would be conducted as part of any Site transfer of ownership or redevelopment." Reportedly, the HFD also indicated that "depending on the findings of a subsurface investigation, Gillig may be liable for cleanup of those materials."

As required by RWQCB, the 2020 assessment documents provided include RWQCB approved soil gas, soil, and groundwater sampling and analysis results at various locations at the project site.

Outdoor Hazardous Waste Storage Area with Known Release

Empty drums and drums containing hazardous wastes were reportedly stored outdoors near the southeastern corner of 25800 Clawiter Road prior to 1990. This drum storage area, formerly located near the current location of the parts fabrication building, was inspected by HFD in 1988 when they observed over 100 empty and full drums stored onsite. HFD also reportedly observed leaks from the drums, stained concrete and spills on the concrete and on the adjacent unpaved rail spur. In response, the Alameda County Department of Environmental Health (ACDEH) issued a Notice of Violation regarding the drum storage practices and spills. Although the ACDEH reportedly required submittal of a Plan of Correction to correct the drum storage area, this document was not completed.

Soil gas testing was completed in 2019 at the former onsite outside drum storage area (at the current parts fabrication building) and benzene, toluene, ethylbenzene, xylenes, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene were detected in soil gas onsite. Benzene was detected at a concentration of 14.4 $\mu g/m^3$, slightly above the RWQCB 2019 ESL of 14 $\mu g/m^3$.

Based on the 2019 documents reviewed it appears that hazardous material impacts had not been fully delineated in the former outdoor hazardous materials storage area. However, the 2020 assessment documents include RWQCB approved sampling and analysis results for this location. The RWQCB concurred that the extent of benzene concentrations above the ESL are limited and not indicative of a significant release area/source zone (RWQCB, August 10, 2020).

Seven Paint Spray Booths, Paint Mixing Room and Parts Priming/Painting Structure

Seven paint spray booths are present in the former manufacturing building, six booths were located in the northwest corner of the building adjacent to the paint mixing room and one booth was installed at the southeast corner of the building in 1990. A parts priming/painting operation was formerly located in a separate structure to the southeast of the main manufacturing building. Hazardous materials including paints, thinners and solvents, paint filters, and rags were stored and used as part of the paint booth operations.

In 2018, soil gas impacts were identified adjacent to the paint spray booths, paint mixing room, and parts priming/painting structure as follows: benzene, naphthalene, toluene, ethylbenzene, xylenes, and dichloromethane. Benzene was detected at a concentration of 16 $\mu g/m^3$, slightly above the RWQCB ESL of 14 $\mu g/m^3$ (RMD, March 27, 2020). Based on the 2019 documents it appears that hazardous material impacts had not been fully delineated in these three areas. However, the 2020 assessment documents include RWQCB approved sampling and analysis results for these locations. The RWQCB concurred that the extent of benzene concentrations above the ESL are limited and not indicative of a significant release area/source zone (RWQCB, August 10, 2020).

Onsite Current and Former Underground Hoists

Six underground hoists (lifts) are or were reportedly present onsite at one time. Two of these onsite hoists (at unknown locations) were reportedly removed and the excavations were filled with concrete. As of 2017, two onsite hoists were present and reportedly still contained hydraulic oil. The location and status of the 5th and 6th underground hoists are unknown.

Based on the 2019 documents, it appears that hazardous material impacts from any of the underground hoists and associated reservoir tanks/piping were not previously assessed. However, the 2020 assessment documents include RWQCB approved sampling and analysis results all six reported current or former hoist locations.

Alignment and Dynamometer Building

The alignment and dynamometer structure, built in the 1990s, included the use of a dynamometer pit and associated oil/water sump. The 2019 documents indicate the dynamometer pit was stained and that information regarding the purpose of the oil/water sump and its discharge locations are not understood. Based on the 2019 documents it appears that hazardous material impacts from the past use of the alignment and dynamometer building/oil water sump have not been assessed. However, the 2020 assessment documents reviewed include RWQCB approved sampling and analysis results at the alignment and dynamometer building and sump.

Former Onsite Outside Steel Storage

Onsite outdoor storage of steel occurred on the eastern portion of 25800 Clawiter Road in the 1970s and 1980s; and at 25858 Clawiter Road in the 1980s. The areas of the site utilized for storage were reportedly unpaved.

Based on the 2019 documents it appears that hazardous material impacts from the past use of the project site for steel storage have not been assessed. However, the 2020 assessment documents include RWQCB approved sampling and analysis results at the former steel storage areas.

Fill Material

The documents reviewed indicate that fill material from an unknown source was reportedly placed on the eastern portion of 25800 Clawiter Road in the 1960s, prior to development of the bus manufacturing facility.

Based on the 2019 documents it appears that potential hazardous material impacts in the fill material area had not been assessed. However, the 2020 assessment documents include RWQCB approved soil sampling and analysis results across the project site, including the suspected fill material area.

Current Onsite Hazardous Material Storage Structures

In the 1990s, two covered and bermed hazardous materials storage structures were constructed on the eastern portion of 25800 Clawiter Road. Both hazardous material drum storage structures contain staining indicative of hazardous material releases. In 2018 and 2019, soil gas samples were collected outside the storage areas and benzene and toluene were detected.

Based on the 2019 documents it appears that hazardous material impacts from the hazardous materials storage area have not been fully assessed. However, the 2020 assessment documents reviewed include RWQCB approved soil sampling and analysis in the hazardous material storage structures (RMD, March 27, 2020 and RWQCB, August 10, 2020).

Sanitary Sewer Mains

Two sanitary sewer mains traverse the project site (25800 Clawiter Road). In 2018 and 2019, soil gas samples were collected along the sewer mains and benzene, toluene, ethylbenzene, xylenes, and tri-chloromethane (chloroform) were detected. Chloroform was detected at a concentration of 35.4 $\mu g/m^3$, above the RWQCB 2019 ESL of 14 $\mu g/m^3$. The extent of chloroform concentrations, which can be attributed to potable water (as a result of chlorination of organic matter present in raw water supplies), are limited and not indicative of a significant release (RMD, March 27, 2020 and RWQCB, August 10, 2020). RWQCB did not require any additional sampling along the sanitary sewer.

Onsite and Adjacent Railroad Tracks

A west-east trending Union Pacific Railroad spur rail line is located onsite through the center of the project. In addition, railroad tracks are located along the eastern property boundary, approximately 35 feet to the east of the project site. Based on historical aerial photographs contained in the 2017 Phase I ESA, it does not appear that other railroad spurs were present onsite (Ramboll, 2017). Based on the 2019 and 2020 documents, it appears that typical railroad corridor contaminant impacts have not been assessed along the onsite railroad spur or eastern property boundary

Impacted Building Materials

Onsite structures built prior to 1979 may contain asbestos, lead-based paint, and/or other hazardous building materials. The manufacturing building was constructed in 1967; the former fabrication and machining building was constructed in 1967; warehouse B was constructed in 1998; the bus wash facility/water testing canopy was constructed in 1999; the new office building was constructed in 2002; and the former dynamometer building was constructed in 2003.

Above-Ground Storage Tanks

Reportedly, eight above ground storage tanks (ASTs) were once present onsite at various locations (Ramboll, 2017). Based on the 2017 Phase I ESA, it appears that one AST was a propane tank and three ASTs were utilized to store waste wash water (one located north of the bus wash canopy/Water Testing Canopy and two located northwest of the former manufacturing building). The following four ASTs were also previously present onsite, yet were removed sometime prior to 2006: one 500-gallon diesel AST located northeast of the former manufacturing building; one 500-gallon diesel AST located north of the bus wash canopy/Water Testing Canopy; one 500-gallon paint AST located west of the former manufacturing building; and one 500-gallon paint thinner AST located northeast of the former manufacturing building.

Underground Sumps/Bus Wash Areas

Two underground sumps remain present onsite. A bus wash structure (Water Testing Canopy) is located on the southern portion of the project site, at 25800 Clawiter Road. The drain for the associated sump (unknown location) is located in the center of the bus wash structure and water in the sump is reportedly pumped to an adjacent holding tank to be reused in the water testing process.

A second bus wash area and sump are reportedly located in the northwest corner of the former manufacturing building and were used to collect wash water after buses were washed prior to painting. The wash water collected in the sump was reportedly pumped to nearby holding tanks before being processed through an evaporator.

Miscellaneous Areas of Potential Concern

Several former onsite uses of concern were noted during this review and did not appear to be assessed for the presence of hazardous materials. These potential concern areas include:

- Onsite presence of a subsurface chassis (conveyor) system inside the former bus manufacturing building – oils containing PCBs may have been used during operation of the subsurface conveyor
- Onsite presence of an elevator in the New Office Building – oils containing PCBs may have been used during operation of the elevator and/or associated reservoir (Ramboll, 2017)

PFAS/PFOS

In 2019, the California SWRCB sent assessment requirements to property owners of sites that may be potential sources of PFAS. These sites currently include select landfills, airports, wastewater treatment facilities, and chrome plating facilities. According to the SWRCB, "PFAS are a large group of human-made substances that do not occur naturally in the environment and are resistant to heat, water, and oil" (SWRCB 2019).

Our October 15, 2020 review of the California 2019 Statewide PFAS Investigation online Public Map Viewer[10] indicates that there are no current chrome plating, airport, or landfill PFAS orders at any facilities located within one-half mile of the project site. The nearest chrome plating PFAS order is located approximately one mile north-northwest of the project site: High Luster Metal Finishing located at 2466 American Ave, Hayward, California.

Landfills – CalRecycle

The closest landfills to the project site are the All Cities Landfill located at 4001 West Winton Avenue, Hayward and the Old West Winton Landfill located at the west end of Winton Avenue in Hayward. The landfills are adjacent to each other, located 1.6 miles northwest of the project site, and not expected to impact the project site.

Regulatory Setting

Department of Toxic Substances Control

As a department of CalEPA, DTSC regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of Resource Conservation and Recovery Act and the California Health and Safety Code.

DTSC also administers the California Hazardous Waste Control Law (HWCL) to regulate hazardous wastes. While the HWCL is generally more stringent than Resource Conservation and Recovery Act, until the USEPA approves the California program, both state and federal laws apply in California. The HWCL lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes

[10] https://www.waterboards.ca.gov/pfas/

management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

Government Code Section 65962.5 requires the DTSC, the State Department of Health Services, the SWRCB, and CalRecycle compile and annually update lists of hazardous waste sites and land designated as hazardous waste sites throughout the state. The Secretary for Environmental Protection consolidates the information submitted by these agencies and distributes it to each city and county where sites on the lists are located. Before the lead agency accepts an application for any development project as complete, the applicant must consult these lists to determine if the site at issue is included.

If any soil is excavated from a site containing hazardous materials, it is considered a hazardous waste if it exceeds specific criteria in Title 22 of the CCR. Remediation of hazardous wastes found at a site may be required if excavation of these materials is performed, or if certain other soil disturbing activities would occur. Even if soil or groundwater at a contaminated site does not have the characteristics required to be defined as hazardous waste, remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking jurisdiction.

Regional Water Quality Control Board

RWQCB regulates discharges and releases to surface and groundwater in the project area. The RWQCB generally oversees cases involving groundwater contamination. In the RWQCB, the County of Alameda Department of Environmental Health handles most leaking underground storage tank cases, so the RWQCB may oversee cases involving other groundwater contaminants; i.e., Spills, Leaks, Incidents, and Clean-up cases. In the case of spills at a project site, the responsible party would notify the County of Alameda, RWQCB, or DTSC and a lead would be determined.

The RWQCB has established guidelines used to evaluate the potential risk associated with chemicals found in soil or groundwater where a release of hazardous materials has occurred called Environmental Screening Levels developed for a variety of purposes including

Hayward Fire Department

Hayward Fire Department (HFD) is designated as the City of Hayward’s Certified Unified Program Agency (CUPA), which is overseen by the California Environmental Protection Agency and coordinates the regulation of hazardous materials and hazardous wastes in the City. CUPA ensures the consistent application of statewide standards during administrative, permitting, inspection, and enforcement activities associated with hazardous materials and hazardous wastes. If a business operated at the project site would use and store hazardous materials and generate hazardous wastes, CUPA would require the electronic submittal of chemical and facility information, a Hazardous Materials Business Plan, and hazardous waste generator permits to the California Environmental Reporting System online database. If operations at the project site would include the treatment, storage, and/or disposal of hazardous waste, HFDs Hazardous Materials Office would regulate these activities under a tiered permitting system.

CUPA, through the Hazardous Materials Office, regulates USTs containing hazardous materials, including installation, operation and maintenance, temporary closure, and removal and disposal of USTs. Additionally, CUPA holds the responsibility and authority to implement the Aboveground Petroleum Storage Act, which regulates aboveground petroleum storage tanks through administrative requirements, permitting, inspections, and enforcement. Any above- or underground storage tanks present at the project site would be managed by the HFD Hazardous Materials Office.

The Hazardous Materials Office administers the California Accidental Release Prevention (CalARP) Program, which aims to reduce the likelihood and impact of accidental releases of regulated toxic and flammable substances through administrative and operational procedures, and facility inspections. If the facility located on the project site would be regulated under the CalARP Program, the facility would file a written Risk Management Plan with the HFD.

Impact Analysis

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

d. Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Project Construction

Due to previous industrial, railroad, and agricultural uses as described in the Setting section above and the project site’s inclusion on the RWQCB Cleanup Program Site (#01S0815) list, RWQCB LUST Cleanup Site (#01-0701) list, and Hayward City Fire Department UST site (01-003-009601) list, project construction could result in a significant hazard to the public or the environment. Although the project site is not listed specifically as a Cortese site compiled pursuant to Government Code Section 65962.5, it is listed on multiple hazardous materials release site databases.

Since construction and occupancy of the industrial buildings would not disturb soil along the east-west trending railroad spur that crosses the property, railroad ties, railroad ballast, and potentially impacted soil would not be disturbed.

Due to the site’s previous agricultural and industrial uses, RWQCB approved soil gas, soil, and groundwater sampling and analysis was conducted at various locations at the project site and were summarized in the Data Gap Investigation Completion Report, dated March 27, 2020. The RWQCB concurred the investigation findings in two letters dated July 2, 2020 and August 10, 2020.

However, residual soil, soil vapor, and groundwater impacts remain onsite and contaminated soils and groundwater may be encountered onsite during demolition and site grading.

In the event that 1) impacted soil or groundwater is identified during construction activities, or 2) soil export is necessary for completion of the project; project construction would involve the removal of contaminated soil/groundwater during grading or excavation which would result in the transport and disposal of hazardous materials as they are unearthed and removed from the site. Because the release, transport, and disposal of hazardous materials could create a hazard to the public or environment, this impact would be potentially significant and mitigation is required.

Demolition

Demolishing the existing structures on-site could result in upset and release of hazardous materials into the environment. Due to its age, the existing buildings, constructed between 1960 and 2003, may contain asbestos, polychlorinated biphenyls (PCB), mercury, and/or lead-based paints (LBP). Because some buildings were constructed before the federal ban on PCBs, it is possible that they are present in light ballasts, additionally waste oils containing PCBs maybe present onsite. Demolition could result in health hazard impacts to workers if not remediated prior to construction activities. However, demolition and construction would be required to comply with Bay Area Air Quality Management District (BAAQMD) Regulation 11, Rule 2, which governs the proper handling and disposal of asbestos containing material for demolition, renovation, and manufacturing activities in the Bay Area. These activities would also need to comply with CalOSHA regulations regarding lead-based materials. The California Code of Regulations, Section 1532.1, requires testing, monitoring, containment, and disposal of lead-based materials such that exposure levels do not exceed CalOSHA standards. DTSC has classified PCBs as a hazardous waste when concentrations exceed 50 parts per million in non-liquids; consequently, the DTSC requires that materials containing those concentrations of PCBs be transported and disposed of as hazardous waste. Any light ballast removed would be evaluated for the presence of PCBs and managed appropriately pursuant to DTSC standards, which would be protective of safety during the construction phase. Compliance with BAAQMD, CalOSHA, and DTSC policies regarding asbestos containing materials (ACM), LBP, and PCBs, would reduce impacts to less than significant levels.

Subsurface Demolition and Grading

Remaining onsite underground sumps, hoists, drains/piping, ASTs, USTs, and other unknown, unidentified features would likely need to be removed as part of grading and construction. These structures may contain residual liquids that would require removal prior to demolition and removal/disposal of these structures would also need to be permitted and removed with agency oversite. Because the release, transport, and disposal of hazardous materials could create a hazard to the public or environment, this impact would be potentially significant and mitigation is required.

Construction

Project construction would require heavy construction equipment, the operation of which could result in a spill or accidental release of hazardous materials, including fuel, engine oil, engine coolant, and lubricants. Project construction would also include temporary transport, storage, and use of potentially hazardous materials including fuels, lubricating fluids, cleaners, solvents, or potentially contaminated groundwater or soils.

As described above, the project site was previously used for agricultural and industrial operations indicating potential for residual chemicals in the soil associated with the previous use. Therefore, ground-disturbing activities could expose construction workers to soil contaminated with agricultural and industrial chemicals above the environmental safety limits.

The transport of hazardous materials would be subject to federal, state, and local regulations, which would minimize risks associated with the transport of hazardous materials. Construction activities that involve hazardous materials would be required to transport such materials along roadways designated for that purpose in the County, thereby limiting risk of upset during transportation.

Nevertheless, due to existing soil conditions, construction of the project has the potential to expose the public, construction workers and the environment to on-site hazardous materials due to previous industrial, railroad, and agricultural uses as described above in the Setting section above.

Therefore, construction of the project may create a potentially significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; create a potentially significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; and is located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 (or similar). Construction of the project would result in a potentially significant hazard to the public or the environment. Mitigation Measures HAZ-1 through HAZ-4 are required to manage hazardous materials.

Operation

As discussed in the Description of the Project, the proposed project involves core and shell construction of four buildings and associated improvements. Future tenants for Buildings 1 through 3 are unknown but are anticipated to include warehouse facilities, manufacturing, and other uses allowed under the IC designation. Building 4 would be occupied by data center uses.

Transport, use, and storage of hazardous materials during operation of the site and the buildings would be conducted pursuant to all applicable local, State, and federal laws, including but not limited to Title 49 of the Code of Federal Regulations implemented by Title 13 of the California Code of Regulations, which describes strict regulations for the safe transportation of hazardous materials, and in cooperation with the County’s Department of Environmental Health. As required by California Health and Safety Code Section 25507, a business shall establish and implement a Hazardous Materials Business Emergency Plan for emergency response to a release or threatened release of a hazardous material. As required, the hazardous materials would be stored in locations according to compatibility and in storage enclosures (i.e., flammable material storage cabinets and biological safety cabinets) or in areas or rooms specially designed, protected, and contained for such storage, in accordance with applicable regulations.

Under the California Hazard Communication Regulation, chemical manufacturers, distributors, or importers must provide Safety Data Sheets (formerly Material Safety Data Sheets) for each hazardous chemical to downstream users to communicate information on these hazards. All businesses of more than ten employees must comply when employees may be exposed to hazardous substances found in the workplace under normal conditions of use as well as in reasonably foreseeable emergency conditions (i.e., a spill or release of a flammable chemical). Businesses are also required to train employees on protocols in the event of a chemical spill or a leak from a sealed container (California Department of Industrial Relations 2012).

Generally, maintenance and upkeep of facilities on-site, including cleaning of workspaces, parking areas, restroom facilities and maintenance of landscaping occasionally require the use of various solvents, cleaners, paints, oils/fuels, and pesticides/herbicides. In addition, potential hazardous materials, such as fuel, paint products, lubricants, solvents, and cleaning products, may be used and/or stored on-site. However, due to the limited quantities of these materials to be used by the project, they are not considered hazardous to the public at large.

The Building #4 tenant is anticipated to require the use of on-site backup generators which would require diesel fuel for operation. The potential transport, use, and storage of large quantities of diesel fuel associated with future on-site generators would be reviewed for consistency with the

City's Municipal code and other regulations. Further, the potential future transformer yard may also involve the use, transport, and storage of transformer fuel. If the Building 4 tenants or other future tenants would require the use and storage of hazardous materials deemed as exceeding a primary use levels based on type and storage of hazardous materials, then the tenants would be required to be considered under a separate administrative use permit. The administrative use permits would require discretionary approval by the City to ensure all safety requirements are met. As discussed in Section 15, *Public Services,* the project would also be required to comply with the California Fire Code as adopted by the City of Hayward, which further regulates explosive and hazardous materials use and storage. Therefore, use or Storage of diesel or transformer fuel on-site would be required to be in compliance with all applicable local, State, and federal laws. Compliance with relevant laws and regulations concerning the storage, transport, and use of hazardous materials would minimize the likelihood of hazardous materials releases from the proposed use or storage of diesel fuel, oils, lubricants, and water treatment chemicals on the site by the project would not create a significant hazard to the public or the environment due to foreseeable upset or accident conditions.

Therefore, the proposed project would not emit hazardous emissions or use acutely hazardous materials such that a significant impact would occur. Operational impacts would be less than significant.

Railway Hazards

The UPRR tracks adjacent to the project site support both passenger and freight traffic and the tracks that bisect the site support freight traffic. Freight trains may carry hazardous materials, which could be released during an accident. The public health risk posed by an accidental release would depend upon the materials involved, their toxicity, and the wind direction that could carry emissions from the release. The possibility of impact is determined by a combination of the probability of an accident, the probability that the released cargo is hazardous, and the probability that winds are blowing from the spill toward occupied receptor sites.

Of the infrequent daytime freight traffic, only a small percentage would involve transport of hazardous materials, and that transport is regulated by the federal Department of Transportation (DOT) to minimize risks of accidents or spills. In addition, because of the urban context in the site vicinity, trains travel through the area at relatively low speeds, further minimizing the likelihood of accidents.

Further, the California Supreme Court in a December 2015 opinion (*BIA v. BAAQMD*) confirmed that CEQA is primarily concerned with the impacts of a proposed project on the environment, not the effects of the environment on the proposed project. The proposed project would not involve changes to the tracks or easement. Only the required emergency access would be allowed, and the proposed project would not modify or expand access to the tracks. Therefore, the project would not exacerbate hazards.

Overall, the proposed project would not increase or change the use of the tracks and would not affect train operations. The risk of derailment with or without hazardous material release is extremely low, and the proposed project would not increase potential risks. Impacts would be less than significant.

Mitigation Measures

HAZ-1 Regulatory Agency UST Involvement – HFD and RWQCB

Since the project site at 25800 Clawiter Road is listed as a closed HFD UST site (#01-003-009601) and a closed RWQCB LUST site (#01-0701), the applicant shall notify the Hayward City Fire Department UST and the RWQCB LUST of the following:

- Current development plan and any modifications to the development plan
- Identification of additional underground tank features, if encountered

Additionally, all UST removals and associated assessment work shall be completed under the direction of HFD and/or RWQCB, as determined by HFD and RWQCB. The UST closure and agency approval documents shall be reviewed and approved by the City of Hayward prior to issuance of grading permit.

Upon identification of UST features onsite, HFD and/or RWQCB could require actions such as: development of removal action workplans; obtaining permits for removal of USTs or other underground features; soil excavation and offsite disposal; assessment of soil and/or groundwater beneath the excavation; and/or completion of UST removal reports or case closure documents.

HAZ-2 Regulatory Agency Subsurface Involvement – RWQCB

Since the project site at 25800 and 25858 Clawiter Road is listed as an open RWQCB Cleanup site, the RWQCB Cleanup case #01S0815 shall continue to be utilized for agency oversight of assessment and remediation of this project site through completion of building demolition, subsurface demolition, and construction. The applicant shall notify the SFB RWQCB Cleanup project manager of the following:

- Current development plan and any modifications to the development plan
- Former onsite use of seven above ground storage tanks that formerly contained wash water, diesel fuel, paint, and paint thinner (Ramboll, 2017)
- Former onsite use of an elevator that may have contained oils containing PCBs (Ramboll, 2017)
- Former onsite use of a subsurface chassis (conveyor) system that may have utilized oils containing PCBs (Ramboll, 2017)
- Former onsite use of two sumps for wash water at the former bus wash facilities: one at the bus wash facility/Water Testing Canopy and one in the northwest corner of the former manufacturing building (Ramboll, 2017)
- Other regulatory UST case listings (HFD and RWQCB) assessment work that will be completed under the direction of other regulatory agencies
- All former environmental documents completed for the project site, including 25800 and 25858 Clawiter Road and this Initial Study document

Upon notification of the information above, RWQCB could require actions such as: development of subsurface investigation workplans; completion of soil, soil vapor, and/or groundwater subsurface investigations; installation of soil vapor or groundwater monitoring wells; soil excavation and offsite disposal; completion of human health risk assessments; and/or completion of remediation reports or case closure documents.

If groundwater wells or soil vapor monitoring probes are identified during demolition, subsurface demolition or construction at 25800 and 25858 Clawiter Road, they will be abandoned/destroyed with approval of RWQCB and under permit from the Alameda County Public Works Agency (ACPWA). Demolition activities will be documented in a letter report submitted to RWQCB within 60 days of the completion of abandonment activities. Abandonment of sub-slab vapor points would be completed with RWQCB approval and demolition activities would be documented in a letter report to RWQCB.

The SFB RWQCB closure and agency approval documents shall be submitted and reviewed by the City of Hayward prior to issuance of grading permit.

It should also be noted that the SFB RWQCB may determine that Alameda County Department of Environmental Health (ACDEH) or DTSC may be best suited to perform the lead agency duties for the assessment and/or remediation of this project site. Should the lead agency be transferred to ACDEH or DTSC, this and other mitigation measures will still apply to these agencies.

HAZ-3 Construction Site Management Plan

The applicant shall implement the September 22, 2020 (or most recent) RWQCB approved Revised Construction Site Management Plan (Revised SMP) (RMD Environmental Solutions 2020) at the project site to address potential issues that may be encountered during redevelopment activities of the property involving subsurface work. The Construction SMP objectives include:

- Communicating information to project site construction workers about environmental conditions,
- Presenting measures to mitigate potential risks to the environment, construction workers, and other nearby receptors from potential exposure to hazardous substances that may be associated with unknown conditions or unexpected underground structures, and
- Presenting protocols for management of known contaminated soil or groundwater encountered during construction activities.

The Construction SMP identifies the project contacts, responsibilities, and notification requirements, and outlines the procedures for Health and Safety; Soil Management; Contingency Measures for Discovery of Unexpected Underground Structures; Erosion, Dust, and Odor Management; Groundwater Management; Waste Management; Stormwater Management; and Written Records and Reporting. The Construction SMP shall be reviewed and approved by the City of Hayward prior to issuance of grading permit.

HAZ-4 Post-Construction Risk Management Plan

Following construction and during operation of the project site, the August 31, 2020 (or most recent) Post-Construction Risk Management Plan (RMP) approved by the RWQCB shall be implemented (RMD Environmental Solutions 2020). The RMP documents the requirements for the long-term management of activities at the Project site to mitigate potential risks and reduce/minimize exposure to construction workers, occupants, and other site users associated with residual chemical concentrations detected in soil, soil vapor, and groundwater that do not warrant active remediation.

This RMP will be incorporated by reference in a Covenant and Environmental Restriction on Property (Land Use Covenant, or LUC), which will be recorded for the project site in the Official Records of Alameda County, California.

The RMP will include requirements regarding the following:

1. **Land Use Expectation and Limitations** – future land use at the project site will be limited to industrial, commercial, and/or office space use
2. **Project Site Development and Occupancy Modifications** - modifications to the project site or subsurface work will be conducted in accordance with the Construction SMP, and any contaminated soils brought to the surface by grading, excavation, trenching, or backfilling shall be managed by the Property Owner or its designee in accordance with applicable provisions of local, state and federal law
3. **Contingency Reporting** - if impacted soil or groundwater is encountered during site activities, RWQCB will be notified and upon completion of subgrade work and any offsite removal of soil and groundwater, a report will be prepared by the Environmental Consultant or its designee and submitted to RWQCB
4. **Regulatory Access** - any persons acting pursuant to RWQCB orders, shall have reasonable access to the project site after giving reasonable notice to the Property Owner or Lessor for the purposes of inspection, surveillance, maintenance, or monitoring.

Specifically, for contingency reporting, the reports will be uploaded to the SWRCB GeoTracker website https://geotracker.waterboards.ca.gov (GeoTracker Global ID T10000013771; and the reports will include the following information

- Brief letter documenting RWQCB notification and the scope of work completed;
- Photographs documenting the project site conditions; and
- Recommendations for preventative and/or corrective repair needs that are identified to maintain compliance with the RMP.

Significance After Mitigation

Mitigation Measures HAZ-1 through HAZ-4 would reduce potential impacts by involving regulatory agencies, creating a Construction Management Plan approved by the RWQCB, and requiring a post-construction RMP. Implementation of these measures would reduce impacts from on-site hazardous materials to less than significant levels.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The nearest school to the project site is the California Crosspoint Academy, located approximately 0.2 mile to the north. Other nearby schools include Eden Gardens Elementary School, located approximately 0.5 miles northeast of the project site. Operation of the project would not involve the use of hazardous materials which could impact the nearby schools. Limited amounts of diesel fuel would be stored on-site for the backup generators, but the fuel would be stored in compliance with applicable local, State, and federal laws. However, due to existing soil conditions, construction of the project has the potential to expose the nearby school sites to on-site hazardous materials from the previous industrial, railroad, and agricultural uses as described above in the Setting section above. Therefore, mitigation would be required to reduce potential construction impacts to less than significant levels.

Mitigation Measures

Mitigation Measures HAZ-1 through HAZ-4.

Significance After Mitigation

Mitigation Measures HAZ-1 through HAZ-4 would reduce potential impacts by involving regulatory agencies, creating a Construction Management Plan approved by the RWQCB, and requiring a post-construction RMP. Implementation of these measures would reduce impacts from on-site hazardous materials on nearby schools to less than significant levels.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The closest airport is the Hayward Executive Airport, located approximately 2.0 miles north of the project site. In addition, the Oakland International Airport is located approximately 7.0 miles to the northwest. The project site is located within the Airport Influence Area of the Hayward Executive Airport and the Oakland International Airport. However, the project site is located outside all safety zones for both airports (Alameda County Airport Land Use Commission 2010; 2012). Therefore, the proposed industrial park use of the site would be compatible with the nearby airports.

The maximum height of proposed building 4 (106.3 feet) is below the minimum elevation established by Federal Aviation Regulations, Part 77, for required filing with the Federal Aviation Administration for airspace safety review, which is 200 feet above ground level. As discussed in Section 13, *Noise*, noise impacts from these airports would not be significant. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Construction of the proposed project would occur within the boundary of the project site and would not lead to street closures which would interfere with emergency evacuations or response. Further, installation of off-site transmission lines would not require closure of streets south of SR 92. The proposed project does not involve the development of structures that could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, including the Hayward Local Hazard Mitigation Plan (City of Hayward 2016b). No streets or property access points would be closed, rerouted, or substantially altered upon implementation and operation of the project. Therefore, there would be no impact.

NO IMPACT

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

As described below in Section 20, *Wildfire*, the project site is in a developed urban area and is not within or adjacent to a designated very high wildland fire hazard area. Therefore, the project would not expose people or structures to a significant loss, injury or death involving wildland fires. There would be no impact.

NO IMPACT

10 Hydrology and Water Quality

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

Impact Analysis

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

c.(i) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Construction

Project construction would involve demolition of the existing on-site structures, associated facilities, and improvements, ground-disturbing activities, and use of heavy construction equipment. Grading and other construction activities associated with the project would have the potential to impact soil erosion and increase sediment loads in stormwater runoff resulting from exposed or disturbed soil. Additionally, spills, leakage, or improper handling and storage of substances such as oils, fuels, chemicals, metals, and other substances used during various construction phases could be collected in stormwater runoff and impact water quality of receiving water bodies (San Francisco Bay).

As part of Section 402 of the CWA, the U.S. EPA has established regulations under the National Pollution Discharge Elimination System (NPDES) program to control both construction and operation (occupancy) stormwater discharges. For the proposed project, the San Francisco Regional Water Quality Control Board (RWQCB) administers the NPDES permitting program and is responsible for developing permitting requirements. The proposed project would be subject to the San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (MRP) – NPDES Permit Order No. R2-2015-0049, and the provisions set forth in Section C.3 *New Development and Redevelopment*. Under the conditions of the permitting program, the applicant would be required to eliminate or reduce non-stormwater discharges to waters of the nation, develop and implement a Stormwater Pollution Prevention Plan (SWPPP) for construction activities, and perform inspections of the stormwater pollution prevention measures and control practices to ensure conformance with the site SWPPP. Because the proposed project would disturb at least one acre of land, the project must provide stormwater treatment and would be required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ or 2009-0009-DWQ General Permit).

In addition, in accordance with HMC Chapter 10, Article 8 (Grading and Clearing), all grading activities must be conducted in a manner that will minimize the potential for erosion from the site. The project applicant would be required to prepare and implement an Erosion and Sediment Control Plan that specifies control techniques that would prevent erosion during and after construction. Therefore, with compliance with construction-related water quality and erosion control requirements, construction of the proposed project would not violate water quality standards, substantially alter the drainage pattern of the area such that substantial erosion or siltation would occur and would not degrade water quality. Impacts during construction would be less than significant.

Operation

The proposed project would increase the total area of impervious surfaces on the project site by approximately 87,500 square feet, which can result in a greater potential to introduce pollutants to receiving waters. Urban runoff can carry a variety of pollutants, including oil and grease, metals, sediment, and pesticide residues from roadways, parking lots, rooftops, and landscaped areas depositing them into adjacent waterways via the storm drain system.

Water quality in stormwater runoff is regulated locally by the Alameda County Clean Water Program, which includes the C.3 provisions set by the San Francisco Bay RWQCB. Provision C.3 of the MRP addresses post-construction stormwater requirements for new development and redevelopment projects that add and/or replace 10,000 square feet or more of impervious area. Because the proposed project would replace in excess of 10,000 square feet of the impervious surface of the project site, it must comply with the C.3 provisions set by the RWQCB. Therefore, the proposed project must meet certain criteria including: 1) incorporate site design, source control, and stormwater treatment measures into the project design; 2) minimize the discharge of pollutants in stormwater runoff and non-stormwater discharge; and 3) minimize increases in runoff flows as compared to pre-development conditions.

In accordance with the C.3 requirements, the project is designed to direct runoff from roofs and sidewalks into vegetated areas and would include 31,065 square-feet of landscaped bioretention areas to treat runoff before entering the stormwater system. By adhering to the provisions of NPDES Section C.3, the SWPPP, and the stormwater control plan, the proposed project would not result in adverse effects on water quality or erosion during construction or operation. Therefore, the proposed project would not conflict with the applicable water quality control plan or result in substantial erosion or siltation off-site. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

As discussed in Section 19, *Utilities and Service Systems*, the proposed project would receive its water from the City of Hayward. Hayward receives its water from the Hetch Hetchy system, owned and operated by the San Francisco Public Utilities Commission (SFPUC). Hayward does not currently use groundwater to meet the City's water demand (City of Hayward 2016a). Therefore, the proposed project would not rely on groundwater for its water supply and would not increase groundwater usage such that a net deficit in aquifer volume would occur.

Development of the proposed project does not include installation of new groundwater wells or use of groundwater from existing wells. The southern portion of the project site consists of compacted dirt and other mostly pervious surfaces. The proposed project would increase impervious surfaces by approximately 87,500 square-feet which could impact groundwater recharge in the area. However, the proposed project would include landscaping and bioretention areas to allow some recharge. Overall, the project would not directly extract groundwater such that the project would impede sustainable groundwater management of a groundwater basin. Impacts related to groundwater would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c.(ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

c.(iii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

c.(iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

The project site is not located in a flood zone, as discussed under Item d below, and does not contain a river or stream which would be altered and result in flooding on- or off-site. The nearest watercourse to the site is Alameda Creek, located approximately two miles southeast. The project would not directly alter the course of a stream or river and would not impede or redirect flood flows. However, the proposed project would increase impervious surfaces by approximately 87,500 square-feet which would increase the volume of runoff compared to existing conditions. As described in the Project Description, the project would include new stormwater collection and conveyance systems designed to mimic the existing conditions of the site. Therefore, overall, the project would not alter the drainage pattern of the site as it would continue existing drainage patterns. Further, the project involves stormwater detention areas as needed to comply with development requirements of the Alameda County Flood Control & Water Conservation District (the District). The District requires that the discharge flow rate of development projects be less than or equal to the pre-development discharge flow rate. Stormwater treatment and detention needs would be met through a combination of bioretention planters, underground storm drain pipes, and stormwater pumps. By controlling the rate of runoff to be equal to or less than pre-development conditions, the project would not increase the rate of runoff such that there would be flooding on- or off-site or such that the capacity of storm drain systems would be exceeded. As described above under the responses to checklist questions (a), c(i), and (e), the project would comply with C.3 requirements and would not create sources of additional polluted runoff. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

According to the Federal Emergency Management Agency (FEMA), the project site is located in Flood Zone X, which is considered an area of minimal flood hazard and is outside of FEMA designated flood zones (FEMA 2009). Therefore, the proposed project is not located within a flood zone and impacts concerning flood hazards would be less than significant. According to the City of Hayward General Plan, the bay area, including the project site, does not have a history or significant risk of tsunamis (City of Hayward 2014). The project site is approximately two miles inland from the San Francisco Bay and would not risk release of pollutants due to inundation by seiche. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	□	□	□	■
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	□	□	■	□

Impact Analysis

a. Would the project physically divide an established community?

The proposed project would involve the development of an industrial park consisting of four structures on a site currently occupied by the Gillig Bus Manufacturing facility, which is currently vacant, and by Manheim Auto for the storage of cars and delivery vehicles. The project does not include new roadways or similar linear features that would block movement between or within established communities, and would not separate connected land uses, neighborhoods, or other areas from each other. The project does include construction of a transformer yard and transmissions lines which would connect the proposed transformer yard with the PG&E substation to the south. The transmission lines would not block existing roadways, driveways, or limit travel or movement. The transmission lines would be similar to the existing transmission lines in the area connecting to the PG&E substation. No impacts would occur.

NO IMPACT

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The proposed project is consistent with the City of Hayward's General Plan land use designation and key Zoning Ordinance provisions as discussed below.

Hayward 2040 General Plan

The project site has a land use designation of IC (Industrial Corridor). As described in the City's General Plan, the IC designation is applied to areas located along Hayward's western Urban Limit Line and southwestern city limits. Typical building types and allowed land uses include warehouses, office buildings, research and development facilities, manufacturing plants, business parks, and corporate campus buildings. The proposed industrial park would allow for a data center, warehouse facilities, manufacturing, and other uses allowed under the IC designation.

Development standards under the IC designation include a maximum floor area ratio (FAR) of 0.8. The proposed project would involve the development of a new industrial park with a FAR of 0.54. Therefore, the project would be consistent with the parcel's General Plan designation.

The City's General Plan identifies goals and policies to guide land use patterns to strategically accommodate future growth while preserving and enhancing the City as a whole. The proposed project's consistency with the City's applicable policies is described in Table 23.

Table 23 General Plan Consistency

General Plan Goal or Policy	Proposed Project Consistency
Police LU-1.1 Jobs-Housing Balance. The City shall support efforts to improve the jobs housing balance of Hayward and other communities throughout the region to reduce automobile use, regional and local traffic congestion, and pollution.	**Consistent.** The project would generate additional jobs for Hayward, which currently has about 1.0-1.5 jobs per household (ABAG 2020). The City and region's population and housing needs are expected to increase (ABAG 2017). Although this project would increase the number of jobs in the City, overall, the City is undergoing an effort to meet its regional housing needs. The project would provide jobs opportunities as the City and region continue to grow and develop more housing and would add jobs to Hayward for residents to reduce regional trip generation.
Policy LU-1.3 Growth and Infill Development. The City shall direct local population and employment growth toward infill development sites within the city, especially the catalyst and opportunity sites identified in the Economic Development Strategic Plan.	**Consistent.** The proposed project is an infill project that would involve redevelopment of an underutilized site with a new industrial park.
Policy LU-1.4 Revitalization and Redevelopment. The City shall encourage property owners to revitalize or redevelop abandoned, obsolete, or underutilized properties to accommodate growth.	**Consistent.** The proposed project would involve redevelopment of an underutilized lot within a new industrial park.
Policy LU-3.7 Infill Development in Neighborhoods. The City shall protect the pattern and character of existing neighborhoods by requiring new infill developments to have complimentary building forms and site features.	**Consistent.** The proposed project would be consistent with the General Plan designation of IC and the surrounding character of the neighborhood, which consists of industrial research and business parks and offices.
Policy LU-6.6 Property Upgrades. The City shall encourage property owners to upgrade existing buildings, site facilities, and landscaped areas to improve the economic viability of properties and to enhance the visual character of the Industrial.	**Consistent.** The project would upgrade the site which consists of a vacant facility and large vehicle storage site with a new industrial park.
Policy LU-6.7 Design Strategies. The City shall encourage developments within the Industrial Technology and Innovation Corridor to incorporate the following design strategies: 1. Provide attractive on-site landscaping and shade trees along street frontages and within employee and visitor parking lots. 2. Screen areas used for outdoor storage, processing, shipping and receiving, and other industrial operations with a combination of landscaping and decorative fences or walls. 3. Encourage consistent architectural facade treatments on all sides of buildings.	**Consistent.** 1. The project would provide landscaping along the perimeters of all buildings and over 250 on-site trees. The employee amenity areas would also include landscaping. 2. The shipping/receiving areas would be located on the northern side of buildings 1 through 3 and away from the adjacent roadways of Clawiter and SR 92. 3. All new structures would be constructed from similar materials and façade treatments. 4. Rooftop equipment would be screened; building 4 includes a metal screening structure to screen the rooftop equipment required to run the data center.

General Plan Goal or Policy	Proposed Project Consistency
4. Screen roof-top equipment with roof parapets. 5. Design shipping and receiving areas and driveways to accommodate the turning movements of large trucks. 6. Develop coordinated and well-designed signage for tenant identification and wayfinding. 7. Incorporate attractive building and site lighting to prevent dark pockets on the site. 8. Provide pedestrian walkways to connect building entrances to sidewalks. 9. Use landscaped buffers with trees and attractive sound walls to screen adjacent residential areas and other sensitive uses.	5. The shipping/receiving areas at buildings 1 through 3 would be designed for large truck turning movements. 6. The project would be required to obtain a sign permit for the development which would create a consistent signage/wayfinding system. 7. The project would include lighting on walkways throughout the project site with pedestrian lights which are approximately four feet tall. The lights would lead to building entrances and employee amenity areas. 8. Pedestrian walkways around each of the buildings would be provided, which would connect the adjacent buildings and employee amenity areas. 9. There are no adjacent sensitive uses. A majority of the existing redwood trees along the southern project boundary would remain, along with new landscaping, which would help screen the project from SR 92.
Policy 6.8 Employee Amenities. The City shall encourage the provision of employee-serving amenities for major employment uses within the Industrial Technology and Innovation Corridor, such as courtyards and plazas, outdoor seating areas, fitness facilities, bicycle storage areas, and showers.	**Consistent.** The project would provide employee showers in proposed Building 4 and would provide over 15,000 square-feet of employee amenity areas consisting of seating, shade structures, landscaping, and areas for food trucks.

City of Hayward Zoning Ordinance

The project site has a zoning designation of IG (General Industrial) north of the railroad spur and IP (Industrial Park) south of the spur. Pursuant to the Hayward Municipal Code (HMC), the proposed use is an allowed use in the IG and IP zones. The project would comply with zoning regulations for IG and IP zones. Building 4 would be approximately 88 feet, which would exceed the 75 height limits. However, the project includes a Major Site Plan Review, and pursuant to Section 10-1.1604 of the Hayward Municipal Code (HMC), building height may be increased through Major Site Plan Review approval. Pending approval of the Major Site Plan Review, the project would not conflict with the establish height regulations. Building 4 would exceed the maximum FAR of 0.8. However, Building 4 is located in the eastern corner of the site away from public roadways and the overall FAR of the site would be less than 0.8. In addition, the project would exceed the required setback of 20 feet along Clawiter and 0 feet for side and rear setbacks.

The project would not conflict with the City's General Plan or zoning ordinance and would be consistent with the applicable land use designation and zoning district and development standards. Therefore, impacts of the proposed project would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	□	□	□	■
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	□	□	□	■

Impact Analysis

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

According to the City's General Plan, Hayward's principal mineral resources are stone, limestone, clay, fire clay, halite, and salt (City of Hayward 2014). There are no active mineral extraction operations on the project site. The proposed project would include the development of an industrial park in an industrial and business park neighborhood and would not result in a loss of available minerals. There would be no impact.

NO IMPACT

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13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	■	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■

Background

Overview of Sound Measurement

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (Caltrans 2013).

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz and less sensitive to frequencies around and below 100 Hertz (Kinsler, et. al. 1999). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Crocker 2007).

Human perception of noise has no simple correlation with sound energy. The perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (eight times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud ([10.5x the sound energy] Crocker 2007).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line, the path the sound will travel, site conditions, and obstructions). Noise levels from a point source typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance (e.g., construction, industrial machinery, ventilation units). Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result from simply the geometric spreading of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance applies to a soft site (e.g., soft dirt, grass, or scattered bushes and trees) (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain features such as hills and dense woods, and man-made features such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2017). Structures can substantially reduce exposure to noise as well. The FHWA’s guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

The impact of noise is not a function of loudness alone. The time of day when noise occurs, and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. One of the most frequently used noise metrics is the equivalent noise level (L_{eq}); it considers both duration and sound power level. L_{eq} is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over time. Typically, L_{eq} is summed over a one-hour period. L_{max} is the highest root mean squared (RMS) sound pressure level within the sampling period, and L_{min} is the lowest RMS sound pressure level within the measuring period (Crocker 2007).

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using Day-Night Average Level (DNL), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours; it is also measured using Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013). Noise levels described by DNL and CNEL usually differ by about 1 dBA. The relationship between the peak-hour L_{eq} value and the DNL/CNEL depends on the distribution of traffic during the day, evening, and night. Quiet suburban areas typically have CNEL noise levels in the range of 40 to 50 dBA, while areas near arterial streets are in the 50 to 60-plus CNEL range. Normal conversational levels are in the 60 to 65-dBA L_{eq} range; ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of Hz. The frequency of a vibrating object describes how rapidly it oscillates. The normal frequency range of most groundborne vibration that can be felt by the human body starts from a low frequency of less than 1 Hz and goes to a high of about 200 Hz (Crocker 2007).

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz), or when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source (FTA 2018). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations diminish much more rapidly than low frequencies, so low frequencies tend to dominate the spectrum at large distances from the source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances (Caltrans 2020a). When a building is impacted by vibration, a ground-to-foundation coupling loss will usually reduce the overall vibration level. However, under rare circumstances, the ground-to-foundation coupling may actually amplify the vibration level due to structural resonances of the floors and walls.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in./sec.). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Caltrans 2020a).

Vibration limits used in this analysis to determine a potential impact to local land uses from construction activities, such as blasting, pile-driving, vibratory compaction, demolition, drilling, and excavation, are based on information contained in Caltrans' *Transportation and Construction Vibration Guidance Manual* and the Federal Transit Administration and the FTA *Transit Noise and Vibration Impact Assessment Manual* (Caltrans 2020a; FTA 2018). Maximum recommended vibration limits by the American Association of State Highway and Transportation Officials (AASHTO) are identified in Table 24.

Table 24 AASHTO Maximum Vibration Levels for Preventing Damage

Type of Situation	Limiting Velocity (in./sec.)
Historic sites or other critical locations	0.1
Residential buildings, plastered walls	0.2–0.3
Residential buildings in good repair with gypsum board walls	0.4–0.5
Engineered structures, without plaster	1.0–1.5

Source: Caltrans 2020a

Based on AASHTO recommendations, limiting vibration levels to below 0.2 PPV in./sec. at residential structures would prevent structural damage regardless of building construction type. These limits are applicable regardless of the frequency of the source. However, as shown in Table 25 and Table 26 potential human annoyance associated with vibration is usually different if it is generated by a steady state or a transient vibration source.

Table 25 Human Response to Steady State Vibration

PPV (in./sec.)	Human Response
3.6 (at 2 Hz)–0.4 (at 20 Hz)	Very disturbing
0.7 (at 2 Hz)–0.17 (at 20 Hz)	Disturbing
0.10	Strongly perceptible
0.035	Distinctly perceptible
0.012	Slightly perceptible

Source: Caltrans 2020a

Table 26 Human Response to Transient Vibration

PPV (in./sec.)	Human Response
2.0	Severe
0.9	Strongly perceptible
0.24	Distinctly perceptible
0.035	Barely perceptible

Source: Caltrans 2020a

As shown in Table 25, the vibration level threshold at which steady vibration sources are considered to be distinctly perceptible is 0.035 in./sec. PPV. However, as shown in Table 26, the vibration level threshold at which transient vibration sources (such as construction equipment passbys) are considered to be distinctly perceptible is 0.24 in./sec. PPV. This analysis uses the distinctly perceptible threshold for purposes of assessing vibration impacts.

Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors and the vibration level threshold for human perception is assessed at occupied structures (FTA 2018). Therefore, vibration impacts are assessed at the structure of an affected property.

Sensitive Receivers

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The City's General Plan Hazards Element defines noise sensitive receivers as residences, schools, hospitals, libraries, religious institutions, and convalescent homes (City of Hayward 2014). As the project site is located in an industrial and commercial area, no noise-sensitive receivers are located adjacent to the project site. The nearest noise-sensitive receivers are single- and multi-family residences located approximately 0.2 mile (approximately 1,000 feet) to the east.

Vibration sensitive receivers are similar to noise sensitive receivers, such as residences, and institutional uses, such as schools, churches, and hospitals. However, vibration sensitive receivers also include buildings where vibrations may interfere with vibration-sensitive equipment, affected by levels that may be well below those associated with human annoyance.

Regulatory Framework

The goals and policies contained in the Hayward 2040 General Plan Hazards Element focus on minimizing human exposure to excessive noise by evaluating noise exposure risks and incorporating appropriate mitigation measures (City of Hayward 2014). In support of these goals, the General Plan contains a table of exterior noise compatibility standards for various land uses (shown in Table 27) to determine potential noise exposure impacts. The highest level of exterior noise exposure regarded as "normally acceptable" for office buildings is 70 CNEL and for industrial manufacturing is 75 CNEL.

Table 27 City of Hayward Exterior Noise Compatibility Standards

Land Use Type	Highest Level of Exterior Noise Exposure that is Regarded as "Normally Acceptable"[1] (CNEL)
Residential: Single-Family Homes, Duplex, Mobile Home	60
Residential: Townhomes and Multi-Family Apartments and Condominiums	65
Urban Residential Infill[2] and Mixed-Use Projects[3]	70
Lodging: Motels and Hotels	65
Schools, Libraries, Churches, Hospitals, Nursing Homes	70
Auditoriums, Concert Hall, Amphitheaters	Mitigation based on site-specific study
Sports Arena, Outdoor Spectator Sports	Mitigation based on site-specific study
Playgrounds, Neighborhood Parks	70
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75
Office Buildings: Business, Commercial, and Professional	70
Industrial Manufacturing, Utilities, Agriculture	75

[1] "Normally Acceptable" means that the specified land uses is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise mitigation.

[2] Urban residential infill would include all types of residential development within existing or planned urban areas (such as Downtown, The Cannery Neighborhood, and the South Hayward BART Urban Neighborhood) and along major corridors (such as Mission Boulevard).

[3] Mixed-Use Projects would include all mixed-use developments throughout the City of Hayward.

Source: City of Hayward 2014

For interior noise, Policy HAZ 8.-7 states that for office buildings "the City shall require the design of new office developments and similar uses to achieve a maximum interior noise standard of 45 dBA L_{eq} (peak hour)."

Section 4-1 of the Hayward Municipal Code contains the City's noise regulations as amended by Ordinance 11-03, adopted March 22, 2011. Section 4-1.03-1 establishes residential property noise limits such that noise above 70 dBA between the hours of 7:00 a.m. and 9:00 p.m. is prohibited and a noise level of 60 dBA between the hours of 9:00 p.m. and 7:00 a.m. is prohibited. The noise limit for industrial and commercial properties is 70 dBA for all hours of the day.

Section 4-1.03.4 of the Hayward Municipal Code states that during construction no piece of equipment shall produce a noise level exceeding 83 dBA at 25 feet from the source or 86 dBA at any point outside the property. This section, consistent with General Plan policy HAZ-8.21, also limits construction, alteration, or repair of structures and any landscaping activities to the hours below:

1. Sundays and holidays between 10:00 a.m. and 6:00 p.m.
2. Monday through Saturday between 7:00 a.m. and 7:00 p.m.

If construction occurs outside of the listed hours, the limits under Section 4-1.03-1 would apply.

The City of Hayward has not adopted a significance threshold to assess vibration impacts during construction and operation. Therefore, the Caltrans guidelines described above are used to evaluate potential construction vibration impacts related to both potential building damage and human annoyance.

Existing Conditions

The most common source of noise in the project site vicinity is vehicular traffic from SR 92 and Clawiter Road, and rail noise from the adjacent rail lines at the project site. To characterize ambient sound levels at and near the project site, two 15-minute sound level measurements were conducted on July 30, 2020, and two 24-hour measurements was conducted on July 30 through 31, 2020. Short-term measurement (ST) 1 was taken near the western project boundary to ascertain noise levels from Clawiter Road; ST 2 was taken near the southern project boundary to capture the noise levels off SR 92 and the rail lines. LT 1 was taken in the same location as ST1 to capture noise levels from Clawiter Road, and LT 2 was taken to capture the ambient noise level near the eastern project boundary to ascertain rail and SR 92 noise. During the hour and a half that the noise analyst was on site on July 30, no trains traveled through on the rail lines. One freight train was observed on July 31 on the rail line adjacent to the eastern property boundary that took approximately ten minutes to pass; this was captured during ST 2. Table 28 and Table 29 summarizes the results of the noise measurements, and Table 30 shows the recorded traffic volumes from NM 1. Detailed sound level measurement data are included in Appendix G.

Table 28 Project Site Noise Monitoring Results – Short Term

Measurement Location	Measurement Location	Sample Times	Approximate Distance to Primary Noise Source	L_{eq} (dBA)	L_{max} (dBA)
ST 1	Western portion of project site, adjacent to Clawiter Road	9:25 – 9:40 a.m.	Approximately 20 feet to centerline of Clawiter Road	64	77
ST 2	Southern portion of project site	11:38 – 11:53 a.m.	Approximately 50 feet to edge of SR92	62	76

Detailed sound level measurement data are included in Appendix G

Table 29 Project Site Noise Monitoring Results – Long Term

Sample Time	dBA L_{eq}	Sample Time	dBA L_{eq}
LT1 – Western portion of project site, adjacent to Clawiter Road, July 30-31, 2020			
9:51 a.m.	66	9:51 p.m.	56
10:51 a.m.	66	10:51 p.m.	59
11:51 a.m.	62	11:51 p.m.	53
12:51 p.m.	63	12:51 a.m.	50
1:51 p.m.	65	1:51 a.m.	52
2:51 p.m.	70	2:51 a.m.	59
3:51 p.m.	67	3:51 a.m.	61
4:51 p.m.	61	4:51 a.m.	64
5:51 p.m.	60	5:51 a.m.	65
6:51 p.m.	60	6:51 a.m.	60
7:51 p.m.	57	7:51 a.m.	68
8:51 p.m.	66	8:51 a.m.	77
LT1 24-hour Noise Level			**67**
LT2 – Eastern portion of Project Site, adjacent to rail line, July 30-31, 2020			
10:10 a.m.	62	10:10 p.m.	57
11:10 a.m.	63	11:10 p.m.	53
12:10 p.m.	58	12:10 a.m.	57
1:10 p.m.	57	1:10 a.m.	51
2:10 p.m.	57	2:10 a.m.	54
3:10 p.m.	60	3:10 a.m.	57
4:10 p.m.	58	4:10 a.m.	72
5:10 p.m.	58	5:10 a.m.	65
6:10 p.m.	61	6:10 a.m.	65
7:10 p.m.	57	7:10 a.m.	65
8:10 p.m.	63	8:10 a.m.	65
9:10 p.m.	58	9:10 a.m.[1]	65
LT2 24-hour Noise Level			**63**

[1] During the 2nd to last four-minute time slice, noise levels increased from 62 dBA to over 100 dBA. The next closest four-minute time slice over the 24-hour period was 72 dBA; therefore, this noise level was out of character for the area and may have been caused by someone using a tool within close proximity to the microphone. This data was removed from the measurement.

Source: Rincon Consultants, field measurements conducted on July 30 and 31, 2020, using ANSI Type II Integrating sound level meter. See Appendix G

Table 30 Sound Level Monitoring Traffic Counts

Measurement	Roadway	Traffic	Autos[1]	Medium Trucks[2]	Heavy Trucks[3]
NM 1	Clawiter Road	15-minute count	132	1	13
		One-hour Equivalent	528	4	52
Percent			**90%**	**1%**	**9%**

Note: Detailed sound level measurement data are included in Appendix G.

[1] Automobiles: all vehicles with two axles and four tires -- primarily designed to carry nine or fewer people (passenger cars, vans) or cargo (vans, light trucks) -- generally with gross vehicle weight less than 4,500 kg (9,900 lbs).

[2] Medium trucks: all cargo vehicles with two axles and six tires -- generally with gross vehicle weight between 4,500 kg (9,900 lbs) and 12,000 kg (26,400 lbs).

[3] Heavy trucks: all cargo vehicles with three or more axles -- generally with gross vehicle weight more than 12,000 kg (26,400 lbs).

Methodology

Construction Noise

Construction noise was estimated using the FHWA Roadway Construction Noise Model (RCNM) (FHWA 2006). RCNM predicts construction noise levels for a variety of construction operations based on empirical data and the application of acoustical propagation formulas. Using RCNM, construction noise levels were estimated at noise sensitive receivers near the project site. RCNM provides reference noise levels for standard construction equipment, with an attenuation of 6 dBA per doubling of distance for stationary equipment.

Variation in power imposes additional complexity in characterizing the noise source level from construction equipment. Power variation is accounted for by describing the noise at a reference distance from the equipment operating at full power and adjusting it based on the duty cycle of the activity to determine the L_{eq} of the operation (FHWA 2018). Each phase of construction has a specific equipment mix, depending on the work to be accomplished during that phase. Each phase also has its own noise characteristics; some will have higher continuous noise levels than others, and some have high-impact noise levels.

Construction activity would result in temporary noise in the project area, exposing surrounding sensitive receivers to increased noise levels. The project would involve site preparation, grading, building construction, paving, and architectural coating. Construction noise would typically be higher during the heavier periods of initial construction (i.e., grading) and would be lower during later construction phases. Typical heavy construction equipment during project grading could include backhoes, excavators, loaders, compactors, and cranes. It is assumed that diesel engines would power all construction equipment. Construction equipment would not all operate at the same time or location. In addition, construction equipment would not be in constant use during the 8-hour operating day.

The loudest anticipated piece of construction equipment would be an excavator, which would be used to grade the site. At a distance of 25 feet and 100 feet, an excavator would generate a noise level of 83 dBA L_{eq} and 71 dBA L_{eq}, respectively (RCNM calculations are included in Appendix G).

Groundborne Vibration

Operation of the proposed project would not include any substantial vibration sources. Thus, construction activities have the greatest potential to generate ground-borne vibration affecting nearby receivers, especially during grading and excavation of the project site. The greatest vibratory source during construction would be equipment similar to a dozer, such as an excavator. Neither blasting nor pile driving would be required for construction of the proposed project. Construction vibration estimates are based on vibration levels reported by Caltrans and the FTA (Caltrans 2020a, FTA 2018). Table 31 shows typical vibration levels for various pieces of construction equipment used in the assessment of construction vibration (FTA 2018).

Table 31 Vibration Levels Measured during Construction Activities

Equipment	PPV at 25 ft. (in./sec.)
Large Bulldozer	0.089
Loaded Trucks	0.076
Small Bulldozer	0.003

Source: FTA 2018

Operational Noise Sources

Noise sources associated with operation of the proposed project would consist of low speed on-site vehicular noise, landscaping maintenance, general conversations, and mechanical equipment (e.g., heating, ventilation, and air conditioning [HVAC] units, transformers, exhaust fans, and emergency backup generators). Due to the distances and low noise levels associated with general site activities, on-site traffic, and landscape maintenance, these sources are not considered substantial and are not analyzed further.

On site-noise sources were modeled with SoundPLAN. Propagation of modeled stationary noise sources was based on ISO Standard 9613-2, "Attenuation of Sound during Propagation Outdoors, Part 2: General Method of Calculation." The assessment methodology assumes that all receivers would be downwind of stationary sources. This is a worst-case assumption for total noise impacts since only some receivers would be downwind at any one time. Receivers were placed at five feet above ground elevation. It was also conservatively assumed that all equipment would be fully operational at 100 percent load. Locations of some of the nearby offsite buildings were entered into the model to account for building shielding of noise levels; however, due to the number of offsite buildings between the project and the farthest off-site receivers, not all buildings were captured in the model. Therefore, additional noise attenuation would occur in real world conditions compared to the model due to additional buildings in between the project's operational noise and receivers.

GENERATORS

The project would use 23 2.5-MW generators and 1 600-kW generator on site for backup emergency energy. The generators would not be operated other than for periodic testing and maintenance requirements during normal facility operation. During non-emergency generator operation, only one generator would be in operation at a time. Operation of all generators would only occur during an emergency (power outage) and would therefore be exempt from the City's Noise Ordinance, per Section 4-1.03.5.

According to the project applicant, the generator enclosure specification requirements for an individual backup generator for the project would require a noise level of 85 dBA when measured 23 feet from enclosure and five feet above grade in a free field environment with generator at full load. This would result in a Sound Power Level of approximately 110 dBA per generator.

HEATING AND COOLING EQUIPMENT

Data Center

Conventional data center designs tend to use a combination of chillers and heat rejection equipment like cooling towers to remove heat from the data center spaces. However, the project's data center design is substantially different from conventional data centers because the main data hall cooling systems inside the building would not use refrigerants, compressors, cooling coils, cooling towers, or chilled water systems; rather, the internal data halls would be cooled by direct evaporative cooling units located inside the building. Accordingly, the only heating and cooling equipment to be found outside the building's perimeter on the site plans would be the water storage tanks. No pumps or noise generating equipment is associated with the water storage tanks. Therefore, no heating or cooling equipment that generates noise would be located outside of the data center building, and as a result noise levels would be negligible from the data center heating and cooling equipment.

Office Buildings

HVAC units used for cooling and heating the office portion of the buildings would generate noise. HVAC units would not be used for cooling the industrial portion of the buildings. Each project building would contain 5,000 square feet of office space. The unit used in this analysis is a 16.7-ton Carrier 38AUD25 split system condenser (see Appendix G for manufacturer's specifications). Each building was assumed to contain one HVAC unit based upon one ton of HVAC per 600 sf of building space. The manufacturer's noise data lists the unit as having a sound power level of 85 dBA. Units were assumed to be located on the rooftops of each building above the office portion. All HVAC units were modeled with the center of the noise source as being three feet above the roof elevation.

DATA CENTER MECHANICAL PENTHOUSE

The data center would contain a shielded mechanical penthouse area for fan assemblies. The proposed exhaust fans would have a Sound Powel Level of 86 dBA. Based upon similar data center projects, it was assumed that four fans would be in operation on the rooftop enclosed by the penthouse. See Appendix G for specifications of the equipment.

TRANSFORMER YARD

The stationary noise impacts associated with the transformer yard would be a dry type transformer associated with each 230 kV transmission line. For a transformer capable of handling a 230 kV line, a transformer noise level of 58 dBA at one foot was obtained from the National Electrical Manufacturer's Association *Dry Type Transformers for General* Applications manual. See Appendix G for specifications and references of the equipment.

Transportation Noise Sources

Analysis of impacts of the environment on a project is generally not required for CEQA compliance (*Ballona Wetlands Land Trust et al. v. City of Los Angeles*). Therefore, noise exposure to new noise-sensitive land uses from transportation noise sources has been analyzed for informational purposes only. The project would be subject to transportation noise levels from vehicles (roadway) and from trains (railway). Transportation noise levels were modeled from these sources simultaneously at the project site; details on each source are described further below.

ROADWAY

Noise levels affecting the proposed project site would be primarily influenced by traffic noise from SR 92. Future noise levels affecting the compatibility of the project site were estimated using the FHWA's Traffic Noise Model (TNM) traffic noise-reference levels and SoundPLAN. Traffic noise-model inputs to SoundPLAN include the three-dimensional coordinates of the roadways, noise receivers, and topographic features or planned barriers that would affect noise propagation; vehicle volumes and speeds, by type of vehicle; and absorption factors.

SR 92 is an eight-lane highway with a posted speed limit of 65 miles per hour (mph). Clawiter Road is a two-lane roadway with a posted speed limit of 35 mph. The project would develop an industrial park, replacing an existing manufacturing area. Trip generation is based on the project's traffic analysis, which determined the project would result in an increase of 71 new trips over the existing use during the peak hour (Kittelson & Associates 2020). Traffic volumes for SR 92 and Clawiter Road used in modeling were obtained from Caltrans and the City's General Plan and are shown in Table 32.

Table 32 Existing and Future Traffic Volumes

	Traffic Counts (Peak Hour)	
Roadway	Existing	Existing + Project
SR 92[1]	4,600	4,671[3]
Clawiter Road[2]	1,478	1,549[3]

[1] Caltrans 2020b (peak hour assumed 10 percent of average daily traffic)

[2] City 2014; the City General Plan does not contain roadway volumes for Clawiter Road; the closest road included, Industrial Parkway west of Hesperian Boulevard, was used as a proxy. This segment of Industrial Parkway merges with Clawiter Road approximately 0.6 mile north of the project site.

[3] Project would add 71 peak hour trips (Kittelson & Associates 2020)

The CNEL is calculated based on the peak-hour traffic volumes, which are considered representative of the CNEL. To determine the vehicle classification mix for modeling, Caltrans vehicle classification for SR 92 were used (Caltrans 2020b), with a mix of 98 percent automobiles, 1 percent medium trucks, and 1 percent heavy trucks. Exterior transportation noise levels were modeled at the future office and industrial building façades and exterior use areas, with the receivers placed at 5 feet above ground level.

RAILWAY

During the on-site noise measurements, for the hour and a half that the noise analyst was on site on July 30, no trains traveled through on the rail lines. One freight train was observed on July 31 on the rail line adjacent to the eastern property boundary that took approximately ten minutes to pass. An analysis of the rail lines indicates that the main rail line that borders the eastern property boundary is a Union Pacific freight line spur from San Leandro to Newark, and the rail line through the site is a minor freight line spur off this line that ends approximately 0.6 mile west of the project site. Freight lines typically have low train volumes, with small freight spurs being used even more sparingly, and schedules are not publicly available. A recent analysis of a Union Pacific freight line similar in use to the San Leandro to Newark line on a Union Pacific Railroad line in El Centro, California, indicated between two and four freight trains would pass on the line per day (Rincon Consultants 2020). As the freight lines near the project site are also run by the Union Pacific Railroad, these assumptions were used for modeling purposes. For peak-hour modeling, it was assumed that one freight train would pass on the spur rail line nearest to the project site and one freight train would run on the main line. Defaults in SoundPLAN for conventional freight trains of three locomotives per train, 32 cars per train, and a car length of 57 feet were used.

Trains would not be expected to travel at full speed by the project site as the railways are located in an urban area in close proximity to several at-grade street crossings. In addition, trains using the freight spur line that runs through the project site would have to navigate a 90-degree rail turn on the project site to join the main freight line. Per the Code of Federal Regulations (CFR) Section 213.9(a), the maximum allowable operating speed for freight trains ranges from 10 to 80 miles per hour, depending on track class (Class 1 through Class 5). According to an Association of American Railroads report, in the first 39 weeks of 2019 the average speed of freight trains in the U.S. was 25.7 miles per hour (Journal of Commerce 2019). Given the aforementioned reasons and for a conservative analysis, a speed of 40 miles per hour was used.

Methodology

The following thresholds are based on City noise standards and Appendix G of the CEQA guidelines. Noise impacts would be significant if:

- **Noise in Excess of Established Standards:** The project would result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
  - **Temporary:** Construction noise would be significant if:
    - Noise levels exceed 86 dBA at any point outside the property; or
    - Construction noise is generated outside of allowable construction hours as stated in Section 4-1.03.4 of the Hayward Municipal Code.
  - **Permanent:** Operational noise would be significant if:
    - Per Section 4-1.03-1 of the Hayward Municipal Code, if the project's stationary noises sources generated noise levels exceed 70 dBA between the hours of 7:00 a.m. and 9:00 p.m. and a noise level of 60 dBA between the hours of 9:00 p.m. and 7:00 a.m. at residential property limits, or 70 dBA for all hours of the day at industrial and commercial property limits; or
    - For traffic-related noise, impacts would be significant if project-generated traffic would result in exposure of sensitive receivers to an unacceptable increase in noise levels. For purposes of this analysis, a significant impact would occur if project-related traffic increases the ambient noise environment of noise-sensitive locations by 3 dB or more where the ambient noise level exceeds the City Noise Element land use compatibility standards (i.e., those with-project conditions that fall within the "normally unacceptable" or "clearly unacceptable" land use categories). In addition, a significant impact would also occur if project-related traffic increases the ambient noise environment of noise-sensitive locations by 5 dB or more regardless of the ambient noise level under with-project conditions.

- **Vibration:** The project would result in the generation of excessive ground-borne vibration or ground-borne noise levels.
  - This would occur if the project would subject vibration-sensitive land uses to construction-related ground-borne vibration that exceeds the distinctly perceptible vibration annoyance potential criteria for human receivers of 0.24 in./sec. PPV, or the residential structural damage criteria of 0.2 PPV in./sec.
- **Airport Noise:** For a project located in the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, if the project exposes people residing or working in the project area to excessive noise levels.
- **Land Use Compatibility:** The project's on-site uses would be subject to noise exceeding City Noise Element land use compatibility standards.
  - This would occur if exterior use areas of the project are subject to noise levels in excess of 70 CNEL, and interior office areas of the project are subject to noise levels in excess of 45 dBA L_{eq} (peak hour).

a. *Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Construction

Over the course of a typical construction day, construction equipment would be located as close as 25 feet to the nearest property lines but would typically be located at an average distance further away due to the nature of construction where equipment is mobile throughout the day. Therefore, it is conservatively assumed that over the course of a typical construction day the construction equipment would operate at an average of 100 feet from the nearest property lines.

As described under Methodology, at distances of 25 feet and 100 feet, an excavator would generate a noise level of 83 dBA L_{eq} and 71 dBA L_{eq}, respectively. Therefore, construction noise levels associated with this equipment would not exceed the City's construction noise threshold of 86 dBA at any point outside the property. In addition, construction would occur within the allowed hours of the City's Municipal Code. Given these considerations, construction noise impacts would be less than significant.

Operation

The project would introduce sources of operational noise to the site from mechanical equipment such as generators, HVAC units, exhaust fans, and transformers. Assumptions for these sources are discussed under *Operational Noise Sources*. Noise levels at the nearest properties from each noise source and their combined noise levels are shown in Table 33. Receiver locations and operational noise level contours are shown on Figure 8; on-site operation noise levels would be dominated by a generator unit when one is being tested. As shown in Table 33, noise levels would not exceed the residential, commercial, or industrial noise limits during any time of day. Therefore, operational noise from the project would not exceed limits at off-site noise-sensitive receivers, and impacts would be less than significant.

Table 33 Operational Noise Levels

Receiver	Description	Operational Noise Levels (dBA L_{eq})	Applicable Threshold (Day/Night dBA L_{eq})[1]	Exceed Threshold?
OFF1	Industrial	67	70/70	No
OFF2	Commercial	66	70/70	No
OFF3	Commercial	61	70/70	No
OFF4	Industrial	44	70/70	No
OFF5	Industrial	40	70/70	No
OFF6	Industrial	52	70/70	No
OFF7	Industrial	45	70/70	No
OFF8	Industrial	45	70/70	No
OFF9	Industrial	47	70/70	No
OFF10	Industrial	44	70/70	No
OFF11	Industrial	43	70/70	No
OFF12	Industrial	57	70/70	No
OFF13	Residential	52	70/60	No
OFF14	Residential	54	70/60	No

See Figure 8 for operational noise contours.

[1] The applicable threshold for residential uses is 70 dBA between the hours of 7:00 a.m. and 9:00 p.m. and 60 dBA between the hours of 9:00 p.m. and 7:00 a.m.; the applicable threshold for industrial and commercial properties is 70 dBA for all hours of the day.

Off-site Traffic Noise

The project would generate new vehicle trips that would use area roadways. The traffic noise increases caused by project traffic were analyzed for SR 92 and Clawiter Road; the project's net increase of 71 peak hour trips would increase trips on these roadways by 2 and 5 percent, respectively, during the peak hour. This traffic increase would result in a noise increase on SR 92 and Clawiter Road of 0.1 and 0.2 dBA, respectively, to off-site land uses. Therefore, the project's traffic noise increases would not exceed 3 dBA, a noticeable noise increase, and off-site traffic noise impacts would be less than significant.

Land Use Compatibility

Following the methodology discussed above in *Transportation Noise Sources*, noise levels at the project's future exterior use areas and building facades were modeled. Building façade noise levels were modeled as Receivers ON1 through ON19 as shown in Table 34; shared exterior use areas were modeled as ON20 and 21. Receiver locations are shown on Figure 9. As shown in Table 34, noise levels from traffic noise at the potential exterior areas would not exceed 70 CNEL. Therefore, noise levels at exterior use areas of the project would not exceed the City's 70 CNEL and 75 CNEL normally acceptable exterior noise standard for office and industrial uses, respectively, and would not conflict with the City General Plan.

Figure 8 Operational Noise Level Contours

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Fig 6 Operational Noise Contours

Figure 9 On-site Transportation Noise Contours

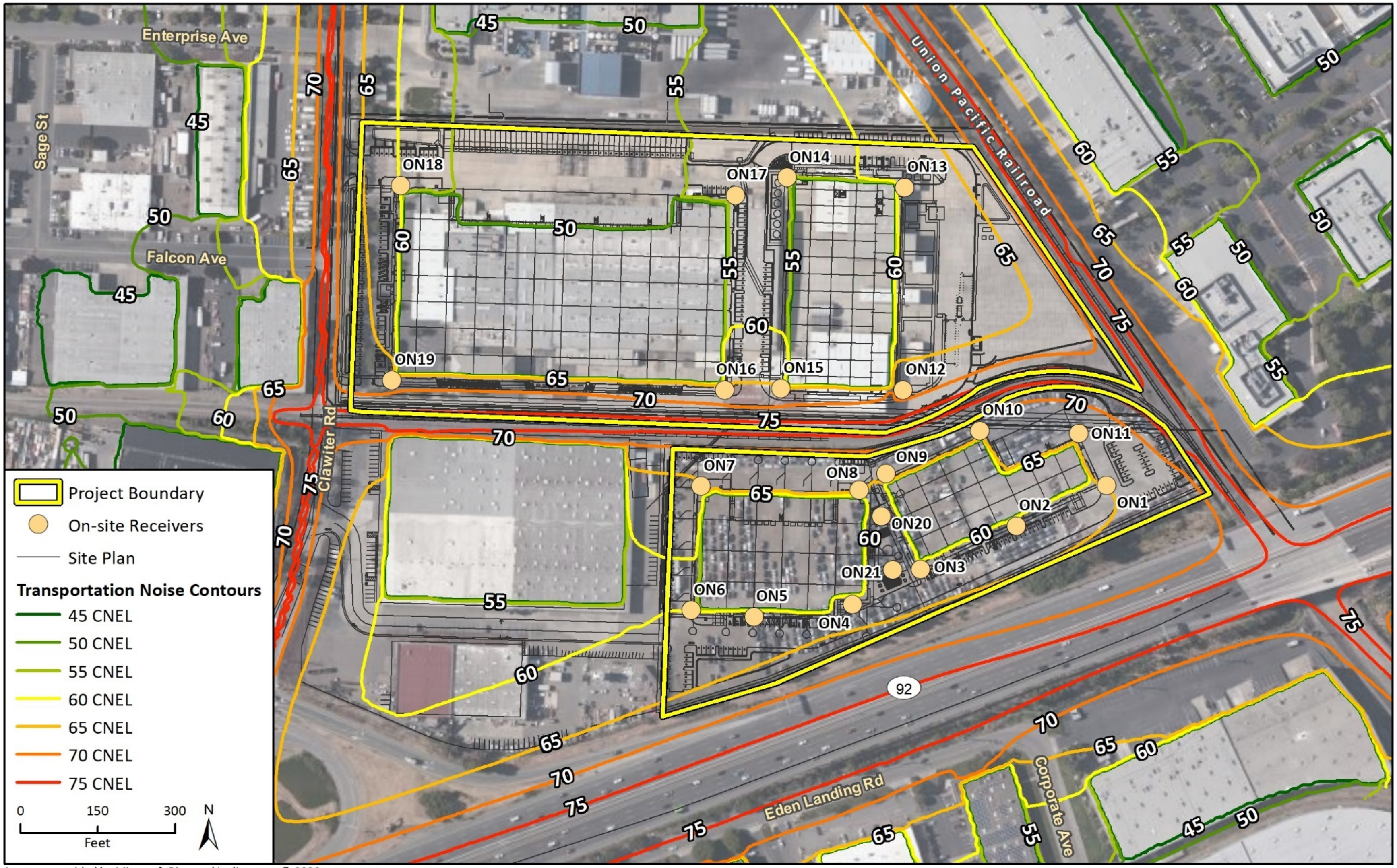

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Fig 7 Transportation Noise Contours

Standard construction techniques for buildings under the California Building Code typically achieve a minimum 25-dBA reduction from exterior sources at interior locations when the windows are in a closed position. Therefore, if building façade noise levels exceed 70 dBA L_{eq}, interior noise levels would potentially exceed the City's interior noise standard of 45 dBA L_{eq} for office buildings. As shown in Table 34, project building façade noise levels would not exceed 70 dBA L_{eq}. Therefore, interior noise levels at the project would not conflict with the City's interior noise standard of 45 dBA L_{eq}.

Table 34 Traffic Noise Levels

Receiver[1]	Description	Noise Level (CNEL)	Exceed Exterior Standard[2]	Exceed Interior Standard[3]
ON1	Warehouse	65	N/A	No
ON2	Warehouse	64	N/A	No
ON3	Office	64	N/A	No
ON4	Office	65	N/A	No
ON5	Warehouse	63	N/A	No
ON6	Office	59	N/A	No
ON7	Warehouse	65	N/A	No
ON8	Warehouse	65	N/A	No
ON9	Warehouse	67	N/A	No
ON10	Warehouse	69	N/A	No
ON11	Warehouse	66	N/A	No
ON12	Data Center	68	N/A	No
ON13	Data Center	62	N/A	No
ON14	Data Center	55	N/A	No
ON15	Data Center	66	N/A	No
ON16	Office	68	N/A	No
ON17	Office	56	N/A	No
ON18	Office	59	N/A	No
ON19	Office	69	N/A	No
ON20	Outdoor Area	61	No	N/A
ON21	Outdoor Area	62	No	N/A

[1] See Figure 9 for transportation noise contours and receiver locations.

[2] The applicable exterior noise standard for office buildings and industrial uses is 70 CNEL and 75 CNEL, respectively.

[3] The applicable interior noise standard for office buildings is 45 dBA L_{eq}; a 25 dBA reduction from building façade noise levels is assumed.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Construction activities known to generate excessive ground-borne vibration, such as pile driving, would not be conducted by the project. The greatest anticipated source of vibration during general project construction activities would be from equipment similar to a dozer, such as an excavator, which may be used within 100 feet of the nearest structures to the south when accounting for setbacks. A dozer would create approximately 0.089 in/sec PPV at a distance of 25 feet (Caltrans 2020a). This would equal a vibration level of 0.02 in/sec PPV at a distance of 100 feet.[11] This would be lower than what is considered a distinctly perceptible impact for humans of 0.24 in/sec PPV, and the structural damage impact of 0.2 in/sec PPV. Therefore, although the equipment may be perceptible to nearby human receptors, temporary impacts associated with the equipment would be less than significant.

Operation of the project would not include substantial vibration sources. Therefore, operational vibration impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The closest airport is the Hayward Executive Airport, located approximately 2.0 miles north of the project site. In addition, the Oakland International Airport is located approximately 7.0 miles to the northwest. The noise contours from these airports do not reach the project site (Alameda County Community Development Agency 2012). Therefore, construction workers or users of the project site would not be exposed to substantial aircraft noise, and no impacts would occur.

NO IMPACT

[11] PPVEquipment = PPVRef $(25/D)^n$ (in/sec), PPVRef = reference PPV at 25 feet, D = distance ,and n = 1.1

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14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	□	□	■	□
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	□	□	□	■

a. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The project would not involve the extension of roads or other infrastructure that would lead to unplanned growth; the new structures would be constructed within City limits and connected to existing infrastructure systems and would not lead to unplanned indirect growth in the area. The project would involve the construction of an industrial park, transformer yard, and new transmission lines; it would not involve the construction of new dwelling units and would therefore not directly induce population growth in the City. However, the project would create jobs for the uses within the industrial park, which could indirectly cause population growth through employee relocations to the project area. The project site is located in a dense urban area. Therefore, many of these employees would likely be drawn from the local population. Though some employees may relocate to the area as a result of job opportunities resulting from the proposed project, a substantial change in employment growth in the area would not occur.

As discussed in Section 11, *Land Use and Planning,* the proposed project is consistent with the General Plan's IC land use designation and would not induce substantial growth beyond what was considered in the General Plan assumptions for the area. The project would be within the growth envisioned under the City's General Plan and would not be result in substantial population growth. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

There are no existing housing units or temporary housing accommodations on the project site. The project would not displace existing housing units or people. No impact would occur.

NO IMPACT

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15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
1 Fire protection?	□	□	■	□
2 Police protection?	□	□	■	□
3 Schools?	□	□	■	□
4 Parks?	□	□	■	□
5 Other public facilities?	□	□	■	□

a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The Hayward Fire Department (HFD) provides fire protection services in the City and to the project site. The HFD has nine fire stations, seven in Hayward and two in the Fairview area. The nearest fire station to the project site is Hayward Fire Station No. 4 located approximate 1.3 miles southeast at 27836 Loyola Avenue.

The proposed project involves the development of an industrial park with four industrial structures of approximately 616,000 square-feet, a transformer yard, and new transmission lines. The HFD currently serves the project site and the existing manufacturing facility and vehicle storage area on site. The project would increase the intensity of development on-site which would incrementally increase the demand for fire and emergency response services. The City of Hayward adopted the 2015 edition of the International Fire Code and the 2016 California Fire Code as the city's Fire Code in 2017 (HMC Section 3-14.00), and the project would be required to comply with City requirements for fire access and onsite fire prevention facilities. As described under Section 11, *Land Use and Planning,* and Section 13, *Population and Housing*, the proposed project would be consistent with the General Plan's IC land use designation and would not generate growth beyond that anticipated in the General Plan. The project site is located in a developed, industrial area already served by HFD. The development of the proposed industrial park and new transmissions lines would be consistent with surrounding uses and would not place an unanticipated burden on fire protection services or affect response times or service ratios such that new or expanded fire facilities would be needed. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

Law enforcement services in the City and to the project site are provided by the Hayward Police Department (HPD). The project site is located within HPD Beat E, which is a specific geographic area in the southwest portion of the City. The nearest police station to the site is located at 300 West Winton Avenue, 3.4 miles northeast of the project site (approximately six minutes driving time). As discussed under Impact a.1. above, the project involves the development of an industrial park with four industrial structures of approximately 616,000 square-feet, a transformer yard, and new transmission lines. The project site and surrounding area are currently served by HPD. The project would increase the development intensity on-site which would incrementally increase the demand for police services. However, the project site is located within four miles of the City's police headquarters and was envisioned for future industrial park development in the City's General Plan. In addition, the entire perimeter of the data center in Proposed Building 4 would be enclosed by an eight-foot high security fence. Gates at the parking lot entrances would allow only permitted personnel in the data center area. Also, a guard shack would be located near the generator yard and transformer yard, which would reduce demand on police services. Therefore, the project would not require the construction or expansion of police protection facilities beyond those already planned under General Plan assumptions (City of Hayward 2013). Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

Schools in Hayward are in the Hayward Unified School District (HUSD), which operates 22 elementary, five middle, and four high schools. As described in Section 13, *Population and Housing*, although the project could result in indirect population growth through employee relocation, overall, the project would not result in direct population growth or substantial indirect population growth. Therefore, the project would not result in a substantial increase in the number of students attending schools operated by HUSD. In addition, the project would be required to pay HUSD Developer Fees at $0.66 per square foot (HUSD 2020). Pursuant to Senate Bill 50 (Section 65995(h)), payment of mandatory fees to the affected school district would reduce potential school impacts to less than significant level under CEQA. Therefore, the proposed project would have a less than significant impact with respect to schools.

LESS THAN SIGNIFICANT IMPACT

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

Please see Section 16, *Recreation*, for an analysis of impacts related to parks and recreation resources. Impacts were found to be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

As discussed in Section 13, *Population and Housing*, the proposed project would not result in substantial population growth in Hayward or growth beyond that anticipated in the City's General Plan. As discussed in Section 10, *Hydrology and Water Quality,* impacts related to stormwater facilities would be less than significant. As discussed in Section 19, *Utilities and Service Systems,* impacts related to water and wastewater water facilities would be less than significant. No significant impacts to other public services are anticipated. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	□	□	■	□
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	□	□	■	□

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The Hayward Area Recreation and Park District is an independent special use district created to provide park and recreational services for the City (City of Hayward 2019). As discussed in Section 13, *Population and Housing*, the proposed project could indirectly lead to population growth through the creation of jobs, which could increase the use of recreational facilities in the City. The nearest recreation facility to the project site are Mt. Eden Park and Eden Greenway, which are located approximately 0.8 miles east of the project site. As discussed in the *Project Description*, the project would include approximately 16,000 square-feet of employee amenity areas that include pathways, seating areas with landscaping and shade structures, and fitness systems along some of the pathways. In addition, the project would be required to pay a Park Impact Fee of $0.78 per square foot of the industrial development. Pursuant to HMC Chapter 10.16, payment of mandatory park impact fees would reduce potential park impacts to less than significant level under CEQA. Therefore, the proposed project would have a less than significant impact with respect to parks and recreational facilities.

LESS THAN SIGNIFICANT IMPACT

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17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	■	☐
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	■	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	☐	■	☐
d. Result in inadequate emergency access?	☐	☐	☐	■

Regulatory Setting

Senate Bill 743 and Vehicle Miles Traveled

Senate Bill (SB) 743 was signed into law by Governor Brown in 2013 and tasked the State Office of Planning and Research (OPR) with establishing new criteria for determining the significance of transportation impacts under the California Environmental Quality Act (CEQA). SB 743 requires the new criteria to "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." It also states that alternative measures of transportation impacts may include "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated."

SB 743 implements changes to the method for performing transportation impact analyses under CEQA. SB 743 requires the Governor's OPR to identify new metrics for identifying and mitigating transportation impacts within CEQA. In January 2018, OPR transmitted its proposed CEQA Guidelines implementing SB 743 to the California Natural Resources Agency for adoption, and in January 2019 the Natural Resources Agency finalized updates to the CEQA Guidelines, which incorporated SB 743 modifications, and are now in effect. SB 743 changed the way that public agencies evaluate the transportation impacts of projects under CEQA, recognizing that roadway congestion, while an inconvenience to drivers, is not itself an environmental impact (Public Resource Code, § 21099 (b)(2)). In addition to new exemptions for projects consistent with specific plans, the CEQA Guidelines replaced congestion-based metrics, such as auto delay and level of service (LOS), with VMT as the basis for determining significant impacts, unless the Guidelines provide specific exceptions.

City of Hayward

CEQA Guidelines Section 15064.3(b) indicates that land use projects would have a significant impact if the project resulted in vehicle miles traveled (VMT) exceeding an applicable threshold of significance. In June 2020, the City of Hayward adopted the following thresholds of significance for VMT analysis according the guidance from OPR:

- Residential: 15 percent below existing average VMT per capita for the City
- Employment – Office: 15 percent below existing regional average VMT per employee
- Employment – Industrial: Below existing regional average VMT per employee
- Retail: Net increase in total regional VMT

In addition, the City of Hayward has developed screening criteria to provide project applicants with a conservative indication of whether a project could result in potentially significant VMT impacts. If the screening criteria are met by a project, the applicant would not need to perform a detailed VMT assessment for their project. Given that the project is an industrial park with primarily industrial uses and other minor supporting uses, it was determined that the employment-industrial threshold would be appropriate for the project.

Project Trip Generation

Table 35 shows the estimated trip generation from the project based on trip generation rates provided in the CEQA Transportation Analysis prepared by Kittelson and Associates (November 2020), which concludes the project would generate approximately 1,409 net new daily trips including 181 AM peak hour trips and 173 PM peak hour trips (Appendix H).

Table 35 Estimated Project Vehicle Trip Generation

			AM Peak Hour			PM Peak Hour		
Land Use	Size (KSF)	Daily Trips	In	Out	Total	In	Out	Total
Existing Warehouse	381,586	664	50	15	65	20	53	73
Proposed Industrial Park	615,095	2,073	199	47	246	52	194	246
Total Net Trips		**1,409**	**149**	**32**	**181**	**32**	**141**	**173**

Notes: KSF = thousand square feet

Source: Appendix H

Impact Analysis

a. *Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

c. *Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?*

Consistency with Roadway Plans, Policies, and Programs

In December 2019 California's Third District Court of Appeal ruled that under SB 743, automobile delay may no longer be treated as a significant impact in CEQA analysis (*Citizens for Positive Growth & Preservation v. City of Sacrament*o). Because significance of traffic-related impacts can no longer be based on LOS, impacts related to consistency with roadway programs, plans, ordinance, are policies (such as LOS standards) facilities are not addressed in this analysis.

Consistency with Transit Plans, Policies, and Programs

Transit service in the project area is provided by Alameda-Contra Costa Transit District (AC Transit) through Routes 97, 86, and M. According to the CEQA Transportation Analysis (Appendix H), the project would not substantially increase traffic levels at intersections serving local AC Transit buses such as Routes 86, 97, and M. In addition, the project would not degrade local access to bus stops along Clawiter Road, which can be accessed via the local sidewalk network and existing facilities such as ADA curb ramps and crosswalks; there are no active bus stops near the project and no bus stops abut the project driveways. Therefore, implementation of the project would not conflict with plans, programs, and policies regarding transit facilities, or decrease the performance and safety of such facilities.

Consistency with Pedestrian Plans, Policies, and Programs

According to the CEQA Transportation Analysis (Appendix H), the project area features sidewalks and curb ramps that are in good condition. However, sidewalk coverage is limited, especially along Clawiter Road adjacent to the project and the SR-92 ramps. In addition, while some high-visibility ladder crosswalks are provided along Clawiter Road, several standard crosswalks have faded striping.

The pedestrian access point to the north half of the project would be the proposed north driveway along Clawiter Road, and the pedestrian access point to the south half of the project would be the south project driveway along Clawiter Road (the central driveway is not designated as a pedestrian access point). To access the north half of the project, pedestrians could utilize a dedicated pedestrian walkway through the site. Pedestrians accessing the south half of the project would not have a dedicated walkway through the access easement, but rather a path marked with yellow paint for pedestrian access; this access path would be parallel to those used by bicycles, automobiles, and trucks. A dedicated walkway would be available east of the easement. In addition, pedestrian lighting would be provided at multiple locations in both the north and south site areas.

Pedestrians accessing the north half of the project, as well as pedestrians traveling along Clawiter Road, may experience conflicts with vehicles both on-site and at the driveways. Pedestrian-oriented treatments that would be considered as part of design review and conditions of approval include:

- Ensure that the north and central driveways on Clawiter Road are designed for pedestrian visibility safety (sidewalks clearly delineated, improved visibility by minimizing bushes and large signs).
- Coordinate with the City of Hayward to install warning signage (such as caution signage for exiting vehicles) and continental crosswalks at the north and central driveways.

Pedestrians accessing the south half of the project, as well as pedestrians traveling along Clawiter Road, may experience conflicts with vehicles both on-site and at the driveways. Pedestrians accessing the site could face some limitations due to the lack of a dedicated pedestrian walkway and a lack of sidewalks along Clawiter Road south of the railroad tracks. Pedestrian-oriented treatments that would be considered as part of design review and conditions of approval include:

- With the City and existing property owner, explore options such as designing the southern driveway on Clawiter Road for pedestrian visibility safety (e.g. improved visibility by minimizing bushes and large signs) and installing warning signage (such as caution signage for exiting vehicles) and continental crosswalks at the southern driveway.

- Explore options with the existing property owner to better delineate the pedestrian access path through the access easement with high-visibility paint and signage.
- With the City and existing property owner, explore options to install sidewalks along Clawiter Road south of the railroad tracks.

Adherence to conditions of approval to improve pedestrian access would ensure the project would not conflict with plans, programs, and policies regarding pedestrian facilities, or decrease the performance and safety of such facilities. Impacts would be less than significant.

Consistency with Bicycle Plans, Policies, and Programs

The existing bicycle facilities in the study area include:

- Class III bike route on Clawiter Road
- Class II buffered bike lanes on Eden Landing Road south of SR-92
- Class III bike route on Depot Road
- Class III bike route on Industrial Boulevard
- Class III bike route on Winton Avenue west of Clawiter Road and on the north side of Winton Avenue east of Clawiter Road
- Class II bike lane on the south side of Winton Avenue east of Clawiter Road

The site plan includes bike racks around all four buildings, consistent with California Green Building Code (CALGreen) requirements for developers to provide bicycle parking for 5 percent of the vehicular parking spaces added on a site. 18 short-term bike racks and 18 long-term bike racks are required, and the project has proposed to provide 22 of each, exceeding the state’s requirements by 22 percent. The project would also include showers. Per conditions of approval, the project would financially contribute to a future roadway project that will install a bike lane on Clawiter Road. The bicyclist access points to the project would consist of the three driveways along Clawiter Road. The bicyclist path through the site (including through the access easement) would be delineated by bicycle “sharrows” stenciled onto driveway pavement, indicating the bike-vehicle shared traffic lane. The bicyclist path of travel would run parallel to the truck path of travel. Alternatively, bicyclists accessing the site’s north half could dismount and use the internal pedestrian path on foot.

Since bicyclist access to, from, and through the project site consists of shared facilities that would include trucks, bicyclist comfort may be affected due to conflicts with automobiles and trucks. Potential treatments should be considered to increase bicyclist safety as part of design review and conditions of approval. Recommended improvements include:

- Coordinate with the City of Hayward to install signage (such as bikeway signage and caution signage) for vehicles entering or existing the project driveways.
- Ensure the on-site bike sharrows are high-visibility and are accompanied by the appropriate signage.

The City of Hayward is currently updating its Bicycle and Pedestrian Master Plan. At this time, the draft plan proposes replacing the bike route along Clawiter Road with separated bike lanes. Should separated bike lanes be installed, the property owner would be required to coordinate with the City to provide the appropriate signage and transition markings at the project driveways.

Adherence to conditions of approval to improve pedestrian access would ensure that the project would not conflict with plans, programs, and policies regarding bicycle facilities, or decrease the performance and safety of such facilities. Impacts would be less than significant.

Design Hazards or Incompatible Uses

Project implementation would occur on existing parcels developed with warehouse and vehicle storage uses. The implementation of the project would not alter or affect existing street and intersection networks or involve an incompatible use. Access and movement through the project site would be designed to support large trucks and vehicles for potential warehouse or distribution facilities. Sufficient turning areas and access opportunities for truck and passenger vehicle access are proposed in accordance with City requirements. No new roadways or alterations to existing roadway design would occur. In addition, the proposed project would be required to comply with the City's design standards for vehicular access and circulation and the Fire Code. Therefore, the project would not create a significant safety hazard due to a design feature or incompatible use.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

As described in the *Regulatory Setting* section above, the screening criteria for employment-industrial threshold would be appropriate for the project. The City's screening criterion for projects analyzed under the employment-industrial threshold are:

- Located in areas with below average VMT per employee and/or within a half mile of a major transit stop or corridor
- Include low VMT-supporting features that will produce low VMT per employee
- Must include features that are similar to or better than what exists today for density and parking to support no increase in VMT per industrial employee

As shown in Figure 8 in the City's VMT Thresholds of Significance Screening Criteria, the proposed project is located in an area with below average VMT for industrial uses (Appendix H). In addition, the project includes the following low-VMT supporting features:

- Parking areas that include carpool-designated preferred area as well as electric vehicle charging stations
- Incentives for commuting by bicycle with bike racks and storage facilities, fitness facilities, showers, and on-site bike sharrows
- On-site food truck space so employees can remain in the area for lunch and food breaks

Finally, the proposed project includes features that are similar to, or better than what exists on the project site currently, related to development intensity and parking to support no increase in VMT per industrial employee. The project site currently has 282,000 square-feet of development, and the project would involve redevelopment of the site with an increase in development intensity to 631,000 square-feet. This increase in square footage would allow more jobs and services to be provided in an existing industrial area instead of resulting in the introduction of new development in undeveloped areas. Also, the site currently has approximately 450 parking spaces, which would decrease to about 320 parking spaces and 45 trailer parking spaces (Appendix H). Because the project meets the low-VMT screening criteria for industrial projects, the project would have a less than significant impact on VMT and a detailed analysis is not required.

LESS THAN SIGNIFICANT IMPACT

d. Would the project result in inadequate emergency access?

An existing, active railroad spur divides access to the northern and southern portions of the site, as shown in Figure 4. Access to the northern and southern areas of the site would both be along Clawiter Road, through one ingress/egress easement on the south side of the project and two driveways on the north side. In addition, existing emergency access to the railroad spur would continue to be used for emergency access between the northern and southern project sites. The proposed project would be required to comply with all building, fire, and safety codes and specific development plans would be subject to review and approval by the City's Public Works Department and HFD. Required review by these departments would ensure the circulation system for the project site would provide adequate emergency access. In addition, the proposed project would not require temporary or permanent closures to roadways. There would be no impact.

NO IMPACT

18 Tribal Cultural Resources

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

Tribal Cultural Resources Setting

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, "tribal cultural resources." AB 52 establishes that "A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is:

1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. Under AB 52, lead agencies are required to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

Impact Analysis

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

b. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

The California Native American Heritage Commission (NAHC) was contacted and a review of the Sacred Lands File (SLF) requested on July 22, 2020. On July 22, 2020, the NAHC sent a response indicating that the SLF search indicated the presence of any known cultural resources in the project site.

On September 15, 2020, the City of Hayward mailed a notification letter on April 3, 2020 to the one local Native American tribe that has requested notification under AB 52: the Ione Band of Miwok Indians (Appendix I). Correspondence is included in Appendix I. Under AB 52, tribes have 30 days from receipt of the letter to respond and request consultation. The tribe did not respond during that window to request formal consultation under AB 52.

Nonetheless, the SLF was returned with positive results; therefore, it is possible that ground disturbance during construction would encounter unknown tribal cultural resources or known cultural resources that may be identified as tribal cultural resources. Thus, the project has the potential to significantly impact tribal cultural resources through ground disturbance and looting or vandalism of encountered resources. Mitigation is required to ensure that unanticipated discoveries of tribal cultural resources are avoided or, where avoidance is infeasible, mitigated to a less than significant level.

Mitigation Measure

TCR-1 Unanticipated Discovery of Tribal Cultural Resources

In the event that cultural resources of Native American origin that may be considered tribal cultural resources are identified during construction, all earth disturbing work within 50 feet of the find must be temporarily suspended or redirected until an archaeologist has evaluated the nature and significance of the find and in consultation with the on-site Native American monitor. If the archaeologist and Native American monitor determine that the resource is a tribal cultural resource and thus significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with state guidelines and in consultation with Native American groups. The plan would include avoidance of the resource or, if avoidance of the resource is infeasible, the plan would outline the appropriate treatment of the resource in coordination with the appropriate Native American tribal representative(s).

Significance After Mitigation

Mitigation Measure TCR-1 would ensure that tribal cultural resources are identified properly and preserved in the event they are uncovered during construction and would reduce impacts regarding disrupting tribal cultural resources to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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19 Utilities and Service Systems

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

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Stormwater

As discussed in Section 10, *Hydrology and Water Quality,* the proposed project would increase the amount of impervious surfaces on-site and therefore would increase the volume of runoff from the project site into the storm drain system. However, in accordance with Alameda County Flood Control & Water Conservation District requirements, the project would control the rate of runoff such that the rate of runoff would not increase from existing conditions. Therefore, the proposed project would not exceed the capacity of storm drain infrastructure such that new or expanded off-site storm water drainage facilities would be required. Impacts would be less than significant.

Water

The proposed project would receive its water from the City of Hayward. The City of Hayward provides water for residential, commercial, industrial, governmental, and fire suppression uses. The City owns and operates its own water distribution system and receives its water from the Hetch Hetchy system, owned and operated by the San Francisco Public Utilities Commission (SFPUC). Emergency water supplies are available through connections with Alameda County Water District (ACWD) and East Bay Municipal Utility District (EBMUD) in case of disruption of delivery (City of Hayward 2016a). The proposed project would connect into existing water infrastructure located along Clawiter Road for the proposed structures and landscaping. The construction required for connection is included in the environmental analysis throughout this report.

The City's Urban Water Management Plan (UWMP) assesses Hayward's water supply reliability, and describes the City's anticipated water demand, water shortage contingency plans, and water conservation strategies. The UWMP is based on the growth projections in the City's General Plan. Major water system projects in the near-term focus on replacing and renovating existing water storage reservoirs to increase storage capacity and improve structural reliability. According to the UWMP, SFPUB and the City of Hayward have sufficient supplies during normal years through 2040 but during single- and multiple-dry years, there are projected water shortages (City of Hayward 2016a). A Water Supply Agreement, which includes a Water Shortage Allocation Plan (WSAP), was agreed to for the allocation of water supplies during shortage periods. In addition, the UWMP includes an aggressive water shortage contingency plan which the City would implement. As determined in the City's UWMP, there is adequate water supply available to serve anticipated growth in Hayward.

As described in Section 11, *Land Use Planning*, the proposed project is consistent with the General Plan's IC land use designation and is consistent with the development potential on the project site. Moreover, as described in Section 13, *Population and Housing,* the project would not generate growth beyond that anticipated in the General Plan. In addition, Building 4 would also have a dual plumbing system to allow for future connection to the City's purple pipe reclaimed water system, which would reduce water demand. Therefore, there would be sufficient potable water supply to accommodate the anticipated demand increases resulting from the proposed project. Impacts would be less than significant.

Wastewater Generation

The City of Hayward operates the Sewer Collection System, the wastewater collection system that collects wastewater from the majority of the residential, commercial and industrial users within the incorporated City limits (Hayward 2016a). The wastewater collection system is comprised of about 350 miles of sewer mains, nine sewage lift stations, and 2.5 miles of force mains. Wastewater collected by the City is conveyed to the City-owned Water Pollution Control Facility (WPCF), which is permitted under a NPDES permit issued by the San Francisco Bay RWQCB to provide primary through advanced secondary treatment for up to 18.5 million gallons per day (mgd) of wastewater (City of Hayward 2016a). The plant currently treats an average dry weather flow of 11.1 mgd, which gives sufficient excess capacity to accommodate growth in the City.

The project site is located in an urban area within the boundaries of the City of Hayward Sewer Collection System. The project would connect into the existing sewer system and would not require significant improvements other than improved connections to the sewer systems from the project site, which are included in the environmental analysis.

The proposed project would increase existing wastewater generation on-site through the development of an industrial park; the transformer yard or transmissions lines would not generate wastewater. However, the project is consistent with the General Plan's IC land use designation and would not generate growth beyond that anticipated in the General Plan. The EIR for the City's General Plan found that there was adequate capacity at the WPCF to serve development under the General Plan. Therefore, there is adequate capacity at the WPCF to service the proposed project and no expansion of the WPCF would be required (City of Hayward 2013). Impacts would be less than significant.

Electricity, Natural Gas, and Telecommunications

A significant impact to electricity, natural gas, and telecommunications facilities may occur if the demand for services exceeds the capacity of local providers. Electricity and natural gas would be provided to the project site by PG&E. Telecommunications services would be provided by AT&T, SBC Telecom, or other providers, at the discretion of future tenants. Telecommunications are generally available in the project area to serve the surrounding industrial and business park uses. Facility upgrades would not likely be necessary.

As described in Section 6, *Energy*, the proposed project would have sufficient supplies of energy and natural gas. The project would also provide a transformer yard and two overhead transmission lines to connect to the nearby PG&E substation to handle the electricity requirements of the proposed data center. Impacts of the proposed transformer yard and overhead transmissions lines are included throughout the document.

The proposed project would have a less than significant impact on local electricity, natural gas, and telecommunications providers.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

d. *Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

e. *Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

The City of Hayward provides weekly garbage collection and disposal services through a Franchise Agreement with Waste Management, Inc. (WMI), a private waste management company Solid waste from Hayward is transported to the Altamont Landfill in Livermore, which has a total capacity of 124.4 million cubic yards, remaining capacity of 65.4 million cubic yards, and an anticipated closure date of 2040 (CalRecycle 2019). The Altamont Landfill has a maximum daily capacity of 11,150 tons per day.

CALGreen requires covered projects to recycle and/or salvage for reuse a minimum 65% of the nonhazardous construction and demolition waste or meet a local construction and demolition waste management ordinance, whichever is more stringent. HMC Chapter 5, Article 10 requires that applicants for all construction and demolition projects that generate significant debris recycle 100 percent of all asphalt and concrete and 50 percent of remaining materials. Construction activities associated with the project would be required to comply with these requirements.

Operation of the project would generate solid waste from materials and employees; the transformer yard or transmissions lines would generate wastewater. Solid waste generation was estimated using default data tables from CalEEMod for Industrial Park facilities. As shown in Table 36, the project could generate 764 tons of solid waste per years, or two tons per day. This is well within the capacity of the Altamont Landfill and would not cause the facility to exceed its daily permitted capacity.

Table 36 Estimated Solid Waste Generation

Land Use	Size	Generation Rate*	Total (tons/year)	Total (tons/day)
Industrial Park	616,000	1.24 tons/1,000 sf/year	764	2

Notes: sf = square feet

Rates from CalEEMod (CAPCOA 2017)

As discussed above, the project would be required to comply with HMC Chapter 5, Article 10 for construction waste recycling. In addition, the businesses who operate within the structures would be required to provide recycling collections and separate recycling containers pursuant to City Ordinance (Hayward N.D.). Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

20 Wildfire

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

a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

b. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes *or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

The project site is not located within or near a Very High Fire Hazard Severity Zone or state responsibility area. The nearest Very High Fire Hazard Severity Zone is located approximately six miles north of the project site in Castro Valley (CalFire 2007; 2008). Because the site is not within or near a state responsibility area or a Very High Fire Hazard Severity Zone, no impacts related to wildfires would occur.

NO IMPACT

21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Does the project:				
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	□	■	□	□
b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	□	■	□	□
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	□	■	□	□

a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Based on the analysis provided throughout this Initial Study, implementation of the proposed project would not substantially degrade the quality of the environment and would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of rare or endangered plants or animals, or eliminate important examples of California history or prehistory. Biological resources are addressed in Section 4, *Biological Resources.* With implementation of mitigation measures BIO-1, BIO-2, and BIO-3 related to nesting birds, sensitive bat species in the existing on-site structure, and the removal of on-site trees, the proposed project would not substantially reduce wildlife habitat or population. Mitigation measures CR-1 and TCR-1 have been designed to reduce potential impacts to unknown archaeological and tribal cultural resources. Based on the ability of the identified mitigation measures to reduce potential impacts to less than significant levels, the proposed project's impacts would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. *Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Cumulative impacts associated with some of the resource areas are addressed in the individual resource sections above: Air Quality, Greenhouse Gases, Water Supply, and Solid Waste (CEQA Guidelines Section 15064(h)(3)). Air Quality and Greenhouse Gas impacts would be less than significant with generator operational restrictions under Mitigation Measure AQ-1 and a greenhouse gas reduction strategy required under Mitigation Measure GHG-1. Water supply and solid waste impacts would be less than significant. Some of the other resource areas were determined to have no impact in comparison to existing conditions and therefore would not contribute to cumulative impacts, such as Mineral Resources and Agricultural Resources. As such, cumulative impacts in these issue areas would also be less than significant (not cumulatively considerable). The proposed project would incrementally increase traffic compared to existing conditions. However, due to the low volume of traffic generated by the proposed project, the proposed project would not significantly contribute to cumulative impacts to nearby roadways. The project site is located in an area with below average VMT per employee, includes low-VMT supporting features, and has features that would increase density and decrease parking over existing conditions. Therefore, the project would not lead to a significant cumulative increase in VMT. The proposed project involves development of an industrial park and would be consistent with the City's General Plan designation. The proposed project would not result in a significant contribution to cumulatively considerable impacts, and impacts would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Effects to human beings are generally associated with air quality, noise, traffic safety, geology/soils and hazards/hazardous materials. As discussed in this Initial Study, implementation of the proposed project would result in less than significant environmental impacts with respect to these issue areas with mitigation incorporated. Mitigation Measure AQ-1 would reduce health impacts from on-site generators through operational restrictions. The geotechnical recommendations Mitigation Measure GEO-1 and GEO-2 discussed in Section 7, *Geology and Soils*, would ensure that soils and grounds are stable, and that liquefaction risks are less than significant. Mitigation Measures AQ-1 and GEO-1/GEO-2 would reduce health and safety risks to human beings and would result in less than significant impacts. Mitigation measures HAZ-1 through HAZ-4 would reduce impacts associated with hazardous materials. With mitigation, the proposed project would not cause substantial adverse effects on human beings, either directly or indirectly. Impacts would be less than significant with mitigation.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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List of Preparers

Rincon Consultants, Inc. prepared this IS-MND under contract to the City of Hayward. Persons involved in data gathering analysis, project management, and quality control are listed below.

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Attachment VII

Clawiter Road Industrial Project

Responses to Comments on the Draft IS-MND

prepared by

City of Hayward
777 B Street
Hayward, California 94541
Contact: Elizabeth Blanton, Associate Planner

prepared with the assistance of

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449 15th Street, Suite 303
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February 2021

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Responses to Comments on the Draft IS-MND

1.0 Introduction

1.1 PURPOSE OF THE RESPONSE TO COMMENTS

This document includes comments received during the circulation of the Draft Initial Study-Mitigated Negative Declaration (IS-MND) prepared for the Clawiter Road Industrial Project and responses to those comments. The Draft IS-MND identifies the likely environmental consequences associated with development of the proposed project and recommends mitigation measures to reduce potentially significant impacts. This Response to Comments (RTC) Document provides a response to comments on the Draft IS-MND. This document, together with the Draft IS-MND, constitutes the Final IS-MND for the proposed project.

1.2 ENVIRONMENTAL REVIEW PROCESS

Pursuant to the California Environmental Quality Act (CEQA), lead agencies are required to circulate a Notice of Intent to Adopt a Mitigated Negative Declaration (NOI) and provide the general public with an opportunity to comment on the Draft IS-MND. The Draft IS-MND was circulated for a public review period that began on December 4, 2020 and ended on January 4, 2021. Copies of the NOI were mailed to local agencies and posted with the State Clearinghouse and Alameda County Clerk's Office. The Draft IS-MND was posted electronically on the City's website. The City of Hayward received four comment letters on the Draft IS-MND.

1.3 DOCUMENT ORGANIZATION

This Response to Comments (RTC) Document consists of the following chapters:

- **Chapter 1.0: Introduction**. This chapter discusses the purpose and organization of this RTC Document and summarizes the environmental review process for the project.
- **Chapter 2.0: Comments and Responses.** This chapter contains reproductions of all comment letters received on the Draft IS-MND. A written response for each CEQA-related comment received during the public review period is provided. Each response is keyed to the corresponding comment.
- **Chapter 3.0: Draft IS-MND Revisions**. Corrections to the Draft IS-MND that are necessary in light of the comments received and responses provided, or necessary to amplify or clarify material in the Draft IS-MND, are contained in this chapter. <u>Underlined</u> text represents language that has been added to the Draft IS-MND and deleted text is indicated with ~~strikeout~~.
- **Appendix 1**: Revised Air Quality and Greenhouse Gas (GHG) Emissions Modeling Results
- **Appendix 2**: Revised CEQA Transportation Analysis

2.0 COMMENTS AND RESPONSES

This chapter includes written comments received during the circulation of the Draft IS-MND prepared for the Clawiter Road Industrial Project and responses to those comments.

The Draft IS-MND was circulated for a 30-day public review period that began on December 4, 2020 and ended on January 4, 2021. The City of Hayward received four comment letters on the Draft IS-MND. The commenters and the page number on which each commenter's letter appear are listed below.

Letter No. and Commenter		Page No.
1	California Department of Transportation (Caltrans)	3
2	Bay Area Air Quality Management District (BAAQMD)	6
3	County of Alameda, Land and Water Division	26
4	Lozeau Drury, LLP	28

The comment letters and responses follow. The comment letters have been numbered sequentially and each separate issue raised by the commenter, if more than one, has been assigned a number. The responses to each comment identify first the number of the comment letter, and then the number assigned to each issue (Response 1.1, for example, indicates that the response is for the first issue raised in comment Letter 1).

In some cases, specific changes to the text of the Draft IS-MND have been made in response to comments received. In no case do these revisions result in a greater number of impacts or impacts of a substantially greater severity than those set forth in the Draft IS-MND. Where revisions to the main text are called for, the page and paragraph are set forth, followed by the appropriate revision. Added text is indicated with underlined and deleted text is indicated with ~~strikeout~~. Page numbers correspond to the page numbers of the Draft IS-MND.

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF TRANSIT AND COMMUNITY PLANNING
P.O. BOX 23660, MS-10D
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Letter 1

Making Conservation a California Way of Life.

January 4, 2021

SCH # 2020120073
GTS # 04-ALA-2020-00571
GTS ID: 21378
Alameda / 92/ 4.735

Elizabeth Blanton
City of Hayward Planning Division
777 B Street,
Hayward CA 94541

Re: Clawiter Road Industrial Project- Draft Mitigated Negative Declaration (MND)

Dear Elizabeth Blanton:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Clawiter Road Industrial Project. We are committed to ensuring that impacts to the State's multimodal transportation system and to our natural environment are identified and mitigated to support a safe, sustainable, integrated and efficient transportation system. The following comments are based on our review of the December 2020 draft MND.

Project Understanding

The proposed project intends to redevelop a currently industrial site into an industrial park of four core structures, three designated for industrial uses in accordance with current zoning. The fourth is being proposed to be a data center. The site is accessible by Clawiter Road and State Route (SR)- 92.

Project-Related Impacts

1. Potential impacts to the State Right-of-Way (ROW) from project-related temporary access points during construction should be analyzed. Mitigation for significant impacts due to construction and noise should be identified in the environmental documents. Project work that requires movement of oversized or excessive load vehicles on state roadways requires a transportation permit that is issued by Caltrans. To apply, visit: https://dot.ca.gov/programs/traffic-operations/transportation-permits.

Elizabeth Blanton, Associate Planner
January 4, 2021
Page 2

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Laurel Sears at laurel.sears@dot.ca.gov. Additionally, for future notifications and requests for review of new projects, please contact LDIGR-D4@dot.ca.gov.

Sincerely,

Mark Leong

MARK LEONG
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

Letter 1

COMMENTER: Mark Leong, District Branch Chief, California Department of Transportation (Caltrans)

DATE: January 4, 2021

Response 1.1

The commenter states an opinion that potential impacts to the State Right-of-Way (ROW) from temporary access during construction and construction noise should be analyzed and mitigation identified for potential significant impacts. The commenter also states that work which requires movement of oversized or excessive load vehicles on SR 92 would require a transportation permit issued by Caltrans.

It is not anticipated that temporary access points to the project from state ROW or temporary access to the state ROW would be required during construction. Construction vehicles would utilize existing access points. Construction noise and vibration impacts were analyzed in Section 13, *Noise*, of the Draft IS-MND, which was estimated using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM). Construction noise and vibration impacts were determined to be less than significant. It is acknowledged that the project would be required to comply with Caltrans requirements for excessive load vehicles if required during construction or operation.

Letter 2

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

January 4, 2021

Elizabeth Blanton
City of Hayward, Planning
777 B Street
Hayward, CA 94541

RE: Clawiter Road Industrial Project – Mitigated Negative Declaration

Dear Ms. Blanton,

Bay Area Air Quality Management District (Air District) staff has reviewed the Mitigated Negative Declaration (MND) for the proposed Clawiter Road Industrial Project (Project). The Project applicant proposes to demolish the four existing on-site structures and construct an industrial park consisting of four industrial core sites and shell structures totaling approximately 616,000 square feet and a transformer yard on a 26-acre site in the City of Hayward. While three of the proposed core sites will be occupied by industrial uses, the fourth core site would be occupied by a data center designed to provide 49 megawatts (MW) of information technology power with 24 backup diesel generators to provide emergency power to the data center.

The Air District commends the applicant for its commitment to procure 100 percent renewable energy mix by 2025 and to achieve carbon neutrality by 2040 for the data center. Because the data center includes backup diesel generators, the Project will require Air District approval of an Authority to Construct and Permit to Operate for the backup diesel generators, and, as such, the Project will be required to comply with all applicable Air District regulations. Although the Air District's regulations do not currently prohibit the use of diesel generating equipment, a rulemaking effort is underway to address backup generators at data centers. As such, the Air District encourages the City of Hayward to go beyond current regulatory requirements and require the project applicant to adopt the use of cleaner, non-diesel technologies. 1

Additionally, staff are providing the following recommendations on how the City could enhance its CEQA analysis and minimize emissions from the Project and future proposed data centers.

Consistency with Long-Term State Climate Goals

The MND states that the Project's greenhouse gas (GHG) emissions "are evaluated for consistency with the State's next milestone target year of 2030." However, the MND does not evaluate, disclose, nor discuss the Project's consistency with State 2 policies requiring long-term reductions in emissions of GHGs, including the direction in Executive Order B-55-18 to achieve carbon neutrality as soon as possible and no later than 2045, and Executive Order S-3-05 to achieve GHG emissions reductions equivalent to 80 percent below 1990 levels by 2050. See *Cleveland Nat'l Forest Foundation v. San Diego Ass'n of Governments* (2017) 3 Cal.5th 497, 516 (CEQA analysis should "compare the [project's] projected greenhouse gas emissions ... from 2020 through 2050 with the Executive Order's goal of reducing emissions to 80 percent below 1990 levels by 2050.").

Although the MND states that the data center tenant has committed to achieving carbon neutrality/net-zero carbon by 2040, the details of this commitment are unclear. Specifically, the MND mentions the tenant's commitment to procure 100 percent renewable energy by 2025, while GHG-1 specifies procurement of 60 percent renewable sources by 2030, yet the math behind GHG-1 appears to be approaching 100 percent GHG-free electricity. Likewise, the MND does not evaluate how the Project's use of diesel fuel in the 24 proposed Tier 2 back up diesel generators is consistent with carbon neutrality as soon as possible and no later than 2045. Air District staff recommends that the City augment its GHG analysis to include an evaluation, disclosure, and discussion of whether the Project will be consistent with the State's policies beyond 2030. Regardless of whether upon further evaluation the City deems that deployment of 24 diesel backup generators is consistent with the State's carbon neutrality target, the Air District recommends that the City compel the project applicant to adopt alternative zero emitting technologies, procure renewable fuel, commit to otherwise mitigate GHG emissions, or a combination of the three. 2 (cont.)

Lastly, although the uses of buildings 1-3 are not specified, it appears that building 3 will include 26 loading docks. It is unclear if these loading docks will include electric vehicle (EV) charging infrastructure for trucks. In accordance with Executive Order N-79-20 which calls for 100 percent medium- and heavy-duty vehicles to be zero-emission by 2045, the Air District recommends the City clarify if loading dock EV charging infrastructure is included and discuss how inclusion of EV charging (or lack thereof) is consistent with Executive Order N-70-20 and the broader goals of carbon neutrality. 3

<u>Calculation of GHG Emissions</u>

The GHG emissions for electricity use are calculated by applying an adjusted energy intensity factor for the year 2030, however, the project is scheduled to be operating in 2023. The Air District recommends the calculation be redone to include energy intensity factors for the year commencing project operations. 4

<u>Non-Testing/Non-Maintenance Operations</u>

The MND should include various scenarios of backup power generation operations beyond routine testing and maintenance. Air District staff has reviewed recent data regarding backup 5 generator usage during non-testing/non-maintenance operations at several Bay Area data centers. Between September 1, 2019, and September 30, 2020, nearly half of the identified data centers in Santa Clara, San Jose, and Sunnyvale operated backup diesel generators for reasons other than routine testing and maintenance. Many of the data centers operated diesel generators during multiple non-testing/non-maintenance events; non-testing/non-maintenance hours of operation approached 50 hours for one generator for one event; it appears 40 or more generators operated concurrently at two facilities; and one facility ran diesel generators for approximately 400 hours for non-testing/non-maintenance purposes over the course of the period. Please see Attachment 1 for details of the preliminary information on non-testing/non-maintenance operations that the Air District has received from data centers, which demonstrates the need to evaluate these operations. Air District staff recommends that the MND include GHG, criteria pollutant, and toxic air contaminant (TAC) impacts due to the non-testing/non-maintenance operations of backup power generators. Various scenarios should be considered for non-testing/non-maintenance operations, including non-zero hours of operation and concurrent generator operations. 5 (cont.)

Recommendations for Achieving Additional Emissions Reductions

To the extent that further analysis concludes the Project's emissions would be cumulatively considerable or inconsistent with the State's climate goals, the Project may need to incorporate mitigation measures to reduce emissions. Even if the revised analysis does not conclude the Project's emissions will be cumulatively considerable, the Air District encourages the City to compel the applicant to incorporate additional emission reduction measures as a condition of approval of the Project. These recommended measures will help ensure that the Project's emissions impacts are reduced to the maximum extent possible to achieve the most health protective air quality for Bay Area residents and to achieve climate change goals established by the State and the Air District.

The MND identifies the predominant source of the Project's GHG emissions as electricity use (15,615 $MTCO_2e$ per year), which would be provided by Pacific Gas & Electric (PG&E). The Air District commends the applicant for its commitment to procuring 100 percent renewable energy mix by 2025 for the data center. Air District staff encourages the applicant to commit to procuring 100 percent renewable energy for the entire project site at the onset of project operation. This can be achieved by opting into PG&E's Solar Choice program. Alternatively, because the City is a member of the Community Choice Energy program, East Bay Community Energy (EBCE), the City could opt in to EBCE's Brilliant 100 program (carbon-free energy) or Renewable 100 program (solar and wind energy). 6

According to the MND, the Project would include 24 Tier 2 diesel backup generators, designed to provide 24 hours of emergency generation at full demand. To meet State and regional climate goals, the Air District encourages projects go above and beyond permitting requirements. In

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September 2018, the Air District launched the *Diesel Free by '33* initiative to eliminate diesel emissions from Bay Area communities by 2033. To cut diesel use to zero by the end of 2033, the Air District recommends that the City compel the Project applicant to use the cleanest available technologies such as solar battery power, fuel cells, natural gas reciprocating engines, or Tier 4 generators.

Lastly, Air District staff strongly recommends that the City work with PG&E, the Air District, State agencies, and the Project proponents for this and similar proposed data center projects to 6 (cont.) explore alternative options to reduce GHG emissions. For example, the Air District awarded a Climate Protection Grant of $300,000 to the City of Santa Clara to conduct a pilot project to demonstrate the viability of replacing data center backup diesel generators with electric energy storage systems, and the California Energy Commission (CEC) has previously provided Electric Program Investment Charge (EPIC) awards for data center microgrids. We also encourage proponents of the Project and future data centers to seek available grant funding for zero-emitting alternatives to diesel backup generators.

Air District staff is available to assist the City in addressing these comments. If you have any questions or would like to discuss Air District recommendations further, please contact Josephine Fong, Environmental Planner, at (415) 749-8637 or jfong@baaqmd.gov, or Jakub Zielkiewicz, Advanced Projects Advisor, at (415) 749-8429 or jzielkiewicz@baaqmd.gov.

Sincerely,

Greg Nudd
Deputy Air Pollution Control Officer

Attachment 1: Preliminary Back-Up Diesel Engine Operations (Non-Testing/Non-Maintenance)

cc: BAAQMD Director John J. Bauters
BAAQMD Director Pauline Russo Cutter
BAAQMD Director Scott Haggerty
BAAQMD Director Nate Miley

Attachment 1: Preliminary Back-Up Diesel Engine Operations (Non-Testing/Non-Maintenance)

Preliminary back-up diesel engine operations (non-testing/non-maintenance) for select facilities in Santa Clara, Sunnyvale, and San Jose

September 1, 2019 - September 30, 2020

Facility operator data, based on facility responses to BAAQMD's 9/25/20 data request and follow-up conversations. Data may be refined and additional information may be available during follow-up discussions.

Data Center #	Engine #	City	Engine Size (MW)	Hours of operation (non-testing/non-maintenance)	Estimated engine load percentage during each non-testing/non-maintenance operations	Estimated fuel usage during each non-testing/non-maintanence operation (gallons)	Date	Explanation of non-testing/non-maintenance operation
1	1	Santa Clara	2	9	5%	90	8/17/20-8/18/20	State Emergency Load Shedding
1	2	Santa Clara	2	8.8	6%	240	8/17/20-8/18/20	State Emergency Load Shedding
1	2	Santa Clara	2	1.2	5%	29	8/17/20-8/18/20	Human error event
1	3	Santa Clara	2	1	1%	5	8/17/20-8/18/20	Human error event
1	4	Santa Clara	2	8.5	25%	390	8/17/20-8/18/20	State Emergency Load Shedding
1	4	Santa Clara	2	1	26%	58	8/17/20-8/18/20	Human error event
1	5	Santa Clara	2	9.1	31%	400	8/17/20-8/18/20	State Emergency Load Shedding
1	6	Santa Clara	2	8.9	21%	300	8/17/20-8/18/20	State Emergency Load Shedding
1	7	Santa Clara	2	8.8	24%	350	8/17/20-8/18/20	State Emergency Load Shedding
1	8	Santa Clara	2	8.8	25%	350	8/17/20-8/18/20	State Emergency Load Shedding
1	9	Santa Clara	2	8.6	22%	325	8/17/20-8/18/20	State Emergency Load Shedding
1	10	Santa Clara	2	9	19%	300	8/17/20-8/18/20	State Emergency Load Shedding
2	1	Sunnyvale	2	12.6	34%	682	Various	Utility inflicted disturbance
2	2	Sunnyvale	2	14.7	41%	795	Various	Utility inflicted disturbance
2	3	Sunnyvale	2	15.3	30%	828	Various	Utility inflicted disturbance
2	4	Sunnyvale	2	13.8	32%	747	Various	Utility inflicted disturbance
2	5	Sunnyvale	2	20.2	26%	1093	Various	Utility inflicted disturbance
3	1	Santa Clara	2	0.5	1%		8/17/20-8/18/20	State Emergency Load Shedding
3	2	Santa Clara	2	1.4	2%		8/17/20-8/18/20	State Emergency Load Shedding
3	3	Santa Clara	2	36.7	40%		8/17/20-8/18/20	State Emergency Load Shedding
3	4	Santa Clara	2.25	0.2	1%		8/17/20-8/18/20	State Emergency Load Shedding
3	5	Santa Clara	2.25	31.7	36%		8/17/20-8/18/20	State Emergency Load Shedding
3	6	Santa Clara	2.25	37.3	36%		8/17/20-8/18/20	State Emergency Load Shedding
4	1	Santa Clara	2.25	0.4	33%	25	8/16/2020	Lightning strikes to transmission line
4	2	Santa Clara	2.25	0.4	33%	25	8/16/2020	Lightning strikes to transmission line
4	3	Santa Clara	2.25	0.4	33%	25	8/16/2020	Lightning strikes to transmission line
4	4	Santa Clara	2.25	0.4	33%	25	8/16/2020	Lightning strikes to transmission line
4	5	Santa Clara	2.25	0.4	33%	25	8/16/2020	Lightning strikes to transmission line
4	6	Santa Clara	2.25	0.5	33%	32	8/16/2020	Lightning strikes to transmission line
4	7	Santa Clara	2.25	0.5	33%	32	8/16/2020	Lightning strikes to transmission line
4	8	Santa Clara	2.25	0.5	33%	32	8/16/2020	Lightning strikes to transmission line
4	9	Santa Clara	2.25	0.5	33%	32	8/16/2020	Lightning strikes to transmission line
4	10	Santa Clara	2.25	0.5	33%	32	8/16/2020	Lightning strikes to transmission line
4	11	Santa Clara	2.25	0.5	33%	32	8/16/2020	Lightning strikes to transmission line
4	12	Santa Clara	2.25	0.6	33%	38	8/16/2020	Lightning strikes to transmission line

Preliminary back-up diesel engine operations (non-testing/non-maintenance) for select facilities in Santa Clara, Sunnyvale, and San Jose

September 1, 2019 - September 30, 2020

Facility operator data, based on facility responses to BAAQMD's 9/25/20 data request and follow-up conversations. Data may be refined and additional information may be available during follow-up discussions.

Data Center #	Engine #	City	Engine Size (MW)	Hours of operation (non-testing/non-maintenance)	Estimated engine load percentage during each non-testing/non-maintenance operations	Estimated fuel usage during each non-testing/non-maintanence operation (gallons)	Date	Explanation of non-testing/non-maintenance operation
4	13	Santa Clara	2.25	0.6	33%	38	8/16/2020	Lightning strikes to transmission line
4	14	Santa Clara	2.25	0.6	33%	38	8/16/2020	Lightning strikes to transmission line
4	15	Santa Clara	2.25	0.6	33%	38	8/16/2020	Lightning strikes to transmission line
4	16	Santa Clara	2.25	0.6	33%	38	8/16/2020	Lightning strikes to transmission line
4	17	Santa Clara	2.25	0.4	43%	33	8/16/2020	Lightning strikes to transmission line
4	18	Santa Clara	2.25	0.4	43%	33	8/16/2020	Lightning strikes to transmission line
4	19	Santa Clara	2.25	0.4	43%	33	8/16/2020	Lightning strikes to transmission line
4	20	Santa Clara	2.25	0.4	43%	33	8/16/2020	Lightning strikes to transmission line
4	21	Santa Clara	2.25	0.4	43%	33	8/16/2020	Lightning strikes to transmission line
4	22	Santa Clara	2.25	0.5	43%	41	8/16/2020	Lightning strikes to transmission line
4	23	Santa Clara	2.25	0.5	43%	41	8/16/2020	Lightning strikes to transmission line
4	24	Santa Clara	2.25	0.5	43%	41	8/16/2020	Lightning strikes to transmission line
4	25	Santa Clara	2.25	0.5	43%	41	8/16/2020	Lightning strikes to transmission line
4	26	Santa Clara	2.25	0.5	43%	41	8/16/2020	Lightning strikes to transmission line
4	27	Santa Clara	2.25	0.5	43%	41	8/16/2020	Lightning strikes to transmission line
4	28	Santa Clara	2.25	0.6	43%	49	8/16/2020	Lightning strikes to transmission line
4	29	Santa Clara	2.25	0.6	43%	49	8/16/2020	Lightning strikes to transmission line
4	30	Santa Clara	2.25	0.6	43%	49	8/16/2020	Lightning strikes to transmission line
4	31	Santa Clara	2.25	0.6	43%	49	8/16/2020	Lightning strikes to transmission line
4	32	Santa Clara	2.25	0.6	43%	49	8/16/2020	Lightning strikes to transmission line
4	33	Santa Clara	2.25	0.4	52%	34	8/16/2020	Lightning strikes to transmission line
4	34	Santa Clara	2.25	0.4	52%	34	8/16/2020	Lightning strikes to transmission line
4	35	Santa Clara	2.25	0.4	52%	34	8/16/2020	Lightning strikes to transmission line
4	36	Santa Clara	2.25	0.4	52%	34	8/16/2020	Lightning strikes to transmission line
4	37	Santa Clara	2.25	0.4	52%	34	8/16/2020	Lightning strikes to transmission line
4	38	Santa Clara	2.25	0.5	52%	43	8/16/2020	Lightning strikes to transmission line
4	39	Santa Clara	2.25	0.5	52%	43	8/16/2020	Lightning strikes to transmission line
4	40	Santa Clara	2.25	0.5	52%	43	8/16/2020	Lightning strikes to transmission line
4	41	Santa Clara	2.25	0.5	52%	43	8/16/2020	Lightning strikes to transmission line
4	42	Santa Clara	2.25	0.5	52%	43	8/16/2020	Lightning strikes to transmission line
4	43	Santa Clara	2.25	0.5	52%	43	8/16/2020	Lightning strikes to transmission line
4	44	Santa Clara	2.25	0.6	52%	51	8/16/2020	Lightning strikes to transmission line
5	1	Santa Clara	2	5	46%	325	8/17/20-8/18/20	State Emergency Load Shedding
5	2	Santa Clara	2	6	58%	400	8/17/20-8/18/20	State Emergency Load Shedding
6	1	Santa Clara	2	41.9	30%	200	8/17/20-8/18/20	utility outage

Preliminary back-up diesel engine operations (non-testing/non-maintenance) for select facilities in Santa Clara, Sunnyvale, and San Jose

September 1, 2019 - September 30, 2020

Facility operator data, based on facility responses to BAAQMD's 9/25/20 data request and follow-up conversations. Data may be refined and additional information may be available during follow-up discussions.

Data Center #	Engine #	City	Engine Size (MW)	Hours of operation (non-testing/non-maintenance)	Estimated engine load percentage during each non-testing/non-maintenance operations	Estimated fuel usage during each non-testing/non-maintanence operation (gallons)	Date	Explanation of non-testing/non-maintenance operation
6	2	Santa Clara	2	47.7	22%	180	8/17/20-8/18/20	utility outage
6	3	Santa Clara	2	13	2%	20	8/17/20-8/18/20	utility outage
6	4	Santa Clara	2	37.2	54%	500	8/17/20-8/18/20	utility outage
6	5	Santa Clara	2	37.3	38%	250	8/17/20-8/18/20	utility outage
6	6	Santa Clara	2	41.7	0%	20	8/17/20-8/18/20	utility outage
7	1	Santa Clara	2.5	3.5	48%	600	8/18/2020	Power outage
7	1	Santa Clara	2.5	3.5	48%	600	9/6/2020	Power outage
7	1	Santa Clara	2.5	2.5	48%	480	8/14/2020	Power outage
7	2	Santa Clara	2.5	3.5	48%	600	8/18/2020	Power outage
7	2	Santa Clara	2.5	3.5	48%	600	9/6/2020	Power outage
7	2	Santa Clara	2.5	2.5	48%	480	8/14/2020	Power outage
7	3	Santa Clara	2.5	3.5	48%	600	8/18/2020	Power outage
7	3	Santa Clara	2.5	3.5	48%	600	9/6/2020	Power outage
7	3	Santa Clara	2.5	2.5	48%	480	8/14/2020	Power outage
7	4	Santa Clara	2.5	3.5	48%	600	8/18/2020	Power outage
7	4	Santa Clara	2.5	3.5	48%	600	9/6/2020	Power outage
7	4	Santa Clara	2.5	2.5	48%	480	8/14/2020	Power outage
7	5	Santa Clara	2.5	3.5	48%	600	8/18/2020	Power outage
7	5	Santa Clara	2.5	3.5	48%	600	9/6/2020	Power outage
7	5	Santa Clara	2.5	2.5	48%	480	8/14/2020	Power outage
7	6	Santa Clara	2.5	3.5	48%	600	8/18/2020	Power outage
7	6	Santa Clara	2.5	3.5	48%	600	9/6/2020	Power outage
7	6	Santa Clara	2.5	2.5	48%	480	8/14/2020	Power outage
7	7	Santa Clara	2.5	3.5	48%	600	8/18/2020	Power outage
7	7	Santa Clara	2.5	3.5	48%	600	9/6/2020	Power outage
7	7	Santa Clara	2.5	2.5	48%	480	8/14/2020	Power outage
7	8	Santa Clara	2.5	3.5	48%	600	8/18/2020	Power outage
7	8	Santa Clara	2.5	3.5	48%	600	9/6/2020	Power outage
7	8	Santa Clara	2.5	2.5	48%	480	8/14/2020	Power outage
7	9	Santa Clara	2.5	3.5	48%	600	8/18/2020	Power outage
7	9	Santa Clara	2.5	3.5	48%	600	9/6/2020	Power outage
7	9	Santa Clara	2.5	2.5	48%	480	8/14/2020	Power outage
7	10	Santa Clara	2.5	3.5	48%	600	8/18/2020	Power outage
7	10	Santa Clara	2.5	3.5	48%	600	9/6/2020	Power outage
7	10	Santa Clara	2.5	2.5	48%	480	8/14/2020	Power outage

Preliminary back-up diesel engine operations (non-testing/non-maintenance) for select facilities in Santa Clara, Sunnyvale, and San Jose

September 1, 2019 - September 30, 2020

Facility operator data, based on facility responses to BAAQMD's 9/25/20 data request and follow-up conversations. Data may be refined and additional information may be available during follow-up discussions.

Data Center #	Engine #	City	Engine Size (MW)	Hours of operation (non-testing/non-maintenance)	Estimated engine load percentage during each non-testing/non-maintenance operations	Estimated fuel usage during each non-testing/non-maintanence operation (gallons)	Date	Explanation of non-testing/non-maintenance operation
7	11	Santa Clara	2.5	3.5	48%	600	8/18/2020	Power outage
7	11	Santa Clara	2.5	3.5	48%	600	9/6/2020	Power outage
7	11	Santa Clara	2.5	2.5	48%	480	8/14/2020	Power outage
7	12	Santa Clara	2.5	3.5	48%	600	8/18/2020	Power outage
7	12	Santa Clara	2.5	3.5	48%	600	9/6/2020	Power outage
7	12	Santa Clara	2.5	2.5	48%	480	8/14/2020	Power outage
7	13	Santa Clara	2.5	3.5	48%	600	8/18/2020	Power outage
7	13	Santa Clara	2.5	3.5	48%	600	9/6/2020	Power outage
7	13	Santa Clara	2.5	2.5	48%	480	8/14/2020	Power outage
7	14	Santa Clara	2	3.7	45%	220	8/17-8/18	Power outage
7	14	Santa Clara	2	4.9	55%	370	9/6/2020	Power outage
7	15	Santa Clara	2	3.7	45%	210	8/17-8/18	Power outage
7	15	Santa Clara	2	0.4	50%	390	9/6/2020	Power outage
7	16	Santa Clara	2	3.7	45%	220	8/17-8/18	Power outage
7	16	Santa Clara	2	4.9	5%	1.5	9/6/2020	Power outage
7	17	Santa Clara	2	0.2	5%	1.4	8/17-8/18	Power outage
7	17	Santa Clara	2	0.2	5%	0.2	9/6/2020	Power outage
7	18	Santa Clara	2	3.7	40%	210	8/17-8/18	Power outage
7	18	Santa Clara	2	4.9	55%	400	9/6/2020	Power outage
7	19	Santa Clara	2	5.5	50%	360	8/17-8/18	Power outage
7	19	Santa Clara	2	4.9	60%	410	9/6/2020	Power outage
7	20	Santa Clara	2	5.5	50%	370	8/17-8/18	Power outage
7	20	Santa Clara	2	4.9	60%	410	9/6/2020	Power outage
7	21	Santa Clara	2	5.5	50%	370	8/17-8/18	Power outage
7	21	Santa Clara	2	4.9	60%	410	9/6/2020	Power outage
7	22	Santa Clara	2	5.5	50%	370	8/17-8/18	Power outage
7	22	Santa Clara	2	4.9	60%	410	9/6/2020	Power outage
7	23	Santa Clara	2	5.5	20%	150	8/17-8/18	Power outage
7	23	Santa Clara	2	0.7	15%	14	9/6/2020	Power outage
7	24	Santa Clara	2	0.2	5%	1	8/17-8/18	Power outage
7	24	Santa Clara	2	0.1	5%	1	9/6/2020	Power outage
8	1	Santa Clara	2	0.3	5%	2	11/27/2019	System-wide power quality event
8	1	Santa Clara	2	0.2	6%	2	2/15/2020	System-wide power quality event
8	2	Santa Clara	2	0.3	5%	2	11/27/2019	System-wide power quality event
8	2	Santa Clara	2	0.3	5%	2	2/15/2020	System-wide power quality event

Preliminary back-up diesel engine operations (non-testing/non-maintenance) for select facilities in Santa Clara, Sunnyvale, and San Jose								
September 1, 2019 - September 30, 2020								
Facility operator data, based on facility responses to BAAQMD's 9/25/20 data request and follow-up conversations. Data may be refined and additional information may be available during follow-up discussions.								
Data Center #	Engine #	City	Engine Size (MW)	Hours of operation (non-testing/non-maintenance)	Estimated engine load percentage during each non-testing/non-maintenance operations	Estimated fuel usage during each non-testing/non-maintanence operation (gallons)	Date	Explanation of non-testing/non-maintenance operation
8	3	Santa Clara	2	0.3	6%	2	11/27/2019	System-wide power quality event
8	3	Santa Clara	2	0.2	6%	2	2/15/2020	System-wide power quality event
8	4	Santa Clara	2	0.3	7%	2	2/15/2020	System-wide power quality event
8	4	Santa Clara	2	0.2	8%	2	11/27/2019	System-wide power quality event
8	5	Santa Clara	2	0.2	10%	2	11/27/2019	System-wide power quality event
8	5	Santa Clara	2	0.2	8%	2	2/15/2020	System-wide power quality event
8	6	Santa Clara	2	0.2	9%	2	11/27/2019	System-wide power quality event
8	6	Santa Clara	2	0.2	7%	2	2/15/2020	System-wide power quality event
8	7	Santa Clara	2	0.2	15%	2	11/27/2019	System-wide power quality event
8	7	Santa Clara	2	0.2	8%	2	2/15/2020	System-wide power quality event
8	8	Santa Clara	2	0.2	13%	2	11/27/2019	System-wide power quality event
8	8	Santa Clara	2	0.2	6%	2	2/15/2020	System-wide power quality event
8	9	Santa Clara	2	0.2	9%	2	11/27/2019	System-wide power quality event
8	9	Santa Clara	2	0.2	6%	2	2/15/2020	System-wide power quality event
8	10	Santa Clara	2	0.2	12%	2	11/27/2019	System-wide power quality event
8	10	Santa Clara	2	0.2	7%	2	2/15/2020	System-wide power quality event
8	11	Santa Clara	2	0.2	5%	2	11/27/2019	System-wide power quality event
8	11	Santa Clara	2	0.2	6%	2	2/15/2020	System-wide power quality event
8	12	Santa Clara	2	0.2	5%	2	11/27/2019	System-wide power quality event
8	12	Santa Clara	2	0.2	6%	2	2/15/2020	System-wide power quality event
8	13	Santa Clara	2	0.2	6%	2	11/27/2019	System-wide power quality event
8	13	Santa Clara	2	0.2	7%	2	2/15/2020	System-wide power quality event
8	14	Santa Clara	2	0.2	6%	2	11/27/2019	System-wide power quality event
8	14	Santa Clara	2	0.2	7%	2	2/15/2020	System-wide power quality event
8	15	Santa Clara	2	0.2	12%	2	11/27/2019	System-wide power quality event
8	15	Santa Clara	2	0.2	11%	2	2/15/2020	System-wide power quality event
8	16	Santa Clara	2	0.3	10%	2	11/27/2019	System-wide power quality event
8	16	Santa Clara	2	0.2	9%	2	2/15/2020	System-wide power quality event
8	17	Santa Clara	2	0.3	9%	2	11/27/2019	System-wide power quality event
8	17	Santa Clara	2	0.2	9%	2	2/15/2020	System-wide power quality event
8	18	Santa Clara	2	0.2	7%	2	11/27/2019	System-wide power quality event
8	18	Santa Clara	2	0.2	6%	2	2/15/2020	System-wide power quality event
8	19	Santa Clara	2	0.2	10%	2	11/27/2019	System-wide power quality event
8	19	Santa Clara	2	0.2	8%	2	2/15/2020	System-wide power quality event
8	20	Santa Clara	2	0.2	9%	2	11/27/2019	System-wide power quality event

Preliminary back-up diesel engine operations (non-testing/non-maintenance) for select facilities in Santa Clara, Sunnyvale, and San Jose

September 1, 2019 - September 30, 2020

Facility operator data, based on facility responses to BAAQMD's 9/25/20 data request and follow-up conversations. Data may be refined and additional information may be available during follow-up discussions.

Data Center #	Engine #	City	Engine Size (MW)	Hours of operation (non-testing/non-maintenance)	Estimated engine load percentage during each non-testing/non-maintenance operations	Estimated fuel usage during each non-testing/non-maintanence operation (gallons)	Date	Explanation of non-testing/non-maintenance operation
8	20	Santa Clara	2	0.2	7%	2	2/15/2020	System-wide power quality event
8	21	Santa Clara	2	0.2	17%	2	11/27/2019	System-wide power quality event
8	21	Santa Clara	2	0.2	12%	2	2/15/2020	System-wide power quality event
8	22	Santa Clara	2	0.2	8%	2	11/27/2019	System-wide power quality event
8	22	Santa Clara	2	0.2	8%	2	2/15/2020	System-wide power quality event
8	23	Santa Clara	2	0.2	6%	2	11/27/2019	System-wide power quality event
8	23	Santa Clara	2	0.2	5%	2	2/15/2020	System-wide power quality event
8	24	Santa Clara	2	0.2	6%	2	11/27/2019	System-wide power quality event
8	24	Santa Clara	2	0.2	5%	2	2/15/2020	System-wide power quality event
9	1	Santa Clara	2	8.4	65%	524	8/17/20-8/18/20	State Emergency Load Shedding
9	2	Santa Clara	2	5.6	60%	400	8/17/20-8/18/20	State Emergency Load Shedding
9	3	Santa Clara	2	2.6	50%	300	8/17/20-8/18/20	Equipment failure
9	4	Santa Clara	2	2.9	1%	20	8/17/20-8/18/20	State Emergency Load Shedding
9	5	Santa Clara	0.23	6.5	7%	10	8/17/20-8/18/20	State Emergency Load Shedding
10	1	Santa Clara	2	9	50%	256	8/17/20-8/18/20	State Emergency Load Shedding
10	2	Santa Clara	2	9	50%	256	8/17/20-8/18/20	State Emergency Load Shedding
10	3	Santa Clara	2	9	50%	256	8/17/20-8/18/20	State Emergency Load Shedding
10	4	Santa Clara	2.06	4	60%	296	8/17/20-8/18/20	State Emergency Load Shedding
10	5	Santa Clara	2.06	4	60%	296	8/17/20-8/18/20	State Emergency Load Shedding
10	6	Santa Clara	2.06	4	60%	296	8/17/20-8/18/20	State Emergency Load Shedding
10	7	Santa Clara	3	7	40%	1280	8/17/20-8/18/20	State Emergency Load Shedding
10	7	Santa Clara	3	4	40%	731.5	8/17/20-8/18/20	State Emergency Load Shedding
10	8	Santa Clara	3	7	40%	1280	8/17/20-8/18/20	State Emergency Load Shedding
10	8	Santa Clara	3	4	40%	731.5	8/17/20-8/18/20	State Emergency Load Shedding
10	9	Santa Clara	3	7	40%	1280	8/17/20-8/18/20	State Emergency Load Shedding
10	9	Santa Clara	3	4	40%	731.5	8/17/20-8/18/20	State Emergency Load Shedding
10	10	Santa Clara	3	7	40%	1280	8/17/20-8/18/20	State Emergency Load Shedding
10	10	Santa Clara	3	4	40%	731.5	8/17/20-8/18/20	State Emergency Load Shedding
10	11	Santa Clara	3	5	50%	780	8/17/20-8/18/20	State Emergency Load Shedding
10	12	Santa Clara	3	5	50%	780	8/17/20-8/18/20	State Emergency Load Shedding
10	13	Santa Clara	3	5.5	50%	930	8/17/20-8/18/20	State Emergency Load Shedding
10	14	Santa Clara	3	5	50%	780	8/17/20-8/18/20	State Emergency Load Shedding
10	15	Santa Clara	3	5.5	50%	930	8/17/20-8/18/20	State Emergency Load Shedding
10	16	Santa Clara	3	5.5	50%	930	8/17/20-8/18/20	State Emergency Load Shedding
10	17	Santa Clara	2.75	9	70%	625	8/17/20-8/18/20	State Emergency Load Shedding

Preliminary back-up diesel engine operations (non-testing/non-maintenance) for select facilities in Santa Clara, Sunnyvale, and San Jose								
September 1, 2019 - September 30, 2020								
Facility operator data, based on facility responses to BAAQMD's 9/25/20 data request and follow-up conversations. Data may be refined and additional information may be available during follow-up discussions.								
Data Center #	Engine #	City	Engine Size (MW)	Hours of operation (non-testing/non-maintenance)	Estimated engine load percentage during each non-testing/non-maintenance operations	Estimated fuel usage during each non-testing/non-maintanence operation (gallons)	Date	Explanation of non-testing/non-maintenance operation
10	18	Santa Clara	2.75	8.2	70%	525	8/17/20-8/18/20	State Emergency Load Shedding
10	19	Santa Clara	2.75	8.9	70%	615	8/17/20-8/18/20	State Emergency Load Shedding
10	20	Santa Clara	2.75	11.3	70%	975	8/17/20-8/18/20	State Emergency Load Shedding
10	21	Santa Clara	2	4	60%	238	8/17/20-8/18/20	State Emergency Load Shedding
10	22	Santa Clara	3	5.5	50%	930	8/17/20-8/18/20	State Emergency Load Shedding
10	23	Santa Clara	3	5.5	50%	930	8/17/20-8/18/20	State Emergency Load Shedding
10	24	Santa Clara	3	5.5	50%	930	8/17/20-8/18/20	State Emergency Load Shedding
10	25	Santa Clara	2.75	8.3	70%	530	8/17/20-8/18/20	State Emergency Load Shedding
10	26	Santa Clara	2.75	8.3	70%	530	8/17/20-8/18/20	State Emergency Load Shedding
10	27	Santa Clara	2.75	8.3	70%	530	8/17/20-8/18/20	State Emergency Load Shedding
10	28	Santa Clara	2.75	8.3	70%	530	8/17/20-8/18/20	State Emergency Load Shedding
10	29	Santa Clara	3	11.6	60%	1786		Power bump
10	29	Santa Clara	3	4	60%	616		Power bump
10	29	Santa Clara	3	3.5	60%	539	8/17/20-8/18/20	State Emergency Load Shedding
10	29	Santa Clara	3	3	60%	462		Power bump
10	29	Santa Clara	3	2.7	60%	416		Power bump
10	29	Santa Clara	3	1	60%	154		Power bump
10	29	Santa Clara	3	1	60%	154		Utility outage
10	30	Santa Clara	3	10.1	60%	1555		Utility outage
10	30	Santa Clara	3	5.5	60%	847		Power bump
10	30	Santa Clara	3	4	60%	616		Utility outage
10	30	Santa Clara	3	3.7	60%	569.8	8/17/20-8/18/20	State Emergency Load Shedding
10	30	Santa Clara	3	2.8	60%	431		Power bump
10	30	Santa Clara	3	1	60%	154		Utility outage
10	30	Santa Clara	3	1	60%	154		Utility outage
10	31	Santa Clara	3	11.5	60%	1771		Utility outage
10	31	Santa Clara	3	4	60%	616		Utility outage
10	31	Santa Clara	3	3.7	60%	569.8	8/17/20-8/18/20	State Emergency Load Shedding
10	31	Santa Clara	3	3	60%	462		Power bump
10	31	Santa Clara	3	2.7	60%	416		Power bump
10	31	Santa Clara	3	1	60%	154		Utility outage
10	31	Santa Clara	3	1	60%	154		Utility outage
10	32	Santa Clara	3	11.6	60%	1786		Utility outage
10	32	Santa Clara	3	4	60%	616		Utility outage
10	32	Santa Clara	3	3	60%	462		Power bump

Preliminary back-up diesel engine operations (non-testing/non-maintenance) for select facilities in Santa Clara, Sunnyvale, and San Jose

September 1, 2019 - September 30, 2020

Facility operator data, based on facility responses to BAAQMD's 9/25/20 data request and follow-up conversations. Data may be refined and additional information may be available during follow-up discussions.

Data Center #	Engine #	City	Engine Size (MW)	Hours of operation (non-testing/non-maintenance)	Estimated engine load percentage during each non-testing/non-maintenance operations	Estimated fuel usage during each non-testing/non-maintanence operation (gallons)	Date	Explanation of non-testing/non-maintenance operation
10	32	Santa Clara	3	3	60%	462	8/17/20-8/18/20	State Emergency Load Shedding
10	32	Santa Clara	3	2.7	60%	416		Power bump
10	32	Santa Clara	3	1	60%	154		Utility outage
10	32	Santa Clara	3	1	60%	154		Utility outage
10	33	Santa Clara	3	11.6	60%	1786		Utility outage
10	33	Santa Clara	3	4	60%	616		Utility outage
10	33	Santa Clara	3	3.7	60%	569.8	8/17/20-8/18/20	State Emergency Load Shedding
10	33	Santa Clara	3	3	60%	462		Power bump
10	33	Santa Clara	3	2.8	60%	431.2		Power bump
10	33	Santa Clara	3	1	60%	154		Utility outage
10	33	Santa Clara	3	1	60%	154		Utility outage
10	34	Santa Clara	3	11.6	60%	1786		Utility outage
10	34	Santa Clara	3	4	60%	616		Utility outage
10	34	Santa Clara	3	3.7	60%	569.8	8/17/20-8/18/20	State Emergency Load Shedding
10	34	Santa Clara	3	3	60%	462		Power bump
10	34	Santa Clara	3	2.9	60%	447		Power bump
10	34	Santa Clara	3	1	60%	154		Utility outage
10	34	Santa Clara	3	1	60%	154		Utility outage
10	35	Santa Clara	3	6	40%	450	8/17/20-8/18/20	State Emergency Load Shedding
10	36	Santa Clara	3	2	40%	150	8/17/20-8/18/20	State Emergency Load Shedding
10	37	Santa Clara	3	5.5	40%	412	8/17/20-8/18/20	State Emergency Load Shedding
10	38	Santa Clara	3	5.5	40%	412	8/17/20-8/18/20	State Emergency Load Shedding
10	39	Santa Clara	3	5.5	40%	412	8/17/20-8/18/20	State Emergency Load Shedding
10	40	Santa Clara	2.75	8.3	70%	530	8/17/20-8/18/20	State Emergency Load Shedding
11	1	Santa Clara	2	5.8	25%	390	8/17/20-8/18/20	Power supplier request
11	1	Santa Clara	2	4.1	25%	390	8/17/20-8/18/20	Power supplier request
11	2	Santa Clara	2	4.7	31%	280	8/17/20-8/18/20	Power supplier request
11	2	Santa Clara	2	3.9	31%	280	8/17/20-8/18/20	Power supplier request
11	3	Santa Clara	2	5.6	28%	380	8/17/20-8/18/20	Power supplier request
11	3	Santa Clara	2	4.3	28%	380	8/17/20-8/18/20	Power supplier request
11	4	Santa Clara	2	5.4	43%	605	8/17/20-8/18/20	Power supplier request
11	4	Santa Clara	2	3.5	43%	605	8/17/20-8/18/20	Power supplier request
11	5	Santa Clara	0.23	6	17%	27	8/17/20-8/18/20	Power supplier request
11	5	Santa Clara	0.23	3.5	17%	27	8/17/20-8/18/20	Power supplier request
11	6	Santa Clara	2	4.5	17%	75	8/17/20-8/18/20	Power supplier request

Preliminary back-up diesel engine operations (non-testing/non-maintenance) for select facilities in Santa Clara, Sunnyvale, and San Jose								
September 1, 2019 - September 30, 2020								
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Data Center #	Engine #	City	Engine Size (MW)	Hours of operation (non-testing/non-maintenance)	Estimated engine load percentage during each non-testing/non-maintenance operations	Estimated fuel usage during each non-testing/non-maintanence operation (gallons)	Date	Explanation of non-testing/non-maintenance operation
11	7	Santa Clara	2	4.7	8%	75	8/17/20-8/18/20	Power supplier request
11	8	Santa Clara	2	4.7	8%	100	8/17/20-8/18/20	Power supplier request
11	9	Santa Clara	2	4.7	9%	100	8/17/20-8/18/20	Power supplier request
11	10	Santa Clara	2	4.8	11%	100	8/17/20-8/18/20	Power supplier request
11	11	Santa Clara	0.23	4.8	7%	30	8/17/20-8/18/20	Power supplier request
12	1	Santa Clara	0.23	2.9	14%	87	8/17/20-8/18/20	Utility outage
12	2	Santa Clara	2	43	8%	160	8/17/20-8/18/20	Utility outage
12	3	Santa Clara	2	42.8	6%	160	8/17/20-8/18/20	Utility outage
12	4	Santa Clara	2	38	15%	420	8/17/20-8/18/20	Utility outage
12	5	Santa Clara	2	24	55%	500	8/17/20-8/18/20	Utility outage
12	6	Santa Clara	2	10	6%	160	8/17/20-8/18/20	Utility outage
12	7	Santa Clara	2	10.4	7%	160	8/17/20-8/18/20	Utility outage
12	8	Santa Clara	2	42.1	30%	250	8/17/20-8/18/20	Utility outage
12	9	Santa Clara	2	41.8	30%	250	8/17/20-8/18/20	Utility outage
12	10	Santa Clara	2	10.3	1%	50	8/17/20-8/18/20	Utility outage
12	11	Santa Clara	2	10	7%	160	8/17/20-8/18/20	Utility outage
13	1	Santa Clara	2	19.8	37%	80.3	Various	Utility power outages; power blips, UPS/board repair
13	2	Santa Clara	2	20.4	37%	82.5	Various	Utility power outages; power blips, UPS/board repair
13	3	Santa Clara	1.25	14.96	43%	527	Various	Utility power outages; power blips, UPS/board repair
13	4	Santa Clara	1.25	14.94	42%	525	Various	Utility power outages; power blips, UPS/board repair
13	5	Santa Clara	1.25	14.92	43%	523	Various	Utility power outages; power blips, UPS/board repair
14	1	Santa Clara	2.7	1.9	22%	90	11/27/2019	Utiilty sag event
14	2	Santa Clara	2.7	1.9	32%	95	11/27/2019	Utiilty sag event
14	3	Santa Clara	2.7	1.9	1%	57	11/27/2019	Utiilty sag event
14	4	Santa Clara	2.7	1.9	34%	99.75	11/27/2019	Utiilty sag event
14	5	Santa Clara	2.7	4.4	41%	422	8/18/2020	Mandatory load transfer
14	6	Santa Clara	2.7	6.3	32%	445	8/18/2020	Mandatory load transfer
14	7	Santa Clara	2.7	4.7	2%	139	8/18/2020	Mandatory load transfer
14	8	Santa Clara	2.7	4.5	48%	123	8/18/2020	Mandatory load transfer
15	1	Santa Clara	2	14	65%	693		
15	2	Santa Clara	2	14	65%	693		
15	3	Santa Clara	2	14	65%	693		
15	4	Santa Clara	2	14				
15	5	Santa Clara	2	14				
15	6	Santa Clara	2.5	14	19%	486		

Preliminary back-up diesel engine operations (non-testing/non-maintenance) for select facilities in Santa Clara, Sunnyvale, and San Jose

September 1, 2019 - September 30, 2020

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Data Center #	Engine #	City	Engine Size (MW)	Hours of operation (non-testing/non-maintenance)	Estimated engine load percentage during each non-testing/non-maintenance operations	Estimated fuel usage during each non-testing/non-maintanence operation (gallons)	Date	Explanation of non-testing/non-maintenance operation
15	7	Santa Clara	2.5	14				
16	1	Santa Clara	2	2.4	2%	45.6	7/31/2020	Utility power outage
16	2	Santa Clara	2	2.4	18%	48	7/31/2020	Utility power outage
16	3	Santa Clara	1.5	2.4	30%	40.8	7/31/2020	Utility power outage
16	4	Santa Clara	1.5	2.4	25%	38.4	7/31/2020	Utility power outage
17	1	San Jose	2	2	14%	80	11/26/2019	Commercial power outage
17	2	San Jose	2	2	14%	80	11/26/2019	Commercial power outage
18	1	San Jose	2	1.5	30%	150	8/16/2020	Utility power outage
18	1	San Jose	2	1.5	30%	150	8/25/2020	Utility power outage
18	2	San Jose	2	1.5	30%	150	8/16/2020	Utility power outage
18	2	San Jose	2	1.5	30%	150	8/25/2020	Utility power outage
18	3	San Jose	2	1.5	30%	150	8/16/2020	Utility power outage
18	3	San Jose	2	1.5	30%	150	8/25/2020	Utility power outage
18	4	San Jose	2	1.5	30%	150	8/16/2020	Utility power outage
18	4	San Jose	2	1.5	30%	150	8/25/2020	Utility power outage
18	5	San Jose	2	1.5	30%	150	8/16/2020	Utility power outage
18	5	San Jose	2	1.5	30%	150	8/25/2020	Utility power outage
18	6	San Jose	2	1.5	30%	150	8/16/2020	Utility power outage
18	6	San Jose	2	1.5	30%	150	8/25/2020	Utility power outage
19	1	San Jose	1.5	4	20%	200	8/19/2020	Substation transformer power equipment failure
19	2	San Jose	1.5	4	17%	190	8/19/2020	Substation transformer power equipment failure
19	3	San Jose	1.5	4	50%	290	8/19/2020	Substation transformer power equipment failure
19	4	San Jose	1.5	4	60%	310	8/19/2020	Substation transformer power equipment failure
19	5	San Jose	1.5	4	53%	300	8/19/2020	Substation transformer power equipment failure
19	6	San Jose	1.5	4	40%	280	8/19/2020	Substation transformer power equipment failure
20	1	Santa Clara	3	4.1	42%	410	8/18/2020	State Emergency Load Shedding
20	1	Santa Clara	3	3.5	42%	350	9/7/2020	State Emergency Load Shedding
20	1	Santa Clara	3	1.5	42%	150	8/17/2020	State Emergency Load Shedding
20	2	Santa Clara	3	4.1	37%	410	8/18/2020	State Emergency Load Shedding
20	2	Santa Clara	3	3.6	37%	360	9/7/2020	State Emergency Load Shedding
20	2	Santa Clara	3	2.6	37%	250	8/17/2020	State Emergency Load Shedding
20	3	Santa Clara	3	4.1	40%	410	8/18/2020	State Emergency Load Shedding
20	3	Santa Clara	3	3.6	40%	360	9/7/2020	State Emergency Load Shedding
20	3	Santa Clara	3	1.8	40%	180	8/17/2020	State Emergency Load Shedding
20	4	Santa Clara	3	4.1	38%	410	8/18/2020	State Emergency Load Shedding

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Data Center #	Engine #	City	Engine Size (MW)	Hours of operation (non-testing/non-maintenance)	Estimated engine load percentage during each non-testing/non-maintenance operations	Estimated fuel usage during each non-testing/non-maintanence operation (gallons)	Date	Explanation of non-testing/non-maintenance operation
20	4	Santa Clara	3	3.6	38%	360	9/7/2020	State Emergency Load Shedding
20	4	Santa Clara	3	1.4	38%	150	8/17/2020	State Emergency Load Shedding
20	5	Santa Clara	3	4.2	20%	410	8/18/2020	State Emergency Load Shedding
20	5	Santa Clara	3	1.1	20%	120	8/17/2020	State Emergency Load Shedding
20	6	Santa Clara	3	4.1	17%	410	8/18/2020	State Emergency Load Shedding
20	6	Santa Clara	3	1.3	17%	130	8/17/2020	State Emergency Load Shedding
20	7	Santa Clara	3	4.1	18%	410	8/18/2020	State Emergency Load Shedding
20	7	Santa Clara	3	1.4	18%	140	8/17/2020	State Emergency Load Shedding
20	8	Santa Clara	3	4.1	19%	410	8/18/2020	State Emergency Load Shedding
20	8	Santa Clara	3	1.4	19%	140	8/17/2020	State Emergency Load Shedding
20	9	Santa Clara	3	4.2	15%	420	8/18/2020	State Emergency Load Shedding
20	9	Santa Clara	3	1.1	15%	110	8/17/2020	State Emergency Load Shedding
20	10	Santa Clara	3	4.1	29%	410	8/18/2020	State Emergency Load Shedding
20	10	Santa Clara	3	1.3	29%	130	8/17/2020	State Emergency Load Shedding
20	11	Santa Clara	3	4.3	18%	430	8/18/2020	State Emergency Load Shedding
20	11	Santa Clara	3	1.4	18%	140	8/17/2020	State Emergency Load Shedding
20	12	Santa Clara	3	4.1	19%	410	8/18/2020	State Emergency Load Shedding
20	12	Santa Clara	3	1.4	19%	140	8/17/2020	State Emergency Load Shedding
20	13	Santa Clara	3	4.1	3%	120	8/18/2020	State Emergency Load Shedding
20	13	Santa Clara	3	1.2	3%	40	8/17/2020	State Emergency Load Shedding
20	14	Santa Clara	3	4	2%	120	8/18/2020	State Emergency Load Shedding
20	14	Santa Clara	3	1.3	2%	40	8/17/2020	State Emergency Load Shedding
20	15	Santa Clara	3	4	2%	160	8/18/2020	State Emergency Load Shedding
20	15	Santa Clara	3	1.3	2%	50	8/17/2020	State Emergency Load Shedding
20	16	Santa Clara	3	2	30%	20	8/17/2020	State Emergency Load Shedding
20	16	Santa Clara	3	1.5	30%	20	8/18/2020	State Emergency Load Shedding
20	17	Santa Clara	3	0.9	10%	20	8/17/2020	State Emergency Load Shedding
20	17	Santa Clara	3	0.8	10%	20	8/18/2020	State Emergency Load Shedding

Letter 2

COMMENTER: Greg Nudd, Deputy Air Pollution Control Officer, Bay Area Air Quality Management District (BAAQMD)

DATE: January 4, 2021

Response 2.1

The commenter provides a summary of the proposed project, commends the project applicant for committing to procure 100 percent renewable energy by 2025 and achieve carbon neutrality by 2040, and states that the project will require BAAQMD approval of an Authority to Construct and Permit to Operate for the proposed diesel generators and compliance with all applicable BAAQMD regulations. The commenter further encourages the City to go beyond current regulatory requirements by requiring the project applicant to use cleaner, non-diesel technologies for its backup generators.

The tenant of Building 4 has committed to procure 100 percent renewable energy by 2025 and achieve carbon neutrality by 2040. As acknowledged in Section 3, *Air Quality,* of the Draft IS-MND, the proposed backup diesel generators would require a BAAQMD permit to operate, and the operator would be required to comply with all applicable BAAQMD regulations.

The commenter's opinion encouraging the use of non-diesel technologies for backup generators is noted. The tenant of Building 4 considered using available alternative technologies including gas-fired turbines, flywheels, gas-fire reciprocating internal combustion engines, batteries, fuel cells, and alternative fuels. However, the tenant determined that none of these technologies could meet the needs of the proposed data center because they were commercially or technically infeasible and/or would not achieve the tenant's goal of 99.999 percent reliability (an industry-specific performance standard for data centers) during an emergency.

Response 2.2

The commenter requests an evaluation of the project's consistency with long-term State goals for reducing greenhouse gas (GHG) emissions, including Executive Orders (EO) B-55-18 and S-3-05. The commenter also opines that the details of the applicant's commitment to carbon neutrality by 2040 are unclear. In addition, the commenter expresses confusion over the characterization of the applicant's commitment to procure 100 percent renewable energy by 2025 as stated in the IS-MND.

The IS-MND uses a threshold of significance of 660 MT of CO_2e per year to evaluate GHG emissions impacts. This threshold was calculated by reducing the BAAQMD's adopted threshold of significance of 1,100 MT of CO_2e per year, which is consistent with the target of Assembly Bill (AB) 32 of reducing GHG emissions to 1990 levels by 2020, by 40 percent to be consistent with the State's 2030 target under SB 32 of reducing GHG emissions from 1990 levels by 40 percent by 2030. In accordance with the recommendations of the Association of Environmental Professionals, this threshold is intended to evaluate whether the project would impede "substantial progress" toward meeting the reduction goals identified in Senate Bill (SB) 32, EO S-3-05, and EO B-55-18.[1] The court's

[1] Association of Environmental Professionals (AEP). 2016. Final White Paper Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California. https://www.califaep.org/images/climate-change/AEP-2016_Final_White_Paper.pdf (accessed January 2021).

opinion in *Cleveland Nat'l Forest Foundation v. San Diego Ass'n of Governments* (2017) 3 Cal.5th 497, 516 determined that the San Diego Association of Governments (SANDAG) did not abuse its discretion by declining to adopt EO S-3-05 as its threshold of significance because EO S-3-05 did not outline a specific pathway to achieve its goals. As in the *Cleveland Nat' Forest Foundation* case, the State has not yet adopted a pathway to achieving its long-term 2045 and 2050 GHG emissions reductions targets outlined in EO B-55-18 and S-3-05, respectively; therefore, it is not necessary for the City of Hayward in this matter to use these goals as thresholds of significance. Furthermore, the court's decision focused on the adequacy of the GHG emissions analysis prepared for the SANDAG 2010 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which had a planning horizon of 40 years (i.e., 2050). In its opinion, the court stated that the EIR should consider the RTP/SCS's long-range GHG emissions for year 2050 because implementation of the RTP/SCS would result in "downstream impacts" by "influenc[ing] travel behavior and GHG emissions for several decades, perhaps longer." However, this recommendation is not applicable to the proposed project, which would be operational prior to 2030 and would not result in "downstream impacts."

In response to this comment, clarifying language has been added to Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND. These changes are shown in Chapter 3, Draft IS-MND Text Revisions, of this Response to Comments document.

As stated in the *Project Description – Green Building Features* of the Draft IS-MND, and consistent with the standard methodology for calculating GHG emissions, the analysis of the project's environmental impacts conservatively does not account for the commitments of the tenant of Building 4 to procure a 100 percent renewable energy mix by 2025 or to achieve carbon neutrality by 2040. Accordingly, as described in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND (specifically under *Methodology* and in Table 21, the analysis of the project's GHG emissions assumes the project's electricity mix would only meet legislative and regulatory requirements established by SB 100, which mandates that Pacific Gas and Electric (PG&E) achieve 60 percent renewable electricity by 2030. Given this conservative assumption, Mitigation Measure GHG-1 includes a provision for the project applicant to rely on eligible renewable and zero-carbon energy sources for more than 60 percent of the electricity consumed by Buildings 1 through 4 by 2030. For the purposes of demonstrating the feasibility and effectiveness of Mitigation Measure GHG-1, the discussion under *Significance under Mitigation* in this section demonstrates that a scenario in which the project applicant implements the requirements of Mitigation Measure GHG-1 by securing 100 percent of electricity for all on-site buildings from renewable energy sources and purchasing Carbon Offsets for mitigating the remainder of emissions would be effective in reducing the project's GHG emissions to a less-than-significant level.

Response 2.3

The commenter requests more information on whether the proposed loading docks for Building 3 would include electric vehicle charging infrastructure and requests an evaluation of the project's consistency with EO N-79-20.

The proposed project does not include EV infrastructure for the loading docks at Building 3 at this time; however, the proposed project includes core and shell structures, and the tenant of Building 3 is not known at this time. Therefore, it is possible that the future tenant may choose to install EV infrastructure. In addition, in response to this comment, the project applicant is evaluating the cost of including EV infrastructure at this stage of design and construction and may elect to include this in the project design as part of the construction drawings. However, as detailed in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND, the project's impacts related to GHG emissions would be adequately mitigated to a less-than-significant level through implementation of Mitigation Measure GHG-1. Nevertheless, the text of Mitigation Measure GHG-1 in Section 4.8, *Greenhouse Gas Emissions*, of the IS-MND has been revised to incorporate the commenter's suggestion. Revisions are shown in Chapter 3, Draft IS-MND Revisions.

EO N-79-20 sets statewide goals that 100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035 and 100 percent of in-state sales of medium- and heavy-duty trucks and buses will be zero-emission by 2035 for drayage trucks and by 2045 for all operations where feasible. To achieve this goal, the governor directed the California Air Resources Board and other state agencies to develop regulations and take appropriate actions. Future tenants of the proposed project would be required to comply with all applicable legislation, policies, and regulations established in furtherance of EO N-79-20. Consistent with the discussion under Response 2.3, the goals set forth in EO N-79-20 were not utilized as thresholds of significance in the Draft IS-MND because the State has not yet adopted a pathway to achieve these long-term goals. Consequently, it is not necessary for the City to use the goals identified by the commenter as thresholds of significance for this project.

Response 2.4

The commenter recommends using the energy intensity factors for year 2023 (the project's buildout year) instead of year 2030 in the modeling of the project's GHG emissions.

As stated under *Methodology* in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND, "Operational emissions were modeled for the year 2030 to be consistent with the State's next GHG emission reduction milestone target of achieving 40 percent reduction in 1990 GHG emission levels by 2030." As a result, the GHG emissions analysis uses energy intensity factors and vehicle emission factors for year 2030 to calculate project emissions. This approach is appropriate because it provides an apples-to-apples comparison between project emissions and the significance threshold that was calculated based on reducing the BAAQMD's mass emission threshold of 1,100 MT of CO_2e per year by 40 percent to 660 MT of CO_2e per year to account for the State's SB 32 target.

Response 2.5

The commenter recommends evaluating the project's criteria air pollutant, GHG, and toxic air contaminant (TAC) emissions under various scenarios of backup power generation operations beyond routine testing and maintenance.

Non-testing/non-maintenance events during which the proposed diesel backup generators would operate are expected to be predominantly power outage events. During these events, the proposed diesel backup generators would emit criteria air pollutant, GHG, and TAC emissions. However, outages are often unplanned and unpredictable, and quantification of these emissions requires a number of unvalidated, unverifiable, and speculative assumptions related to the following factors, each of which has the ability to significantly influence the results of air pollutant and GHG emissions modeling:

- The duration of the power outage
- The number of power outages in a given year
- The number and location of backup generators in simultaneous use (e.g., some generators are redundant to provide reliability should one or more generators fail during an emergency)

- Whether use of the backup generators during the outage is continuous or variable, which depends on actual power demand during an outage, which is in turn dependent on numerous factors including level of occupancy, time of day, day of week, weather, rate of use, etc.
- The load points of each generator in use (e.g., 25 percent, 50 percent, 100 percent)
- Local meteorological and background air quality conditions at the time of the outage, which may be impacted by events that often occur concurrently with power outages such as wildfires

As a result, modeling the air pollutant and GHG emissions generated during non-testing/non-maintenance events would be speculative and would likely provide results that are not useful for meaningful evaluation of the project's environmental impacts. In addition, the vast majority of non-testing/non-maintenance events provided by the BAAQMD in Attachment 1 of their letter occurred during the two heat and storm events in August and September of 2020. During these events, the Governor issued two executive orders suspending the current state law that prohibits voluntary operation of backup generators. As a result, operators of data centers voluntarily operated their generators to shed the electric load that could be routed to others to avoid rolling blackouts at the request of the Governor and the California Energy Commission. Accordingly, these events did not constitute emergency operations because the data centers had access to electricity at the time and would not have been subject to outages. The sole reason the backup generators were operated during that time was to assist other electricity customers in the state. The last time this law was suspended was during the 2001 energy crisis; therefore, this is a rare occurrence and it would be speculative to evaluate associated impacts.

Furthermore, air quality permitting of backup generators generally does not include modeling of emissions during non-testing/non-maintenance events, as is the practice of BAAQMD and numerous other air districts throughout the state. CEQA requires evaluation of whether a project may have a significant effect on the environment based on substantial evidence in light of the whole record (Public Resources Code Section 21082.2[a]). Argument and speculation are not considered to be substantial evidence (Public Resources Code Section 21082.2[c]), and if the lead agency finds a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact (CEQA Guidelines Section 15145). For the reasons stated above, impacts associated with non-testing/non-maintenance operation of the proposed diesel backup generators is too speculative to be meaningfully evaluated; therefore, this analysis is not required under CEQA. Section 3, *Air Quality*, of the Draft IS-MND includes an analysis of the air quality impacts associated with routine testing and maintenance of the anticipated 24 backup generators, conservatively assuming maximum permitted operations of 50 hours per year for each generator. As shown in Tables 7 and 8, emissions of nitrogen oxide would be significant, and implementation of Mitigation Measure AQ-1 would be required to reduce impacts to a less-than-significant level, either through limiting the total hours of annual permitted operations or through the purchase of offsets (see Tables 9 through 12 for mitigated emissions). As shown in Tables 13 and 14, emissions of toxic air contaminants would not exceed the BAAQMD project-level or cumulative thresholds for health risk; therefore, impacts related to toxic air contaminants would be less than significant.

Response 2.6

The commenter suggests the incorporation of additional emission reduction measures as conditions of approval for the proposed project, including procurement of 100 percent renewable energy for the entire project site at the onset of project operation and use of cleanest available technologies for backup power generation (such as solar battery power, fuel cells, natural gas, or Tier 4 diesel generators). The commenter recommends the City work with PG&E, BAAQMD, State agencies, and project applicants to reduce GHG emissions from data center projects.

As determined in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND, emissions from the land use development component of the proposed project would be potentially significant and would require implementation of Mitigation Measure GHG-1, which may include reliance on 100 percent renewable energy at the onset of project operation. However, GHG emissions associated with the stationary source component of the project (i.e., the diesel backup generators) would not exceed the BAAQMD's stationary source threshold; therefore, no mitigation is required for GHG emissions associated with the diesel backup generators.

The text of Mitigation Measure GHG-1 in Section 4.8, *Greenhouse Gas Emissions*, has been revised to incorporate the commenter's suggestion to coordinate with PG&E and BAAQMD to reduce GHG emissions, as shown under Response 2.3.

From: Roe, Dilan, Env. Health <Dilan.Roe@acgov.org>
Sent: Saturday, December 5, 2020 8:49 AM
To: Robert Goldassio <Robert.Goldassio@hayward-ca.gov>; Hugh Murphy <Hugh.Murphy@hayward-ca.gov>
Cc: Elizabeth Blanton <Elizabeth.Blanton@hayward-ca.gov>; Khatri, Paresh, Env. Health <paresh.khatri@acgov.org>
Subject: RE: Notice of Intent to Adopt Mitigated Negative Declaration - Clawiter Road Industrial Project - 201906718

Good Morning Robert and Hugh:

1. This site definitely requires environmental oversight during site redevelopment – although case closure was granted by the Regional Water Board in 2015 it was limited to petroleum contamination form leaking underground storage tanks. Additional data was collected subsequent to the closure however this data should be reviewed by an environmental agency relative to site redevelopment and a
2. determination made whether additional data collection/remediation is warranted associated with other historic land use rather the USTs and to oversee at a minimum the design and installation of vapor mitigation systems at the site.

Dilan Roe, PE
Chief – Land & Water Division
510-567-6767

Letter 3

COMMENTER: Dilan Roe, PE, County of Alameda Land and Water Division

DATE: December 5, 2020

Response 3.1

The commenter states that the project site requires environmental oversight during redevelopment because case closure for the site was limited to petroleum contamination from leaking underground storage tanks (LUST).

The commenter is correct in stating that case closure for the site was limited to LUSTs. As described in Section 9, *Hazards and Hazardous Materials,* of the Draft IS-MND, residual soil, soil vapor, and groundwater impacts remain present onsite. As discussed in the Draft IS-MND, the applicant applied for Regional Water Quality Control Board (RWQCB) oversight in a letter from the RWQCB dated October 31, 2019. Given existing potential hazards on site, the Draft IS-MND includes Mitigation Measure HAZ-1 and HAZ-2 which requires environmental regulatory agency involvement and oversight for the current development plan, remediation, and through completion of building demolition, subsurface demolition, and construction. In addition, Mitigation Measure HAZ-3 requires the implementation of the RWQCB approved Construction Site Management Plan.

Response 3.2

The commenter adds that the additional site investigations prepared for the site should be reviewed by an environmental agency relative to redevelopment plans to determine if additional collection/remediation is warranted, and the environmental agency should oversee the design and installation of vapor mitigation systems.

As mentioned in the Draft IS-MND, the RWQCB reviewed the additional site investigations and concurred with the investigation findings in two letters dated July 2, 2020 and August 10, 2020. As described under Response 2.1, Mitigation Measure HAZ-1, the project sponsor is required to coordinate with the RWQCB on the most up-to-date development plans. Mitigation Measure HAZ-2 requires coordination with RWQCB for potential soil vapor investigations.

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Letter 4

Via E-Mail

January 4, 2021

Elizabeth Blanton, Associate Planner
City of Hayward
777 B St.
Hayward, CA 94541
Email: Elizabeth.Blanton@hayward-ca.gov

Re: Comment on the Initial Study/Mitigated Negative Declaration for the Clawiter Road Industrial Project

Dear Ms. Blanton:

1 I am writing on behalf of the Laborers International Union of North America, Local Union 304 and its members living in and around the City of Hayward ("LIUNA") regarding the Initial Study and Mitigated Negative Declaration ("IS/MND") prepared for the Clawiter Road Industrial Project, an industrial park proposed for a 26-acre site located at 25800 and 25858 Clawiter Road in the City of Hayward (the "Project"). After reviewing the IS/MND, we conclude that it fails to analyze all environmental impacts and implement all necessary mitigation measures. LIUNA respectfully requests that the City Planning Department prepare an environmental impact report ("EIR") for the Project pursuant to the California Environmental Quality Act ("CEQA"), Public Resources Code section 21000, *et seq*.

These comments have been prepared with the assistance of wildlife biologist Shawn Smallwood, Ph.D. and environmental consulting firm Soil/Water/Air Protection Enterprise ("SWAPE"). Dr. Smallwood's comment and curriculum vitae are attached as Exhibit A hereto and are incorporated herein by reference and entirety. SWAPE's comment and curriculum vitae are attached as Exhibit B hereto and are incorporated herein by reference in their entirety.

I. PROJECT DESCRIPTION

The Project proposes to demolish four existing on site structures, ancillary structures, and on-site improvements and develop an industrial park consisting of four industrial core and shell structures totaling approximately 616,000 square feet and a transformer yard. Three of the proposed buildings would be designed for occupation by industrial uses allowed in the IP and IG zoning districts, and the fourth building is proposed to be occupied by a data center and would be designed to provide 49 megawatts of information technology power.

II. LEGAL STANDARD

As the California Supreme Court has held, "[i]f no EIR has been prepared for a nonexempt project, but substantial evidence in the record supports a fair argument that the project may result in significant adverse impacts, the proper remedy is to order preparation of an EIR." *Communities for a Better Env't v. South Coast Air Quality Mgmt. Dist.* (2010) 48 Cal.4th 310, 319-320 (*CBE v. SCAQMD*) (citing *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 75, 88; *Brentwood Assn. for No Drilling, Inc. v. City of Los Angeles* (1982) 134 Cal.App.3d 491, 504–505). "Significant environmental effect" is defined very broadly as "a substantial or potentially substantial adverse change in the environment." Pub. Res. Code ("PRC") § 21068; *see also* 14 CCR § 15382. An effect on the environment need not be "momentous" to meet the CEQA test for significance; it is enough that the impacts are "not trivial*." No Oil, Inc.*, 13 Cal.3d at 83. "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." *Communities for a Better Env't v. Cal. Res. Agency* (2002) 103 Cal.App.4th 98, 109 (*CBE v. CRA*).

1, cont.

The EIR is the very heart of CEQA. *Bakersfield Citizens for Local Control v. City of Bakersfield (*2004) 124 Cal.App.4th 1184, 1214 (*Bakersfield Citizens*); *Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 927. The EIR is an "environmental 'alarm bell' whose purpose is to alert the public and its responsible officials to environmental changes before they have reached the ecological points of no return." *Bakersfield Citizens*, 124 Cal.App.4th at 1220. The EIR also functions as a "document of accountability," intended to "demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action." *Laurel Heights Improvements Assn. v. Regents of Univ. of Cal.* (1988) 47 Cal.3d 376, 392. The EIR process "protects not only the environment but also informed self-government." *Pocket Protectors*, 124 Cal.App.4th at 927.

An EIR is required if "there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment." PRC § 21080(d); see also *Pocket Protectors*, 124 Cal.App.4th at 927. In very limited circumstances, an agency may avoid preparing an EIR by issuing a negative declaration, a written statement briefly indicating that a project will have no significant impact thus requiring no EIR (14 CCR § 15371), only if there is not even a "fair argument" that the project will have a significant environmental effect. PRC, §§ 21100, 21064. Since "[t]he adoption of a negative declaration . . . has a terminal effect on the environmental review process," by allowing the agency "to dispense with the duty [to prepare an EIR]," negative declarations are allowed only in cases where "the proposed project will not affect the environment at all." *Citizens of Lake Murray v. San Diego* (1989) 129 Cal.App.3d 436, 440.

Where an initial study shows that the project may have a significant effect on the environment, a mitigated negative declaration may be appropriate. However, a mitigated negative declaration is proper *only* if the project revisions would avoid or mitigate the potentially significant effects identified in the initial study "to a point where clearly no significant effect on the environment would occur, and…there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment." PRC §§ 21064.5 and 21080(c)(2); *Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 331. In that context, "may" means a reasonable possibility of a significant effect on the environment. PRC §§ 21082.2(a), 21100, 21151(a); *Pocket Protectors*, 124 Cal.App.4th at 927; *League for Protection of Oakland's etc. Historic Res. v. City of Oakland* (1997) 52 Cal.App.4th 896, 904–05.

Under the "fair argument" standard, an EIR is required if any substantial evidence in the record indicates that a project may have an adverse environmental effect—even if contrary evidence exists to support the agency's decision. 14 CCR § 15064(f)(1); *Pocket Protectors,* 124 Cal.App.4th at 931; *Stanislaus Audubon Society v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 150-51; *Quail Botanical Gardens Found., Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1602. The "fair argument" standard creates a "low threshold" favoring environmental review through an EIR rather than through issuance of negative declarations or notices of exemption from CEQA. *Pocket Protectors*, 124 Cal.App.4th at 928.

1, cont.

The "fair argument" standard is virtually the opposite of the typical deferential standard accorded to agencies. As a leading CEQA treatise explains:

> This 'fair argument' standard is very different from the standard normally followed by public agencies in making administrative determinations. Ordinarily, public agencies weigh the evidence in the record before them and reach a decision based on a preponderance of the evidence. [Citations]. The fair argument standard, by contrast, prevents the lead agency from weighing competing evidence to determine who has a better argument concerning the likelihood or extent of a potential environmental impact. The lead agency's decision is thus largely legal rather than factual; it does not resolve conflicts in the evidence but determines only whether substantial evidence exists in the record to support the prescribed fair argument.

Kostka & Zishcke*, Practice Under CEQA*, §6.29, pp. 273-274. The Courts have explained that "it is a question of law, not fact, whether a fair argument exists, and the courts owe no deference to the lead agency's determination. Review is de novo, with *a preference for resolving doubts in favor of environmental review*." *Pocket Protectors*, 124 Cal.App.4th at 928 (emphasis in original).

CEQA requires that an environmental document include a description of the project's environmental setting or "baseline." CEQA Guidelines § 15063(d)(2). The CEQA "baseline" is the set of environmental conditions against which to compare a project's anticipated impacts. *CBE v. SCAQMD*, 48 Cal.4th at 321. CEQA Guidelines section

15125(a) states, in pertinent part, that a lead agency's environmental review under CEQA:

1, cont.

> …must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time [environmental analysis] is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant.

See Save Our Peninsula Committee v. County of Monterey (2001) 87 Cal.App.4th 99, 124–25 ("*Save Our Peninsula*").) As the court of appeal has explained, "the impacts of the project must be measured against the 'real conditions on the ground,'" and not against hypothetical permitted levels. *Id*. at 121–23.

III. DISCUSSION

A. The IS/MND Fails to Establish an Accurate Baseline for Sensitive Biological Resources and Fails to Disclose and Properly Mitigate Impacts of the Project on Numerous Sensitive Species.

2

Expert biologist Shawn Smallwood, Ph.D. reviewed the IS/MND and supporting documents and visited the Project site on December 30, 2020. Based on his observations of the site and review of the IS/MND, Dr. Smallwood points out numerous shortcomings in the baseline assessment of the presence of species at the site, failure to evaluate impacts that will result from the Project, and numerous instances where the IS/MND's assertions are insufficient or not supported by substantial evidence. *See* Exhibit A.

1. <u>The IS/MND fails to establish an accurate baseline for sensitive biological resources.</u>

3

Dr. Smallwood notes that the IS/MND lacks any sort of biological survey on the site, or any desktop analysis of what species might fly through the area or breed on site. Ex. A, p. 3. The IS/MND states that the Project site "has no natural or native vegetation communities that would support special status animal species." IS/MND, p. 46. However, special-status species make use of whatever environmental conditions are available to them, with volant wildlife certainly making use of their aerohabitat, which Dr. Smallwood notes the IS/MND fails to consider at all. Ex. A, p. 3.

Dr. Smallwood observed 12 species of vertebrate wildlife at the Project site, saw bird nests in deciduous trees lacking foliage, and saw birds flying over and across the site, birds perched on and next to the site, and some foraging on the site. *Id*. at 1. Dr. Smallwood also used online data bases of species detections to identify the special-status species of wildlife likely to occur at the Project site and in the Project area. *Id*. at 3. This research resulted in 61 special-status species of vertebrate wildlife documented very close to the site, nearby, and in the region. *Id*. Of these species, 9 are bats and 52 are birds. *Id*. The bats would be vulnerable to losing roost sites, and birds could collide with

3, cont. automobiles, windows, and with the transmission lines. *Id*. However, without preforming surveys on the site or any desktop analysis the IS/MND is ill-prepared to address the potential impacts of collision mortality involving the buildings' extensive windows, the 965 to 1,287 meters of transmission lines to the PG&E substation, and the Project-generated traffic. *Id*.

2. <u>The IS/MND fails to address the impacts on wildlife from window collisions.</u>

Dr. Smallwood indicates that the Project, as proposed, will result in significant impacts on birds colliding with the Project's clear glass windows. *Id*. Specifically, Dr. Smallwood predicts "310 bird deaths per year" due to the Project. *Id*. at 7. The Project's plans show extensive use of reflective glass windows for the Project's buildings. Based on the IS/MND's depictions of the Project, Dr. Smallwood estimates that the Project would use at least 4,248 square meters of glass on the buildings' facades. *Id*. at 3. "Installed as proposed, this glass would kill many birds." *Id*. Despite emerging scientific literature about window collisions as one of the largest sources of avian mortality worldwide, the
4 City and the IS/MND do not assess this potential impact.

In order to mitigate these potential impacts to birds, Dr. Smallwood recommends adherence to available guidelines on building design intended to minimize collision hazards to birds, such as those by the American Bird Conservancy ("ABC"). *Id*. at 13. ABC recommends: (1) minimizing use of glass; (2) placing glass behind some type of screening (grilles, shutters, exterior shades); (3) using glass with inherent properties to reduce collisions, such as patterns, window films, decals or tape; and (4) turning off lights during migration seasons. *Id*.

Here, there is ample evidence to support a fair argument that the Project will result in many collision fatalities of birds, and that this may result in a significant impact. Yet the IS/MND makes no attempt to analyze this potentially significant impact. An EIR is required to fully analyze and mitigate this impact.

3. <u>The IS/MND fails to address the impacts on wildlife from additional traffic generated by the Project.</u>

According to the IS/MND, the Project will generate an average of 1,409 new daily vehicle trips and predicts an annual 4,288,917 vehicle miles traveled yet the IS/MND provides no analysis of the impacts on wildlife that will be caused by an increase in traffic
5 on the roadways servicing the Project. Based on studies of traffic-caused wildlife mortality, Dr. Smallwood estimates that the Project-generated traffic would cause substantial, significant impacts to wildlife. Ex. A, p. 8.

Vehicle collisions with special-status species is not a minor issue, but rather results in the deaths of millions of species each year. Dr. Smallwood explains:

> Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed

5, cont.

> per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

Id. at 7. An EIR is needed to analyze and mitigate this potentially significant impact on wildlife.

4. <u>The IS/MND fails to address the impacts on wildlife from the Project's transmission lines.</u>

6

In order to supply the proposed data center with 49 MW of electrical energy, the Project will include a transformer yard connected to a PG&E substation via 965 to 1,287 meters of transmission lines. *See* IS/MND, p. 13. However, birds will collide with these lines and the impact of such collisions has not been analyzed in the IS/MND.

Based on several studies of bird deaths with transmission lines, Dr. Smallwood predicts the Project will cause 127 bird deaths per year as a result of the Project's transmission lines. Ex. A, p. 11. Additionally, without considering the effects of habitat loss, the indirect impacts from the 49 MW energy demand would result in the annual deaths of 147 to 306 birds and 13 to 106 bats at Project start-up, and 446 to 926 birds and 39 to 715 bats by 2045 when PG&E is acquiring 100% renewable energy. *Id*. An EIR is required to analyze and mitigate this potentially significant impact on birds.

5. <u>The IS/MND's biological mitigation measures will not mitigate the Project's impacts on biological resources.</u>

7

Dr. Smallwood also notes that Mitigation Measures BIO-1 and BIO-2 are preconstruction "take-avoidance" surveys for besting birds and special-status species of bats that would be performed just prior to the Project's construction. *Id*. at 13. However, preconstruction surveys are not a substitute for detection surveys. *Id*. "Pre-approval species detection surveys are needed to (1) support negative findings of species when appropriate, (2) inform preconstruction surveys to improve their efficacy, (3) estimate project impacts, and (4) inform compensatory and other forms of mitigation." *Id*.

While Dr. Smallwood agrees preconstruction surveys are warranted, but in fact achieve very little since birds are capable of hiding nest sites and bats are capable of hiding roost sites. *Id*. In fact, most bird nests and bat roost sites would be missed by preconstruction surveys. *Id*. For this reason, compensatory mitigation is needed for the bird nests and roosting bats that will be missed by preconstruction surveys. *Id*. Additionally, preconstruction surveys will not mitigate mortality caused by collisions with windows, automobiles, and transmission lines. *Id*. Dr. Smallwood also recommends compensatory mitigation for these impacts. *Id*.

B. The IS/MND Relied on Unsubstantiated Input Parameters to Estimate Project Emissions and Thus the Project May Result in Significant Air Quality Impacts.

8

The IS/MND for the Project relies on emissions calculated from the California Emissions Estimator Model Version CalEEMod.2016.3.2 ("CalEEMod"). Ex. B, p. 1. This model relies on recommended default values for on-site specific information related to a number of factors. The model is used to generate a project's construction and operational emissions. SWAPE reviewed the Project's CalEEMod output files and found that the values input into the model were unsubstantiated or inconsistent with information provided in the IS/MND. *Id*. at 2. SWAPE provides substantial evidence to demonstrate that each of the changes could result in an underestimation of the Project's emissions. As a result, there is a fair argument that the Project may have a significant environmental impact on air quality and an EIR must be prepared to disclose and mitigate those impacts.

9

1. The air quality model contains an incorrect analysis of emissions.

SWAPE's review of the CalEEMod output files revealed that Buildings 1 to 3 and Building 4 were modeled separately, but the IS/MND fails to mention that the buildings would be constructed separately. *Id*. Since the IS/MND fails to justify the separate modeling of Buildings 1 to 3 and Building 4, the modeling is unsubstantiated and may underestimate the Project's maximum daily construction-related emissions and should not be relied upon to determine the Project's significance. *Id*. at 3.

10

2. The air quality model made unsubstantiated changes to energy intensity factors.

The CalEEMod output files revealed unsubstantiated manual reductions to the default CH_4, CO_2, and N_2O intensity factors. *Id*. The CH_4intensity factor was reduced by approximately 52% from the default value, the CO_2 intensity factor was reduced by approximately 53% from the default value, and the N_2O intensity factor was reduced by 50% from the default value. *Id*. According to the corresponding "User Entered Comments and Non-Default Data" tables, the justification provided for these changes is "60% RPS by 2030." *See* IS/MND Appendix A, pp. 246, 247, 311. The IS/MND provides that the revised CH_4, CO_2, and N_2O intensity factors and indicates that they were calculated based on the percentage of renewables expected for the year 2030 as a result of the statewide Renewable Portfolio Standard ("RPS") Program. However, this justification is insufficient for several reasons. First, simply because the state has renewable energy goals for 2030 does not ensure that these goals will be achieved locally, by the Project's utility company specifically. Ex. B, p. 4. Second, given that it is January 2021, and construction of the on-site facilities is anticipated to last approximately 15 months and construction of the on-site transformer yard and off-site transmission line is anticipated to last approximately 8 months, the Project will be operational before 2030. *Id*. As such, the use of energy intensity factors for 2030 is incorrect and the revised energy intensity factors cannot be verified. *Id*. This presents an issue because CalEEMod uses the CH_4, CO_2, and N_2O intensity factors to calculate the Project's greenhouse gas ("GHG") emissions associated with electricity use and by including unsubstantiated reductions to the default CH_4, CO_2, and N_2O intensity factors, the models may underestimate the Project's GHG emissions and should not be relied upon to determine the Project's significance.

3. The air quality model uses an incorrect land use type.

According to the IS/MND, Buildings 1, 2, and 3 each include 5,000 square feet of
office space. *See* IS/MND, p. 8, Table 1. Buildings 1, 2, and 3 include a collective total of
322,095 square feet of industrial space and 15,000 square feet of office space. *Id*. Thus,
the models should have included 322,095 square feet of “Industrial Park” and 15,000
11 square feet of “General Office Building.” Ex. B, p. 5. However, review of the Project’s
CalEEMod output files demonstrates that the models for Buildings 1, 2, and 3 include all
337,094 square feet as “Industrial Park” and fail to include any land use space as
“General Office Building.” *Id*. By failing to include the proposed office space, the models
may underestimate the Project’s construction-related and operational emissions and
should not be relied upon to determine the Project’s significance.

4. The air quality model uses an underestimated land use size and type.

According to the IS/MND, Building 4 includes 273,526 square feet of data center
space and 5,000 square feet of office space. *See* IS/MND, p. 8, Table 1. Therefore, the
models for Building 4 should include 273,526 square feet of “research and Development”
12 and 5,000 square feet of “General Office Building.” Ex. B, p. 5. However, review of the
Project’s CalEEMod output files demonstrates that the models for Building 4 include only
273,526 square feet of “Industrial Park.” *Id*. at 5-6. By incorrectly modeling the proposed
data center as “Industrial Park” and failing to include the proposed office space, the
models underestimate the Project’s construction-related and operational emissions and
should not be relied upon to determine the Project’s significance.

5. The air quality model fails to model all proposed parking spaces.

According to the IS/MND, the Project proposes 320 vehicle parking spaces and 45
13 trailer parking spaces. IS/MND, p. 7. As such, the models should have included at least
365 parking spaces. However, review of the Project’s CalEEMod output files
demonstrates that only 360 parking spaces were included. *See* Appendix A, pp. 62, 159,
275, 310. The underestimation of parking spaces results in the underestimation of the
Project’s construction-related and operational emissions and should not be relied upon to
determine the Project’s significance.

6. The air quality model contains unsubstantiated changes to architectural and area coating emission factors.

The CalEEMod output files show that the models include manual reductions to the
Project’s architectural and area coating emission factors. *See* IS/MND Appendix A, pp. 4,
14 34, 64, 98, 129, 160, 196, 221, 246, 277, 311. According to the User Entered Comments
and Non-Default Data tables, the justification provided for these changes is “BAAQMD
Regulation 8, Rule 3.” *Id*. at 3, 33, 63, 98, 129, 160, 196, 221, 246, 276, 311. Further, the
IS/MND states “[t]his analysis assumes that the project would comply with all applicable
regulatory standards. In particular, the project would be required to comply with BAAQMD
Regulation 8, Rule 3 (Architectural Coatings).” IS/MND, p. 13. However, these
justifications are insufficient since the IS/MND cannot simply assume that the Project’s

14, cont. compliance with BAAQMD Regulation 8, Rule 3 will result in reduced architectural and area coating emission factors for the proposed parking land use. Ex. B., 7. Further, SWAPE cannot verify that the revised architectural and area coating emission factors are based on BAAQMD Regulation 8, Rule 3 alone or that the BAAQMD Regulation 8, Rule 3 substantiates a reduction to the default coating values without more information regarding what category of coating will be used. *Id*. By including unsubstantiated reductions to the Project's architectural and area emission factors, the models may underestimate the Project's ROG/VOC emissions and should not be relied upon to determine the Project's significance. *Id*. at 8.

7. <u>The air quality model contains unsubstantiated changes to individual construction phase lengths.</u>

15 The CalEEMod output files show that the models include unsubstantiated changes to the anticipated individual construction phase lengths. *See* IS/MND Appendix A, pp. 4, 34, 64, 277. In the models for Buildings 1-3, the architectural coating phase was increased by approximately 85% from the default value and the building construction phase was reduced approximately 12% from the default value. Ex. B, p. 8. In the models for Building 4, the building construction phase was increased by approximately 15% from the default value and the architectural coating phase was increased by approximately 85% from the default value. *Id*. at 9. According to the User Entered Comments & Non-Default Data tables, the justification provided for these changes is "[a]pplicant specified 15-month schedule. Extended AC to overlap BC for more realistic conditions." IS/MND Appendix A, pp. 3, 33, 63, 98, 129, 160, 196, 221, 246, 276, 311. Further, the IS/MND states that construction and painting would take approximately eight months but fails to specify the individual building construction and architectural coating construction phase lengths. Ex. B, p. 10. By disproportionately altering individual construction phase lengths without proper justification, the models' calculations are altered and underestimate emissions and should not be relied upon to determine the significance of the Project's air quality impacts.

8. <u>The air quality model contains unsubstantiated changes to off-road equipment unit amounts.</u>

16 The CalEEMod output files show that the off-road construction equipment unit amounts were altered in the models, resulting in a decrease of 3 pieces of equipment. *See* IS/MND Appendix A, pp. 4, 34, 64, 277. The justification provided for these changes is "Applicant provided equipment list." *Id*. at 3, 33, 63, 276. However, the IS/MND fails to disclose the applicant-provided construction equipment list or mention these changes. Ex. B, p. 11. As a result, the models may underestimate the Project's construction-related emissions and should not be relied upon to determine the Project's significance.

17 9. <u>The air quality model contains unsubstantiated reductions of off-road equipment usage hours.</u>

The CalEEMod output files show that the default off-road construction equipment usage hours were manually reduced to zero. *See* IS/MND Appendix A, pp. 99, 130, 161, 17, cont. 312. The justification provided for these changes is "Emissions from equipment calculated in model for Buildings 1-3." *Id*. at 98, 129, 160, 311. However, the IS/MND fails to mention or justify these changes and fails to substantiate the claim that emissions associated with construction equipment are calculated in the model for Buildings 1 to 3. Ex. B, p. 12. As a result, the models may underestimate the Project's construction-related emissions and should not be relied upon to determine the Project's significance.

10. <u>The air quality model fails to include the correct amount of demolition</u>.

18 According to the IS/MND, the Project includes the demolition of four existing on-site structures, ancillary structures, and on-site improvements. IS/MND, p. 4. As such, the CalEEMod model should have included at least 269,000 square feet of building demolition. CalEEMod calculates a default number of hauling trips based upon the amount of demolition material inputted into the model. Ex. B, p. 13. When correctly inputting 269,000 square feet of demolition, the model calculates a default demolition hauling trip number of 1,224 trips. *Id*. However, review of the CalEEMod output files demonstrates that the models include only 1,139 demolition hauling trips. *See* IS/MND Appeneix A, pp. 8, 38, 69, 105, 136, 168. By underestimating 85 demolition haul trips, the models underestimate emissions associated with fugitive dust, site removal, and exhaust from hauling trucks traveling to and from the site and should not be relied upon to determine the Project's significance. Ex. B, p. 14.

11. <u>The air quality model contains unsubstantiated reductions to worker trip numbers.</u>

19 The CalEEMod output files show that the number of worker trips are reduced to zero in the models. *See* IS/MND Appendix A, pp. 100, 131, 162, 313. The justification provided for these changes is "Emissions from trips calculated in model for Buildings 1 to 3 except for BC and AC trips." *Id*. at 98, 129, 160, 311. However, the IS/MND fails to mention or justify these changes and fails to substantiate the claim that emissions associated with trips required for construction are calculated for Buildings 1 to 3. Ex. B, p. 15. As a result, the models may underestimate the Project's construction-related emissions and cannot be relied upon to determine the Project's significance.

12. The air quality model contains unsubstantiated Saturday and Sunday vehicle trips.

20 According to the IS/MND, the Project is expected to generate 2,073 average daily trips. IS/MND Appendix H, p. 13, Table 4. However, the CalEEMod output files show that the models for Buildings 1 to 3 include only 839.35- and 246.09 trips for Saturday and Sunday. *See* IS/MND Appendix A, pp. 26, 56, 87, 300. Additionally, the CalEEMod output files show that the models for Building 4 include 0 weekday, Saturday, and Sunday trips. *See id*., pp. 122, 153, 185, 336. As such, the trip rates inputted into the models are underestimated and inconsistent with the IS/MND, underestimating the Project's mobile-source operational emissions and should not be relied upon to determine the Project's significance. Ex. B, p. 16.

13. The air quality model contains unsubstantiated changes to energy use values.

The CalEEMod output files show that the lighting energy electricity, the Non-Title 24 electricity energy intensity, and the Title 24 electricity energy intensity values were each manually reduced to zero. *See* IS/MND Appendix A, pp. 99, 130, 161, 312. The
21 justification provided for these changes is "Electricity emissions calculated separately." *Id*. at 98, 129, 160, 311. However, the IS/MND fails to mention these changes or provide the separate electricity emissions calculations. Ex. B, p. 17. As such, the models may underestimate the Project's energy-source operational emissions and should not be relied upon to determine the Project's significance.

14. The air quality model contains unsubstantiated changes to wastewater treatment system percentages.

The CalEEMod output files show that the models assume that 100% of the Project's wastewater would be treated aerobically. *See* IS/MND Appendix A, pp. 4, 34, 64, 100, 131, 162, 277, 312. The justification provided for these changes is "All wastewater treated at Hayward WWTP with aerobic processes. Outdoor water use
22 calculated assuming 2.43 AFY per acre of landscaped area." *Id*. at 3, 33, 63, 98, 129, 160, 196, 221, 246, 276, 311. According to the City of Hayward's website, "[t]he WPCF also generates its own electricity with a co-generation engine fueled by biogas, which is produced by anaerobic digesters." *See* "Surprising Sustainability at The Hayward Water Pollution Control Facility." City of Hayward, February 2018, *available at:* https://www.hayward-ca.gov/your-environment/blog/surprising-sustainability-hayward-water-pollution-control-facility.

As the excerpt demonstrates, anaerobic digestion is part of the wastewater treatment process and the model is incorrect in assuming that 100% of the Project's wastewater would be treated aerobically. Ex. B, p. 18. By including incorrect changes to the Project's wastewater treatment percentages, the models may underestimate the Project's GHG emissions and should not be relied upon to determine the Project's significance.

15. The air quality model contains unsubstantiated reductions to solid waste generate rate.

The CalEEMod output files show that the solid waste generation rate was
23 decreased by approximately 54% and 77% in the models. *See* IS/MND Appendix A, pp. 4, 34, 64, 99, 130, 161, 277, 313. The justification provided for these changes is "77% diversion rate for Hayward. *Id*. at 3, 33, 63, 98, 129, 160, 276, 311. However, the IS/MND's justification is insufficient. Ex. B, p. 19. Simply because the City has achieved a 77% solid waste diversion rate does not guarantee the same diversion rate will be achieved locally at the Project site. *Id*. Without substantial justification or additional information regarding how the Project would achieve a 77% solid waste diversion rate, the IS/MND cannot claim that the Citywide solid waste diversion rate would result in the same diversion rate at the Project-level. *Id*. As such, the models may underestimate the

23, cont. Project's operational emissions and should not be relied upon to determine the Project's significance.

16. The air quality model contains an incorrect application of construction-related mitigation measures.

24 The CalEEMod output files show that the models include the "Water Exposed Area" construction-related mitigation measure. *See* IS/MND Appendix A, pp. 9, 39, 70, 105, 136, 168, 283, 319. The justification provided for the inclusion of a construction-related mitigation measure is "Hayward Municipal Code 10-8.32." *See id*, pp. 3, 33, 63, 98, 129, 160, 276, 311. However, the IS/MND's justification is insufficient because simply stating the Project would comply with HMC section 10-8.32 does not justify the inclusion of the construction-related mitigation measure in the model. Ex B., p. 20. According to the Association of Environmental Professionals ("AEP") *CEQA Portal Topic Paper* on mitigation measures:

> By definition, *mitigation measures are not part of the original project design*. Rather, mitigation measures are actions taken by the lead agency to reduce impacts to the environment resulting from the original project design. Mitigation measures are identified by the lead agency after the project has undergone environmental review and are *above-and-beyond existing laws, regulations, and requirements* that would reduce environmental impacts.

CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 5 (emphasis added). As such, the model may underestimate the Project's construction-related emissions and should not be relied upon to determine the Project's significance.

17. The air quality model contains an incorrect application of operational mitigation measures.

25 The CalEEMod output files show that the models include several energy- and water-related operational mitigation measures. *See* IS/MND Appendix A, pp. 27, 30, 57, 60, 88, 92, 123, 126, 154, 157, 186, 190, 301, 305, 337, 341. The justifications provided for the inclusion of these mitigation measures are "Title 24 reduced by 30% for 2019 Standards," and "Applicant-specified sustainability features." *Id*. at 3, 33, 63, 98, 129, 160, 276, 311. However, these justifications, and the inclusion of the operational mitigation measures, are incorrect. Ex. B, p. 22. Simply because the IS/MND states the Project will comply with the aforementioned mitigation measures does not justify their inclusion in the models, as described above. *Id*. The Project's design features that address environmental impacts but at not included as formal mitigation measures could be eliminated from the Project's design. *Id*. As such, the inclusion of the energy- and water-related operational mitigation measures in the model is incorrect and the IS/MND's CalEEMod models should not be relied upon to determine the Project's significance.

C. The IS/MND Failed to Evaluate Emissions from the Transformer Yard and Thus the Project May Result in Significant Air Quality Impacts.

The proposed Project includes the development of a 34,000 square foot 49 megavolt amps (MVA) transformer yard, which “would require construction of two PG&E overhead 230kV transmission lines connecting to the PG&E Eastshore Substation.”
26 IS/MND, pp. 7, 13. The construction of this transformer yard and off-site transmission line improvements would start in 2022 and last approximately 8 months. *Id*. at 13. Regarding the operation of the transformer yard, it “may also involve the use, transport, and storage of transformer fuel.” *Id*. at 93.

However, the IS/MND fails to quantify and evaluate the criteria air pollutant emissions resulting from construction and operation of the transformer yard, and therefore underestimates the Project’s emissions. Ex. B, p. 23. Until an adequate analysis is conducted that quantifies these impacts, the emissions generated by the transformer yard and two overhead transmission lines remain unknown, which is a gap in the IS/MND’s analysis of the Project’s impacts on air quality. *Id*.

D. An Updated Air Model Analysis Found That the Project Will have a Significant Air Quality Impact.

To more accurately determine the Project’s construction and operational
27 emissions, SWAPE prepared an updated CalEEMod model using more site-specific information and corrected input parameters. *See* Ex. B, pp. 23-24. SWAPE’s updated analysis demonstrates that the ROG/VOC and NO_x emissions associated with the Project’s construction all exceed the BAAQMD threshold of 54 pounds per day (“lbs/day”). *Id*. at 23. Thus, SWAPE’s updated analysis demonstrates that the Project would result in a significant air quality impact that was not previously identified or addressed in the IS/MND. An EIR should therefore be prepared to adequately assess and mitigate the potential air quality impacts that the Project may have on the surrounding environment.

E. Substantial Evidence Exists to Support a Fair Argument that the Project Will Result in Significant Health Risk Impacts from Diesel Particulate Matter.

One of the primary emissions of concern regarding health effects for land development projects is diesel particulate matter (“DPM”), which can be released during
28 Project construction and operation. DPM consists of fine particles with a diameter less than 2.5 micrometers including a subgroup of ultrafine particles (with a diameter less than 0.1 micrometers). Diesel exhaust also contains a variety of harmful gases and cancer-causing substances. Exposure to DPM is a recognized health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. According to the California Air Resources Board (“CARB”), DPM exposure may lead to the following adverse health effects: aggravated asthma; chronic bronchitis; increased respiratory and cardiovascular hospitalizations; decreased lung

function in children; lung cancer; and premature deaths for those with heart or lung disease.[1]

28, cont. The IS/MND fails to adequately evaluate the adverse health impacts resulting from exposure to toxic DPM emissions resulting from the Project's construction and operational activities. The IS/MND estimates that the cumulative cancer risk posed to future, on-site receptors as a result of proximity to State Route 92 would not exceed the BAAQMD threshold of 100 in one million, based on a quantified health risk assessment ("HRA"). *See* IS/MND, p. 43. The IS/MND also estimates that the cancer risk resulting from the Project's generators would be 4.4 in one million. *Id*. With regards to the Project's construction, the IS/MND states that the "project construction activities would not expose
29 sensitive receptors to substantial TAC concentrations, and impacts would be less than significant." *Id*. at 40. However, the IS/MND's evaluation of the Project's potential health risk impacts, as well as the subsequent less-than-significant impact conclusion, is incorrect for two reasons. Ex. B, p. 25.

First, the IS/MND's cumulative cancer risk estimate of 57.7 in one million should not be considered in isolation. *Id*. Additional impacts related to non-cancer health risks
30 have been documented for those people living near congested roadways and people housed by the proposed Project will be located directly north of State Route 92. Therefore, many of the Project's residents will be subjected to additional non-cancer health risks as a result of close proximity to State Route 92. *Id*. Despite CARB's recommendation to avoid siting new sensitive land uses within 500 feet of a freeway, the IS/MND did not assess asthma and other non-cancer, freeway-related health risks. *Id*. at 26.

Second, the IS/MND's claim that "DPM emissions associated with demolition activities," which "represent the maximum exposure condition for the total construction period . . . would represent less than one percent of the total exposure period for a 70-year health risk calculation" fails to justify the omission of a quantified construction HRA. *Id*. Without making a reasonable effort to connect the Project's air quality emissions and the potential health risks posed to nearby receptors, SWAPE cannot verify that the Project's construction-related health risk impacts would be less than significant. *Id*. By failing to prepare a construction HRA, the Project is inconsistent with the most recent
31 guidance published by the Office of Environmental Health Hazard Assessment ("OEHHA"), the organization responsible for providing guidance on conducting HRAs in California. *Id*. OEHHA released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* in February 2015. *See* "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:*http://oehha.ca.gov/air/hot_spots/hotspots2015.html. This guidance describes the types of projects that warrant the preparation of an HRA. It recommends that all short-term projects lasting at least two months be evaluated for cancer risks to nearby sensitive receptors. *Id*., p. 8-18. Construction of the Project will produce emissions of DPM through the exhaust stacks of construction equipment over a

[1] *See* CARB Resources - Overview: Diesel Exhaust & Health, available at https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health.).

31, cont. construction period of approximately 15 months. IS/MND, p. 13. Therefore, per OEHHA, SWAPE recommends that health risk impacts from the Project's construction be evaluated in an EIR. Ex. B, p. 27.

Third, while the IS/MND quantifies the cancer risks resulting from the Project's proximity to State Route 92 and the Project's generators, the IS/MND fails to prepare an HRA evaluating the cancer risk posed to nearby, existing receptors as a result of the Project's operation. *Id*. This is incorrect because the Transportation Analysis indicates that the Project would generate 2,073 daily vehicle trips throughout operation, which will result in additional exhaust, thus continuing to expose nearby sensitive receptors to emissions. *See* IS/MND Appendix H, p. 13. By failing to prepare an HRA for Project operation, the IS/MND is inconsistent with recommendations set forth by OEHHA's most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*. Ex. B, p. 27. The OEHHA document recommends that exposure from projects lasting more than six months should be evaluated for the duration of the project, and recommends that an exposure duration of thirty years be used to estimate individual cancer risk for the maximally exposed individual receptor ("MEIR"). *See* "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf p. 8-6, 8-15. Even though the IS/MND did not provide the expected lifetime of the Project, it can reasonably be assumed that the Project will operate for at least thirty years, if not more. Therefore, SWAPE recommends that health risk impacts from the Project's operation also be evaluated, as a 30-year exposure duration vastly exceeds the 6-month requirement set
32 forth by OEHHA. Ex. B, p. 27. These recommendations reflect the most recent health risk policy, and as such, SWAPE recommends that an updated assessment of health risk impacts posed to nearby sensitive receptors from the Project's operation be included in an EIR for the Project. *Id*.

SWAPE prepared a screening-level HRA to evaluate potential impacts from Project construction and operation. SWAPE used AERSCREEN, the leading screening-level air quality dispersion model. SWAPE applied a sensitive receptor distance of 325 meters and analyzed impacts to individuals at different stages of life based on OEHHA and BAAQMD guidance utilizing age sensitivity factors. *Id*. at 27-31.

SWAPE found that the excess cancer risk for children and infants at a sensitive receptor located approximately 325 meters away over the course of Project construction and operation are approximately 140 and 190 in one million, respectively. *Id*. at 30-31. Moreover, **the excess lifetime cancer risk over the course of a Project operation of 30 years is approximately 350 in one million**. *Id*. at 31. The risks to children, infants, and lifetime residents appreciably exceed the BAAQMD's threshold of 10 in one million.

SWAPE's analysis constitutes substantial evidence that the Project may have a significant health impact as a result of diesel particulate emissions. A health risk assessment must be prepared disclosing the health risk impacts from toxic air contaminants.

F. Substantial Evidence Exists to Support a Fair Argument that the Project May Result in Significant GHG Impacts

The IS/MND estimates that the Project would generate net annual GHG emissions
of 16,722 metric tons of CO_2 equivalents per year (“MT CO_2e/year”), which would exceed
the BAAQMD threshold of 660 MT CO_2e/year. *See* IS/MND, p. 74, Table 21. As a result,
the IS/MND implements Mitigation Measure (“MM”) GHG-1, which allows the Project to
“choose to apply a wide variety of GHG emission reduction measures to reduce project-
33 related emissions to 660 MT of CO_2e/year,” and concludes the Project’s GHG emissions
would be less than significant. *Id*. at 76-77. Additionally, the IS/MND relies on the
Project’s consistency with CARB’s 2017 Scoping Plan, the City of Hayward’s Climate
Action Plan (“CAP”), and the Plan Bay Area 2040 in order to conclude that the Project
would have a less-than-significant GHG impact. *See id*. at 77-79. However, SWAPE
states that the IS/MND’s GHG analysis and subsequent less-than-significant impact
conclusion is incorrect for several reasons. Ex. B, p. 32.

First, the IS/MND estimates that the Project would generate net annual GHG emissions of 16,722 MT CO_2e/year but the IS/MND’s quantitative GHG analysis should not be relied upon since it relies on an unsubstantiated air model, as discussed above. *Id*.

Second, MM GHG-1 should not be relied upon since it simply requires the Project
to reduce emissions to a less-than-significant level without describing which measures
34 would be required to reduce emissions to less-than-significant levels or how these
measures would be implemented, monitored, and enforced. *Id*. at 33. MM GHG-1 merely
provides examples of mitigation measures that could be implemented to reduce the
Project’s GHG emissions. *Id*. Additionally, by failing to require implementation of specific
mitigation measures, MM GHG-1 improperly defers mitigation to a later time. *Id*.

Third, the IS/MND relies on the City’s CAP, which was adopted in 2009 and “is
recommended that Hayward update its CAP at least once every 10 years.” *See* “Hayward
35 Climate Action Plan.” City of Hayward, October 2009, *available at*: https://www.hayward-ca.gov/sites/default/files/Hayward_CAP_FINAL_11-6-09%20-%20full%20document.pdf,
p. xx. The City’s CAP is therefore not qualified beyond 2020 yet the Project will not be
operational until at least 2021. Ex. B, p. 35.

Fourth, the IS/MND relies on CARB’s 2017 Scoping Plan and Plan Bay Area 2040
to conclude the Project will have less than significant GHG impacts. However, these plans
do not qualify as adequate GHG reduction plans or Climate Action Plans (“CAPs”). *Id*. at
36. CEQA Guidelines sections 15064.4(b)(3) and 15183(b) allow a lead agency to
36 consider a project’s consistency with regulations or requirements adopted to implement a
statewide, regional, or local plan for the reduction or mitigation of GHG emissions. When
read in conjunction, CEQA Guidelines section 15064.4(b)(3) and 15183.5(b)(1) make
clear that qualified GHG reduction plans or CAPs should include the following features:
inventory; establish GHG reduction goal; analyze project types; craft performance based
mitigation measures; and monitoring. *See* CEQA Guidelines §§ 15064.4(b)(3),
15183.5(b)(1); Ex. B, p. 36. Collectively these features tie qualitative measures to
quantitative results, which become binding via proper monitoring and enforcement by the

36, cont. jurisdiction, which all result in real GHG reductions for the jurisdiction as a whole, and substantial evidence demonstrating that a project's incremental contribution is not cumulatively considerable. *Id*. Here, however, the IS/MND fails to demonstrate that these plans include the above-listed requirements to be considered qualified GHG Reduction Plans or CAPs for the City. *Id*. As such, the IS/MND leaves an analytical gap showing that compliance with said plans can be used for a project-level significance determination for the Project. *Id*. at 36-37. The MND's GHG analysis regarding CARB's 2017 Scoping Plan and the Plan Bay Area 2040 should therefore not be relied upon to determine the Project's significance. *Id*. at 37.

IV. CONCLUSION

In light of the above comments, the City must prepare an EIR for the Project and the draft EIR should be circulated for public review and comment in accordance with CEQA. Thank you for considering these comments.

Sincerely,

Paige Fennie
LOZEAU DRURY LLP

Exhibit A

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Elizabeth Blanton, Associate Planner
City of Hayward
Planning Division
777 B Street
Hayward, CA 94541 1 January 2021

Dear Ms. Blanton,

I write to comment on the biological resources portion of the Initial Study/Mitigated Negative Declaration ("IS/MND") prepared for the proposed Clawiter Road Industrial Project (City of Hayward 2020), which I understand is to be 4 industrial buildings on 26 acres at 25800 and 25858 Clawiter Road. I understand the project would include warehousing or manufacturing in buildings up to 90 feet tall, but also a data center in need of 49 MW of power to be delivered along about 988 m of transmission line from the nearby PG&E substation. Renderings of the project depict expansive windows with reflective glass, judging from the reflections depicted in the renderings.

My qualifications for preparing expert comments are the following. I hold a Ph.D. degree in Ecology from University of California at Davis, where I subsequently worked for four years as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, interactions between wildlife and human infrastructure and activities, conservation of rare and endangered species, and on the ecology of invading species. I authored numerous papers on special-status species issues. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and the Raptor Research Foundation, and I've been a part-time lecturer at California State University, Sacramento. I was Associate Editor of wildlife biology's premier scientific journal, The Journal of Wildlife Management, as well as of Biological Conservation, and I was on the Editorial Board of Environmental Management. I have performed wildlife surveys in California for thirty-five years, including at many proposed project sites. My CV is attached.

SITE VISIT

I visited the proposed project site from 15:01 hours to 16:25 hours on 30 December 2020, at a time with clear sky and mild temperature. Although my visibility of the site was limited by thick vegetation on the security fence, I visually scanned for vertebrate wildlife as best I could from Clawiter Road using binoculars when needed. The site consisted of abandoned industrial buildings and expansive impervious surface around the buildings, but also many ornamental trees and shrubs located mostly around the site's perimeter. While on site, I detected 12 species of vertebrate wildlife (Table 1). In deciduous trees lacking foliage, I saw bird nests. I saw birds flying over and across the site, birds perched on and next to the site (Photos 1 and 2), and some foraging on site.

Table 1. *Species of wildlife I observed during my visit to the western edge of the proposed Clawiter Road Industrial Project 15:01 to 16:25 hours on 30 December 2020.*

Species	***Scientific name***	**Status[1]**	**Note**
Turkey vulture	*Cathartes aura*	FGC 3503.5	Flyover
California gull	*Larus californicus*	TWL	Flyovers
Mourning dove	*Zenaida macroura*		Perched
Rock pigeon	*Columba livea*	Non-native	Flyovers
Anna's hummingbird	*Calypte anna*		Interacting
Black phoebe	*Sayornis nigricans*		Foraging
American crow	*Corvus brachyrhynchos*		Perched
Mountain chickadee	*Parus gambeli*		In trees
Bushtit	*Psaltriparus minimus*		In trees
European starling	*Sturnus vulgaris*	Non-native	Flyovers
Yellow-rumped warbler	*Dendroica coronata*		In trees
House sparrow	*Passer domesticus*	Non-native	In trees

[1] Listed as FGC 3503.5 = California Department of Fish and Game Code 3503.5 (Birds of prey), TWL = Taxa to Watch List (Shuford and Gardali 2008).

Photos 1 and 2. *Anna's hummingbird (left) and mourning dove (right) perched at the project site on 30 December 2020.*

During previous site visits to the area, I have seen many other species of birds near the project, including peregrine falcon (*Falco peregrinus*; California threatened), merlin (*Falco columbarius*; California Taxa to Watch List), short-eared owl (*Asio flammeus*; California Species of Special Concern), and white-tailed kite (*Elanus leucurus*; California Fully Protected). As part of the Pacific Flyway and being located next to the Bay, there's naturally a lot of bird traffic through the area. This traffic is important to the impacts analysis that is needed for the project (below).

BIOLOGICAL IMPACTS ASSESSMENT

Based on my review of the IS/MND, there appears not to have been any sort of biological survey on site, nor any desktop analysis of what species might fly through the area or breed on site. The apparent reason for this shortfall was given on p. 46: "The project site, including off-site improvement area for transmissions lines, has no natural or native vegetation communities that would support special status animal species." However, special-status species often make use of whatever environmental conditions are available to them. Special-status species of volant wildlife certainly make use of their aerohabitat, which the IS/MND fails to consider at all.

Without having performed surveys on site nor any sort of desktop analysis, the IS/MND is ill-prepared to address potential impacts of collision mortality involving the buildings' extensive windows, the 965 to 1,287 m of transmission lines to the PG&E substation, and project-generated traffic. Below I address these potential impacts, in addition to potential indirect impacts from collision mortality at the most likely sources of the 49 MW of energy needed for the project's data center.

As a first step, one needs to know which special-status species of wildlife likely occur in the project area. I used online data bases of species detections to identify these species, a step the IS/MND should have taken. Table 2 lists 61 special-status species of vertebrate wildlife documented very close to the site (within a mile or two), nearby (within about 4 miles) and in the region. Of these species, 9 species are bats and 52 are birds. The bats would be vulnerable to losing roost sites, whereas the birds could collide with automobiles, with windows, or with the transmission lines.

Window Collisions

A prominent feature of the project plans depicted in the IS/MND (p. 11) is the abundant use of reflective glass windows. Based on depictions of the project in the IS/MND, I estimate the project would use at least 4,248 square meters (m^2) of glass on the buildings' façades. Installed as proposed, this glass would kill many birds. I have developed a basis for robustly predicting wind-window collision mortality after reviewing reports of avian fatality monitoring among structures in a wide variety of environmental settings, types of structures, and types of glass on structural façades.

I have reviewed reports of bird collision monitoring at 213 buildings and façades for which bird collisions per m^2 of glass per year could be calculated and averaged (Johnson and Hudson 1976, O'Connell 2001, Somerlot 2003, Hager et al. 2008, Borden et al. 2010, Hager et al. 2013, Porter and Huang 2015, Parkins et al. 2015, Kahle et al. 2016, Ocampo-Peñuela et al. 2016, Sabo et al. 2016, Barton et al. 2017, Gomez-Moreno et al. 2018, Schneider et al. 2018, Loss et al. 2019, Brown et al. 2020, City of Portland Bureau of Environmental Services and Portland Audubon 2020, Riding et al. 2020). These study results averaged 0.073 bird deaths per m^2 of glass per year (95% CI: 0.042-0.102). This average and its 95% confidence interval provide a robust basis for predicting fatality rates at a proposed new project.

Table 3. *eBird or iNaturalist occurrence records or my observations at or near the proposed project site.*

Species	Scientific name	Status[1]	eBird and iNaturalist records
Aleutian cackling goose	*Branta hutchinsonii leucopareia*	TWL	Nearby
American white pelican	*Pelecanus erythrorhynchos*	SSC1	Very close
California brown pelican	*Pelacanus occicentalis californicus*	CFP	Very close
Double-crested cormorant	*Phalacrocorax auritus*	TWL	Very close
White-faced ibis	*Plegadis chihi*	TWL	Nearby
Sandhill crane	*Grus c. canadensis*	CT, CFP, SSC3	Nearby
Whimbrel	*Numenius phaeopus*	BCC	Nearby
Long-billed curlew	*Numenius americanus*	BCC, TWL	Very close
Marbled godwit	*Limosa fedua*	BCC	Very close
Snowy plover	*Charadrius alexandrinus*	SSC3	Very close
California gull	*Larus californicus*	TWL	Very close
Turkey vulture	*Cathartes aura*	FGC 3503.5	Very close
Osprey	*Pandion haliaetus*	TWL, FGC 3503.5	Very close
Bald eagle	*Haliaeetus leucocephalus*	BGEPA, BCC, CE	Nearby
Golden eagle	*Aquila chrysaetos*	BGEPA, BCC, CFP	Nearby
Red-tailed hawk	*Buteo jamaicensis*	FGC 3503.5	Very close
Ferruginous hawk	*Buteo regalis*	FGC 3503.5, TWL	Nearby
Swainson's hawk	*Buteo swainsoni*	BCC, CT	Nearby
Rough-legged hawk	*Buteo regalis*	FGC 3503.5	Nearby
Red-shouldered hawk	*Buteo lineatus*	FGC 3503.5	Nearby
Sharp-shinned hawk	*Accipiter striatus*	FGC 3503.5, TWL	Nearby
Cooper's hawk	*Accipiter cooperi*	FGC 3503.5, TWL	Nearby
Northern harrier	*Circus cyaneus*	SSC3, FGC 3503.5	Nearby
White-tailed kite	*Elanus leucurus*	CFP, TWL	Nearby
American kestrel	*Falco sparverius*	FGC 3503.5	Very close
Merlin	*Falco columbarius*	FGC 3503.5, TWL	Nearby
Prairie falcon	*Falco mexicanus*	FGC 3503.5, TWL	Nearby
Peregrine falcon	*Falco peregrinus*	CE, CFP	Nearby
Burrowing owl	*Athene cunicularia*	BCC, SSC2	Nearby
Great-horned owl	*Bubo virginianus*	FGC 3503.5	Nearby

Species	Scientific name	Status[1]	eBird and iNaturalist records
Short-eared owl	*Asio flammeus*	SSC3, FGC 3503.5	Nearby
Long-eared owl	*Asio otus*	SSC3, FGC 3503.5	Nearby
Barn owl	*Tyto alba*	FGC 3503.5	Nearby
Western screech-owl	*Megascops kennicotti*	FGC 3503.5	Nearby
Nuttall's woodpecker	*Picoides nuttallii*	BCC	Nearby
Lewis's woodpecker	*Melanerpes lewis*	BCC	nearby
Vaux's swift	*Chaetura vauxi*	SSC2	Very close
Willow flycatcher	*Epidomax trailii*	CE, BCC	Nearby
Olive-sided flycatcher	*Contopus cooperi*	SSC2	Nearby
Oak titmouse	*Baeolophus inornatus*	BCC	Nearby
Horned lark	*Eremophila alpestris*	TWL	Nearby
Loggerhead shrike	*Lanius ludovicianus*	BCC, SSC2	Nearby
Yellow-billed magpie	*Pica nuttalli*	BCC	Nearby
Purple martin	*Progne subis*	SSC2	Nearby
Common yellowthroat	*Geothlypis trichas sinuosa*	SSC3	Very close
Yellow warbler	*Setophaga petechia*	SSC2	Nearby
Yellow-breasted chat	*Icteria virens*	SSC3	Nearby
Oregon vesper sparrow	*Pooecetes gramineus affinis*	SSC2	Nearby
Summer tanager	*Piranga rubra*	SSC1	Nearby
Tricolored blackbird	*Agelaius tricolor*	CT, BCC	Nearby
Yellow-headed blackbird	*X. xanthocephalus*	SSC3	Nearby
Lawrence's goldfinch	*Spinus lawrencei*	BCC	Nearby
Pallid bat	*Antrozous pallidus*	SSC, WBWG H	In region
Townsend's big-eared bat	*Plecotus t. townsendii*	SSC, WBWG H	Nearby
Western red bat	*Lasiurus blossevillii*	SSC, WBWG H	In region
Small-footed myotis	*Myotis cililabrum*	WBWG M	In range
Long-eared myotis	*Myotis evotis*	WBWG M	In region
Fringed myotis	*Myotis thysanodes*	WBWG H	In region
Long-legged myotis	*Myotis volans*	WBWG H	In region
Yuma myotis	*Myotis yumanensis*	SSC, WBWG LM	Nearby

Species	Scientific name	Status[1]	eBird and iNaturalist records
Hoary bat	*Lasiurus cinereus*	WBWG LM	In region

[1] Listed as FT & FE = federally Threatened and Endangered, BGEPA = Bald and Golden Eagle Protection Act, BCC = federal Bird Species of Conservation Concern, CT & CE = California Threatened and Endangered, CFP = California Fully Protected (CDFG Code 3511), FGC 3503.5 = California Fish and Game Code 3503.5 (Birds of prey), and SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3 (Shuford and Gardali 2008), TWL = Taxa to Watch List (Shuford and Gardali 2008), WBWG = Western Bat Working Group with low, medium and high conservation priorities.

Aplying the mean fatality rate (above) to my estimate of 4,248 m² of glass on the façades of the project's buildings predicts **310 bird deaths per year (95% CI: 184-437)**. The 100-year toll from this average annual fatality rate would be **31,052 bird deaths (95% CI: 18,436-43,669)**, which would continue until the structures are either renovated to reduce bird collisions or they come down. The vast majority of these deaths would be of birds protected under the Migratory Bird Treaty Act and under the recently revised California Fish and Game Code section 3513, thus causing significant unmitigated impacts. Given the likely bird death from window collisions from the project as currently designed, it is my opinion that the project would result in potentially significant adverse biological impacts even with implementation of the proposed mitigation measures. A fair argument can be made for the need to prepare an EIR to appropriately address this impact.

Traffic Impacts on Wildlife

Project-generated traffic bears on the impacts analysis for wildlife because it collides with and crushes wild animals crossing roads traveled by cars and trucks traveling to and from the project. This type of impact extends far beyond the structural footprint of the project, affecting species that more often occur elsewhere than at the project site. The IS/MND does not address this impact. My comments below exemplify how such an analysis might be performed and demonstrates the large magnitude of the impact that has not been addressed.

Vehicle collisions have accounted for the deaths of many thousands of reptile, amphibian, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

In a recent study of traffic-caused wildlife mortality, investigators found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches along a 2.5 mile stretch of Vasco Road in Contra Costa County, California (Mendelsohn et al. 2009). Using carcass detection trials performed on land immediately adjacent to the traffic mortality study (Brown et al. 2016) to adjust the found fatalities for the proportion of fatalities not found due to scavenger removal and searcher error, the estimated traffic-caused fatalities was 12,187. This fatality estimate translates to a rate of 3,900 wild animals per mile per year killed. In terms comparable to the national estimates, the estimates from the Mendelsohn et al. (2009) study would translate to 243,740 animals killed per 100 km of road per year, or 29 times that of Loss et al.'s (2014) upper bound estimate and 68 times the Canadian estimate. An analysis is needed of whether increased traffic in the project area would similarly result in local impacts on wildlife.

Increased use of existing roads will increase wildlife fatalities (see Figure 7 in Kobylarz 2001). Fortunately, wildlife roadkill is not randomly distributed, so it can be predicted. Causal factors include types of roadway, human population density, and temperature (Chen and Wu 2014), as well as time of day and adjacency and extent of vegetation cover (Chen and Wu 2014, Bartonička et al. 2018), and intersections with streams and riparian vegetation (Bartonička et al. 2018). For example, species of mammalian Carnivora are killed by vehicle traffic within 0.1 miles of stream crossings >40 times other than expected (K. S. Smallwood, 1989-2018 unpublished data). These factors also point the way toward mitigation measures, which should be formulated in an EIR.

Predicting project-generated traffic impacts to wildlife

The IS/MND predicts 1,409 daily vehicle trips would be generated by the project. App. E of the IS/MND predicts an annual 4,288,917 vehicle miles traveled (apparently assuming 11.7 miles per trip). For the sake of making my point, I will assume all miles would be driven by cars.

The project's impacts on wildlife can be predicted to a reasonable degree of accuracy based on what scientific monitoring has learned from bird collision impacts elsewhere in the lower atmosphere. One type of impact to consider is blunt-force injury and death caused by collisions with the front ends of vehicles. Assuming the average car frontal surface area is 3.08 m^2 (average height of 1.7 m and average wheelbase of 1.81 m), then the predicted average annual volume of airspace intercepted by cars would be 3.08 m^2 × 6,900,867,453 m (1,609 m/mile × 4,288,917 miles) = 2.125 × 10^{10} m^3.

This volume of intercepted airspace would be equivalent to the intercepted winds of 251 2.3-MW wind turbines each of which in the Altamont Pass averages about 22 bird fatalities per year (H.T. Harvey & Associates 2020, Great Basin Bird Observatory and H.T. Harvey & Associates 2020).[1] Therefore, front-end, blunt-force mortality would be predicted, in this example, to tally **5,523 birds annually**. However, it remains unknown whether collision risk is higher or lower for vehicles traveling forward to intercept airspace as compared to wind turbines remaining stationary to intercept wind. Also, yet to be considered are the deaths and injuries to vertebrate wildlife caused by crushing under tires, broadside impacts of flying birds, and turbulence-induced injuries and deaths above, to the side, and in the wake of traveling trucks.

Based on my assumptions and simple calculations, the project-generated traffic would cause substantial, significant impacts to wildlife. As I observed during my site visit, truck traffic is already intense on Clawiter Road, with trucks traveling at high speeds on a narrow road bordered by dense rows of trees and shrubs from which birds likely

[1] A 2.3-MW wind turbine is rated at 14 m/s. It runs an average of about 8 hours per day with a blade area of about 210 m^2. Daily volume of wind intercepted by the turbine blades is 210 m^2 × 14 m/s × 8 hr × 3600 s/hr = 84.67 million m^3. Fatality monitoring at the Vasco Winds and Golden Hills projects resulted in fatality estimates that accounted for the proportion of fatalities never found by searchers.

ofgten fly. The additional traffic would greatly increase the collision hazard along this road as well as along many other roads in the area. There is at least a fair argument that can be made for the need to prepare an EIR to more thoroughly analyze this impact. Mitigation measures to improve wildlife safety along roads are available and are feasible, and they need exploration for their suitability with the proposed project.

Transmission Line Collisions

To supply the proposed data center with 49 MW of electrical energy, the project would include a transformer yard connected to a PG&E substation via 965 to 1,287 m of transmission lines (IS/MND page 13). Birds would collide with these lines. I have recorded hundreds of avian electrocutions and line strikes on distribution circuits, as well as hundreds of collisions with transmission lines (e.g., Photos 3-65)

Photo 3. *Great egret killed in Sacramento Valley in December 2006 after colliding with power lines. Photo by Shawn Smallwood.*

Photos 4 and 5. *A mallard was a distribution line collision victim (left), and a great blue heron killed by the ground wire atop transmission lines in eastern Alameda County (right). Photos by Shawn Smallwood.*

Photo 6. *Short-eared owl injured by distribution line collision in the Sacramento Valley. It was later euthanized at the UC Davis Wildlife Hospital. Photo by Brian Karas.*

At national scales, Rioux et al. (2013) estimated annual bird deaths with Canada's transmission lines within a range of 17.24 deaths/mile to 176.6 deaths/mile. Loss et al. (2014) estimated annual bird deaths along USA power lines at 14.5/mile to 18.5/mile. Rioux et al.'s (2013) collision fatality rates applied to the 0.6- to 0.8-mile transmission line would predict 10 to 141 bird deaths per year, whereas Loss et al.'s (2014) rates would predict 9 to 15 bird deaths per year.

In another study, Yee (2007) found 9.7 bird carcasses per mile along 12 kV lines on Staten Island, Sacramento County, over 4 winter months. Assuming an adjustment factor of 10 for the proportion of fatalities not found, the fatality rate was likely 97/mile, and extended to the proposed project the toll would be 58 to 78 fatalities. In another study, Hartman et al. (1992) estimated that 115 kV transmission lines spanning across Mare Island annually killed 100 birds per mile over hay fields and 907 birds per mile over wetlands, or 33 and 302 birds per mile of circuit line, respectively. Extending the Mare Island fatality rates to the proposed project, the annual fatality toll caused by avian collisions with transmission lines would be 20 to 242. In my recent review of wildlife impacts caused by 14 utility-scale solar projects in California, I averaged avian collision mortality along generation tie-ins. The mean was 182.1 (95% CI: 115.5–319.3) bird fatalities/mile/year. This rate applied to the midpoint of the range of lengths of transmission lines in the project would **predict 127 (95% CI: 81–224) bird fatalities/year caused by the project's transmission lines**.

Indirect Impacts of 49-MW Energy Demand

The project proposes an activity that demands an unusually large energy demand of 49 MW for a single building. According to the IS/MND (p. 59), "the project's use of … electricity generated by renewable resources supplied by PG&E continues to increase to comply with state requirements through Senate Bill (SB) 100, which requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045." Because we know the magnitudes of impacts to wildlife caused by renewable energy projects, it is possible to predict the project's impacts to wildlife caused indirectly by the project's demand for 49 MW of electricity. Wind projects in Contra Costa and Alameda Counties are averaging 9.1 bird fatalities/MW/year (Table 3), which applied to the project's energy demand for its data center would result in 147, 268, and 446 bird fatalities per year in 2021, 2030, and 2045, respectively. Wind projects in Contra Costa and Alameda Counties are averaging 6.58 to 14.59 bat fatalities/MW/year (Table 4), which applied to the project's energy demand for its data center would result in 106 to 236, 193 to 429, and 322 to 715 bat fatalities per year in 2021, 2030, and 2045, respectively.

In a review of fatality monitoring at 14 of California's utility-scale solar projects (Smallwood 2020), I estimated 18.90 (12.96-35.77) birds/MW/year and 0.806 (0.042-1.689) bats/MW/year. Applying these rates to the 49 MW energy demand would predict annual fatalities of 306 (210-578) birds and 13 (1-27) bats in 2021, 556 (381-1052) birds and 24 (1-50) bats in 2030, and 926 (635-1753) birds and 39 (2-83) bats in 2045.

Without even considering the effects of habitat loss, and depending on the source of the renewable energy, the indirect impacts from the 49-MW energy demand would result in the annual deaths of 147 to 306 birds and 13 to 106 bats at project start-up, and of 446 to 926 birds and 39 to 715 bats by 2045 when PG&E is acquiring 100% renewable energy. These are substantial fatality rates that warrant the preparation of an EIR to analyze their impacts and formulate appropriate mitigation.

CUMULATIVE IMPACTS

The IS/MND does not analyze cumulative impacts to wildlife. Given the recently documented 29% loss of birds across North America over the last 48 years (Rosenberg et al. 2019) and the ongoing annual loss of millions of bats to wind turbines (Smallwood 2020), a fair argument can be made to prepare an EIR to address cumulative impacts.

Table 3. *Existing bird fatality rate estimates $\hat{F}$ and their projections to the entire Altamont Pass Wind Resource Area upon planned build-out. Predicted fatality rates at APWRA build-out are derived from MW-weighted mean fatality rates among all repowered APWRA projects already monitored (Insignia2012, Brown et al. 2016, Great Basin Bird Observatory and H. T. Harvey and Associates 2020, H. T. Harvey and Associates 2020, Smallwood et al. 2020 and unpubl. data).*

Project	Monitoring		$\hat{F}$/MW/Yr	$\hat{F}$/Yr	Cumulative sum $\hat{F}$/Yr in APWRA
	MW	Years			
Diablo Winds[a]	20.46	5	21.383	437	437
Buena Vista [Insignia]	38.00	3	[b]		---
Buena Vista [b]	38.00	0.06	14.211	540	977
Vasco Winds	78.20	3	2.680	210	1,187
Golden Hills	85.92	3	9.258	795	1,982
Golden Hills North	46.00	1	10.043	462	2,444
Build-out[c]	297.62		9.100	2,707	5,151

[a] I applied the factor of 2.7 in Smallwood et al. (2020), which accounts for the difference in bird carcass detection rates between scent-detection dogs and human searchers.
[b] The results of Insignia's 3-year monitoring effort were adjusted by the findings of Smallwood et al. (2020)
[c] Weighted mean of fatality estimates from Diablo Winds, Buena Vista, Vasco Winds, Golden Hills and Golden Hills North.

Table 4. *Existing bird fatality rate estimates $\hat{F}$ and their projections to the entire Altamont Pass Wind Resource Area upon planned build-out. Predicted fatality rates are derived from MW-weighted mean fatality rates among all repowered APWRA projects already monitored, and the high end of the range consisting of the Golden Hills North fatality rate.*

Project	Monitoring		$\hat{F}$/MW/Yr	$\hat{F}$/Yr	Cumulative sum $\hat{F}$/Yr in APWRA
	MW	Years			
Diablo Winds[a]	20.46	5	4.943	101	101
Buena Vista [Insignia]	38.00	3	1.553	59	---
Buena Vista [b]	38.00	0.06	6.890 [b]	262	363
Vasco Winds	78.20	3	3.205	251	612
Golden Hills	85.92	3	5.635	484	1,096
Golden Hills North	46.00	1	14.587	671	1,767
Build-out[c]	297.62		6.579-14.587	168-372	3,724-6,108

[a] I applied the factor of 2.7 in Smallwood et al. (2020), which accounts for the difference in bird carcass detection rates between scent-detection dogs and human searchers.
[b] The results of Insignia's 3-year monitoring effort were adjusted by the findings of Smallwood et al. (2020)
[c] Weighted mean of fatality estimates from Diablo Winds, Buena Vista, Vasco Winds, Golden Hills and Golden Hills North.

MITIGATION

Measures Bio-1 and Bio-2 are preconstruction "take-avoidance" surveys for nesting birds and special-status species of bats that would be performed just prior to construction. I concur that these surveys should be performed. However, preconstruction surveys are no substitute for detection surveys. Pre-approval species detection surveys are needed to (1) support negative findings of species when appropriate, (2) inform preconstruction surveys to improve their efficacy, (3) estimate project impacts, and (4) inform compensatory and other forms of mitigation. I recommend that acoustic surveys with Sonobat be performed to identify which species of bats occur on site. Detection survey protocols and guidelines are available from resource agencies for most special-status species. Otherwise, professional standards can be learned from the scientific literature and species' experts.

It should be understood that preconstruction surveys, although warranted, actually achieve very little. Birds are very capable of hiding nest sites, and bats are very capable of hiding roost sites. Most bird nests and bat roost sites would be missed by preconstruction surveys. For this reason, compensatory mitigation is needed for those bird nests and roosting bats that will be missed by preconstruction surveys. Additionally, preconstruction surveys accomplish nothing in terms of mitigating mortality caused by collisions with windows, automobiles and transmission lines. Compensatory mitigation is needed for these types of project impacts to wildlife.

RECOMMENDED MITIGATION

Guidelines on Building Design to Minimize Bird-Window Collisions

If the project goes forward, it should at a minimum adhere to available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco. The American Bird Conservancy (ABC) produced an excellent set of guidelines recommending actions to: (1) Minimize use of glass; (2) Placing glass behind some type of screening (grilles, shutters, exterior shades); (3) Using glass with inherent properties to reduce collisions, such as patterns, window films, decals or tape; and (4) Turning off lights during migration seasons (Sheppard and Phillips 2015). The City of San Francisco (San Francisco Planning Department 2011) also has a set of building design guidelines, based on the excellent guidelines produced by the New York City Audubon Society (Orff et al. 2007). The ABC document and both the New York and San Francisco documents provide excellent alerting of potential bird-collision hazards as well as many visual examples. The San Francisco Planning Department's (2011) building design guidelines are more comprehensive than those of New York City, but they could have gone further. For example, the San Francisco guidelines probably should have also covered scientific monitoring of impacts as well as compensatory mitigation for impacts that could not be avoided, minimized or reduced.

Monitoring and the use of compensatory mitigation should be incorporated at any new building project because the measures recommended in the available guidelines remain of uncertain effectiveness, and even if these measures are effective, they will not reduce collision fatalities to zero. The only way to assess mitigation efficacy and to quantify post-construction fatalities is to monitor the project for fatalities.

Road Mortality

I recommend funding wildlife crossings at strategic locations along roads used by the project and near the Bay. I also recommend funding research into wildlife mortality caused by car and truck traffic. Traffic-calming measures would also help, especially along Clawiter Road and nearby roads like it, where trucks are currently driving too fast for wildlife safety.

Transmission Lines

Transmission lines should be undergrounded to prevent avian injuries and deaths. If built above-ground, the lines should be marked consistent with the guidelines of the Avian Powerline Interaction Committee. Additionally, the lines should be scientifically monitored for avian fatalities for 2 years following construction, and fatality rate thresholds informed by monitoring should be linked to additional mitigation measures.

Measures to Rectify Impacts

Compensatory mitigation ought also to include funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care. Most of the injuries will likely be caused by collisions with windows, automobiles, and transmission lines, but some will be injured for other reasons. Many of these animals would need treatment by wildlife rehabilitation facilities.

Thank you for your attention,

Shawn Smallwood

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Shawn Smallwood, Ph.D.

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Kenneth Shawn Smallwood
Curriculum Vitae

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Born May 3, 1963 in
Sacramento, California.
Married, father of two.

Ecologist

Expertise

- Finding solutions to controversial problems related to wildlife interactions with human industry, infrastructure, and activities;
- Using systems analysis and experimental design principles to identify meaningful ecological patterns that can inform management decisions.

Education

Ph.D. Ecology, University of California, Davis. September 1990.
M.S. Ecology, University of California, Davis. June 1987.
B.S. Anthropology, University of California, Davis. June 1985.
Corcoran High School, Corcoran, California. June 1981.

Experience

- 443 professional publications, including:
- 80 peer reviewed publications
- 24 in non-reviewed proceedings
- 337 reports, declarations, posters and book reviews
- 8 in mass media outlets
- 84 public presentations of research results at meetings
- Reviewed many professional papers and reports
- Testified in 4 court cases.

Editing for scientific journals: Guest Editor, *Wildlife Society Bulletin*, 2012-2013, of invited papers representing international views on the impacts of wind energy on wildlife and how to mitigate the impacts. Associate Editor, *Journal of Wildlife Management*, March 2004 to 30 June 2007. Editorial Board Member, *Environmental Management*, 10/1999 to 8/2004. Associate Editor, *Biological Conservation*, 9/1994 to 9/1995.

Member, Alameda County Scientific Review Committee (SRC), August 2006 to April 2011. The five-member committee investigated the causes of bird and bat collisions in the Altamont Pass Wind Resource Area, and recommended mitigation and monitoring measures. The SRC reviewed the science underlying the Alameda County Avian Protection Program, and advised the County on how to reduce wildlife fatalities.

Consulting Ecologist, 2004-2007, California Energy Commission (CEC). Provided consulting services as needed to the CEC on renewable energy impacts, monitoring and research, and produced several reports. Also collaborated with Lawrence-Livermore National Lab on research to understand and reduce wind turbine impacts on wildlife.

Consulting Ecologist, 1999-2013, U.S. Navy. Performed endangered species surveys, hazardous waste site monitoring, and habitat restoration for the endangered San Joaquin kangaroo rat, California tiger salamander, California red-legged frog, California clapper rail, western burrowing owl, salt marsh harvest mouse, and other species at Naval Air Station Lemoore; Naval Weapons Station, Seal Beach, Detachment Concord; Naval Security Group Activity, Skaggs Island; National Radio Transmitter Facility, Dixon; and, Naval Outlying Landing Field Imperial Beach.

Part-time Lecturer, 1998-2005, California State University, Sacramento. Taught Contemporary Environmental Issues, Natural Resources Conservation (twice), Mammalogy, Behavioral Ecology, and Ornithology Lab.

Senior Ecologist, 1999-2005, BioResource Consultants. Designed and implemented research and monitoring studies related to avian fatalities at wind turbines, avian electrocutions on electric distribution poles across California, and avian fatalities at transmission lines.

Systems Ecologist, 1996 to present, Consulting in the Public Interest, www.cipi.com. Member of a multi-disciplinary consortium of scientists facilitating large-scale, environmental planning projects and litigation. We provide risk assessments, assessments of management practices, and expert witness testimony.

Chairman, Conservation Affairs Committee, The Wildlife Society--Western Section, 1999-2001. Prepared position statements and led efforts directed toward conservation issues, including travel to Washington, D.C. to lobby Congress for more wildlife conservation funding.

Systems Ecologist, 1995-2000, Institute for Sustainable Development. Headed ISD's program on integrated resources management. Developed indicators of ecological integrity for large areas, using remotely sensed data, local community involvement and GIS.

Associate, 1997-1998, Department of Agronomy and Range Science, University of California, Davis. Worked with Shu Geng and Mingua Zhang on several studies related to wildlife interactions with agriculture and patterns of fertilizer and pesticide residues in groundwater across a large landscape.

Lead Scientist, 1996-1999, National Endangered Species Network. Headed NESN's efforts to inform academic scientists and environmental activists about emerging issues regarding the Endangered Species Act and other environmental laws pertaining to special-status species. Also testified at public hearings on behalf of environmental groups and endangered species.

Ecologist, 1997-1998, Western Foundation of Vertebrate Zoology. Conducted field research to determine the impact of past mercury mining on the status of California red-legged frogs in Santa Clara County, California.

Senior Systems Ecologist, 1994-1995, EIP Associates, Sacramento, California. Provided consulting services in environmental planning. Developed quantitative assessment of land units for their conservation and restoration opportunities, using the ecological resource requirements of 29 special-status species. Developed ecological indicators for prioritizing areas within Yolo County to receive mitigation funds for habitat easements and restoration.

Post-Graduate Researcher, 1990-1994, Department of Agronomy and Range Science*, U.C. Davis*. Under the mentorship of Dr. Shu Geng, studied landscape and management effects on temporal and spatial patterns of abundance among pocket gophers and species of Falconiformes and Carnivora in the Sacramento Valley. Also managed and analyzed a data base of energy use in California agriculture, and assisted with a landscape (GIS) study of groundwater contamination across Tulare County, California.

Work experience in graduate school: Co-taught Conservation Biology with Dr. Christine Schonewald, 1991 & 1993, UC Davis Graduate Group in Ecology; Reader for Dr. Richard Coss's course on Psychobiology in 1990, UC Davis Department of Psychology; Research Assistant to Dr. Walter E. Howard, 1988-1990, UC Davis Department of Wildlife and Fisheries Biology, testing durable baits for pocket gopher management in forest clearcuts; Research Assistant to Dr. Terrell P. Salmon, 1987-1988, UC Wildlife Extension, Department of Wildlife and Fisheries Biology, developing empirical models of mammal and bird invasions in North America, and a rating system for priority research and control of exotic species based on economic, environmental and human health hazards in California. Student Assistant to Dr. E. Lee Fitzhugh, 1985-1987, UC Cooperative Extension, Department of Wildlife and Fisheries Biology, developing and implementing a statewide mountain lion track count for long-term monitoring of numbers and distribution.

Fulbright Research Fellow, Indonesia, 1988. Tested use of new sampling methods for numerical monitoring of Sumatran tiger and six other species of endemic felids, and evaluated methods used by other researchers.

Projects

<u>Repowering wind energy projects</u> through careful siting of new wind turbines using map-based collision hazard models to minimize impacts to volant wildlife. Funded by wind companies (principally NextEra Renewable Energy, Inc.), California Energy Commission and East Bay Regional Park District, I have collaborated with a GIS analyst and managed a crew of five field biologists performing golden eagle behavior surveys and nocturnal surveys on bats and owls. The goal is to quantify flight patterns for development of predictive models to more carefully site new wind turbines in repowering projects. Focused behavior surveys began May 2012 and continue. Collision hazard models have been prepared for seven wind projects, three of which were built. Planning for additional repowering projects is underway.

<u>Test avian safety of new mixer-ejector wind turbine (MEWT)</u>. Designed and implemented a before-after, control-impact experimental design to test the avian safety of a new, shrouded wind turbine developed by Ogin Inc. (formerly known as FloDesign Wind Turbine Corporation). Supported by a

$718,000 grant from the California Energy Commission's Public Interest Energy Research program and a 20% match share contribution from Ogin, I managed a crew of seven field biologists who performed periodic fatality searches and behavior surveys, carcass detection trials, nocturnal behavior surveys using a thermal camera, and spatial analyses with the collaboration of a GIS analyst. Field work began 1 April 2012 and ended 30 March 2015 without Ogin installing its MEWTs, but we still achieved multiple important scientific advances.

Reduce avian mortality due to wind turbines at Altamont Pass. Studied wildlife impacts caused by 5,400 wind turbines at the world's most notorious wind resource area. Studied how impacts are perceived by monitoring and how they are affected by terrain, wind patterns, food resources, range management practices, wind turbine operations, seasonal patterns, population cycles, infrastructure management such as electric distribution, animal behavior and social interactions.

Reduce avian mortality on electric distribution poles. Directed research toward reducing bird electrocutions on electric distribution poles, 2000-2007. Oversaw 5 founds of fatality searches at 10,000 poles from Orange County to Glenn County, California, and produced two large reports.

Cook *et al*. v. Rockwell International *et al*., No. 90-K-181 (D. Colorado). Provided expert testimony on the role of burrowing animals in affecting the fate of buried and surface-deposited radioactive and hazardous chemical wastes at the Rocky Flats Plant, Colorado. Provided expert reports based on four site visits and an extensive document review of burrowing animals. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals. I testified in federal court in November 2005, and my clients were subsequently awarded a $553,000,000 judgment by a jury. After appeals the award was increased to two billion dollars.

Hanford Nuclear Reservation Litigation. Provided expert testimony on the role of burrowing animals in affecting the fate of buried radioactive wastes at the Hanford Nuclear Reservation, Washington. Provided three expert reports based on three site visits and extensive document review. Predicted and verified a certain population density of pocket gophers on buried waste structures, as well as incidence of radionuclide contamination in body tissue. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals.

Expert testimony and declarations on proposed residential and commercial developments, gas-fired power plants, wind, solar and geothermal projects, water transfers and water transfer delivery systems, endangered species recovery plans, Habitat Conservation Plans and Natural Communities Conservation Programs. Testified before multiple government agencies, Tribunals, Boards of Supervisors and City Councils, and participated with press conferences and depositions. Prepared expert witness reports and court declarations, which are summarized under Reports (below).

Protocol-level surveys for special-status species. Used California Department of Fish and Wildlife and US Fish and Wildlife Service protocols to search for California red-legged frog, California tiger salamander, arroyo southwestern toad, blunt-nosed leopard lizard, western pond turtle, giant kangaroo rat, San Joaquin kangaroo rat, San Joaquin kit fox, western burrowing owl, Swainson's hawk, Valley elderberry longhorn beetle and other special-status species.

Conservation of San Joaquin kangaroo rat. Performed research to identify factors responsible for the decline of this endangered species at Lemoore Naval Air Station, 2000-2013, and implemented habitat enhancements designed to reverse the trend and expand the population.

Impact of West Nile Virus on yellow-billed magpies. Funded by Sacramento-Yolo Mosquito and Vector Control District, 2005-2008, compared survey results pre- and post-West Nile Virus epidemic for multiple bird species in the Sacramento Valley, particularly on yellow-billed magpie and American crow due to susceptibility to WNV.

Workshops on HCPs. Assisted Dr. Michael Morrison with organizing and conducting a 2-day workshop on Habitat Conservation Plans, sponsored by Southern California Edison, and another 1-day workshop sponsored by PG&E. These Workshops were attended by academics, attorneys, and consultants with HCP experience. We guest-edited a Proceedings published in Environmental Management.

Mapping of biological resources along Highways 101, 46 and 41. Used GPS and GIS to delineate vegetation complexes and locations of special-status species along 26 miles of highway in San Luis Obispo County, 14 miles of highway and roadway in Monterey County, and in a large area north of Fresno, including within reclaimed gravel mining pits.

GPS mapping and monitoring at restoration sites and at Caltrans mitigation sites. Monitored the success of elderberry shrubs at one location, the success of willows at another location, and the response of wildlife to the succession of vegetation at both sites. Also used GPS to monitor the response of fossorial animals to yellow star-thistle eradication and natural grassland restoration efforts at Bear Valley in Colusa County and at the decommissioned Mather Air Force Base in Sacramento County.

Mercury effects on Red-legged Frog. Assisted Dr. Michael Morrison and US Fish and Wildlife Service in assessing the possible impacts of historical mercury mining on the federally listed California red-legged frog in Santa Clara County. Also measured habitat variables in streams.

Opposition to proposed No Surprises rule. Wrote a white paper and summary letter explaining scientific grounds for opposing the incidental take permit (ITP) rules providing ITP applicants and holders with general assurances they will be free of compliance with the Endangered Species Act once they adhere to the terms of a “properly functioning HCP.” Submitted 188 signatures of scientists and environmental professionals concerned about No Surprises rule US Fish and Wildlife Service, National Marine Fisheries Service, all US Senators.

Natomas Basin Habitat Conservation Plan alternative. Designed narrow channel marsh to increase the likelihood of survival and recovery in the wild of giant garter snake, Swainson’s hawk and Valley Elderberry Longhorn Beetle. The design included replication and interspersion of treatments for experimental testing of critical habitat elements. I provided a report to Northern Territories, Inc.

Assessments of agricultural production system and environmental technology transfer to China. Twice visited China and interviewed scientists, industrialists, agriculturalists, and the Directors of the Chinese Environmental Protection Agency and the Department of Agriculture to assess the need and possible pathways for environmental clean-up technologies and trade opportunities between the US and China.

Yolo County Habitat Conservation Plan. Conducted landscape ecology study of Yolo County to spatially prioritize allocation of mitigation efforts to improve ecosystem functionality within the County from the perspective of 29 special-status species of wildlife and plants. Used a hierarchically structured indicators approach to apply principles of landscape and ecosystem ecology, conservation biology, and local values in rating land units. Derived GIS maps to help guide the conservation area design, and then developed implementation strategies.

Mountain lion track count. Developed and conducted a carnivore monitoring program throughout California since 1985. Species counted include mountain lion, bobcat, black bear, coyote, red and gray fox, raccoon, striped skunk, badger, and black-tailed deer. Vegetation and land use are also monitored. Track survey transect was established on dusty, dirt roads within randomly selected quadrats.

Sumatran tiger and other felids. Upon award of Fulbright Research Fellowship, I designed and initiated track counts for seven species of wild cats in Sumatra, including Sumatran tiger, fishing cat, and golden cat. Spent four months on Sumatra and Java in 1988, and learned Bahasa Indonesia, the official Indonesian language.

Wildlife in agriculture. Beginning as post-graduate research, I studied pocket gophers and other wildlife in 40 alfalfa fields throughout the Sacramento Valley, and I surveyed for wildlife along a 200 mile road transect since 1989 with a hiatus of 1996-2004. The data are analyzed using GIS and methods from landscape ecology, and the results published and presented orally to farming groups in California and elsewhere. I also conducted the first study of wildlife in cover crops used on vineyards and orchards.

Agricultural energy use and Tulare County groundwater study. Developed and analyzed a data base of energy use in California agriculture, and collaborated on a landscape (GIS) study of groundwater contamination across Tulare County, California.

Pocket gopher damage in forest clear-cuts. Developed gopher sampling methods and tested various poison baits and baiting regimes in the largest-ever field study of pocket gopher management in forest plantations, involving 68 research plots in 55 clear-cuts among 6 National Forests in northern California.

Risk assessment of exotic species in North America. Developed empirical models of mammal and bird species invasions in North America, as well as a rating system for assigning priority research and control to exotic species in California, based on economic, environmental, and human health hazards.

Representative Clients/Funders

Law Offices of Stephan C. Volker	National Renewable Energy Lab
Eric K. Gillespie Professional Corporation	Altamont Winds LLC
Law Offices of Berger & Montague	Comstocks Business (magazine)
Lozeau | Drury LLP	BioResource Consultants
Law Offices of Roy Haber	Tierra Data
Law Offices of Edward MacDonald	Black and Veatch
Law Office of John Gabrielli	Terry Preston, Wildlife Ecology Research Center
Law Office of Bill Kopper	EcoStat, Inc.
Law Office of Donald B. Mooney	US Navy
Law Office of Veneruso & Moncharsh	US Department of Agriculture
Law Office of Steven Thompson	US Forest Service
Law Office of Brian Gaffney	US Fish & Wildlife Service
California Wildlife Federation	US Department of Justice
Defenders of Wildlife	California Energy Commission
Sierra Club	California Office of the Attorney General
National Endangered Species Network	California Department of Fish & Wildlife
Spirit of the Sage Council	California Department of Transportation
The Humane Society	California Department of Forestry
Hagens Berman LLP	California Department of Food & Agriculture
Environmental Protection Information Center	Ventura County Counsel
Goldberg, Kamin & Garvin, Attorneys at Law	County of Yolo
Californians for Renewable Energy (CARE)	Tahoe Regional Planning Agency
Seatuck Environmental Association	Sustainable Agriculture Research & Education Program
Friends of the Columbia Gorge, Inc.	Sacramento-Yolo Mosquito and Vector Control District
Save Our Scenic Area	East Bay Regional Park District
Alliance to Protect Nantucket Sound	County of Alameda
Friends of the Swainson's Hawk	Don & LaNelle Silverstien
Alameda Creek Alliance	Seventh Day Adventist Church
Center for Biological Diversity	Escuela de la Raza Unida
California Native Plant Society	Susan Pelican and Howard Beeman
Endangered Wildlife Trust	Residents Against Inconsistent Development, Inc.
and BirdLife South Africa	Bob Sarvey
AquAlliance	Mike Boyd
Oregon Natural Desert Association	Hillcroft Neighborhood Fund
Save Our Sound	Joint Labor Management Committee, Retail Food Industry
G3 Energy and Pattern Energy	Lisa Rocca
Emerald Farms	Kevin Jackson
Pacific Gas & Electric Co.	Dawn Stover and Jay Letto
Southern California Edison Co.	Nancy Havassy
Georgia-Pacific Timber Co.	Catherine Portman (for Brenda Cedarblade)
Northern Territories Inc.	Ventus Environmental Solutions, Inc.
David Magney Environmental Consulting	Panorama Environmental, Inc.
Wildlife History Foundation	Adams Broadwell Professional Corporation
NextEra Energy Resources, LLC	
FloDesign Wind Turbine	
EDF Renewables	

Representative special-status species experience

Common name	**Species name**	**Description**
Field experience		
California red-legged frog	*Rana aurora draytonii*	Protocol searches; Many detections
Foothill yellow-legged frog	*Rana boylii*	Presence surveys; Many detections
Western spadefoot	*Spea hammondii*	Presence surveys; Few detections
California tiger salamander	*Ambystoma californiense*	Protocol searches; Many detections
Coast range newt	*Taricha torosa torosa*	Searches and multiple detections
Blunt-nosed leopard lizard	*Gambelia sila*	Detected in San Luis Obispo County
California horned lizard	*Phrynosoma coronatum frontale*	Searches; Many detections
Western pond turtle	*Clemmys marmorata*	Searches; Many detections
San Joaquin kit fox	*Vulpes macrotis mutica*	Protocol searches; detections
Sumatran tiger	*Panthera tigris*	Research in Sumatra
Mountain lion	*Puma concolor californicus*	Research and publications
Point Arena mountain beaver	*Aplodontia rufa nigra*	Remote camera operation
Giant kangaroo rat	*Dipodomys ingens*	Detected in Cholame Valley
San Joaquin kangaroo rat	*Dipodomys nitratoides*	Research, conservation at NAS Lemoore
Monterey dusky-footed woodrat	*Neotoma fuscipes luciana*	Non-target captures and mapping of dens
Salt marsh harvest mouse	*Reithrodontomys raviventris*	Habitat assessment, monitoring
Salinas harvest mouse	*Reithrodontomys megalotus distichlus*	Captures; habitat assessment
California clapper rail	*Rallus longirostris*	Surveys and detections
Golden eagle	*Aquila chrysaetos*	Research in Altamont Pass
Swainson's hawk	*Buteo swainsoni*	Research in Sacramento Valley
Northern harrier	*Circus cyaeneus*	Research and publication
White-tailed kite	*Elanus leucurus*	Research and publication
Loggerhead shrike	*Lanius ludovicianus*	Research in Sacramento Valley
Least Bell's vireo	*Vireo bellii pusillus*	Detected in Monterey County
Willow flycatcher	*Empidonax traillii extimus*	Research at Sierra Nevada breeding sites
Burrowing owl	*Athene cunicularia hypugia*	Research at multiple locations
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	Research and publication
Analytical		
Arroyo southwestern toad	*Bufo microscaphus californicus*	Research and report.
Giant garter snake	*Thamnophis gigas*	Research and publication
Northern goshawk	*Accipiter gentilis*	Research and publication
Northern spotted owl	*Strix occidentalis*	Research and reports
Alameda whipsnake	*Masticophis lateralis euryxanthus*	Expert testimony

Peer Reviewed Publications

Smallwood, K. S. In press. The challenges of repowering. Proceedings from the Conference on Wind Energy and Wildlife Impacts, March 2015, Berlin, Germany. Springer.

May, R., A.B. Gill, J. Köppel, R.H.W. Langston, M. Reichenbach, M. Scheidat, S. Smallwood and C.C. Voigt. In press. Future research directions. Proceedings from the Conference on Wind Energy and Wildlife Impacts, March 2015, Berlin, Germany. Springer.

Smallwood, K.S. 2016. Monitoring birds. M. Perrow, Ed., Wildlife and Wind Farms: conflicts and solutions. Pelagic Publishing. In press

Smallwood, K.S., L. Neher, and D.A. Bell. 2016. Siting to Minimize Raptor Collisions: an example from the Repowering Altamont Pass Wind Resource Area. M. Perrow, Ed., Wildlife and Wind Farms: conflicts and solutions. Pelagic Publishing. In press

Johnson, D. H., S. R. Loss, K. S. Smallwood, W. P. Erickson. 2016. Avian fatalities at wind energy facilities in North America: A comparison of recent approaches. Human–Wildlife Interactions 10(1): 7-18.

Sadar, M. J., D. S.-M. Guzman, A. Mete, J. Foley, N. Stephenson, K. H. Rogers, C. Grosset, K. S. Smallwood, J. Shipman, A. Wells, S. D. White, D. A. Bell, and M. G. Hawkins. 2015. Mange Caused by a novel Micnemidocoptes mite in a Golden Eagle (*Aquila chrysaetos*). Journal of Avian Medicine and Surgery 29(3):231-237.

Smallwood, K. S. 2015. Habitat fragmentation and corridors. Pages 84-101 in M. L. Morrison and H. A. Mathewson, Eds., Wildlife habitat conservation: concepts, challenges, and solutions. John Hopkins University Press, Baltimore, Maryland, USA.

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Smallwood, K.S. and M.L. Morrison. 1997. Alternate mitigation strategy for incidental take of giant garter snake and Swainson's hawk as part of the Natomas Basin Habitat Conservation Plan. Pages 6-9 and *iii* illustrations in W.D. Carrier, K.S. Smallwood and M.L. Morrison, Natomas Basin Habitat Conservation Plan: Narrow channel marsh alternative wetland mitigation. Northern Territories, Inc., Sacramento.

Smallwood, K.S. 1996. Assessment of the BIOPORT model's parameter values for pocket gopher burrowing characteristics. Report to Berger & Montague, P.C. and Roy S. Haber, P.C., Philadelphia. (peer reviewed).

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Smallwood, K.S. 1996. Soil Bioturbation and Wind Affect Fate of Hazardous Materials that were

Released at the Rocky Flats Plant, Colorado. Report to Berger & Montague, P.C., Philadelphia.

Smallwood, K.S. 1996. Second assessment of the BIOPORT model's parameter values for pocket gopher burrowing characteristics and other relevant wildlife observations. Report to Berger & Montague, P.C. and Roy S. Haber, P.C., Philadelphia.

Smallwood, K.S., and R. Leidy. 1996. Wildlife and Their Management Under the Martell SYP. Report to Georgia Pacific, Corporation, Martel, CA. 30 pp.

EIP Associates. 1995. Yolo County Habitat Conservation Plan Biological Resources Report. Yolo County Planning and Development Department, Woodland, California.

Smallwood, K.S. and S. Geng. 1995. Analysis of the 1987 California Farm Cost Survey and recommendations for future survey. Program on Workable Energy Regulation, University-wide Energy Research Group, University of California.

Smallwood, K.S., S. Geng, and W. Idzerda. 1992. Final report to PG&E: Analysis of the 1987 California Farm Cost Survey and recommendations for future survey. Pacific Gas & Electric Company, San Ramon, California. 24 pp.

Fitzhugh, E.L. and K.S. Smallwood. 1987. Methods Manual – A statewide mountain lion population index technique. California Department of Fish and Game, Sacramento.

Salmon, T.P. and K.S. Smallwood. 1989. Final Report – Evaluating exotic vertebrates as pests to California agriculture. California Department of Food and Agriculture, Sacramento.

Smallwood, K.S. and W. A. Erickson (written under supervision of W.E. Howard, R.E. Marsh, and R.J. Laacke). 1990. Environmental exposure and fate of multi-kill strychnine gopher baits. Final Report to USDA Forest Service –NAPIAP, Cooperative Agreement PSW-89-0010CA.

Fitzhugh, E.L., K.S. Smallwood, and R. Gross. 1985. Mountain lion track count, Marin County, 1985. Report on file at Wildlife Extension, University of California, Davis.

Comments on Environmental Documents

I was retained or commissioned to comment on environmental planning and review documents, including:

- Comments on proposed rule for incidental eagle take (2016, 49 pp);
- Revised Draft Giant Garter Snake Recovery Plan of 2015 (2016, 18 pp);
- Supplementary Reply Witness Statement Amherst Island Wind Farm, Ontario (2015, 38 pp);
- Witness Statement on Amherst Island Wind Farm, Ontario (2015, 31 pp);
- Second Reply Witness Statement on White Pines Wind Farm, Ontario (2015, 6 pp);
- Reply Witness Statement on White Pines Wind Farm, Ontario (2015, 10 pp);
- Witness Statement on White Pines Wind Farm, Ontario (2015, 9 pp);
- Proposed Section 24 Specific Plan Agua Caliente Band of Cahuilla Indians DEIS (2015, 9 pp);

- Replies to comments 24 Specific Plan Agua Caliente Band of Cahuilla Indians FEIS (2015, 6 pp);
- Sierra Lakes Commerce Center Project DEIR (2015, 9 pp);
- West Valley Logistics Center Specific Plan DEIR(2015, 10 pp);
- World Logistic Center Specific Plan FEIR (2015, 12 pp);
- Bay Delta Conservation Plan EIR/EIS (2014, 21 pp);
- Addison Wind Energy Project DEIR (2014, 32 pp);
- Response to Comments on the Addison Wind Energy Project DEIR (2014, 15 pp);
- Addison and Rising Tree Wind Energy Project FEIR (2014, 12 pp);
- Alta East Wind Energy Project FEIS (2013, 23 pp);
- Blythe Solar Power Project Staff Assessment, California Energy Commission (2013, 16 pp);
- Clearwater and Yakima Solar Projects DEIR (2013, 9 pp);
- Cuyama Solar Project DEIR (2014, 19 pp);
- Draft Desert Renewable Energy Conservation Plan (DRECP) EIR/EIS (2015, 49 pp);
- Kingbird Solar Photovoltaic Project EIR (2013, 19 pp);
- Lucerne Valley Solar Project Initial Study & Mitigated Negative Declaration (2013, 12 pp);
- Palen Solar Electric Generating System Final Staff Assessment of California Energy Commission, (2014, 20 pp);
- Rebuttal testimony on Palen Solar Energy Generating System (2014, 9 pp);
- Rising Tree Wind Energy Project DEIR (2014, 32 pp);
- Response to Comments on the Rising Tree Wind Energy Project DEIR (2014, 15 pp);
- Soitec Solar Development Project Draft PEIR (2014, 18 pp);
- Comment on the Biological Opinion (08ESMF-00-2012-F-0387) of Oakland Zoo expansion on Alameda whipsnake and California red-legged frog (2014; 3 pp);
- West Antelope Solar Energy Project Initial Study and Negative Declaration (2013, 18 pp);
- Willow Springs Solar Photovoltaic Project DEIR (2015, 28 pp);
- Alameda Creek Bridge Replacement Project DEIR (2015, 10 pp);
- Declaration on Tule Wind project FEIR/FEIS (2013; 24 pp);
- Sunlight Partners LANDPRO Solar Project Mitigated Negative Declaration (2013; 11 pp);
- Declaration in opposition to BLM fracking (2013; 5 pp);
- Rosamond Solar Project Addendum EIR (2013; 13 pp);
- Pioneer Green Solar Project EIR (2013; 13 pp);
- Reply to Staff Responses to Comments on Soccer Center Solar Project Mitigated Negative Declaration (2013; 6 pp);
- Soccer Center Solar Project Mitigated Negative Declaration (2013; 10 pp);
- Plainview Solar Works Mitigated Negative Declaration (2013; 10 pp);
- Reply to the County Staff's Responses on comments to Imperial Valley Solar Company 2 Project (2013; 10 pp);
- Imperial Valley Solar Company 2 Project (2013; 13 pp);
- FRV Orion Solar Project DEIR (PP12232) (2013; 9 pp);
- Casa Diablo IV Geothermal Development Project (3013; 6 pp);
- Reply to Staff Responses to Comments on Casa Diablo IV Geothermal Development Project (2013; 8 pp);
- FEIS prepared for Alta East Wind Project (2013; 23 pp);

- Metropolitan Air Park DEIR, City of San Diego (2013;);
- Davidon Homes Tentative Subdivision Map and Rezoning Project DEIR (2013; 9 pp);
- Analysis of Biological Assessment of Oakland Zoo Expansion Impacts on Alameda Whipsnake (2013; 10 pp);
- Declaration on Campo Verde Solar project FEIR (2013; 11pp);
- Neg Dec comments on Davis Sewer Trunk Rehabilitation (2013; 8 pp);
- Declaration on North Steens Transmission Line FEIS (2012; 62 pp);
- City of Lancaster Revised Initial Study for Conditional Use Permits 12-08 and 12-09, Summer Solar and Springtime Solar Projects (2012; 8 pp);
- J&J Ranch, 24 Adobe Lane Environmental Review (2012; 14 pp);
- Reply to the County Staff's Responses on comments to Hudson Ranch Power II Geothermal Project and the Simbol Calipatria Plant II (2012; 8 pp);
- Hudson Ranch Power II Geothermal Project and the Simbol Calipatria Plant II (2012; 9 pp);
- Desert Harvest Solar Project EIS (2012; 15 pp);
- Solar Gen 2 Array Project DEIR (2012; 16 pp);
- Ocotillo Sol Project EIS (2012; 4 pp);
- Beacon Photovoltaic Project DEIR (2012; 5 pp);
- Declaration on Initial Study and Proposed Negative Declaration for the Butte Water District 2012 Water Transfer Program (2012; 11 pp);
- Mount Signal and Calexico Solar Farm Projects DEIR (2011; 16 pp);
- City of Elk Grove Sphere of Influence EIR (2011; 28 pp);
- Comment on Sutter Landing Park Solar Photovoltaic Project MND (2011; 9 pp);
- Statement of Shawn Smallwood, Ph.D. Regarding Proposed Rabik/Gudath Project, 22611 Coleman Valley Road, Bodega Bay (CPN 10-0002) (2011; 4 pp);
- Declaration of K. Shawn Smallwood on Biological Impacts of the Ivanpah Solar Electric Generating System (ISEGS) (2011; 9 pp);
- Comments on Draft Eagle Conservation Plan Guidance (2011; 13 pp);
- Comments on Draft EIR/EA for Niles Canyon Safety Improvement Project (2011; 16 pp);
- Declaration of K. Shawn Smallwood, Ph.D., on Biological Impacts of the Route 84 Safety Improvement Project (2011; 7 pp);
- Rebuttal Testimony of Witness #22, K. Shawn Smallwood, Ph.D, on Behalf of Intervenors Friends of The Columbia Gorge & Save Our Scenic Area (2010; 6 pp);
- Prefiled Direct Testimony of Witness #22, K. Shawn Smallwood, Ph.D, on Behalf of Intervenors Friends of the Columbia Gorge & Save Our Scenic Area. Comments on Whistling Ridge Wind Energy Power Project DEIS, Skamania County, Washington (2010; 41 pp);
- Evaluation of Klickitat County's Decisions on the Windy Flats West Wind Energy Project (2010; 17 pp);
- St. John's Church Project Draft Environmental Impact Report (2010; 14 pp.);
- Initial Study/Mitigated Negative Declaration for Results Radio Zone File #2009-001 (2010; 20 pp);
- Rio del Oro Specific Plan Project Final Environmental Impact Report (2010;12 pp);
- Answers to Questions on 33% RPS Implementation Analysis Preliminary Results Report (2009: 9 pp);
- SEPA Determination of Non-significance regarding zoning adjustments for Skamania

County, Washington. Second Declaration to Friends of the Columbia Gorge, Inc. and Save Our Scenic Area (Dec 2008; 17 pp);
- Comments on Draft 1A Summary Report to CAISO (2008; 10 pp);
- County of Placer's Categorical Exemption of Hilton Manor Project (2009; 9 pp);
- Protest of CARE to Amendment to the Power Purchase and Sale Agreement for Procurement of Eligible Renewable Energy Resources Between Hatchet Ridge Wind LLC and PG&E (2009; 3 pp);
- Tehachapi Renewable Transmission Project EIR/EIS (2009; 142 pp);
- Delta Shores Project EIR, south Sacramento (2009; 11 pp + addendum 2 pp);
- Declaration of Shawn Smallwood in Support of Care's Petition to Modify D.07-09-040 (2008; 3 pp);
- The Public Utility Commission's Implementation Analysis December 16 Workshop for the Governor's Executive Order S-14-08 to implement a 33% Renewable Portfolio Standard by 2020 (2008; 9 pp);
- The Public Utility Commission's Implementation Analysis Draft Work Plan for the Governor's Executive Order S-14-08 to implement a 33% Renewable Portfolio Standard by 2020 (2008; 11 pp);
- Draft 1A Summary Report to California Independent System Operator for Planning Reserve Margins (PRM) Study (2008; 7 pp.);
- SEPA Determination of Non-significance regarding zoning adjustments for Skamania County, Washington. Declaration to Friends of the Columbia Gorge, Inc. and Save Our Scenic Area (Sep 2008; 16 pp);
- California Energy Commission's Preliminary Staff Assessment of the Colusa Generating Station (2007; 24 pp);
- Rio del Oro Specific Plan Project Recirculated Draft Environmental Impact Report (2008: 66 pp);
- Replies to Response to Comments Re: Regional University Specific Plan Environmental Impact Report (2008; 20 pp);
- Regional University Specific Plan Environmental Impact Report (2008: 33 pp.);
- Clark Precast, LLC's "Sugarland" project, Negative Declaration (2008: 15 pp.);
- Cape Wind Project Draft Environmental Impact Statement (2008; 157 pp.);
- Yuba Highlands Specific Plan (or Area Plan) Environmental Impact Report (2006; 37 pp.);
- Replies to responses to comments on Mitigated Negative Declaration of the proposed Mining Permit (MIN 04-01) and Modification of Use Permit 96-02 at North Table Mountain (2006; 5 pp);
- Mitigated Negative Declaration of the proposed Mining Permit (MIN 04-01) and Modification of Use Permit 96-02 at North Table Mountain (2006; 15 pp);
- Windy Point Wind Farm Environmental Review and EIS (2006; 14 pp and 36 Powerpoint slides in reply to responses to comments);
- Shiloh I Wind Power Project EIR (2005; 18 pp);
- Buena Vista Wind Energy Project Notice of Preparation of EIR (2004; 15 pp);
- Negative Declaration of the proposed Callahan Estates Subdivision (2004; 11 pp);
- Negative Declaration of the proposed Winters Highlands Subdivision (2004; 9 pp);
- Negative Declaration of the proposed Winters Highlands Subdivision (2004; 13 pp);
- Negative Declaration of the proposed Creekside Highlands Project, Tract 7270 (2004; 21

pp);

- On the petition California Fish and Game Commission to list the Burrowing Owl as threatened or endangered (2003; 10 pp);
- Conditional Use Permit renewals from Alameda County for wind turbine operations in the Altamont Pass Wind Resource Area (2003; 41 pp);
- UC Davis Long Range Development Plan of 2003, particularly with regard to the Neighborhood Master Plan (2003; 23 pp);
- Anderson Marketplace Draft Environmental Impact Report (2003: 18 pp + 3 plates of photos);
- Negative Declaration of the proposed expansion of Temple B'nai Tikyah (2003: 6 pp);
- Antonio Mountain Ranch Specific Plan Public Draft EIR (2002: 23 pp);
- Response to testimony of experts at the East Altamont Energy Center evidentiary hearing on biological resources (2002: 9 pp);
- Revised Draft Environmental Impact Report, The Promenade (2002: 7 pp);
- Recirculated Initial Study for Calpine's proposed Pajaro Valley Energy Center (2002: 3 pp);
- UC Merced -- Declaration of Dr. Shawn Smallwood in support of petitioner's application for temporary restraining order and preliminary injunction (2002: 5 pp);
- Replies to response to comments in Final Environmental Impact Report, Atwood Ranch Unit III Subdivision (2003: 22 pp);
- Draft Environmental Impact Report, Atwood Ranch Unit III Subdivision (2002: 19 pp + 8 photos on 4 plates);
- California Energy Commission Staff Report on GWF Tracy Peaker Project (2002: 17 pp + 3 photos; follow-up report of 3 pp);
- Initial Study and Negative Declaration, Silver Bend Apartments, Placer County (2002: 13 pp);
- UC Merced Long-range Development Plan DEIR and UC Merced Community Plan DEIR (2001: 26 pp);
- Initial Study, Colusa County Power Plant (2001: 6 pp);
- Comments on Proposed Dog Park at Catlin Park, Folsom, California (2001: 5 pp + 4 photos);
- Pacific Lumber Co. (Headwaters) Habitat Conservation Plan and Environmental Impact Report (1998: 28 pp);
- Final Environmental Impact Report/Statement for Issuance of Take authorization for listed species within the MSCP planning area in San Diego County, California (Fed. Reg. 62 (60): 14938, San Diego Multi-Species Conservation Program) (1997: 10 pp);
- Permit (PRT-823773) Amendment for the Natomas Basin Habitat Conservation Plan, Sacramento, CA (Fed. Reg. 63 (101): 29020-29021) (1998);
- Draft Recovery Plan for the Giant Garter Snake (*Thamnophis gigas*). (Fed. Reg. 64(176): 49497-49498) (1999: 8 pp);
- Review of the Draft Recovery Plan for the Arroyo Southwestern Toad (*Bufo microscaphus californicus*) (1998);
- Ballona West Bluffs Project Environmental Impact Report (1999: oral presentation);
- California Board of Forestry's proposed amended Forest Practices Rules (1999);
- Negative Declaration for the Sunset Skyranch Airport Use Permit (1999);
- Calpine and Bechtel Corporations' Biological Resources Implementation and Monitoring

Program (BRMIMP) for the Metcalf Energy Center (2000: 10 pp);

- California Energy Commission's Final Staff Assessment of the proposed Metcalf Energy Center (2000);
- US Fish and Wildlife Service Section 7 consultation with the California Energy Commission regarding Calpine and Bechtel Corporations' Metcalf Energy Center (2000: 4 pp);
- California Energy Commission's Preliminary Staff Assessment of the proposed Metcalf Energy Center (2000: 11 pp);
- Site-specific management plans for the Natomas Basin Conservancy's mitigation lands, prepared by Wildlands, Inc. (2000: 7 pp);
- Affidavit of K. Shawn Smallwood in Spirit of the Sage Council, et al. (Plaintiffs) vs. Bruce Babbitt, Secretary, U.S. Department of the Interior, et al. (Defendants), Injuries caused by the No Surprises policy and final rule which codifies that policy (1999: 9 pp).

Comments on other Environmental Review Documents:

- Proposed Regulation for California Fish and Game Code Section 3503.5 (2015: 12 pp);
- Statement of Overriding Considerations related to extending Altamont Winds, Inc.'s Conditional Use Permit PLN2014-00028 (2015; 8 pp);
- Draft Program Level EIR for Covell Village (2005; 19 pp);
- Bureau of Land Management Wind Energy Programmatic EIS Scoping document (2003: 7 pp.);
- NEPA Environmental Analysis for Biosafety Level 4 National Biocontainment Laboratory (NBL) at UC Davis (2003: 7 pp);
- Notice of Preparation of UC Merced Community and Area Plan EIR, on behalf of The Wildlife Society—Western Section (2001: 8 pp.);
- Preliminary Draft Yolo County Habitat Conservation Plan (2001; 2 letters totaling 35 pp.);
- Merced County General Plan Revision, notice of Negative Declaration (2001: 2 pp.);
- Notice of Preparation of Campus Parkway EIR/EIS (2001: 7 pp.);
- Draft Recovery Plan for the bighorn sheep in the Peninsular Range (*Ovis candensis*) (2000);
- Draft Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*), on behalf of The Wildlife Society—Western Section (2000: 10 pp.);
- Sierra Nevada Forest Plan Amendment Draft Environmental Impact Statement, on behalf of The Wildlife Society—Western Section (2000: 7 pp.);
- State Water Project Supplemental Water Purchase Program, Draft Program EIR (1997);
- Davis General Plan Update EIR (2000);
- Turn of the Century EIR (1999: 10 pp);
- Proposed termination of Critical Habitat Designation under the Endangered Species Act (Fed. Reg. 64(113): 31871-31874) (1999);
- NOA Draft Addendum to the Final Handbook for Habitat Conservation Planning and Incidental Take Permitting Process, termed the HCP 5-Point Policy Plan (Fed. Reg. 64(45): 11485 - 11490) (1999; 2 pp + attachments);
- Covell Center Project EIR and EIR Supplement (1997).

Position Statements I prepared the following position statements for the Western Section of The Wildlife Society, and one for nearly 200 scientists:

- Recommended that the California Department of Fish and Game prioritize the extermination of the introduced southern water snake in northern California. The Wildlife Society--Western Section (2001);
- Recommended that The Wildlife Society—Western Section appoint or recommend members of the independent scientific review panel for the UC Merced environmental review process (2001);
- Opposed the siting of the University of California's 10th campus on a sensitive vernal pool/grassland complex east of Merced. The Wildlife Society--Western Section (2000);
- Opposed the legalization of ferret ownership in California. The Wildlife Society--Western Section (2000);
- Opposed the Proposed "No Surprises," "Safe Harbor," and "Candidate Conservation Agreement" rules, including permit-shield protection provisions (Fed. Reg. Vol. 62, No. 103, pp. 29091-29098 and No. 113, pp. 32189-32194). This statement was signed by 188 scientists and went to the responsible federal agencies, as well as to the U.S. Senate and House of Representatives.

Posters at Professional Meetings

Leyvas, E. and K. S. Smallwood. 2015. Rehabilitating injured animals to offset and rectify wind project impacts. Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 9-12 March 2015.

Smallwood, K. S., J. Mount, S. Standish, E. Leyvas, D. Bell, E. Walther, B. Karas. 2015. Integrated detection trials to improve the accuracy of fatality rate estimates at wind projects. Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 9-12 March 2015.

Smallwood, K. S. and C. G. Thelander. 2005. Lessons learned from five years of avian mortality research in the Altamont Pass WRA. AWEA conference, Denver, May 2005.

Neher, L., L. Wilder, J. Woo, L. Spiegel, D. Yen-Nakafugi, and K.S. Smallwood. 2005. Bird's eye view on California wind. AWEA conference, Denver, May 2005.

Smallwood, K. S., C. G. Thelander and L. Spiegel. 2003. Toward a predictive model of avian fatalities in the Altamont Pass Wind Resource Area. Windpower 2003 Conference and Convention, Austin, Texas.

Smallwood, K.S. and Eva Butler. 2002. Pocket Gopher Response to Yellow Star-thistle Eradication as part of Grassland Restoration at Decommissioned Mather Air Force Base, Sacramento County, California. White Mountain Research Station Open House, Barcroft Station.

Smallwood, K.S. and Michael L. Morrison. 2002. Fresno kangaroo rat (*Dipodomys nitratoides*) Conservation Research at Resources Management Area 5, Lemoore Naval Air Station. White Mountain Research Station Open House, Barcroft Station.

Smallwood, K.S. and E.L. Fitzhugh. 1989. Differentiating mountain lion and dog tracks. Third Mountain Lion Workshop, Prescott, AZ.

Smith, T. R. and K. S. Smallwood. 2000. Effects of study area size, location, season, and allometry on reported *Sorex* shrew densities. Annual Meeting of the Western Section of The Wildlife Society.

Presentations at Professional Meetings and Seminars

Mitigation of Raptor Fatalities in the Altamont Pass Wind Resource Area. Raptor Research Foundation Meeting, Sacramento, California, 6 November 2015.

From burrows to behavior: Research and management for burrowing owls in a diverse landscape. California Burrowing Owl Consortium meeting, 24 October 2015, San Jose, California.

The Challenges of repowering. Keynote presentation at Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 10 March 2015.

Research Highlights Altamont Pass 2011-2015. Scientific Review Committee, Oakland, California, 8 July 2015.

Siting wind turbines to minimize raptor collisions: Altamont Pass Wind Resource Area. US Fish and Wildlife Service Golden Eagle Working Group, Sacramento, California, 8 January 2015.

Evaluation of nest boxes as a burrowing owl conservation strategy. Sacramento Chapter of the Western Section, The Wildlife Society. Sacramento, California, 26 August 2013.

Predicting collision hazard zones to guide repowering of the Altamont Pass. Conference on wind power and environmental impacts. Stockholm, Sweden, 5-7 February 2013.

Impacts of Wind Turbines on Wildlife. California Council for Wildlife Rehabilitators, Yosemite, California, 12 November 2012.

Impacts of Wind Turbines on Birds and Bats. Madrone Audubon Society, Santa Rosa, California, 20 February 2012.

Comparing Wind Turbine Impacts across North America. California Energy Commission Staff Workshop: Reducing the Impacts of Energy Infrastructure on Wildlife, 20 July 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. California Energy Commission Staff Workshop: Reducing the Impacts of Energy Infrastructure on Wildlife, 20 July 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. Alameda County Scientific Review Committee meeting, 17 February 2011

Comparing Wind Turbine Impacts across North America. Conference on Wind energy and Wildlife impacts, Trondheim, Norway, 3 May 2011.

Update on Wildlife Impacts in the Altamont Pass Wind Resource Area. Raptor Symposium, The Wildlife Society—Western Section, Riverside, California, February 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. Raptor Symposium, The Wildlife

Society - Western Section, Riverside, California, February 2011.

Wildlife mortality caused by wind turbine collisions. Ecological Society of America, Pittsburgh, Pennsylvania, 6 August 2010.

Map-based repowering and reorganization of a wind farm to minimize burrowing owl fatalities. California burrowing Owl Consortium Meeting, Livermore, California, 6 February 2010.

Environmental barriers to wind power. Getting Real About Renewables: Economic and Environmental Barriers to Biofuels and Wind Energy. A symposium sponsored by the Environmental & Energy Law & Policy Journal, University of Houston Law Center, Houston, 23 February 2007.

Lessons learned about bird collisions with wind turbines in the Altamont Pass and other US wind farms. Meeting with Japan Ministry of the Environment and Japan Ministry of the Economy, Wild Bird Society of Japan, and other NGOs Tokyo, Japan, 9 November 2006.

Lessons learned about bird collisions with wind turbines in the Altamont Pass and other US wind farms. Symposium on bird collisions with wind turbines. Wild Bird Society of Japan, Tokyo, Japan, 4 November 2006.

Responses of Fresno kangaroo rats to habitat improvements in an adaptive management framework. California Society for Ecological Restoration (SERCAL) 13th Annual Conference, UC Santa Barbara, 27 October 2006.

Fatality associations as the basis for predictive models of fatalities in the Altamont Pass Wind Resource Area. EEI/APLIC/PIER Workshop, 2006 Biologist Task Force and Avian Interaction with Electric Facilities Meeting, Pleasanton, California, 28 April 2006.

Burrowing owl burrows and wind turbine collisions in the Altamont Pass Wind Resource Area. The Wildlife Society - Western Section Annual Meeting, Sacramento, California, February 8, 2006.

Mitigation at wind farms. Workshop: Understanding and resolving bird and bat impacts. American Wind Energy Association and Audubon Society. Los Angeles, CA. January 10 and 11, 2006.

Incorporating data from the California Wildlife Habitat Relationships (CWHR) system into an impact assessment tool for birds near wind farms. Shawn Smallwood, Kevin Hunting, Marcus Yee, Linda Spiegel, Monica Parisi. Workshop: Understanding and resolving bird and bat impacts. American Wind Energy Association and Audubon Society. Los Angeles, CA. January 10 and 11, 2006.

Toward indicating threats to birds by California's new wind farms. California Energy Commission, Sacramento, May 26, 2005.

Avian collisions in the Altamont Pass. California Energy Commission, Sacramento, May 26, 2005.

Ecological solutions for avian collisions with wind turbines in the Altamont Pass Wind Resource Area. EPRI Environmental Sector Council, Monterey, California, February 17, 2005.

Ecological solutions for avian collisions with wind turbines in the Altamont Pass Wind Resource Area. The Wildlife Society—Western Section Annual Meeting, Sacramento, California, January 19, 2005.

Associations between avian fatalities and attributes of electric distribution poles in California. The Wildlife Society - Western Section Annual Meeting, Sacramento, California, January 19, 2005.

Minimizing avian mortality in the Altamont Pass Wind Resources Area. UC Davis Wind Energy Collaborative Forum, Palm Springs, California, December 14, 2004.

Selecting electric distribution poles for priority retrofitting to reduce raptor mortality. Raptor Research Foundation Meeting, Bakersfield, California, November 10, 2004.

Responses of Fresno kangaroo rats to habitat improvements in an adaptive management framework. Annual Meeting of the Society for Ecological Restoration, South Lake Tahoe, California, October 16, 2004.

Lessons learned from five years of avian mortality research at the Altamont Pass Wind Resources Area in California. The Wildlife Society Annual Meeting, Calgary, Canada, September 2004.

The ecology and impacts of power generation at Altamont Pass. Sacramento Petroleum Association, Sacramento, California, August 18, 2004.

Burrowing owl mortality in the Altamont Pass Wind Resource Area. California Burrowing Owl Consortium meeting, Hayward, California, February 7, 2004.

Burrowing owl mortality in the Altamont Pass Wind Resource Area. California Burrowing Owl Symposium, Sacramento, November 2, 2003.

Raptor Mortality at the Altamont Pass Wind Resource Area. National Wind Coordinating Committee, Washington, D.C., November 17, 2003.

Raptor Behavior at the Altamont Pass Wind Resource Area. Annual Meeting of the Raptor Research Foundation, Anchorage, Alaska, September, 2003.

Raptor Mortality at the Altamont Pass Wind Resource Area. Annual Meeting of the Raptor Research Foundation, Anchorage, Alaska, September, 2003.

California mountain lions. Ecological & Environmental Issues Seminar, Department of Biology, California State University, Sacramento, November, 2000.

Intra- and inter-turbine string comparison of fatalities to animal burrow densities at Altamont Pass. National Wind Coordinating Committee, Carmel, California, May, 2000.

Using a Geographic Positioning System (GPS) to map wildlife and habitat. Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

Suggested standards for science applied to conservation issues. Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

The indicators framework applied to ecological restoration in Yolo County, California. Society for Ecological Restoration, September 25, 1999.

Ecological restoration in the context of animal social units and their habitat areas. Society for Ecological Restoration, September 24, 1999.

Relating Indicators of Ecological Health and Integrity to Assess Risks to Sustainable Agriculture and Native Biota. International Conference on Ecosystem Health, August 16, 1999.

A crosswalk from the Endangered Species Act to the HCP Handbook and real HCPs. Southern California Edison, Co. and California Energy Commission, March 4-5, 1999.

Mountain lion track counts in California: Implications for Management. Ecological & Environmental Issues Seminar, Department of Biological Sciences, California State University, Sacramento, November 4, 1998.

"No Surprises" -- Lack of science in the HCP process. California Native Plant Society Annual Conservation Conference, The Presidio, San Francisco, September 7, 1997.

In Your Interest. A half hour weekly show aired on Channel 10 Television, Sacramento. In this episode, I served on a panel of experts discussing problems with the implementation of the Endangered Species Act. Aired August 31, 1997.

Spatial scaling of pocket gopher (*Geomyidae*) density. Southwestern Association of Naturalists 44th Meeting, Fayetteville, Arkansas, April 10, 1997.

Estimating prairie dog and pocket gopher burrow volume. Southwestern Association of Naturalists 44th Meeting, Fayetteville, Arkansas, April 10, 1997.

Ten years of mountain lion track survey. Fifth Mountain Lion Workshop, San Diego, February 27, 1996.

Study and interpretive design effects on mountain lion density estimates. Fifth Mountain Lion Workshop, San Diego, February 27, 1996.

Small animal control. Session moderator and speaker at the California Farm Conference, Sacramento, California, Feb. 28, 1995.

Small animal control. Ecological Farming Conference, Asylomar, California, Jan. 28, 1995.

Habitat associations of the Swainson's Hawk in the Sacramento Valley's agricultural landscape. 1994 Raptor Research Foundation Meeting, Flagstaff, Arizona.

Alfalfa as wildlife habitat. Seed Industry Conference, Woodland, California, May 4, 1994.

Habitats and vertebrate pests: impacts and management. Managing Farmland to Bring Back Game Birds and Wildlife to the Central Valley. Yolo County Resource Conservation District, U.C. Davis, February 19, 1994.

Management of gophers and alfalfa as wildlife habitat. Orland Alfalfa Production Meeting and Sacramento Valley Alfalfa Production Meeting, February 1 and 2, 1994.

Patterns of wildlife movement in a farming landscape. Wildlife and Fisheries Biology Seminar Series: Recent Advances in Wildlife, Fish, and Conservation Biology, U.C. Davis, Dec. 6, 1993.

Alfalfa as wildlife habitat. California Alfalfa Symposium, Fresno, California, Dec. 9, 1993.

Management of pocket gophers in Sacramento Valley alfalfa. California Alfalfa Symposium, Fresno, California, Dec. 8, 1993.

Association analysis of raptors in a farming landscape. Plenary speaker at Raptor Research Foundation Meeting, Charlotte, North Carolina, Nov. 6, 1993.

Landscape strategies for biological control and IPM. Plenary speaker, International Conference on Integrated Resource Management and Sustainable Agriculture, Beijing, China, Sept. 11, 1993.

Landscape Ecology Study of Pocket Gophers in Alfalfa. Alfalfa Field Day, U.C. Davis, July 1993.

Patterns of wildlife movement in a farming landscape. Spatial Data Analysis Colloquium, U.C. Davis, August 6, 1993.

Sound stewardship of wildlife. Veterinary Medicine Seminar: Ethics of Animal Use, U.C. Davis. May 1993.

Landscape ecology study of pocket gophers in alfalfa. Five County Grower's Meeting, Tracy, California. February 1993.

Turbulence and the community organizers: The role of invading species in ordering a turbulent system, and the factors for invasion success. Ecology Graduate Student Association Colloquium, U.C. Davis. May 1990.

Evaluation of exotic vertebrate pests. Fourteenth Vertebrate Pest Conference, Sacramento, California. March 1990.

Analytical methods for predicting success of mammal introductions to North America. The Western Section of the Wildlife Society, Hilo, Hawaii. February 1988.

A state-wide mountain lion track survey. Sacramento County Dept Parks and Recreation. April 1986.

The mountain lion in California. Davis Chapter of the Audubon Society. October 1985.

Ecology Graduate Student Seminars, U.C. Davis, 1985-1990: Social behavior of the mountain lion;

Mountain lion control; Political status of the mountain lion in California.

Other forms of Participation at Professional Meetings

- Scientific Committee, Conference on Wind energy and Wildlife impacts, Berlin, Germany, March 2015.
- Scientific Committee, Conference on Wind energy and Wildlife impacts, Stockholm, Sweden, February 2013.
- Workshop co-presenter at Birds & Wind Energy Specialist Group (BAWESG) Information sharing week, Bird specialist studies for proposed wind energy facilities in South Africa, Endangered Wildlife Trust, Darling, South Africa, 3-7 October 2011.
- Scientific Committee, Conference on Wind energy and Wildlife impacts, Trondheim, Norway, 2-5 May 2011.
- Chair of Animal Damage Management Session, The Wildlife Society, Annual Meeting, Reno, Nevada, September 26, 2001.
- Chair of Technical Session: Human communities and ecosystem health: Comparing perspectives and making connection. Managing for Ecosystem Health, International Congress on Ecosystem Health, Sacramento, CA August 15-20, 1999.
- Student Awards Committee, Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.
- Student Mentor, Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

Printed Mass Media

Smallwood, K.S., D. Mooney, and M. McGuinness. 2003. We must stop the UCD biolab now. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 2002. Spring Lake threatens Davis. Op-Ed to the Davis Enterprise.

Smallwood, K.S. Summer, 2001. Mitigation of habitation. The Flatlander, Davis, California.

Entrikan, R.K. and K.S. Smallwood. 2000. Measure O: Flawed law would lock in new taxes. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 2000. Davis delegation lobbies Congress for Wildlife conservation. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 1998. Davis Visions. The Flatlander, Davis, California.

Smallwood, K.S. 1997. Last grab for Yolo's land and water. The Flatlander, Davis, California.

Smallwood, K.S. 1997. The Yolo County HCP. Op-Ed to the Davis Enterprise.

Radio/Television

PBS News Hour,

FOX News, Energy in America: Dead Birds Unintended Consequence of Wind Power Development, August 2011.

KXJZ Capital Public Radio -- Insight (Host Jeffrey Callison). Mountain lion attacks (with guest Professor Richard Coss). 23 April 2009;

KXJZ Capital Public Radio -- Insight (Host Jeffrey Callison). Wind farm Rio Vista Renewable Power. 4 September 2008;

KQED QUEST Episode #111. Bird collisions with wind turbines. 2007;

KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. December 27, 2001;

KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. May 3, 2001;

KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. February 8, 2001;

KDVS Speaking in Tongues (host Ron Glick & Shawn Smallwood), California Energy Crisis: 1 hour. Jan. 25, 2001;

KDVS Speaking in Tongues (host Ron Glick), Headwaters Forest HCP: 1 hour. 1998;

Davis Cable Channel (host Gerald Heffernon), Burrowing owls in Davis: half hour. June, 2000;

Davis Cable Channel (hosted by Davis League of Women Voters), Measure O debate: 1 hour. October, 2000;

KXTV 10, In Your Interest, The Endangered Species Act: half hour. 1997.

Reviews of Journal Papers (Scientific journals for whom I've provided peer review)

Journal	Journal
American Naturalist	Journal of Animal Ecology
Journal of Wildlife Management	Western North American Naturalist
Auk	Journal of Raptor Research
Biological Conservation	National Renewable Energy Lab reports
Canadian Journal of Zoology	Oikos
Ecosystem Health	The Prairie Naturalist
Environmental Conservation	Restoration Ecology
Environmental Management	Southwestern Naturalist
Functional Ecology	The Wildlife Society--Western Section Trans.
Journal of Zoology (London)	Proc. Int. Congress on Managing for Ecosystem Health
Journal of Applied Ecology	Transactions in GIS
Ecology	Tropical Ecology
Biological Control	The Condor

Committees

- Scientific Review Committee, Alameda County, Altamont Pass Wind Resource Area
- Ph.D. Thesis Committee, Steve Anderson, University of California, Davis
- MS Thesis Committee, Marcus Yee, California State University, Sacramento

Other Professional Activities or Products

Testified in Federal Court in Denver during 2005 over the fate of radio-nuclides in the soil at Rocky Flats Plant after exposure to burrowing animals. My clients won a judgment of $553,000,000. I have also testified in many other cases of litigation under CEQA, NEPA, the Warren-Alquist Act, and other environmental laws. My clients won most of the cases for which I testified.

Testified before Environmental Review Tribunals in Ontario, Canada regarding proposed White Pines and Amherst Island Wind Energy projects.

Testified in Skamania County Hearing in 2009 on the potential impacts of zoning the County for development of wind farms and hazardous waste facilities.

Testified in deposition in 2007 in the case of O'Dell et al. vs. FPL Energy in Houston, Texas.

Testified in Klickitat County Hearing in 2006 on the potential impacts of the Windy Point Wind Farm.

Memberships in Professional Societies

The Wildlife Society
Raptor Research Foundation

Honors and Awards

Fulbright Research Fellowship to Indonesia, 1987
J.G. Boswell Full Academic Scholarship, 1981 college of choice
Certificate of Appreciation, The Wildlife Society—Western Section, 2000, 2001
Northern California Athletic Association Most Valuable Cross Country Runner, 1984
American Legion Award, Corcoran High School, 1981, and John Muir Junior High, 1977
CIF Section Champion, Cross Country in 1978
CIF Section Champion, Track & Field 2 mile run in 1981
National Junior Record, 20 kilometer run, 1982
National Age Group Record, 1500 meter run, 1978

Community Activities

District 64 Little League Umpire, 2003-2007
Dixon Little League Umpire, 2006-07
Davis Little League Chief Umpire and Board member, 2004-2005
Davis Little League Safety Officer, 2004-2005
Davis Little League Certified Umpire, 2002-2004
Davis Little League Scorekeeper, 2002
Davis Visioning Group member
Petitioner for Writ of Mandate under the California Environmental Quality Act against City of Woodland decision to approve the Spring Lake Specific Plan, 2002
Served on campaign committees for City Council candidates

Exhibit B

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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December 30, 2020

Paige Fennie
Lozeau Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94612

Subject: Comments on Clawiter Road Industrial Project

Dear Ms. Fennie,

We have reviewed the December 2020 Initial Study/Mitigated Negative Declaration ("IS/MND") for the Clawiter Road Industrial Project ("Project") located in the City of Hayward ("City"). The Project proposes to demolish four existing on-site structures, ancillary structures, and on-site improvements in order to develop a 616,000-SF industrial park, including four industrial core and shell structures, 16,586-SF of employee amenity area, a 34,000-SF transformer yard, 320 vehicle parking spaces, and 45 trailer parking spaces, on the 26-acre site.

Our review concludes that the IS/MND fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed. An EIR should be prepared to adequately assess and mitigate the potential air quality, health risk, and greenhouse gas impacts that the project may have on the surrounding environment.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The IS/MND's air quality analysis relies on emissions calculated with CalEEMod.2016.3.2 (p. 30).[1] CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input

[1] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4.

project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence.[2] Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters were utilized in calculating the Project's air pollutant emissions and make known which default values were changed as well as provide justification for the values selected.[3]

When reviewing the Project's CalEEMod output files, provided in the Air Quality and Greenhouse Gas Modeling Worksheets as Appendix A to the IS/MND, we found that several model inputs were not consistent with information disclosed in the IS/MND. As a result, the Project's construction and operational emissions are underestimated. An EIR should be prepared and recirculated to include an updated air quality analysis that adequately evaluates the impacts that construction and operation of the Project will have on local and regional air quality.

Incorrect Analysis of Emissions

Review of the CalEEMod output files demonstrates that Buildings 1 to 3 and Building 4 were modeled separately (see excerpts below) (Appendix A, pp. 62, 159, 275, 310).

"Clawiter Industrial Project – Buildings 1 to 3 – 2023" and "Clawiter Industrial Project – Buildings 1 to 3 – 2030"

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area
Industrial Park	337.09	1000sqft	16.37	337,094.00
Parking Lot	$\boxed{310.00}$	Space	2.79	124,000.00

"Clawiter Industrial Project – Buildings 4 – 2023" and "Clawiter Industrial Project – Buildings 4 – 2030"

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area
Industrial Park	273.53	1000sqft	6.28	273,526.00
Parking Lot	$\boxed{50.00}$	Space	0.45	20,000.00

As you can see in the excerpts above, Buildings 1 to 3 and Building 4 were modeled separately. However, the IS/MND fails to mention that Buildings 1 to 3 and Building 4 would be constructed separately. Regarding Project construction, the IS/MND simply states:

> "Construction of the structures and on-site facilities is expected to occur over approximately 15 months and would involve the following general phases:
>
> 1. The first phase of construction would involve demolition and removal of the existing improvements and structures on-site, which would take approximately three months.

[2] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 1, 9.
[3] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 11, 12 – 13. A key feature of the CalEEMod program is the "remarks" feature, where the user explains why a default setting was replaced by a "user defined" value. These remarks are included in the report.

2. The second phase would include initial site preparation to remove remnant concrete foundations and remaining miscellaneous debris and vegetation within the development area to prepare it for rough grading, which would take approximately one month.

3. The third phase would include grading of the site to prepare it for construction activities, which would involve up to approximately 29,000 cubic yards (CY) of soil exported from the site. This phase would take approximately two months.

4. *The fourth phase would involve construction and painting of the industrial park structures and on-site amenities, which would take approximately eight months.*

5. The fifth phase would involve paving and striping of the parking areas, as well as the installation of site landscaping, lighting, and signage, which would take approximately one month" (emphasis added) (p. 13).

As you can see in the excerpt above, the IS/MND fails to justify the separate modeling of Buildings 1-3 and Building 4. As a result, the IS/MND's modeling is unsubstantiated. By modeling the construction-related emissions associated with the construction of Buildings 1-3 and Building 4 separately, the models may underestimate the Project's maximum daily construction-related emissions. Thus, by modeling the construction of Buildings 1 to 3 and Building 4, the models underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to Energy Intensity Factors

Review of the CalEEMod output files demonstrates that the "Clawiter Industrial Project – Existing Uses – 2023," "Clawiter Industrial Project – Buildings 1 to 3 – 2030," and "Clawiter Industrial Project – Buildings 4 – 2030" models include several manual reductions to the default CH_4, CO_2, and N_2O intensity factors (see excerpt below) (Appendix A, pp. 247, 277, 312-313).

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.014
tblProjectCharacteristics	CO2IntensityFactor	641.35	298.65
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003

As you can see in the excerpt above, the CH_4 intensity factor was reduced by approximately 52%, from the default value of 0.029- to 0.014-pounds per megawatt hour ("lbs/MWh"); the CO_2 intensity factor was reduced by approximately 53%, from the default value of 641.35- to 298.65-lbs/MWh; and the N_2O intensity factor was reduced by 50%, from the default value of 0.006- to 0.003-lbs/MWh. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[4] According to the corresponding "User Entered Comments and Non-Default Data" tables, the justification provided

[4] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

for these changes is: "60% RPS by 2030" (Appendix A, pp. 246, 247, 311). Furthermore, regarding the Project's energy intensity factors, the IS/MND states:

> "Per SB 100, the statewide Renewable Portfolio Standard (RPS) Program requires electricity providers to increase procurement from eligible renewable energy sources to 60 percent by 2030. To account for the continuing effects of the RPS, the energy intensity factors included in CalEEMod were reduced based on the percentage of renewables reported by PG&E" (p. 77).

Finally, the IS/MND provides the energy intensity factors inputted into the model (see excerpt below) (p. 78).

Table 20 PG&E Energy Intensity Factors

	2009 (lbs/MWh)	2030 (lbs/MWh)[2]
Percent procurement	14.1%[1]	60%
Carbon dioxide (CO_2)	641.35	298.65
Methane (CH_4)	0.029	0.014
Nitrous oxide (N_2O)	0.006	0.003

[1] Source: California Public Utilities Commission 2011

[2] RPS goal established by SB 100

As you can see in the excerpts above, the IS/MND provides the revised CH_4, CO_2, and N_2O intensity factors and indicates that they were calculated based on the percentage of renewables expected for the year 2030 as a result of the statewide Renewable Portfolio Standard ("RPS") Program. However, this justification is insufficient for two reasons. First, simply because the state has these renewable energy *goals* for 2030 does not ensure that these goals will be achieved locally, by the Project's utility company specifically. Second, given that it is already December 2020, construction of on-site facilities and is anticipated to last approximately 15 months, and construction of the on-site transformer yard and off-site trnaspmission line is anticipated to last approximately 8 months, we know that the Project will be operational before 2030 (p. 13). As such, the use of energy intensity factors for 2030 is incorrect, and we cannot verify the revised energy intensity factors. These unsubstantiated reductions present an issue, as CalEEMod uses the CH_4, CO_2, and N_2O intensity factors to calculate the Project's greenhouse gas ("GHG") emissions associated with electricity use.[5] Thus, by including unsubstantiated reductions to the default CH_4, CO_2, and N_2O intensity factors, the models may underestimate the Project's GHG emissions and should not be relied upon to determine Project significance.

Use of an Incorrect Land Use Type

According to the IS/MND, the Buildings 1, 2, and 3 each include 5,000-SF of office space (see excerpt below) (p. 8, Table 1).

[5] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.caleemod.com/, p. 17.

Table 1 Project Summary

	Building 1	Building 2	Building 3	Building 4	Total
Building Features					
Use and Size (sf)	Industrial: 61,444 Office: 5,000	Industrial: 51,720 Office: 5,000	Industrial: 208,931 Office: 5,000	Data Center: 273,526 Office: 5,000	615,621

As you can see in the excerpt above, Buildings 1, 2, and 3 include a collective total of 322,095-SF[6] of industrial space and 15,000-SF[7] of office space. Thus, the models should have included 322,095-SF of "Industrial Park" and 15,000-SF of "General Office Building." However, review of the Project's CalEEMod output files demonstrates that the "Clawiter Industrial Project – Buildings 1 to 3 – 2023" and "Clawiter Industrial Project – Buildings 1 to 3 – 2030" models include all 337,094-SF as "Industrial Park" and fail to include any land use space as "General Office Building" (see excerpt below) (Appendix A, pp. 62, 275).

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area
Industrial Park	337.09	1000sqft	16.37	337,094.00
Parking Lot	310.00	Space	2.79	124,000.00

As you can see in the excerpt above, the models fail to include the proposed office space. This presents an issue, as the land use size feature is used throughout CalEEMod to determine default variable and emission factors that go into the model's calculations. The square footage of a land use is used for certain calculations such as determining the wall space to be painted (i.e., VOC emissions from architectural coatings) and volume that is heated or cooled (i.e., energy impacts). Furthermore, CalEEMod assigns each land use type with its own set of energy usage emission factors.[8] By failing to include the proposed office space, the models may underestimate the Project's construction-related and operational emissions and should not be relied upon to determine Project significance.

Use of an Underestimated Land Use Size and Type

According to the IS/MND, Building 4 includes 273,526-SF of data center space and 5,000-SF of office space (see excerpt below) (p. 8, Table 1).

Table 1 Project Summary

	Building 1	Building 2	Building 3	Building 4	Total
Building Features					
Use and Size (sf)	Industrial: 61,444 Office: 5,000	Industrial: 51,720 Office: 5,000	Industrial: 208,931 Office: 5,000	Data Center: 273,526 Office: 5,000	615,621

Thus, the models for Building 4 should include 273,526-SF of "Research and Development" and 5,000-SF of "General Office Building." However, review of the Project's CalEEMod output files demonstrates that the "Clawiter Industrial Project – Buildings 4 – 2023" and "Clawiter Industrial Project – Buildings 4 –

[6] Calculated by: 61,444-SF + 51,720-SF + 208,931-SF = 322,095-SF
[7] Calculated by: 5,000-SF + 5,000-SF + 5,000-SF = 15,000-SF
[8] "CalEEMod User's Guide, Appendix D." CAPCOA, September 2016, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/05_appendix-d2016-3-1.pdf?sfvrsn=2

2030" models include only 273,526-SF of "Industrial Park" (see excerpt below) (Appendix A, pp. 97, 128, 159, 310).

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area
Industrial Park	273.53	1000sqft	6.28	273,526.00
Parking Lot	50.00	Space	0.45	20,000.00

As you can see in the excerpt above, the proposed data center land use is incorrectly modeled as "Industrial Park," and the proposed office space is not included whatsoever. This presents an issue, as the land use size feature is used throughout CalEEMod to determine default variable and emission factors that go into the model's calculations. The square footage of a land use is used for certain calculations such as determining the wall space to be painted (i.e., VOC emissions from architectural coatings) and volume that is heated or cooled (i.e., energy impacts). Furthermore, CalEEMod assigns each land use type with its own set of energy usage emission factors.[9] By incorrectly modeling the proposed data center as "Industrial Park" and failing to include the proposed office space, the models underestimate the Project's construction-related and operational emissions and should not be relied upon to determine Project significance.

Failure to Model All Proposed Parking Spaces

According to the IS/MND, the Project proposes 320 vehicle parking spaces and 45 trailer parking spaces (p. 7). As such, the models should have included at least 365 parking spaces.[10] However, review of the Project's CalEEMod output files demonstrates that the "Clawiter Industrial Project – Buildings 1 to 3 – 2023," "Clawiter Industrial Project – Buildings 4 – 2023," "Clawiter Industrial Project – Buildings 1 to 3 – 2030," and "Clawiter Industrial Project – Buildings 4 – 2030" models collectively include only 360 parking spaces (see excerpts below) (Appendix A, pp. 62, 159, 275, 310).

"Clawiter Industrial Project – Buildings 1 to 3 – 2023" and "Clawiter Industrial Project – Buildings 1 to 3 – 2030"

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area
Industrial Park	337.09	1000sqft	16.37	337,094.00
Parking Lot	310.00	Space	2.79	124,000.00

"Clawiter Industrial Project – Buildings 4 – 2023" and "Clawiter Industrial Project – Buildings 4 – 2030"

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area
Industrial Park	273.53	1000sqft	6.28	273,526.00
Parking Lot	50.00	Space	0.45	20,000.00

As you can see in the excerpts above, the total number of parking spaces modeled is underestimated by 5 spaces. This underestimation presents an issue, as the land use size feature is used throughout CalEEMod to determine default variable and emission factors that go into the model's calculations. The square footage of a land use is used for certain calculations such as determining the wall space to be

[9] "CalEEMod User's Guide, Appendix D." CAPCOA, September 2016, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/05_appendix-d2016-3-1.pdf?sfvrsn=2
[10] Calculated by: 320 vehicle parking spaces + 45 trailer parking spaces = 365 total parking spaces

painted (i.e., VOC emissions from architectural coatings) and volume that is heated or cooled (i.e., energy impacts). Thus, by underestimating the number of parking spaces, the models underestimate the Project's construction-related and operational emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to Architectural and Area Coating Emission Factors

Review of the CalEEMod output files demonstrates that the "Clawiter Industrial Project – Buildings 1 to 3 – 2023," "Clawiter Industrial Project – Buildings 4 – 2023," "Clawiter Industrial Project – Buildings 1 to 3 – 2030," and "Clawiter Industrial Project – Buildings 4 – 2030" models include manual reductions to the Project's architectural and area coating emission factors (see excerpt below) (Appendix A, pp. 4, 34, 64, 98, 129, 160, 196, 221, 246, 277, 311).

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Parking	150.00	100.00
tblAreaCoating	Area_EF_Parking	150	100

As you can see in the excerpt above, the architectural and area coating emission factors for the proposed parking land use were each reduced from the default value of 150 grams per liter ("g/L") to 100 g/L. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[11] According to the corresponding User Entered Comments and Non-Default Data tables, the justification provided for these changes is: "BAAQMD Regulation 8, Rule 3" (Appendix A, pp. 3, 33, 63, 98, 129, 160, 196, 221, 246, 276, 311). Furthermore, the IS/MND states:

> "This analysis <u>*assumes*</u> that the project would comply with all applicable regulatory standards. In particular, the project would be required to comply with BAAQMD Regulation 8, Rule 3 (Architectural Coatings)" (emphasis added) (p. 31).

However, these justifications are insufficient, as the IS/MND cannot simply <u>*assume*</u> that the Project's compliance with BAAQMD Regulation 8, Rule 3 will result in reduced architectural and area coating emission factors for the proposed parking land use. Furthermore, we cannot verify that the revised architectural and area coating emission factors are based on BAAQMD Regulation 8, Rule 3 alone. The BAAQMD Regulation 8, Rule 3 provides the required VOC limits (grams of VOC per liter of coating) for 42 different coating categories (e.g., Flat Coatings, Nonflat Coatings, and Specialty Coatings, such as Aluminum Roof, Concrete Curing Compounds, Faux Finishing Coatings, Fire Restive Coating, Multi-Color Coatings, Primers, Sealers, Recycled Coatings, Shellac, Stains, Traffic Marking Coatings, Waterproofing Membranes, Wood Coatings, etc.).[12] The VOC limits for each coating varies from a minimum value of 50 g/L to a maximum value of 730 g/L. As such, we cannot verify that BAAQMD Regulation 8, Rule 3 substantiates a reduction to the default coating values without more information regarding what category of coating will be used. Absent additional information regarding which categories of coating

[11] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

[12] "REGULATION 8 ORGANIC COMPOUNDS RULE 3 ARCHITECTURAL COATINGS INDEX." BAAQMD, July 2009, *available at:* https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-8-rule-3-architectural-coatings/documents/rg0803_0709.pdf?la=en, p. 8-3-15 – 8-3-16, Table 2.

would be used for Project construction, we cannot compare the revised emission factors with the BAAQMD Regulation 8, Rule 3 requirements for those categories. The IS/MND and associated documents fail to mention what type of coating will be used, and as such, we are unable to verify the revised emission factors assumed in the model. These unsubstantiated reductions present an issue, as CalEEMod uses the architectural and area coating emission factors to calculate the Project's reactive organic gas/volatile organic compound ("ROG"/"VOC") emissions.[13] Thus, by including unsubstantiated reductions to the Project's architectural and area emission factors, the models may underestimate the Project's ROG/VOC emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to Individual Construction Phase Lengths

Review of the CalEEMod output files demonstrates that the "Clawiter Industrial Project – Buildings 1 to 3 – 2023" and "Clawiter Industrial Project – Buildings 1 to 3 – 2030" models include unsubstantiated changes to the anticipated individual construction phase lengths (see excerpt below) (Appendix A, pp. 4, 34, 64, 277).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	130.00
tblConstructionPhase	NumDays	300.00	265.00

As a result of these changes, the models include a construction schedule as follows (Appendix A, pp. 7, 37, 68, 281):

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days
1	Demolition	Demolition	1/1/2021	1/28/2021	5	20
2	Site Preparation	Site Preparation	1/29/2021	2/11/2021	5	10
3	Grading	Grading	2/12/2021	3/25/2021	5	30
4	Building Construction	Building Construction	3/26/2021	3/31/2022	5	265
5	Architectural Coating	Architectural Coating	10/1/2021	3/31/2022	5	130
6	Paving	Paving	3/4/2022	3/31/2022	5	20

As demonstrated in the excerpts above, the architectural coating phase was increased by approximately 85%, from the default value of 20 to 130 day, and the building construction phase was reduced approximately 12%, from the default value of 300 to 265 days in the "Clawiter Industrial Project – Buildings 1 to 3 – 2023" and "Clawiter Industrial Project – Buildings 1 to 3 – 2030" models.

Similarly, review of the CalEEMod output files demonstrates that the "Clawiter Industrial Project – Buildings 4 – 2023" and "Clawiter Industrial Project – Buildings 4 – 2030" models include

[13] CalEEMod User Guide, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 35, 40.

unsubstantiated changes to the anticipated individual construction phase lengths (see excerpt below) (Appendix A, pp. 99, 130, 161, 312).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	230.00	265.00
tblConstructionPhase	NumDays	20.00	130.00

As a result of these changes, the models include a construction schedule as follows (Appendix A, pp. 103, 134, 166, 317):

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days
1	Demolition	Demolition	1/1/2021	1/28/2021	5	20
2	Site Preparation	Site Preparation	1/29/2021	2/11/2021	5	10
3	Grading	Grading	2/12/2021	3/25/2021	5	30
4	Building Construction	Building Construction	3/26/2021	3/31/2022	5	265
5	Architectural Coating	Architectural Coating	10/1/2021	3/31/2022	5	130
6	Paving	Paving	3/4/2022	3/31/2022	5	20

As demonstrated in the excerpts above, the building construction phase was increased by approximately 15%, from the default value of 230 to 265 days, and the architectural coating phase was increased by approximately 85%, from the default value of 20 to 130 days, in the "Clawiter Industrial Project – Buildings 4 – 2023" and "Clawiter Industrial Project – Buildings 4 – 2030" models.

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[14] According to the corresponding "User Entered Comments & Non-Default Data" tables, the justification provided for these changes is: "Applicant specified 15-month schedule. Extended AC to overlap BC for mroe realistic conditions" (Appendix A, pp. 3, 33, 63, 98, 129, 160, 196, 221, 246, 276, 311). Furthermore, regarding the Project's anticipated construction schedule, the IS/MND states:

> "Construction of the structures and on-site facilities is expected to occur over approximately 15 months and would involve the following general phases:
>
> 1. The first phase of construction would involve demolition and removal of the existing improvements and structures on-site, which would take approximately three months.
>
> 2. The second phase would include initial site preparation to remove remnant concrete foundations and remaining miscellaneous debris and vegetation within the development area to prepare it for rough grading, which would take approximately one month.

[14] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

3. The third phase would include grading of the site to prepare it for construction activities, which would involve up to approximately 29,000 cubic yards (CY) of soil exported from the site. This phase would take approximately two months.

4. *The fourth phase would involve construction and painting of the industrial park structures and on-site amenities, which would take approximately eight months.*

5. The fifth phase would involve paving and striping of the parking areas, as well as the installation of site landscaping, lighting, and signage, which would take approximately one month" (p. 13).

As the excerpt above demonstrates, while the IS/MND states that construction and painting would take approximately eight months, the IS/MND fails to specify the *individual building construction and architectural coating construction phase lengths*. As a result, we cannot verify the revised building construction and architectural coating construction phase lengths included in the models. These unsubstantiated changes present an issue, as they improperly spread out construction emissions over a longer period of time for some construction phases and not others. According to the CalEEMod User's Guide, each construction phase is associated with different emissions activities (see excerpt below).[15]

> *Demolition* involves removing buildings or structures.
>
> *Site Preparation* involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading.
>
> *Grading* involves the cut and fill of land to ensure that the proper base and slope is created for the foundation.
>
> *Building Construction* involves the construction of the foundation, structures and buildings.
>
> *Architectural Coating* involves the application of coatings to both the interior and exterior of buildings or structures, the painting of parking lot or parking garage striping, associated signage and curbs, and the painting of the walls or other components such as stair railings inside parking structures.
>
> *Paving* involves the laying of concrete or asphalt such as in parking lots, roads, driveways, or sidewalks.

As such, by disproportionately altering individual construction phase lengths without proper justification, the models' calculations are altered and underestimate emissions. Thus, by including unsubstantiated changes to the Project's anticipated individual construction phase lengths, the models may underestimate the Project's maximum daily construction-related emissions and should not be relied upon to determine the significance of the Project's air quality impacts.

Unsubstantiated Changes to Off-Road Equipment Unit Amounts

Review of the Project's CalEEMod output files demonstrates that the "Clawiter Industrial Project – Buildings 1 to 3 – 2023" and "Clawiter Industrial Project – Buildings 1 to 3 – 2030" models include

[15] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 31.

several changes to the default off-road construction equipment unit amounts (see excerpt below) (Appendix A, pp. 4, 34, 64, 277).

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

As you can see in the excerpts above, the off-road construction equipment unit amounts were altered in the models, resulting in a decrease of 3 pieces of equipment. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[16] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "Applicant-provided equipment list" (Appendix A, pp. 3, 33, 63, 276). Furthermore, the IS/MND states:

> "Construction of the proposed project was analyzed based on the applicant-provided construction schedule, ***equipment list***, and soil export volume" (emphasis added) (p. 31).

However, the IS/MND fails to disclose the applicant-provided construction equipment list or mention these changes whatsoever. As a result, we cannot verify the revised off-road equipment unit amounts. By including unsubstantiated changes to the Project's off-road construction equipment unit amounts, the models may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Unsubstantiated Reductions to Off-Road Equipment Usage Hours

Review of the CalEEMod output files demonstrates that the "Clawiter Industrial Project – Buildings 4 – 2023" and "Clawiter Industrial Project – Buildings 4 – 2030" models include manual reductions to the default off-road construction equipment usage hours (see excerpt below) (Appendix A, pp. 99, 130, 161, 312).

[16] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00

As you can see in the excerpt above, the default off-road construction equipment usage hours were manually reduced to zero. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[17] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "Emissions from equipment calculated in model for Buildings 1 to 3" (Appendix A, pp. 98, 129, 160, 311). However, the IS/MND fails to mention or justify these changes whatsoever. Furthermore, the IS/MND fails to substantiate the claim that emissions associated with construction equipment are calculated in the model for Buildings 1 to 3. As a result, we cannot verify the revised off-road equipment usage hours included in the models. By including unsubstantiated changes to the Project's off-road construction equipment usage hours, the models may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Failure to Include the Correct Amount of Demolition

According to the IS/MND, the Project includes the "demolition of four existing on-site structures, ancillary structures, and on-site improvements" (p. 4). Specifically, regarding the existing structures on the Project site, the IS/MND states:

> "The southern portion of the project site is not developed with structures but is leased to an automobile auction company for vehicle parking and delivery vehicle parking. The northern portion of the project site is currently improved with:
>
> - 196,000 square-foot former manufacturing building

[17] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

- 28,000 square-foot warehouse
- 35,000 square-foot fabrication and machine building
- 7,000 square-foot, two-story office building
- 3,000 square-foot building
- Ancillary structures including water testing canopy, drying area for parts, and hazardous waste storage" (p. 4).

As such, the models should have included at least 269,000-SF of building demolition. According to the CalEEMod User's Guide, "[h]aul trips are based on the amount of material that is demolished, imported or exported assuming a truck can handle 16 cubic yards of material."[18] Therefore, the air model calculates a default number of hauling trips based upon the amount of demolition material inputted into the model. When correctly inputting 269,000-SF of building demolition, the model calculates a default demolition hauling trip number of 1,224 trips. However, review of the CalEEMod output files demonstrates that the "Clawiter Industrial Project – Buildings 1 to 3 – 2023" and "Clawiter Industrial Project – Buildings 4 – 2023" models include only 1,139 demolition hauling trips (see excerpts below) (Appendix A, pp. 8, 38, 69, 105, 136, 168).

"Clawiter Industrial Project – Buildings 1 to 3 – 2023"

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number
Demolition	5	13.00	0.00	1,139.00
Site Preparation	6	15.00	0.00	0.00
Grading	4	10.00	0.00	3,634.00
Building Construction	8	194.00	76.00	0.00
Architectural Coating	1	39.00	0.00	0.00
Paving	3	8.00	0.00	0.00

[18] http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14

"Clawiter Industrial Project – Buildings 4 – 2023"

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number
Demolition	6	0.00	0.00	0.00
Site Preparation	7	0.00	0.00	0.00
Grading	6	0.00	0.00	0.00
Building Construction	9	123.00	48.00	0.00
Architectural Coating	1	25.00	0.00	0.00
Paving	6	0.00	0.00	0.00

As you can see in the excerpt above, the total number of demolition hauling trips is underestimated by 85 trips.[19] Thus, the models fail to include the total amount of demolition required for the Project. This underestimation presents an issue, as the amount of demolition material is used by CalEEMod to determine emissions associated with the demolition phase of construction. The three primary operations that generate dust emission during the demolition phase are mechanical or explosive dismemberment, site removal of debris, and on-site truck traffic on paved and unpaved road.[20] By failing to include the total amount of demolition required, the models underestimate emissions associated with fugitive dust, site removal, as well as exhaust from hauling trucks traveling to and from the site, and should not be relied upon to determine the significance of the Project's air quality impacts.

Unsubstantiated Reductions to Worker Trip Numbers

Review of the CalEEMod output files demonstrates that the "Clawiter Industrial Project – Buildings 4 – 2023" and "Clawiter Industrial Project – Buildings 4 – 2030" models include manual reductions to the number of worker trips required for Project construction (see excerpt below) (Appendix A, pp. 100, 131, 162, 313).

Table Name	Column Name	Default Value	New Value
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00

As you can see in the excerpt above, the number of worker trips are reduced are reduced to zero in the models. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[21] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "Emissions from trips calculated in model for Buildings 1 to 3 except for

[19] 704 trips – 37 trips = 667 trips.
[20] CalEEMod User Guide, Appendix A, p. 11, *available at:* http://www.caleemod.com/
[21] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

BC and AC trips" (Appendix A, pp. 98, 129, 160, 311). However, the IS/MND fails to mention or justify the changes to worker trips whatsoever. Furthermore, the IS/MND fails to substantiate the claim that emissions associated with trips required for construction are calculated in the model for Buildings 1 to 3. As a result, we cannot verify the revised worker trip numbers. By including unsubstantiated reductions to the anticipated number of worker trips, the models may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Underestimated Saturday and Sunday Vehicle Trips

According to the CEQA Transportation Analysis ("Transportation Analysis"), provided as Appendix H to the IS/MND, the Project is expected to generate 2,073 average daily trips (see excerpt below) (Appendix H, p. 13, Table 4).

Table 4: Project Trip Generation Estimate

Trip Generation Rates								
Land Use	Rate	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Warehousing (ITE Code 150)	KSF	1.74	77%	23%	0.17	27%	73%	0.19
Industrial Park (ITE Code 130)	KSF	3.37	81%	19%	0.4	21%	79%	0.4
Trip Generation Estimates								
Land Use	Size	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Existing Use: Warehousing (ITE Code 150)	381.586 KSF	664	50	15	65	20	53	73
Proposed Use: Industrial Park (ITE Code 130)	615.095 KSF	2,073	199	47	246	52	194	246
NET NEW PROJECT TRIPS		**1,409**	**149**	**32**	**181**	**32**	**141**	**173**

Source: Kittelson & Associates, Inc., 2020; Institute of Transportation Engineers, 2017.
Notes: KSF signifies thousand square feet.

However, review of the CalEEMod output files demonstrates that the "Clawiter Industrial Project – Buildings 1 to 3 – 2023" and "Clawiter Industrial Project – Buildings 1 to 3 – 2030" models, include only 839.35- and 246.09- trips for Saturday and Sunday, respectively (see excerpts below) (Appendix A, pp. 26, 56, 87, 300).

"Clawiter Industrial Project – Buildings 1 to 3 – 2023" and "Clawiter Industrial Project – Buildings 1 to 3 – 2030"

Land Use	Average Daily Trip Rate		
	Weekday	Saturday	Sunday
Industrial Park	2,073.10	839.35	246.08
Parking Lot	0.00	0.00	0.00
Total	2,073.10	839.35	246.08

Furthermore, the "Clawiter Industrial Project – Buildings 4 – 2023" and "Clawiter Industrial Project – Buildings 4 – 2030" models include 0 weekday, Saturday, and Sunday trips (see excerpts below) (Appendix A, pp. 122, 153, 185, 336).

"Clawiter Industrial Project – Buildings 4 – 2023" and "Clawiter Industrial Project – Buildings 4 – 2030"

Land Use	Average Daily Trip Rate		
	Weekday	Saturday	Sunday
Industrial Park	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00
Total	0.00	0.00	0.00

As you can see in the excerpts above, the Saturday and Sunday trips are underestimated by approximately 1,234- and 1,827-trips. As such, the trip rates inputted into the models are underestimated and inconsistent with the information provided in the Transportation Analysis. By including underestimated operational vehicle trip rates, the models underestimate the Project's mobile-source operational emissions and should not be relied upon to determine Project significance.

Use of Unsubstantiated Existing Vehicle Trip Types and Purpose Percentages

Review of the CalEEMod output files demonstrates that the "Clawiter Industrial Project – Existing Uses – 2023" model include unsubstantiated changes to the operational vehicle trip types and purpose percentages associated with the existing land uses (see excerpt below) (Appendix A, pp. 197, 222, 247).

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00

As you can see in the excerpt above, the model assumes that 100% of the trips would be primary ("PR_TP") and commercial-work ("CC_TTP"). As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[22] According to the "User Entered Comments & Non-Default Data" table, the justification provided for these changes is: "Based on trip gen memo from Kittleson" (Appendix A, pp. 196, 221, 248). However, the Transportation Analysis fails to mention or justify the revised existing vehicle trip types and purpose percentages. As a result, the revised values are unsupported. By including unsubstantiated changes to the vehicle trip types and purpose percentages associated with the existing land uses, the model may overestimate the emissions associated with the existing land uses, resulting in an ***underestimation of the net change in emissions associated with the proposed Project***. As a result, the model should not be relied upon to determine Project significance.

Unsubstantiated Changes to Energy Use Values

Review of the CalEEMod output files demonstrates that the "Clawiter Industrial Project – Buildings 4 – 2023" and "Clawiter Industrial Project – Buildings 4 – 2023" models include unsubstantiated reductions to the default energy use values (see excerpt below) (Appendix A, pp. 99, 130, 161, 312).

[22] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	3.58	0.00
tblEnergyUse	NT24E	4.80	0.00
tblEnergyUse	T24E	4.10	0.00

As you can see in the excerpt above, the lighting energy electricity ("LightingElect"), the Non-Title 24 electricity energy intensity ("NT24E"), and the Title 24 electricity energy intensity ("T24E") values were each manually reduced to zero. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[23] According to the corresponding "User Entered Comments and Non-Default Data" tables, the justification provided for these changes is: "Electricity emissions calculated separately" (Appendix A, pp. 98, 129, 160, 311). However, the IS/MND fails to mention these changes or provide the separate electricity emissions calculations. As such, we cannot verify the revised energy use values. These unsubstantiated changes present an issue, as CalEEMod uses the energy use values to calculate the Project's emissions associated with building electricity and non-hearth natural gas usage.[24] Thus, by including unsubstantiated reductions to the default energy use values, the models may underestimate the Project's energy-source operational emissions and should not be relied upon to determine Project significance

Unsubstantiated Changes to Wastewater Treatment System Percentages

Review of the CalEEMod output files demonstrates that the "Clawiter Industrial Project – Buildings 1 to 3 – 2023," "Clawiter Industrial Project – Buildings 4 – 2023," "Clawiter Industrial Project – Buildings 1 to 3 – 2030," and "Clawiter Industrial Project – Buildings 4 – 2030" models assume that 100% of the Project's wastewater would be treated aerobically (see excerpts below) (Appendix A, pp. 4, 34, 64, 100, 131, 162, 277, 312).

"Clawiter Industrial Project – Buildings 1 to 3 – 2023" and "Clawiter Industrial Project – Buildings 1 to 3 – 2030"

Table Name	Column Name	Default Value	New Value
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

"Clawiter Industrial Project – Buildings 4 – 2023" and "Clawiter Industrial Project – Buildings 4 – 2030"

Table Name	Column Name	Default Value	New Value
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00

[23] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[24] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 43

As you can see in the excerpts above, the models assume that 100% of the Project's wastewater would be treated aerobically. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[25] According to the corresponding "User Entered Comments & Non-Default Data" tables, the justification for these changes is: "All wastewater treated at Hayward WWTP with aerobic processes. Outdoor water use calculated assuming 2.43 AFY per acre of landscaped area" (Appendix A, pp. 3, 33, 63, 98, 129, 160, 196, 221, 246, 276, 311). Furthermore, the IS/MND states:

> "[A]ll wastewater generated by the project would be treated by the Hayward Wastewater Treatment Plant, which does not utilize septic tanks or facultative lagoons (City of Hayward 2020b). As a result, CalEEMod was adjusted to account for 100 percent aerobic treatment of the project's wastewater" (p. 71).

However, according to the City of Hayward website:

> "The WPCF also generates its own electricity with a co-generation engine fueled by biogas, which is produced by ***anaerobic*** digesters" (emphasis added).[26]

As the above excerpt demonstrates, ***anaerobic*** digestion is part of the wastewater treatment process. As such, the model is incorrect in assuming that 100% of the Project's wastewater would be treated aerobically. This presents an issue, as each type of wastewater treatment system is associated with different GHG emission factors, which are used by CalEEMod to calculate the Project's total GHG emissions.[27] Thus, by including incorrect changes to the Project's wastewater treatment system percentages, the models may underestimate the Project's GHG emissions and should not be relied upon to determine Project significance.

Unsubstantiated Reduction to Solid Waste Generation Rate

Review of the CalEEMod output files demonstrates that the "Clawiter Industrial Project – Buildings 1 to 3 – 2023," "Clawiter Industrial Project – Buildings 4 – 2023," "Clawiter Industrial Project – Buildings 1 to 3 – 2030," and "Clawiter Industrial Project – Buildings 4 – 2030" models include a manual reduction to the default solid waste generation rate (see excerpts below) (Appendix A, pp. 4, 34, 64, 99, 130, 161, 277, 313).

"Clawiter Industrial Project – Buildings 1 to 3 – 2023" and "Clawiter Industrial Project – Buildings 1 to 3 – 2030"

Table Name	Column Name	Default Value	New Value
tblSolidWaste	SolidWasteGenerationRate	417.99	192.28

[25] CalEEMod User Guide, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 2, 9
[26] "Surprising Sustainability at The Hayward Water Pollution Control Facility." City of Hayward, February 2018, *available at:* https://www.hayward-ca.gov/your-environment/blog/surprising-sustainability-hayward-water-pollution-control-facility.

[27] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 45.

“Clawiter Industrial Project – Buildings 4 – 2023” and “Clawiter Industrial Project – Buildings 4 – 2030”

Table Name	Column Name	Default Value	New Value
tblSolidWaste	SolidWasteGenerationRate	339.18	78.01

As you can see in the excerpt above, the solid waste generation rate is decreased by approximately 54% and 77% in the “Clawiter Industrial Project – Buildings 1 to 3 – 2023” and “Clawiter Industrial Project – Buildings 1 to 3 – 2030” models, and in the “Clawiter Industrial Project – Buildings 4 – 2023” and “Clawiter Industrial Project – Buildings 4 – 2030” models, respectively. As previously mentioned, the CalEEMod User’s Guide requires any changes to model defaults be justified.[28] According to the corresponding User Entered Comments and Non-Default Data table, the justification provided for this change is: “77% diversion rate for Hayward” (Appendix A, pp. 3, 33, 63, 98, 129, 160, 276, 311). Furthermore, regarding the Project’s anticipated solid waste generation rate, the IS/MND states:

> “The City of Hayward has achieved an approximately 77 percent solid waste diversion rate (City of Hayward 2015); therefore, the default solid waste generation rate in CalEEMod was adjusted to account for increased solid waste diversion” (p. 71).

However, these justifications are insufficient. Simply because the ***City*** has achieved a 77% solid waste diversion rate, does not guarantee the same diversion rate will be achieved locally at the Project site. Without substantial justification or additional information regarding ***how*** the Project would achieve a 77% solid waste diversion rate, the proposed Project cannot claim that the ***Citywide*** solid waste diversion rate would result in the same diversion rate at the ***project-level***. These unsubstantiated reductions present an issue, as CalEEMod uses the solid waste generation rates to calculate the Project’s operation greenhouse gas (“GHG”) emissions associated with the disposal of solid waste into landfills.[29] Thus, by including unsubstantiated reductions to the Project’s solid waste generation rates, the models may underestimate the Project’s operational emissions and should not be relied upon to determine Project significance.

Incorrect Application of Construction-Related Mitigation Measures

Review of the CalEEMod output files demonstrates that the Clawiter Industrial Project – Buildings 1 to 3 – 2023,” “Clawiter Industrial Project – Buildings 4 – 2023,” “Clawiter Industrial Project – Buildings 1 to 3 – 2030,” and “Clawiter Industrial Project – Buildings 4 – 2030” models include the “Water Exposed Area” construction-related mitigation measure (see excerpt below) (Appendix A, pp. 9, 39, 70, 105, 136, 168, 283, 319).

3.1 Mitigation Measures Construction

Water Exposed Area

[28] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

[29] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 46.

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[30] According to the corresponding "User Entered Comments and Non-Default Data" tables, the justification provided for the inclusion of a construction-related mitigation measure is: "Hayward Municipal Code 10-8.32" (Appendix A, pp. 3, 33, 63, 98, 129, 160, 276, 311). Furthermore, the IS/MND states:

> "The project would be required to implement dust control measures during grading and clearing activities per HMC Section 10-8.32, which includes requirements to use watering or dust palliative to contain dust and to immediately remove any earth material spilling or accumulating on a public street" (p. 32).

However, these justifications are insufficient. Simply because the IS/MND states that the Project would comply with HMC Section 10-8.32, does not justify the inclusion of the above-mentioned construction-related mitigation measures in the model. According to the Association of Environmental Professionals ("AEP") *CEQA Portal Topic Paper* on mitigation measures:

> "By definition, ***mitigation measures are not part of the original project design***. Rather, mitigation measures are actions taken by the lead agency to reduce impacts to the environment resulting from the original project design. Mitigation measures are identified by the lead agency after the project has undergone environmental review and are ***above-and-beyond existing laws, regulations, and requirements*** that would reduce environmental impacts" (emphasis added).[31]

As you can see in the excerpt above, mitigation measures "are not part of the original project design" and are intended to go "above-and-beyond" existing regulatory requirements. As such, the inclusion of the measures, based on the Project's compliance with HMC Section 10-8.32, is unsubstantiated. By including construction-related mitigation measures without properly committing to their implementation, the model may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Incorrect Application of Operational Mitigation Measures

Review of the CalEEMod output files demonstrates that the Clawiter Industrial Project – Buildings 1 to 3 – 2023," "Clawiter Industrial Project – Buildings 4 – 2023," "Clawiter Industrial Project – Buildings 1 to 3 – 2030," and "Clawiter Industrial Project – Buildings 4 – 2030" models include several energy- and water-related operational mitigation measures (see excerpt below) (Appendix A, pp. 27, 30, 57, 60, 88, 92, 123, 126, 154, 157, 186, 190, 301, 305, 337, 341).

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[30] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

[31] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 5.

Energy-Related Mitigation Measures:

5.1 Mitigation Measures Energy

Exceed Title 24

Water-Related Mitigation Measures:

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet
Install Low Flow Kitchen Faucet
Install Low Flow Toilet
Install Low Flow Shower
Use Water Efficient Irrigation System

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[32] According to the "User Entered Comments & Non-Default Data" table for the model, the justifications provided for the inclusion of the energy- and water-related mitigation measures are: "Title 24 reduced by 30% for 2019 Standards" and "Applicant-specified sustainability features" (Appendix A, pp. 3, 33, 63, 98, 129, 160, 276, 311). Furthermore, regarding the Project's compliance with Title 24 energy standards, the IS/MND states:

> "Because project construction is projected to begin in the first quarter of 2021, the project would be constructed in accordance with the 2019 Building Energy Efficiency Standards. Nonresidential buildings built in accordance with the 2019 Building Energy Efficiency Standards will use approximately 30 percent less electricity than those constructed under the 2016 standards (CEC 2018b).8 Therefore, electricity usage for Buildings 1 through 3 was reduced by 30 percent to account for the requirements of 2019 Title 24 standards" (p. 71).

Furthermore, regarding low-flow appliances, the IS/MND states:

> "The proposed buildings would be designed to comply with CALGreen requirements, which includes solar ready roof designs, LED lighting, and low-flow appliances" (p. 12).

Finally, regarding water efficient irrigation systems, the IS/MND states:

> "[I]n compliance with State requirements, the City of Hayward requires projects with new landscaped area of 500 square feet or greater and renovated landscaped area of 2,500 square feet or greater to comply with the City's Bay-Friendly Water Efficient Landscape Ordinance (HMC Chapter 10, Article 12), which requires implementation of water conservation best practices for landscape irrigation" (p. 30).

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[32] CalEEMod User Guide, *available at*: http://caleemod.com/, p. 2, 9

However, these justifications, as well as the inclusion of the above-mentioned operational mitigation measures, are incorrect. Simply because the IS/MND states the Project will comply with the aforementioned mitigation measures does not justify their inclusion in the models. As previously referenced, according to the AEP *CEQA Portal Topic Paper* on mitigation measures:

> "By definition, *mitigation measures are not part of the original project design*. Rather, mitigation measures are actions taken by the lead agency to reduce impacts to the environment resulting from the original project design. Mitigation measures are identified by the lead agency after the project has undergone environmental review and are *above-and-beyond existing laws, regulations, and requirements* that would reduce environmental impacts" (emphasis added).[33]

As you can see in the excerpt above, mitigation measures are not included in the original project design and should go "*above-and-beyond existing requirements*." As such, the inclusion of these measures, based on product design features, is incorrect. Furthermore, AEP guidance states:

> "[A] good practice is *to include those project design feature(s) that address environmental impacts in the mitigation monitoring and reporting program (MMRP)*. Often the MMRP is all that accompanies building and construction plans through the permit process. If the design features are not listed as important to addressing an environmental impact, *it is easy for someone not involved in the original environmental process to approve a change to the project that could eliminate one or more of the design features without understanding the resulting environmental impact*" (emphasis added).[34]

As you can see in the excerpts above, project design features that address environmental impacts, but are not included as formal mitigation measures, may be eliminated from the Project's design. Thus, as the above-mentioned operational mitigation measures included in the IS/MND's CalEEMod models are not formally included as mitigation measures, we cannot guarantee that they would be implemented, monitored, and enforced on the Project site. As a result, the inclusion of the above-mentioned energy- and water-related operational mitigation measures in the model is incorrect, and the IS/MND's CalEEMod models should not be relied upon to determine Project significance.

Failure to Evaluate Emissions from Transformer Yard

According to the IS/MND, the Project proposes to construct a 34,000-SF 49 megavolt amps (MVA) transformer yard (p. 7). Specifically, regarding the construction of the transformer yard, the IS/MND states:

> "The transformer yard would require construction of two PG&E overhead 230kV transmission lines connecting to the PG&E Eastshore Substation" (p. 13).

[33] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 5.
[34] "CEQA Portal Topic Paper Mitigation Measures." AEP, February 2020, *available at:* https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 6.

Furthermore, the IS/MND states:

> "Construction of the on-site transformer yard and off-site transmission line improvements would start in 2022 and last approximately eight months" (p. 13).

Regarding the operation of the transformer yard, the IS/MND states:

> "The project would provide a transformer yard and two overhead transmission lines to connect to the nearby PG&E substation to handle the electricity requirements of the proposed data center in Building 4" (p. 57).

Furthermore, the IS/MND states:

> "[T]he potential future transformer yard may also involve the use, transport, and storage of transformer fuel" (p. 93).

However, the IS/MND fails to quantify and evaluate the criteria air pollutant emissions resulting from construction and operation of the transformer yard. As such, the Project's emissions are underestimated. Until an adequate analysis is conducted that quantifies these impacts, the emissions generated by the transformer yard and two overhead transmission lines remain unknown. As such, there is a gap in the IS/MND's analysis of the Project's impacts on regional air quality, and the Project should not be approved until an updated EIR is prepared to evaluate the emissions associated with the construction of the transformer yard and two overhead transmission lines.

Updated Analysis Indicates Significant Air Quality Impacts

In an effort to determine the proposed Project's construction and operational emissions, we prepared an updated CalEEMod model for the Project, using the Project-specific information provided by the IS/MND. In our updated model, we: included the correct land use types and sizes, as well as the correct amount of demolition, as described in the IS/MND; left the default energy intensity factors, architectural and area coating emission factors, construction phase lengths, off-road construction equipment unit amounts and usage hours, worker trip numbers, energy use values, wastewater treatment system percentages, and solid waste generation rate; and omitted the unsubstantiated construction-related and operational mitigation measures. Our updated analysis demonstrates that, modeled using correct input parameters, the ROG/VOC and NO_X emissions associated with Project construction exceed the 54 pounds per day ("lbs/day") threshold set by the BAAQMD (see table below).[35]

Model	ROG	NOX
IS/MND Mitigated Construction	53.502	50.7399
SWAPE Mitigated Construction	324.65	126.7858
% Increase	507%	150%
BAAQMD Regional Threshold (lbs/day)	**54**	**54**

[35] "California Environmental Quality Act Air Quality Guidelines." BAAQMD, adopted 2010, updated May 2017 , *available at:* https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, p. 2-2, Table 2-1.

Threshold Exceeded?	Yes	Yes

As you can see in the excerpt above, when modeled correctly, the Project's construction-related ROG/VOC and NO_X emissions increase by approximately 507% and 150%, respectively, and exceed the BAAQMD significance thresholds. Thus, our updated analysis demonstrates that the Project would result in a potentially significant air quality impact that was not previously identified or addressed in the IS/MND. As a result, an EIR should be prepared to adequately assess and mitigate the potential air quality impacts that the Project may have on the surrounding environment.

Diesel Particulate Matter Health Risk Emissions Inadequately Evaluated

The IS/MND estimates that the cumulative cancer risk posed to future, on-site receptors as a result of proximity to State Route 92 would not exceed the BAAQMD threshold of 100 in one million, based on a quantified health risk assessment ("HRA") (see excerpt below) (p. 43).

Table 14 Cumulative Impacts – MEIR

Source	Cancer Risk (in one million)	Chronic Hazard Index	Annual Average $PM_{2.5}$ Concentration ($\mu g/m^3$)
Proposed Project	4.4	8.9E-04	0.004
Stationary Source – ID 11596[1]	1.6	2.6E-03	0.071
Stationary Source – ID 3255[1]	0.0	0.0	0.040
Stationary Source – ID 21185[1]	0.0	2.1E-04	0.0
Stationary Source – ID 20398[1]	0.6	1.3E-03	0.001
Stationary Source – ID 111545[1]	0.2	1.0E-03	0.0
Stationary Source – ID 12249[1]	0.5	1.3E-03	0.0
State Route 92	48.4	0	0.593
Railroad	2.0	0	0.003
Cumulative Total	**57.7**	**7.0E-03**	**0.712**
BAAQMD Cumulative Threshold	100	10.0	0.8
Threshold Exceeded?	**No**	**No**	**No**

Furthermore, the IS/MND estimates that the cancer risk resulting from the Project's generators would be 4.4 in one million (see excerpt below) (p. 43).

Table 13 Health Risks from Generator Operation (50 Hours Per Year at 1,210 Feet)

Scenario	Excess Cancer Risk (per million)	Chronic Health Risk[1,2]	$PM_{2.5}$ Annual Average ($\mu g/m^3$)
MEIR	4.4	8.9E-04	0.004
BAAQMD Significance Threshold	>10	>1	>0.3
Threshold Exceeded?	**No**	**No**	**No**

As a result, the Project would be required to implement Best Available Control Technology ("BACT") (p. 41). Finally, regarding health risk impacts associated with Project construction, the IS/MND states:

> "While the maximum DPM emissions associated with demolition activities would only occur for a portion of the overall construction period, these activities represent the maximum exposure condition for the total construction period. The duration of demolition activities would represent less than one percent of the total exposure period for a 70-year health risk calculation. Furthermore, there are no sensitive receptors within 1,000 feet of the project site. Therefore, DPM generated by project construction would not create conditions where the probability is greater than 10 in one million of contracting cancer for the Maximally Exposed Individual or to generate ground-level concentrations of non-carcinogenic TACs that exceed a Hazard Index greater than one for the Maximally Exposed Individual. Thus, project construction activities would not expose sensitive receptors to substantial TAC concentrations, and impacts would be less than significant" (p. 40).

However, the IS/MND's evaluation of the Project's potential health risk impacts, as well as the subsequent less-than-significant impact conclusion, is incorrect for two reasons.

First, the IS/MND's cumulative cancer risk estimate of 57.7 in one million should not be considered in isolation. Additional impacts related to ***non-cancer health risks*** have been documented for those people living near congested roadways. Key findings from a 2005 California Air Resources Board ("CARB") report[36] on health risk impacts from nearby freeways include:

- Reduced lung function in children was associated with traffic density, especially trucks, within 1,000 feet and the association was strongest within 300 feet.
- Increased asthma hospitalizations were associated with living within 650 feet of heavy traffic and heavy truck volume. (Lin, 2000)
- Asthma symptoms increased with proximity to roadways and the risk was greatest within 300 feet. (Venn, 2001)
- A San Diego study found increased medical visits in children living within 550 feet of heavy traffic. (English, 1999)

People housed by the proposed Project will be located directly north of State Route 92. Therefore, many of the Project's residents will be subjected to additional non-cancer health risks as a result of close proximity to State Route 92. Regarding risks posed to people living nearby busy roadways, CARB concludes:

> "The combination of the children's health studies and the distance related findings suggests that it is important to avoid exposing children to elevated air pollution levels immediately downwind

[36] "Air Quality and Land Use Handbook: A Community Health Perspective." CARB, April 2005, *available at:* https://ww3.arb.ca.gov/ch/handbook.pdf.

of freeways and high traffic roadways. These studies suggest a substantial benefit to a 500-foot separation."[37]

As a result, CARB recommends that projects:

"[a]void siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day."[38]

Despite this recommendation, asthma and other non-cancer, freeway-related health risks were not assessed in IS/MND. No mention of additional health risks, including asthma, are made in the IS/MND. As such, an EIR should be prepared to include an assessment of all risks faced by residents at the Project not only cancer, especially to sensitive groups, such as newborns and the elderly. Because of the proximity to State Route 92, all feasible mitigation should be considered in the EIR to reduce health impacts to people living at the project. Feasible mitigation, implemented at other Southern California projects adjacent to freeways include:

- Disclose to residents the potential health impacts from living in proximity to the I-8 freeway;
- Installation, use, and maintenance of filtration systems with at least a Minimum Efficiency Reporting Value (MERV) 15;
- Lead Agency verification and certification of the implementation the filtration systems;
- Lead Agency verification of maintenance to include manufacturer's recommended filter replacement schedule;
- Disclosure to residents that opening windows will reduce the health-protectiveness of the filter systems.

Second, the IS/MND's claim that "DPM emissions associated with demolition activities," which "represent the maximum exposure condition for the total construction period… would represent less than one percent of the total exposure period for a 70-year health risk calculation" fails to justify the omission of a quantified construction HRA. Without making a reasonable effort to connect the Project's air quality emissions and the potential health risks posed to nearby receptors, we cannot verify that the Project's construction-related health risk impacts would be less than significant. By failing to prepare a construction HRA, the Project is inconsistent with the most recent guidance published by the Office of Environmental Health Hazard Assessment ("OEHHA"), the organization responsible for providing guidance on conducting HRAs in California. OEHHA released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* in February 2015.[39] This guidance document describes the types of projects that warrant the preparation of an HRA. Construction of the Project will produce emissions of diesel particulate matter ("DPM"), a human carcinogen, through the exhaust stacks of construction equipment over a construction period of approximately 15 months (p.

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[37] "Air Quality and Land Use Handbook: A Community Health Perspective." CARB, April 2005, *available at:* https://ww3.arb.ca.gov/ch/handbook.pdf, p. 10.
[38] "Air Quality and Land Use Handbook: A Community Health Perspective." CARB, April 2005, *available at:* https://ww3.arb.ca.gov/ch/handbook.pdf, p. 15.
[39] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/hotspots2015.html

13). The OEHHA document recommends that all short-term projects lasting at least two months be evaluated for cancer risks to nearby sensitive receptors.[40] As the Project's proposed 15-month construction duration vastly exceeds the 2-month requirement set forth by OEHHA, it is clear that the Project meets the threshold requiring a quantified HRA under OEHHA guidance. Thus, we recommend that health risk impacts from Project construction be evaluated in an EIR, per OEHHA guidelines, in order to determine the nature and extent of the Project's health risk impacts.

Third, while the IS/MND quantifies the cancer risks resulting from the Project's proximity to State Route 92 and the Project's generators, the IS/MND fails to prepare an HRA evaluating the cancer risk posed to nearby, existing receptors ***as a result of Project operation***. This is incorrect, because the Transportation Analysis indicates that the Project would generate 2,073 daily vehicle trips throughout operation, which will result in additional exhaust, thus continuing to expose nearby sensitive receptors to emissions (Appendix H, p. 13). By failing to prepare an HRA for Project operation, the IS/MND is inconsistent with recommendations set forth by OEHHA's most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*. The OEHHA document recommends that exposure from projects lasting more than six months should be evaluated for the duration of the project, and recommends that an exposure duration of thirty years be used to estimate individual cancer risk for the maximally exposed individual receptor ("MEIR").[41] Even though we were not provided with the expected lifetime of the Project, we can reasonably assume that the Project will operate for at least thirty years, if not more. Therefore, we recommend that health risk impacts from Project operation also be evaluated, as a 30-year exposure duration vastly exceeds the 6-month requirement set forth by OEHHA. These recommendations reflect the most recent health risk policy, and as such, we recommend that an updated assessment of health risk impacts posed to nearby sensitive receptors from Project operation be included in an EIR for the Project.

Screening-Level Analysis Demonstrates Significant Impacts

In an effort to demonstrate the potential health risk impacts posed by Project construction and operation to nearby, existing sensitive receptors utilizing site-specific emissions estimates, we prepared a screening-level HRA. The results of our assessment, as described below, demonstrate that the proposed Project may result in a significant impact not previously identified or addressed by the IS/MND.

In order to conduct our screening-level risk assessment we relied upon AERSCREEN, which is a screening level air quality dispersion model.[42] The model replaced SCREEN3, and AERSCREEN is included in the

[40] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf, p. 8-18

[41] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf p. 8-6, 8-15.

[42] U.S. EPA (April 2011) AERSCREEN Released as the EPA Recommended Screening Model, http://www.epa.gov/ttn/scram/guidance/clarification/20110411_AERSCREEN_Release_Memo.pdf

OEHHA[43] and the California Air Pollution Control Officers Associated ("CAPCOA")[44] guidance as the appropriate air dispersion model for Level 2 health risk screening assessments ("HRSAs"). A Level 2 HRSA utilizes a limited amount of site-specific information to generate maximum reasonable downwind concentrations of air contaminants to which nearby sensitive receptors may be exposed. If an unacceptable air quality hazard is determined to be possible using AERSCREEN, a more refined modeling approach is required prior to approval of the Project.

We prepared a preliminary HRA of the Project's construction and operational health-related impact to residential sensitive receptors using the annual PM_{10} exhaust estimates from the IS/MND's CalEEMod output files. Consistent with recommendations set forth by OEHHA, we assumed residential exposure begins during the third trimester stage of life. The IS/MND's CalEEMod model indicates that construction activities will generate approximately 232 pounds of DPM over the 454-day construction period. The AERSCREEN model relies on a continuous average emission rate to simulate maximum downward concentrations from point, area, and volume emission sources. To account for the variability in equipment usage and truck trips over Project construction, we calculated an average DPM emission rate by the following equation:

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{232.36\ lbs}{454\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.002687\ g/s}$$

Using this equation, we estimated a construction emission rate of 0.002687 grams per second ("g/s"). Subtracting the 454-day construction period from the total residential duration of 30 years, we assumed that after Project construction, the sensitive receptor would be exposed to the Project's operational DPM for an additional 28.76 years, approximately. The Project's operational CalEEMod emissions, calculated by summing the annual exhaust PM_{10} values estimated by the IS/MND's "Clawiter Industrial Project - Buildings 1 to 3 – 2023" and "Clawiter Industrial Project – Buildings 4 – 2023" models, indicate that operational activities will generate approximately 92 pounds of DPM per year throughout operation. Applying the same equation used to estimate the construction DPM rate, we estimated the following emission rate for Project operation:

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{91.8\ lbs}{365\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.00132\ g/s}$$

Using this equation, we estimated an operational emission rate of 0.00132 g/s. Construction and operational activity was simulated as a 26-acre rectangular area source in AERSCREEN with dimensions of 499 by 211 meters. A release height of three meters was selected to represent the height of exhaust stacks on operational equipment and other heavy-duty vehicles, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release. An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution.

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[43] OEHHA (February 2015) Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments, https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
[44] CAPCOA (July 2009) Health Risk Assessments for Proposed Land Use Projects, http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf.

The AERSCREEN model generates maximum reasonable estimates of single-hour DPM concentrations from the Project site. EPA guidance suggests that in screening procedures, the annualized average concentration of an air pollutant be estimated by multiplying the single-hour concentration by 10%.[45] According to the IS/MND, "[t]he nearest sensitive receptors to the project site are residences located approximately 0.2 mile to the east" (p. 25). Thus, the closest exposed individual at an existing residential receptor is located approximately 325 meters from the Project site. The single-hour concentration estimated by AERSCREEN for Project construction is approximately 0.7656 $\mu g/m^3$ DPM at approximately 325 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration of 0.7656 $\mu g/m^3$ for Project construction at the nearest sensitive receptor. For Project operation, the single-hour concentration estimated by AERSCREEN is 0.3762 $\mu g/m^3$ DPM at approximately 325 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration of 0.03762 $\mu g/m^3$ for Project operation at the nearest sensitive receptor.

We calculated the excess cancer risk to the nearest sensitive receptor using applicable HRA methodologies prescribed by OEHHA, as referenced by the IS/MND (p. 41-42). Consistent with the construction schedule in the "Clawiter Industrial Project - Buildings 1 to 3 – 2023" and "Clawiter Industrial Project – Buildings 4 – 2023" models, the annualized average concentration for construction was used for the entire third trimester of pregnancy (0.25 years) and the first 0.99 years of the infantile stage of life (0 – 2 years). The annualized averaged concentration for operation was used for the remainder of the 30-year exposure period, which makes up the remainder of the infantile stage of life, and the entire child and adult stages of life (2 – 16 years) and (16 – 30 years), respectively.

Consistent with OEHHA, as recommended by SCAQMD, BAAQMD, and SJVAPCD guidance, we used Age Sensitivity Factors ("ASFs") to account for the heightened susceptibility of young children to the carcinogenic toxicity of air pollution.[46, 47, 48, 49] According to this guidance, the quantified cancer risk should be multiplied by a factor of ten during the third trimester of pregnancy and during the first two

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[45] "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources Revised." EPA, 1992, *available at*: http://www.epa.gov/ttn/scram/guidance/guide/EPA-454R-92-019_OCR.pdf; *see also* "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf p. 4-36.

[46] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

[47] "Draft Environmental Impact Report (DEIR) for the Proposed The Exchange (SCH No. 2018071058)." SCAQMD, March 2019, *available at:* http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/march/RVC190115-03.pdf?sfvrsn=8, p. 4.

[48] "California Environmental Quality Act Air Quality Guidelines." BAAQMD, May 2017, *available at:* http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, p. 56; see also "Recommended Methods for Screening and Modeling Local Risks and Hazards." BAAQMD, May 2011, *available at:* http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20Modeling%20Approach.ashx, p. 65, 86.

[49] "Update to District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document." SJVAPCD, May 2015, *available at:* https://www.valleyair.org/busind/pto/staff-report-5-28-15.pdf, p. 8, 20, 24.

years of life (infant) as well as multiplied by a factor of three during the child stage of life (2 – 16 years). Furthermore, in accordance with the guidance set forth by OEHHA, we used the 95th percentile breathing rates for infants.[50] Furthermore, according to the IS/MND:

> "Cancer risk was evaluated for the MEIR using the OEHHA intake rate derived method, the U.S. EPA-recommended lifetime residency period of 70 years and the *fraction of time-at-home OEHHA assumptions for only age bins greater than 16 years of age* because a school (Impact Academy of Arts and Technology) is located within the one-in-a-million cancer risk isopleth" (emphasis added) (p. 41).

As such, we only used a Fraction of Time At Home ("FAH") value of 0.73 for the adult receptors.[51] Finally, we used a cancer potency factor of 1.1 $(mg/kg\text{-}day)^{-1}$ and an averaging time of 25,550 days. The results of our calculations are shown below.

The Closest Exposed Individual at an Existing Residential Receptor

Activity	Duration (years)	Concentration (ug/m3)	Breathing Rate (L/kg-day)	Cancer Risk without ASFs*	ASF	Cancer Risk with ASFs*
Construction	0.25	0.07656	361	1.0E-07	10	1.0E-06
3rd Trimester Duration	***0.25***			***1.0E-07***	***3rd Trimester Exposure***	***1.0E-06***
Construction	0.99	0.07656	1090	1.2E-06	10	1.2E-05
Operation	1.01	0.03762	1090	6.2E-07	10	6.2E-06
Infant Exposure Duration	***2.00***			***1.9E-06***	***Infant Exposure***	***1.9E-05***
Operation	14.00	0.03762	572	4.5E-06	3	1.4E-05
Child Exposure Duration	***14.00***			***4.5E-06***	***Child Exposure***	***1.4E-05***
Operation	14.00	0.03762	261	1.5E-06	1	1.5E-06
Adult Exposure Duration	***14.00***			***1.5E-06***	***Adult Exposure***	***1.5E-06***
Lifetime Exposure Duration	**30.00**			**8.0E-06**	**Lifetime Exposure**	**3.5E-05**

* We, along with CARB and SCAQMD, recommend using the more updated and health protective 2015 OEHHA guidance, which includes ASFs.

As demonstrated in the table above, the excess cancer risk to adults, children, infants, and during the 3rd trimester of pregnancy at the nearest sensitive receptor located roughly 325 meters away, over the

[50] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act," June 5, 2015, *available at:* http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab2588-risk-assessment-guidelines.pdf?sfvrsn=6, p. 19.
[51] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

course of Project construction and operation, utilizing age sensitivity factors, are approximately 1.5, 140, 190, and 1.0 in one million, respectively. The excess cancer risk over the course of a residential lifetime (30 years), utilizing age sensitivity factors, is approximately 350 in one million. The infant, child, and lifetime cancer risks all exceed the BAAQMD threshold of 10 in one million, thus resulting in a potentially significant impact not previously addressed or identified by the IS/MND. Utilizing age sensitivity factors is the most conservative, health-protective analysis according to the most recent guidance by OEHHA and reflects recommendations from the air district. Results without age sensitivity factors are presented in the table above, although we **do not** recommend utilizing these values for health risk analysis.

An agency must include an analysis of health risks that connects the Project's air emissions with the health risk posed by those emissions. Our analysis represents a screening-level HRA, which is known to be conservative and tends to err on the side of health protection. [52] The purpose of the screening-level construction and operational HRA shown above is to demonstrate the link between the proposed Project's emissions and the potential health risk. Our screening-level HRA demonstrates that construction and operation of the Project could result in a potentially significant health risk impact, when correct exposure assumptions and up-to-date, applicable guidance are used. Therefore, since our screening-level HRA indicates a potentially significant impact, the City should prepare an EIR with an HRA which makes a reasonable effort to connect the Project's air quality emissions and the potential health risks posed to nearby receptors. Thus, the City should prepare an updated, quantified air pollution model as well as an updated, quantified refined HRA which adequately and accurately evaluates health risk impacts associated with both Project construction and operation.

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The IS/MND estimates that the Project would generate net annual greenhouse gas ("GHG") emissions of 16,722 metric tons of CO_2 equivalents per year ("MT CO_2e/year"), which would exceed the BAAQMD threshold of 660 MT CO_2e/year (see excerpt below) (p. 74, Table 21).

[52] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf, p. 1-5.

Table 21 Combined Annual Emissions of GHGs

Emission Source	Annual Emissions (MT of CO_2e/year)
Operational	
Area	< 1
Energy[1]	15,615
Solid Waste	136
Water	155
Mobile	
CO_2 and CH_4	1,365
N_2O	25
Total Proposed Project Emissions	17,296
Existing Emissions	524
Net New Emissions (Proposed Project – Existing)	**16,772**
BAAQMD Land Use Threshold (Adjusted for SB 32)	660
Exceeds Threshold?	**Yes**

As a result, the IS/MND implements Mitigation Measure ("MM") GHG-1, which allows the Project to "choose to apply a wide variety of GHG emission reduction measures to reduce project-related emissions to 660 MT of CO_2e per year" (p. 76). Thus, based on MM GHG-1, the IS/MND concludes that the Project's GHG emissions would be less than significant (p. 77). Furthermore, the IS/MND relies upon the Project's consistency CARB's 2017 *Scoping Plan*, City of Hayward's *Climate Action Plan* ("CAP"), and the *Plan Bay Area 2040* in order to conclude that the Project would have a less-than-significant GHG impact (p. 77-79). However, the IS/MND's GHG analysis, as well as the subsequent less-than-significant impact conclusion, is incorrect for five reasons.

(1) The IS/MND's quantitative GHG analysis relies upon an incorrect and unsubstantiated air model;
(2) The IS/MND's reliance upon Mitigation Measure GHG-1 is incorrect;
(3) The City of Hayward *Climate Action Plan* is outdated and inapplicable to the proposed Project;
(4) CARB's 2017 *Scoping Plan* and the *Plan Bay Area 2040* should not be relied upon to determine Project significance; and
(5) The IS/MND fails to consider the performance-based standards underlying CARB's 2017 *Scoping Plan.*

(1) Incorrect and Unsubstantiated Quantitative GHG Analysis

As previously stated, the IS/MND estimates that the Project would generate net annual GHG emissions of 16,722 MT CO_2e/year (p. 73). However, the IS/MND's quantitative GHG analysis should not be relied upon, as it relies upon an unsubstantiated air model. As previously discussed, when we reviewed the Project's CalEEMod output files, provided in the Air Quality and Greenhouse Gas Modeling Worksheets as Appendix A to the IS/MND, we found that several of the values inputted into the model are not consistent with information disclosed in the IS/MND and associated documents. As a result, the model underestimates the Project's GHG emissions, and the IS/MND's quantitative GHG analysis should not be relied upon to determine Project significance. An EIR should be prepared that adequately assesses the potential GHG impacts that construction and operation of the proposed Project may have on the surrounding environment.

(2) Incorrect Reliance on Mitigation Measure GHG-1

As previously described, the IS/MND estimates that the Project would generate net annual GHG emissions of 16,722 MT CO_2e/year, which would exceed the BAAQMD threshold of 660 MT CO_2e/year (see excerpt below) (p. 73). As a result, the IS/MND implements Mitigation Measure ("MM") GHG-1, which allows the Project to "choose to apply a wide variety of GHG emission reduction measures to reduce project-related emissions to 660 MT of CO_2e per year" (p. 76). However, MM GHG-1 should not be relied upon, as it simply requires the Project to reduce emissions to a less-than-significant level, without describing *which measures would be required to reduce emissions to less-than-significant levels* or *how these measures would be implemented, monitored, and enforced* on the Project site. Specifically, MM GHG-1 states:

> "The project applicant shall prepare and implement a GHG Reduction Plan (GHGRP) that demonstrates emissions reductions from project operation by approximately 16,112 MT of CO2e per year to 660 MT of CO2e per year for the lifetime of the project, or by an amount determined through further analysis of project GHG emissions at the time of GHGRP preparation. Potential GHG reduction measures included in the GHGRP may include, but would not be limited to, the following:
>
> - Procure greater than 60 percent of the electricity consumed by Buildings 1 through 4 from eligible renewable and zero-carbon energy sources by 2030;Implement a transportation demand management program for employees, which may include the following measures:
>   - Priority parking for carpools and vanpools
>   - Subsidized transit passes for employees
>   - Retention of a transportation demand management coordinator or creation of a website to provide transit information and/or coordinate ridesharing
>   - Inclusion of shower and changing facilities in building design
>   - Bicycle sharing
>   - Emergency ride home program
>   - Telecommuting or flexible schedule options to reduce transit time, vehicle miles traveled (VMT), and associated GHG emissions
> - Directly undertake or fund activities that reduce or sequester GHG emissions ("Direct Reduction Activities") and retire the associated "GHG Mitigation Reduction Credits." A "GHG Mitigation Reduction Credit" shall mean an instrument issued by an Approved Registry and shall represent the estimated reduction or sequestration of 1 MT of CO2e that shall be achieved by a Direct Reduction Activity that is not otherwise required (CEQA Guidelines Section 15126.4[c][3]). A "GHG Mitigation Reduction Credit" must achieve GHG emission reductions that are real, permanent, quantifiable, verifiable,

enforceable, and in addition to any GHG emission reduction required by law or regulation or any other GHG emission reduction that otherwise would occur in accordance with the criteria set forth in the California Air Resources Board's most recent Process for the Review and Approval of Compliance Offset Protocols in Support of the Cap-and- Trade Regulation (2013). An "Approved Registry" is an accredited carbon registry that follows approved California Air Resources Board Compliance Offset Protocols. At this time, Registries include American Carbon Registry, Climate Action Reserve, and Verra (California Air Resources Board 2018). Credits from other sources will not be allowed unless they are shown to be validated by protocols and methods equivalent to or more stringent than the California Air Resources Board standards. In the event that a project or program providing GHG Mitigation Reduction Credits to the project applicant loses its accreditation, the project applicant shall comply with the rules and procedures of retiring GHG Mitigation Reduction Credits specific to the registry involved and shall undertake additional direct investments to recoup the loss.

- Obtain and retire "Carbon Offsets." "Carbon Offset" shall mean an instrument issued by an Approved Registry and shall represent the past reduction or sequestration of 1 MT of CO2e achieved by a Direct Reduction Activity or any other GHG emission reduction project or activity that is not otherwise required (CEQA Guidelines Section 15126.4[c][3]). A "Carbon Offset" must achieve GHG emission reductions that are real, permanent, quantifiable, verifiable, enforceable, and in addition to any GHG emission reduction required by law or regulation or any other GHG emission reduction that otherwise would occur in accordance with the criteria set forth in the California Air Resources Board's most recent Process for the Review and Approval of Compliance Offset Protocols in Support of the Cap-and-Trade Regulation (2013). If the project applicant chooses to meet some of the GHG reduction requirements by purchasing offsets on an annual and permanent basis, the offsets shall be purchased according to the City's preference, which is, in order of the City's preference: (1) within Hayward; (2) within the BAAQMD jurisdictional area; (3) within the State of California; then (4) elsewhere in the United States. In the event that a project or program providing offsets to the project applicant loses its accreditation, the project applicant shall comply with the rules and procedures of retiring offsets specific to the registry involved and shall purchase an equivalent number of credits to recoup the loss.

The GHGRP shall be submitted by the project developer and reviewed and approved by the City of Hayward as being in compliance with this measure prior to grading or building permit issuance. Applicable elements of the approved GHGRP shall be reflected on project site plans prior to certificate of occupancy. No more than 50 percent of the project's total requisite emission reduction over the project's lifetime may be achieved through direct reduction activities and carbon offsets. Condition compliance shall include monitoring and verifying implementation of measures included in the GHGRP" (p. 75-76).

As you can see in the excerpt above, MM GHG-1 simply provides examples of mitigation measures that could be implemented in order to reduce the Project's GHG emissions to less-than-significant levels. However, MM GHG-1 fails to provide the specific mitigation plan that would be utilized to reduce the Project's emissions to less-than-significant levels. Until the IS/MND provides sufficient evidence that the Project has prepared and implemented a GHGRP, the IS/MND fails to demonstrate that MM GHG-1 would actually be implemented.

Furthermore, according to the Association of Environmental Professionals' ("AEP") *CEQA Portal Topic Paper* on "Mitigation Measures," Project's should "[e]nsure that mitigation measures are site appropriate, accurate, and *sufficiently detailed to be effective at the time they are applied to the project*" and should *not* "defer mitigation measures until a later time, except as provided in the CEQA Guidelines" (emphasis added).[53] However, as demonstrated above, by failing to require specific mitigation measures, MM GHG-1 fails to provide sufficient evidence that the Project would be able to reduce GHG emissions to less-than-significant levels. Furthermore, MM GHG-1 defers the preparation and implementation of a GHGRP to a later time. Thus, MM GHG-1 fails to ensure that the Project's GHG emissions would be less than significant. As a result, the IS/MND's less-than-significant impact conclusion regarding MM GHG-1 should not be relied upon.

(3) Incorrect Reliance on the City of Hayward Climate Action Plan

As previously mentioned, the IS/MND relies upon the Project's consistency the City of Hayward's CAP in order to conclude that the Project would have a less-than-significant GHG impact (p. 77-78). Specifically, the IS states:

> "[T]he proposed project would support and implement the applicable measures of the City's CAP, and impacts would be less than significant" (p. 78).

However, according to the City of Hayward CAP, which was adopted in July 2009 and incorporated into the City's General Plan in 2014:

> "It is recommended that Hayward update its CAP *at least once every 10 years* to ensure that the City is taking advantage of the most up-to-date technologies and the most effective methods for reducing community-wide emissions" (emphasis added).[54]

As the City's CAP has not been updated since it was adopted in July 2009. As such, the City's CAP is not qualified beyond 2020. Given that it is already December 2020 and the Project has yet to be approved, we know that the Project will not become operational by 2020. Furthermore, AEP's *Beyond Newhall and 2020: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California* states:

[53] "CEQA Portal Topic Paper Mitigation Measures." Association of Environmental Professionals, February 2020, *available at*: https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf, p. 4.
[54] "Hayward Climate Action Plan." City of Hayward, October 2009, *available at*: https://www.hayward-ca.gov/sites/default/files/Hayward_CAP_FINAL_11-6-09%20-%20full%20document.pdf, p. xx.

"*Projects with a horizon year (e.g. the year in which the project is fully realized) beyond 2020 should not tier from a GHG reduction plan that may be qualified up to 2020 but is not yet qualified for a post-2020 period*" (emphasis added).[55]

As you can see in the excerpt above, projects that will become operational beyond 2020 should not tier from CAPs only qualified up to 2020. As such, the City's CAP, which is only qualified up to 2020, should not be relied upon to determine Project significance. As a result, the IS/MND's less-than-significant impact conclusion regarding the City's CAP should not be relied upon.

(4) Incorrect Reliance on CARB's 2017 Scoping Plan and Plan Bay Area 2040

As previously discussed, the IS relies upon the Project's consistency with CARB's 2017 *Scoping Plan* and the *Plan Bay Area 2040* in order to conclude that the Project would have a less-than-significant GHG impact (p. 77-79). However, these plans and policies do not qualify as adequate GHG reduction plans or CAPs under CEQA. CEQA Guidelines § 15064.4(b)(3) and § 15183(b) allow a lead agency to consider a project's consistency with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. When read in conjunction, CEQA Guidelines § 15064.4(b)(3) and § 15183.5(b)(1) make clear that qualified GHG reduction plans or CAPs should include the following features:

(1) **Inventory**: Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities (e.g., projects) within a defined geographic area (e.g., lead agency jurisdiction);
(2) **Establish GHG Reduction Goal**: Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;
(3) **Analyze Project Types**: Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;
(4) **Craft Performance Based Mitigation Measures**: Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
(5) **Monitoring**: Establish a mechanism to monitor the CAP progress toward achieving said level and to require amendment if the plan is not achieving specified levels.

Collectively, the above-listed features tie qualitative measures to quantitative results, which in turn become binding via proper monitoring and enforcement by the jurisdiction—all resulting in real GHG reductions for the jurisdiction as a whole, and substantial evidence demonstrating that a project's incremental contribution is not cumulatively considerable. Here, however, the IS/MND fails to demonstrate that these plans and policies include the above-listed requirements to be considered qualified GHG Reduction Plans or CAPs for the City. As such, the IS/MND leaves an analytical gap

[55] "Beyond Newhall and 2020: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California." Association of Environmental Professionals (AEP), October 2016, *available at:* https://califaep.org/docs/AEP-2016_Final_White_Paper.pdf, p. 38.

showing that compliance with said plans and policies can be used for a project-level significance determination. Thus, the IS/MND's GHG significance determination regarding CARB's 2017 *Scoping Plan* and the *Plan Bay Area 2040* should not be relied upon.

Feasible Mitigation Measures Available to Reduce Emissions

Our analysis demonstrates that the Project's air quality, health risk, and GHG emissions may result in significant impacts and should be mitigated further. In an effort to reduce the Project's emissions, we identified several mitigation measures that are applicable to the proposed Project. Feasible mitigation measures can be found in CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*.[56] Therefore, to reduce the Project's emissions, consideration of the following measures should be made:

CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures*[57]
Measures – Energy
Building Energy Use
Exceed Title-24 Building Envelope Energy Efficiency Standards (California Building Standards Code)
Install Programmable Thermostat Timers
Obtain Third-party HVAC Commissioning and Verification of Energy Savings
Install Energy Efficient Appliances
Install Energy Efficient Boilers
Lighting
Install Higher Efficacy Public Street and Area Lighting
Limit Outdoor Lighting Requirements
Replace Traffic Lights with LED Traffic Lights
Alternative Energy Generation
Establish Onsite Renewable or Carbon-Neutral Energy Systems
Establish Onsite Renewable Energy System – Solar Power
Establish Onsite Renewable Energy System – Wind Power
Utilize a Combined Heat and Power System
Establish Methane Recovery in Landfills
Establish Methane Recovery in Wastewater Treatment Plants
Measures – Transportation
Land Use/Location
Increase Density

[56] http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

[57] "Quantifying Greenhouse Gas Mitigation Measures." California Air Pollution Control Officers Association (CAPCOA), August 2010, *available at:* http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf, p.

Increase Location Efficiency
Increase Diversity of Urban and Suburban Developments (Mixed Use)
Increase Destination Accessibility
Increase Transit Accessibility
Integrate Affordable and Below Market Rate Housing
Orient Project Toward Non-Auto Corridor
Locate Project near Bike Path/Bike Lane
Neighborhood/Site Enhancements
Provide Pedestrian Network Improvements, such as: • Compact, mixed-use communities • Interconnected street network • Narrower roadways and shorter block lengths • Sidewalks • Accessibility to transit and transit shelters • Traffic calming measures and street trees • Parks and public spaces • Minimize pedestrian barriers
Provide Traffic Calming Measures, such as: • Marked crosswalks • Count-down signal timers • Curb extensions • Speed tables • Raised crosswalks • Raised intersections • Median islands • Tight corner radii • Roundabouts or mini-circles • On-street parking • Planter strips with trees • Chicanes/chokers
Implement a Neighborhood Electric Vehicle (NEV) Network.
Create Urban Non-Motorized Zones
Incorporate Bike Lane Street Design (on-site)
Provide Bike Parking in Non-Residential Projects
Provide Bike Parking with Multi-Unit Residential Projects
Provide Electric Vehicle Parking
Dedicate Land for Bike Trails
Parking Policy/Pricing
Limit Parking Supply through: • Elimination (or reduction) of minimum parking requirements

• Creation of maximum parking requirements • Provision of shared parking
Unbundle Parking Costs from Property Cost
Implement Market Price Public Parking (On-Street)
Require Residential Area Parking Permits
Commute Trip Reduction Programs
Implement Commute Trip Reduction (CTR) Program – Voluntary • Carpooling encouragement • Ride-matching assistance • Preferential carpool parking • Flexible work schedules for carpools • Half time transportation coordinator • Vanpool assistance • Bicycle end-trip facilities (parking, showers and lockers) • New employee orientation of trip reduction and alternative mode options • Event promotions and publications • Flexible work schedule for employees • Transit subsidies • Parking cash-out or priced parking • Shuttles • Emergency ride home
Implement Commute Trip Reduction (CTR) Program – Required Implementation/Monitoring • Established performance standards (e.g. trip reduction requirements) • Required implementation • Regular monitoring and reporting
Provide Ride-Sharing Programs • Designate a certain percentage of parking spaces for ride sharing vehicles • Designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles • Providing a web site or messaging board for coordinating rides • Permanent transportation management association membership and funding requirement.
Implement Subsidized or Discounted Transit Program
Provide Ent of Trip Facilities, including: • Showers • Secure bicycle lockers • Changing spaces
Encourage Telecommuting and Alternative Work Schedules, such as: • Staggered starting times • Flexible schedules • Compressed work weeks
Implement Commute Trip Reduction Marketing, such as: • New employee orientation of trip reduction and alternative mode options • Event promotions

• Publications
Implement Preferential Parking Permit Program
Implement Car-Sharing Program
Implement School Pool Program
Provide Employer-Sponsored Vanpool/Shuttle
Implement Bike-Sharing Programs
Implement School Bus Program
Price Workplace Parking, such as: • Explicitly charging for parking for its employees; • Implementing above market rate pricing; • Validating parking only for invited guests; • Not providing employee parking and transportation allowances; and • Educating employees about available alternatives.
Implement Employee Parking "Cash-Out"
Transit System Improvements
Transit System Improvements, including: • Grade-separated right-of-way, including bus only lanes (for buses, emergency vehicles, and sometimes taxis), and other Transit Priority measures. Some systems use guideways which automatically steer the bus on portions of the route. • Frequent, high-capacity service • High-quality vehicles that are easy to board, quiet, clean, and comfortable to ride. • Pre-paid fare collection to minimize boarding delays. • Integrated fare systems, allowing free or discounted transfers between routes and modes. • Convenient user information and marketing programs. • High quality bus stations with Transit Oriented Development in nearby areas. • Modal integration, with BRT service coordinated with walking and cycling facilities, taxi services, intercity bus, rail transit, and other transportation services.
Implement Transit Access Improvements, such as: • Sidewalk/crosswalk safety enhancements • Bus shelter improvements
Expand Transit Network
Increase Transit Service Frequency/Speed
Provide Bike Parking Near Transit
Provide Local Shuttles
Road Pricing/Management
Implement Area or Cordon Pricing
Improve Traffic Flow, such as: • Signalization improvements to reduce delay; • Incident management to increase response time to breakdowns and collisions;

• Intelligent Transportation Systems (ITS) to provide real-time information regarding road conditions and directions; and • Speed management to reduce high free-flow speeds.
Required Project Contributions to Transportation Infrastructure Improvement Projects
Install Park-and-Ride Lots
Vehicles
Electrify Loading Docs and/or Require Idling-Reduction Systems
Utilize Alternative Fueled Vehicles, such as: • Biodiesel (B20) • Liquefied Natural Gas (LNG) • Compressed Natural Gas (CNG)
Utilize Electric or Hybrid Vehicles
Measures – Water
Water Supply
Use Reclaimed Water
Use Gray Water
Use Locally Sourced Water Supply
Water Use
Install Low-Flow Water Fixtures
Adopt a Water Conservation strategy
Design Water-Efficient Landscapes (see California Department of Water Resources Model Water Efficient Landscape Ordinance), such as: • Reducing lawn sizes; • Planting vegetation with minimal water needs, such as native species; • Choosing vegetation appropriate for the climate of the project site; • Choosing complimentary plants with similar water needs or which can provide each other with shade and/or water.
Use Water-Efficient Landscape Irrigation Systems ("Smart" irrigation control systems)
Reduce Turf in Landscapes and Lawns
Plant Native or Drought-Resistant Trees and Vegetation
Measures – Area Landscaping
Landscaping Equipment
Prohibit Gas Powered Landscape Equipment
Implement Lawnmower Exchange Program
Electric Yard Equipment Compatibility
Measures – Solid Waste
Solid Waste
Institute Recycling and Composting Services

Recycle Demolished Construction Material
Measures – Vegetation
Vegetation
Urban Tree Planting
Create New Vegetated Open Space
Measures – Construction
Construction
Use Alternative Fuels for Construction Equipment
Urban Tree Planting
Use Electric and Hybrid Construction Equipment
Limit Construction Equipment Idling Beyond Regulation Requirements
Institute a Heavy-Duty Off-Road Vehicle Plan, including: • Construction vehicle inventory tracking system; • Requiring hour meters on equipment; • Document the serial number, horsepower, manufacture age, fuel, etc. of all onsite equipment; and • Daily logging of the operating hours of the equipment.
Implement a Construction Vehicle Inventory Tracking System
Measures – Miscellaneous
Miscellaneous
Establish a Carbon Sequestration Project, such as: • Geologic sequestration or carbon capture and storage techniques, in which CO_2 from point sources is captured and injected underground; • Terrestrial sequestration in which ecosystems are established or preserved to serve as CO_2 sinks; • Novel techniques involving advanced chemical or biological pathways; or • Technologies yet to be discovered.
Establish Off-Site Mitigation
Use Local and Sustainable Building Materials
Require best Management Practices in Agriculture and Animal Operations
Require Environmentally Responsible Purchasing, such as: • Purchasing products with sustainable packaging; • Purchasing post-consumer recycled copier paper, paper towels, and stationary; • Purchasing and stocking communal kitchens with reusable dishes and utensils; • Choosing sustainable cleaning supplies; • Leasing equipment from manufacturers who will recycle the components at their end of life; • Choosing ENERGY STAR appliances and Water Sense-certified water fixtures; • Choosing electronic appliances with built in sleep-mode timers; • Purchasing 'green power' (e.g. electricity generated from renewable or hydropower) from the utility; and • Choosing locally-made and distributed products.

Implement an Innovative Strategy for GHG Mitigation
Measures – General Plans
General Plans
Fund Incentives for Energy Efficiency, such as: • Retrofitting or designing new buildings, parking lots, streets, and public areas with energy-efficient lighting; • Retrofitting or designing new buildings with low-flow water fixtures and high-efficiency appliances; • Retrofitting or purchasing new low-emissions equipment; • Purchasing electric or hybrid vehicles; • Investing in renewable energy systems
Establish a Local Farmer's Market
Establish Community Gardens
Plant Urban Shade Trees
Implement Strategies to Reduce Urban Heat-Island Effect, such as: • Planting urban shade trees; • Installing reflective roofs; and • Using light-colored or high-albedo pavements and surfaces.

Furthermore, in an effort to reduce the Project's emissions, we identified several mitigation measures that are applicable to the proposed Project from NEDC's *Diesel Emission Controls in Construction Projects.*[58] Therefore, to reduce the Project's emissions, consideration of the following measures should be made:

NEDC's *Diesel Emission Controls in Construction Projects*[59]
Measures – Diesel Emission Control Technology
a. Diesel Onroad Vehicles All diesel nonroad vehicles on site for more than 10 total days must have either (1) engines that meet EPA onroad emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
b. Diesel Generators All diesel generators on site for more than 10 total days must be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
c. Diesel Nonroad Construction Equipment

58 "Diesel Emission Controls in Construction Projects." Northeast Diesel Collaborative (NEDC), December 2010, *available at:* https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf.
59 "Diesel Emission Controls in Construction Projects." Northeast Diesel Collaborative (NEDC), December 2010, *available at:* https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf.

i. All nonroad diesel engines on site must be Tier 2 or higher. Tier 0 and Tier 1 engines are not allowed on site ii. All diesel nonroad construction equipment on site for more than 10 total days must have either (1) engines meeting EPA Tier 4 nonroad emission standards or (2) emission control technology verified by EPA or CARB for use with nonroad engines to reduce PM emissions by a minimum of 85% for engines 50hp and greater and by a minimum of 20% for engines less than 50hp.
d. Upon confirming that the diesel vehicle, construction equipment, or generator has either an engine meeting Tier 4 non road emission standards or emission control technology, as specified above, installed and functioning, the developer will issue a compliance sticker. All diesel vehicles, construction equipment, and generators on site shall display the compliance sticker in a visible, external location as designated by the developer.
e. Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.
f. All diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend[60] approved by the original engine manufacturer with sulfur content of 15 ppm or less.
Measures – Idling Requirements
During periods of inactivity, idling of diesel onroad vehicles and nonroad equipment shall be minimized and shall not exceed the time allowed under state and local laws.
Measures – Additional Diesel Requirements
a. Construction shall not proceed until the contractor submits a certified list of all diesel vehicles, construction equipment, and generators to be used on site. The list shall include the following: i. Contractor and subcontractor name and address, plus contact person responsible for the vehicles or equipment. ii. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation. iii. For the emission control technology installed: technology type, serial number, make, model, manufacturer, EPA/CARB verification number/level, and installation date and hour-meter reading on installation date.
b. If the contractor subsequently needs to bring on site equipment not on the list, the contractor shall submit written notification within 24 hours that attests the equipment complies with all contract conditions and provide information.
c. All diesel equipment shall comply with all pertinent local, state, and federal regulations relative to exhaust emission controls and safety.
d. The contractor shall establish generator sites and truck-staging zones for vehicles waiting to load or unload material on site. Such zones shall be located where diesel emissions have the least impact on abutters, the general public, and especially sensitive receptors such as hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.
Reporting

[60] Biodiesel blends are only to be used in conjunction with the technologies which have been verified for use with biodiesel blends and are subject to the following requirements: http://www.arb.ca.gov/diesel/verdev/reg/biodieselcompliance.pdf.

a. For each onroad diesel vehicle, nonroad construction equipment, or generator, the contractor shall submit to the developer's representative a report prior to bringing said equipment on site that includes: i. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, and engine serial number. ii. The type of emission control technology installed, serial number, make, model, manufacturer, and EPA/CARB verification number/level. iii. The Certification Statement signed and printed on the contractor's letterhead.
b. The contractor shall submit to the developer's representative a monthly report that, for each onroad diesel vehicle, nonroad construction equipment, or generator onsite, includes: i. Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date. ii. Any problems with the equipment or emission controls. iii. Certified copies of fuel deliveries for the time period that identify: 1. Source of supply 2. Quantity of fuel 3. Quality of fuel, including sulfur content (percent by weight)

These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduce emissions released during Project construction and operation. An EIR should be prepared to include all feasible mitigation measures, as well as include an updated health risk and GHG analysis to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds. The EIR should also demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project's significant emissions are reduced to the maximum extent possible.

Disclaimer

SWAPE has received limited discovery regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

M Hagemann

Matt Hagemann, P.G., C.Hg.

Paul Rosenfeld

Paul E. Rosenfeld, Ph.D.

```
Start date and time  12/22/20 15:08:10

                                AERSCREEN 16216


Clawiter Industrial Construction


            Clawiter Industrial Construction



         -----------------  DATA ENTRY VALIDATION  -----------------
                          METRIC              ENGLISH
 ** AREADATA **  ---------------     ----------------


 Emission Rate:    0.269E-02 g/s         0.213E-01 lb/hr
 Area Height:           3.00 meters           9.84 feet
 Area Source Length:  499.00 meters        1637.14 feet
 Area Source Width:   211.00 meters         692.26 feet
 Vertical Dimension:    1.50 meters           4.92 feet
 Model Mode:           URBAN
 Population:          159620
 Dist to Ambient Air:           1.0 meters             3. feet



 ** BUILDING DATA **
```

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations

Source Base Elevation: 0.0 meters   0.0 feet

Probe distance: 5000. meters   16404. feet

No flagpole receptors

No discrete receptors used

** FUMIGATION DATA **

No fumigation requested

** METEOROLOGY DATA **

Min/Max Temperature: 250.0 / 310.0 K   -9.7 / 98.3 Deg F

Minimum Wind Speed: 0.5 m/s

Anemometer Height: 10.000 meters

Dominant Surface Profile: Urban

Dominant Climate Type: Average Moisture

Surface friction velocity (u*): not adjusted

DEBUG OPTION ON

AERSCREEN output file:

2020.12.22_ClawiterIndustrial_Construction.out

*** AERSCREEN Run is Ready to Begin

No terrain used, AERMAP will not be run

****

SURFACE CHARACTERISTICS & MAKEMET

Obtaining surface characteristics...

Using AERMET seasonal surface characteristics for Urban with Average Moisture

Season	Albedo	Bo	zo
Winter	0.35	1.50	1.000
Spring	0.14	1.00	1.000
Summer	0.16	2.00	1.000
Autumn	0.18	2.00	1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR started 12/22/20 15:09:21

****

Running AERMOD

Processing Winter

Processing surface roughness sector 1

```
**************************************************

Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************

Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************

Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
```

```
*****************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  15


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


*****************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  20


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


*****************************************************

Processing wind flow sector   6


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25


    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ********************************************
```

```
  Running AERMOD

 Processing Spring


Processing surface roughness sector  1


*****************************************************

Processing wind flow sector   1


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


*****************************************************

Processing wind flow sector   2


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


*****************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10
```

```
    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25
```

```
    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 ********************************************


  Running AERMOD
 Processing Summer

Processing surface roughness sector  1

*****************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*****************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
```

```
*****************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


*****************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


*****************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


*****************************************************
```

Processing wind flow sector 6

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 25

******** WARNING MESSAGES ********

*** NONE ***

****

Running AERMOD

Processing Autumn

Processing surface roughness sector 1

****

Processing wind flow sector 1

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 0

******** WARNING MESSAGES ********

*** NONE ***

****

Processing wind flow sector 2

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector 5

```
    ********   WARNING MESSAGES   ********
               ***  NONE  ***

 *****************************************************
 Processing wind flow sector   3

  AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

 *****************************************************
 Processing wind flow sector   4

  AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

 *****************************************************
 Processing wind flow sector   5

  AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20
```

```
    ********   WARNING MESSAGES   ********

               ***  NONE  ***

*****************************************************

Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

FLOWSECTOR   ended 12/22/20 15:09:42

REFINE       started 12/22/20 15:09:42

 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

REFINE       ended 12/22/20 15:09:44

 **********************************************

 AERSCREEN Finished Successfully

 With no errors or warnings
```

Check log file for details

****

Ending date and time 12/22/20 15:09:46

Concentration Distance Elevation Diag Season/Month Zo sector Date H0 U* W* DT/DZ ZICNV
ZIMCH M-O LEN Z0 BOWEN ALBEDO REF WS HT REF TA HT
0.99082E+00 1.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10276E+01 25.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10628E+01 50.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10952E+01 75.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11251E+01 100.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11529E+01 125.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11788E+01 150.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12028E+01 175.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12254E+01 200.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12465E+01 225.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
* 0.12663E+01 250.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11266E+01 275.01 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.88659E+00 300.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.76560E+00 325.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.68276E+00 350.00 0.00 15.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.62692E+00 375.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.58074E+00 400.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54041E+00 425.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50437E+00 450.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.47238E+00 475.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.44373E+00 500.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.41782E+00 525.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.39452E+00 550.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.37323E+00 575.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.35402E+00 600.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.33627E+00 625.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

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1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.32009E+00      650.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.30503E+00      675.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.29134E+00      700.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.27864E+00      725.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.26682E+00      750.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.25583E+00      775.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.24565E+00      800.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.23601E+00      825.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.22707E+00      850.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.21877E+00      875.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.21103E+00      900.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.20363E+00      925.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.19667E+00      950.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.19011E+00      975.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.18395E+00     1000.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.17815E+00     1025.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.17263E+00     1050.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.16736E+00     1075.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.16238E+00     1100.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.15767E+00     1125.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.15321E+00     1150.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.14898E+00     1175.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.14496E+00     1200.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.14110E+00     1225.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.13736E+00     1250.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.13378E+00     1275.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.13038E+00     1300.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
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1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.12713E+00     1325.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.12402E+00     1350.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.12105E+00     1375.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.11821E+00     1400.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.11548E+00     1425.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.11287E+00     1450.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.11037E+00     1475.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.10796E+00     1500.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.10560E+00     1525.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.10334E+00     1550.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.10116E+00     1575.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.99071E-01     1600.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.97041E-01     1625.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.95079E-01     1650.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.93187E-01     1675.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.91361E-01     1700.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.89599E-01     1725.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.87897E-01     1750.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.86253E-01     1775.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.84662E-01     1800.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.83124E-01     1825.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.81635E-01     1850.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.80194E-01     1875.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.78794E-01     1900.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.77422E-01     1925.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.76092E-01     1950.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.74803E-01     1975.00      0.00   0.0       Winter       0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
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1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.73551E-01     2000.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.72337E-01     2025.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.71158E-01     2050.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.70013E-01     2075.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.68900E-01     2100.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.67818E-01     2125.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.66766E-01     2150.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.65743E-01     2175.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.64748E-01     2200.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.63779E-01     2225.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.62836E-01     2250.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.61914E-01     2275.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.61011E-01     2300.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.60131E-01     2325.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.59273E-01     2350.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.58437E-01     2375.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.57621E-01     2400.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.56825E-01     2425.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.56049E-01     2450.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.55291E-01     2475.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.54551E-01     2500.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.53829E-01     2525.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.53123E-01     2550.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.52426E-01     2575.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.51744E-01     2600.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.51078E-01     2625.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.50426E-01     2650.00     0.00  0.0     Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
```

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.49789E-01 2675.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.49166E-01 2700.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.48557E-01 2725.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.47961E-01 2750.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.47377E-01 2775.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.46806E-01 2800.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.46247E-01 2825.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.45699E-01 2850.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.45163E-01 2875.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.44638E-01 2900.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.44124E-01 2925.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.43620E-01 2950.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.43125E-01 2975.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.42641E-01 3000.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.42166E-01 3025.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.41701E-01 3050.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.41244E-01 3075.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.40796E-01 3100.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.40357E-01 3125.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.39926E-01 3150.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.39502E-01 3175.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.39087E-01 3200.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.38679E-01 3225.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.38279E-01 3250.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.37886E-01 3275.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.37500E-01 3300.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.37121E-01 3325.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

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1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.36749E-01     3350.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.36383E-01     3375.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.36024E-01     3400.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.35670E-01     3425.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.35323E-01     3450.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.34982E-01     3475.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.34646E-01     3500.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.34314E-01     3525.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.33987E-01     3550.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.33666E-01     3575.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.33351E-01     3600.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.33040E-01     3625.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.32735E-01     3650.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.32434E-01     3675.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.32139E-01     3700.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.31847E-01     3725.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.31561E-01     3750.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.31279E-01     3775.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.31000E-01     3800.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.30724E-01     3825.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.30453E-01     3850.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.30187E-01     3875.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.29924E-01     3900.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.29665E-01     3925.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.29410E-01     3950.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.29159E-01     3975.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.28912E-01     4000.00     0.00  0.0     Winter     0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.     6.0
```

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1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.29003E-01    4025.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.28759E-01    4050.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.28517E-01    4075.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.28280E-01    4100.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.28046E-01    4125.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.27815E-01    4150.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.27587E-01    4175.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.27363E-01    4200.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.27142E-01    4225.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.26923E-01    4250.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.26708E-01    4275.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.26496E-01    4300.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.26287E-01    4325.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.26080E-01    4350.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.25877E-01    4375.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.25676E-01    4400.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.25477E-01    4425.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.25282E-01    4450.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.25089E-01    4475.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.24898E-01    4500.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.24710E-01    4525.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.24525E-01    4550.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.24342E-01    4575.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.24161E-01    4600.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.23982E-01    4625.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.23806E-01    4650.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0    2.0
  0.23632E-01    4675.00    0.00  0.0    Winter    0-360  10011001   -1.30  0.043 -9.000  0.020 -999.  21.    6.0
```

```
1.000   1.50   0.35   0.50  10.0  310.0   2.0
  0.23460E-01     4700.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000   1.50   0.35   0.50  10.0  310.0   2.0
  0.23291E-01     4725.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000   1.50   0.35   0.50  10.0  310.0   2.0
  0.23123E-01     4750.00      0.00   5.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000   1.50   0.35   0.50  10.0  310.0   2.0
  0.22958E-01     4775.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000   1.50   0.35   0.50  10.0  310.0   2.0
  0.22794E-01     4800.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000   1.50   0.35   0.50  10.0  310.0   2.0
  0.22633E-01     4825.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000   1.50   0.35   0.50  10.0  310.0   2.0
  0.22474E-01     4850.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000   1.50   0.35   0.50  10.0  310.0   2.0
  0.22316E-01     4875.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000   1.50   0.35   0.50  10.0  310.0   2.0
  0.22161E-01     4900.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000   1.50   0.35   0.50  10.0  310.0   2.0
  0.22007E-01     4925.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000   1.50   0.35   0.50  10.0  310.0   2.0
  0.21855E-01     4950.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000   1.50   0.35   0.50  10.0  310.0   2.0
  0.21705E-01     4975.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000   1.50   0.35   0.50  10.0  310.0   2.0
  0.21557E-01     5000.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000   1.50   0.35   0.50  10.0  310.0   2.0
```

```
Start date and time  12/22/20 15:10:11

                             AERSCREEN 16216


Clawiter Industrial Operation


            Clawiter Industrial Operation



         -----------------  DATA ENTRY VALIDATION  -----------------

                        METRIC              ENGLISH

 ** AREADATA **  ---------------     ----------------


 Emission Rate:    0.132E-02 g/s         0.105E-01 lb/hr

 Area Height:            3.00 meters           9.84 feet

 Area Source Length:  499.00 meters        1637.14 feet

 Area Source Width:   211.00 meters         692.26 feet

 Vertical Dimension:    1.50 meters           4.92 feet

 Model Mode:            URBAN

 Population:           159620

 Dist to Ambient Air:           1.0 meters             3. feet



 ** BUILDING DATA **
```

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations

Source Base Elevation: 0.0 meters   0.0 feet

Probe distance: 5000. meters   16404. feet

No flagpole receptors

No discrete receptors used

** FUMIGATION DATA **

No fumigation requested

** METEOROLOGY DATA **

Min/Max Temperature: 250.0 / 310.0 K   -9.7 / 98.3 Deg F

Minimum Wind Speed: 0.5 m/s

Anemometer Height: 10.000 meters

Dominant Surface Profile: Urban

Dominant Climate Type: Average Moisture

Surface friction velocity (u*): not adjusted

DEBUG OPTION ON

AERSCREEN output file:

2020.12.22_ClawiterIndustrial_Operation.out

*** AERSCREEN Run is Ready to Begin

No terrain used, AERMAP will not be run

****

SURFACE CHARACTERISTICS & MAKEMET

Obtaining surface characteristics...

```
Using AERMET seasonal surface characteristics for Urban with Average Moisture

Season            Albedo     Bo       zo

Winter              0.35     1.50     1.000

Spring              0.14     1.00     1.000

Summer              0.16     2.00     1.000

Autumn              0.18     2.00     1.000


Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl


Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl


Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl


Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl


Buildings and/or terrain present or rectangular area source, skipping probe


FLOWSECTOR   started 12/22/20 15:12:02
 ********************************************


  Running AERMOD
 Processing Winter


Processing surface roughness sector  1
```

```
*****************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*****************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*****************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
```

```
*****************************************************
Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  15


    ********   WARNING MESSAGES   ********
               ***  NONE  ***


*****************************************************
Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  20


    ********   WARNING MESSAGES   ********
               ***  NONE  ***


*****************************************************
Processing wind flow sector   6


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25


    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 *******************************************
```

```
  Running AERMOD

 Processing Spring


Processing surface roughness sector  1


*****************************************************

Processing wind flow sector   1


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


*****************************************************

Processing wind flow sector   2


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


*****************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10
```

```
    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*****************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*****************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*****************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25
```

```
    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 ********************************************

  Running AERMOD
 Processing Summer

Processing surface roughness sector  1

*****************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*****************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
```

```
****************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


****************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


****************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


****************************************************
```

```
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 ********************************************

  Running AERMOD
 Processing Autumn

Processing surface roughness sector  1

*****************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*****************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5
```

```
    ********   WARNING MESSAGES   ********
               ***  NONE  ***

****************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

****************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

****************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20
```

```
    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*****************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

FLOWSECTOR   ended 12/22/20 15:12:23

REFINE       started 12/22/20 15:12:23

 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

REFINE       ended 12/22/20 15:12:25

 ***********************************************
 AERSCREEN Finished Successfully
 With no errors or warnings
```

```
Check log file for details

***********************************************

Ending date and time  12/22/20 15:12:27
```

```
 Concentration     Distance Elevation  Diag  Season/Month  Zo sector      Date      H0     U*     W*  DT/DZ ZICNV
ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS       HT  REF TA      HT
  0.48687E+00       1.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.50493E+00      25.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.52223E+00      50.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.53814E+00      75.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.55285E+00     100.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.56650E+00     125.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.57925E+00     150.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.59105E+00     175.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.60215E+00     200.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.61252E+00     225.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
* 0.62226E+00     250.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.55359E+00     275.01      0.00  20.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.43565E+00     300.00      0.00  20.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.37620E+00     325.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.33549E+00     350.00      0.00  15.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.30806E+00     375.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.28536E+00     400.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.26555E+00     425.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.24783E+00     450.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.23212E+00     475.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.21804E+00     500.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.20531E+00     525.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.19386E+00     550.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.18340E+00     575.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.17396E+00     600.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.16524E+00     625.00      0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
```

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15729E+00 650.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14989E+00 675.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14316E+00 700.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13692E+00 725.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13111E+00 750.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12571E+00 775.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12071E+00 800.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11597E+00 825.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11158E+00 850.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10750E+00 875.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10370E+00 900.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10006E+00 925.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.96639E-01 950.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.93415E-01 975.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.90388E-01 1000.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.87539E-01 1025.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.84829E-01 1050.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.82238E-01 1075.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.79791E-01 1100.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.77476E-01 1125.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.75283E-01 1150.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.73204E-01 1175.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.71229E-01 1200.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.69335E-01 1225.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.67495E-01 1250.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.65739E-01 1275.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.64065E-01 1300.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.62468E-01 1325.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.60941E-01 1350.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.59482E-01 1375.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.58085E-01 1400.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56747E-01 1425.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55464E-01 1450.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54234E-01 1475.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53047E-01 1500.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51891E-01 1525.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50779E-01 1550.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.49710E-01 1575.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.48681E-01 1600.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.47684E-01 1625.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.46720E-01 1650.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.45790E-01 1675.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.44893E-01 1700.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.44027E-01 1725.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.43191E-01 1750.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.42383E-01 1775.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.41601E-01 1800.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.40845E-01 1825.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.40114E-01 1850.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.39406E-01 1875.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.38718E-01 1900.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.38044E-01 1925.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.37390E-01 1950.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.36756E-01 1975.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.36142E-01 2000.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.35545E-01 2025.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34965E-01 2050.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34403E-01 2075.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.33856E-01 2100.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.33324E-01 2125.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32808E-01 2150.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32305E-01 2175.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31816E-01 2200.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31340E-01 2225.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30876E-01 2250.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30423E-01 2275.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29980E-01 2300.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29547E-01 2325.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29126E-01 2350.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.28715E-01 2375.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.28314E-01 2400.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27923E-01 2425.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27541E-01 2450.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27169E-01 2475.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26805E-01 2500.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26450E-01 2525.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26104E-01 2550.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25761E-01 2575.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25426E-01 2600.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25099E-01 2625.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24778E-01 2650.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24465E-01 2675.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24159E-01 2700.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.23860E-01 2725.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.23567E-01 2750.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.23280E-01 2775.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.23000E-01 2800.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.22725E-01 2825.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.22456E-01 2850.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.22192E-01 2875.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21934E-01 2900.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21682E-01 2925.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21434E-01 2950.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21191E-01 2975.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20953E-01 3000.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20720E-01 3025.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20491E-01 3050.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20266E-01 3075.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20046E-01 3100.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19830E-01 3125.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19619E-01 3150.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19411E-01 3175.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19207E-01 3200.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19006E-01 3225.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18810E-01 3250.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18616E-01 3275.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18427E-01 3300.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18241E-01 3325.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

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1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.18058E-01    3350.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.17878E-01    3375.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.17701E-01    3400.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.17528E-01    3425.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.17357E-01    3450.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.17189E-01    3475.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.17024E-01    3500.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.16861E-01    3525.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.16701E-01    3550.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.16543E-01    3575.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.16388E-01    3600.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.16235E-01    3625.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.16085E-01    3650.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.15937E-01    3675.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.15792E-01    3700.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.15649E-01    3725.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.15508E-01    3750.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.15370E-01    3775.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.15233E-01    3800.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.15097E-01    3825.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.14964E-01    3850.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.14833E-01    3875.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.14704E-01    3900.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.14577E-01    3925.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.14452E-01    3950.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.14328E-01    3975.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.14207E-01    4000.00    0.00  0.0    Winter    0-360  10011001  -1.30 0.043 -9.000 0.020 -999.  21.    6.0
```

```
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.14252E-01     4025.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.14131E-01     4050.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.14013E-01     4075.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.13896E-01     4100.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.13781E-01     4125.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.13668E-01     4150.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.13556E-01     4175.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.13446E-01     4200.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.13337E-01     4225.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.13230E-01     4250.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.13124E-01     4275.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.13020E-01     4300.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.12917E-01     4325.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.12815E-01     4350.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.12715E-01     4375.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.12617E-01     4400.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.12519E-01     4425.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.12423E-01     4450.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.12328E-01     4475.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.12234E-01     4500.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.12142E-01     4525.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.12051E-01     4550.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.11961E-01     4575.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.11872E-01     4600.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.11785E-01     4625.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.11698E-01     4650.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
1.000  1.50  0.35   0.50  10.0  310.0   2.0
  0.11612E-01     4675.00     0.00   0.0      Winter      0-360   10011001   -1.30  0.043 -9.000  0.020 -999.   21.      6.0
```

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11528E-01 4700.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11445E-01 4725.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11362E-01 4750.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11281E-01 4775.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11201E-01 4800.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11121E-01 4825.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11043E-01 4850.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10966E-01 4875.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10889E-01 4900.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10814E-01 4925.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10739E-01 4950.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10665E-01 4975.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10592E-01 5000.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0

Clawiter Industrial Project - Buildings 1 to 3

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	15.00	1000sqft	0.34	15,000.00	0
Industrial Park	322.10	1000sqft	16.37	322,095.00	0
Parking Lot	315.00	Space	2.84	126,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the IS's model.

Land Use - See SWAPE comments regarding land use types and number of parking spaces. Lot acreage consistent with the IS's model.

Construction Phase - See SWAPE comment regarding construction schedule.

Off-road Equipment - See SWAPE comment regarding construction equipment unit amounts.

Grading - Consistent with the IS's model.

Demolition - Consistent with amount provided in the IS. See SWAPE comment regarding demolition.

Architectural Coating - See SWAPE comment regarding the architectural coating emission factors.

Vehicle Trips - See SWAPE comment regarding Saturday and Sunday vehicle trips.

Energy Use -

Water And Wastewater - Consistent with the IS's model.

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialExported	0.00	29,073.00
tblLandUse	LotAcreage	7.39	16.37
tblVehicleTrips	ST_TR	2.49	6.15
tblVehicleTrips	SU_TR	0.73	6.15
tblVehicleTrips	WD_TR	6.83	6.15
tblWater	OutdoorWaterUseRate	0.00	3,812,456.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.4096	4.4604	3.2364	9.6400e-003	0.6031	0.1567	0.7598	0.1916	0.1463	0.3379	0.0000	880.2817	880.2817	0.1197	0.0000	883.2736
2022	1.9253	1.2896	1.2742	3.3100e-003	0.1044	0.0478	0.1522	0.0284	0.0449	0.0733	0.0000	298.8451	298.8451	0.0401	0.0000	299.8466
Maximum	**1.9253**	**4.4604**	**3.2364**	**9.6400e-003**	**0.6031**	**0.1567**	**0.7598**	**0.1916**	**0.1463**	**0.3379**	**0.0000**	**880.2817**	**880.2817**	**0.1197**	**0.0000**	**883.2736**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.4096	4.4604	3.2364	9.6400e-003	0.6031	0.1567	0.7598	0.1916	0.1463	0.3379	0.0000	880.2812	880.2812	0.1197	0.0000	883.2732
2022	1.9253	1.2896	1.2742	3.3100e-003	0.1044	0.0478	0.1522	0.0284	0.0449	0.0733	0.0000	298.8449	298.8449	0.0401	0.0000	299.8465
Maximum	**1.9253**	**4.4604**	**3.2364**	**9.6400e-003**	**0.6031**	**0.1567**	**0.7598**	**0.1916**	**0.1463**	**0.3379**	**0.0000**	**880.2812**	**880.2812**	**0.1197**	**0.0000**	**883.2732**

	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**	**N20**	**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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	2.0684	2.0684
2	4-1-2021	6-30-2021	0.9232	0.9232
3	7-1-2021	9-30-2021	0.9333	0.9333
4	10-1-2021	12-31-2021	0.9400	0.9400
5	1-1-2022	3-31-2022	0.8380	0.8380
6	4-1-2022	6-30-2022	1.4807	1.4807
7	7-1-2022	9-30-2022	0.9010	0.9010
		Highest	2.0684	2.0684

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5036	5.0000e-005	5.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124
Energy	0.0351	0.3194	0.2683	1.9200e-003		0.0243	0.0243		0.0243	0.0243	0.0000	1,584.3990	1,584.3990	0.0626	0.0179	1,591.3110
Mobile	0.5011	2.2552	5.9576	0.0227	2.0445	0.0185	2.0630	0.5487	0.0172	0.5660	0.0000	2,082.0362	2,082.0362	0.0706	0.0000	2,083.8020
Waste						0.0000	0.0000		0.0000	0.0000	83.9063	0.0000	83.9063	4.9587	0.0000	207.8743
Water						0.0000	0.0000		0.0000	0.0000	24.4767	126.9916	151.4683	2.5197	0.0606	232.5050
Total	**2.0398**	**2.5746**	**6.2319**	**0.0246**	**2.0445**	**0.0428**	**2.0873**	**0.5487**	**0.0415**	**0.5903**	**108.3830**	**3,793.4384**	**3,901.8214**	**7.6117**	**0.0785**	**4,115.5047**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5036	5.0000e-005	5.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124
Energy	0.0351	0.3194	0.2683	1.9200e-003		0.0243	0.0243		0.0243	0.0243	0.0000	1,584.3990	1,584.3990	0.0626	0.0179	1,591.3110
Mobile	0.5011	2.2552	5.9576	0.0227	2.0445	0.0185	2.0630	0.5487	0.0172	0.5660	0.0000	2,082.0362	2,082.0362	0.0706	0.0000	2,083.8020
Waste						0.0000	0.0000		0.0000	0.0000	83.9063	0.0000	83.9063	4.9587	0.0000	207.8743
Water						0.0000	0.0000		0.0000	0.0000	24.4767	126.9916	151.4683	2.5197	0.0606	232.5050
Total	**2.0398**	**2.5746**	**6.2319**	**0.0246**	**2.0445**	**0.0428**	**2.0873**	**0.5487**	**0.0415**	**0.5903**	**108.3830**	**3,793.4384**	**3,901.8214**	**7.6117**	**0.0785**	**4,115.5047**

	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**	**N20**	**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	Demolition	Demolition	1/1/2021	1/28/2021	5	20	
2	Site Preparation	Site Preparation	1/29/2021	2/11/2021	5	10	
3	Grading	Grading	2/12/2021	3/25/2021	5	30	
4	Building Construction	Building Construction	3/26/2021	5/19/2022	5	300	
5	Paving	Paving	5/20/2022	6/16/2022	5	20	
6	Architectural Coating	Architectural Coating	6/17/2022	7/14/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 2.84

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 505,643; Non-Residential Outdoor: 168,548; Striped Parking Area: 7,560 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	1,224.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	3,634.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	193.00	76.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	39.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1324	0.0000	0.1324	0.0201	0.0000	0.0201	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**0.1324**	**0.0155**	**0.1479**	**0.0201**	**0.0144**	**0.0345**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.8200e-003	0.1652	0.0352	4.8000e-004	0.0103	5.1000e-004	0.0109	2.8400e-003	4.9000e-004	3.3300e-003	0.0000	46.3004	46.3004	2.3600e-003	0.0000	46.3595
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**5.2800e-003**	**0.1655**	**0.0386**	**4.9000e-004**	**0.0115**	**5.2000e-004**	**0.0120**	**3.1600e-003**	**5.0000e-004**	**3.6500e-003**	**0.0000**	**47.3024**	**47.3024**	**2.3800e-003**	**0.0000**	**47.3621**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1324	0.0000	0.1324	0.0201	0.0000	0.0201	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**0.1324**	**0.0155**	**0.1479**	**0.0201**	**0.0144**	**0.0345**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.8200e-003	0.1652	0.0352	4.8000e-004	0.0103	5.1000e-004	0.0109	2.8400e-003	4.9000e-004	3.3300e-003	0.0000	46.3004	46.3004	2.3600e-003	0.0000	46.3595
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**5.2800e-003**	**0.1655**	**0.0386**	**4.9000e-004**	**0.0115**	**5.2000e-004**	**0.0120**	**3.1600e-003**	**5.0000e-004**	**3.6500e-003**	**0.0000**	**47.3024**	**47.3024**	**2.3800e-003**	**0.0000**	**47.3621**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.0200e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6012	0.6012	1.0000e-005	0.0000	0.6015
Total	**2.8000e-004**	**1.9000e-004**	**2.0200e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6012**	**0.6012**	**1.0000e-005**	**0.0000**	**0.6015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.0200e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6012	0.6012	1.0000e-005	0.0000	0.6015
Total	**2.8000e-004**	**1.9000e-004**	**2.0200e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6012**	**0.6012**	**1.0000e-005**	**0.0000**	**0.6015**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1317	0.0000	0.1317	0.0542	0.0000	0.0542	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7425	81.7425	0.0264	0.0000	82.4034
Total	**0.0629**	**0.6960**	**0.4632**	**9.3000e-004**	**0.1317**	**0.0298**	**0.1615**	**0.0542**	**0.0274**	**0.0816**	**0.0000**	**81.7425**	**81.7425**	**0.0264**	**0.0000**	**82.4034**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0143	0.4904	0.1045	1.4200e-003	0.0307	1.5200e-003	0.0322	8.4400e-003	1.4500e-003	9.8900e-003	0.0000	137.4639	137.4639	7.0100e-003	0.0000	137.6393
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2000e-004	6.4000e-004	6.7300e-003	2.0000e-005	2.3700e-003	2.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	2.0040	2.0040	4.0000e-005	0.0000	2.0051
Total	**0.0152**	**0.4910**	**0.1112**	**1.4400e-003**	**0.0331**	**1.5400e-003**	**0.0346**	**9.0700e-003**	**1.4600e-003**	**0.0105**	**0.0000**	**139.4679**	**139.4679**	**7.0500e-003**	**0.0000**	**139.6444**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1317	0.0000	0.1317	0.0542	0.0000	0.0542	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7424	81.7424	0.0264	0.0000	82.4033
Total	**0.0629**	**0.6960**	**0.4632**	**9.3000e-004**	**0.1317**	**0.0298**	**0.1615**	**0.0542**	**0.0274**	**0.0816**	**0.0000**	**81.7424**	**81.7424**	**0.0264**	**0.0000**	**82.4033**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0143	0.4904	0.1045	1.4200e-003	0.0307	1.5200e-003	0.0322	8.4400e-003	1.4500e-003	9.8900e-003	0.0000	137.4639	137.4639	7.0100e-003	0.0000	137.6393
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2000e-004	6.4000e-004	6.7300e-003	2.0000e-005	2.3700e-003	2.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	2.0040	2.0040	4.0000e-005	0.0000	2.0051
Total	**0.0152**	**0.4910**	**0.1112**	**1.4400e-003**	**0.0331**	**1.5400e-003**	**0.0346**	**9.0700e-003**	**1.4600e-003**	**0.0105**	**0.0000**	**139.4679**	**139.4679**	**7.0500e-003**	**0.0000**	**139.6444**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1910	1.7519	1.6658	2.7100e-003		0.0963	0.0963		0.0906	0.0906	0.0000	232.7955	232.7955	0.0562	0.0000	234.1996
Total	**0.1910**	**1.7519**	**1.6658**	**2.7100e-003**		**0.0963**	**0.0963**		**0.0906**	**0.0906**	**0.0000**	**232.7955**	**232.7955**	**0.0562**	**0.0000**	**234.1996**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	0.0243	0.7978	0.1991	2.0600e-003	0.0501	1.7400e-003	0.0518	0.0145	1.6600e-003	0.0162	0.0000	198.0869	198.0869	9.7400e-003	0.0000	198.3304
Worker	0.0595	0.0411	0.4350	1.4300e-003	0.1533	1.0000e-003	0.1543	0.0408	9.2000e-004	0.0417	0.0000	129.5667	129.5667	2.9100e-003	0.0000	129.6393
Total	**0.0838**	**0.8389**	**0.6342**	**3.4900e-003**	**0.2034**	**2.7400e-003**	**0.2061**	**0.0553**	**2.5800e-003**	**0.0579**	**0.0000**	**327.6536**	**327.6536**	**0.0127**	**0.0000**	**327.9697**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1910	1.7519	1.6658	2.7100e-003		0.0963	0.0963		0.0906	0.0906	0.0000	232.7952	232.7952	0.0562	0.0000	234.1993
Total	**0.1910**	**1.7519**	**1.6658**	**2.7100e-003**		**0.0963**	**0.0963**		**0.0906**	**0.0906**	**0.0000**	**232.7952**	**232.7952**	**0.0562**	**0.0000**	**234.1993**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	0.0243	0.7978	0.1991	2.0600e-003	0.0501	1.7400e-003	0.0518	0.0145	1.6600e-003	0.0162	0.0000	198.0869	198.0869	9.7400e-003	0.0000	198.3304
Worker	0.0595	0.0411	0.4350	1.4300e-003	0.1533	1.0000e-003	0.1543	0.0408	9.2000e-004	0.0417	0.0000	129.5667	129.5667	2.9100e-003	0.0000	129.6393
Total	**0.0838**	**0.8389**	**0.6342**	**3.4900e-003**	**0.2034**	**2.7400e-003**	**0.2061**	**0.0553**	**2.5800e-003**	**0.0579**	**0.0000**	**327.6536**	**327.6536**	**0.0127**	**0.0000**	**327.9697**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0845	0.7730	0.8100	1.3300e-003		0.0401	0.0401		0.0377	0.0377	0.0000	114.7040	114.7040	0.0275	0.0000	115.3910
Total	**0.0845**	**0.7730**	**0.8100**	**1.3300e-003**		**0.0401**	**0.0401**		**0.0377**	**0.0377**	**0.0000**	**114.7040**	**114.7040**	**0.0275**	**0.0000**	**115.3910**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0111	0.3721	0.0922	1.0000e-003	0.0247	7.4000e-004	0.0254	7.1400e-003	7.1000e-004	7.8400e-003	0.0000	96.6085	96.6085	4.5800e-003	0.0000	96.7231
Worker	0.0273	0.0181	0.1969	6.8000e-004	0.0755	4.8000e-004	0.0760	0.0201	4.4000e-004	0.0205	0.0000	61.4768	61.4768	1.2800e-003	0.0000	61.5089
Total	**0.0385**	**0.3903**	**0.2891**	**1.6800e-003**	**0.1002**	**1.2200e-003**	**0.1014**	**0.0272**	**1.1500e-003**	**0.0284**	**0.0000**	**158.0853**	**158.0853**	**5.8600e-003**	**0.0000**	**158.2320**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0845	0.7730	0.8100	1.3300e-003		0.0401	0.0401		0.0377	0.0377	0.0000	114.7039	114.7039	0.0275	0.0000	115.3909
Total	**0.0845**	**0.7730**	**0.8100**	**1.3300e-003**		**0.0401**	**0.0401**		**0.0377**	**0.0377**	**0.0000**	**114.7039**	**114.7039**	**0.0275**	**0.0000**	**115.3909**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0111	0.3721	0.0922	1.0000e-003	0.0247	7.4000e-004	0.0254	7.1400e-003	7.1000e-004	7.8400e-003	0.0000	96.6085	96.6085	4.5800e-003	0.0000	96.7231
Worker	0.0273	0.0181	0.1969	6.8000e-004	0.0755	4.8000e-004	0.0760	0.0201	4.4000e-004	0.0205	0.0000	61.4768	61.4768	1.2800e-003	0.0000	61.5089
Total	**0.0385**	**0.3903**	**0.2891**	**1.6800e-003**	**0.1002**	**1.2200e-003**	**0.1014**	**0.0272**	**1.1500e-003**	**0.0284**	**0.0000**	**158.0853**	**158.0853**	**5.8600e-003**	**0.0000**	**158.2320**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	3.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0148**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0276**	**20.0276**	**6.4800e-003**	**0.0000**	**20.1895**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.8000e-004	3.0900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9653	0.9653	2.0000e-005	0.0000	0.9658
Total	**4.3000e-004**	**2.8000e-004**	**3.0900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9653**	**0.9653**	**2.0000e-005**	**0.0000**	**0.9658**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
Paving	3.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0148**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0275**	**20.0275**	**6.4800e-003**	**0.0000**	**20.1895**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.8000e-004	3.0900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9653	0.9653	2.0000e-005	0.0000	0.9658
Total	**4.3000e-004**	**2.8000e-004**	**3.0900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9653**	**0.9653**	**2.0000e-005**	**0.0000**	**0.9658**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.7840					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**1.7861**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1200e-003	7.4000e-004	8.0400e-003	3.0000e-005	3.0800e-003	2.0000e-005	3.1000e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.5097	2.5097	5.0000e-005	0.0000	2.5110
Total	**1.1200e-003**	**7.4000e-004**	**8.0400e-003**	**3.0000e-005**	**3.0800e-003**	**2.0000e-005**	**3.1000e-003**	**8.2000e-004**	**2.0000e-005**	**8.4000e-004**	**0.0000**	**2.5097**	**2.5097**	**5.0000e-005**	**0.0000**	**2.5110**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.7840					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**1.7861**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1200e-003	7.4000e-004	8.0400e-003	3.0000e-005	3.0800e-003	2.0000e-005	3.1000e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.5097	2.5097	5.0000e-005	0.0000	2.5110
Total	**1.1200e-003**	**7.4000e-004**	**8.0400e-003**	**3.0000e-005**	**3.0800e-003**	**2.0000e-005**	**3.1000e-003**	**8.2000e-004**	**2.0000e-005**	**8.4000e-004**	**0.0000**	**2.5097**	**2.5097**	**5.0000e-005**	**0.0000**	**2.5110**

4.0 Operational Detail - Mobile

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	tons/yr										MT/yr					
Mitigated	0.5011	2.2552	5.9576	0.0227	2.0445	0.0185	2.0630	0.5487	0.0172	0.5660	0.0000	2,082.0362	2,082.0362	0.0706	0.0000	2,083.8020
Unmitigated	0.5011	2.2552	5.9576	0.0227	2.0445	0.0185	2.0630	0.5487	0.0172	0.5660	0.0000	2,082.0362	2,082.0362	0.0706	0.0000	2,083.8020

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	165.45	36.90	15.75	300,392	300,392
Industrial Park	1,980.88	1,980.88	1980.88	5,193,538	5,193,538
Parking Lot	0.00	0.00	0.00		
Total	2,146.33	2,017.78	1,996.63	5,493,930	5,493,930

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Industrial Park	9.50	7.30	7.30	59.00	28.00	13.00	79	19	2
Parking Lot	9.50	7.30	7.30	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
General Office Building	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Industrial Park	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,236.677 9	1,236.677 9	0.0559	0.0116	1,241.523 6
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,236.677 9	1,236.677 9	0.0559	0.0116	1,241.523 6
NaturalGas Mitigated	0.0351	0.3194	0.2683	1.9200e-003		0.0243	0.0243		0.0243	0.0243	0.0000	347.7211	347.7211	6.6600e-003	6.3700e-003	349.7874
NaturalGas Unmitigated	0.0351	0.3194	0.2683	1.9200e-003		0.0243	0.0243		0.0243	0.0243	0.0000	347.7211	347.7211	6.6600e-003	6.3700e-003	349.7874

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	289950	1.5600e-003	0.0142	0.0119	9.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003	0.0000	15.4728	15.4728	3.0000e-004	2.8000e-004	15.5648
Industrial Park	6.2261e+006	0.0336	0.3052	0.2564	1.8300e-003		0.0232	0.0232		0.0232	0.0232	0.0000	332.2482	332.2482	6.3700e-003	6.0900e-003	334.2226
Parking Lot	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	0.0000
Total		**0.0351**	**0.3194**	**0.2683**	**1.9200e-003**		**0.0243**	**0.0243**		**0.0243**	**0.0243**	**0.0000**	**347.7211**	**347.7211**	**6.6700e-003**	**6.3700e-003**	**349.7874**

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	tons/yr										MT/yr					
General Office Building	289950	1.5600e-003	0.0142	0.0119	9.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003	0.0000	15.4728	15.4728	3.0000e-004	2.8000e-004	15.5648
Industrial Park	6.2261e+006	0.0336	0.3052	0.2564	1.8300e-003		0.0232	0.0232		0.0232	0.0232	0.0000	332.2482	332.2482	6.3700e-003	6.0900e-003	334.2226
Parking Lot	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	0.0000
Total		**0.0351**	**0.3194**	**0.2683**	**1.9200e-003**		**0.0243**	**0.0243**		**0.0243**	**0.0243**	**0.0000**	**347.7211**	**347.7211**	**6.6700e-003**	**6.3700e-003**	**349.7874**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	187200	54.4586	2.4600e-003	5.1000e-004	54.6720
Industrial Park	4.01975e+006	1,169.3901	0.0529	0.0109	1,173.9721
Parking Lot	44100	12.8292	5.8000e-004	1.2000e-004	12.8795
Total		**1,236.6779**	**0.0559**	**0.0116**	**1,241.5236**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	187200	54.4586	2.4600e-003	5.1000e-004	54.6720
Industrial Park	4.01975e+006	1,169.3901	0.0529	0.0109	1,173.9721
Parking Lot	44100	12.8292	5.8000e-004	1.2000e-004	12.8795
Total		**1,236.6779**	**0.0559**	**0.0116**	**1,241.5236**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5036	5.0000e-005	5.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124
Unmitigated	1.5036	5.0000e-005	5.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1784					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3247					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.5000e-004	5.0000e-005	5.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124
Total	**1.5036**	**5.0000e-005**	**5.9900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0117**	**0.0117**	**3.0000e-005**	**0.0000**	**0.0124**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1784					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3247					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.5000e-004	5.0000e-005	5.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124
Total	**1.5036**	**5.0000e-005**	**5.9900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0117**	**0.0117**	**3.0000e-005**	**0.0000**	**0.0124**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	151.4683	2.5197	0.0606	232.5050
Unmitigated	151.4683	2.5197	0.0606	232.5050

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	2.66601 / 1.634	6.7062	0.0871	2.1100e-003	9.5122
Industrial Park	74.4856 / 3.81246	144.7621	2.4326	0.0584	222.9928
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**151.4683**	**2.5197**	**0.0606**	**232.5050**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	2.66601 / 1.634	6.7062	0.0871	2.1100e-003	9.5122
Industrial Park	74.4856 / 3.81246	144.7621	2.4326	0.0584	222.9928
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**151.4683**	**2.5197**	**0.0606**	**232.5050**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	83.9063	4.9587	0.0000	207.8743
Unmitigated	83.9063	4.9587	0.0000	207.8743

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	13.95	2.8317	0.1674	0.0000	7.0155
Industrial Park	399.4	81.0746	4.7914	0.0000	200.8589
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**83.9063**	**4.9587**	**0.0000**	**207.8744**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	13.95	2.8317	0.1674	0.0000	7.0155
Industrial Park	399.4	81.0746	4.7914	0.0000	200.8589
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**83.9063**	**4.9587**	**0.0000**	**207.8744**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Buildings 1 to 3

Bay Area AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	15.00	1000sqft	0.34	15,000.00	0
Industrial Park	322.10	1000sqft	16.37	322,095.00	0
Parking Lot	315.00	Space	2.84	126,000.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 64

Climate Zone 5 **Operational Year** 2023

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr) 641.35 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the IS's model.

Land Use - See SWAPE comments regarding land use types and number of parking spaces. Lot acreage consistent with the IS's model.

Construction Phase - See SWAPE comment regarding construction schedule.

Off-road Equipment - See SWAPE comment regarding construction equipment unit amounts.

Grading - Consistent with the IS's model.

Demolition - Consistent with amount provided in the IS. See SWAPE comment regarding demolition.

Architectural Coating - See SWAPE comment regarding the architectural coating emission factors.

Vehicle Trips - See SWAPE comment regarding Saturday and Sunday vehicle trips.

Energy Use -

Water And Wastewater - Consistent with the IS's model.

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialExported	0.00	29,073.00
tblLandUse	LotAcreage	7.39	16.37
tblVehicleTrips	ST_TR	2.49	6.15
tblVehicleTrips	SU_TR	0.73	6.15
tblVehicleTrips	WD_TR	6.83	6.15
tblWater	OutdoorWaterUseRate	0.00	3,812,456.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.1990	78.4892	38.1263	0.1587	18.2141	2.0869	20.2595	9.9699	1.9236	11.8517	0.0000	16,339.5417	16,339.5417	2.4512	0.0000	16,400.8217
2022	178.7236	23.3844	22.4735	0.0622	2.0999	0.8335	2.9334	0.5686	0.7842	1.3529	0.0000	6,201.4198	6,201.4198	0.7412	0.0000	6,219.9493
Maximum	**178.7236**	**78.4892**	**38.1263**	**0.1587**	**18.2141**	**2.0869**	**20.2595**	**9.9699**	**1.9236**	**11.8517**	**0.0000**	**16,339.5417**	**16,339.5417**	**2.4512**	**0.0000**	**16,400.8217**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.1990	78.4892	38.1263	0.1587	18.2141	2.0869	20.2595	9.9699	1.9236	11.8517	0.0000	16,339.5417	16,339.5417	2.4512	0.0000	16,400.8217
2022	178.7236	23.3844	22.4735	0.0622	2.0999	0.8335	2.9334	0.5686	0.7842	1.3529	0.0000	6,201.4198	6,201.4198	0.7412	0.0000	6,219.9493
Maximum	**178.7236**	**78.4892**	**38.1263**	**0.1587**	**18.2141**	**2.0869**	**20.2595**	**9.9699**	**1.9236**	**11.8517**	**0.0000**	**16,339.5417**	**16,339.5417**	**2.4512**	**0.0000**	**16,400.8217**

	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**	**N20**	**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**

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	8.2422	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Energy	0.1925	1.7502	1.4702	0.0105		0.1330	0.1330		0.1330	0.1330		2,100.2567	2,100.2567	0.0403	0.0385	2,112.7375
Mobile	3.2097	12.2066	34.9388	0.1341	11.8729	0.1031	11.9760	3.1763	0.0963	3.2726		13,571.6451	13,571.6451	0.4395		13,582.6324
Total	**11.6444**	**13.9574**	**36.4756**	**0.1446**	**11.8729**	**0.2363**	**12.1092**	**3.1763**	**0.2295**	**3.4058**		**15,672.0445**	**15,672.0445**	**0.4801**	**0.0385**	**15,695.5219**

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	8.2422	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Energy	0.1925	1.7502	1.4702	0.0105		0.1330	0.1330		0.1330	0.1330		2,100.2567	2,100.2567	0.0403	0.0385	2,112.7375
Mobile	3.2097	12.2066	34.9388	0.1341	11.8729	0.1031	11.9760	3.1763	0.0963	3.2726		13,571.6451	13,571.6451	0.4395		13,582.6324
Total	**11.6444**	**13.9574**	**36.4756**	**0.1446**	**11.8729**	**0.2363**	**12.1092**	**3.1763**	**0.2295**	**3.4058**		**15,672.0445**	**15,672.0445**	**0.4801**	**0.0385**	**15,695.5219**

	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	N20	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	Demolition	Demolition	1/1/2021	1/28/2021	5	20	
2	Site Preparation	Site Preparation	1/29/2021	2/11/2021	5	10	
3	Grading	Grading	2/12/2021	3/25/2021	5	30	
4	Building Construction	Building Construction	3/26/2021	5/19/2022	5	300	
5	Paving	Paving	5/20/2022	6/16/2022	5	20	
6	Architectural Coating	Architectural Coating	6/17/2022	7/14/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 2.84

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 505,643; Non-Residential Outdoor: 168,548; Striped Parking Area: 7,560 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	1,224.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	3,634.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	193.00	76.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	39.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.2396	0.0000	13.2396	2.0046	0.0000	2.0046			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**13.2396**	**1.5513**	**14.7909**	**2.0046**	**1.4411**	**3.4457**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4767	16.1935	3.4136	0.0480	1.0692	0.0508	1.1200	0.2930	0.0486	0.3416		5,140.2475	5,140.2475	0.2551		5,146.6242
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	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.5249**	**16.2217**	**3.7820**	**0.0492**	**1.1924**	**0.0516**	**1.2440**	**0.3257**	**0.0493**	**0.3750**		**5,259.0414**	**5,259.0414**	**0.2577**		**5,265.4845**

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					13.2396	0.0000	13.2396	2.0046	0.0000	2.0046			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**13.2396**	**1.5513**	**14.7909**	**2.0046**	**1.4411**	**3.4457**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4767	16.1935	3.4136	0.0480	1.0692	0.0508	1.1200	0.2930	0.0486	0.3416		5,140.2475	5,140.2475	0.2551		5,146.6242
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	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.5249**	**16.2217**	**3.7820**	**0.0492**	**1.1924**	**0.0516**	**1.2440**	**0.3257**	**0.0493**	**0.3750**		**5,259.0414**	**5,259.0414**	**0.2577**		**5,265.4845**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0579	0.0338	0.4421	1.4300e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		142.5527	142.5527	3.1900e-003		142.6324
Total	**0.0579**	**0.0338**	**0.4421**	**1.4300e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**142.5527**	**142.5527**	**3.1900e-003**		**142.6324**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0579	0.0338	0.4421	1.4300e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		142.5527	142.5527	3.1900e-003		142.6324
Total	**0.0579**	**0.0338**	**0.4421**	**1.4300e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**142.5527**	**142.5527**	**3.1900e-003**		**142.6324**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.7829	0.0000	8.7829	3.6131	0.0000	3.6131			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.7829**	**1.9853**	**10.7683**	**3.6131**	**1.8265**	**5.4396**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9435	32.0518	6.7565	0.0951	2.1163	0.1005	2.2168	0.5800	0.0961	0.6761		10,174.1063	10,174.1063	0.5049		10,186.7278
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	0.0643	0.0376	0.4913	1.5900e-003	0.1643	1.0300e-003	0.1653	0.0436	9.5000e-004	0.0445		158.3919	158.3919	3.5400e-003		158.4804
Total	**1.0078**	**32.0894**	**7.2478**	**0.0966**	**2.2806**	**0.1015**	**2.3821**	**0.6235**	**0.0971**	**0.7206**		**10,332.4982**	**10,332.4982**	**0.5084**		**10,345.2082**

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					8.7829	0.0000	8.7829	3.6131	0.0000	3.6131			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.7829**	**1.9853**	**10.7683**	**3.6131**	**1.8265**	**5.4396**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9435	32.0518	6.7565	0.0951	2.1163	0.1005	2.2168	0.5800	0.0961	0.6761		10,174.1063	10,174.1063	0.5049		10,186.7278
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	0.0643	0.0376	0.4913	1.5900e-003	0.1643	1.0300e-003	0.1653	0.0436	9.5000e-004	0.0445		158.3919	158.3919	3.5400e-003		158.4804
Total	**1.0078**	**32.0894**	**7.2478**	**0.0966**	**2.2806**	**0.1015**	**2.3821**	**0.6235**	**0.0971**	**0.7206**		**10,332.4982**	**10,332.4982**	**0.5084**		**10,345.2082**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.2357	7.8539	1.8520	0.0207	0.5145	0.0170	0.5315	0.1481	0.0163	0.1644		2,196.084 9	2,196.084 9	0.1031		2,198.661 7
Worker	0.6206	0.3627	4.7407	0.0153	1.5855	9.9800e-003	1.5954	0.4205	9.1900e-003	0.4297		1,528.481 9	1,528.481 9	0.0342		1,529.336 1
Total	**0.8563**	**8.2166**	**6.5927**	**0.0361**	**2.0999**	**0.0270**	**2.1269**	**0.5686**	**0.0255**	**0.5941**		**3,724.566 8**	**3,724.566 8**	**0.1372**		**3,727.997 8**

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.363 9	2,553.363 9	0.6160		2,568.764 3
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.363 9**	**2,553.363 9**	**0.6160**		**2,568.764 3**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.2357	7.8539	1.8520	0.0207	0.5145	0.0170	0.5315	0.1481	0.0163	0.1644		2,196.084 9	2,196.084 9	0.1031		2,198.661 7
Worker	0.6206	0.3627	4.7407	0.0153	1.5855	9.9800e-003	1.5954	0.4205	9.1900e-003	0.4297		1,528.481 9	1,528.481 9	0.0342		1,529.336 1
Total	**0.8563**	**8.2166**	**6.5927**	**0.0361**	**2.0999**	**0.0270**	**2.1269**	**0.5686**	**0.0255**	**0.5941**		**3,724.566 8**	**3,724.566 8**	**0.1372**		**3,727.997 8**

3.5 Building Construction - 2022

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

3.5 Building Construction - 2022

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	0.2198	7.4435	1.7418	0.0205	0.5145	0.0148	0.5292	0.1481	0.0141	0.1622		2,174.698 2	2,174.698 2	0.0986		2,177.162 0
Worker	0.5776	0.3253	4.3683	0.0148	1.5855	9.7400e-003	1.5952	0.4205	8.9700e-003	0.4295		1,472.388 1	1,472.388 1	0.0307		1,473.155 1
Total	**0.7974**	**7.7688**	**6.1101**	**0.0353**	**2.0999**	**0.0245**	**2.1244**	**0.5686**	**0.0231**	**0.5917**		**3,647.086 3**	**3,647.086 3**	**0.1292**		**3,650.317 1**

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

3.5 Building Construction - 2022

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	0.2198	7.4435	1.7418	0.0205	0.5145	0.0148	0.5292	0.1481	0.0141	0.1622		2,174.6982	2,174.6982	0.0986		2,177.1620
Worker	0.5776	0.3253	4.3683	0.0148	1.5855	9.7400e-003	1.5952	0.4205	8.9700e-003	0.4295		1,472.3881	1,472.3881	0.0307		1,473.1551
Total	**0.7974**	**7.7688**	**6.1101**	**0.0353**	**2.0999**	**0.0245**	**2.1244**	**0.5686**	**0.0231**	**0.5917**		**3,647.0863**	**3,647.0863**	**0.1292**		**3,650.3171**

3.6 Paving - 2022

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.3720					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4749**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

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	0.0449	0.0253	0.3395	1.1500e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		114.4343	114.4343	2.3800e-003		114.4939
Total	**0.0449**	**0.0253**	**0.3395**	**1.1500e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**114.4343**	**114.4343**	**2.3800e-003**		**114.4939**

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.660 3	2,207.660 3	0.7140		2,225.510 4
Paving	0.3720					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4749**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.660 3**	**2,207.660 3**	**0.7140**		**2,225.510 4**

3.6 Paving - 2022

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	0.0449	0.0253	0.3395	1.1500e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		114.4343	114.4343	2.3800e-003		114.4939
Total	**0.0449**	**0.0253**	**0.3395**	**1.1500e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**114.4343**	**114.4343**	**2.3800e-003**		**114.4939**

3.7 Architectural Coating - 2022

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					
Archit. Coating	178.4023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**178.6069**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

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	0.1167	0.0657	0.8827	2.9800e-003	0.3204	1.9700e-003	0.3223	0.0850	1.8100e-003	0.0868		297.5292	297.5292	6.2000e-003		297.6842
Total	**0.1167**	**0.0657**	**0.8827**	**2.9800e-003**	**0.3204**	**1.9700e-003**	**0.3223**	**0.0850**	**1.8100e-003**	**0.0868**		**297.5292**	**297.5292**	**6.2000e-003**		**297.6842**

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					
Archit. Coating	178.4023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**178.6069**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

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	0.1167	0.0657	0.8827	2.9800e-003	0.3204	1.9700e-003	0.3223	0.0850	1.8100e-003	0.0868		297.5292	297.5292	6.2000e-003		297.6842
Total	**0.1167**	**0.0657**	**0.8827**	**2.9800e-003**	**0.3204**	**1.9700e-003**	**0.3223**	**0.0850**	**1.8100e-003**	**0.0868**		**297.5292**	**297.5292**	**6.2000e-003**		**297.6842**

4.0 Operational Detail - Mobile

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	3.2097	12.2066	34.9388	0.1341	11.8729	0.1031	11.9760	3.1763	0.0963	3.2726		13,571.6451	13,571.6451	0.4395		13,582.6324
Unmitigated	3.2097	12.2066	34.9388	0.1341	11.8729	0.1031	11.9760	3.1763	0.0963	3.2726		13,571.6451	13,571.6451	0.4395		13,582.6324

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	165.45	36.90	15.75	300,392	300,392
Industrial Park	1,980.88	1,980.88	1980.88	5,193,538	5,193,538
Parking Lot	0.00	0.00	0.00		
Total	2,146.33	2,017.78	1,996.63	5,493,930	5,493,930

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Industrial Park	9.50	7.30	7.30	59.00	28.00	13.00	79	19	2
Parking Lot	9.50	7.30	7.30	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
General Office Building	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Industrial Park	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

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	0.1925	1.7502	1.4702	0.0105		0.1330	0.1330		0.1330	0.1330		2,100.256 7	2,100.256 7	0.0403	0.0385	2,112.737 5
NaturalGas Unmitigated	0.1925	1.7502	1.4702	0.0105		0.1330	0.1330		0.1330	0.1330		2,100.256 7	2,100.256 7	0.0403	0.0385	2,112.737 5

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					
General Office Building	794.384	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003		93.4569	93.4569	1.7900e-003	1.7100e-003	94.0123
Industrial Park	17057.8	0.1840	1.6723	1.4048	0.0100		0.1271	0.1271		0.1271	0.1271		2,006.7998	2,006.7998	0.0385	0.0368	2,018.7252
Parking Lot	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		**0.1925**	**1.7502**	**1.4702**	**0.0105**		**0.1330**	**0.1330**		**0.1330**	**0.1330**		**2,100.2567**	**2,100.2567**	**0.0403**	**0.0385**	**2,112.7375**

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					
General Office Building	0.794384	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003		93.4569	93.4569	1.7900e-003	1.7100e-003	94.0123
Industrial Park	17.0578	0.1840	1.6723	1.4048	0.0100		0.1271	0.1271		0.1271	0.1271		2,006.7998	2,006.7998	0.0385	0.0368	2,018.7252
Parking Lot	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		**0.1925**	**1.7502**	**1.4702**	**0.0105**		**0.1330**	**0.1330**		**0.1330**	**0.1330**		**2,100.2567**	**2,100.2567**	**0.0403**	**0.0385**	**2,112.7375**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.2422	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Unmitigated	8.2422	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521

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	0.9776					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.2585					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.1700e-003	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Total	**8.2422**	**6.1000e-004**	**0.0666**	**0.0000**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**		**0.1427**	**0.1427**	**3.7000e-004**		**0.1521**

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	0.9776					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.2585					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.1700e-003	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Total	**8.2422**	**6.1000e-004**	**0.0666**	**0.0000**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**		**0.1427**	**0.1427**	**3.7000e-004**		**0.1521**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Buildings 1 to 3

Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	15.00	1000sqft	0.34	15,000.00	0
Industrial Park	322.10	1000sqft	16.37	322,095.00	0
Parking Lot	315.00	Space	2.84	126,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the IS's model.

Land Use - See SWAPE comments regarding land use types and number of parking spaces. Lot acreage consistent with the IS's model.

Construction Phase - See SWAPE comment regarding construction schedule.

Off-road Equipment - See SWAPE comment regarding construction equipment unit amounts.

Grading - Consistent with the IS's model.

Demolition - Consistent with amount provided in the IS. See SWAPE comment regarding demolition.

Architectural Coating - See SWAPE comment regarding the architectural coating emission factors.

Vehicle Trips - See SWAPE comment regarding Saturday and Sunday vehicle trips.

Energy Use -

Water And Wastewater - Consistent with the IS's model.

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialExported	0.00	29,073.00
tblLandUse	LotAcreage	7.39	16.37
tblVehicleTrips	ST_TR	2.49	6.15
tblVehicleTrips	SU_TR	0.73	6.15
tblVehicleTrips	WD_TR	6.83	6.15
tblWater	OutdoorWaterUseRate	0.00	3,812,456.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.2284	79.2475	38.5916	0.1569	18.2141	2.0887	20.2595	9.9699	1.9253	11.8517	0.0000	16,155.0583	16,155.0583	2.4755	0.0000	16,216.9454
2022	178.7308	23.5169	22.4346	0.0605	2.0999	0.8340	2.9340	0.5686	0.7848	1.3534	0.0000	6,029.8979	6,029.8979	0.7470	0.0000	6,048.5726
Maximum	**178.7308**	**79.2475**	**38.5916**	**0.1569**	**18.2141**	**2.0887**	**20.2595**	**9.9699**	**1.9253**	**11.8517**	**0.0000**	**16,155.0583**	**16,155.0583**	**2.4755**	**0.0000**	**16,216.9454**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.2284	79.2475	38.5916	0.1569	18.2141	2.0887	20.2595	9.9699	1.9253	11.8517	0.0000	16,155.0583	16,155.0583	2.4755	0.0000	16,216.9454
2022	178.7308	23.5169	22.4346	0.0605	2.0999	0.8340	2.9340	0.5686	0.7848	1.3534	0.0000	6,029.8979	6,029.8979	0.7470	0.0000	6,048.5726
Maximum	**178.7308**	**79.2475**	**38.5916**	**0.1569**	**18.2141**	**2.0887**	**20.2595**	**9.9699**	**1.9253**	**11.8517**	**0.0000**	**16,155.0583**	**16,155.0583**	**2.4755**	**0.0000**	**16,216.9454**

	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**	**N20**	**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**

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	8.2422	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Energy	0.1925	1.7502	1.4702	0.0105		0.1330	0.1330		0.1330	0.1330		2,100.2567	2,100.2567	0.0403	0.0385	2,112.7375
Mobile	2.7777	12.8760	34.7326	0.1256	11.8729	0.1035	11.9764	3.1763	0.0967	3.2730		12,713.3441	12,713.3441	0.4452		12,724.4740
Total	**11.2124**	**14.6269**	**36.2694**	**0.1361**	**11.8729**	**0.2368**	**12.1097**	**3.1763**	**0.2300**	**3.4063**		**14,813.7435**	**14,813.7435**	**0.4858**	**0.0385**	**14,837.3635**

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	8.2422	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Energy	0.1925	1.7502	1.4702	0.0105		0.1330	0.1330		0.1330	0.1330		2,100.2567	2,100.2567	0.0403	0.0385	2,112.7375
Mobile	2.7777	12.8760	34.7326	0.1256	11.8729	0.1035	11.9764	3.1763	0.0967	3.2730		12,713.3441	12,713.3441	0.4452		12,724.4740
Total	**11.2124**	**14.6269**	**36.2694**	**0.1361**	**11.8729**	**0.2368**	**12.1097**	**3.1763**	**0.2300**	**3.4063**		**14,813.7435**	**14,813.7435**	**0.4858**	**0.0385**	**14,837.3635**

	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	N20	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	Demolition	Demolition	1/1/2021	1/28/2021	5	20	
2	Site Preparation	Site Preparation	1/29/2021	2/11/2021	5	10	
3	Grading	Grading	2/12/2021	3/25/2021	5	30	
4	Building Construction	Building Construction	3/26/2021	5/19/2022	5	300	
5	Paving	Paving	5/20/2022	6/16/2022	5	20	
6	Architectural Coating	Architectural Coating	6/17/2022	7/14/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 2.84

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 505,643; Non-Residential Outdoor: 168,548; Striped Parking Area: 7,560 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	1,224.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	3,634.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	193.00	76.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	39.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.2396	0.0000	13.2396	2.0046	0.0000	2.0046			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**13.2396**	**1.5513**	**14.7909**	**2.0046**	**1.4411**	**3.4457**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4896	16.5721	3.6647	0.0472	1.0692	0.0517	1.1209	0.2930	0.0494	0.3425		5,053.3488	5,053.3488	0.2675		5,060.0352
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	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.5407**	**16.6070**	**4.0094**	**0.0483**	**1.1924**	**0.0525**	**1.2449**	**0.3257**	**0.0502**	**0.3759**		**5,162.7793**	**5,162.7793**	**0.2699**		**5,169.5276**

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					13.2396	0.0000	13.2396	2.0046	0.0000	2.0046			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**13.2396**	**1.5513**	**14.7909**	**2.0046**	**1.4411**	**3.4457**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4896	16.5721	3.6647	0.0472	1.0692	0.0517	1.1209	0.2930	0.0494	0.3425		5,053.348 8	5,053.348 8	0.2675		5,060.035 2
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	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.5407**	**16.6070**	**4.0094**	**0.0483**	**1.1924**	**0.0525**	**1.2449**	**0.3257**	**0.0502**	**0.3759**		**5,162.779 3**	**5,162.779 3**	**0.2699**		**5,169.527 6**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.656 9	3,685.656 9	1.1920		3,715.457 3
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.656 9**	**3,685.656 9**	**1.1920**		**3,715.457 3**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0613	0.0418	0.4137	1.3200e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		131.3166	131.3166	2.9700e-003		131.3909
Total	**0.0613**	**0.0418**	**0.4137**	**1.3200e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**131.3166**	**131.3166**	**2.9700e-003**		**131.3909**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0613	0.0418	0.4137	1.3200e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		131.3166	131.3166	2.9700e-003		131.3909
Total	**0.0613**	**0.0418**	**0.4137**	**1.3200e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**131.3166**	**131.3166**	**2.9700e-003**		**131.3909**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.7829	0.0000	8.7829	3.6131	0.0000	3.6131			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.7829**	**1.9853**	**10.7683**	**3.6131**	**1.8265**	**5.4396**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9691	32.8013	7.2535	0.0935	2.1163	0.1023	2.2186	0.5800	0.0979	0.6778		10,002.1076	10,002.1076	0.5294		10,015.3421
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	0.0681	0.0464	0.4596	1.4600e-003	0.1643	1.0300e-003	0.1653	0.0436	9.5000e-004	0.0445		145.9073	145.9073	3.3000e-003		145.9899
Total	**1.0372**	**32.8477**	**7.7131**	**0.0949**	**2.2806**	**0.1033**	**2.3839**	**0.6235**	**0.0988**	**0.7223**		**10,148.0149**	**10,148.0149**	**0.5327**		**10,161.3319**

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					8.7829	0.0000	8.7829	3.6131	0.0000	3.6131			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.7829**	**1.9853**	**10.7683**	**3.6131**	**1.8265**	**5.4396**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9691	32.8013	7.2535	0.0935	2.1163	0.1023	2.2186	0.5800	0.0979	0.6778		10,002.1076	10,002.1076	0.5294		10,015.3421
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	0.0681	0.0464	0.4596	1.4600e-003	0.1643	1.0300e-003	0.1653	0.0436	9.5000e-004	0.0445		145.9073	145.9073	3.3000e-003		145.9899
Total	**1.0372**	**32.8477**	**7.7131**	**0.0949**	**2.2806**	**0.1033**	**2.3839**	**0.6235**	**0.0988**	**0.7223**		**10,148.0149**	**10,148.0149**	**0.5327**		**10,161.3319**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.2497	7.9215	2.1287	0.0202	0.5145	0.0176	0.5321	0.1481	0.0168	0.1649		2,140.366 3	2,140.366 3	0.1115		2,143.154 1
Worker	0.6574	0.4480	4.4354	0.0141	1.5855	9.9800e-003	1.5954	0.4205	9.1900e-003	0.4297		1,408.005 7	1,408.005 7	0.0319		1,408.802 2
Total	**0.9071**	**8.3694**	**6.5641**	**0.0343**	**2.0999**	**0.0276**	**2.1275**	**0.5686**	**0.0260**	**0.5947**		**3,548.372 0**	**3,548.372 0**	**0.1434**		**3,551.956 3**

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.363 9	2,553.363 9	0.6160		2,568.764 3
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.363 9**	**2,553.363 9**	**0.6160**		**2,568.764 3**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.2497	7.9215	2.1287	0.0202	0.5145	0.0176	0.5321	0.1481	0.0168	0.1649		2,140.366 3	2,140.366 3	0.1115		2,143.154 1
Worker	0.6574	0.4480	4.4354	0.0141	1.5855	9.9800e-003	1.5954	0.4205	9.1900e-003	0.4297		1,408.005 7	1,408.005 7	0.0319		1,408.802 2
Total	**0.9071**	**8.3694**	**6.5641**	**0.0343**	**2.0999**	**0.0276**	**2.1275**	**0.5686**	**0.0260**	**0.5947**		**3,548.372 0**	**3,548.372 0**	**0.1434**		**3,551.956 3**

3.5 Building Construction - 2022

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

3.5 Building Construction - 2022

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	0.2328	7.4996	2.0011	0.0200	0.5145	0.0153	0.5298	0.1481	0.0146	0.1627		2,119.1757	2,119.1757	0.1065		2,121.8387
Worker	0.6136	0.4017	4.0701	0.0136	1.5855	9.7400e-003	1.5952	0.4205	8.9700e-003	0.4295		1,356.3886	1,356.3886	0.0285		1,357.1017
Total	**0.8464**	**7.9013**	**6.0712**	**0.0336**	**2.0999**	**0.0250**	**2.1250**	**0.5686**	**0.0236**	**0.5922**		**3,475.5643**	**3,475.5643**	**0.1351**		**3,478.9404**

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

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	0.2328	7.4996	2.0011	0.0200	0.5145	0.0153	0.5298	0.1481	0.0146	0.1627		2,119.1757	2,119.1757	0.1065		2,121.8387
Worker	0.6136	0.4017	4.0701	0.0136	1.5855	9.7400e-003	1.5952	0.4205	8.9700e-003	0.4295		1,356.3886	1,356.3886	0.0285		1,357.1017
Total	**0.8464**	**7.9013**	**6.0712**	**0.0336**	**2.0999**	**0.0250**	**2.1250**	**0.5686**	**0.0236**	**0.5922**		**3,475.5643**	**3,475.5643**	**0.1351**		**3,478.9404**

3.6 Paving - 2022

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.3720					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4749**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

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	0.0477	0.0312	0.3163	1.0600e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		105.4188	105.4188	2.2200e-003		105.4742
Total	**0.0477**	**0.0312**	**0.3163**	**1.0600e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**105.4188**	**105.4188**	**2.2200e-003**		**105.4742**

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.3720					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4749**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

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	0.0477	0.0312	0.3163	1.0600e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		105.4188	105.4188	2.2200e-003		105.4742
Total	**0.0477**	**0.0312**	**0.3163**	**1.0600e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**105.4188**	**105.4188**	**2.2200e-003**		**105.4742**

3.7 Architectural Coating - 2022

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					
Archit. Coating	178.4023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**178.6069**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

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	0.1240	0.0812	0.8225	2.7500e-003	0.3204	1.9700e-003	0.3223	0.0850	1.8100e-003	0.0868		274.0889	274.0889	5.7600e-003		274.2330
Total	**0.1240**	**0.0812**	**0.8225**	**2.7500e-003**	**0.3204**	**1.9700e-003**	**0.3223**	**0.0850**	**1.8100e-003**	**0.0868**		**274.0889**	**274.0889**	**5.7600e-003**		**274.2330**

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					
Archit. Coating	178.4023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**178.6069**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

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	0.1240	0.0812	0.8225	2.7500e-003	0.3204	1.9700e-003	0.3223	0.0850	1.8100e-003	0.0868		274.0889	274.0889	5.7600e-003		274.2330
Total	**0.1240**	**0.0812**	**0.8225**	**2.7500e-003**	**0.3204**	**1.9700e-003**	**0.3223**	**0.0850**	**1.8100e-003**	**0.0868**		**274.0889**	**274.0889**	**5.7600e-003**		**274.2330**

4.0 Operational Detail - Mobile

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	2.7777	12.8760	34.7326	0.1256	11.8729	0.1035	11.9764	3.1763	0.0967	3.2730		12,713.3441	12,713.3441	0.4452		12,724.4740
Unmitigated	2.7777	12.8760	34.7326	0.1256	11.8729	0.1035	11.9764	3.1763	0.0967	3.2730		12,713.3441	12,713.3441	0.4452		12,724.4740

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	165.45	36.90	15.75	300,392	300,392
Industrial Park	1,980.88	1,980.88	1980.88	5,193,538	5,193,538
Parking Lot	0.00	0.00	0.00		
Total	2,146.33	2,017.78	1,996.63	5,493,930	5,493,930

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Industrial Park	9.50	7.30	7.30	59.00	28.00	13.00	79	19	2
Parking Lot	9.50	7.30	7.30	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
General Office Building	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Industrial Park	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

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	0.1925	1.7502	1.4702	0.0105		0.1330	0.1330		0.1330	0.1330		2,100.2567	2,100.2567	0.0403	0.0385	2,112.7375
NaturalGas Unmitigated	0.1925	1.7502	1.4702	0.0105		0.1330	0.1330		0.1330	0.1330		2,100.2567	2,100.2567	0.0403	0.0385	2,112.7375

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					
General Office Building	794.384	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003		93.4569	93.4569	1.7900e-003	1.7100e-003	94.0123
Industrial Park	17057.8	0.1840	1.6723	1.4048	0.0100		0.1271	0.1271		0.1271	0.1271		2,006.7998	2,006.7998	0.0385	0.0368	2,018.7252
Parking Lot	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		**0.1925**	**1.7502**	**1.4702**	**0.0105**		**0.1330**	**0.1330**		**0.1330**	**0.1330**		**2,100.2567**	**2,100.2567**	**0.0403**	**0.0385**	**2,112.7375**

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					
General Office Building	0.794384	8.5700e-003	0.0779	0.0654	4.7000e-004		5.9200e-003	5.9200e-003		5.9200e-003	5.9200e-003		93.4569	93.4569	1.7900e-003	1.7100e-003	94.0123
Industrial Park	17.0578	0.1840	1.6723	1.4048	0.0100		0.1271	0.1271		0.1271	0.1271		2,006.7998	2,006.7998	0.0385	0.0368	2,018.7252
Parking Lot	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		**0.1925**	**1.7502**	**1.4702**	**0.0105**		**0.1330**	**0.1330**		**0.1330**	**0.1330**		**2,100.2567**	**2,100.2567**	**0.0403**	**0.0385**	**2,112.7375**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.2422	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Unmitigated	8.2422	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521

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	0.9776					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.2585					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.1700e-003	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Total	**8.2422**	**6.1000e-004**	**0.0666**	**0.0000**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**		**0.1427**	**0.1427**	**3.7000e-004**		**0.1521**

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	0.9776					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.2585					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.1700e-003	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Total	**8.2422**	**6.1000e-004**	**0.0666**	**0.0000**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**		**0.1427**	**0.1427**	**3.7000e-004**		**0.1521**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Building 4

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	273.53	1000sqft	6.28	273,526.00	0
General Office Building	5.00	1000sqft	0.11	5,000.00	0
Parking Lot	50.00	Space	0.45	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the IS's model.

Land Use - See SWAPE comment regarding incorrect land use type and size.

Construction Phase - See SWAPE comment regarding construction schedule. Grading phase consistent with the IS's model.

Off-road Equipment - See SWAPE comment regarding construction equipment usage hours.

Grading - Acres of grading value consistent with the IS's model.

Trips and VMT - See SWAPE comment regarding number of worker trips.

Architectural Coating - See SWAPE comment regarding architectural coating emission factors.

Vehicle Trips - Consistent with the IS's model. Operational vehicle trips modeled in the Buildings 1 to 3 model.

Energy Use - See SWAPE comment regarding energy use values.

Water And Wastewater - Indoor water use rate reflects updated land use types. See SWAPE comment regarding use of an incorrect land use size and type.

Solid Waste - See SWAPE comment regarding solid waste generation rate.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	PhaseEndDate	3/11/2021	3/25/2021
tblLandUse	LandUseSquareFeet	273,530.00	273,526.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	8.11	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3356	3.2899	2.6851	6.0600e-003	0.3079	0.1460	0.4539	0.1327	0.1365	0.2692	0.0000	540.4140	540.4140	0.0948	0.0000	542.7836
2022	1.4914	0.3222	0.3572	7.3000e-004	0.0132	0.0143	0.0275	3.5800e-003	0.0134	0.0170	0.0000	64.7920	64.7920	0.0127	0.0000	65.1085
Maximum	**1.4914**	**3.2899**	**2.6851**	**6.0600e-003**	**0.3079**	**0.1460**	**0.4539**	**0.1327**	**0.1365**	**0.2692**	**0.0000**	**540.4140**	**540.4140**	**0.0948**	**0.0000**	**542.7836**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3356	3.2899	2.6851	6.0600e-003	0.3079	0.1460	0.4539	0.1327	0.1365	0.2692	0.0000	540.4136	540.4136	0.0948	0.0000	542.7832
2022	1.4914	0.3222	0.3572	7.3000e-004	0.0132	0.0143	0.0275	3.5800e-003	0.0134	0.0170	0.0000	64.7920	64.7920	0.0127	0.0000	65.1084
Maximum	**1.4914**	**3.2899**	**2.6851**	**6.0600e-003**	**0.3079**	**0.1460**	**0.4539**	**0.1327**	**0.1365**	**0.2692**	**0.0000**	**540.4136**	**540.4136**	**0.0948**	**0.0000**	**542.7832**

	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**	**N20**	**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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2021**	**3-31-2021**	1.1558	1.1558
2	**4-1-2021**	**6-30-2021**	0.8141	0.8141
3	**7-1-2021**	**9-30-2021**	0.8230	0.8230
4	**10-1-2021**	**12-31-2021**	0.8268	0.8268
5	**1-1-2022**	**3-31-2022**	1.8174	1.8174
		Highest	1.8174	1.8174

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2350	3.0000e-005	3.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2600e-003
Energy	0.0370	0.3366	0.2827	2.0200e-003		0.0256	0.0256		0.0256	0.0256	0.0000	988.1707	988.1707	0.0351	0.0125	992.7843
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	5.1641	0.0000	5.1641	0.3052	0.0000	12.7938
Water						0.0000	0.0000		0.0000	0.0000	42.9504	213.6619	256.6123	4.4211	0.1062	398.7754
Total	**1.2720**	**0.3366**	**0.2858**	**2.0200e-003**	**0.0000**	**0.0256**	**0.0256**	**0.0000**	**0.0256**	**0.0256**	**48.1145**	**1,201.8385**	**1,249.9529**	**4.7614**	**0.1187**	**1,404.3598**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2350	3.0000e-005	3.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2600e-003
Energy	0.0370	0.3366	0.2827	2.0200e-003		0.0256	0.0256		0.0256	0.0256	0.0000	988.1707	988.1707	0.0351	0.0125	992.7843
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	5.1641	0.0000	5.1641	0.3052	0.0000	12.7938
Water						0.0000	0.0000		0.0000	0.0000	42.9504	213.6619	256.6123	4.4211	0.1062	398.7754
Total	**1.2720**	**0.3366**	**0.2858**	**2.0200e-003**	**0.0000**	**0.0256**	**0.0256**	**0.0000**	**0.0256**	**0.0256**	**48.1145**	**1,201.8385**	**1,249.9529**	**4.7614**	**0.1187**	**1,404.3598**

	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	N20	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	Demolition	Demolition	1/1/2021	1/28/2021	5	20	
2	Site Preparation	Site Preparation	1/29/2021	2/11/2021	5	10	
3	Grading	Grading	2/12/2021	3/25/2021	5	30	
4	Building Construction	Building Construction	3/12/2021	1/27/2022	5	230	
5	Paving	Paving	1/28/2022	2/24/2022	5	20	
6	Architectural Coating	Architectural Coating	2/25/2022	3/24/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 15

Acres of Paving: 0.45

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 417,789; Non-Residential Outdoor: 139,263; Striped Parking Area: 1,200 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	98.00	49.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**		**0.0155**	**0.0155**		**0.0144**	**0.0144**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**4.6000e-004**	**3.2000e-004**	**3.3600e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0020**	**1.0020**	**2.0000e-005**	**0.0000**	**1.0026**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**		**0.0155**	**0.0155**		**0.0144**	**0.0144**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**4.6000e-004**	**3.2000e-004**	**3.3600e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0020**	**1.0020**	**2.0000e-005**	**0.0000**	**1.0026**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.0200e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6012	0.6012	1.0000e-005	0.0000	0.6015
Total	**2.8000e-004**	**1.9000e-004**	**2.0200e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6012**	**0.6012**	**1.0000e-005**	**0.0000**	**0.6015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.0200e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6012	0.6012	1.0000e-005	0.0000	0.6015
Total	**2.8000e-004**	**1.9000e-004**	**2.0200e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6012**	**0.6012**	**1.0000e-005**	**0.0000**	**0.6015**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0344	0.3711	0.2379	4.4000e-004		0.0174	0.0174		0.0160	0.0160	0.0000	39.0806	39.0806	0.0126	0.0000	39.3965
Total	**0.0344**	**0.3711**	**0.2379**	**4.4000e-004**	**0.0983**	**0.0174**	**0.1157**	**0.0505**	**0.0160**	**0.0665**	**0.0000**	**39.0806**	**39.0806**	**0.0126**	**0.0000**	**39.3965**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	4.8000e-004	5.0500e-003	2.0000e-005	1.7800e-003	1.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.5030	1.5030	3.0000e-005	0.0000	1.5038
Total	**6.9000e-004**	**4.8000e-004**	**5.0500e-003**	**2.0000e-005**	**1.7800e-003**	**1.0000e-005**	**1.7900e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.5030**	**1.5030**	**3.0000e-005**	**0.0000**	**1.5038**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0344	0.3711	0.2379	4.4000e-004		0.0174	0.0174		0.0160	0.0160	0.0000	39.0805	39.0805	0.0126	0.0000	39.3965
Total	**0.0344**	**0.3711**	**0.2379**	**4.4000e-004**	**0.0983**	**0.0174**	**0.1157**	**0.0505**	**0.0160**	**0.0665**	**0.0000**	**39.0805**	**39.0805**	**0.0126**	**0.0000**	**39.3965**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	4.8000e-004	5.0500e-003	2.0000e-005	1.7800e-003	1.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.5030	1.5030	3.0000e-005	0.0000	1.5038
Total	**6.9000e-004**	**4.8000e-004**	**5.0500e-003**	**2.0000e-005**	**1.7800e-003**	**1.0000e-005**	**1.7900e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.5030**	**1.5030**	**3.0000e-005**	**0.0000**	**1.5038**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2006	1.8391	1.7487	2.8400e-003		0.1011	0.1011		0.0951	0.0951	0.0000	244.3773	244.3773	0.0590	0.0000	245.8513
Total	**0.2006**	**1.8391**	**1.7487**	**2.8400e-003**		**0.1011**	**0.1011**		**0.0951**	**0.0951**	**0.0000**	**244.3773**	**244.3773**	**0.0590**	**0.0000**	**245.8513**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	0.0164	0.5400	0.1348	1.3900e-003	0.0339	1.1700e-003	0.0351	9.8000e-003	1.1200e-003	0.0109	0.0000	134.0679	134.0679	6.5900e-003	0.0000	134.2326
Worker	0.0317	0.0219	0.2319	7.6000e-004	0.0817	5.3000e-004	0.0822	0.0217	4.9000e-004	0.0222	0.0000	69.0635	69.0635	1.5500e-003	0.0000	69.1022
Total	**0.0481**	**0.5619**	**0.3667**	**2.1500e-003**	**0.1156**	**1.7000e-003**	**0.1173**	**0.0315**	**1.6100e-003**	**0.0332**	**0.0000**	**203.1313**	**203.1313**	**8.1400e-003**	**0.0000**	**203.3348**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2006	1.8391	1.7487	2.8400e-003		0.1011	0.1011		0.0951	0.0951	0.0000	244.3770	244.3770	0.0590	0.0000	245.8510
Total	**0.2006**	**1.8391**	**1.7487**	**2.8400e-003**		**0.1011**	**0.1011**		**0.0951**	**0.0951**	**0.0000**	**244.3770**	**244.3770**	**0.0590**	**0.0000**	**245.8510**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	0.0164	0.5400	0.1348	1.3900e-003	0.0339	1.1700e-003	0.0351	9.8000e-003	1.1200e-003	0.0109	0.0000	134.0679	134.0679	6.5900e-003	0.0000	134.2326
Worker	0.0317	0.0219	0.2319	7.6000e-004	0.0817	5.3000e-004	0.0822	0.0217	4.9000e-004	0.0222	0.0000	69.0635	69.0635	1.5500e-003	0.0000	69.1022
Total	**0.0481**	**0.5619**	**0.3667**	**2.1500e-003**	**0.1156**	**1.7000e-003**	**0.1173**	**0.0315**	**1.6100e-003**	**0.0332**	**0.0000**	**203.1313**	**203.1313**	**8.1400e-003**	**0.0000**	**203.3348**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0162	0.1484	0.1555	2.6000e-004		7.6900e-003	7.6900e-003		7.2300e-003	7.2300e-003	0.0000	22.0139	22.0139	5.2700e-003	0.0000	22.1458
Total	**0.0162**	**0.1484**	**0.1555**	**2.6000e-004**		**7.6900e-003**	**7.6900e-003**		**7.2300e-003**	**7.2300e-003**	**0.0000**	**22.0139**	**22.0139**	**5.2700e-003**	**0.0000**	**22.1458**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3800e-003	0.0461	0.0114	1.2000e-004	3.0500e-003	9.0000e-005	3.1400e-003	8.8000e-004	9.0000e-005	9.7000e-004	0.0000	11.9541	11.9541	5.7000e-004	0.0000	11.9683
Worker	2.6600e-003	1.7700e-003	0.0192	7.0000e-005	7.3600e-003	5.0000e-005	7.4000e-003	1.9600e-003	4.0000e-005	2.0000e-003	0.0000	5.9910	5.9910	1.3000e-004	0.0000	5.9941
Total	**4.0400e-003**	**0.0478**	**0.0306**	**1.9000e-004**	**0.0104**	**1.4000e-004**	**0.0105**	**2.8400e-003**	**1.3000e-004**	**2.9700e-003**	**0.0000**	**17.9451**	**17.9451**	**7.0000e-004**	**0.0000**	**17.9624**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0162	0.1484	0.1555	2.6000e-004		7.6900e-003	7.6900e-003		7.2300e-003	7.2300e-003	0.0000	22.0139	22.0139	5.2700e-003	0.0000	22.1457
Total	**0.0162**	**0.1484**	**0.1555**	**2.6000e-004**		**7.6900e-003**	**7.6900e-003**		**7.2300e-003**	**7.2300e-003**	**0.0000**	**22.0139**	**22.0139**	**5.2700e-003**	**0.0000**	**22.1457**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3800e-003	0.0461	0.0114	1.2000e-004	3.0500e-003	9.0000e-005	3.1400e-003	8.8000e-004	9.0000e-005	9.7000e-004	0.0000	11.9541	11.9541	5.7000e-004	0.0000	11.9683
Worker	2.6600e-003	1.7700e-003	0.0192	7.0000e-005	7.3600e-003	5.0000e-005	7.4000e-003	1.9600e-003	4.0000e-005	2.0000e-003	0.0000	5.9910	5.9910	1.3000e-004	0.0000	5.9941
Total	**4.0400e-003**	**0.0478**	**0.0306**	**1.9000e-004**	**0.0104**	**1.4000e-004**	**0.0105**	**2.8400e-003**	**1.3000e-004**	**2.9700e-003**	**0.0000**	**17.9451**	**17.9451**	**7.0000e-004**	**0.0000**	**17.9624**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	5.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0116**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0276**	**20.0276**	**6.4800e-003**	**0.0000**	**20.1895**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.8000e-004	3.0900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9653	0.9653	2.0000e-005	0.0000	0.9658
Total	**4.3000e-004**	**2.8000e-004**	**3.0900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9653**	**0.9653**	**2.0000e-005**	**0.0000**	**0.9658**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
Paving	5.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0116**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0275**	**20.0275**	**6.4800e-003**	**0.0000**	**20.1895**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.8000e-004	3.0900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9653	0.9653	2.0000e-005	0.0000	0.9658
Total	**4.3000e-004**	**2.8000e-004**	**3.0900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9653**	**0.9653**	**2.0000e-005**	**0.0000**	**0.9658**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.4565					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**1.4586**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	3.8000e-004	4.1200e-003	1.0000e-005	1.5800e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.2870	1.2870	3.0000e-005	0.0000	1.2877
Total	**5.7000e-004**	**3.8000e-004**	**4.1200e-003**	**1.0000e-005**	**1.5800e-003**	**1.0000e-005**	**1.5900e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.2870**	**1.2870**	**3.0000e-005**	**0.0000**	**1.2877**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.4565					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**1.4586**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	3.8000e-004	4.1200e-003	1.0000e-005	1.5800e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.2870	1.2870	3.0000e-005	0.0000	1.2877
Total	**5.7000e-004**	**3.8000e-004**	**4.1200e-003**	**1.0000e-005**	**1.5800e-003**	**1.0000e-005**	**1.5900e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.2870**	**1.2870**	**3.0000e-005**	**0.0000**	**1.2877**

4.0 Operational Detail - Mobile

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	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Research & Development	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	621.7524	621.7524	0.0281	5.8200e-003	624.1887
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	621.7524	621.7524	0.0281	5.8200e-003	624.1887
NaturalGas Mitigated	0.0370	0.3366	0.2827	2.0200e-003		0.0256	0.0256		0.0256	0.0256	0.0000	366.4182	366.4182	7.0200e-003	6.7200e-003	368.5957
NaturalGas Unmitigated	0.0370	0.3366	0.2827	2.0200e-003		0.0256	0.0256		0.0256	0.0256	0.0000	366.4182	366.4182	7.0200e-003	6.7200e-003	368.5957

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	96650	5.2000e-004	4.7400e-003	3.9800e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	5.1576	5.1576	1.0000e-004	9.0000e-005	5.1883
Parking Lot	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	0.0000
Research & Development	6.76977e+006	0.0365	0.3319	0.2788	1.9900e-003		0.0252	0.0252		0.0252	0.0252	0.0000	361.2606	361.2606	6.9200e-003	6.6200e-003	363.4074
Total		**0.0370**	**0.3366**	**0.2827**	**2.0200e-003**		**0.0256**	**0.0256**		**0.0256**	**0.0256**	**0.0000**	**366.4182**	**366.4182**	**7.0200e-003**	**6.7100e-003**	**368.5957**

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	tons/yr										MT/yr					
General Office Building	96650	5.2000e-004	4.7400e-003	3.9800e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	5.1576	5.1576	1.0000e-004	9.0000e-005	5.1883
Parking Lot	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	0.0000
Research & Development	6.76977e+006	0.0365	0.3319	0.2788	1.9900e-003		0.0252	0.0252		0.0252	0.0252	0.0000	361.2606	361.2606	6.9200e-003	6.6200e-003	363.4074
Total		**0.0370**	**0.3366**	**0.2827**	**2.0200e-003**		**0.0256**	**0.0256**		**0.0256**	**0.0256**	**0.0000**	**366.4182**	**366.4182**	**7.0200e-003**	**6.7100e-003**	**368.5957**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	62400	18.1529	8.2000e-004	1.7000e-004	18.2240
Parking Lot	7000	2.0364	9.0000e-005	2.0000e-005	2.0444
Research & Development	2.06786e+006	601.5632	0.0272	5.6300e-003	603.9203
Total		**621.7524**	**0.0281**	**5.8200e-003**	**624.1887**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	62400	18.1529	8.2000e-004	1.7000e-004	18.2240
Parking Lot	7000	2.0364	9.0000e-005	2.0000e-005	2.0444
Research & Development	2.06786e+006	601.5632	0.0272	5.6300e-003	603.9203
Total		**621.7524**	**0.0281**	**5.8200e-003**	**624.1887**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2350	3.0000e-005	3.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2600e-003
Unmitigated	1.2350	3.0000e-005	3.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2600e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1457					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0891					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8000e-004	3.0000e-005	3.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2600e-003
Total	**1.2350**	**3.0000e-005**	**3.0200e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.8700e-003**	**5.8700e-003**	**2.0000e-005**	**0.0000**	**6.2600e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1457					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0891					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8000e-004	3.0000e-005	3.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2600e-003
Total	**1.2350**	**3.0000e-005**	**3.0200e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.8700e-003**	**5.8700e-003**	**2.0000e-005**	**0.0000**	**6.2600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	256.6123	4.4211	0.1062	398.7754
Unmitigated	256.6123	4.4211	0.1062	398.7754

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.888669 / 0.544668	2.2354	0.0291	7.0000e-004	3.1707
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	134.493 / 0	254.3769	4.3920	0.1055	395.6047
Total		**256.6123**	**4.4211**	**0.1062**	**398.7754**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.888669 / 0.544668	2.2354	0.0291	7.0000e-004	3.1707
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	134.493 / 0	254.3769	4.3920	0.1055	395.6047
Total		**256.6123**	**4.4211**	**0.1062**	**398.7754**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	5.1641	0.3052	0.0000	12.7938
Unmitigated	5.1641	0.3052	0.0000	12.7938

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	4.65	0.9439	0.0558	0.0000	2.3385
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	20.79	4.2202	0.2494	0.0000	10.4553
Total		**5.1641**	**0.3052**	**0.0000**	**12.7938**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	4.65	0.9439	0.0558	0.0000	2.3385
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	20.79	4.2202	0.2494	0.0000	10.4553
Total		**5.1641**	**0.3052**	**0.0000**	**12.7938**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Building 4

Bay Area AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	273.53	1000sqft	6.28	273,526.00	0
General Office Building	5.00	1000sqft	0.11	5,000.00	0
Parking Lot	50.00	Space	0.45	20,000.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 64

Climate Zone 5 **Operational Year** 2023

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr) 641.35 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the IS's model.

Land Use - See SWAPE comment regarding incorrect land use type and size.

Construction Phase - See SWAPE comment regarding construction schedule. Grading phase consistent with the IS's model.

Off-road Equipment - See SWAPE comment regarding construction equipment usage hours.

Grading - Acres of grading value consistent with the IS's model.

Trips and VMT - See SWAPE comment regarding number of worker trips.

Architectural Coating - See SWAPE comment regarding architectural coating emission factors.

Vehicle Trips - Consistent with the IS's model. Operational vehicle trips modeled in the Buildings 1 to 3 model.

Energy Use - See SWAPE comment regarding energy use values.

Water And Wastewater - Indoor water use rate reflects updated land use types. See SWAPE comment regarding use of an incorrect land use size and type.

Solid Waste - See SWAPE comment regarding solid waste generation rate.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	PhaseEndDate	3/11/2021	3/25/2021
tblLandUse	LandUseSquareFeet	273,530.00	273,526.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	8.11	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.7066	47.4448	36.4024	0.0789	18.2141	2.1353	20.2595	9.9699	1.9843	11.8517	0.0000	7,736.1035	7,736.1035	1.6313	0.0000	7,776.8864
2022	145.9154	20.5799	19.7045	0.0477	1.1368	0.8235	1.9602	0.3090	0.7748	1.0838	0.0000	4,704.0791	4,704.0791	0.7164	0.0000	4,721.3557
Maximum	**145.9154**	**47.4448**	**36.4024**	**0.0789**	**18.2141**	**2.1353**	**20.2595**	**9.9699**	**1.9843**	**11.8517**	**0.0000**	**7,736.1035**	**7,736.1035**	**1.6313**	**0.0000**	**7,776.8864**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.7066	47.4448	36.4024	0.0789	18.2141	2.1353	20.2595	9.9699	1.9843	11.8517	0.0000	7,736.1035	7,736.1035	1.6313	0.0000	7,776.8863
2022	145.9154	20.5799	19.7045	0.0477	1.1368	0.8235	1.9602	0.3090	0.7748	1.0838	0.0000	4,704.0791	4,704.0791	0.7164	0.0000	4,721.3557
Maximum	**145.9154**	**47.4448**	**36.4024**	**0.0789**	**18.2141**	**2.1353**	**20.2595**	**9.9699**	**1.9843**	**11.8517**	**0.0000**	**7,736.1035**	**7,736.1035**	**1.6313**	**0.0000**	**7,776.8863**

	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**	**N20**	**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**

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	6.7687	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Energy	0.2029	1.8443	1.5492	0.0111		0.1402	0.1402		0.1402	0.1402		2,213.1889	2,213.1889	0.0424	0.0406	2,226.3408
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	**6.9716**	**1.8446**	**1.5828**	**0.0111**	**0.0000**	**0.1403**	**0.1403**	**0.0000**	**0.1403**	**0.1403**		**2,213.2608**	**2,213.2608**	**0.0426**	**0.0406**	**2,226.4174**

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	6.7687	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Energy	0.2029	1.8443	1.5492	0.0111		0.1402	0.1402		0.1402	0.1402		2,213.1889	2,213.1889	0.0424	0.0406	2,226.3408
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	**6.9716**	**1.8446**	**1.5828**	**0.0111**	**0.0000**	**0.1403**	**0.1403**	**0.0000**	**0.1403**	**0.1403**		**2,213.2608**	**2,213.2608**	**0.0426**	**0.0406**	**2,226.4174**

	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	N20	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	Demolition	Demolition	1/1/2021	1/28/2021	5	20	
2	Site Preparation	Site Preparation	1/29/2021	2/11/2021	5	10	
3	Grading	Grading	2/12/2021	3/25/2021	5	30	
4	Building Construction	Building Construction	3/12/2021	1/27/2022	5	230	
5	Paving	Paving	1/28/2022	2/24/2022	5	20	
6	Architectural Coating	Architectural Coating	2/25/2022	3/24/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 15

Acres of Paving: 0.45

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 417,789; Non-Residential Outdoor: 139,263; Striped Parking Area: 1,200 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	98.00	49.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**		**1.5513**	**1.5513**		**1.4411**	**1.4411**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0482**	**0.0282**	**0.3685**	**1.1900e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**118.7939**	**118.7939**	**2.6600e-003**		**118.8603**

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	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**		**1.5513**	**1.5513**		**1.4411**	**1.4411**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0482**	**0.0282**	**0.3685**	**1.1900e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**118.7939**	**118.7939**	**2.6600e-003**		**118.8603**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0579	0.0338	0.4421	1.4300e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		142.5527	142.5527	3.1900e-003		142.6324
Total	**0.0579**	**0.0338**	**0.4421**	**1.4300e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**142.5527**	**142.5527**	**3.1900e-003**		**142.6324**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.656 9	3,685.656 9	1.1920		3,715.457 3
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.656 9**	**3,685.656 9**	**1.1920**		**3,715.457 3**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0579	0.0338	0.4421	1.4300e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		142.5527	142.5527	3.1900e-003		142.6324
Total	**0.0579**	**0.0338**	**0.4421**	**1.4300e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**142.5527**	**142.5527**	**3.1900e-003**		**142.6324**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.928 5	2,871.928 5	0.9288		2,895.149 5
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**		**2,871.928 5**	**2,871.928 5**	**0.9288**		**2,895.149 5**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0482**	**0.0282**	**0.3685**	**1.1900e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**118.7939**	**118.7939**	**2.6600e-003**		**118.8603**

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.928 5	2,871.928 5	0.9288		2,895.149 5
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**	**0.0000**	**2,871.928 5**	**2,871.928 5**	**0.9288**		**2,895.149 5**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0482**	**0.0282**	**0.3685**	**1.1900e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**118.7939**	**118.7939**	**2.6600e-003**		**118.8603**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.1520	5.0637	1.1941	0.0134	0.3317	0.0110	0.3427	0.0955	0.0105	0.1060		1,415.896 9	1,415.896 9	0.0665		1,417.558 2
Worker	0.3151	0.1842	2.4072	7.7900e-003	0.8051	5.0700e-003	0.8101	0.2135	4.6700e-003	0.2182		776.1203	776.1203	0.0174		776.5541
Total	**0.4671**	**5.2479**	**3.6013**	**0.0212**	**1.1367**	**0.0160**	**1.1528**	**0.3090**	**0.0152**	**0.3242**		**2,192.017 2**	**2,192.017 2**	**0.0838**		**2,194.112 3**

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.363 9	2,553.363 9	0.6160		2,568.764 3
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.363 9**	**2,553.363 9**	**0.6160**		**2,568.764 3**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.1520	5.0637	1.1941	0.0134	0.3317	0.0110	0.3427	0.0955	0.0105	0.1060		1,415.896 9	1,415.896 9	0.0665		1,417.558 2
Worker	0.3151	0.1842	2.4072	7.7900e-003	0.8051	5.0700e-003	0.8101	0.2135	4.6700e-003	0.2182		776.1203	776.1203	0.0174		776.5541
Total	**0.4671**	**5.2479**	**3.6013**	**0.0212**	**1.1367**	**0.0160**	**1.1528**	**0.3090**	**0.0152**	**0.3242**		**2,192.017 2**	**2,192.017 2**	**0.0838**		**2,194.112 3**

3.5 Building Construction - 2022

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

3.5 Building Construction - 2022

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	0.1417	4.7991	1.1230	0.0132	0.3317	9.5100e-003	0.3412	0.0955	9.0900e-003	0.1046		1,402.1081	1,402.1081	0.0635		1,403.6965
Worker	0.2933	0.1652	2.2181	7.5000e-003	0.8051	4.9500e-003	0.8100	0.2135	4.5600e-003	0.2181		747.6375	747.6375	0.0156		748.0270
Total	**0.4350**	**4.9642**	**3.3411**	**0.0207**	**1.1368**	**0.0145**	**1.1512**	**0.3090**	**0.0137**	**0.3227**		**2,149.7455**	**2,149.7455**	**0.0791**		**2,151.7235**

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

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	0.1417	4.7991	1.1230	0.0132	0.3317	9.5100e-003	0.3412	0.0955	9.0900e-003	0.1046		1,402.1081	1,402.1081	0.0635		1,403.6965
Worker	0.2933	0.1652	2.2181	7.5000e-003	0.8051	4.9500e-003	0.8100	0.2135	4.5600e-003	0.2181		747.6375	747.6375	0.0156		748.0270
Total	**0.4350**	**4.9642**	**3.3411**	**0.0207**	**1.1368**	**0.0145**	**1.1512**	**0.3090**	**0.0137**	**0.3227**		**2,149.7455**	**2,149.7455**	**0.0791**		**2,151.7235**

3.6 Paving - 2022

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0590					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1618**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

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	0.0449	0.0253	0.3395	1.1500e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		114.4343	114.4343	2.3800e-003		114.4939
Total	**0.0449**	**0.0253**	**0.3395**	**1.1500e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**114.4343**	**114.4343**	**2.3800e-003**		**114.4939**

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0590					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1618**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

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	0.0449	0.0253	0.3395	1.1500e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		114.4343	114.4343	2.3800e-003		114.4939
Total	**0.0449**	**0.0253**	**0.3395**	**1.1500e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**114.4343**	**114.4343**	**2.3800e-003**		**114.4939**

3.7 Architectural Coating - 2022

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					
Archit. Coating	145.6511					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**145.8556**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

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	0.0599	0.0337	0.4527	1.5300e-003	0.1643	1.0100e-003	0.1653	0.0436	9.3000e-004	0.0445		152.5791	152.5791	3.1800e-003		152.6586
Total	**0.0599**	**0.0337**	**0.4527**	**1.5300e-003**	**0.1643**	**1.0100e-003**	**0.1653**	**0.0436**	**9.3000e-004**	**0.0445**		**152.5791**	**152.5791**	**3.1800e-003**		**152.6586**

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					
Archit. Coating	145.6511					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**145.8556**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

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	0.0599	0.0337	0.4527	1.5300e-003	0.1643	1.0100e-003	0.1653	0.0436	9.3000e-004	0.0445		152.5791	152.5791	3.1800e-003		152.6586
Total	**0.0599**	**0.0337**	**0.4527**	**1.5300e-003**	**0.1643**	**1.0100e-003**	**0.1653**	**0.0436**	**9.3000e-004**	**0.0445**		**152.5791**	**152.5791**	**3.1800e-003**		**152.6586**

4.0 Operational Detail - Mobile

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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Research & Development	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

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	0.2029	1.8443	1.5492	0.0111		0.1402	0.1402		0.1402	0.1402		2,213.1889	2,213.1889	0.0424	0.0406	2,226.3408
NaturalGas Unmitigated	0.2029	1.8443	1.5492	0.0111		0.1402	0.1402		0.1402	0.1402		2,213.1889	2,213.1889	0.0424	0.0406	2,226.3408

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					
General Office Building	264.795	2.8600e-003	0.0260	0.0218	1.6000e-004		1.9700e-003	1.9700e-003		1.9700e-003	1.9700e-003		31.1523	31.1523	6.0000e-004	5.7000e-004	31.3374
Parking Lot	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
Research & Development	18547.3	0.2000	1.8184	1.5274	0.0109		0.1382	0.1382		0.1382	0.1382		2,182.0366	2,182.0366	0.0418	0.0400	2,195.0033
Total		**0.2029**	**1.8443**	**1.5492**	**0.0111**		**0.1402**	**0.1402**		**0.1402**	**0.1402**		**2,213.1889**	**2,213.1889**	**0.0424**	**0.0406**	**2,226.3408**

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					
General Office Building	0.264795	2.8600e-003	0.0260	0.0218	1.6000e-004		1.9700e-003	1.9700e-003		1.9700e-003	1.9700e-003		31.1523	31.1523	6.0000e-004	5.7000e-004	31.3374
Parking Lot	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
Research & Development	18.5473	0.2000	1.8184	1.5274	0.0109		0.1382	0.1382		0.1382	0.1382		2,182.0366	2,182.0366	0.0418	0.0400	2,195.0033
Total		**0.2029**	**1.8443**	**1.5492**	**0.0111**		**0.1402**	**0.1402**		**0.1402**	**0.1402**		**2,213.1889**	**2,213.1889**	**0.0424**	**0.0406**	**2,226.3408**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.7687	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Unmitigated	6.7687	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766

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	0.7981					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9675					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.1100e-003	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Total	**6.7687**	**3.1000e-004**	**0.0335**	**0.0000**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**		**0.0719**	**0.0719**	**1.9000e-004**		**0.0766**

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	0.7981					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9675					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.1100e-003	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Total	**6.7687**	**3.1000e-004**	**0.0335**	**0.0000**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**		**0.0719**	**0.0719**	**1.9000e-004**		**0.0766**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Building 4

Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	273.53	1000sqft	6.28	273,526.00	0
General Office Building	5.00	1000sqft	0.11	5,000.00	0
Parking Lot	50.00	Space	0.45	20,000.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 64

Climate Zone 5 **Operational Year** 2023

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr) 641.35 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the IS's model.

Land Use - See SWAPE comment regarding incorrect land use type and size.

Construction Phase - See SWAPE comment regarding construction schedule. Grading phase consistent with the IS's model.

Off-road Equipment - See SWAPE comment regarding construction equipment usage hours.

Grading - Acres of grading value consistent with the IS's model.

Trips and VMT - See SWAPE comment regarding number of worker trips.

Architectural Coating - See SWAPE comment regarding architectural coating emission factors.

Vehicle Trips - Consistent with the IS's model. Operational vehicle trips modeled in the Buildings 1 to 3 model.

Energy Use - See SWAPE comment regarding energy use values.

Water And Wastewater - Indoor water use rate reflects updated land use types. See SWAPE comment regarding use of an incorrect land use size and type.

Solid Waste - See SWAPE comment regarding solid waste generation rate.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	PhaseEndDate	3/11/2021	3/25/2021
tblLandUse	LandUseSquareFeet	273,530.00	273,526.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	8.11	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.7371	47.5383	36.4020	0.0779	18.2141	2.1357	20.2595	9.9699	1.9846	11.8517	0.0000	7,629.6418	7,629.6418	1.6354	0.0000	7,670.5269
2022	145.9192	20.6549	19.7203	0.0467	1.1368	0.8238	1.9606	0.3090	0.7751	1.0842	0.0000	4,609.3804	4,609.3804	0.7162	0.0000	4,626.7581
Maximum	**145.9192**	**47.5383**	**36.4020**	**0.0779**	**18.2141**	**2.1357**	**20.2595**	**9.9699**	**1.9846**	**11.8517**	**0.0000**	**7,629.6418**	**7,629.6418**	**1.6354**	**0.0000**	**7,670.5269**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.7371	47.5383	36.4020	0.0779	18.2141	2.1357	20.2595	9.9699	1.9846	11.8517	0.0000	7,629.6418	7,629.6418	1.6354	0.0000	7,670.5269
2022	145.9192	20.6549	19.7203	0.0467	1.1368	0.8238	1.9606	0.3090	0.7751	1.0842	0.0000	4,609.3804	4,609.3804	0.7162	0.0000	4,626.7581
Maximum	**145.9192**	**47.5383**	**36.4020**	**0.0779**	**18.2141**	**2.1357**	**20.2595**	**9.9699**	**1.9846**	**11.8517**	**0.0000**	**7,629.6418**	**7,629.6418**	**1.6354**	**0.0000**	**7,670.5269**

	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**	**N20**	**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**

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	6.7687	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Energy	0.2029	1.8443	1.5492	0.0111		0.1402	0.1402		0.1402	0.1402		2,213.1889	2,213.1889	0.0424	0.0406	2,226.3408
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	**6.9716**	**1.8446**	**1.5828**	**0.0111**	**0.0000**	**0.1403**	**0.1403**	**0.0000**	**0.1403**	**0.1403**		**2,213.2608**	**2,213.2608**	**0.0426**	**0.0406**	**2,226.4174**

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	6.7687	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Energy	0.2029	1.8443	1.5492	0.0111		0.1402	0.1402		0.1402	0.1402		2,213.1889	2,213.1889	0.0424	0.0406	2,226.3408
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	**6.9716**	**1.8446**	**1.5828**	**0.0111**	**0.0000**	**0.1403**	**0.1403**	**0.0000**	**0.1403**	**0.1403**		**2,213.2608**	**2,213.2608**	**0.0426**	**0.0406**	**2,226.4174**

	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	N20	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	Demolition	Demolition	1/1/2021	1/28/2021	5	20	
2	Site Preparation	Site Preparation	1/29/2021	2/11/2021	5	10	
3	Grading	Grading	2/12/2021	3/25/2021	5	30	
4	Building Construction	Building Construction	3/12/2021	1/27/2022	5	230	
5	Paving	Paving	1/28/2022	2/24/2022	5	20	
6	Architectural Coating	Architectural Coating	2/25/2022	3/24/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 15

Acres of Paving: 0.45

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 417,789; Non-Residential Outdoor: 139,263; Striped Parking Area: 1,200 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	98.00	49.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**		**1.5513**	**1.5513**		**1.4411**	**1.4411**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

Category	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
	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	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0511**	**0.0348**	**0.3447**	**1.1000e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**109.4305**	**109.4305**	**2.4800e-003**		**109.4924**

Mitigated Construction On-Site

Category	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
	lb/day										lb/day					
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**		**1.5513**	**1.5513**		**1.4411**	**1.4411**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0511**	**0.0348**	**0.3447**	**1.1000e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**109.4305**	**109.4305**	**2.4800e-003**		**109.4924**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0613	0.0418	0.4137	1.3200e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		131.3166	131.3166	2.9700e-003		131.3909
Total	**0.0613**	**0.0418**	**0.4137**	**1.3200e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**131.3166**	**131.3166**	**2.9700e-003**		**131.3909**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0613	0.0418	0.4137	1.3200e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		131.3166	131.3166	2.9700e-003		131.3909
Total	**0.0613**	**0.0418**	**0.4137**	**1.3200e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**131.3166**	**131.3166**	**2.9700e-003**		**131.3909**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0511**	**0.0348**	**0.3447**	**1.1000e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**109.4305**	**109.4305**	**2.4800e-003**		**109.4924**

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0511**	**0.0348**	**0.3447**	**1.1000e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**109.4305**	**109.4305**	**2.4800e-003**		**109.4924**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.1610	5.1073	1.3725	0.0130	0.3317	0.0114	0.3430	0.0955	0.0109	0.1063		1,379.9730	1,379.9730	0.0719		1,381.7704
Worker	0.3338	0.2275	2.2522	7.1700e-003	0.8051	5.0700e-003	0.8101	0.2135	4.6700e-003	0.2182		714.9459	714.9459	0.0162		715.3503
Total	**0.4948**	**5.3347**	**3.6246**	**0.0202**	**1.1367**	**0.0164**	**1.1532**	**0.3090**	**0.0155**	**0.3245**		**2,094.9189**	**2,094.9189**	**0.0881**		**2,097.1207**

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.1610	5.1073	1.3725	0.0130	0.3317	0.0114	0.3430	0.0955	0.0109	0.1063		1,379.973 0	1,379.973 0	0.0719		1,381.770 4
Worker	0.3338	0.2275	2.2522	7.1700e-003	0.8051	5.0700e-003	0.8101	0.2135	4.6700e-003	0.2182		714.9459	714.9459	0.0162		715.3503
Total	**0.4948**	**5.3347**	**3.6246**	**0.0202**	**1.1367**	**0.0164**	**1.1532**	**0.3090**	**0.0155**	**0.3245**		**2,094.918 9**	**2,094.918 9**	**0.0881**		**2,097.120 7**

3.5 Building Construction - 2022

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

3.5 Building Construction - 2022

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	0.1501	4.8353	1.2902	0.0129	0.3317	9.8600e-003	0.3416	0.0955	9.4300e-003	0.1049		1,366.3106	1,366.3106	0.0687		1,368.0276
Worker	0.3116	0.2040	2.0667	6.9100e-003	0.8051	4.9500e-003	0.8100	0.2135	4.5600e-003	0.2181		688.7362	688.7362	0.0145		689.0983
Total	**0.4617**	**5.0392**	**3.3569**	**0.0198**	**1.1368**	**0.0148**	**1.1515**	**0.3090**	**0.0140**	**0.3230**		**2,055.0468**	**2,055.0468**	**0.0832**		**2,057.1259**

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

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	0.1501	4.8353	1.2902	0.0129	0.3317	9.8600e-003	0.3416	0.0955	9.4300e-003	0.1049		1,366.3106	1,366.3106	0.0687		1,368.0276
Worker	0.3116	0.2040	2.0667	6.9100e-003	0.8051	4.9500e-003	0.8100	0.2135	4.5600e-003	0.2181		688.7362	688.7362	0.0145		689.0983
Total	**0.4617**	**5.0392**	**3.3569**	**0.0198**	**1.1368**	**0.0148**	**1.1515**	**0.3090**	**0.0140**	**0.3230**		**2,055.0468**	**2,055.0468**	**0.0832**		**2,057.1259**

3.6 Paving - 2022

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0590					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1618**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

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	0.0477	0.0312	0.3163	1.0600e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		105.4188	105.4188	2.2200e-003		105.4742
Total	**0.0477**	**0.0312**	**0.3163**	**1.0600e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**105.4188**	**105.4188**	**2.2200e-003**		**105.4742**

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0590					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1618**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

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	0.0477	0.0312	0.3163	1.0600e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		105.4188	105.4188	2.2200e-003		105.4742
Total	**0.0477**	**0.0312**	**0.3163**	**1.0600e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**105.4188**	**105.4188**	**2.2200e-003**		**105.4742**

3.7 Architectural Coating - 2022

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					
Archit. Coating	145.6511					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**145.8556**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

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	0.0636	0.0416	0.4218	1.4100e-003	0.1643	1.0100e-003	0.1653	0.0436	9.3000e-004	0.0445		140.5584	140.5584	2.9600e-003		140.6323
Total	**0.0636**	**0.0416**	**0.4218**	**1.4100e-003**	**0.1643**	**1.0100e-003**	**0.1653**	**0.0436**	**9.3000e-004**	**0.0445**		**140.5584**	**140.5584**	**2.9600e-003**		**140.6323**

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					
Archit. Coating	145.6511					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**145.8556**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

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	0.0636	0.0416	0.4218	1.4100e-003	0.1643	1.0100e-003	0.1653	0.0436	9.3000e-004	0.0445		140.5584	140.5584	2.9600e-003		140.6323
Total	**0.0636**	**0.0416**	**0.4218**	**1.4100e-003**	**0.1643**	**1.0100e-003**	**0.1653**	**0.0436**	**9.3000e-004**	**0.0445**		**140.5584**	**140.5584**	**2.9600e-003**		**140.6323**

4.0 Operational Detail - Mobile

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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Research & Development	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

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	0.2029	1.8443	1.5492	0.0111		0.1402	0.1402		0.1402	0.1402		2,213.188 9	2,213.188 9	0.0424	0.0406	2,226.340 8
NaturalGas Unmitigated	0.2029	1.8443	1.5492	0.0111		0.1402	0.1402		0.1402	0.1402		2,213.188 9	2,213.188 9	0.0424	0.0406	2,226.340 8

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					
General Office Building	264.795	2.8600e-003	0.0260	0.0218	1.6000e-004		1.9700e-003	1.9700e-003		1.9700e-003	1.9700e-003		31.1523	31.1523	6.0000e-004	5.7000e-004	31.3374
Parking Lot	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
Research & Development	18547.3	0.2000	1.8184	1.5274	0.0109		0.1382	0.1382		0.1382	0.1382		2,182.0366	2,182.0366	0.0418	0.0400	2,195.0033
Total		**0.2029**	**1.8443**	**1.5492**	**0.0111**		**0.1402**	**0.1402**		**0.1402**	**0.1402**		**2,213.1889**	**2,213.1889**	**0.0424**	**0.0406**	**2,226.3408**

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					
General Office Building	0.264795	2.8600e-003	0.0260	0.0218	1.6000e-004		1.9700e-003	1.9700e-003		1.9700e-003	1.9700e-003		31.1523	31.1523	6.0000e-004	5.7000e-004	31.3374
Parking Lot	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
Research & Development	18.5473	0.2000	1.8184	1.5274	0.0109		0.1382	0.1382		0.1382	0.1382		2,182.0366	2,182.0366	0.0418	0.0400	2,195.0033
Total		**0.2029**	**1.8443**	**1.5492**	**0.0111**		**0.1402**	**0.1402**		**0.1402**	**0.1402**		**2,213.1889**	**2,213.1889**	**0.0424**	**0.0406**	**2,226.3408**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.7687	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Unmitigated	6.7687	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766

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	0.7981					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9675					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.1100e-003	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Total	**6.7687**	**3.1000e-004**	**0.0335**	**0.0000**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**		**0.0719**	**0.0719**	**1.9000e-004**		**0.0766**

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	0.7981					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9675					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.1100e-003	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Total	**6.7687**	**3.1000e-004**	**0.0335**	**0.0000**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**		**0.0719**	**0.0719**	**1.9000e-004**		**0.0766**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Existing Uses

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	381.59	1000sqft	8.76	381,586.00	0

1.2 Other Project Characteristics

Urbanization Urban

Wind Speed (m/s) 2.2

Precipitation Freq (Days) 64

Climate Zone 5

Operational Year 2023

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr) 641.35

CH4 Intensity (lb/MWhr) 0.029

N2O Intensity (lb/MWhr) 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the IS's model.

Land Use - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Trips and VMT - Consistent with the IS's model.

Construction Phase - Consistent with the IS's model.

Grading -

Architectural Coating - Consistent with the IS's model.

Vehicle Trips - Consistent with the IS's model.

Area Coating - Consistent with the IS's model.

Energy Use - Consistent with the IS's model.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	22,895.00	0.00
tblAreaCoating	Area_Parking	22895	0
tblEnergyUse	LightingElect	0.35	0.00
tblLandUse	LandUseSquareFeet	381,590.00	381,586.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	VendorTripNumber	63.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	160.00	0.00
tblTripsAndVMT	WorkerTripNumber	32.00	0.00
tblVehicleTrips	WD_TR	0.00	1.74

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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	N20	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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0250	3.0000e-005	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2700e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0250**	**3.0000e-005**	**3.5100e-003**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.8200e-003**	**6.8200e-003**	**2.0000e-005**	**0.0000**	**7.2700e-003**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0250	3.0000e-005	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2700e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0250**	**3.0000e-005**	**3.5100e-003**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.8200e-003**	**6.8200e-003**	**2.0000e-005**	**0.0000**	**7.2700e-003**

	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**	**N20**	**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	Demolition	Demolition	9/29/2020	10/26/2020	5	20	
2	Site Preparation	Site Preparation	10/27/2020	11/9/2020	5	10	
3	Grading	Grading	11/10/2020	12/7/2020	5	20	
4	Building Construction	Building Construction	12/8/2020	10/25/2021	5	230	
5	Architectural Coating	Architectural Coating	10/26/2021	11/22/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 8.76

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

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	0.00	78	0.48
Demolition	Excavators	3	0.00	158	0.38
Demolition	Concrete/Industrial Saws	1	0.00	81	0.73
Grading	Excavators	1	0.00	158	0.38
Building Construction	Cranes	1	0.00	231	0.29
Building Construction	Forklifts	3	0.00	89	0.20
Building Construction	Generator Sets	1	0.00	84	0.74
Demolition	Rubber Tired Dozers	2	0.00	247	0.40
Grading	Rubber Tired Dozers	1	0.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Grading	Graders	1	0.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	0.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	0.00	247	0.40
Building Construction	Welders	1	0.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

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

3.2 Demolition - 2020

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	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	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**	**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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**

3.3 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	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	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**	**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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	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	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**	**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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**

3.4 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	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	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**	**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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

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

3.5 Building Construction - 2020

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

3.5 Building Construction - 2021

Unmitigated Construction On-Site

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

3.5 Building Construction - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		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	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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**

3.6 Architectural Coating - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

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	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Parking Lot	9.50	7.30	7.30	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
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	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	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	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	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**

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	tons/yr										MT/yr					
Parking Lot	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	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**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0250	3.0000e-005	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2700e-003
Unmitigated	0.0250	3.0000e-005	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2700e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0247					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.2000e-004	3.0000e-005	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2700e-003
Total	**0.0250**	**3.0000e-005**	**3.5100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.8200e-003**	**6.8200e-003**	**2.0000e-005**	**0.0000**	**7.2700e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0247					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.2000e-004	3.0000e-005	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2700e-003
Total	**0.0250**	**3.0000e-005**	**3.5100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.8200e-003**	**6.8200e-003**	**2.0000e-005**	**0.0000**	**7.2700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

<u>Unmitigated</u>

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Existing Uses

Bay Area AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	381.59	1000sqft	8.76	381,586.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 64

Climate Zone 5 **Operational Year** 2023

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr) 641.35 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the IS's model.

Land Use - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Trips and VMT - Consistent with the IS's model.

Construction Phase - Consistent with the IS's model.

Grading -

Architectural Coating - Consistent with the IS's model.

Vehicle Trips - Consistent with the IS's model.

Area Coating - Consistent with the IS's model.

Energy Use - Consistent with the IS's model.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	22,895.00	0.00
tblAreaCoating	Area_Parking	22895	0
tblEnergyUse	LightingElect	0.35	0.00
tblLandUse	LandUseSquareFeet	381,590.00	381,586.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	VendorTripNumber	63.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	160.00	0.00
tblTripsAndVMT	WorkerTripNumber	32.00	0.00
tblVehicleTrips	WD_TR	0.00	1.74

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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	N20	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

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	0.1388	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
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	**0.1388**	**3.5000e-004**	**0.0390**	**0.0000**	**0.0000**	**1.4000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**1.4000e-004**		**0.0835**	**0.0835**	**2.2000e-004**	**0.0000**	**0.0890**

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	0.1388	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
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	**0.1388**	**3.5000e-004**	**0.0390**	**0.0000**	**0.0000**	**1.4000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**1.4000e-004**		**0.0835**	**0.0835**	**2.2000e-004**	**0.0000**	**0.0890**

	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	N20	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	Demolition	Demolition	9/29/2020	10/26/2020	5	20	
2	Site Preparation	Site Preparation	10/27/2020	11/9/2020	5	10	
3	Grading	Grading	11/10/2020	12/7/2020	5	20	
4	Building Construction	Building Construction	12/8/2020	10/25/2021	5	230	
5	Architectural Coating	Architectural Coating	10/26/2021	11/22/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 8.76

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
Architectural Coating	Air Compressors	1	0.00	78	0.48
Demolition	Excavators	3	0.00	158	0.38
Demolition	Concrete/Industrial Saws	1	0.00	81	0.73
Grading	Excavators	1	0.00	158	0.38
Building Construction	Cranes	1	0.00	231	0.29
Building Construction	Forklifts	3	0.00	89	0.20
Building Construction	Generator Sets	1	0.00	84	0.74
Demolition	Rubber Tired Dozers	2	0.00	247	0.40
Grading	Rubber Tired Dozers	1	0.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Grading	Graders	1	0.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	0.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	0.00	247	0.40
Building Construction	Welders	1	0.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

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

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**

3.2 Demolition - 2020

Mitigated Construction On-Site

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

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**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

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

3.3 Site Preparation - 2020

Mitigated Construction On-Site

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

3.4 Grading - 2020

Unmitigated Construction On-Site

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

3.4 Grading - 2020

Mitigated Construction On-Site

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

3.5 Building Construction - 2020

Unmitigated Construction On-Site

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

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**

3.5 Building Construction - 2020

Mitigated Construction On-Site

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

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**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

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

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**

3.5 Building Construction - 2021

Mitigated Construction On-Site

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

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**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

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

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**

3.6 Architectural Coating - 2021

Mitigated Construction On-Site

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

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**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	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
	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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Parking Lot	9.50	7.30	7.30	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
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1388	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
Unmitigated	0.1388	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1352					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6100e-003	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
Total	**0.1388**	**3.5000e-004**	**0.0390**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0835**	**0.0835**	**2.2000e-004**		**0.0890**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1352					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6100e-003	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
Total	**0.1388**	**3.5000e-004**	**0.0390**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0835**	**0.0835**	**2.2000e-004**		**0.0890**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Existing Uses

Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	381.59	1000sqft	8.76	381,586.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Consistent with the IS's model.

Land Use - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Trips and VMT - Consistent with the IS's model.

Construction Phase - Consistent with the IS's model.

Grading -

Architectural Coating - Consistent with the IS's model.

Vehicle Trips - Consistent with the IS's model.

Area Coating - Consistent with the IS's model.

Energy Use - Consistent with the IS's model.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	22,895.00	0.00
tblAreaCoating	Area_Parking	22895	0
tblEnergyUse	LightingElect	0.35	0.00
tblLandUse	LandUseSquareFeet	381,590.00	381,586.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	VendorTripNumber	63.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	160.00	0.00
tblTripsAndVMT	WorkerTripNumber	32.00	0.00
tblVehicleTrips	WD_TR	0.00	1.74

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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	N20	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

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	0.1388	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
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	**0.1388**	**3.5000e-004**	**0.0390**	**0.0000**	**0.0000**	**1.4000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**1.4000e-004**		**0.0835**	**0.0835**	**2.2000e-004**	**0.0000**	**0.0890**

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	0.1388	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
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	**0.1388**	**3.5000e-004**	**0.0390**	**0.0000**	**0.0000**	**1.4000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**1.4000e-004**		**0.0835**	**0.0835**	**2.2000e-004**	**0.0000**	**0.0890**

	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	N20	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	Demolition	Demolition	9/29/2020	10/26/2020	5	20	
2	Site Preparation	Site Preparation	10/27/2020	11/9/2020	5	10	
3	Grading	Grading	11/10/2020	12/7/2020	5	20	
4	Building Construction	Building Construction	12/8/2020	10/25/2021	5	230	
5	Architectural Coating	Architectural Coating	10/26/2021	11/22/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 8.76

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
Architectural Coating	Air Compressors	1	0.00	78	0.48
Demolition	Excavators	3	0.00	158	0.38
Demolition	Concrete/Industrial Saws	1	0.00	81	0.73
Grading	Excavators	1	0.00	158	0.38
Building Construction	Cranes	1	0.00	231	0.29
Building Construction	Forklifts	3	0.00	89	0.20
Building Construction	Generator Sets	1	0.00	84	0.74
Demolition	Rubber Tired Dozers	2	0.00	247	0.40
Grading	Rubber Tired Dozers	1	0.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Grading	Graders	1	0.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	0.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	0.00	247	0.40
Building Construction	Welders	1	0.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

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

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**

3.2 Demolition - 2020

Mitigated Construction On-Site

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

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**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

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

3.3 Site Preparation - 2020

Mitigated Construction On-Site

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

3.4 Grading - 2020

Unmitigated Construction On-Site

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

3.4 Grading - 2020

Mitigated Construction On-Site

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

3.5 Building Construction - 2020

Unmitigated Construction On-Site

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

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**

3.5 Building Construction - 2020

Mitigated Construction On-Site

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

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**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

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

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**

3.5 Building Construction - 2021

Mitigated Construction On-Site

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

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**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

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

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**

3.6 Architectural Coating - 2021

Mitigated Construction On-Site

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

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**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	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
	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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Parking Lot	9.50	7.30	7.30	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
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1388	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
Unmitigated	0.1388	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1352					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6100e-003	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
Total	**0.1388**	**3.5000e-004**	**0.0390**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0835**	**0.0835**	**2.2000e-004**		**0.0890**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1352					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6100e-003	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
Total	**0.1388**	**3.5000e-004**	**0.0390**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0835**	**0.0835**	**2.2000e-004**		**0.0890**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

Geologic and Hydrogeologic Characterization
Industrial Stormwater Compliance
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 100 environmental impact reports since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, Valley Fever, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.

- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

<u>Policy:</u>

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt taught physical geology (lecture and lab and introductory geology at Golden West College in Huntington Beach, California from 2010 to 2014.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

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Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on VOC filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience

Dr. Rosenfeld is the Co-Founder and Principal Environmental Chemist at Soil Water Air Protection Enterprise (SWAPE). His focus is the fate and transport of environmental contaminants, risk assessment, and ecological restoration. His project experience ranges from monitoring and modeling of pollution sources as they relate to human and ecological health. Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing, petroleum, MtBE and fuel oxygenates, chlorinated solvents, pesticides, radioactive waste, PCBs, PAHs, dioxins, furans, volatile organics, semi-volatile organics, perchlorate, heavy metals, asbestos, PFOA, unusual polymers, and odor. Significant projects performed by Dr. Rosenfeld include the following:

Litigation Support

Client: Missouri Department of Natural Resources (Jefferson City, Missouri)
Serving as an expert in evaluating air pollution and odor emissions from a Republic Landfill in St. Louis, Missouri. Conducted. Project manager overseeing daily, weekly and comprehensive sampling of odor and chemicals.

Client: Louisiana Department of Transportation and Development (Baton Rouge, Louisiana)
Serving as an expert witness, conducting groundwater modeling of an ethylene dichloride DNAPL and soluble plume resulting from spill caused by Conoco Phillips.

Client: Missouri Department of Natural Resources (St. Louis, Missouri)
Serving as a consulting expert and potential testifying expert regarding a landfill fire directly adjacent to another landfill containing radioactive waste. Implemented an air monitoring program testing for over 100 different compounds using approximately 12 different analytical methods.

Client: Baron & Budd, P.C. (Dallas, Texas) and Weitz & Luxeinberg (New York, New York)
Served as a consulting expert in MTBE Federal Multi District Litigation (MDL) in New York. Consolidated ground water data, created maps for test cases, constructed damage model, evaluated taste and odor threshold levels. Resulted in a settlement of over $440 million.

Client: The Buzbee Law Firm (Houston, Texas)
Served as a as an expert in ongoing litigation involving over 50,000+ plaintiffs who are seeking compensation for chemical exposure and reduction in property value resulting from chemicals released from the BP facility.

Client: The Law Offices of Daniel Miller LLC (Baltimore, Maryland)
Evaluated the contamination on nearby properties of gasoline constituents released from an Underground Storage Tank at a Royal Farms gas station.

Client: Environmental Litigation Group (Birmingham, Alabama)
Serving as an expert on property damage, medical monitoring and toxic tort claims that have been filed on behalf of over 13,000 plaintiffs who were exposed to PCBs and dioxins/furans resulting from emissions from Monsanto and Cerro Copper's operations in Sauget, Illinois. Developed AERMOD models to demonstrate plaintiff's exposure.

Client: Baron & Budd P.C. (Dallas Texas) and Korein Tillery (St. Louis, Missouri)
Served as a consulting expert for a Class Action defective product claim filed in Madison County, Illinois against Syngenta and five other manufacturers for atrazine. Evaluated health issues associated with atrazine and deterimied treatment cost for filtration of public drinking water supplies. Resulted in $105 million dollar settlement.

Client: The Buzbee Law Firm (Houston, Texas)
Served as a consulting expert in catalyst release and refinery emissions cases against the BP Refinery in Texas City. A jury verdict for 10 employees exposed to catalyst via BP's irresponsible behavior.

Client: Baron & Budd, P.C. (Dallas, Texas)
Served as a consulting expert to calculate the Maximum Allowable Dose Level (MADL) and No Significant Risk Level (NSRL), based on Cal EPA and OEHHA guidelines, for Polychlorinated Biphenyls (PCBs) in fish oil dietary supplements.

Client: Girardi Keese (Los Angeles, California)
Served as an expert testifying on hydrocarbon exposure of a woman who worked on a fuel barge operated by Chevron. Demonstrated that the plaintiff was exposed to excessive amounts of benzene.

Client: Mason & Cawood (Annapolis, Maryland) and Girardi & Keese (Los Angeles, California)
Serving as an expert consultant on the Battlefield Golf Club fly ash disposal site in Chesapeake, VA, where arsenic, other metals and radionuclides are leaching into groundwater, and ash is blowing off-site onto the surrounding communities.

Client: California Earth Mineral Corporation (Culver City, California)
Evaluating the montmorillonite clay deposit located near El Centro, California. Working as a Defense Expert representing an individual who owns a 2,500 acre parcel that will potentially be seized by the United States Navy via eminent domain.

Client: Matthews & Associates (Houston, Texas)
Serving as an expert witness, preparing air model demonstrating residential exposure via emissions from fracking in natural gas wells in Duncan, Texas.

Client: Baron & Budd P.C. (Dallas, Texas) and Korein Tillery (St. Louis, Missouri)
Served as a consulting expert for analysis of private wells relating to litigation regarding compensation of private well owners for MTBE testing. Coordinated data acquisition and GIS analysis evaluating private well proximity to leaking underground storage tanks.

Client: Lurie & Park LLP (Los Angeles, California)
Served as an expert witness evaluating a vapor intrusion toxic tort case that resulted in a settlement. The Superfund site is a 4 ½ mile groundwater plume of chlorinated solvents in Whittier, California.

Client: Mason & Cawood (Annapolis, Maryland)
Evaluated data from the Hess Gasoline Station in northern Baltimore, Maryland that had a release resulting in flooding of plaintiff's homes with gasoline-contaminated water, foul odor, and biofilm growth.

Client: The Buzbee Law Firm (Houston, Texas)
Evaluated air quality resulting from grain processing emissions in Muscatine, Iowa.

Client: Anderson Kill & Olick, P.C. (Ventura, California)
Evaluated historical exposure and lateral and vertical extent of contamination resulting from a ~150 million gallon Exxon Mobil tank farm located near Watts, California.

Client: Packard Law Firm (Petaluma, California)

Served as an expert witness, evaluated lead in Proposition 65 Case where various products were found to have elevated lead levels.

Client: The Buzbee Law Firm (Houston, Texas)
Evaluated data resulting from an oil spill in Port Arthur, Texas.

Client: Nexsen Pruet, LLC (Charleston, South Carolina)
Serving as expert in chlorine exposure in a railroad tank car accident where approximately 120,000 pounds of chlorine were released.

Client: Girardi & Keese (Los Angeles, California)
Serving as an expert investigating hydrocarbon exposure and property damage for ~600 individuals and ~280 properties in Carson, California where homes were constructed above a large tank farm formerly owned by Shell.

Client: Brent Coon Law Firm (Cleveland, Ohio)
Served as an expert, calculating an environmental exposure to benzene, PAHs, and VOCs from a Chevron Refinery in Hooven, Ohio. Conducted AERMOD modeling to determine cumulative dose.

Client: Lundy Davis (Lake Charles, Louisiana)
Served as consulting expert on an oil field case representing the lease holder of a contaminated oil field. Conducted field work evaluating oil field contamination in Sulphur, Louisiana. Property is owned by Conoco Phillips, but leased by Yellow Rock, a small oil firm.

Client: Cox Cox Filo (Lake Charles, Louisiana)
Served as testifying expert on a multimillion gallon oil spill in Lake Charles which occurred on June 19, 2006, resulting in hydrocarbon vapor exposure to hundreds of workers and residents. Prepared air model and calculated exposure concentration. Demonstrated that petroleum odor alone can result in significant health harms.

Client: Cotchett Pitre & McCarthy (San Francisco, California)
Served as testifying expert representing homeowners who unknowingly purchased homes built on an old oil field in Santa Maria, California. Properties have high concentrations of petroleum hydrocarbons in subsurface soils resulting in diminished property value.

Client: Law Offices Of Anthony Liberatore P.C. (Los Angeles, California)
Served as testifying expert representing individuals who rented homes on the Inglewood Oil Field in California. Plaintiffs were exposed to hydrocarbon contaminated water and air, and experienced health harms associated with the petroleum exposure.

Client: Orange County District Attorney (Orange County, California)
Coordinated a review of 143 ARCO gas stations in Orange County to assist the District Attorney's prosecution of CCR Title 23 and California Health and Safety Code violators.

Client: Environmental Litigation Group (Birmingham, Alabama)
Served as a testifying expert in a health effects case against ABC Coke/Drummond Company for polluting a community with PAHs, benzene, particulate matter, heavy metals, and coke oven emissions. Created air dispersion models and conducted attic dust sampling, exposure modeling, and risk assessment for plaintiffs.

Client: Masry & Vitatoe (Westlake Village, California), Engstrom Lipscomb Lack (Los Angeles, Califronia) and Baron & Budd P.C. (Dallas, Texas)
Served as a consulting expert in Proposition 65 lawsuit filed against major oil companies for benzene and toluene releases from gas stations and refineries resulting in contaminated groundwater. Settlement included over $110 million dollars in injunctive relief.

Client: Tommy Franks Law Firm (Austin, Texas)
Served as expert evaluating groundwater contamination which resulted from the hazardous waste injection program and negligent actions of Morton Thiokol and Rohm Hass. Evaluated drinking water contamination and community exposure.

Client: Baron & Budd P.C. (Dallas, Texas) and Sher Leff (San Francisco, California)
Served as consulting expert for several California cities that filed defective product cases against Dow Chemical and Shell for 1,2,3-trichloropropane groundwater contamination. Generated maps showing capture zones of impacted wells for various municipalities.

Client: Weitz & Luxenberg (New York, New York)
Served as expert on Property Damage and Nuisance claims resulting from emissions from the Countywide Landfill in Ohio. The landfill had an exothermic reaction or fire resulting from aluminum dross dumping, and the EPA fined the landfill $10,000,000 dollars.

Client: Baron & Budd P.C. (Dallas, Texas)
Served as a consulting expert for a groundwater contamination case in Pensacola, Florida where fluorinated compounds contaminated wells operated by Escambia County.

Client: Environmental Litigation Group (Birmingham, Alabama)
Served as an expert on groundwater case where Exxon Mobil and Helena Chemical released ethylene dichloride into groundwater resulting in a large plume. Prepared report on the appropriate treatment technology and cost, and flaws with the proposed on-site remediation.

Client: Environmental Litigation Group (Birmingham, Alabama)
Served as an expert on air emissions released when a Bartlo Packaging Incorporated facility in West Helena, Arkansas exploded resulting in community exposure to pesticides and smoke from combustion of pesticides.

Client: Omara & Padilla (San Diego, California)
Served as a testifying expert on nuisance case against Nutro Dogfood Company that constructed a large dog food processing facility in the middle of a residential community in Victorville, California with no odor control devices. The facility has undergone significant modifications, including installation of a regenerative thermal oxidizer.

Client: Environmental Litigation Group (Birmingham, Alabama)
Serving as an expert on property damage and medical monitoring claims that have been filed against International Paper resulting from chemical emissions from facilities located in Bastrop, Louisiana; Prattville, Alabama; and Georgetown, South Carolina.

Client: Estep and Shafer L.C. (Kingwood, West Virginia)
Served as expert calculating acid emissions doses to residents resulting from coal-fired power plant emissions in West V
irginia using various air models.

Client: Watts Law Firm (Austin, Texas), Woodfill & Pressler (Houston, Texas) and Woska & Associates (Oklahoma City, Oklahoma)
Served as testifying expert on community and worker exposure to CCA, creosote, PAHs, and dioxins/furans from a BNSF and Koppers Facility in Somerville, Texas. Conducted field sampling, risk assessment, dose assessment and air modeling to quantify exposure to workers and community members.

Client: Environmental Litigation Group (Birmingham, Alabama)
Served as expert regarding community exposure to CCA, creosote, PAHs, and dioxins/furans from a Louisiana Pacific wood treatment facility in Florala, Alabama. Conducted blood sampling and environmental sampling to determine environmental exposure to dioxins/furans and PAHs.

Client: Sanders Law Firm (Colorado Springs, Colorado) and Vamvoras & Schwartzberg (Lake Charles, Louisiana)
Served as an expert calculating chemical exposure to over 500 workers from large ethylene dichloride spill in Lake Charles, Louisiana at the Conoco Phillips Refinery.

Client: Baron & Budd P.C. (Dallas, Texas)
Served as consulting expert in a defective product lawsuit against Dow Agroscience focusing on Clopyralid, a recalcitrant herbicide that damaged numerous compost facilities across the United States.

Client: Sullivan Papain Block McGrath & Cannavo (New York, New York) and The Cochran Firm (Dothan, Mississippi)
Served as an expert regarding community exposure to metals, PAHs PCBs, and dioxins/furans from the burning of Ford paint sludge and municipal solid waste in Ringwood, New Jersey.

Client: Rose, Klein & Marias LLP (Los Angeles, California)
Served as an expert in 55 Proposition 65 cases against individual facilities in the Port of Los Angeles and Port of Long Beach. Prepared air dispersion and risk models to demonstrate that each facility emits diesel particulate matter that results in risks exceeding 1/100,000, hence violating the Proposition 65 Statute.

Client: Rose, Klein & Marias LLP (Los Angeles, California) and Environmental Law Foundation (San Francisco, California)
Served as an expert in a Proposition 65 case against potato chip manufacturers. Conducted an analysis of several brands of potato chips for acrylamide concentrations and found that all samples exceeded Proposition 65 No Significant Risk Levels.

Client: Gonzales & Robinson (Westlake Village, California)
Served as a testifying expert in a toxic tort case against Chevron (Ortho) for allowing a community to be contaminated with lead arsenate pesticide. Created air dispersion and soil vadose zone transport models, and evaluated bioaccumulation of lead arsenate in food.

Client: Environment Now (Santa Monica, California)
Served as expert for Environment Now to convince the State of California to file a nuisance claim against automobile manufactures to recover MediCal damages from expenditures on asthma-related health care costs.

Client: Trutanich Michell (Long Beach, California)
Served as expert representing San Pedro Boat Works in the Port of Los Angeles. Prepared air dispersion, particulate air dispersion, and storm water discharge models to demonstrate that Kaiser Bulk Loading is responsible for copper concentrate accumulating in the bay sediment.

Client: Azurix of North America (Fort Myers, Florida)
Provided expert opinions, reports and research pertaining to a proposed County Ordinance requiring biosolids applicators to measure VOC and odor concentrations at application sites' boundaries.

Client: MCP Polyurethane (Pittsburg, Kansas)
Provided expert opinions and reports regarding metal-laden landfill runoff that damaged a running track by causing the reversion of the polyurethane due to its catalytic properties.

Risk Assessment And Air Modeling

Client: Hager, Dewick & Zuengler, S.C. (Green Bay, Wisconsin)
Conducted odor audit of rendering facility in Green Bay, Wisconsin.

Client: ABT-Haskell (San Bernardino, California)
Prepared air dispersion model for a proposed state-of-the-art enclosed compost facility. Prepared a traffic analysis and developed odor detection limits to predict 1, 8, and 24-hour off-site concentrations of sulfur, ammonia, and amine.

Client: Jefferson PRP Group (Los Angeles, California)
Evaluated exposure pathways for chlorinated solvents and hexavalent chromium for human health risk assessment of Los Angeles Academy (formerly Jefferson New Middle School) operated by Los Angeles Unified School District.

Client: Covanta (Susanville, California)

Prepared human health risk assessment for Covanta Energy focusing on agricultural worker exposure to caustic fertilizer.

Client: CIWMB (Sacramento, California)
Used dispersion models to estimate traveling distance and VOC concentrations downwind from a composting facility for the California Integrated Waste Management Board.

Client: Carboquimeca (Bogotá, Columbia)
Evaluated exposure pathways for human health risk assessment for a confidential client focusing on significant concentrations of arsenic and chlorinated solvents present in groundwater used for drinking water.

Client: Navy Base Realignment and Closure Team (Treasure Island, California)
Used Johnson-Ettinger model to estimate indoor air PCB concentrations and compared estimated values with empirical data collected in homes.

Client: San Diego State University (San Diego, California)
Measured CO_2 flux from soils amended with different quantities of biosolids compost at Camp Pendleton to determine CO_2 credit values for coastal sage under fertilized and non-fertilized conditions.

Client: Navy Base Realignment and Closure Team (MCAS Tustin, California)
Evaluated cumulative risk of a multiple pathway scenario for a child resident and a construction worker. Evaluated exposure to air and soil via particulate and vapor inhalation, incidental soil ingestion, and dermal contact with soil.

Client: MCAS Miramar (San Diego, California)
Evaluated exposure pathways of metals in soil by comparing site data to background data. Risk assessment incorporated multiple pathway scenarios assuming child resident and construction worker particulate and vapor inhalation, soil ingestion, and dermal soil contact.

Client: Naval Weapons Station (Seal Beach, California)
Used a multiple pathway model to generate dust emission factors from automobiles driving on dirt roads. Calculated bioaccumulation of metals, PCBs, dioxin congeners and pesticides to estimate human and ecological risk.

Client: King County, Douglas County (Washington State)
Measured PM_{10} and $PM_{2.5}$ emissions from windblown soil treated with biosolids and a polyacrylamide polymer in Douglas County, Washington. Used Pilat Mark V impactor for measurement and compared data to EPA particulate regulations.

Client: King County (Seattle, Washington)
Created emission inventory for several compost and wastewater facilities comparing VOC, particulate, and fungi concentrations to NIOSH values estimating risk to workers and individuals at neighboring facilities.

Air Pollution Investigation and Remediation

Client: Republic Landfill (Santa Clarita, California)
Managed a field investigation of odor around a landfill during 30+ events. Used hedonic tone, butanol scale, dilution-to-threshold values, and odor character to evaluate odor sources and character and intensity.

Client: California Biomass (Victorville, California)
Managed a field investigation of odor around landfill during 9+ events. Used hedonic tone, butanol scale, dilution-to-threshold values, and odor character to evaluate odor sources, character and intensity.

Client: ABT-Haskell (Redlands, California)
Assisted in permitting a compost facility that will be completely enclosed with a complex scrubbing system using acid scrubbers, base scrubbers, biofilters, heat exchangers and chlorine to reduce VOC emissions by 99 percent.

Client: Synagro (Corona, California)

Designed and monitored 30-foot by 20-foot by 6-foot biofilter for VOC control at an industrial composting facility in Corona, California to reduce VOC emissions by 99 percent.

Client: Jeff Gage (Tacoma, Washington)
Conducted emission inventory at industrial compost facility using GC/MS analyses for VOCs. Evaluated effectiveness of VOC and odor control systems and estimated human health risk.

Client: Daishowa America (Port Angeles Mill, Washington)
Analyzed industrial paper sludge and ash for VOCs, heavy metals and nutrients to develop a land application program. Metals were compared to federal guidelines to determine maximum allowable land application rates.

Client: Jeff Gage (Puyallup, Washington)
Measured effectiveness of biofilters at composting facility and conducted EPA dispersion models to estimate traveling distance of odor and human health risk from exposure to volatile organics.

Surface Water, Groundwater, and Wastewater Investigation/Remediation

Client: Confidential (Downey, California)
Managed groundwater investigation to determine horizontal extent of 1,000 foot TCE plume associated with a metal finishing shop.

Client: Confidential (West Hollywood, California)
Designing soil vapor extraction system that is currently being installed for confidential client. Managing groundwater investigation to determine horizontal extent of TCE plume associated with dry cleaning.

Client: Synagro Technologies (Sacramento, California)
Managed groundwater investigation to determine if biosolids application impacted salinity and nutrient concentrations in groundwater.

Client: Navy Base Realignment and Closure Team (Treasure Island, California)
Assisted in the design and remediation of PCB, chlorinated solvent, hydrocarbon and lead contaminated groundwater and soil on Treasure Island. Negotiated screening levels with DTSC and Water Board. Assisted in the preparation of FSP/QAPP, RI/FS, and RAP documents and assisted in CEQA document preparation.

Client: Navy Base Realignment and Closure Team (MCAS Tustin, California)
Assisted in the design of groundwater monitoring systems for chlorinated solvents at Tustin MCAS. Contributed to the preparation of FS for groundwater treatment.

Client: Mission Cleaning Facility (Salinas, California)
Prepared a RAP and cost estimate for using an oxygen releasing compound (ORC) and molasses to oxidize diesel fuel in soil and groundwater at Mission Cleaning in Salinas.

Client: King County (Washington)
Established and monitored experimental plots at a US EPA Superfund Site in wetland and upland mine tailings contaminated with zinc and lead in Smelterville, Idaho. Used organic matter and pH adjustment for wetland remediation and erosion control.

Client: City of Redmond (Richmond, Washington)
Collected storm water from compost-amended and fertilized turf to measure nutrients in urban runoff. Evaluated effectiveness of organic matter-lined detention ponds on reduction of peak flow during storm events. Drafted compost amended landscape installation guidelines to promote storm water detention and nutrient runoff reduction.

Client: City of Seattle (Seattle, Washington)
Measured VOC emissions from Renton wastewater treatment plant in Washington. Ran GC/MS, dispersion models, and sensory panels to characterize, quantify, control and estimate risk from VOCs.

Client: Plumas County (Quincy, California)
Installed wetland to treat contaminated water containing 1% copper in an EPA Superfund site. Revegetated 10 acres of acidic and metal laden sand dunes resulting from hydraulic mining. Installed and monitored piezometers in wetland estimating metal loading.

Client: Adams Egg Farm (St. Kitts, West Indies)
Designed, constructed, and maintained 3 anaerobic digesters at Springfield Egg Farm, St. Kitts. Digesters treated chicken excrement before effluent discharged into sea. Chicken waste was converted into methane cooking gas.

Client: BLM (Kremmling, Colorado)
Collected water samples for monitoring program along upper stretch of the Colorado River. Rafted along river and protected water quality by digging and repairing latrines.

Soil Science and Restoration Projects

Client: Hefner, Stark & Marois, LLP (Sacramento, California)
Facilitated in assisting Hefner, Stark & Marois, LLP in working with the Regional Water Quality board to determine how to utilize Calcium Participate as a by-product of processing sugar beets.

Client: Kinder Morgan (San Diego County, California)
Designed and monitored the restoration of a 110-acre project on Camp Pendleton along a 26-mile pipeline. Managed crew of 20, planting coastal sage, riparian, wetland, native grassland, and marsh ecosystems. Negotiated with the CDFW concerning species planting list and success standards.

Client: NAVY BRAC (Orote Landfill, Guam)
Designed and monitored pilot landfill cap mimicking limestone forest. Measured different species' root-penetration into landfill cap. Plants were used to evapotranspirate water, reducing water leaching through soil profile.

Client: LA Sanitation District Puente Hills Landfill (Whittier, California)
Monitored success of upland and wetland mitigation at Puente Hills Landfill operated by Sanitation Districts of Los Angeles. Negotiated with the Army Corps of Engineers and CDFG to obtain an early sign-off.

Client: City of Escondido (Escondido, California)
Designed, managed, installed, and monitored a 20-acre coastal sage scrub restoration project at Kit Carson Park, Escondido, California.

Client: Home Depot (Encinitas, California)
Designed, managed, installed and monitored a 15-acre coastal sage scrub and wetland restoration project at Home Depot in Encinitas, California.

Client: Alvarado Water Filtration Plant (San Diego, California)
Planned, installed and monitored 2-acre riparian and coastal sage scrub mitigation in San Diego California.

Client: Monsanto and James River Corporation (Clatskanie, Oregon)
Served as a soil scientist on a 50,000-acre hybrid poplar farm. Worked on genetically engineering study of Poplar trees to see if glyphosate resistant poplar clones were economically viable.

Client: World Wildlife Fund (St. Kitts, West Indies)
Managed 2-year biodiversity study, quantifying and qualifying the various flora and fauna in St. Kitts' expanding volcanic rainforest. Collaborated with skilled botanists, ornithologists and herpetologists.

Publications

Chen, J. A., Zapata, A R., Sutherland, A. J., Molmen, D. R,. Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. American Journal of Environmental Science, 2012, 8 (6), 622-632

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste*, Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2011). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences* 4(2011):113-125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.**, (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health* 73(6):34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries*, Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*, Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). 'Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States', in Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modelling, Monitoring and Management of Air Pollution*, Tallinn, Estonia. 20-22 July, 2009, Southampton, Boston. WIT Press.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. Organohalogen Compounds, Volume 70 (2008) page 002254.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. Organohalogen Compounds, Volume 70 (2008) page 000527.

Hensley, A.R. A. Scott, J. J. J. Clark, **P. E. Rosenfeld** (2007) "Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility" Environmental Research. 105, pp 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007) "The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities" –Water Science & Technology 55(5): 345-357.

Rosenfeld, P. E., M. Suffet. (2007) **"**The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment **"** Water Science & Technology 55(5): 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.,** (2007) "Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities," Elsevier Publishing, Boston Massachusetts.

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Presentations

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** "Atrazine: A Persistent Pesticide in Urban Drinking Water." Urban Environmental Pollution, Boston, MA, June 20-23, 2010.

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Rosenfeld, P. E. (2007) "Moss Point Community Exposure To Contaminants From A Releasing Facility" Platform Presentation at the 23rd Annual International Conferences on Soils Sediment and Water, October 15-18, 2007. University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (2007) "The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant" Platform Presentation at the 23rd Annual International Conferences on Soils Sediment and Water, October 15-18, 2007. University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (2007) "Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions" Poster Presentation at the 23rd Annual International Conferences on Soils Sediment and Water, October 15-18, 2007. University of Massachusetts, Amherst MA.

Rosenfeld P. E. "Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP)" – Platform Presentation at the Association for Environmental Health and Sciences (AEHS) Annual Meeting, San Diego, CA, 3/2007.

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Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (2006) "Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." APHA 134 Annual Meeting & Exposition, Boston Massachusetts. November 4 to 8th, 2006.

Paul Rosenfeld Ph.D. "Fate, Transport and Persistence of PFOA and Related Chemicals." Mealey's C8/PFOA Science, Risk & Litigation Conference" October 24, 25. The Rittenhouse Hotel, Philadelphia.

Paul Rosenfeld Ph.D. "Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation PEMA Emerging Contaminant Conference. September 19. Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. "Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP." PEMA Emerging Contaminant Conference. September 19. Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. "Fate, Transport and Persistence of PDBEs." Mealey's Groundwater Conference. September 26, 27. Ritz Carlton Hotel, Marina Del Ray, California.

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Paul Rosenfeld, Ph.D., 2004. Perchlorate Toxicology. Presentation to a meeting of the American Groundwater Trust. March 7th, 2004. Pheonix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse, 2004. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal representatives, Parker, AZ.

Paul Rosenfeld, Ph.D. A National Damage Assessment Model For PCE and Dry Cleaners. Drycleaner Symposium. California Ground Water Association. Radison Hotel, Sacramento, California. April 7, 2004.

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Paul Rosenfeld, Ph.D. Underground Storage Tank Litigation and Remediation. California CUPA Forum. Marriott Hotel. Anaheim California. February 6-7, 2003.

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Rosenfeld. P. E. 2000. Wood ash and biofilter control of compost odor. Biofest. October 16, 2000.Ocean Shores, California.

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Rosenfeld, P.E., and C.L. Henry. 1999. An evaluation of ash incorporation with biosolids for odor reduction. Soil Science Society of America. Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. 1998. Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. Brown and Caldwell, Seattle Washington.

Rosenfeld, P.E., C.L. Henry. 1998. Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. Biofest Lake Chelan, Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. 1997. Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. Soil Science Society of America, Anaheim California.

Professional History

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Founding And Managing Partner
UCLA School of Public Health; 2007 to 2010; Lecturer (Asst Res)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist
Bureau of Land Management, Kremmling Colorado 1990; Scientist

Teaching Experience

UCLA Department of Environmental Health (Summer 2003 through 2010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focuses on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course In Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5 2002 Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University. Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993.

Cases that Dr. Rosenfeld Provided Deposition or Trial Testimony

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., *Plaintiffs*, vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)

In the Court of Common Pleas for the Second Judicial Circuit, State of South Carolina, County of Aiken
David Anderson, et al., *Plaintiffs*, vs. Norfolk Southern Corporation, et al., *Defendants*.
Case Number: 2007-CP-02-1584

In the Circuit Court of Jefferson County Alabama
Jaeanette Moss Anthony, et al., *Plaintiffs*, vs. Drummond Company Inc., et al., *Defendants*
Civil action No. CV 2008-2076

In the Ninth Judicial District Court, Parish of Rapides, State of Louisiana
Roger Price, et al., *Plaintiffs*, vs. Roy O. Martin, L.P., et al., *Defendants*.
Civil Suit Number 224,041 Division G

In the United States District Court, Western District Lafayette Division
Ackle et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.
Case Number 2:07CV1052

In the United States District Court for the Southern District of Ohio
Carolyn Baker, et al., *Plaintiffs*, vs. Chevron Oil Company, et al., *Defendants*.
Case Number 1:05 CV 227

In the Fourth Judicial District Court, Parish of Calcasieu, State of Louisiana
Craig Steven Arabie, et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.
Case Number 07-2738 G

In the Fourteenth Judicial District Court, Parish of Calcasieu, State of Louisiana
Leon B. Brydels, *Plaintiffs*, vs. Conoco, Inc., et al., *Defendants*.
Case Number 2004-6941 Division A

In the District Court of Tarrant County, Texas, 153rd Judicial District
Linda Faust, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, Witco Chemical Corporation A/K/A Witco Corporation, Solvents and Chemicals, Inc. and Koppers Industries, Inc., *Defendants*.
Case Number 153-212928-05

In the Superior Court of the State of California in and for the County of San Bernardino
Leroy Allen, et al., *Plaintiffs*, vs. Nutro Products, Inc., a California Corporation and DOES 1 to 100, inclusive, *Defendants*.
John Loney, Plaintiff, vs. James H. Didion, Sr.; Nutro Products, Inc.; DOES 1 through 20, inclusive, *Defendants*.
Case Number VCVVS044671

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., *Plaintiffs*, vs. International Paper Company, *Defendant*.
Civil Action Number 2:09-cv-232-WHA-TFM

In the Superior Court of the State of California in and for the County of Los Angeles
Leslie Hensley and Rick Hensley, *Plaintiffs*, vs. Peter T. Hoss, as trustee on behalf of the Cone Fee Trust; Plains Exploration & Production Company, a Delaware corporation; Rayne Water Conditioning, Inc., a California corporation; and DOES 1 through 100, *Defendants.*
Case Number SC094173

In the Superior Court of the State of California in and for the County of Santa Barbara, Santa Maria Branch
Clifford and Shirley Adelhelm, et al., all individually, *Plaintiffs*, vs. Unocal Corporation, a Delaware Corporation; Union Oil Company of California, a California corporation; Chevron Corporation, a California corporation; ConocoPhillips, a Texas corporation; Kerr-McGee Corporation, an Oklahoma corporation; and DOES 1 though 100, *Defendants.*
Case Number 1229251 (Consolidated with case number 1231299)

In the United States District Court for Eastern District of Arkansas, Eastern District of Arkansas
Harry Stephens Farms, Inc, and Harry Stephens, individual and as managing partner of Stephens Partnership, *Plaintiffs*, vs. Helena Chemical Company, and Exxon Mobil Corp., successor to Mobil Chemical Co., *Defendants.*
Case Number 2:06-CV-00166 JMM (Consolidated with case number 4:07CV00278 JMM)

In the United States District Court for the Western District of Arkansas, Texarkana Division
Rhonda Brasel, et al., *Plaintiffs*, vs. Weyerhaeuser Company and DOES 1 through 100, *Defendants.*
Civil Action Number 07-4037

In The Superior Court of the State of California County of Santa Cruz
Constance Acevedo, et al. *Plaintiffs* Vs. California Spray Company, et al. *Defendants*
Case No CV 146344

In the District Court of Texas 21st Judicial District of Burleson County
Dennis Davis, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, *Defendant.*
Case Number 25,151

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT

Letter 4

COMMENTER: Paige Fennie, Lozeau Drury, LLP

DATE: January 4, 2021

Response 4.1

The commenter introduces themselves, describes the project, and provides the legal framework for their responses.

Responses to specific comments related to the Draft IS-MND are addressed below in responses 4.2 through 4.36.

Response 4.2

The commenter opines that there are numerous shortcomings in the baseline assessment of the presence of species at the site, failure to evaluate impacts that will result from the project, and numerous instances where the Draft IS-MND's assertions are insufficient or not supported by substantial evidence.

Responses to specific issues raised are provided in Response 4.3 through 4.7. As discussed throughout the responses and in Section 4, *Biological Resources*, of the Draft IS-MND, the project's biological impacts would be less than significant with incorporation of mitigation measures BIO-1 and BIO-2. There is no substantial evidence that the project would result in a significant, unmitigated impact on biological resources, and preparation of an EIR is not warranted.

Response 4.3

The commenter states that the Draft IS-MND lacks a biological survey or desktop analysis of species with potential to occur and cannot address the potential impacts of the project on collision mortality involving the building's windows, transmission lines, or project generated traffic.

Surveys are not specifically required as part of CEQA analysis to evaluate potential impacts. Based on the specifics of the project, it was determined that there was sufficient existing and available information regarding bird and bat occurrences in the region to evaluate the potential for the project to impact bird and bat species without conducting focused surveys on the property. Industry standards for surveys of non-listed bird and bat species are limited to conducting preconstruction surveys to maximize avoidance and minimize disturbance of habitat for these species.

As described in Section 4, *Biological Resources*, the project site is located in an urban business park and industrial area and is surrounded by existing development and major highways. Regardless of the results of the online database review conducted by the commenter's biologist, there is no potential for special status species to occur on the project site based on the lack of native habitat on the project site. The site is fully developed and has no natural or native vegetation communities that would support special status plant or animal species. In addition, the site is isolated from natural habitat in the region. The site is not considered viable to support federal or state listed species or other special status wildlife.

As described in Section 4, *Biological Resources*, because the project site includes uninhabited buildings and structures that may provide suitable habitat for non-listed bats and vegetation /landscaping that may provide suitable habitat for nesting birds, impacts to these species are potentially significant and mitigation is required. Mitigation measures BIO-1 and BIO-2 as written would reduce the project's potentially significant impacts to less than significant levels.

Response 4.4

The commenter states an opinion that, based on a biological assessment prepared by Dr. Shawn Smallwood, the project would result in significant impacts as a result of birds colliding with the windows on the proposed structures and requires an EIR to analyze these impacts. The commenter recommends adherence to available guidelines on building design intended to minimize collision hazards to birds.

As described in Response 4.3 above, the IS-MND concludes that special-status bird species are not expected to utilize the site due to lack of habitat and the developed nature of the surrounding areas. Therefore, impacts to special-status bird species are not expected to occur as a result of the project. Therefore, this comment does not require additional analysis of environmental impacts or revisions to the Draft IS-MND.

In addition, impacts related to lighting and glare are analyzed in Section 1 of the IS-MND, *Aesthetics*. As described in that section, no highly reflective glass or metallic elements are proposed as part of the proposed project.

Response 4.5

The commenter states an opinion that, based on a biological assessment prepared by Dr. Shawn Smallwood, the project would result in significant impacts to wildlife caused by the increase in traffic on roadways serving the project.

As described in Section 4, *Biological Resources*, the project site is located in an urban business park and industrial area and is surrounded by existing development and major highways. The only special-status species that have the potential to occur are pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and western mastiff bat (*Eumops perotis californicus*). No special-status bird species are expected to occur at the project site. The proposed project would not generate a substantial increase in roadway traffic above and beyond existing conditions that would have a significant impact on nesting birds. Bats that may be present in the area are already highly acclimated to the existing urban, commercial use where the project is located. A nominal increase in traffic usage may incidentally result in direct impacts to birds and bats but would not be considered significant. Impacts would only rise to the level of significance if project-related impacts resulted in impacts to a bird or bat species such that population size is reduced to a level below being self-sustaining. The analysis in Section 4 constitutes the substantial evidence supporting the IS-MND.

As described under Response 4.3 above, the IS-MND concludes that impacts to biological resources would be less than significant with mitigation incorporated, and the commenter does not suggest that the conclusions are incorrect. Any other comments characterized as speculation or unsubstantiated opinion need not undergo further study. Therefore, this comment does not require additional analysis of environmental impacts or revisions to the Draft IS-MND.

Response 4.6

The commenter states that the Draft IS-MND does not consider the impacts of birds colliding with the transmission lines of the proposed project. The commenter opines, based on a biological assessment prepared by Dr. Shawn Smallwood, that the project would result in direct and indirect impacts of birds and bats caused by transmission lines and energy demand. Neither the commenter nor Dr. Smallwood provide any support for this assertion given the lack of suitable habitat on the property.

Please refer to Response 4.5.

Response 4.7

The commenter opines that, based on a biological assessment prepared by Dr. Shawn Smallwood, surveys required by mitigation measures BIO-1 and BIO-2 would miss bird nests and bat roost sites and compensatory mitigation is needed. The commenter also notes that Mitigation Measures BIO-1 and BIO-2 do not address collision mortality.

Neither the commenter nor Dr. Smallwood provide any support for their assertion given the lack of suitable habitat on the property. Mitigation Measures BIO-1 and BIO-2 reduce the project's potentially significant impacts to less than significant levels by requiring industry standard preconstruction surveys and avoidance measures during the appropriate season to identify nesting birds and roosting bats and avoid disturbance during the nesting season. Both measures state that preconstruction surveys must be conducted by qualified biologists. All potential impacts would be mitigated to a less than significant level.

Please refer to Response 4.4 as to whether Mitigation Measures BIO-1 and BIO-2 address collision mortality.

Response 4.8

The commenter opines that the project's emissions were underestimated in the Draft IS-MND, that there is a fair argument that the project may result in a significant environmental impact on air quality, and that an EIR should be prepared to disclose and mitigate impacts.

As discussed in Response 4.9 through 4.24 below, revisions have been made to the air pollutant and GHG emissions modeling in response to some of the commenter's suggestions, as appropriate. Nevertheless, as discussed in Response 4.11 and shown in Chapter 3, Draft IS-MND Revisions, the revised modeling confirms that the project's air quality impacts would remain less than significant with incorporation of Mitigation Measure AQ-1, consistent with the conclusions of Section 3, *Air Quality*, of the Draft IS-MND. Revised modeling worksheets are included in Appendix 1 to this Responses to Comments Document. The IS-MND adequately evaluates potential air quality impacts. There is no substantial evidence that the project would result in a significant, unmitigated impact on air quality, and preparation of an EIR is not warranted because all impacts would be less than significant or mitigated to less than significant levels in accordance with CEQA.

Response 4.9

The commenter states that the Draft IS-MND does not mention that Buildings 1 through 4 would be constructed separately even though construction emissions for Buildings 1 through 3 are modeled separately from Building 4. The commenter claims that this results in an underestimate of the project's construction-related emissions.

As discussed in the Project Description of the Draft IS-MND, the proposed project includes construction and improvements associated with development of four buildings; therefore, the Draft

IS-MND analyzes the whole of the project. The commenter is correct in stating that construction emissions for Buildings 1 through 3 are modeled separately from Building 4. The BAAQMD CEQA Guidelines (2017) state, "If construction-related emissions have been quantified using multiple models or model runs, sum the criteria air pollutants and precursor levels from each where said activities would overlap. In cases where the exact timing of construction activities is not known, sum any phases that could overlap to be conservative."[2] Consistent with this guidance, it was assumed that construction of all four buildings would occur simultaneously, and daily construction emissions for all four buildings were added together and presented in Table 6 of the Draft IS-MND. Therefore, the project's construction emissions are not underestimated and present a reasonable worst-case estimate of project construction emissions.

Response 4.10

The commenter states that the energy intensity factors used to calculate the project's electricity-related GHG emissions were incorrectly reduced, resulting in an underestimate of the project's GHG emissions.

Per Senate Bill (SB) 100, the statewide Renewable Portfolio Standard (RPS) Program requires electricity providers to increase procurement from eligible renewable energy sources to 60 percent by 2030. This requirement is codified in the Section 399 of the Public Utilities Code, which includes penalties for noncompliance, and is enforced by the California Public Utilities Commission, California Energy Commission, and California Air Resources Board. Therefore, it is appropriate to anticipate that the local utility provider (i.e., PG&E) would achieve this requirement given that it is mandated by law. Furthermore, as explained in Response 2.4, GHG emissions were modeled for year 2030 to provide an apples-to-apples comparison between project emissions and the significance threshold that was calculated based on reducing the BAAQMD's mass emission threshold of 1,100 MT of CO_2e per year by 40 percent to 660 MT of CO_2e per year to account for the State's SB 32 target for year 2030. For these reasons, the adjustments made to the energy intensity factors for PG&E are substantiated, and the project's GHG emissions are not underestimated.

Response 4.11

The commenter expresses an opinion that the air quality modeling should have used two different land use types in CalEEMod for the proposed industrial space and office space for Buildings 1 through 3 rather than classifying both spaces as the "Industrial Park" land use type. The commenter suggests that the use of only the "Industrial Park" land use type may have resulted in an underestimate of the project's emissions.

As stated for the "Industrial Park" land use in Table 1 of the CalEEMod User Guide,

> *Industrial parks contain a number of industrial <u>or related</u> facilities. They are characterized by a mix of manufacturing, service and warehouse facilities with a wide variation in the proportion of each type of use from one location to another. Many industrial parks contain highly diversified facilities.*[3]

[2] BAAQMD. 2017. California Environmental Quality Act: Air Quality Guidelines. San Francisco, CA. May 2017. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en (accessed January 2021).

[3] California Air Pollution Control Officers Association (CAPCOA). 2017. California Emissions Estimator Model User's Guide Version 2016.3.2. November 2017.

It is typical for industrial facilities to include office space in support of the industrial activities. The office space proposed for Buildings 1 through 3 is not standalone office space but rather accessory office space in support of (and therefore related to) the proposed industrial facilities. Furthermore, as shown in Tables 8.1 and 8.2 of Appendix D of the CalEEMod User Guide, the energy use factors and natural gas emission factors for the "Industrial Park" land use and the "General Office Building" land use are identical. In addition, as shown in Tables 9.1 and 10.1 of Appendix D of the CalEEMod User Guide, the indoor water use rate and solid waste disposal rate are higher for the "Industrial Park" land use than the "General Office Building" land use.[4] Therefore, use of the "Industrial Park" land use for Buildings 1 through 3 actually provides a conservative estimate of the project's emissions, and altering the model as the commenter suggests would reduce the project's estimated emissions.

Response 4.12

The commenter states that the CalEEMod model for Building 4 did not include its 5,000 square feet of office space and therefore underestimated the project's emissions.

The commenter is correct that the model erroneously excluded the 5,000 square feet of office space for Building 4. This office space has been added to the model as part of the "Industrial Park" land use, which provides a conservative estimate of project impacts for the reasons explained under Response 4.11. In addition, Tables 6 through 8 in Section 3, *Air Quality*, and Table 21 and the associated text in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND have been revised with updated model results. Mitigation Measure GHG-1 has also been revised as explained in Response 2.3. In addition, pursuant to the BAAQMD CEQA Guidelines (2017), Table 6 in Section 3, *Air Quality*, has been revised to present the project's average daily construction emissions, rather than maximum daily emissions, to provide an "apples-to-apples" comparison with the BAAQMD significance thresholds, which are expressed as average daily emissions (see Table 2-1 of the BAAQMD CEQA Guidelines).[5] These revisions are shown in Chapter 3, Draft IS-MND Revisions, of this document.

These revisions do not result in a new significant impact or substantial increase in the severity of a significant impact beyond those impacts previously evaluated in Section 3, *Air Quality*, and Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND. Mitigation Measures AQ-1 and GHG-1 would continue to be adequate to reduce the project's potentially significant air quality and GHG emissions impacts to a less-than-significant level.

As shown in Table 21 in Chapter 3, Draft IS-MND Revisions, this revision along with other changes to the CalEEMod modeling assumptions as described throughout this Response to Comments document (See Responses 4.13, 4.15, 4.18, 4.20, 4.22, 4.23, 4.26) , result in an increase in project-related GHG emissions. However, although estimated GHG emissions would increase, this would not increase the severity of the project's GHG emissions impacts. The project's GHG emissions would continue to exceed the threshold of 660 MT of CO_2e per year and would potentially conflict with SB 32 and EOs S-3-05 and B-55-18. As a result, impacts would remain potentially significant, as determined in the Draft IS-MND. Furthermore, despite the increase in project-related emissions, Mitigation Measure GHG-1 would continue to be sufficient in mitigating project-related impacts to a

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[4] California Air Pollution Control Officers Association (CAPCOA). 2017. California Emissions Estimator Model User's Guide Version 2016.3.2 – Appendix D – Default Data Tables. October 2017.

[5] BAAQMD. 2017. California Environmental Quality Act: Air Quality Guidelines. San Francisco, CA. May 2017. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en (accessed January 2021).

less-than-significant level because the project applicant would be required to mitigate the additional emissions through implementation of the GHG Reduction Plan. Therefore, as determined in the Draft IS-MND, project impacts related to GHG emissions would be less than significant with mitigation incorporated.

Response 4.13

The commenter states that the CalEEMod models did not include all 365 parking spaces proposed for the project and therefore underestimated the project's emissions.

The CalEEMod model for Buildings 1 through 3 has been revised to include the correct number of parking spaces. Tables 6 through 8 in Section 3, *Air Quality*, and Table 21 and the associated text in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND have been revised with updated model results as explained in Response 4.12 and shown in Chapter 3, Draft IS-MND Revisions. As shown therein, these revisions do not result in a new significant impact or substantial increase in the severity of a significant impact beyond those already identified in Section 3, *Air Quality*, and Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND. Mitigation Measures AQ-1 and GHG-1 would continue to be adequate to reduce the project's potentially significant air quality and GHG emissions impacts to a less-than-significant level. See also Response 4.12.

Response 4.14

The commenter expresses an opinion that the architectural coating and area coating emission factors in the CalEEMod models were incorrectly reduced for compliance with BAAQMD Regulation 8, Rule 3.

As shown in Table 6.1 of Appendix D of the CalEEMod User Guide, CalEEMod assumes a VOC content of 150 grams per liter for parking coatings in the BAAQMD region, which is used to calculate emissions from parking lot painting or striping.[6] However, BAAQMD Regulation 8, Rule 3 - Table 2 (effective January 1, 2011) limits the VOC content of traffic marking coatings to 100 grams per liter. As defined in Section 8-3-259 of Regulation 8, Rule 3, "traffic marking coating" is a coating labeled and formulated for marking and striping streets, highways, or other traffic surfaces including, but not limited to curbs, berms, driveways, parking lots, sidewalks, and airport runways." Therefore, it is appropriate to adjust the VOC content limit for the project's parking coatings to 100 grams per liter. This approach is substantiated, and the project's emissions are not underestimated.

Response 4.15

The commenter opines that changes to the building construction and architectural coating phase lengths in the CalEEMod models were unsubstantiated and result in an underestimate of project emissions.

The CalEEMod models have been updated to be consistent with the construction schedule outlined under *Project Description* in the Draft IS-MND. The default phase length in CalEEMod for the architectural coating phase of a project this size is 20 days. Painting the exterior and interior of four buildings with a gross floor area of approximately 615,621 square feet over the course of 20 days would not be practicable given the default assumption in CalEEMod for a 32-person construction

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[6] California Air Pollution Control Officers Association (CAPCOA). 2017. California Emissions Estimator Model User's Guide Version 2016.3.2 – Appendix D – Default Data Tables. October 2017.

crew for this phase. Painting the interior of an approximately 132-square-foot room with two coats requires approximately 4.5 to 8 hours for one person.[7] Therefore, painting the interior of the proposed project would require approximately 20,987 to 37,310 person-hours,[8] which equates to approximately 82 to 146 days[9] with a 32-person construction crew, assuming an 8-hour work day. To provide a conservative estimate of project impacts, the architectural coating phase has been revised in the modeling to be 114 days in length, which is the middle point of the estimated range of the phase length. Table 6 in Section 3, *Air Quality*, and the discussion of construction emissions in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND have been revised with updated model results as shown in Chapter 3, Draft IS-MND Revisions. As shown therein, these revisions do not result in a new significant impact or substantial increase in the severity of a significant impact beyond those already identified in Section 3, *Air Quality*, and Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND. Mitigation Measures AQ-1 and GHG-1 would continue to be adequate to reduce the project's potentially significant air quality and GHG emissions impacts to a less-than-significant level. See also Response 4.12.

Response 4.16

The commenter states an opinion that the IS-MND does not disclose the anticipated construction equipment list or mention changes to the default construction equipment list.

Section 3, *Air Quality*, of the Draft IS-MND states, "Construction of the proposed project was analyzed based on the applicant-provided construction schedule, equipment list, and soil export volume." The construction equipment list provided by the project applicant is based on the size and nature of the project and the applicant's prior experience in the building industry. Therefore, the construction equipment list constitutes expert opinion supported by facts and is appropriate to use in the emissions modeling. The construction equipment list is provided in the CalEEMod results in Appendix B of the Draft IS-MND. For the purposes of full disclosure, the construction equipment list utilized in CalEEMod is reproduced herein as Table A.

Table A Anticipated Construction Equipment List

Construction Phase	Equipment
Demolition	Excavators (3), Tractors/Loaders/Backhoes (2)
Site Preparation	Grader, Paver, Tractors/Loaders/Backhoes (4)
Grading	Excavator, Grader, Paver, Tractor/Loader/Backhoe
Building Construction	Cranes (2), Forklifts (3), Tractors/Loaders/Backhoes (3)
Paving	Paver, Roller, Tractor/Loader/Backhoe
Architectural Coating	Air Compressor
Transformer Yard and Transmission Lines	Backhoe, Grader, Compactor, Dozer, Air Compressor, Auger, Boom Truck with Lift, Crane

Source: Provided by the project applicant.

[7] Glidden. 2020. "How Long Does It Take to Paint a Bedroom?" https://www.glidden.com/inspiration/all-articles/how-long-does-it-take-to-paint-a-bedroom (accessed June 2020).

[8] 615,621 square feet divided by 132 square feet multiplied by 4.5 hours; 615,621 square feet divided by 132 square feet multiplied by 8 hours

[9] 20,987 person-hours divided by 32 persons divided by 8 work hours per day; 37,310 person-hours divided by 32 persons divided by 8 work hours per day

Response 4.17

The commenter expresses concern that no justification was provided in the Draft IS-MND for reducing the construction equipment usage hours to zero for the CalEEMod modeling for Building 4 and that this adjustment may result in an underestimate of the project's emissions.

The same set of construction equipment would be used to construct Buildings 1 through 4 over the course of the same construction schedule. As stated in Section 3, *Air Quality*, of the Draft IS-MND, "CalEEMod estimates construction emissions by multiplying the amount of time equipment is in operation by emission factors." Therefore, to avoid double-counting construction equipment emissions, emissions from construction equipment are calculated using the model for Buildings 1 through 3. The CalEEMod model for Buildings 1 through 3 includes all the necessary parameters to full calculate emissions from construction equipment used to construct Buildings 1 through 4, including the type of construction equipment, the full number of construction equipment, hours of usage, days of usage, load factor, and horsepower. Therefore, this approach is appropriate and represents a reasonable worst-case projection of the project's construction emissions. Thus, the project's construction emissions are not underestimated, and the IS-MND contains an adequate analysis of the project's construction impacts in accordance with CEQA.

Response 4.18

The commenter states that the CalEEMod model does not include the correct demolition square footage and therefore underestimates the project's construction emissions.

The CalEEMod models have been revised to include the correct demolition square footage of 269,000 square feet as described under *Surrounding Land Uses and Setting* in the Draft IS-MND. Table 6 in Section 3, *Air Quality*, and the discussion of construction emissions in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND have been revised with updated model results as shown in Chapter 3, Draft IS-MND Revisions. As shown therein, these revisions do not result in a new significant impact or substantial increase in the severity of a significant impact beyond those already identified in Section 3, *Air Quality*, and Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND. Mitigation Measures AQ-1 and GHG-1 would continue to be adequate in reducing the project's potentially significant air quality and GHG emissions impacts to a less-than-significant level. See also Response 4.12.

Response 4.19

The commenter states an opinion that the adjustments to the number of worker trips in the CalEEMod model for Building 4 are unsubstantiated and that the project's construction-related emissions may be underestimated as a result.

As stated under Response 4.17, the same set of construction equipment would be used to construct Buildings 1 through 4 over the course of the same construction schedule. Therefore, to avoid double-counting construction equipment emissions, the full construction equipment list is only input into the model for Buildings 1 through 3. As stated in the CalEEMod User Guide,

> *CalEEMod quantifies the number of construction workers by multiplying 1.25 times the number of pieces of equipment for all phases (except Building Construction and Architectural Coating). For the Building Construction, the number of workers is derived from a study conducted by the Sacramento Metropolitan Air Quality Management District (SMAQMD) which determined the number of workers needed for various types of land uses and*

> *corresponding project size. This study and its analysis are included in Appendix E2. For the Architectural Coating phase, the number of workers is approximately 20% of the number of workers needed during the Building Construction phase* [10]

Therefore, it is appropriate to zero out the construction worker trip estimates for the Demolition, Site Preparation, Grading, and Paving phases of the CalEEMod model for Building 4 because these trips are already fully captured in the model for buildings 1 through 3 (which includes the full list of construction equipment that would be utilized for Buildings 1 through 4). On the other hand, because worker trips for the Building Construction and Architectural Coatings is based on project type and size, the CalEEMod model for Building 4 includes these trips because the model for buildings 1 through 3 only includes the square footage and building footprint sizes for these three buildings. and represents a reasonable worst-case projection of the project's construction emissions. Thus, the project's construction emissions are not underestimated, and the IS-MND contains an adequate analysis of the project's construction impacts in accordance with CEQA..

Response 4.20

The commenter expresses an opinion that the CalEEMod model for buildings 1 through 3 includes incorrect trip generation estimates for Saturday and Sunday trips and that the CalEEMod model for Building 4 incorrectly includes zero trips.

As stated in Section 3.1 of Appendix H, "the project is expected to generate 2,073 weekday daily vehicle trips." Therefore, it is appropriate to only use this trip estimate for modeling emissions associated with the project's weekday trips. For the project's Saturday and Sunday trips, the default CalEEMod trip generation rates are utilized, which are based on the Institute of Transportation Engineers Trip Generation Handbook – 9th Edition.[11]

As stated in the Remarks for the CalEEMod outputs for Building 4 included in Appendix B of the Draft IS-MND, the project's mobile source emissions are estimated in the CalEEMod model for Buildings 1 through 3. To avoid double-counting the project's mobile source emissions, all of the project's vehicle trips were input into the CalEEMod run for buildings 1 through 3, which therefore calculates the full estimate of the project's mobile source emissions associated with weekday trips. However, in response to the commenter's concerns, the Saturday and Sunday trip generation estimates in the model for buildings 1 through 3 have been revised using the total building square footage (rather than the square footage of only buildings 1 through 3) to fully capture the project's mobile source emissions for Saturday and Sunday trips. Tables 7 and 8 in Section 3, *Air Quality*, and Table 21 and its associated text in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND have been revised with updated model results as shown in Chapter 3, Draft IS-MND Revisions. As shown therein, these revisions do not result in a new significant impact or substantial increase in the severity of a significant impact beyond those already identified in Section 3, *Air Quality*, and Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND. Mitigation Measures AQ-1 and GHG-1 would continue to be adequate to reduce the project's potentially significant air quality and GHG emissions impacts to a less-than-significant level. See also Response 4.12.

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[10] California Air Pollution Control Officers Association (CAPCOA). 2017. California Emissions Estimator Model User's Guide Version 2016.3.2. November 2017.

[11] California Air Pollution Control Officers Association (CAPCOA). 2017. California Emissions Estimator Model User's Guide Version 2016.3.2. November 2017.

Response 4.21

The commenter expresses a concern that the Draft IS-MND does not mention that GHG emissions associated with the electricity usage of Building 4 were calculated outside of CalEEMod and that these calculations were not provided.

As stated under *Methodology* in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND, "Based on applicant-provided information, Building 4 would consume approximately 107,600 megawatt-hours (MWh) of electricity per year. Because CalEEMod does not provide an appropriate proxy for data center operations, these energy emissions were calculated separately using CalEEMod energy emissions factors for PG&E as adjusted for the 2030 Renewable Portfolio Standard requirement (see Table 20). See Appendix A for calculations." These calculations were, in fact, provided in Appendix A on Page 382 and were available for the commenter's review. The IS-MND contains an adequate analysis of the project's energy-related impacts in accordance with CEQA.

Response 4.22

The commenter expresses a concern that the CalEEMod models assumed that all of the project's wastewater would be treated with aerobic processes because the City's wastewater treatment plant has a co-generation engine fueled by biogas, which is produced by anaerobic digesters.

As stated in the CalEEMod User Guide,

> *Wastewater may also have direct emissions of GHGs. These depend on the type of wastewater treatment system (e.g., septic, aerobic or lagoons) used and therefore the wastewater treatment type percentages are variables. In addition, the model calculates impacts if the solids are digested either through an anaerobic digester or with co-generation from combustion of digester gas. Each type has associated GHG emission factors.* [12]

The models used to estimate project emissions assumed that 100 percent of <u>wastewater</u> would be treated through aerobic processes. This is the process utilized to treat wastewater at the City's wastewater treatment plant, as opposed to facultative lagoons or septic tanks, which are the only other two options in CalEEMod for wastewater treatment processes.

However, by default, the models also assume that 100 percent of <u>solids</u> produced by the wastewater treatment process would be digested through an anaerobic digester without co-generation from combustion of digestor gas. Therefore, to address the commenter's suggestion, the CalEEMod models have bene revised to include cogeneration from combustion of digestor gas for 100 percent of the solids generated by treatment of the project's wastewater. Table 21 and its associated text in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND have been revised with updated model results as shown in Chapter 3, Draft IS-MND Revisions. As shown therein, these revisions do not result in a new significant impact or substantial increase in the severity of a significant impact beyond those already identified in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND. Mitigation Measure GHG-1 would continue to be adequate to reduce the project's potentially significant GHG emissions impacts to a less-than-significant level. See also Response 4.12.

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[12] California Air Pollution Control Officers Association (CAPCOA). 2017. California Emissions Estimator Model User's Guide Version 2016.3.2. November 2017.

Response 4.23

The commenter expresses a concern that the reductions made to the project's solid waste generation rates in the CalEEMod models are unsubstantiated because although the City has achieved a community-wide solid waste diversion rate of 77 percent, this does not guarantee that the project would achieve a similar solid waste diversion rate.

To address the commenter's concern and provide a conservative evaluation of project impacts, the model adjustment made to account for the City's communitywide solid waste diversion rate has been removed. Table 21 and its associated text in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND have been revised with updated model results as shown Chapter 3, Draft IS-MND Revisions. As shown therein, these revisions do not result in a new significant impact or substantial increase in the severity of a significant impact beyond those already identified in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND. Mitigation Measure GHG-1 would continue to be adequate to reduce the project's potentially significant GHG emissions impacts to a less-than-significant level. The IS-MND contains an adequate analysis of the project's solid waste related impacts in accordance with CEQA. See also Response 4.12.

Response 4.24

The commenter expresses concern that the CalEEMod models for the unmitigated scenario incorrectly included a construction-related "mitigation measure" for "Water Exposed Area."

CalEEMod is a model for the entire state, and not all air districts or municipalities have the same mandatory regulatory requirements. For the purposes of CalEEMod, "mitigation" is a term of art for the modeling input and is not equivalent to mitigation measures that may apply to the CEQA analysis. While CalEEMod labels compliance with existing regulations as "mitigation measures" in this context, these are not truly mitigation measures as the term is used in CEQA. Hayward Municipal Code Section 10-8.32 includes requirements to use watering or dust palliative to contain dust and to immediately remove any earth material spilling or accumulating on a public street. It is reasonable to assume that compliance with this code requirement would include watering the project site twice daily to contain dust. Nevertheless, to address the commenter's concern and provide a conservative evaluation of project impacts, the model adjustment made to account for compliance with HMC Section 10-8.32 has been removed. Table 6 in Section 3, *Air Quality*, of the Draft IS-MND has been revised with updated model results as shown in Chapter 3, Draft IS-MND Revisions. As shown therein, these revisions do not result in a new significant impact or substantial increase in the severity of a significant impact beyond those already identified in Section 3, *Air Quality*, of the Draft IS-MND. Mitigation Measure AQ-1 would continue to be adequate to reduce the project's potentially significant air quality impacts to a less-than-significant level. The IS-MND contains an adequate analysis of the project's air quality impacts in accordance with CEQA.

Although this revision also results in an increase in construction-related GHG emissions, it would not increase the severity of the project's GHG emissions impacts because construction-related GHG emissions are disclosed for informational purposes only and are not used to determine to the significance of project impacts under CEQA.

Response 4.25

The commenter expresses concern that the CalEEMod models for the unmitigated scenario include energy- and water-related "mitigation measures" that are not substantiated.

As explained under Response 4.24, for the purposes of CalEEMod, "mitigation" is a term of art for the modeling input and is not equivalent to mitigation measures that may apply to the CEQA analysis. As explained in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND and noted in the Remarks of the models in Appendix B of the Draft IS-MND, the features used in the model to reduce the project's energy and water consumption account for the project's proposed sustainability features. In addition to being part of the project's sustainability plan, these features are also required by law as part of regulatory compliance with Title 24, which mandates achieving specific prescriptive and performance standards for energy use and water consumption. Therefore, it is appropriate to include these energy- and water-related "mitigation measures" as part of the CalEEMod models for the unmitigated scenario, and the project's emissions are not underestimated. The IS-MND contains an adequate analysis of the project's energy-related impacts in accordance with CEQA.

Response 4.26

The commenter expresses concern that the CalEEMod models did not include emissions estimates for the proposed transformer yard and PG&E transmission lines in the emissions modeling.

As shown in Figure 4 under *Project Description* of the Draft IS-MND, the transformer yard is part of the proposed improvements to the project site and is therefore included in the construction emissions modeling for Buildings 1 through 4, which encompasses construction activities occurring on the full 26 acres of the project site.

However, the commenter is correct that the models erroneously did not include operational emissions associated with the proposed transformer yard and construction and operational emissions associated with the proposed PG&E transmission lines. An additional model has been prepared for these emissions, and Tables 6 through 8 in Section 3, *Air Quality*, and Table 21 and the associated text in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND have been revised with new model results as shown in Chapter 3, Draft IS-MND Revisions. As shown therein, these revisions do not result in a new significant impact or substantial increase in the severity of a significant impact beyond those already identified in Section 3, *Air Quality*, and Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND. Mitigation measures AQ-1 and GHG-1 would continue to be adequate to reduce the project's potentially significant air quality and GHG emissions impacts to a less-than-significant level. See also Response 4.12.

Response 4.27

The commenter states an opinion that, based on an air quality analysis prepared by SWAPE, project construction would generate ROG and NO_X emissions in excess of the BAAQMD thresholds of 54 pounds per day. The commenter suggests that these exceedances indicate the project would result in a significant construction-related air quality impact that would require mitigation and recommends preparation of an EIR.

The air quality modeling prepared by SWAPE did not take into account project-specific information on the anticipated construction schedule and construction equipment list. As discussed in Responses 4.9, 4.11, 4.14, 4.15, 4.16, 4.17, and 4.19, the use of the project-specific construction schedule and construction equipment list provides a more realistic and accurate estimate of project emissions. For example, SWAPE's modeling indicates that ROG emissions during the architectural coating phase would be approximately 325 pounds per day. However, the modeling utilizes a default phase length of five days, and as discussed in Response 4.15, it is not reasonable to assume that the exterior and interior of four buildings with a gross floor area of approximately 615,621 square feet could be painted by an approximately 32-person construction crew in 20 days. Therefore, SWAPE's modeling overestimates VOC emissions during project construction by relying on an unrealistic and unreasonable default assumption for the architectural coating phase length. SWAPE's modeling also indicated that NO_X emissions would be approximately 127 pounds per day. However, the modeling does not use a project-specific construction schedule or project-specific construction equipment list and double-counts emissions associated with construction equipment and worker vehicle trips during the demolition, site preparation, and grading phases, as explained in Responses 4.17 and 4.19. Therefore, SWAPE's modeling overestimates NO_X emissions during project construction by relying on unrealistic and unreasonable default assumptions that, unlike the project analysis contained in the IS-MND, are not specific to the proposed project. Therefore, the air quality modeling included in the Draft IS-MND (as revised in Chapter 3, Draft IS-MND Revisions) provides a more accurate estimate of project construction emissions than the modeling prepared by SWAPE. Furthermore, SWAPE incorrectly compares the project's maximum daily construction emissions to the BAAQMD significance thresholds. As stated on Page 8-1 of the BAAQMD CEQA Guidelines (2017), "Following quantification of project-generated construction-related emissions, the total average daily emissions of each criteria pollutant and precursor should be compared with the applicable *Threshold of Significance*."[13] As shown in revised Table 6 **Error! Reference source not found.**in Chapter 3, Draft IS-MND Revisions, the project's average daily construction emissions would remain below the BAAQMD thresholds of significance with the updated construction emissions modeling that was revised as appropriate in response to some of the commenter's suggestions. As such, no further revisions to the calculations of project construction emissions are warranted in response to this comment. Impacts would remain less than significant. The IS-MND contains an adequate analysis of the project's construction-related impacts in accordance with CEQA.

Response 4.28

The commenter provides a summary of diesel particulate matter and its health effects. The commenter states that the IS-MND estimates the cumulative cancer risk posed to future, on-site receptors as a result of proximity to State Route 92 and that the IS-MND estimates the cancer risk resulting from the proposed generators would be 4.4 in one million.

The comment is incorrect in stating that the Draft IS-MND estimates the cumulative cancer risk posed to future on-site receptors as a result of proximity to State Route 92. The Draft IS-MND does not estimate this risk because the project does not include the siting of sensitive receptors. The commenter correctly states the health risk estimated for the proposed generators in the Draft IS-MND.

Response 4.29

The commenter expresses a concern that project construction would result in a substantial health risk that was not adequately evaluated in the Draft IS-MND.

The rationale for not requiring a health risk assessment for construction activities is the distance of the project site from the nearest sensitive receptors and the limited duration of exposure in

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[13] BAAQMD. 2017. California Environmental Quality Act: Air Quality Guidelines. San Francisco, CA. May 2017. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en (accessed January 2021).

comparison to the typical exposure durations used for HRAs. The BAAQMD CEQA Guidelines (2017) state, "For assessing community risks and hazards, a 1,000 foot radius is recommended around the project property boundary."[14] There are no sensitive receptors within 1,000 feet of the project site. Furthermore, as stated in Section 3, *Air Quality*, of the Draft IS-MND, according to OEHHA methodology, health effects from carcinogenic air toxics are usually described in terms of "individual cancer risk," which is the likelihood that a person continuously exposed to concentrations of TACs over a 70-year lifetime will contract cancer based on the use of standard risk assessment methodology. Given the construction schedule of approximately 15 months, the project would not result in a long-term (i.e., 70-year) source of TAC emissions. No residual emissions or corresponding individual cancer risk are anticipated after construction. Because of the short-term nature of the exposure period related to construction (15 out of 840 months [about 2 percent] of a 70-year lifetime), health risks were determined to be less than significant and further evaluation of construction TAC emissions in the Draft IS-MND was determined to not be warranted. As a result, contrary to the commenter's assertions, preparation of a construction HRA is not necessary.

The commenter correctly notes that OEHHA adopted a new version of the Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments (Guidance Manual) in March of 2015. The Guidance Manual was developed by OEHHA, in conjunction with the California Air Resources Board, for use in implementing the Air Toxics "Hot Spots" Program (Health and Safety Code Section 44360 et. seq.). The Air Toxics "Hot Spots" Program requires the operators of stationary sources to report the types and quantities of certain substances routinely released into the air, but does not apply to temporary construction activities. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels. The new Guidance Manual provides recommendations related to cancer risk evaluation of certain short-term projects. As discussed in Section 8.2.10 of the Guidance Manual, "The local air pollution control districts sometimes use the risk assessment guidelines for the Hot Spots program in permitting decisions for short-term projects such as construction or waste site remediation." The Guidance Manual does not specifically define what time period constitutes a "short-term project;" however, it is reasonable to assume that any projects that are less than nine years in duration are short-term projects because nine years is typically the minimum exposure duration recommended for conducting an HRA (OEHHA 2015). Short-term projects that would require a permitting decision by BAAQMD typically would be limited to site remediation (e.g., stationary soil vapor extractors), which is not required for the proposed project. General construction activities are not short-term projects that would require a permitting decision by BAAQMD and are therefore not included in this recommendation. The new Guidance Manual does not provide specific recommendations for evaluation of short-term use of off-road mobile sources (e.g., heavy-duty diesel construction equipment). In addition, BAAQMD provided comments on the Draft IS-MND (see Letter 2) and did not request completion of a construction HRA. Furthermore, as discussed in Response 4.27, the construction emissions modeling prepared by SWAPE did not take into account project-specific information on the anticipated construction schedule and construction equipment list and instead relies on unrealistic and unreasonable default assumptions. Therefore, the results of the screening-level health risk assessment prepared by SWAPE, which are based on their construction emissions modeling, cannot be relied on to evaluate project impacts and do not constitute substantial evidence of a significant impact. The conclusion of the Draft IS-MND that

[14] BAAQMD. 2017. California Environmental Quality Act: Air Quality Guidelines. San Francisco, CA. May 2017. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en (accessed January 2021).

project construction would not expose sensitive receptors to substantial TAC emissions remains valid.

Response 4.30

The commenter expresses concern that future residents housed by the proposed project would be significantly impacted by the cancer and non-cancer risk associated with vehicular traffic on State Route 92.

The project includes industrial land uses and does not propose housing contrary to the commenter's assertions. Therefore, this comment is irrelevant to the proposed project and the evaluation of the project's environmental impacts. The IS-MND contains an adequate analysis of the project's impacts in accordance with CEQA.

Response 4.31

The commenter recommends that health risk impacts associated with project construction activities be evaluated in an EIR per California Office of Environmental Health Hazard Assessment guidance.

Please refer to Response 4.29 for a discussion of the health risk associated with project construction activities.

Response 4.32

The comment expresses an opinion that the health risk impacts associated with project vehicle trips should have been evaluated. The commenter states that a screening-level health risk assessment prepared by SWAPE indicates excess lifetime cancer risk associated with project construction and operation would be in excess of BAAQMD thresholds of significance. The commenter recommends preparation of a health risk assessment to disclose potential project impacts.

Please refer to Response 4.29 for a discussion of why preparation of a construction HRA is not warranted. With regard to project operation, as stated in Section 3, *Air Quality*, of the Draft IS-MND, an HRA was prepared for the project to evaluate the possible health effects associated with the proposed stationary TAC emissions sources. The HRA was included as Appendix B to the Draft IS-MND. As shown in Table 13 of the Draft IS-MND, the HRA determined that the maximum exposed individual receptor (MEIR) would be exposed to an excess cancer risk of approximately 4.4 in one million, which does not exceed the BAAQMD threshold of 10 excess cases of cancer in one million individuals. Contrary to the commenter's assertion, project operation (other than the diesel backup generators) would not result in substantial TAC emissions. DPM emissions from mobile sources are only associated with the combustion of diesel fuel; therefore, only diesel-fueled vehicles would emit DPM, which would comprise a fraction of the 2,073 weekday vehicle trips estimated for the proposed project. The remainder of vehicle trips by employees, customers, and some delivery trucks would be made by gasoline-fueled vehicles, which do not emit DPM. Furthermore, of the DPM emissions associated with diesel-fueled vehicles serving the project site, only a minor fraction would be emitted at the nearest off-site sensitive receptors (located approximately 1,210 feet away) while the remainder would be generated during idling at the project site or dispersed along other local and regional roadways used to access the project site. With respect to idling emissions of DPM, the California Air Resources Board recommends siting new sensitive land uses more than 1,000 feet from distribution centers, which are defined as facilities that accommodate more than 100 diesel trucks per day, more than 40 diesel trucks with operating transport refrigeration units (TRUs) per day, or where TRU operations exceed 300 hours per week.[15] As stated previously, the nearest sensitive receptor is approximately 1,210 feet away, which is greater than CARB's recommended siting distance. Therefore, preparation of an operational mobile source HRA is not warranted, and the conclusion of the Draft IS-MND that project operation would not expose sensitive receptors to substantial TAC emissions remains valid. No additional analysis is warranted.

Response 4.33

The commenter states an opinion that the GHG emissions estimate in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND should not be relied on for the reasons stated in previous comments.

Please refer to Responses 4.9 through 4.28 for a discussion of the justification behind specific model inputs and revisions that were made in response to some of the commenter's suggestions, as appropriate. As revised, the GHG emissions estimate for the project, as shown in the revised Table 21 in Chapter 3, Draft IS-MND Revisions, is supported by substantial evidence and can be relied on to evaluate project impacts.

Response 4.34

The commenter opines that Mitigation Measure GHG-1 does not describe which measures would be required to reduce the project's GHG emissions or how these measures would be implemented, monitored, or enforced. The commenter also expresses a concern that Mitigation Measure GHG-1 improperly defers mitigation to a later time.

CEQA Guidelines Section 15126.4(a)(1)(B) states,

> *Formulation of mitigation measures shall not be deferred until some future time. The specific details of a mitigation measure, however, may be developed after project approval when it is impractical or infeasible to include those details during the project's environmental review provided that the agency (1) commits itself to the mitigation, (2) adopts specific performance standards the mitigation will achieve, and (3) identifies the type(s) of potential action(s) that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure.*

As discussed under *Project Description* of the Draft IS-MND, the proposed project includes core and shell structures. The tenants of Buildings 1 through 3 are not known at this time; therefore, it is not feasible or practical to develop the specific details of Mitigation Measure GHG-1 because the specific types of industrial activities that would occupy the buildings are not known. The City of Hayward, as lead agency, has committed to enforcing this mitigation measure, and Mitigation Measure GHG-1 (as revised in Chapter 3, Draft IS-MND Revisions) includes a specific performance standard of reducing emissions by approximately 16,506 MT of CO_2e per year to 660 MT of CO_2e per year and identifies the types of potential actions that can feasibly achieve this performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. The effectiveness and feasibility of Mitigation Measure GHG-1 is demonstrated in the discussion under *Significance after Mitigation* in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND, as revised in Chapter 3, Draft IS-MND Revisions. Furthermore, Mitigation Measure GHG-1 does describe how the GHGRP will be implemented, monitored, and enforced by stating, "The

[15] California Air Resources Board. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* https://www.arb.ca.gov/ch/handbook.pdf (accessed January 2021).

GHGRP shall be submitted by the project developer and reviewed and approved by the City of Hayward as being in compliance with this measure prior to grading or building permit issuance. Applicable elements of the approved GHGRP shall be reflected on project site plans prior to certificate of occupancy…Condition compliance shall include monitoring and verifying implementation of measures included in the GHGRP." Therefore, Mitigation Measure GHG-1 does not improperly defer mitigation to a later time.

Response 4.35

The commenter claims that the IS-MND cannot rely on the City's Climate Action Plan (CAP) because it is out of date.

As stated in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND, "The City of Hayward has developed a CAP, which has been adopted as a part of the City's General Plan. However, the CAP does not demonstrate a pathway for the City to achieve the 40 percent reduction target by 2030 required by SB 32. Therefore, the CAP does not qualify as a GHG reduction plan under CEQA Guidelines Section 15183.5 and thus cannot be used for project tiering."

As a result, the GHG emissions analysis in the Draft IS-MND does not tier from the City's CAP under the provisions of CEQA Guidelines Section 15183.5 but instead uses a 2030 GHG emissions target of 660 MT of CO_2e per year, as stated in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND. Regardless of whether the City's CAP is a qualified GHG reduction plan per CEQA Guidelines Section 15183.5(b)(1), it is still appropriate to evaluate the project's consistency with this plan under threshold (b) of Section 8, *Greenhouse Gas Emissions*, because it is an "applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases." The Draft IS-MND does not solely rely on the project's consistency with the City's CAP for its determination that the project's GHG emissions impacts would be less than significant as discussed in Section 8, *Greenhouse Gas Emissions*, of the IS-MND and above in the responses to comments. The Draft IS-MND also evaluates the project's consistency with Plan Bay Area 2040, which contains the region's strategy for achieving the State's SB 375 targets for GHG emission reductions from passenger vehicles by 2020 and 2035, and the 2017 Scoping Plan and compares project emissions to a quantitative year 2030 threshold developed to be consistent with the State's target of reducing emissions by 40 percent below 1990 levels by 2030. Therefore, the Draft IS-MND adequately evaluates the project's GHG emission impacts in light of the State's GHG emission reduction targets and applicable regional and local plans adopted for the purpose of reducing GHG emissions.

Response 4.36

The commenter claims that the IS-MND cannot rely on CARB's 2017 Scoping Plan and Plan Bay Area 2040 to conclude the project would have less than significant GHG impacts because these plans do not qualify as adequate GHG reduction plans or climate action plans per CEQA Guidelines Section 15064.4 and 15183.5.

The analysis under threshold (b) of Section 8, *Greenhouse Gas Emissions*, evaluates whether "the project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases." Plan Bay Area 2040 and the 2017 Scoping Plan are both applicable plans adopted for the purpose of reducing GHG emissions. The GHG emissions analysis in the Draft IS-MND does not tier from either of these plans under the provisions of CEQA Guidelines Section 15183.5 but instead uses a 2030 GHG emissions target of 660 MT of CO_2e per year, as stated in Section 8, *Greenhouse Gas Emissions*, of the Draft IS-MND.

CEQA Guidelines Section 15064.4 outlines several factors that a lead agency should consider when determining the significance of project impacts from GHG emissions on the environment, including "the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b)). Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions." This section does not state that the project must only be evaluated for consistency with plans that meet the requirements of CEQA Guidelines Section 15183.5(b) but rather suggests that those plans be included as part of the analysis, as applicable. Therefore, it is appropriate to evaluate the project's consistency with the regulations and requirements adopted to implement Plan Bay Area 2040 and the 2017 Scoping Plan, as applicable. Furthermore, the commenter does not provide any suggestions of other GHG emissions reduction plans for which the Draft IS-MND should have evaluated the project's consistency. Therefore, no revisions to the Draft IS-MND are warranted in response to this comment. The IS-MND contains an adequate analysis of the project's GHG impacts in accordance with CEQA.

3.0 DRAFT IS-MND REVISIONS

This chapter presents the specific changes to the text of the Draft IS-MND that are being made in response to comments received during the public review period. These changes do not result in a greater number of impacts or impacts of a substantially greater severity than those set forth in the Draft IS-MND. Added text is indicated with underlined text and deleted text is indicated with a ~~strikeout~~. The page number corresponds to the page numbers of the Draft IS-MND.

The following revisions have been made to Table 6 on Page 31 of the Draft IS-MND in Section 3, *Air Quality:*

Table 6 Project Construction Emissions

	ROG	NO_X	PM_{10} (exhaust)	$PM_{2.5}$ (exhaust)
~~Maximum~~ Average Daily Emissions (lbs/day)1	~~53.5[1]~~ 11.0[2]	~~50.7~~ 20.3	~~1.2~~ 0.8	~~1.1~~ 0.7
BAAQMD Thresholds (lbs/day)	54	54	82	54
Threshold Exceeded?	**No**	**No**	**No**	**No**

ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter 10 microns in diameter or less; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; lbs/day = pounds per day; BAAQMD = Bay Area Air Quality Management District

[1] Conservatively assumes maximum daily emissions from Buildings 1 through 4 and off-site improvements would occur simultaneously.

~~[1]~~[2] Analysis is conservative in that it assumes architectural coating (painting) all the buildings at the same time.

Source: See CalEEMod worksheets in Appendix A (Table 2.1 "Overall Construction-Mitigated Construction" emissions). Emissions are the highest of winter and summer emission estimates.

The following revisions have been made to Table 7 and Table 8 on Page 33 of the Draft IS-MND in Section 3, *Air Quality:*

Table 7 Estimated Average Daily Operational Emissions

	Average Daily Emissions (lbs/day)			
Emissions Source	**ROG**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	~~14.8~~ 15.0	< 0.1	< 0.1	< 0.1
Energy Sources	~~0.2~~ 0.3	2.3	0.2	0.2
Mobile Sources	2.7	12.5	11.6	3.2
Stationary Sources[1]	1.6	87.7	0.7	0.7
Transformer Yard Maintenance[2]	< 0.1	< 0.1	< 0.1	< 0.1
Total Proposed Project Emissions	~~19.8~~ 19.6	~~127.5~~ 102.5	12.6	4.2
Existing Emissions	1.2	4.7	4.9	1.3

Net New Emissions (Proposed Project – Existing)	~~**18.1**~~ **18.4**	**97.8**	**7.6**	**2.8**
BAAQMD Thresholds	54	54	82	54
Threshold Exceeded?	**No**	**Yes**	**No**	**No**

ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter 10 microns in diameter or less; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; lbs/day = pounds per day; BAAQMD = Bay Area Air Quality Management District

[1] Conservatively assumes maximum permitted operations of 50 hours per year for each generator, or an average of 3.3 total operational hours per day.

[2] Assumes a maximum of four one-way trips on any given day – two trips for the annual transformer test and two trips for changing the transformer oil, which would occur once every 20 or more years.

Source: See CalEEMod worksheets in Appendix A (Table 2.2 "Overall Operational-Mitigated Operational" emissions) and generator calculation sheets. Emissions for area, energy, and mobile sources are the highest of winter and summer emission estimates.

Table 8 Estimated Annual Operational Emissions

	Annual Emissions (tons/year)			
Emissions Source	**ROG**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	2.7	< 0.1	< 0.1	< 0.1
Energy Sources	0.1	0.4	< 0.1	< 0.1
Mobile Sources	0.4	~~1.8~~ 1.9	~~1.6~~ 1.7	~~0.4~~ 0.5
Stationary Sources[1]	0.3	16.0	0.1	0.1
Transformer Yard Maintenance[2]	< 0.1	< 0.1	< 0.1	< 0.1
Total Proposed Project Emissions	3.6	~~22.8~~ 18.3	1.8	0.6
Existing Emissions	0.2	0.6	0.6	0.2
Net New Emissions (Proposed Project – Existing)	**3.3**	~~**17.6**~~ **17.7**	**1.1**	**0.3**
BAAQMD Thresholds	10	10	15	10
Threshold Exceeded?	**No**	**Yes**	**No**	**No**

ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter 10 microns in diameter or less; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; BAAQMD = Bay Area Air Quality Management District

[1] Conservatively assumes maximum permitted operations of 50 hours per year for each generator, or an average of 3.3 total operational hours per day.

[2] Assumes a maximum of four one-way trips on in any given years – two trips for the annual transformer test and two trips for changing the transformer oil, which would occur once every 20 or more years.

Source: See CalEEMod worksheets in Appendix A (Table 2.2 "Overall Operational-Mitigated Operational" emissions) and generator calculation sheets.

The following revisions have been made to the Mitigation Measure AQ-1 on pages 34 and 25 of the Draft IS-MND in Section 3, *Air Quality:*

AQ-1 Generator Operational Restrictions

One of the following measures shall be implemented to reduce average daily nitrogen oxide (NO_X) emissions from generator operation for maintenance and testing purposes to a less than significant level:

- Generator operation for maintenance and testing purposes shall be limited so that the combined operation of the generator engines for testing and maintenance purposes does not exceed 600 hours (25 hours per generator) in any consecutive 12-month period. The operator shall retain records that include the dates and times of all reliable testing. The Bay Area Air Quality Management District (BAAQMD) regulates the maximum number of hours of operation of the generators for maintenance and testing. The BAAQMD will issue individual Permits to Operate for each generator (or groups of generators) as they are constructed. The conditions in each Permit to Operate will be enforceable by the BAAQMD. Prior to issuance of an occupancy permit for Building 4, the applicant shall provide a letter to the Director of Development Services from the BAAQMD and/or a qualified consultant that documents that the sum of the hours of operation permitted and regulated by BAAQMD for the data center combined does not exceed 600 hours in any consecutive 12-month period. This letter shall include a copy of the BAAQMD-approved Permit to Operate. Any change to the number of generators, the model of generators, or the number of hours the generators will be tested shall require additional air quality analysis. Request for such change shall be made to the City of Hayward Development Services Department with documentation that total emissions from maintenance and testing for the data center would not exceed the significance thresholds for NO_X on both an average daily period (54 pounds per day) and annual averaging period (10 tons per year). This documentation shall be reviewed and approved by the Planning Manager or designated representative of the Development Services Department prior to the issuance of any planning permits approving changes to the generators**; OR:**
- The future tenant of Building 4 shall comply with the offset requirements in Section 2-2-302 of BAAQMD Regulation 2, Rule 2 (New Source Review) as part of the air permitting process for the proposed generators. These requirements are enforced for any facility with the potential to emit more than 10 tons per year of NO_X or precursor organic compounds. For facilities that have the potential to emit more than 10 tons per year but less than 35 tons per year, offsets must be purchased at a 1:1 ratio from the BAAQMD's Small Facility Banking Account or, if the Small Facility Banking Account is exhausted or the permit applicant owns or controls offsets, the permit applicant must provide the required offsets. For facilities that have the potential to emit more than 35 tons per year, federally-enforceable offsets must be purchased at a 1.15:1 ratio. Offsets represent ongoing emission reductions that continue every year, year after year, in perpetuity. The BAAQMD regulates the use of offsets for new air emission sources. The BAAQMD will issue individual ~~Permits to Operate~~ Authority to Construct for each generator (or groups of generators) as they are constructed and will include offset requirements as part of the ~~Permits to Operate~~Authority to Construct. The conditions in each ~~Permits to Operate~~ Authority to Construct will be enforceable by the BAAQMD.

Prior to issuance of an occupancy permit for Building 4, the applicant shall provide a letter to the Director of Development Services from the BAAQMD and/or a qualified consultant that documents that the required offsets have been purchased. This letter shall include a copy of the BAAQMD-approved ~~Permits to Operate~~ Authority to Construct. Any change to the number of generators or the model of generators or an increase in the number of hours the generators will be tested shall require additional air quality analysis. Request for such change shall be made to the City of Hayward Development Services Department with documentation that additional offsets will be purchased, as necessary, to reduce total emissions from maintenance and testing for the data center such that emissions would not exceed the significance thresholds for NO_X on both an average daily period (54 pounds per day) and annual averaging period (10 tons per year). This documentation shall be reviewed and approved by the Planning Manager or designated representative of the Development Services Department prior to the issuance of any planning permits approving changes to the generators.

The following revisions have been made to the Significance After Mitigation discussion on pages 35 through 38 of the Draft IS-MND in Section 3, *Air Quality:*

Significance After Mitigation

Table 9 and Table 10 summarize mitigated average daily and annual operational criteria air pollutant emissions, respectively, assuming testing is limited to 600 total hours per year (or 25 hours per generator per year), which equates to an average of one total hour per day. As shown therein, the project’s mitigated average daily and annual net new emissions would not exceed BAAQMD thresholds.

Table 9 Mitigated Average Daily Operational Emissions – 600 Annual Hours of Generator Operation

	Average Daily Emissions (lbs/day)			
Emissions Source	**ROG**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	~~14.8~~ 15.0	< 0.1	< 0.1	< 0.1
Energy Sources	~~0.2~~ 0.3	2.3	0.2	0.2
Mobile Sources	2.7	12.5	11.6	3.2
Stationary Sources	0.8	43.8	0.3	0.3
Transformer Yard Maintenance[1]	< 0.1	< 0.1	< 0.1	< 0.1
Total Proposed Project Emissions	~~18.5~~ 18.8	~~5.5~~ 58.6	12.1	3.7
Existing Emissions	1.2	4.7	4.9	1.3
Net New Emissions (Proposed Project – Existing)	**~~17.3~~ 17.6**	**53.9**	**7.2**	**2.4**
BAAQMD Thresholds	54	54	82	54
Threshold Exceeded?	**No**	**No**	**No**	**No**

lbs/day = pounds per day; ROG = reactive organic gases; NO_X = nitrogen oxides, PM_{10} = particulate matter 10 microns in diameter or less, $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; BAAQMD = Bay Area Air Quality Management District

[1] Assumes a maximum of four one-way trips on any given day – two trips for the annual transformer test and two trips for changing the transformer oil, which would occur once every 20 or more years.

Source: See CalEEMod worksheets in Appendix A (Table 2.2 "Overall Operational-Mitigated Operational" emissions) and generator calculation sheets. Emissions for area, energy, and mobile sources are the highest of winter and summer emission estimates.

Table 10 Mitigated Annual Operational Emissions – 600 Annual Hours of Generator Operation

	Annual Emissions (tons/year)			
Emissions Source	**ROG**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	2.7	< 0.1	< 0.1	< 0.1
Energy Sources	0.1	0.4	< 0.1	< 0.1
Mobile Sources	0.4	~~1.8~~ 1.9	~~1.6~~ 1.7	~~0.4~~ 0.5
Stationary Sources	0.1	8.0	0.1	0.1
Transformer Yard Maintenance[1]	< 0.1	< 0.1	< 0.1	< 0.1
Total Proposed Project Emissions	3.3	~~9.8~~ 10.3	~~1.7~~ 1.8	~~0.5~~ 0.6
Existing Emissions	0.2	0.6	0.6	0.2
Net New Emissions (Proposed Project – Existing)	**3.1**	**~~9.6~~ 9.7**	**~~1.1~~ 1.2**	**~~0.3~~ 0.4**
BAAQMD Thresholds	10	10	15	10
Threshold Exceeded?	**No**	**No**	**No**	**No**

ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter 10 microns in diameter or less; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; BAAQMD = Bay Area Air Quality Management District

[1] Assumes a maximum of four one-way trips on in any given years – two trips for the annual transformer test and two trips for changing the transformer oil, which would occur once every 20 or more years.

Source: See CalEEMod worksheets in Appendix A (Table 2.2 "Overall Operational-Mitigated Operational" emissions) and generator calculation sheets.

Table 11 and Table 12 summarize mitigated net new average daily and annual operational criteria air pollutant emissions, respectively, assuming compliance with BAAQMD Regulation 2, Rule 2. To prevent the Small Facility Banking Account from over-withdrawal by facilities with new backup generators, the BAAQMD determines a facility's eligibility to obtain emission reduction credits from the Small Facility Banking Account by calculating the backup generators' potential to emit assuming emergency operation for 100 hours per year per backup generator in addition to the permitted limit for readiness testing and maintenance (typically 50 hours per year or less per backup generator; BAAQMD 2019). However, once applicability of offsets is determined, the potential to emit used to determine the actual offset requirement is calculated using only the permitted limit for readiness testing and maintenance. Using this methodology, the facility's potential to emit at full build-out would be greater than 10 tons per year, assuming 150 hours of operation annually (conservatively assumes the maximum permitted 50 hours for testing and maintenance and 100 hours for emergency operation per BAAQMD guidance; see Appendix A for calculations). Therefore, the future tenant of Building 4 would be required to offsets prior to the issuance of the facility's permit to operate. The exact amount of offsets to be provided will be determined during BAAQMD's permitting process but will be required at a minimum 1:1 ratio.[16] . As a result of providing the required offsets for BAAQMD Regulation 2, Rule 2, the project's

[16] Generators installed and offset prior to the Facility NOx PTE reaching 35 tpy are required to provide offsets at a 1:1 ratio. Once the Facility NOx PTE reaches 35 tpy, offsets are required at a 1:1.15 ratio.

mitigated average daily and annual net new emissions would not exceed BAAQMD thresholds. Therefore, implementation of either option provided in Mitigation Measure AQ-1 would reduce impacts to a less-than-significant level.

Table 11 Mitigated Average Daily Operational Emissions – Compliance with BAAQMD Regulation 2, Rule 2

	Average Daily Emissions (lbs/day)			
Emissions Source	**ROG**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	~~14.8~~ 15.0	< 0.1	< 0.1	< 0.1
Energy Sources	~~0.2~~ 0.3	2.3	0.2	0.2
Mobile Sources	2.7	12.5	11.6	3.2
Stationary Sources	1.6	87.7	0.7	0.7
Transformer Yard Maintenance[1]	< 0.1	< 0.1	< 0.1	< 0.1
Total Proposed Project Emissions	~~19.8~~ 19.6	~~7.5~~ 102.5	12.6	4.2
Existing Emissions	1.2	4.7	4.9	1.3
Net New Emissions (Proposed Project – Existing)	**~~18.1~~ 18.4**	**97.8**	**7.6**	**2.8**
Offset Purchase Required by BAAQMD Regulation 2, Rule 2[~~1~~2]	N/A	87.7	N/A	N/A
Mitigated Net New Emissions (Net New Emissions – Offset Purchase)	**~~18.1~~ 18.4**	**10.1**	**7.6**	**2.8**
BAAQMD Thresholds	54	54	82	54
Threshold Exceeded?	**No**	**No**	**No**	**No**

lbs/day = pounds per day; ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter 10 microns in diameter or less; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; BAAQMD = Bay Area Air Quality Management District

[1] Assumes a maximum of four one-way trips on any given day – two trips for the annual transformer test and two trips for changing the transformer oil, which would occur once every 20 or more years.

[~~1~~2] The future tenant of Building 4 will provide offsets at the ratio required per BAAQMD Rule 2-2-302 as determined during BAAQMD's review of the Authority to Construct application at a minimum 1:1 ratio. To provide a conservative estimate of project impacts, this analysis assumes emissions would be offset at the minimum 1:1 ratio. However, if the facility's potential to emit is greater than 35 tons per year as calculated using BAAQMD guidance, the future tenant of Building 4 would be required to offset emissions at a 1.15:1 ratio, which would further reduce emissions below those estimated herein.

Source: See CalEEMod worksheets in Appendix A (Table 2.2 "Overall Operational-Mitigated Operational" emissions) and generator calculation sheets. Emissions for area, energy, and mobile sources are the highest of winter and summer emission estimates.

Table 12 Mitigated Annual Operational Emissions – Compliance with BAAQMD Regulation 2, Rule 2

	Annual Emissions (tons/year)			
Emissions Source	**ROG**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**
Area Sources	2.7	< 0.1	< 0.1	< 0.1
Energy Sources	0.1	0.4	< 0.1	< 0.1
Mobile Sources	0.4	~~1.8~~ 1.9	~~1.6~~ 1.7	~~0.4~~ 0.5
Stationary Sources	0.3	16.0	0.1	0.1
Transformer Yard Maintenance[1]	< 0.1	< 0.1	< 0.1	< 0.1
Total Proposed Project Emissions	3.6	~~2.8~~ 18.3	1.8	0.6
Existing Emissions	0.2	0.6	0.6	0.2
Net New Emissions (Proposed Project – Existing)	**3.3**	**~~7.6~~ 17.7**	**1.1**	**0.3**
Offset Purchase Required by BAAQMD Regulation 2, Rule 2~~[1]~~[2]	N/A	16.0	N/A	N/A
Mitigated Net New Emissions (Net New Emissions – Offset Purchase)	**3.3**	**~~1.6~~ 1.7**	**1.1**	**0.3**
BAAQMD Thresholds	10	10	15	10
Threshold Exceeded?	**No**	**No**	**No**	**No**

ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter 10 microns in diameter or less; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; BAAQMD = Bay Area Air Quality Management District

[1] Assumes a maximum of four one-way trips on in any given years – two trips for the annual transformer test and two trips for changing the transformer oil, which would occur once every 20 or more years.

~~[1]~~[2] The future tenant of Building 4 will provide offsets at the ratio required per BAAQMD Rule 2-2-302 as determined during BAAQMD's review of the Authority to Construct application at a minimum 1:1 ratio. To provide a conservative estimate of project impacts, this analysis assumes emissions would be offset at the minimum 1:1 ratio. However, if the facility's potential to emit is greater than 35 tons per year as calculated using BAAQMD guidance, the future tenant of Building 4 would be required to offset emissions at a 1.15:1 ratio, which would further reduce emissions below those estimated herein.

Source: See CalEEMod worksheets in Appendix A (Table 2.2 "Overall Operational-Mitigated Operational" emissions) and generator calculation sheets.

The following revisions have been made on Page 68 of the Draft IS-MND in Section 7, *Geology and Soil,* to renumber the mitigation so there is not a duplicate*:*

Mitigation Measure

~~GEO-2~~GEO-3 Unanticipated Discovery of Paleontological Resources

In the event an unanticipated fossil discovery is made during the course of project development, construction activity should be halted in the immediate vicinity of the fossil, and a qualified professional paleontologist should be notified and retained to evaluate the discovery, determine its significance, and determine if additional mitigation or treatment is warranted. Work in the area of the discovery will resume once the find is properly documented and authorization is given to resume construction work. Any significant paleontological resources found during construction monitoring will be prepared, identified, analyzed, and permanently curated in an approved regional museum repository under the oversight of the qualified paleontologist.

Significance After Mitigation

Mitigation Measure ~~GEO- 2~~GEO-3 would avoid impacts to paleontological resources in the case of unanticipated fossil discoveries. This measure would apply to all phases of project construction and would reduce the potential for impacts to unanticipated fossils present on site by providing for the recovery, identification, and curation of paleontological resources.

The following information has been added to the Significance Thresholds discussion on Page 72 of the Draft IS-MND in Section 8, *Greenhouse Gas Emissions:*

As discussed above, the City has not adopted a qualified GHG Reduction Strategy; therefore, it is not appropriate to use the first recommended threshold of significance. The BAAQMD mass emissions threshold of 1,100 MT of CO_2e per year was designed to capture 90 percent of all emissions associated with projects in the SFBAAB and require implementation of mitigation so that a considerable reduction in emissions from new projects would be achieved. According to the California Air Pollution Control Officers Association white paper CEQA & Climate Change, a quantitative threshold based on a 90 percent market capture rate is generally consistent with AB 32 (California Air Pollution Control Officers Association 2008). SB 32, codified in 2016, sets a more stringent emission reduction target of 40 percent below the 1990 level by 2030. Because the previously established threshold of 1,100 MT of CO_2e was not developed to meet the targets established by SB 32, it is adjusted for the purposes of this analysis to meet the new, more stringent emission reduction target of a 40 percent reduction below the 1990 level by 2030. Because BAAQMD has not adopted a threshold for 2030 yet, this analysis uses a bright-line threshold of 660 MT of CO_2e per year (equivalent to a 40 percent reduction of the 1,100 MT of CO_2e per year threshold based on the State's 2030 target). The bright-line threshold is applicable to the proposed project because the City of Hayward does not have a qualified GHG reduction plan and the project is not a residential or mixed-use project for which impacts would be more appropriately evaluated using a service population threshold to reflect per-person emission efficiency.

At this time, the State Legislature has codified a target of reducing emissions to 40 percent below 1990 emissions levels by 2030 (SB 32) and has developed the 2017 Scoping Plan to demonstrate how the State will achieve the 2030 target and make substantial progress toward the 2050 goal of an 80 percent reduction in 1990 GHG emission levels set by EO S-3-05. In EO B-55-18, which identifies a new goal of carbon neutrality by 2045, the California Air Resources Board has been tasked with including a pathway toward the EO B-55-18 carbon neutrality goal in the next Scoping Plan update.

While state and regional regulators of energy and transportation systems, along with the State's Cap-and-Trade program, are designed to be set at limits to achieve most of the reductions needed to attain the State's long-term targets, local governments can do their fair share toward meeting the State's targets by siting and approving projects that accommodate planned population growth and projects that are GHG-efficient. At this time, the California Air Resources Board has not adopted a plan that establishes a pathway to achieving the State's long-term targets; therefore, these targets are not used as thresholds of significance in this analysis. Instead, the Association of Environmental Professionals (AEP) Climate Change Committee recommends that CEQA GHG analyses evaluate project emissions in light of the trajectory of state climate change legislation and assess their "substantial progress" toward achieving long-term reduction targets identified in available plans, legislation, or EOs.[17] Consistent with AEP Climate Change Committee recommendations, GHG impacts are analyzed using a threshold based on the State's 2030 target, which evaluates whether the project would impede "substantial progress" toward meeting the reduction goals identified in SB 32, EO S-3-05, and EO B-55-18. Because SB 32 is considered an interim target toward meeting the 2045 and 2050 State goals, consistency with SB 32 is considered to be contributing substantial progress toward meeting the State's long-term 2045 and 2050 goals. Avoiding interference with, and making substantial progress toward, these long-term State targets is important because these targets have been set at levels that achieve California's share of international emissions reduction targets that will stabilize global climate change effects and avoid the adverse environmental consequences of climate change (EO B-55-18). Furthermore, it is infeasible to meet the State's long-term targets at this time because achieving these targets will depend on substantial technological innovation in GHG emission reduction measures and changes in legislation and regulations that will need to occur over the next 25 to 30 years as have occurred over the past 14 years to meet the 2020 target set by AB 32.

Because the BAAQMD bright-line threshold for 2020 was reduced by 40 percent to be consistent with the State's 2030 target (i.e., a 40 percent reduction in 1990 levels by 2030), the project would be consistent with the State's 2030 target if emissions are below this threshold. As discussed above, consistency with the SB 32 target represents substantial progress toward climate-stabilizing targets set forth by EOs S-3-05 and B-55-18.

The following revisions have been made to the impact analysis on pages 73-74 of the Draft IS-MND in Section 8, *Greenhouse Gas Emissions.*

Construction Emissions

Project construction would generate temporary GHG emissions primarily due to the operation of construction equipment and truck trips. Site preparation and grading typically generate the greatest amount of emissions due to the use of grading equipment and soil hauling. The BAAQMD has not established a quantitative significance threshold for evaluating construction-related emissions; however, the BAAQMD does recommend quantifying and disclosing construction-related GHG emissions. Therefore, construction-related GHG emissions were quantified for informational purposes. Emissions generated by construction of the proposed project would be approximately ~~1,265~~ 1,538 MT of CO_2e, or approximately ~~42~~ 51 MT of CO_2e per year when amortized over a 30-year period (i.e., the lifetime of the project).

[17] Association of Environmental Professionals (AEP). 2016. Final White Paper Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California. https://www.califaep.org/images/climate-change/AEP-2016_Final_White_Paper.pdf (accessed January 2021).

Operational Emissions

Table 21 summarizes net new operational GHG emissions associated with the proposed project and shows the net increase in emissions generated by the proposed project as compared to existing uses. As shown therein, net new operational emissions associated with the proposed project would be approximately ~~16,772~~ 17,166 MT of CO_2e per year in year 2030, which would exceed the threshold of 660 MT of CO_2e per year and would potentially conflict with SB 32 and EOs S-3-05 and B-55-18 . Therefore, GHG emissions would be potentially significant. It is noted that the tenant of Building 4 has committed to achieving carbon neutrality by 2040; therefore, GHG emissions from Building 4 along with total project emissions would decrease accordingly after year 2030. However, in accordance with guidance provided by AEP, the project's GHG emissions are evaluated for consistency with the State's next milestone target year of 2030.

Table 21 Combined Annual Emissions of GHGs

Emission Source	Annual Emissions (MT of CO_2e/year)
Operational	
Area	< 1
Energy[1]	~~15,615~~ 15,619
Solid Waste	~~136~~ 384
Water	~~155~~ 149
Mobile[2]	
CO_2 and CH_4	~~1,365~~ 1,474
N_2O	~~25~~ 64
Total Proposed Project Emissions	~~17,296~~ 17,690
Existing Emissions	524
Net New Emissions (Proposed Project – Existing)	**~~16,772~~ 17,166**
BAAQMD Land Use Threshold (Adjusted for SB 32)	660
Exceeds Threshold?	**Yes**

MT = metric tons; CO_2e = carbon dioxide equivalents

[1] The Building 4 tenant has committed to procuring a 100 percent renewable energy mix by 2025. However, for the purposes of providing a conservative estimate of project impacts, it was assumed that all electricity required for Building 4 would be supplied by PG&E's standard electricity mix for 2030 with 60 percent procurement from eligible renewable energy sources.

[2] Includes a maximum of four one-way trips on in any given years – two trips for the annual transformer test and two trips for changing the transformer oil, which would occur once every 20 or more years.

Source: See CalEEMod worksheets in Appendix A (Table 2.1 "Overall Operational-Mitigated Operational" emissions) and standalone electricity emission calculations for Building 4.

The following revisions have been made to Mitigation Measure GHG-1 and the Significance after Mitigation discussion starting on Page 75 of the Draft IS-MND:

GHG-1 Greenhouse Gas Reduction Plan

The project applicant shall prepare and implement a GHG Reduction Plan (GHGRP) that demonstrates emissions reductions from project operation by approximately ~~16,112~~ 16,506 MT of CO_2e per year to 660 MT of CO_2e per year for the lifetime of the project, or by an amount determined through further analysis of project GHG emissions at the time of GHGRP preparation. Potential GHG reduction measures included in the GHGRP may include, but would not be limited to, the following:

- Procure greater than 60 percent of the electricity consumed by Buildings 1 through 4 from eligible renewable and zero-carbon energy sources by 2030;
- Install EV infrastructure some or all loading docks;
- Implement a transportation demand management program for employees, which may include the following measures:
  - Priority parking for carpools and vanpools
  - Subsidized transit passes for employees
  - Retention of a transportation demand management coordinator or creation of a website to provide transit information and/or coordinate ridesharing
  - Inclusion of shower and changing facilities in building design
  - Bicycle sharing
  - Emergency ride home program
  - Telecommuting or flexible schedule options to reduce transit time, vehicle miles traveled (VMT), and associated GHG emissions
- Directly undertake or fund activities that reduce or sequester GHG emissions ("Direct Reduction Activities") and retire the associated "GHG Mitigation Reduction Credits." A "GHG Mitigation Reduction Credit" shall mean an instrument issued by an Approved Registry and shall represent the estimated reduction or sequestration of 1 MT of CO_2e that shall be achieved by a Direct Reduction Activity that is not otherwise required (CEQA Guidelines Section 15126.4[c][3]). A "GHG Mitigation Reduction Credit" must achieve GHG emission reductions that are real, permanent, quantifiable, verifiable, enforceable, and in addition to any GHG emission reduction required by law or regulation or any other GHG emission reduction that otherwise would occur in accordance with the criteria set forth in the California Air Resources Board's most recent *Process for the Review and Approval of Compliance Offset Protocols in Support of the Cap-and-Trade Regulation* (2013). An "Approved Registry" is an accredited carbon registry that follows approved California Air Resources Board Compliance Offset Protocols. At this time, Approved Registries include American Carbon Registry, Climate Action Reserve, and Verra (California Air Resources Board 2018). Credits from other sources will not be allowed unless they are shown to be validated by protocols and methods equivalent to or more stringent than the California Air Resources Board standards. In the event that a project or program providing GHG Mitigation Reduction Credits to the project applicant loses its accreditation, the project applicant shall comply with the rules and procedures of retiring GHG Mitigation Reduction Credits specific to the registry involved and shall undertake additional direct investments to recoup the loss.

- Obtain and retire "Carbon Offsets." "Carbon Offset" shall mean an instrument issued by an Approved Registry and shall represent the past reduction or sequestration of 1 MT of CO_2e achieved by a Direct Reduction Activity or any other GHG emission reduction project or activity that is not otherwise required (CEQA Guidelines Section 15126.4[c][3]). A "Carbon Offset" must achieve GHG emission reductions that are real, permanent, quantifiable, verifiable, enforceable, and in addition to any GHG emission reduction required by law or regulation or any other GHG emission reduction that otherwise would occur in accordance with the criteria set forth in the California Air Resources Board's most recent *Process for the Review and Approval of Compliance Offset Protocols in Support of the Cap-and-Trade Regulation* (2013). If the project applicant chooses to meet some of the GHG reduction requirements by purchasing offsets on an annual and permanent basis, the offsets shall be purchased according to the City's preference, which is, in order of the City's preference: (1) within Hayward; (2) within the BAAQMD jurisdictional area; (3) within the State of California; then (4) elsewhere in the United States. In the event that a project or program providing offsets to the project applicant loses its accreditation, the project applicant shall comply with the rules and procedures of retiring offsets specific to the registry involved and shall purchase an equivalent number of credits to recoup the loss.
- <u>Coordinate with PG&E and BAAQMD to identify additional potential GHG emission reduction measures.</u>

  The GHGRP shall be submitted by the project developer and reviewed and approved by the City of Hayward as being in compliance with this measure prior to grading or building permit issuance. Applicable elements of the approved GHGRP shall be reflected on project site plans prior to certificate of occupancy. No more than 50 percent of the project's total requisite emission reduction over the project's lifetime may be achieved through direct reduction activities and carbon offsets. Condition compliance shall include monitoring and verifying implementation of measures included in the GHGRP.

Significance After Mitigation

To implement Mitigation Measure GHG-1, the project applicant may choose to apply a wide variety of GHG emission reduction measures to reduce project-related emissions to 660 MT of CO_2e per year. For example, the following combination of measures would reduce GHG emissions by approximately ~~16,112~~ <u>16,506</u> MT of CO_2e per year, which would be sufficient to achieve the requisite reduction specified by Mitigation Measure GHG-1:

- Supply all on-site electricity for Buildings 1 through 4 from renewable energy sources (approximately 15,161 MT of CO_2e per year, equivalent to the project's estimated electricity demand for Buildings 1 through 4)
- Obtain and retire ~~951~~ <u>1,345</u> Carbon Offsets (~~951~~ <u>1,345</u> MT of CO_2e per year, or six percent of the project's requisite GHG emission reduction)

The above combination of measures is just one example of a combination of measures the project applicant could implement to achieve a reduction of ~~16,112~~ <u>16,506</u> MT of CO_2e per year. The intent of the above list is to demonstrate that implementation of Mitigation Measure GHG-1 is technically feasible, and as such, a reduction of project-related GHG emissions to at or below 660 MT of CO_2e per year is achievable. Therefore, implementation of Mitigation Measure GHG-1 would reduce project-related emissions below the threshold of significance of 660 MT of CO_2e per year. Impacts would be less than significant with mitigation incorporated.

The following information has been added to the impact analysis under checklist question (a) on Page 74 of the Draft IS-MND in Section 8, *Greenhouse Gas Emissions:*

The following discussion of the project's consistency with the State's long-term 2045 and 2050 goals is provided for informational purposes only. Consistency with the 2045 and 2050 goals is not used a threshold of significance to evaluate the project's GHG emissions in this IS-MND for the reasons stated earlier under *Significance Thresholds*. GHG emissions generated by the proposed project would decline over the long-term due to the commitment of the tenant of Building 4 to procure 100 percent renewable energy by 2025 and achieve carbon neutrality by 2040 as well as statewide implementation of SB 100, which mandates that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Approximately 86 percent (15,161 MT of CO_2e of a total 17,690 MT of CO_2e) of the project's estimated operational GHG emissions would result from direct electricity usage. In addition, approximately 1 percent (149 MT of CO_2e of a total 17,690 MT of CO_2e) would result from indirect electricity usage used to convey water and wastewater. Therefore, by 2045, the project's GHG emissions would decrease by up to 15,310 MT of CO_2e (15,161 + 149) to total emissions of approximately 2,380 MT of CO_2e, or net new emissions 1,856 MT of CO_2e (conservatively not accounting for the commitment of the tenant of Building 4 to achieve carbon neutrality by 2040). In addition, increasingly stringent fuel efficiency and GHG emissions standards for vehicles as well as policies adopted in furtherance of EO N-79-20 would result in fewer GHG emissions from mobile sources in 2045 and 2050. As a result, the estimated 1,538 MT of CO_2e generated by mobile sources would decrease by 2045 and again by 2050. The exact magnitude of the decrease would depend on whether additional vehicle standards are adopted in California by 2045 and 2050 in addition to those already in place. Nevertheless, the project would emit up to approximately 1,538 MT of CO_2e from project operations and approximately 2,087 MT of CO_2e from stationary source (i.e., emergency generator testing) in 2045 and 2050, which would be potentially inconsistent with the State's goals of carbon neutrality by 2045 (EO B-55-18) and an 80 percent reduction in GHG emission levels by 2050 (EO S-3-05). However, it is not possible to definitively determine whether the project would be consistent because substantial technological innovation in GHG emission reduction measures and changes in legislation and regulations are likely to occur over the next 25 to 30 years as have occurred over the past 14 years to meet the target set by AB 32. Furthermore, the State has not yet comprehensively quantified its carbon sinks; therefore, it is unknown at this time what magnitude of emissions reductions are needed to achieve the carbon neutrality goal set in EO B-55-18. As previously stated, this discussion of the project's consistency with the State's long-term goals is provided for informational purposes only and is not used to determine the significance of the project's GHG emissions.

The following revisions have been made to Mitigation Measure HAZ-2 on Page 94 of the Draft IS-MND in Section 9, *Hazards and Hazardous Materials:*

HAZ-2 Regulatory Agency Subsurface Involvement – RWQCB

Since the project site at 25800 and 25858 Clawiter Road is listed as an open RWQCB Cleanup site, the RWQCB Cleanup case #01S0815 shall continue to be utilized for agency oversight of assessment and remediation of this project site through completion of building demolition, subsurface demolition, and construction. The applicant shall notify the SFB RWQCB Cleanup project manager of the following:

- Current development plan and any modifications to the development plan
- Former onsite use of seven above ground storage tanks that formerly contained wash water, diesel fuel, paint, and paint thinner ~~(Ramboll, 2017)~~
- Former onsite use of an elevator that may have contained oils containing PCBs ~~(Ramboll, 2017)~~
- Former onsite use of a subsurface chassis (conveyor) system that may have utilized oils containing PCBs ~~(Ramboll, 2017)~~
- Former onsite use of two sumps for wash water at the former bus wash facilities: one at the bus wash facility/Water Testing Canopy and one in the northwest corner of the former manufacturing building ~~(Ramboll, 2017)~~
- Other regulatory UST case listings (HFD and RWQCB) assessment work that will be completed under the direction of other regulatory agencies
- All former environmental documents completed for the project site, including 25800 and 25858 Clawiter Road and this Initial Study document

Upon notification of the information above, RWQCB could require actions such as: development of subsurface investigation workplans; completion of soil, soil vapor, and/or groundwater subsurface investigations; installation of soil vapor or groundwater monitoring wells; soil excavation and offsite disposal; completion of human health risk assessments; and/or completion of remediation reports or case closure documents.

Revised Modeling Worksheets (original worksheets are in Appendix A of the Draft IS-MND) are included as Appendix 1 of this Responses to Comments Document.

A revised CEQA Transportation Analysis (original analysis in Appendix H of the Draft IS-MND) prepared by Kittelson & Associates in January 2021 is included as Appendix 2 of this Responses to Comments Document.

For consistency with the revised CEQA Transportation Analysis (Kittelson & Associates 2021, Appendix 2), the following revisions have been made to Page 139 of the Draft IS-MND.

Consistency with Transit Plans, Policies, and Programs

Transit service in the project area is provided by Alameda-Contra Costa Transit District (AC Transit) through Routes 97, 86, and M. According to the CEQA Transportation Analysis

(Appendix H), the project would not substantially increase traffic levels at intersections serving local AC Transit buses such as Routes 86, 97, and M. In addition, the project would not degrade local access to bus stops along Clawiter Road, which can be accessed via the local sidewalk network and existing facilities such as ADA curb ramps and crosswalks; there are no active bus stops near the project and no bus stops abut the project driveways. However, there are two inactive Route 83 bus stops near the project driveways which do not have amenities other than a post and sign. ~~Therefore, implementation of the project would not conflict with plans, programs, and policies regarding transit facilities, or decrease the performance and safety of such facilities.~~ Therefore, the property owner should coordinate with AC Transit to implement improvements to increase bus stop visibility and user comfort (such as benches and shelters) should these stops be used for Route 83 or other service.

Transit-related improvements that would be considered as part of design review and conditions of approval include:

- Coordinate with AC Transit to implement improvements to increase bus stop visibility and user comfort (such as benches and shelters) should bus stops along the project frontage be used for Route 83 or other service.

Adherence to conditions of approval to improve transit facilities would ensure the project would not conflict with plans, programs, and policies regarding transit facilities, or decrease the performance and safety of such facilities. Impacts would be less than significant.

In addition, the following revisions have been made to the analysis related to consistency with bicycle plans, policies, and programs on pages 139-141 of the Draft IS-MND:

The City of Hayward ~~is currently updating its~~ Bicycle and Pedestrian Master Plan~~. At this time, the draft plan~~ proposes replacing the bike route along Clawiter Road with separated bike lanes. ~~Should separated bike lanes be installed, the property owner would be required to~~ Therefore, it is recommended that the applicant coordinate with the with the City to provide the appropriate signage and transition markings for the separated bike lanes at the project driveways. This should include coordination with the City to determine the feasibility of implementing these improvements at this time or to determine a project contribution to improvements to be installed at a future time. This recommendation would be considered with design review and conditions of approval.

Adherence to conditions of approval to improve ~~pedestrian access~~ bicycle facilities would ensure that the project would not conflict with plans, programs, and policies regarding bicycle facilities, or decrease the performance and safety of such facilities. Impacts would be less than significant.

The following corrections have been made to the References list starting on Page 157 of the Draft IS-MND.

California Department of Conservation (DOC). 2016. Alameda County Important Farmland 2014. https://maps.conservation.ca.gov/DLRP/CIFF/ ~~ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2014/ala14.pdf~~. Accessed August 2020.

California Department of Transportation (Caltrans). 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. (CT-HWANP-RT-13-069.25.2) September. Available at: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf ~~http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013B.pdf~~

____. 2016a. Urban Water Management Plan. https://www.hayward-ca.gov/documents/2015-urban-water-management-plan-0 ~~https://www.water.ca.gov/LegacyFiles/urbanwatermanagement/2010uwmps/Hayward,%20City%20of/Hayward%202010%20UWMP%20with%20Appendices%20June%202010.pdf~~. (accessed September 2020).

Appendix 1

Revised Air Quality and Greenhouse Gas (GHG) Emissions Modeling Results

Clawiter Industrial Project - Buildings 1 to 3 - 2023

Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	337.09	1000sqft	16.32	337,094.00	0
Parking Lot	315.00	Space	2.84	126,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - SF of buildings 1-3, lot acreage is project site (26) minus default estimate for data center (6.39) and parking lots (3.29)

Construction Phase - Applicant specified schedule. Extended AC to overlap BC for more realistic conditions.

Off-road Equipment - Default

Off-road Equipment - Applicant-provided equipment list

Off-road Equipment - Applicant-provided equipment list

Off-road Equipment - Applicant-provided equipment list. Paver used as proxy for compactor

Off-road Equipment - Applicant-provided equipment list

Off-road Equipment - Applicant-provided equipment list. Paver used as proxy for compactor

Trips and VMT -

Demolition -

Grading - Export quantity provided by applicant

Architectural Coating - BAAQMD Regulation 8, Rule 3 - 100 g/L for traffic marking coatings

Vehicle Trips - Weekday rate provided by Kittleson, includes trips for Buildings 1-4

Area Coating - BAAQMD Regulation 8, Rule 3 - 100 g/L for traffic marking coatings

Energy Use -

Water And Wastewater - All wastewater treated at Hayward WWTP with aerobic processes. Outdoor water use calculated assuming 2.43 AFY per acre of landscaped area.

Solid Waste -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Energy Mitigation - Title 24 reduced by 30% for 2019 Standards

Water Mitigation - Regulatory compliance with CALGreen

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Parking	150.00	100.00
tblAreaCoating	Area_EF_Parking	150	100

tblConstructionPhase	NumDays	20.00	64.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	30.00	65.00
tblConstructionPhase	NumDays	300.00	174.00
tblConstructionPhase	NumDays	20.00	114.00
tblConstructionPhase	NumDays	20.00	21.00
tblGrading	MaterialExported	0.00	29,073.00
tblLandUse	LandUseSquareFeet	337,090.00	337,094.00
tblLandUse	LotAcreage	7.74	16.32
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblVehicleTrips	ST_TR	2.49	4.55
tblVehicleTrips	SU_TR	0.73	1.33
tblVehicleTrips	WD_TR	6.83	6.15
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaDigestCogenCombDigestGasPercent	0.00	100.00
tblWater	AnaDigestCogenCombDigestGasPercent	0.00	100.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	OutdoorWaterUseRate	0.00	3,812,456.00
tblWater	SepticTankPercent	10.33	0.00

tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	34.0126	27.7311	22.2305	0.0635	4.5783	1.0128	5.1320	0.7463	0.9400	1.5980	0.0000	6,587.1480	6,587.1480	0.8848	0.0000	6,608.6425
2022	33.7520	24.2808	21.3969	0.0623	2.4367	0.8591	3.2958	0.6580	0.7974	1.4554	0.0000	6,257.9549	6,257.9549	0.8751	0.0000	6,279.8322
Maximum	**34.0126**	**27.7311**	**22.2305**	**0.0635**	**4.5783**	**1.0128**	**5.1320**	**0.7463**	**0.9400**	**1.5980**	**0.0000**	**6,587.1480**	**6,587.1480**	**0.8848**	**0.0000**	**6,608.6425**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	34.0126	27.7311	22.2305	0.0635	4.5783	1.0128	5.1320	0.7463	0.9400	1.5980	0.0000	6,587.1480	6,587.1480	0.8848	0.0000	6,608.6425
2022	33.7520	24.2808	21.3969	0.0623	2.4367	0.8591	3.2958	0.6580	0.7974	1.4554	0.0000	6,257.9549	6,257.9549	0.8751	0.0000	6,279.8322
Maximum	**34.0126**	**27.7311**	**22.2305**	**0.0635**	**4.5783**	**1.0128**	**5.1320**	**0.7463**	**0.9400**	**1.5980**	**0.0000**	**6,587.1480**	**6,587.1480**	**0.8848**	**0.0000**	**6,608.6425**

	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	N20	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

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	8.2374	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Energy	0.1925	1.7502	1.4702	0.0105		0.1330	0.1330		0.1330	0.1330		2,100.2505	2,100.2505	0.0403	0.0385	2,112.7312
Mobile	2.6901	12.4819	33.7152	0.1221	11.5466	0.1006	11.6472	3.0890	0.0940	3.1830		12,358.5098	12,358.5098	0.4322		12,369.3140
Total	**11.1199**	**14.2327**	**35.2520**	**0.1326**	**11.5466**	**0.2339**	**11.7805**	**3.0890**	**0.2272**	**3.3162**		**14,458.9030**	**14,458.9030**	**0.4728**	**0.0385**	**14,482.1973**

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	8.2374	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Energy	0.1378	1.2526	1.0522	7.5200e-003		0.0952	0.0952		0.0952	0.0952		1,503.0970	1,503.0970	0.0288	0.0276	1,512.0291
Mobile	2.6901	12.4819	33.7152	0.1221	11.5466	0.1006	11.6472	3.0890	0.0940	3.1830		12,358.5098	12,358.5098	0.4322		12,369.3140
Total	**11.0652**	**13.7351**	**34.8340**	**0.1296**	**11.5466**	**0.1960**	**11.7426**	**3.0890**	**0.1894**	**3.2784**		**13,861.7495**	**13,861.7495**	**0.4614**	**0.0276**	**13,881.4952**

	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	N20	CO2e
Percent Reduction	0.49	3.50	1.19	2.25	0.00	16.17	0.32	0.00	16.65	1.14	0.00	4.13	4.13	2.42	28.42	4.15

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	3/31/2021	5	64	
2	Site Preparation	Site Preparation	4/1/2021	4/30/2021	5	22	
3	Grading	Grading	5/3/2021	7/30/2021	5	65	
4	Building Construction	Building Construction	8/2/2021	3/31/2022	5	174	
5	Architectural Coating	Architectural Coating	10/25/2021	3/31/2022	5	114	
6	Paving	Paving	4/1/2022	4/29/2022	5	21	

Acres of Grading (Site Preparation Phase): 11

Acres of Grading (Grading Phase): 32.5

Acres of Paving: 2.84

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 505,641; Non-Residential Outdoor: 168,547; Striped Parking Area: 7,560 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Excavators	3	8.00	158	0.38
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Pavers	1	8.00	130	0.42
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Pavers	1	8.00	130	0.42
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	2	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	1,224.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	3,634.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	195.00	76.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	39.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.1374	0.0000	4.1374	0.6264	0.0000	0.6264			0.0000			0.0000
Off-Road	1.0621	10.2518	14.3359	0.0217		0.5369	0.5369		0.4939	0.4939		2,102.376 1	2,102.376 1	0.6800		2,119.374 8
Total	**1.0621**	**10.2518**	**14.3359**	**0.0217**	**4.1374**	**0.5369**	**4.6742**	**0.6264**	**0.4939**	**1.1204**		**2,102.376 1**	**2,102.376 1**	**0.6800**		**2,119.374 8**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1530	5.1788	1.1452	0.0148	0.3341	0.0162	0.3503	0.0916	0.0155	0.1070		1,579.171 5	1,579.171 5	0.0836		1,581.261 0
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	0.0443	0.0302	0.2988	9.5000e-004	0.1068	6.7000e-004	0.1075	0.0283	6.2000e-004	0.0290		94.8398	94.8398	2.1500e-003		94.8934
Total	**0.1973**	**5.2090**	**1.4440**	**0.0157**	**0.4409**	**0.0168**	**0.4577**	**0.1199**	**0.0161**	**0.1360**		**1,674.011 3**	**1,674.011 3**	**0.0857**		**1,676.154 4**

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					4.1374	0.0000	4.1374	0.6264	0.0000	0.6264			0.0000			0.0000
Off-Road	1.0621	10.2518	14.3359	0.0217		0.5369	0.5369		0.4939	0.4939	0.0000	2,102.376 1	2,102.376 1	0.6800		2,119.374 8
Total	**1.0621**	**10.2518**	**14.3359**	**0.0217**	**4.1374**	**0.5369**	**4.6742**	**0.6264**	**0.4939**	**1.1204**	**0.0000**	**2,102.376 1**	**2,102.376 1**	**0.6800**		**2,119.374 8**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1530	5.1788	1.1452	0.0148	0.3341	0.0162	0.3503	0.0916	0.0155	0.1070		1,579.1715	1,579.1715	0.0836		1,581.2610
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	0.0443	0.0302	0.2988	9.5000e-004	0.1068	6.7000e-004	0.1075	0.0283	6.2000e-004	0.0290		94.8398	94.8398	2.1500e-003		94.8934
Total	**0.1973**	**5.2090**	**1.4440**	**0.0157**	**0.4409**	**0.0168**	**0.4577**	**0.1199**	**0.0161**	**0.1360**		**1,674.0113**	**1,674.0113**	**0.0857**		**1,676.1544**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.4483	16.1028	13.7129	0.0238		0.7602	0.7602		0.6994	0.6994		2,300.3453	2,300.3453	0.7440		2,318.9447
Total	**1.4483**	**16.1028**	**13.7129**	**0.0238**	**0.5303**	**0.7602**	**1.2905**	**0.0573**	**0.6994**	**0.7566**		**2,300.3453**	**2,300.3453**	**0.7440**		**2,318.9447**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0511**	**0.0348**	**0.3447**	**1.1000e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**109.4305**	**109.4305**	**2.4800e-003**		**109.4924**

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					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.4483	16.1028	13.7129	0.0238		0.7602	0.7602		0.6994	0.6994	0.0000	2,300.3453	2,300.3453	0.7440		2,318.9447
Total	**1.4483**	**16.1028**	**13.7129**	**0.0238**	**0.5303**	**0.7602**	**1.2905**	**0.0573**	**0.6994**	**0.7566**	**0.0000**	**2,300.3453**	**2,300.3453**	**0.7440**		**2,318.9447**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0511**	**0.0348**	**0.3447**	**1.1000e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**109.4305**	**109.4305**	**2.4800e-003**		**109.4924**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5808	0.0000	0.5808	0.0649	0.0000	0.0649			0.0000			0.0000
Off-Road	1.1157	12.5688	10.2040	0.0196		0.5293	0.5293		0.4870	0.4870		1,897.8370	1,897.8370	0.6138		1,913.1820
Total	**1.1157**	**12.5688**	**10.2040**	**0.0196**	**0.5808**	**0.5293**	**1.1102**	**0.0649**	**0.4870**	**0.5519**		**1,897.8370**	**1,897.8370**	**0.6138**		**1,913.1820**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4473	15.1391	3.3478	0.0431	0.9768	0.0472	1.0240	0.2677	0.0452	0.3128		4,616.3573	4,616.3573	0.2443		4,622.4656
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	0.0341	0.0232	0.2298	7.3000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		72.9537	72.9537	1.6500e-003		72.9949
Total	**0.4813**	**15.1623**	**3.5776**	**0.0439**	**1.0589**	**0.0477**	**1.1066**	**0.2895**	**0.0457**	**0.3351**		**4,689.3110**	**4,689.3110**	**0.2460**		**4,695.4605**

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					0.5808	0.0000	0.5808	0.0649	0.0000	0.0649			0.0000			0.0000
Off-Road	1.1157	12.5688	10.2040	0.0196		0.5293	0.5293		0.4870	0.4870	0.0000	1,897.8370	1,897.8370	0.6138		1,913.1820
Total	**1.1157**	**12.5688**	**10.2040**	**0.0196**	**0.5808**	**0.5293**	**1.1102**	**0.0649**	**0.4870**	**0.5519**	**0.0000**	**1,897.8370**	**1,897.8370**	**0.6138**		**1,913.1820**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4473	15.1391	3.3478	0.0431	0.9768	0.0472	1.0240	0.2677	0.0452	0.3128		4,616.357 3	4,616.357 3	0.2443		4,622.465 6
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	0.0341	0.0232	0.2298	7.3000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		72.9537	72.9537	1.6500e-003		72.9949
Total	**0.4813**	**15.1623**	**3.5776**	**0.0439**	**1.0589**	**0.0477**	**1.1066**	**0.2895**	**0.0457**	**0.3351**		**4,689.311 0**	**4,689.311 0**	**0.2460**		**4,695.460 5**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6022	17.0002	12.9067	0.0228		0.8890	0.8890		0.8179	0.8179		2,211.748 0	2,211.748 0	0.7153		2,229.631 1
Total	**1.6022**	**17.0002**	**12.9067**	**0.0228**		**0.8890**	**0.8890**		**0.8179**	**0.8179**		**2,211.748 0**	**2,211.748 0**	**0.7153**		**2,229.631 1**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.2497	7.9215	2.1287	0.0202	0.5145	0.0176	0.5321	0.1481	0.0168	0.1649		2,140.3663	2,140.3663	0.1115		2,143.1541
Worker	0.6642	0.4526	4.4813	0.0143	1.6019	0.0101	1.6120	0.4249	9.2800e-003	0.4342		1,422.5965	1,422.5965	0.0322		1,423.4012
Total	**0.9139**	**8.3741**	**6.6100**	**0.0345**	**2.1163**	**0.0277**	**2.1440**	**0.5730**	**0.0261**	**0.5991**		**3,562.9628**	**3,562.9628**	**0.1437**		**3,566.5553**

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	1.6022	17.0002	12.9067	0.0228		0.8890	0.8890		0.8179	0.8179	0.0000	2,211.7480	2,211.7480	0.7153		2,229.6311
Total	**1.6022**	**17.0002**	**12.9067**	**0.0228**		**0.8890**	**0.8890**		**0.8179**	**0.8179**	**0.0000**	**2,211.7480**	**2,211.7480**	**0.7153**		**2,229.6311**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.2497	7.9215	2.1287	0.0202	0.5145	0.0176	0.5321	0.1481	0.0168	0.1649		2,140.366 3	2,140.366 3	0.1115		2,143.154 1
Worker	0.6642	0.4526	4.4813	0.0143	1.6019	0.0101	1.6120	0.4249	9.2800e-003	0.4342		1,422.596 5	1,422.596 5	0.0322		1,423.401 2
Total	**0.9139**	**8.3741**	**6.6100**	**0.0345**	**2.1163**	**0.0277**	**2.1440**	**0.5730**	**0.0261**	**0.5991**		**3,562.962 8**	**3,562.962 8**	**0.1437**		**3,566.555 3**

3.5 Building Construction - 2022

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	1.4259	14.8857	12.6474	0.0229		0.7502	0.7502		0.6902	0.6902		2,212.797 8	2,212.797 8	0.7157		2,230.689 4
Total	**1.4259**	**14.8857**	**12.6474**	**0.0229**		**0.7502**	**0.7502**		**0.6902**	**0.6902**		**2,212.797 8**	**2,212.797 8**	**0.7157**		**2,230.689 4**

3.5 Building Construction - 2022

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	0.2328	7.4996	2.0011	0.0200	0.5145	0.0153	0.5298	0.1481	0.0146	0.1627		2,119.175 7	2,119.175 7	0.1065		2,121.838 7
Worker	0.6200	0.4058	4.1123	0.0137	1.6019	9.8400e-003	1.6117	0.4249	9.0700e-003	0.4340		1,370.444 4	1,370.444 4	0.0288		1,371.165 0
Total	**0.8528**	**7.9054**	**6.1134**	**0.0337**	**2.1164**	**0.0251**	**2.1415**	**0.5730**	**0.0237**	**0.5967**		**3,489.620 1**	**3,489.620 1**	**0.1353**		**3,493.003 7**

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	1.4259	14.8857	12.6474	0.0229		0.7502	0.7502		0.6902	0.6902	0.0000	2,212.797 8	2,212.797 8	0.7157		2,230.689 4
Total	**1.4259**	**14.8857**	**12.6474**	**0.0229**		**0.7502**	**0.7502**		**0.6902**	**0.6902**	**0.0000**	**2,212.797 8**	**2,212.797 8**	**0.7157**		**2,230.689 4**

3.5 Building Construction - 2022

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	0.2328	7.4996	2.0011	0.0200	0.5145	0.0153	0.5298	0.1481	0.0146	0.1627		2,119.175 7	2,119.175 7	0.1065		2,121.838 7
Worker	0.6200	0.4058	4.1123	0.0137	1.6019	9.8400e-003	1.6117	0.4249	9.0700e-003	0.4340		1,370.444 4	1,370.444 4	0.0288		1,371.165 0
Total	**0.8528**	**7.9054**	**6.1134**	**0.0337**	**2.1164**	**0.0251**	**2.1415**	**0.5730**	**0.0237**	**0.5967**		**3,489.620 1**	**3,489.620 1**	**0.1353**		**3,493.003 7**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	31.1448					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**31.3637**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.1328	0.0905	0.8963	2.8500e-003	0.3204	2.0200e-003	0.3224	0.0850	1.8600e-003	0.0868		284.5193	284.5193	6.4400e-003		284.6802
Total	**0.1328**	**0.0905**	**0.8963**	**2.8500e-003**	**0.3204**	**2.0200e-003**	**0.3224**	**0.0850**	**1.8600e-003**	**0.0868**		**284.5193**	**284.5193**	**6.4400e-003**		**284.6802**

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					
Archit. Coating	31.1448					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**31.3637**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.1328	0.0905	0.8963	2.8500e-003	0.3204	2.0200e-003	0.3224	0.0850	1.8600e-003	0.0868		284.5193	284.5193	6.4400e-003		284.6802
Total	**0.1328**	**0.0905**	**0.8963**	**2.8500e-003**	**0.3204**	**2.0200e-003**	**0.3224**	**0.0850**	**1.8600e-003**	**0.0868**		**284.5193**	**284.5193**	**6.4400e-003**		**284.6802**

3.6 Architectural Coating - 2022

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					
Archit. Coating	31.1448					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**31.3494**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

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	0.1240	0.0812	0.8225	2.7500e-003	0.3204	1.9700e-003	0.3223	0.0850	1.8100e-003	0.0868		274.0889	274.0889	5.7600e-003		274.2330
Total	**0.1240**	**0.0812**	**0.8225**	**2.7500e-003**	**0.3204**	**1.9700e-003**	**0.3223**	**0.0850**	**1.8100e-003**	**0.0868**		**274.0889**	**274.0889**	**5.7600e-003**		**274.2330**

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					
Archit. Coating	31.1448					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**31.3494**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

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	0.1240	0.0812	0.8225	2.7500e-003	0.3204	1.9700e-003	0.3223	0.0850	1.8100e-003	0.0868		274.0889	274.0889	5.7600e-003		274.2330
Total	**0.1240**	**0.0812**	**0.8225**	**2.7500e-003**	**0.3204**	**1.9700e-003**	**0.3223**	**0.0850**	**1.8100e-003**	**0.0868**		**274.0889**	**274.0889**	**5.7600e-003**		**274.2330**

3.7 Paving - 2022

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	0.5379	5.5004	6.9822	0.0104		0.2893	0.2893		0.2662	0.2662		1,010.6007	1,010.6007	0.3269		1,018.7719
Paving	0.3543					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8922**	**5.5004**	**6.9822**	**0.0104**		**0.2893**	**0.2893**		**0.2662**	**0.2662**		**1,010.6007**	**1,010.6007**	**0.3269**		**1,018.7719**

3.7 Paving - 2022

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	0.0254	0.0167	0.1687	5.6000e-004	0.0657	4.0000e-004	0.0661	0.0174	3.7000e-004	0.0178		56.2234	56.2234	1.1800e-003		56.2529
Total	**0.0254**	**0.0167**	**0.1687**	**5.6000e-004**	**0.0657**	**4.0000e-004**	**0.0661**	**0.0174**	**3.7000e-004**	**0.0178**		**56.2234**	**56.2234**	**1.1800e-003**		**56.2529**

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	0.5379	5.5004	6.9822	0.0104		0.2893	0.2893		0.2662	0.2662	0.0000	1,010.6007	1,010.6007	0.3269		1,018.7719
Paving	0.3543					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8922**	**5.5004**	**6.9822**	**0.0104**		**0.2893**	**0.2893**		**0.2662**	**0.2662**	**0.0000**	**1,010.6007**	**1,010.6007**	**0.3269**		**1,018.7719**

3.7 Paving - 2022

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	0.0254	0.0167	0.1687	5.6000e-004	0.0657	4.0000e-004	0.0661	0.0174	3.7000e-004	0.0178		56.2234	56.2234	1.1800e-003		56.2529
Total	**0.0254**	**0.0167**	**0.1687**	**5.6000e-004**	**0.0657**	**4.0000e-004**	**0.0661**	**0.0174**	**3.7000e-004**	**0.0178**		**56.2234**	**56.2234**	**1.1800e-003**		**56.2529**

4.0 Operational Detail - Mobile

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	2.6901	12.4819	33.7152	0.1221	11.5466	0.1006	11.6472	3.0890	0.0940	3.1830		12,358.5098	12,358.5098	0.4322		12,369.3140
Unmitigated	2.6901	12.4819	33.7152	0.1221	11.5466	0.1006	11.6472	3.0890	0.0940	3.1830		12,358.5098	12,358.5098	0.4322		12,369.3140

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	2,073.10	1,533.76	448.33	4,624,758	4,624,758
Parking Lot	0.00	0.00	0.00		
Total	2,073.10	1,533.76	448.33	4,624,758	4,624,758

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Industrial Park	9.50	7.30	7.30	59.00	28.00	13.00	79	19	2
Parking Lot	9.50	7.30	7.30	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
Industrial Park	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	0.1378	1.2526	1.0522	7.5200e-003		0.0952	0.0952		0.0952	0.0952		1,503.0970	1,503.0970	0.0288	0.0276	1,512.0291
NaturalGas Unmitigated	0.1925	1.7502	1.4702	0.0105		0.1330	0.1330		0.1330	0.1330		2,100.2505	2,100.2505	0.0403	0.0385	2,112.7312

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					
Industrial Park	17852.1	0.1925	1.7502	1.4702	0.0105		0.1330	0.1330		0.1330	0.1330		2,100.2505	2,100.2505	0.0403	0.0385	2,112.7312
Parking Lot	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		**0.1925**	**1.7502**	**1.4702**	**0.0105**		**0.1330**	**0.1330**		**0.1330**	**0.1330**		**2,100.2505**	**2,100.2505**	**0.0403**	**0.0385**	**2,112.7312**

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					
Industrial Park	12.7763	0.1378	1.2526	1.0522	7.5200e-003		0.0952	0.0952		0.0952	0.0952		1,503.0970	1,503.0970	0.0288	0.0276	1,512.0291
Parking Lot	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		**0.1378**	**1.2526**	**1.0522**	**7.5200e-003**		**0.0952**	**0.0952**		**0.0952**	**0.0952**		**1,503.0970**	**1,503.0970**	**0.0288**	**0.0276**	**1,512.0291**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.2374	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Unmitigated	8.2374	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521

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	0.9727					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.2584					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.1700e-003	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Total	**8.2374**	**6.1000e-004**	**0.0666**	**0.0000**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**		**0.1427**	**0.1427**	**3.7000e-004**		**0.1521**

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	0.9727					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.2584					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.1700e-003	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Total	**8.2374**	**6.1000e-004**	**0.0666**	**0.0000**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**		**0.1427**	**0.1427**	**3.7000e-004**		**0.1521**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Buildings 1 to 3 - 2023

Bay Area AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	337.09	1000sqft	16.32	337,094.00	0
Parking Lot	315.00	Space	2.84	126,000.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 64

Climate Zone 5 **Operational Year** 2023

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr) 641.35 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - SF of buildings 1-3, lot acreage is project site (26) minus default estimate for data center (6.39) and parking lots (3.29)

Construction Phase - Applicant specified schedule. Extended AC to overlap BC for more realistic conditions.

Off-road Equipment - Default

Off-road Equipment - Applicant-provided equipment list

Off-road Equipment - Applicant-provided equipment list

Off-road Equipment - Applicant-provided equipment list. Paver used as proxy for compactor

Off-road Equipment - Applicant-provided equipment list

Off-road Equipment - Applicant-provided equipment list. Paver used as proxy for compactor

Trips and VMT -

Demolition -

Grading - Export quantity provided by applicant

Architectural Coating - BAAQMD Regulation 8, Rule 3 - 100 g/L for traffic marking coatings

Vehicle Trips - Weekday rate provided by Kittleson, includes trips for Buildings 1-4

Area Coating - BAAQMD Regulation 8, Rule 3 - 100 g/L for traffic marking coatings

Energy Use -

Water And Wastewater - All wastewater treated at Hayward WWTP with aerobic processes. Outdoor water use calculated assuming 2.43 AFY per acre of landscaped area.

Solid Waste -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Energy Mitigation - Title 24 reduced by 30% for 2019 Standards

Water Mitigation - Regulatory compliance with CALGreen

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Parking	150.00	100.00
tblAreaCoating	Area_EF_Parking	150	100

tblConstructionPhase	NumDays	20.00	64.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	30.00	65.00
tblConstructionPhase	NumDays	300.00	174.00
tblConstructionPhase	NumDays	20.00	114.00
tblConstructionPhase	NumDays	20.00	21.00
tblGrading	MaterialExported	0.00	29,073.00
tblLandUse	LandUseSquareFeet	337,090.00	337,094.00
tblLandUse	LotAcreage	7.74	16.32
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblVehicleTrips	ST_TR	2.49	4.55
tblVehicleTrips	SU_TR	0.73	1.33
tblVehicleTrips	WD_TR	6.83	6.15
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaDigestCogenCombDigestGasPercent	0.00	100.00
tblWater	AnaDigestCogenCombDigestGasPercent	0.00	100.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	OutdoorWaterUseRate	0.00	3,812,456.00
tblWater	SepticTankPercent	10.33	0.00

tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	33.9540	27.3808	22.3240	0.0651	4.5783	1.0123	5.1317	0.7463	0.9394	1.5974	0.0000	6,672.7743	6,672.7743	0.8791	0.0000	6,693.9889
2022	33.6954	24.1321	21.4990	0.0642	2.4367	0.8585	3.2952	0.6580	0.7969	1.4549	0.0000	6,454.1193	6,454.1193	0.8697	0.0000	6,475.8627
Maximum	**33.9540**	**27.3808**	**22.3240**	**0.0651**	**4.5783**	**1.0123**	**5.1317**	**0.7463**	**0.9394**	**1.5974**	**0.0000**	**6,672.7743**	**6,672.7743**	**0.8791**	**0.0000**	**6,693.9889**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	33.9540	27.3808	22.3240	0.0651	4.5783	1.0123	5.1317	0.7463	0.9394	1.5974	0.0000	6,672.7743	6,672.7743	0.8791	0.0000	6,693.9889
2022	33.6954	24.1321	21.4990	0.0642	2.4367	0.8585	3.2952	0.6580	0.7969	1.4549	0.0000	6,454.1193	6,454.1193	0.8697	0.0000	6,475.8627
Maximum	**33.9540**	**27.3808**	**22.3240**	**0.0651**	**4.5783**	**1.0123**	**5.1317**	**0.7463**	**0.9394**	**1.5974**	**0.0000**	**6,672.7743**	**6,672.7743**	**0.8791**	**0.0000**	**6,693.9889**

	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	N20	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

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	8.2374	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Energy	0.1925	1.7502	1.4702	0.0105		0.1330	0.1330		0.1330	0.1330		2,100.2505	2,100.2505	0.0403	0.0385	2,112.7312
Mobile	3.1075	11.8307	33.9352	0.1304	11.5466	0.1002	11.6468	3.0890	0.0935	3.1826		13,192.6941	13,192.6941	0.4268		13,203.3629
Total	**11.5374**	**13.5815**	**35.4719**	**0.1409**	**11.5466**	**0.2334**	**11.7800**	**3.0890**	**0.2268**	**3.3158**		**15,293.0873**	**15,293.0873**	**0.4674**	**0.0385**	**15,316.2462**

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	8.2374	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Energy	0.1378	1.2526	1.0522	7.5200e-003		0.0952	0.0952		0.0952	0.0952		1,503.0970	1,503.0970	0.0288	0.0276	1,512.0291
Mobile	3.1075	11.8307	33.9352	0.1304	11.5466	0.1002	11.6468	3.0890	0.0935	3.1826		13,192.6941	13,192.6941	0.4268		13,203.3629
Total	**11.4826**	**13.0839**	**35.0539**	**0.1379**	**11.5466**	**0.1956**	**11.7422**	**3.0890**	**0.1890**	**3.2780**		**14,695.9338**	**14,695.9338**	**0.4559**	**0.0276**	**14,715.5442**

	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	N20	CO2e
Percent Reduction	**0.47**	**3.66**	**1.18**	**2.12**	**0.00**	**16.20**	**0.32**	**0.00**	**16.68**	**1.14**	**0.00**	**3.90**	**3.90**	**2.45**	**28.42**	**3.92**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	3/31/2021	5	64	
2	Site Preparation	Site Preparation	4/1/2021	4/30/2021	5	22	
3	Grading	Grading	5/3/2021	7/30/2021	5	65	
4	Building Construction	Building Construction	8/2/2021	3/31/2022	5	174	
5	Architectural Coating	Architectural Coating	10/25/2021	3/31/2022	5	114	
6	Paving	Paving	4/1/2022	4/29/2022	5	21	

Acres of Grading (Site Preparation Phase): 11

Acres of Grading (Grading Phase): 32.5

Acres of Paving: 2.84

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 505,641; Non-Residential Outdoor: 168,547; Striped Parking Area: 7,560 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Excavators	3	8.00	158	0.38
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Pavers	1	8.00	130	0.42
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Pavers	1	8.00	130	0.42
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	2	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	1,224.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	3,634.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	195.00	76.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	39.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.1374	0.0000	4.1374	0.6264	0.0000	0.6264			0.0000			0.0000
Off-Road	1.0621	10.2518	14.3359	0.0217		0.5369	0.5369		0.4939	0.4939		2,102.3761	2,102.3761	0.6800		2,119.3748
Total	**1.0621**	**10.2518**	**14.3359**	**0.0217**	**4.1374**	**0.5369**	**4.6742**	**0.6264**	**0.4939**	**1.1204**		**2,102.3761**	**2,102.3761**	**0.6800**		**2,119.3748**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1490	5.0605	1.0668	0.0150	0.3341	0.0159	0.3500	0.0916	0.0152	0.1067		1,606.3273	1,606.3273	0.0797		1,608.3201
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	0.0418	0.0244	0.3193	1.0300e-003	0.1068	6.7000e-004	0.1075	0.0283	6.2000e-004	0.0290		102.9547	102.9547	2.3000e-003		103.0123
Total	**0.1908**	**5.0849**	**1.3861**	**0.0160**	**0.4409**	**0.0165**	**0.4575**	**0.1199**	**0.0158**	**0.1357**		**1,709.2821**	**1,709.2821**	**0.0820**		**1,711.3323**

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					4.1374	0.0000	4.1374	0.6264	0.0000	0.6264			0.0000			0.0000
Off-Road	1.0621	10.2518	14.3359	0.0217		0.5369	0.5369		0.4939	0.4939	0.0000	2,102.3761	2,102.3761	0.6800		2,119.3748
Total	**1.0621**	**10.2518**	**14.3359**	**0.0217**	**4.1374**	**0.5369**	**4.6742**	**0.6264**	**0.4939**	**1.1204**	**0.0000**	**2,102.3761**	**2,102.3761**	**0.6800**		**2,119.3748**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1490	5.0605	1.0668	0.0150	0.3341	0.0159	0.3500	0.0916	0.0152	0.1067		1,606.327 3	1,606.327 3	0.0797		1,608.320 1
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	0.0418	0.0244	0.3193	1.0300e-003	0.1068	6.7000e-004	0.1075	0.0283	6.2000e-004	0.0290		102.9547	102.9547	2.3000e-003		103.0123
Total	**0.1908**	**5.0849**	**1.3861**	**0.0160**	**0.4409**	**0.0165**	**0.4575**	**0.1199**	**0.0158**	**0.1357**		**1,709.282 1**	**1,709.282 1**	**0.0820**		**1,711.332 3**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.4483	16.1028	13.7129	0.0238		0.7602	0.7602		0.6994	0.6994		2,300.345 3	2,300.345 3	0.7440		2,318.944 7
Total	**1.4483**	**16.1028**	**13.7129**	**0.0238**	**0.5303**	**0.7602**	**1.2905**	**0.0573**	**0.6994**	**0.7566**		**2,300.345 3**	**2,300.345 3**	**0.7440**		**2,318.944 7**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0482**	**0.0282**	**0.3685**	**1.1900e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**118.7939**	**118.7939**	**2.6600e-003**		**118.8603**

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					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.4483	16.1028	13.7129	0.0238		0.7602	0.7602		0.6994	0.6994	0.0000	2,300.3453	2,300.3453	0.7440		2,318.9447
Total	**1.4483**	**16.1028**	**13.7129**	**0.0238**	**0.5303**	**0.7602**	**1.2905**	**0.0573**	**0.6994**	**0.7566**	**0.0000**	**2,300.3453**	**2,300.3453**	**0.7440**		**2,318.9447**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0482**	**0.0282**	**0.3685**	**1.1900e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**118.7939**	**118.7939**	**2.6600e-003**		**118.8603**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5808	0.0000	0.5808	0.0649	0.0000	0.0649			0.0000			0.0000
Off-Road	1.1157	12.5688	10.2040	0.0196		0.5293	0.5293		0.4870	0.4870		1,897.8370	1,897.8370	0.6138		1,913.1820
Total	**1.1157**	**12.5688**	**10.2040**	**0.0196**	**0.5808**	**0.5293**	**1.1102**	**0.0649**	**0.4870**	**0.5519**		**1,897.8370**	**1,897.8370**	**0.6138**		**1,913.1820**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4355	14.7931	3.1184	0.0439	0.9768	0.0464	1.0231	0.2677	0.0444	0.3120		4,695.741 4	4,695.741 4	0.2330		4,701.566 7
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	0.0322	0.0188	0.2456	7.9000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		79.1960	79.1960	1.7700e-003		79.2402
Total	**0.4676**	**14.8119**	**3.3640**	**0.0447**	**1.0589**	**0.0469**	**1.1058**	**0.2895**	**0.0449**	**0.3343**		**4,774.937 3**	**4,774.937 3**	**0.2348**		**4,780.806 9**

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					0.5808	0.0000	0.5808	0.0649	0.0000	0.0649			0.0000			0.0000
Off-Road	1.1157	12.5688	10.2040	0.0196		0.5293	0.5293		0.4870	0.4870	0.0000	1,897.837 0	1,897.837 0	0.6138		1,913.182 0
Total	**1.1157**	**12.5688**	**10.2040**	**0.0196**	**0.5808**	**0.5293**	**1.1102**	**0.0649**	**0.4870**	**0.5519**	**0.0000**	**1,897.837 0**	**1,897.837 0**	**0.6138**		**1,913.182 0**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4355	14.7931	3.1184	0.0439	0.9768	0.0464	1.0231	0.2677	0.0444	0.3120		4,695.741 4	4,695.741 4	0.2330		4,701.566 7
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	0.0322	0.0188	0.2456	7.9000e-004	0.0822	5.2000e-004	0.0827	0.0218	4.8000e-004	0.0223		79.1960	79.1960	1.7700e-003		79.2402
Total	**0.4676**	**14.8119**	**3.3640**	**0.0447**	**1.0589**	**0.0469**	**1.1058**	**0.2895**	**0.0449**	**0.3343**		**4,774.937 3**	**4,774.937 3**	**0.2348**		**4,780.806 9**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6022	17.0002	12.9067	0.0228		0.8890	0.8890		0.8179	0.8179		2,211.748 0	2,211.748 0	0.7153		2,229.631 1
Total	**1.6022**	**17.0002**	**12.9067**	**0.0228**		**0.8890**	**0.8890**		**0.8179**	**0.8179**		**2,211.748 0**	**2,211.748 0**	**0.7153**		**2,229.631 1**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.2357	7.8539	1.8520	0.0207	0.5145	0.0170	0.5315	0.1481	0.0163	0.1644		2,196.0849	2,196.0849	0.1031		2,198.6617
Worker	0.6270	0.3664	4.7898	0.0155	1.6019	0.0101	1.6120	0.4249	9.2800e-003	0.4342		1,544.3211	1,544.3211	0.0345		1,545.1841
Total	**0.8627**	**8.2204**	**6.6418**	**0.0362**	**2.1163**	**0.0271**	**2.1434**	**0.5730**	**0.0256**	**0.5985**		**3,740.4060**	**3,740.4060**	**0.1376**		**3,743.8458**

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	1.6022	17.0002	12.9067	0.0228		0.8890	0.8890		0.8179	0.8179	0.0000	2,211.7480	2,211.7480	0.7153		2,229.6311
Total	**1.6022**	**17.0002**	**12.9067**	**0.0228**		**0.8890**	**0.8890**		**0.8179**	**0.8179**	**0.0000**	**2,211.7480**	**2,211.7480**	**0.7153**		**2,229.6311**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.2357	7.8539	1.8520	0.0207	0.5145	0.0170	0.5315	0.1481	0.0163	0.1644		2,196.0849	2,196.0849	0.1031		2,198.6617
Worker	0.6270	0.3664	4.7898	0.0155	1.6019	0.0101	1.6120	0.4249	9.2800e-003	0.4342		1,544.3211	1,544.3211	0.0345		1,545.1841
Total	**0.8627**	**8.2204**	**6.6418**	**0.0362**	**2.1163**	**0.0271**	**2.1434**	**0.5730**	**0.0256**	**0.5985**		**3,740.4060**	**3,740.4060**	**0.1376**		**3,743.8458**

3.5 Building Construction - 2022

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	1.4259	14.8857	12.6474	0.0229		0.7502	0.7502		0.6902	0.6902		2,212.7978	2,212.7978	0.7157		2,230.6894
Total	**1.4259**	**14.8857**	**12.6474**	**0.0229**		**0.7502**	**0.7502**		**0.6902**	**0.6902**		**2,212.7978**	**2,212.7978**	**0.7157**		**2,230.6894**

3.5 Building Construction - 2022

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	0.2198	7.4435	1.7418	0.0205	0.5145	0.0148	0.5292	0.1481	0.0141	0.1622		2,174.6982	2,174.6982	0.0986		2,177.1620
Worker	0.5836	0.3287	4.4135	0.0149	1.6019	9.8400e-003	1.6117	0.4249	9.0700e-003	0.4340		1,487.6460	1,487.6460	0.0310		1,488.4210
Total	**0.8034**	**7.7721**	**6.1553**	**0.0354**	**2.1164**	**0.0246**	**2.1409**	**0.5730**	**0.0232**	**0.5962**		**3,662.3442**	**3,662.3442**	**0.1296**		**3,665.5829**

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	1.4259	14.8857	12.6474	0.0229		0.7502	0.7502		0.6902	0.6902	0.0000	2,212.7978	2,212.7978	0.7157		2,230.6894
Total	**1.4259**	**14.8857**	**12.6474**	**0.0229**		**0.7502**	**0.7502**		**0.6902**	**0.6902**	**0.0000**	**2,212.7978**	**2,212.7978**	**0.7157**		**2,230.6894**

3.5 Building Construction - 2022

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	0.2198	7.4435	1.7418	0.0205	0.5145	0.0148	0.5292	0.1481	0.0141	0.1622		2,174.698 2	2,174.698 2	0.0986		2,177.162 0
Worker	0.5836	0.3287	4.4135	0.0149	1.6019	9.8400e-003	1.6117	0.4249	9.0700e-003	0.4340		1,487.646 0	1,487.646 0	0.0310		1,488.421 0
Total	**0.8034**	**7.7721**	**6.1553**	**0.0354**	**2.1164**	**0.0246**	**2.1409**	**0.5730**	**0.0232**	**0.5962**		**3,662.344 2**	**3,662.344 2**	**0.1296**		**3,665.582 9**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	31.1448					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**31.3637**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.1254	0.0733	0.9580	3.1000e-003	0.3204	2.0200e-003	0.3224	0.0850	1.8600e-003	0.0868		308.8642	308.8642	6.9000e-003		309.0368
Total	**0.1254**	**0.0733**	**0.9580**	**3.1000e-003**	**0.3204**	**2.0200e-003**	**0.3224**	**0.0850**	**1.8600e-003**	**0.0868**		**308.8642**	**308.8642**	**6.9000e-003**		**309.0368**

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					
Archit. Coating	31.1448					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**31.3637**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.1254	0.0733	0.9580	3.1000e-003	0.3204	2.0200e-003	0.3224	0.0850	1.8600e-003	0.0868		308.8642	308.8642	6.9000e-003		309.0368
Total	**0.1254**	**0.0733**	**0.9580**	**3.1000e-003**	**0.3204**	**2.0200e-003**	**0.3224**	**0.0850**	**1.8600e-003**	**0.0868**		**308.8642**	**308.8642**	**6.9000e-003**		**309.0368**

3.6 Architectural Coating - 2022

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					
Archit. Coating	31.1448					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**31.3494**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

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	0.1167	0.0657	0.8827	2.9800e-003	0.3204	1.9700e-003	0.3223	0.0850	1.8100e-003	0.0868		297.5292	297.5292	6.2000e-003		297.6842
Total	**0.1167**	**0.0657**	**0.8827**	**2.9800e-003**	**0.3204**	**1.9700e-003**	**0.3223**	**0.0850**	**1.8100e-003**	**0.0868**		**297.5292**	**297.5292**	**6.2000e-003**		**297.6842**

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					
Archit. Coating	31.1448					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**31.3494**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

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	0.1167	0.0657	0.8827	2.9800e-003	0.3204	1.9700e-003	0.3223	0.0850	1.8100e-003	0.0868		297.5292	297.5292	6.2000e-003		297.6842
Total	**0.1167**	**0.0657**	**0.8827**	**2.9800e-003**	**0.3204**	**1.9700e-003**	**0.3223**	**0.0850**	**1.8100e-003**	**0.0868**		**297.5292**	**297.5292**	**6.2000e-003**		**297.6842**

3.7 Paving - 2022

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	0.5379	5.5004	6.9822	0.0104		0.2893	0.2893		0.2662	0.2662		1,010.6007	1,010.6007	0.3269		1,018.7719
Paving	0.3543					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8922**	**5.5004**	**6.9822**	**0.0104**		**0.2893**	**0.2893**		**0.2662**	**0.2662**		**1,010.6007**	**1,010.6007**	**0.3269**		**1,018.7719**

3.7 Paving - 2022

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	0.0239	0.0135	0.1811	6.1000e-004	0.0657	4.0000e-004	0.0661	0.0174	3.7000e-004	0.0178		61.0316	61.0316	1.2700e-003		61.0634
Total	**0.0239**	**0.0135**	**0.1811**	**6.1000e-004**	**0.0657**	**4.0000e-004**	**0.0661**	**0.0174**	**3.7000e-004**	**0.0178**		**61.0316**	**61.0316**	**1.2700e-003**		**61.0634**

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	0.5379	5.5004	6.9822	0.0104		0.2893	0.2893		0.2662	0.2662	0.0000	1,010.6007	1,010.6007	0.3269		1,018.7719
Paving	0.3543					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8922**	**5.5004**	**6.9822**	**0.0104**		**0.2893**	**0.2893**		**0.2662**	**0.2662**	**0.0000**	**1,010.6007**	**1,010.6007**	**0.3269**		**1,018.7719**

3.7 Paving - 2022

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	0.0239	0.0135	0.1811	6.1000e-004	0.0657	4.0000e-004	0.0661	0.0174	3.7000e-004	0.0178		61.0316	61.0316	1.2700e-003		61.0634
Total	**0.0239**	**0.0135**	**0.1811**	**6.1000e-004**	**0.0657**	**4.0000e-004**	**0.0661**	**0.0174**	**3.7000e-004**	**0.0178**		**61.0316**	**61.0316**	**1.2700e-003**		**61.0634**

4.0 Operational Detail - Mobile

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	3.1075	11.8307	33.9352	0.1304	11.5466	0.1002	11.6468	3.0890	0.0935	3.1826		13,192.6941	13,192.6941	0.4268		13,203.3629
Unmitigated	3.1075	11.8307	33.9352	0.1304	11.5466	0.1002	11.6468	3.0890	0.0935	3.1826		13,192.6941	13,192.6941	0.4268		13,203.3629

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	2,073.10	1,533.76	448.33	4,624,758	4,624,758
Parking Lot	0.00	0.00	0.00		
Total	2,073.10	1,533.76	448.33	4,624,758	4,624,758

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Industrial Park	9.50	7.30	7.30	59.00	28.00	13.00	79	19	2
Parking Lot	9.50	7.30	7.30	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
Industrial Park	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	0.1378	1.2526	1.0522	7.5200e-003		0.0952	0.0952		0.0952	0.0952		1,503.0970	1,503.0970	0.0288	0.0276	1,512.0291
NaturalGas Unmitigated	0.1925	1.7502	1.4702	0.0105		0.1330	0.1330		0.1330	0.1330		2,100.2505	2,100.2505	0.0403	0.0385	2,112.7312

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					
Industrial Park	17852.1	0.1925	1.7502	1.4702	0.0105		0.1330	0.1330		0.1330	0.1330		2,100.2505	2,100.2505	0.0403	0.0385	2,112.7312
Parking Lot	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		**0.1925**	**1.7502**	**1.4702**	**0.0105**		**0.1330**	**0.1330**		**0.1330**	**0.1330**		**2,100.2505**	**2,100.2505**	**0.0403**	**0.0385**	**2,112.7312**

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					
Industrial Park	12.7763	0.1378	1.2526	1.0522	7.5200e-003		0.0952	0.0952		0.0952	0.0952		1,503.0970	1,503.0970	0.0288	0.0276	1,512.0291
Parking Lot	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		**0.1378**	**1.2526**	**1.0522**	**7.5200e-003**		**0.0952**	**0.0952**		**0.0952**	**0.0952**		**1,503.0970**	**1,503.0970**	**0.0288**	**0.0276**	**1,512.0291**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.2374	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Unmitigated	8.2374	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521

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	0.9727					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.2584					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.1700e-003	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Total	**8.2374**	**6.1000e-004**	**0.0666**	**0.0000**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**		**0.1427**	**0.1427**	**3.7000e-004**		**0.1521**

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	0.9727					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.2584					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.1700e-003	6.1000e-004	0.0666	0.0000		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004		0.1427	0.1427	3.7000e-004		0.1521
Total	**8.2374**	**6.1000e-004**	**0.0666**	**0.0000**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**		**0.1427**	**0.1427**	**3.7000e-004**		**0.1521**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Buildings 1 to 3 - 2023

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	337.09	1000sqft	16.32	337,094.00	0
Parking Lot	315.00	Space	2.84	126,000.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 64

Climate Zone 5 **Operational Year** 2023

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr) 641.35 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - SF of buildings 1-3, lot acreage is project site (26) minus default estimate for data center (6.39) and parking lots (3.29)

Construction Phase - Applicant specified schedule. Extended AC to overlap BC for more realistic conditions.

Off-road Equipment - Default

Off-road Equipment - Applicant-provided equipment list

Off-road Equipment - Applicant-provided equipment list

Off-road Equipment - Applicant-provided equipment list. Paver used as proxy for compactor

Off-road Equipment - Applicant-provided equipment list

Off-road Equipment - Applicant-provided equipment list. Paver used as proxy for compactor

Trips and VMT -

Demolition -

Grading - Export quantity provided by applicant

Architectural Coating - BAAQMD Regulation 8, Rule 3 - 100 g/L for traffic marking coatings

Vehicle Trips - Weekday rate provided by Kittleson, includes trips for Buildings 1-4

Area Coating - BAAQMD Regulation 8, Rule 3 - 100 g/L for traffic marking coatings

Energy Use -

Water And Wastewater - All wastewater treated at Hayward WWTP with aerobic processes. Outdoor water use calculated assuming 2.43 AFY per acre of landscaped area.

Solid Waste -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Energy Mitigation - Title 24 reduced by 30% for 2019 Standards

Water Mitigation - Regulatory compliance with CALGreen

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Parking	150.00	100.00
tblAreaCoating	Area_EF_Parking	150	100

tblConstructionPhase	NumDays	20.00	64.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	NumDays	30.00	65.00
tblConstructionPhase	NumDays	300.00	174.00
tblConstructionPhase	NumDays	20.00	114.00
tblConstructionPhase	NumDays	20.00	21.00
tblGrading	MaterialExported	0.00	29,073.00
tblLandUse	LandUseSquareFeet	337,090.00	337,094.00
tblLandUse	LotAcreage	7.74	16.32
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblVehicleTrips	ST_TR	2.49	4.55
tblVehicleTrips	SU_TR	0.73	1.33
tblVehicleTrips	WD_TR	6.83	6.15
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaDigestCogenCombDigestGasPercent	0.00	100.00
tblWater	AnaDigestCogenCombDigestGasPercent	0.00	100.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	OutdoorWaterUseRate	0.00	3,812,456.00
tblWater	SepticTankPercent	10.33	0.00

tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	1.0295	3.0057	2.2279	6.8700e-003	0.3252	0.0976	0.4228	0.0685	0.0901	0.1586	0.0000	633.0575	633.0575	0.0980	0.0000	635.5071
2022	1.0870	0.8341	0.7518	2.1200e-003	0.0758	0.0305	0.1063	0.0205	0.0283	0.0488	0.0000	193.2140	193.2140	0.0284	0.0000	193.9240
Maximum	**1.0870**	**3.0057**	**2.2279**	**6.8700e-003**	**0.3252**	**0.0976**	**0.4228**	**0.0685**	**0.0901**	**0.1586**	**0.0000**	**633.0575**	**633.0575**	**0.0980**	**0.0000**	**635.5071**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	1.0295	3.0057	2.2279	6.8700e-003	0.3252	0.0976	0.4228	0.0685	0.0901	0.1586	0.0000	633.0572	633.0572	0.0980	0.0000	635.5068
2022	1.0870	0.8341	0.7518	2.1200e-003	0.0758	0.0305	0.1063	0.0205	0.0283	0.0488	0.0000	193.2139	193.2139	0.0284	0.0000	193.9239
Maximum	**1.0870**	**3.0057**	**2.2279**	**6.8700e-003**	**0.3252**	**0.0976**	**0.4228**	**0.0685**	**0.0901**	**0.1586**	**0.0000**	**633.0572**	**633.0572**	**0.0980**	**0.0000**	**635.5068**

	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	N20	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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2021**	**3-31-2021**	0.5374	0.5374
2	**4-1-2021**	**6-30-2021**	0.7992	0.7992
3	**7-1-2021**	**9-30-2021**	0.9036	0.9036
4	**10-1-2021**	**12-31-2021**	1.7206	1.7206
5	**1-1-2022**	**3-31-2022**	1.8653	1.8653
6	**4-1-2022**	**6-30-2022**	0.0666	0.0666
		Highest	1.8653	1.8653

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5028	5.0000e-005	5.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124
Energy	0.0351	0.3194	0.2683	1.9200e-003		0.0243	0.0243		0.0243	0.0243	0.0000	1,584.3943	1,584.3943	0.0626	0.0179	1,591.3063
Mobile	0.4204	1.8936	5.0086	0.0191	1.7211	0.0155	1.7366	0.4619	0.0145	0.4764	0.0000	1,752.0235	1,752.0235	0.0594	0.0000	1,753.5079
Waste						0.0000	0.0000		0.0000	0.0000	84.8482	0.0000	84.8482	5.0144	0.0000	210.2078
Water						0.0000	0.0000		0.0000	0.0000	27.5796	115.1586	142.7381	0.1001	0.0611	163.4355
Total	**1.9583**	**2.2130**	**5.2829**	**0.0210**	**1.7211**	**0.0398**	**1.7609**	**0.4619**	**0.0388**	**0.5007**	**112.4278**	**3,451.5880**	**3,564.0158**	**5.2365**	**0.0790**	**3,718.4700**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5028	5.0000e-005	5.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124
Energy	0.0252	0.2286	0.1920	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	1,364.9095	1,364.9095	0.0552	0.0150	1,370.7614
Mobile	0.4204	1.8936	5.0086	0.0191	1.7211	0.0155	1.7366	0.4619	0.0145	0.4764	0.0000	1,752.0235	1,752.0235	0.0594	0.0000	1,753.5079
Waste						0.0000	0.0000		0.0000	0.0000	84.8482	0.0000	84.8482	5.0144	0.0000	210.2078
Water						0.0000	0.0000		0.0000	0.0000	22.0637	92.6664	114.7301	0.0801	0.0489	131.2901
Total	**1.9483**	**2.1222**	**5.2066**	**0.0204**	**1.7211**	**0.0329**	**1.7540**	**0.4619**	**0.0319**	**0.4938**	**106.9118**	**3,209.6111**	**3,316.5229**	**5.2092**	**0.0639**	**3,465.7796**

	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	N20	CO2e
Percent Reduction	**0.51**	**4.10**	**1.44**	**2.62**	**0.00**	**17.35**	**0.39**	**0.00**	**17.81**	**1.38**	**4.91**	**7.01**	**6.94**	**0.52**	**19.17**	**6.80**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	3/31/2021	5	64	
2	Site Preparation	Site Preparation	4/1/2021	4/30/2021	5	22	
3	Grading	Grading	5/3/2021	7/30/2021	5	65	
4	Building Construction	Building Construction	8/2/2021	3/31/2022	5	174	
5	Architectural Coating	Architectural Coating	10/25/2021	3/31/2022	5	114	
6	Paving	Paving	4/1/2022	4/29/2022	5	21	

Acres of Grading (Site Preparation Phase): 11

Acres of Grading (Grading Phase): 32.5

Acres of Paving: 2.84

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 505,641; Non-Residential Outdoor: 168,547; Striped Parking Area: 7,560 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Excavators	3	8.00	158	0.38
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Pavers	1	8.00	130	0.42
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Pavers	1	8.00	130	0.42
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	2	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	1,224.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	3,634.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	195.00	76.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	39.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1324	0.0000	0.1324	0.0201	0.0000	0.0201	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0340	0.3281	0.4588	6.9000e-004		0.0172	0.0172		0.0158	0.0158	0.0000	61.0318	61.0318	0.0197	0.0000	61.5253
Total	**0.0340**	**0.3281**	**0.4588**	**6.9000e-004**	**0.1324**	**0.0172**	**0.1496**	**0.0201**	**0.0158**	**0.0359**	**0.0000**	**61.0318**	**61.0318**	**0.0197**	**0.0000**	**61.5253**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.8200e-003	0.1652	0.0352	4.8000e-004	0.0103	5.1000e-004	0.0109	2.8400e-003	4.9000e-004	3.3300e-003	0.0000	46.3004	46.3004	2.3600e-003	0.0000	46.3595
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2800e-003	8.8000e-004	9.3300e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.7788	2.7788	6.0000e-005	0.0000	2.7804
Total	**6.1000e-003**	**0.1661**	**0.0445**	**5.1000e-004**	**0.0136**	**5.3000e-004**	**0.0142**	**3.7100e-003**	**5.1000e-004**	**4.2200e-003**	**0.0000**	**49.0793**	**49.0793**	**2.4200e-003**	**0.0000**	**49.1399**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1324	0.0000	0.1324	0.0201	0.0000	0.0201	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0340	0.3281	0.4588	6.9000e-004		0.0172	0.0172		0.0158	0.0158	0.0000	61.0317	61.0317	0.0197	0.0000	61.5252
Total	**0.0340**	**0.3281**	**0.4588**	**6.9000e-004**	**0.1324**	**0.0172**	**0.1496**	**0.0201**	**0.0158**	**0.0359**	**0.0000**	**61.0317**	**61.0317**	**0.0197**	**0.0000**	**61.5252**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.8200e-003	0.1652	0.0352	4.8000e-004	0.0103	5.1000e-004	0.0109	2.8400e-003	4.9000e-004	3.3300e-003	0.0000	46.3004	46.3004	2.3600e-003	0.0000	46.3595
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2800e-003	8.8000e-004	9.3300e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.7788	2.7788	6.0000e-005	0.0000	2.7804
Total	**6.1000e-003**	**0.1661**	**0.0445**	**5.1000e-004**	**0.0136**	**5.3000e-004**	**0.0142**	**3.7100e-003**	**5.1000e-004**	**4.2200e-003**	**0.0000**	**49.0793**	**49.0793**	**2.4200e-003**	**0.0000**	**49.1399**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8300e-003	0.0000	5.8300e-003	6.3000e-004	0.0000	6.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1771	0.1508	2.6000e-004		8.3600e-003	8.3600e-003		7.6900e-003	7.6900e-003	0.0000	22.9552	22.9552	7.4200e-003	0.0000	23.1408
Total	**0.0159**	**0.1771**	**0.1508**	**2.6000e-004**	**5.8300e-003**	**8.3600e-003**	**0.0142**	**6.3000e-004**	**7.6900e-003**	**8.3200e-003**	**0.0000**	**22.9552**	**22.9552**	**7.4200e-003**	**0.0000**	**23.1408**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	3.5000e-004	3.7000e-003	1.0000e-005	1.3000e-003	1.0000e-005	1.3100e-003	3.5000e-004	1.0000e-005	3.5000e-004	0.0000	1.1022	1.1022	2.0000e-005	0.0000	1.1028
Total	**5.1000e-004**	**3.5000e-004**	**3.7000e-003**	**1.0000e-005**	**1.3000e-003**	**1.0000e-005**	**1.3100e-003**	**3.5000e-004**	**1.0000e-005**	**3.5000e-004**	**0.0000**	**1.1022**	**1.1022**	**2.0000e-005**	**0.0000**	**1.1028**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8300e-003	0.0000	5.8300e-003	6.3000e-004	0.0000	6.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1771	0.1508	2.6000e-004		8.3600e-003	8.3600e-003		7.6900e-003	7.6900e-003	0.0000	22.9552	22.9552	7.4200e-003	0.0000	23.1408
Total	**0.0159**	**0.1771**	**0.1508**	**2.6000e-004**	**5.8300e-003**	**8.3600e-003**	**0.0142**	**6.3000e-004**	**7.6900e-003**	**8.3200e-003**	**0.0000**	**22.9552**	**22.9552**	**7.4200e-003**	**0.0000**	**23.1408**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	3.5000e-004	3.7000e-003	1.0000e-005	1.3000e-003	1.0000e-005	1.3100e-003	3.5000e-004	1.0000e-005	3.5000e-004	0.0000	1.1022	1.1022	2.0000e-005	0.0000	1.1028
Total	**5.1000e-004**	**3.5000e-004**	**3.7000e-003**	**1.0000e-005**	**1.3000e-003**	**1.0000e-005**	**1.3100e-003**	**3.5000e-004**	**1.0000e-005**	**3.5000e-004**	**0.0000**	**1.1022**	**1.1022**	**2.0000e-005**	**0.0000**	**1.1028**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0189	0.0000	0.0189	2.1100e-003	0.0000	2.1100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0363	0.4085	0.3316	6.4000e-004		0.0172	0.0172		0.0158	0.0158	0.0000	55.9549	55.9549	0.0181	0.0000	56.4073
Total	**0.0363**	**0.4085**	**0.3316**	**6.4000e-004**	**0.0189**	**0.0172**	**0.0361**	**2.1100e-003**	**0.0158**	**0.0179**	**0.0000**	**55.9549**	**55.9549**	**0.0181**	**0.0000**	**56.4073**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0143	0.4904	0.1045	1.4200e-003	0.0307	1.5200e-003	0.0322	8.4400e-003	1.4500e-003	9.8900e-003	0.0000	137.4639	137.4639	7.0100e-003	0.0000	137.6393
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	6.9000e-004	7.2900e-003	2.0000e-005	2.5700e-003	2.0000e-005	2.5800e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.1710	2.1710	5.0000e-005	0.0000	2.1722
Total	**0.0153**	**0.4911**	**0.1118**	**1.4400e-003**	**0.0333**	**1.5400e-003**	**0.0348**	**9.1200e-003**	**1.4700e-003**	**0.0106**	**0.0000**	**139.6349**	**139.6349**	**7.0600e-003**	**0.0000**	**139.8114**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0189	0.0000	0.0189	2.1100e-003	0.0000	2.1100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0363	0.4085	0.3316	6.4000e-004		0.0172	0.0172		0.0158	0.0158	0.0000	55.9548	55.9548	0.0181	0.0000	56.4072
Total	**0.0363**	**0.4085**	**0.3316**	**6.4000e-004**	**0.0189**	**0.0172**	**0.0361**	**2.1100e-003**	**0.0158**	**0.0179**	**0.0000**	**55.9548**	**55.9548**	**0.0181**	**0.0000**	**56.4072**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0143	0.4904	0.1045	1.4200e-003	0.0307	1.5200e-003	0.0322	8.4400e-003	1.4500e-003	9.8900e-003	0.0000	137.4639	137.4639	7.0100e-003	0.0000	137.6393
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	6.9000e-004	7.2900e-003	2.0000e-005	2.5700e-003	2.0000e-005	2.5800e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.1710	2.1710	5.0000e-005	0.0000	2.1722
Total	**0.0153**	**0.4911**	**0.1118**	**1.4400e-003**	**0.0333**	**1.5400e-003**	**0.0348**	**9.1200e-003**	**1.4700e-003**	**0.0106**	**0.0000**	**139.6349**	**139.6349**	**7.0600e-003**	**0.0000**	**139.8114**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0881	0.9350	0.7099	1.2600e-003		0.0489	0.0489		0.0450	0.0450	0.0000	110.3555	110.3555	0.0357	0.0000	111.2478
Total	**0.0881**	**0.9350**	**0.7099**	**1.2600e-003**		**0.0489**	**0.0489**		**0.0450**	**0.0450**	**0.0000**	**110.3555**	**110.3555**	**0.0357**	**0.0000**	**111.2478**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	0.0133	0.4366	0.1090	1.1300e-003	0.0274	9.5000e-004	0.0284	7.9300e-003	9.1000e-004	8.8400e-003	0.0000	108.4058	108.4058	5.3300e-003	0.0000	108.5390
Worker	0.0329	0.0227	0.2406	7.9000e-004	0.0848	5.5000e-004	0.0853	0.0226	5.1000e-004	0.0231	0.0000	71.6419	71.6419	1.6100e-003	0.0000	71.6821
Total	**0.0462**	**0.4593**	**0.3495**	**1.9200e-003**	**0.1122**	**1.5000e-003**	**0.1137**	**0.0305**	**1.4200e-003**	**0.0319**	**0.0000**	**180.0477**	**180.0477**	**6.9400e-003**	**0.0000**	**180.2211**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0881	0.9350	0.7099	1.2600e-003		0.0489	0.0489		0.0450	0.0450	0.0000	110.3554	110.3554	0.0357	0.0000	111.2477
Total	**0.0881**	**0.9350**	**0.7099**	**1.2600e-003**		**0.0489**	**0.0489**		**0.0450**	**0.0450**	**0.0000**	**110.3554**	**110.3554**	**0.0357**	**0.0000**	**111.2477**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	0.0133	0.4366	0.1090	1.1300e-003	0.0274	9.5000e-004	0.0284	7.9300e-003	9.1000e-004	8.8400e-003	0.0000	108.4058	108.4058	5.3300e-003	0.0000	108.5390
Worker	0.0329	0.0227	0.2406	7.9000e-004	0.0848	5.5000e-004	0.0853	0.0226	5.1000e-004	0.0231	0.0000	71.6419	71.6419	1.6100e-003	0.0000	71.6821
Total	**0.0462**	**0.4593**	**0.3495**	**1.9200e-003**	**0.1122**	**1.5000e-003**	**0.1137**	**0.0305**	**1.4200e-003**	**0.0319**	**0.0000**	**180.0477**	**180.0477**	**6.9400e-003**	**0.0000**	**180.2211**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0456	0.4763	0.4047	7.3000e-004		0.0240	0.0240		0.0221	0.0221	0.0000	64.2373	64.2373	0.0208	0.0000	64.7567
Total	**0.0456**	**0.4763**	**0.4047**	**7.3000e-004**		**0.0240**	**0.0240**		**0.0221**	**0.0221**	**0.0000**	**64.2373**	**64.2373**	**0.0208**	**0.0000**	**64.7567**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.2000e-003	0.2406	0.0596	6.5000e-004	0.0160	4.8000e-004	0.0164	4.6100e-003	4.6000e-004	5.0700e-003	0.0000	62.4540	62.4540	2.9600e-003	0.0000	62.5281
Worker	0.0179	0.0119	0.1286	4.4000e-004	0.0493	3.2000e-004	0.0496	0.0131	2.9000e-004	0.0134	0.0000	40.1544	40.1544	8.4000e-004	0.0000	40.1754
Total	**0.0251**	**0.2524**	**0.1882**	**1.0900e-003**	**0.0653**	**8.0000e-004**	**0.0661**	**0.0177**	**7.5000e-004**	**0.0185**	**0.0000**	**102.6084**	**102.6084**	**3.8000e-003**	**0.0000**	**102.7035**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0456	0.4763	0.4047	7.3000e-004		0.0240	0.0240		0.0221	0.0221	0.0000	64.2373	64.2373	0.0208	0.0000	64.7566
Total	**0.0456**	**0.4763**	**0.4047**	**7.3000e-004**		**0.0240**	**0.0240**		**0.0221**	**0.0221**	**0.0000**	**64.2373**	**64.2373**	**0.0208**	**0.0000**	**64.7566**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.2000e-003	0.2406	0.0596	6.5000e-004	0.0160	4.8000e-004	0.0164	4.6100e-003	4.6000e-004	5.0700e-003	0.0000	62.4540	62.4540	2.9600e-003	0.0000	62.5281
Worker	0.0179	0.0119	0.1286	4.4000e-004	0.0493	3.2000e-004	0.0496	0.0131	2.9000e-004	0.0134	0.0000	40.1544	40.1544	8.4000e-004	0.0000	40.1754
Total	**0.0251**	**0.2524**	**0.1882**	**1.0900e-003**	**0.0653**	**8.0000e-004**	**0.0661**	**0.0177**	**7.5000e-004**	**0.0185**	**0.0000**	**102.6084**	**102.6084**	**3.8000e-003**	**0.0000**	**102.7035**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7786					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4700e-003	0.0382	0.0454	7.0000e-005		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003	0.0000	6.3831	6.3831	4.4000e-004	0.0000	6.3941
Total	**0.7841**	**0.0382**	**0.0454**	**7.0000e-005**		**2.3500e-003**	**2.3500e-003**		**2.3500e-003**	**2.3500e-003**	**0.0000**	**6.3831**	**6.3831**	**4.4000e-004**	**0.0000**	**6.3941**

3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9900e-003	2.0600e-003	0.0219	7.0000e-005	7.7000e-003	5.0000e-005	7.7500e-003	2.0500e-003	5.0000e-005	2.1000e-003	0.0000	6.5129	6.5129	1.5000e-004	0.0000	6.5166
Total	**2.9900e-003**	**2.0600e-003**	**0.0219**	**7.0000e-005**	**7.7000e-003**	**5.0000e-005**	**7.7500e-003**	**2.0500e-003**	**5.0000e-005**	**2.1000e-003**	**0.0000**	**6.5129**	**6.5129**	**1.5000e-004**	**0.0000**	**6.5166**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7786					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4700e-003	0.0382	0.0454	7.0000e-005		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003	0.0000	6.3831	6.3831	4.4000e-004	0.0000	6.3941
Total	**0.7841**	**0.0382**	**0.0454**	**7.0000e-005**		**2.3500e-003**	**2.3500e-003**		**2.3500e-003**	**2.3500e-003**	**0.0000**	**6.3831**	**6.3831**	**4.4000e-004**	**0.0000**	**6.3941**

3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9900e-003	2.0600e-003	0.0219	7.0000e-005	7.7000e-003	5.0000e-005	7.7500e-003	2.0500e-003	5.0000e-005	2.1000e-003	0.0000	6.5129	6.5129	1.5000e-004	0.0000	6.5166
Total	**2.9900e-003**	**2.0600e-003**	**0.0219**	**7.0000e-005**	**7.7000e-003**	**5.0000e-005**	**7.7500e-003**	**2.0500e-003**	**5.0000e-005**	**2.1000e-003**	**0.0000**	**6.5129**	**6.5129**	**1.5000e-004**	**0.0000**	**6.5166**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9966					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5500e-003	0.0451	0.0580	1.0000e-004		2.6100e-003	2.6100e-003		2.6100e-003	2.6100e-003	0.0000	8.1704	8.1704	5.3000e-004	0.0000	8.1837
Total	**1.0032**	**0.0451**	**0.0580**	**1.0000e-004**		**2.6100e-003**	**2.6100e-003**		**2.6100e-003**	**2.6100e-003**	**0.0000**	**8.1704**	**8.1704**	**5.3000e-004**	**0.0000**	**8.1837**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5700e-003	2.3700e-003	0.0257	9.0000e-005	9.8600e-003	6.0000e-005	9.9200e-003	2.6200e-003	6.0000e-005	2.6800e-003	0.0000	8.0309	8.0309	1.7000e-004	0.0000	8.0351
Total	**3.5700e-003**	**2.3700e-003**	**0.0257**	**9.0000e-005**	**9.8600e-003**	**6.0000e-005**	**9.9200e-003**	**2.6200e-003**	**6.0000e-005**	**2.6800e-003**	**0.0000**	**8.0309**	**8.0309**	**1.7000e-004**	**0.0000**	**8.0351**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9966					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5500e-003	0.0451	0.0580	1.0000e-004		2.6100e-003	2.6100e-003		2.6100e-003	2.6100e-003	0.0000	8.1704	8.1704	5.3000e-004	0.0000	8.1837
Total	**1.0032**	**0.0451**	**0.0580**	**1.0000e-004**		**2.6100e-003**	**2.6100e-003**		**2.6100e-003**	**2.6100e-003**	**0.0000**	**8.1704**	**8.1704**	**5.3000e-004**	**0.0000**	**8.1837**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5700e-003	2.3700e-003	0.0257	9.0000e-005	9.8600e-003	6.0000e-005	9.9200e-003	2.6200e-003	6.0000e-005	2.6800e-003	0.0000	8.0309	8.0309	1.7000e-004	0.0000	8.0351
Total	**3.5700e-003**	**2.3700e-003**	**0.0257**	**9.0000e-005**	**9.8600e-003**	**6.0000e-005**	**9.9200e-003**	**2.6200e-003**	**6.0000e-005**	**2.6800e-003**	**0.0000**	**8.0309**	**8.0309**	**1.7000e-004**	**0.0000**	**8.0351**

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.6500e-003	0.0578	0.0733	1.1000e-004		3.0400e-003	3.0400e-003		2.7900e-003	2.7900e-003	0.0000	9.6264	9.6264	3.1100e-003	0.0000	9.7043
Paving	3.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.3700e-003**	**0.0578**	**0.0733**	**1.1000e-004**		**3.0400e-003**	**3.0400e-003**		**2.7900e-003**	**2.7900e-003**	**0.0000**	**9.6264**	**9.6264**	**3.1100e-003**	**0.0000**	**9.7043**

3.7 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.7300e-003	1.0000e-005	6.6000e-004	0.0000	6.7000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5405	0.5405	1.0000e-005	0.0000	0.5408
Total	**2.4000e-004**	**1.6000e-004**	**1.7300e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.7000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5405**	**0.5405**	**1.0000e-005**	**0.0000**	**0.5408**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.6500e-003	0.0578	0.0733	1.1000e-004		3.0400e-003	3.0400e-003		2.7900e-003	2.7900e-003	0.0000	9.6264	9.6264	3.1100e-003	0.0000	9.7042
Paving	3.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.3700e-003**	**0.0578**	**0.0733**	**1.1000e-004**		**3.0400e-003**	**3.0400e-003**		**2.7900e-003**	**2.7900e-003**	**0.0000**	**9.6264**	**9.6264**	**3.1100e-003**	**0.0000**	**9.7042**

3.7 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.7300e-003	1.0000e-005	6.6000e-004	0.0000	6.7000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5405	0.5405	1.0000e-005	0.0000	0.5408
Total	**2.4000e-004**	**1.6000e-004**	**1.7300e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.7000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5405**	**0.5405**	**1.0000e-005**	**0.0000**	**0.5408**

4.0 Operational Detail - Mobile

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	tons/yr										MT/yr					
Mitigated	0.4204	1.8936	5.0086	0.0191	1.7211	0.0155	1.7366	0.4619	0.0145	0.4764	0.0000	1,752.0235	1,752.0235	0.0594	0.0000	1,753.5079
Unmitigated	0.4204	1.8936	5.0086	0.0191	1.7211	0.0155	1.7366	0.4619	0.0145	0.4764	0.0000	1,752.0235	1,752.0235	0.0594	0.0000	1,753.5079

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	2,073.10	1,533.76	448.33	4,624,758	4,624,758
Parking Lot	0.00	0.00	0.00		
Total	2,073.10	1,533.76	448.33	4,624,758	4,624,758

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Industrial Park	9.50	7.30	7.30	59.00	28.00	13.00	79	19	2
Parking Lot	9.50	7.30	7.30	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
Industrial Park	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,116.0549	1,116.0549	0.0505	0.0104	1,120.4280
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,236.6743	1,236.6743	0.0559	0.0116	1,241.5199
NaturalGas Mitigated	0.0252	0.2286	0.1920	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	248.8546	248.8546	4.7700e-003	4.5600e-003	250.3334
NaturalGas Unmitigated	0.0351	0.3194	0.2683	1.9200e-003		0.0243	0.0243		0.0243	0.0243	0.0000	347.7200	347.7200	6.6600e-003	6.3700e-003	349.7863

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Industrial Park	6.51603e+006	0.0351	0.3194	0.2683	1.9200e-003		0.0243	0.0243		0.0243	0.0243	0.0000	347.7200	347.7200	6.6600e-003	6.3700e-003	349.7863
Parking Lot	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	0.0000
Total		**0.0351**	**0.3194**	**0.2683**	**1.9200e-003**		**0.0243**	**0.0243**		**0.0243**	**0.0243**	**0.0000**	**347.7200**	**347.7200**	**6.6600e-003**	**6.3700e-003**	**349.7863**

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	tons/yr										MT/yr					
Industrial Park	4.66336e+006	0.0252	0.2286	0.1920	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	248.8546	248.8546	4.7700e-003	4.5600e-003	250.3334
Parking Lot	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	0.0000
Total		**0.0252**	**0.2286**	**0.1920**	**1.3700e-003**		**0.0174**	**0.0174**		**0.0174**	**0.0174**	**0.0000**	**248.8546**	**248.8546**	**4.7700e-003**	**4.5600e-003**	**250.3334**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	4.20693e+006	1,223.8451	0.0553	0.0115	1,228.6405
Parking Lot	44100	12.8292	5.8000e-004	1.2000e-004	12.8795
Total		**1,236.6743**	**0.0559**	**0.0116**	**1,241.5199**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	3.79231e+006	1,103.2257	0.0499	0.0103	1,107.5485
Parking Lot	44100	12.8292	5.8000e-004	1.2000e-004	12.8795
Total		**1,116.0549**	**0.0505**	**0.0104**	**1,120.4280**

6.0 Area Detail

6.1 Mitigation Measures Area

Category	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
	tons/yr										MT/yr					
Mitigated	1.5028	5.0000e-005	5.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124
Unmitigated	1.5028	5.0000e-005	5.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124

6.2 Area by SubCategory

Unmitigated

SubCategory	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
	tons/yr										MT/yr					
Architectural Coating	0.1775					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3247					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.5000e-004	5.0000e-005	5.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124
Total	**1.5028**	**5.0000e-005**	**5.9900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0117**	**0.0117**	**3.0000e-005**	**0.0000**	**0.0124**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1775					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3247					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.5000e-004	5.0000e-005	5.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124
Total	**1.5028**	**5.0000e-005**	**5.9900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0117**	**0.0117**	**3.0000e-005**	**0.0000**	**0.0124**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	114.7301	0.0801	0.0489	131.2901
Unmitigated	142.7381	0.1001	0.0611	163.4355

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	77.9521 / 3.81246	142.7381	0.1001	0.0611	163.4355
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**142.7381**	**0.1001**	**0.0611**	**163.4355**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	62.3616 / 3.5799	114.7301	0.0801	0.0489	131.2901
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**114.7301**	**0.0801**	**0.0489**	**131.2901**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	84.8482	5.0144	0.0000	210.2078
Unmitigated	84.8482	5.0144	0.0000	210.2078

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	417.99	84.8482	5.0144	0.0000	210.2078
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**84.8482**	**5.0144**	**0.0000**	**210.2078**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	417.99	84.8482	5.0144	0.0000	210.2078
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**84.8482**	**5.0144**	**0.0000**	**210.2078**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Buildings 1 to 3 - 2030

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	337.09	1000sqft	16.32	337,094.00	0
Parking Lot	315.00	Space	2.84	126,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	298.65	**CH4 Intensity (lb/MWhr)**	0.014	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Adjusted for mandated compliance of PG&E with SB100 requirements

Land Use - SF of buildings 1-3, lot acreage is project site (26) minus default estimate for data center (6.39) and parking lots (3.29)

Construction Phase - Applicant specified schedule. Extended AC to overlap BC for more realistic conditions.

Off-road Equipment - Default

Off-road Equipment - Applicant-provided equipment list

Off-road Equipment - Applicant-provided equipment list

Off-road Equipment - Applicant-provided equipment list. Paver used as proxy for compactor

Off-road Equipment - Applicant-provided equipment list

Off-road Equipment - Applicant-provided equipment list. Paver used as proxy for compactor

Trips and VMT -

Demolition -

Grading - Export quantity provided by applicant

Architectural Coating - BAAQMD Regulation 8, Rule 3 - 100 g/L for traffic marking coatings

Vehicle Trips - Weekday rate provided by Kittleson, includes trips for Buildings 1-4

Area Coating - BAAQMD Regulation 8, Rule 3 - 100 g/L for traffic marking coatings

Energy Use -

Water And Wastewater - All wastewater treated at Hayward WWTP with aerobic processes. Outdoor water use calculated assuming 2.43 AFY per acre of landscaped area.

Solid Waste -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Energy Mitigation - Title 24 reduced by 30% for 2019 Standards

Water Mitigation - Regulatory compliance with CALGreen

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Parking	150.00	100.00
tblAreaCoating	Area_EF_Parking	150	100

tblConstructionPhase	NumDays	20.00	114.00
tblConstructionPhase	NumDays	300.00	174.00
tblConstructionPhase	NumDays	20.00	64.00
tblConstructionPhase	NumDays	30.00	65.00
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	10.00	22.00
tblGrading	MaterialExported	0.00	29,073.00
tblLandUse	LandUseSquareFeet	337,090.00	337,094.00
tblLandUse	LotAcreage	7.74	16.32
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.014
tblProjectCharacteristics	CO2IntensityFactor	641.35	298.65
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003
tblVehicleTrips	ST_TR	2.49	4.55
tblVehicleTrips	SU_TR	0.73	1.33
tblVehicleTrips	WD_TR	6.83	6.15
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaDigestCogenCombDigestGasPercent	0.00	100.00
tblWater	AnaDigestCogenCombDigestGasPercent	0.00	100.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	OutdoorWaterUseRate	0.00	3,812,456.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	1.0295	3.0057	2.2279	6.8700e-003	0.3252	0.0976	0.4228	0.0685	0.0901	0.1586	0.0000	633.0575	633.0575	0.0980	0.0000	635.5071
2022	1.0870	0.8341	0.7518	2.1200e-003	0.0758	0.0305	0.1063	0.0205	0.0283	0.0488	0.0000	193.2140	193.2140	0.0284	0.0000	193.9240
Maximum	**1.0870**	**3.0057**	**2.2279**	**6.8700e-003**	**0.3252**	**0.0976**	**0.4228**	**0.0685**	**0.0901**	**0.1586**	**0.0000**	**633.0575**	**633.0575**	**0.0980**	**0.0000**	**635.5071**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	1.0295	3.0057	2.2279	6.8700e-003	0.3252	0.0976	0.4228	0.0685	0.0901	0.1586	0.0000	633.0572	633.0572	0.0980	0.0000	635.5068
2022	1.0870	0.8341	0.7518	2.1200e-003	0.0758	0.0305	0.1063	0.0205	0.0283	0.0488	0.0000	193.2139	193.2139	0.0284	0.0000	193.9239
Maximum	**1.0870**	**3.0057**	**2.2279**	**6.8700e-003**	**0.3252**	**0.0976**	**0.4228**	**0.0685**	**0.0901**	**0.1586**	**0.0000**	**633.0572**	**633.0572**	**0.0980**	**0.0000**	**635.5068**

	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**	**N20**	**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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	0.5374	0.5374
2	4-1-2021	6-30-2021	0.7992	0.7992
3	7-1-2021	9-30-2021	0.9036	0.9036
4	10-1-2021	12-31-2021	1.7206	1.7206
5	1-1-2022	3-31-2022	1.8653	1.8653
6	4-1-2022	6-30-2022	0.0666	0.0666
		Highest	1.8653	1.8653

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5027	5.0000e-005	5.9600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124
Energy	0.0351	0.3194	0.2683	1.9200e-003		0.0243	0.0243		0.0243	0.0243	0.0000	923.5878	923.5878	0.0337	0.0122	928.0528
Mobile	0.2967	1.5403	3.4557	0.0159	1.7199	0.0105	1.7304	0.4614	9.7700e-003	0.4711	0.0000	1,470.4258	1,470.4258	0.0455	0.0000	1,471.5641
Waste						0.0000	0.0000		0.0000	0.0000	84.8482	0.0000	84.8482	5.0144	0.0000	210.2078
Water						0.0000	0.0000		0.0000	0.0000	27.5796	53.6246	81.2041	0.0974	0.0605	101.6736
Total	**1.8346**	**1.8597**	**3.7299**	**0.0179**	**1.7199**	**0.0348**	**1.7547**	**0.4614**	**0.0341**	**0.4954**	**112.4278**	**2,447.6497**	**2,560.0775**	**5.1910**	**0.0727**	**2,711.5108**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5027	5.0000e-005	5.9600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124
Energy	0.0252	0.2286	0.1920	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	768.5549	768.5549	0.0291	9.7800e-003	772.1985
Mobile	0.2967	1.5403	3.4557	0.0159	1.7199	0.0105	1.7304	0.4614	9.7700e-003	0.4711	0.0000	1,470.4258	1,470.4258	0.0455	0.0000	1,471.5641
Waste						0.0000	0.0000		0.0000	0.0000	84.8482	0.0000	84.8482	5.0144	0.0000	210.2078
Water						0.0000	0.0000		0.0000	0.0000	22.0637	43.1509	65.2146	0.0780	0.0484	81.5912
Total	**1.8246**	**1.7689**	**3.6536**	**0.0173**	**1.7199**	**0.0279**	**1.7478**	**0.4614**	**0.0272**	**0.4885**	**106.9118**	**2,282.1432**	**2,389.0551**	**5.1670**	**0.0582**	**2,535.5740**

	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**	**N20**	**CO2e**
Percent Reduction	**0.54**	**4.88**	**2.05**	**3.08**	**0.00**	**19.86**	**0.39**	**0.00**	**20.28**	**1.39**	**4.91**	**6.76**	**6.68**	**0.46**	**19.94**	**6.49**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	3/31/2021	5	64	
2	Site Preparation	Site Preparation	4/1/2021	4/30/2021	5	22	
3	Grading	Grading	5/3/2021	7/30/2021	5	65	
4	Building Construction	Building Construction	8/2/2021	3/31/2022	5	174	
5	Architectural Coating	Architectural Coating	10/25/2021	3/31/2022	5	114	
6	Paving	Paving	4/1/2022	4/29/2022	5	21	

Acres of Grading (Site Preparation Phase): 11

Acres of Grading (Grading Phase): 32.5

Acres of Paving: 2.84

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 505,641; Non-Residential Outdoor: 168,547; Striped Parking Area: 7,560 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Excavators	3	8.00	158	0.38
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Pavers	1	8.00	130	0.42
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Pavers	1	8.00	130	0.42
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	2	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	1,224.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	3,634.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	195.00	76.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	39.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1324	0.0000	0.1324	0.0201	0.0000	0.0201	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0340	0.3281	0.4588	6.9000e-004		0.0172	0.0172		0.0158	0.0158	0.0000	61.0318	61.0318	0.0197	0.0000	61.5253
Total	**0.0340**	**0.3281**	**0.4588**	**6.9000e-004**	**0.1324**	**0.0172**	**0.1496**	**0.0201**	**0.0158**	**0.0359**	**0.0000**	**61.0318**	**61.0318**	**0.0197**	**0.0000**	**61.5253**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.8200e-003	0.1652	0.0352	4.8000e-004	0.0103	5.1000e-004	0.0109	2.8400e-003	4.9000e-004	3.3300e-003	0.0000	46.3004	46.3004	2.3600e-003	0.0000	46.3595
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2800e-003	8.8000e-004	9.3300e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.7788	2.7788	6.0000e-005	0.0000	2.7804
Total	**6.1000e-003**	**0.1661**	**0.0445**	**5.1000e-004**	**0.0136**	**5.3000e-004**	**0.0142**	**3.7100e-003**	**5.1000e-004**	**4.2200e-003**	**0.0000**	**49.0793**	**49.0793**	**2.4200e-003**	**0.0000**	**49.1399**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1324	0.0000	0.1324	0.0201	0.0000	0.0201	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0340	0.3281	0.4588	6.9000e-004		0.0172	0.0172		0.0158	0.0158	0.0000	61.0317	61.0317	0.0197	0.0000	61.5252
Total	**0.0340**	**0.3281**	**0.4588**	**6.9000e-004**	**0.1324**	**0.0172**	**0.1496**	**0.0201**	**0.0158**	**0.0359**	**0.0000**	**61.0317**	**61.0317**	**0.0197**	**0.0000**	**61.5252**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.8200e-003	0.1652	0.0352	4.8000e-004	0.0103	5.1000e-004	0.0109	2.8400e-003	4.9000e-004	3.3300e-003	0.0000	46.3004	46.3004	2.3600e-003	0.0000	46.3595
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2800e-003	8.8000e-004	9.3300e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.7788	2.7788	6.0000e-005	0.0000	2.7804
Total	**6.1000e-003**	**0.1661**	**0.0445**	**5.1000e-004**	**0.0136**	**5.3000e-004**	**0.0142**	**3.7100e-003**	**5.1000e-004**	**4.2200e-003**	**0.0000**	**49.0793**	**49.0793**	**2.4200e-003**	**0.0000**	**49.1399**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8300e-003	0.0000	5.8300e-003	6.3000e-004	0.0000	6.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1771	0.1508	2.6000e-004		8.3600e-003	8.3600e-003		7.6900e-003	7.6900e-003	0.0000	22.9552	22.9552	7.4200e-003	0.0000	23.1408
Total	**0.0159**	**0.1771**	**0.1508**	**2.6000e-004**	**5.8300e-003**	**8.3600e-003**	**0.0142**	**6.3000e-004**	**7.6900e-003**	**8.3200e-003**	**0.0000**	**22.9552**	**22.9552**	**7.4200e-003**	**0.0000**	**23.1408**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	3.5000e-004	3.7000e-003	1.0000e-005	1.3000e-003	1.0000e-005	1.3100e-003	3.5000e-004	1.0000e-005	3.5000e-004	0.0000	1.1022	1.1022	2.0000e-005	0.0000	1.1028
Total	**5.1000e-004**	**3.5000e-004**	**3.7000e-003**	**1.0000e-005**	**1.3000e-003**	**1.0000e-005**	**1.3100e-003**	**3.5000e-004**	**1.0000e-005**	**3.5000e-004**	**0.0000**	**1.1022**	**1.1022**	**2.0000e-005**	**0.0000**	**1.1028**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8300e-003	0.0000	5.8300e-003	6.3000e-004	0.0000	6.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1771	0.1508	2.6000e-004		8.3600e-003	8.3600e-003		7.6900e-003	7.6900e-003	0.0000	22.9552	22.9552	7.4200e-003	0.0000	23.1408
Total	**0.0159**	**0.1771**	**0.1508**	**2.6000e-004**	**5.8300e-003**	**8.3600e-003**	**0.0142**	**6.3000e-004**	**7.6900e-003**	**8.3200e-003**	**0.0000**	**22.9552**	**22.9552**	**7.4200e-003**	**0.0000**	**23.1408**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	3.5000e-004	3.7000e-003	1.0000e-005	1.3000e-003	1.0000e-005	1.3100e-003	3.5000e-004	1.0000e-005	3.5000e-004	0.0000	1.1022	1.1022	2.0000e-005	0.0000	1.1028
Total	**5.1000e-004**	**3.5000e-004**	**3.7000e-003**	**1.0000e-005**	**1.3000e-003**	**1.0000e-005**	**1.3100e-003**	**3.5000e-004**	**1.0000e-005**	**3.5000e-004**	**0.0000**	**1.1022**	**1.1022**	**2.0000e-005**	**0.0000**	**1.1028**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0189	0.0000	0.0189	2.1100e-003	0.0000	2.1100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0363	0.4085	0.3316	6.4000e-004		0.0172	0.0172		0.0158	0.0158	0.0000	55.9549	55.9549	0.0181	0.0000	56.4073
Total	**0.0363**	**0.4085**	**0.3316**	**6.4000e-004**	**0.0189**	**0.0172**	**0.0361**	**2.1100e-003**	**0.0158**	**0.0179**	**0.0000**	**55.9549**	**55.9549**	**0.0181**	**0.0000**	**56.4073**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0143	0.4904	0.1045	1.4200e-003	0.0307	1.5200e-003	0.0322	8.4400e-003	1.4500e-003	9.8900e-003	0.0000	137.4639	137.4639	7.0100e-003	0.0000	137.6393
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	6.9000e-004	7.2900e-003	2.0000e-005	2.5700e-003	2.0000e-005	2.5800e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.1710	2.1710	5.0000e-005	0.0000	2.1722
Total	**0.0153**	**0.4911**	**0.1118**	**1.4400e-003**	**0.0333**	**1.5400e-003**	**0.0348**	**9.1200e-003**	**1.4700e-003**	**0.0106**	**0.0000**	**139.6349**	**139.6349**	**7.0600e-003**	**0.0000**	**139.8114**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0189	0.0000	0.0189	2.1100e-003	0.0000	2.1100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0363	0.4085	0.3316	6.4000e-004		0.0172	0.0172		0.0158	0.0158	0.0000	55.9548	55.9548	0.0181	0.0000	56.4072
Total	**0.0363**	**0.4085**	**0.3316**	**6.4000e-004**	**0.0189**	**0.0172**	**0.0361**	**2.1100e-003**	**0.0158**	**0.0179**	**0.0000**	**55.9548**	**55.9548**	**0.0181**	**0.0000**	**56.4072**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0143	0.4904	0.1045	1.4200e-003	0.0307	1.5200e-003	0.0322	8.4400e-003	1.4500e-003	9.8900e-003	0.0000	137.4639	137.4639	7.0100e-003	0.0000	137.6393
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	6.9000e-004	7.2900e-003	2.0000e-005	2.5700e-003	2.0000e-005	2.5800e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.1710	2.1710	5.0000e-005	0.0000	2.1722
Total	**0.0153**	**0.4911**	**0.1118**	**1.4400e-003**	**0.0333**	**1.5400e-003**	**0.0348**	**9.1200e-003**	**1.4700e-003**	**0.0106**	**0.0000**	**139.6349**	**139.6349**	**7.0600e-003**	**0.0000**	**139.8114**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0881	0.9350	0.7099	1.2600e-003		0.0489	0.0489		0.0450	0.0450	0.0000	110.3555	110.3555	0.0357	0.0000	111.2478
Total	**0.0881**	**0.9350**	**0.7099**	**1.2600e-003**		**0.0489**	**0.0489**		**0.0450**	**0.0450**	**0.0000**	**110.3555**	**110.3555**	**0.0357**	**0.0000**	**111.2478**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	0.0133	0.4366	0.1090	1.1300e-003	0.0274	9.5000e-004	0.0284	7.9300e-003	9.1000e-004	8.8400e-003	0.0000	108.4058	108.4058	5.3300e-003	0.0000	108.5390
Worker	0.0329	0.0227	0.2406	7.9000e-004	0.0848	5.5000e-004	0.0853	0.0226	5.1000e-004	0.0231	0.0000	71.6419	71.6419	1.6100e-003	0.0000	71.6821
Total	**0.0462**	**0.4593**	**0.3495**	**1.9200e-003**	**0.1122**	**1.5000e-003**	**0.1137**	**0.0305**	**1.4200e-003**	**0.0319**	**0.0000**	**180.0477**	**180.0477**	**6.9400e-003**	**0.0000**	**180.2211**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0881	0.9350	0.7099	1.2600e-003		0.0489	0.0489		0.0450	0.0450	0.0000	110.3554	110.3554	0.0357	0.0000	111.2477
Total	**0.0881**	**0.9350**	**0.7099**	**1.2600e-003**		**0.0489**	**0.0489**		**0.0450**	**0.0450**	**0.0000**	**110.3554**	**110.3554**	**0.0357**	**0.0000**	**111.2477**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	0.0133	0.4366	0.1090	1.1300e-003	0.0274	9.5000e-004	0.0284	7.9300e-003	9.1000e-004	8.8400e-003	0.0000	108.4058	108.4058	5.3300e-003	0.0000	108.5390
Worker	0.0329	0.0227	0.2406	7.9000e-004	0.0848	5.5000e-004	0.0853	0.0226	5.1000e-004	0.0231	0.0000	71.6419	71.6419	1.6100e-003	0.0000	71.6821
Total	**0.0462**	**0.4593**	**0.3495**	**1.9200e-003**	**0.1122**	**1.5000e-003**	**0.1137**	**0.0305**	**1.4200e-003**	**0.0319**	**0.0000**	**180.0477**	**180.0477**	**6.9400e-003**	**0.0000**	**180.2211**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0456	0.4763	0.4047	7.3000e-004		0.0240	0.0240		0.0221	0.0221	0.0000	64.2373	64.2373	0.0208	0.0000	64.7567
Total	**0.0456**	**0.4763**	**0.4047**	**7.3000e-004**		**0.0240**	**0.0240**		**0.0221**	**0.0221**	**0.0000**	**64.2373**	**64.2373**	**0.0208**	**0.0000**	**64.7567**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.2000e-003	0.2406	0.0596	6.5000e-004	0.0160	4.8000e-004	0.0164	4.6100e-003	4.6000e-004	5.0700e-003	0.0000	62.4540	62.4540	2.9600e-003	0.0000	62.5281
Worker	0.0179	0.0119	0.1286	4.4000e-004	0.0493	3.2000e-004	0.0496	0.0131	2.9000e-004	0.0134	0.0000	40.1544	40.1544	8.4000e-004	0.0000	40.1754
Total	**0.0251**	**0.2524**	**0.1882**	**1.0900e-003**	**0.0653**	**8.0000e-004**	**0.0661**	**0.0177**	**7.5000e-004**	**0.0185**	**0.0000**	**102.6084**	**102.6084**	**3.8000e-003**	**0.0000**	**102.7035**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0456	0.4763	0.4047	7.3000e-004		0.0240	0.0240		0.0221	0.0221	0.0000	64.2373	64.2373	0.0208	0.0000	64.7566
Total	**0.0456**	**0.4763**	**0.4047**	**7.3000e-004**		**0.0240**	**0.0240**		**0.0221**	**0.0221**	**0.0000**	**64.2373**	**64.2373**	**0.0208**	**0.0000**	**64.7566**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.2000e-003	0.2406	0.0596	6.5000e-004	0.0160	4.8000e-004	0.0164	4.6100e-003	4.6000e-004	5.0700e-003	0.0000	62.4540	62.4540	2.9600e-003	0.0000	62.5281
Worker	0.0179	0.0119	0.1286	4.4000e-004	0.0493	3.2000e-004	0.0496	0.0131	2.9000e-004	0.0134	0.0000	40.1544	40.1544	8.4000e-004	0.0000	40.1754
Total	**0.0251**	**0.2524**	**0.1882**	**1.0900e-003**	**0.0653**	**8.0000e-004**	**0.0661**	**0.0177**	**7.5000e-004**	**0.0185**	**0.0000**	**102.6084**	**102.6084**	**3.8000e-003**	**0.0000**	**102.7035**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7786					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4700e-003	0.0382	0.0454	7.0000e-005		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003	0.0000	6.3831	6.3831	4.4000e-004	0.0000	6.3941
Total	**0.7841**	**0.0382**	**0.0454**	**7.0000e-005**		**2.3500e-003**	**2.3500e-003**		**2.3500e-003**	**2.3500e-003**	**0.0000**	**6.3831**	**6.3831**	**4.4000e-004**	**0.0000**	**6.3941**

3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9900e-003	2.0600e-003	0.0219	7.0000e-005	7.7000e-003	5.0000e-005	7.7500e-003	2.0500e-003	5.0000e-005	2.1000e-003	0.0000	6.5129	6.5129	1.5000e-004	0.0000	6.5166
Total	**2.9900e-003**	**2.0600e-003**	**0.0219**	**7.0000e-005**	**7.7000e-003**	**5.0000e-005**	**7.7500e-003**	**2.0500e-003**	**5.0000e-005**	**2.1000e-003**	**0.0000**	**6.5129**	**6.5129**	**1.5000e-004**	**0.0000**	**6.5166**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7786					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4700e-003	0.0382	0.0454	7.0000e-005		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003	0.0000	6.3831	6.3831	4.4000e-004	0.0000	6.3941
Total	**0.7841**	**0.0382**	**0.0454**	**7.0000e-005**		**2.3500e-003**	**2.3500e-003**		**2.3500e-003**	**2.3500e-003**	**0.0000**	**6.3831**	**6.3831**	**4.4000e-004**	**0.0000**	**6.3941**

3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9900e-003	2.0600e-003	0.0219	7.0000e-005	7.7000e-003	5.0000e-005	7.7500e-003	2.0500e-003	5.0000e-005	2.1000e-003	0.0000	6.5129	6.5129	1.5000e-004	0.0000	6.5166
Total	**2.9900e-003**	**2.0600e-003**	**0.0219**	**7.0000e-005**	**7.7000e-003**	**5.0000e-005**	**7.7500e-003**	**2.0500e-003**	**5.0000e-005**	**2.1000e-003**	**0.0000**	**6.5129**	**6.5129**	**1.5000e-004**	**0.0000**	**6.5166**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9966					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5500e-003	0.0451	0.0580	1.0000e-004		2.6100e-003	2.6100e-003		2.6100e-003	2.6100e-003	0.0000	8.1704	8.1704	5.3000e-004	0.0000	8.1837
Total	**1.0032**	**0.0451**	**0.0580**	**1.0000e-004**		**2.6100e-003**	**2.6100e-003**		**2.6100e-003**	**2.6100e-003**	**0.0000**	**8.1704**	**8.1704**	**5.3000e-004**	**0.0000**	**8.1837**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5700e-003	2.3700e-003	0.0257	9.0000e-005	9.8600e-003	6.0000e-005	9.9200e-003	2.6200e-003	6.0000e-005	2.6800e-003	0.0000	8.0309	8.0309	1.7000e-004	0.0000	8.0351
Total	**3.5700e-003**	**2.3700e-003**	**0.0257**	**9.0000e-005**	**9.8600e-003**	**6.0000e-005**	**9.9200e-003**	**2.6200e-003**	**6.0000e-005**	**2.6800e-003**	**0.0000**	**8.0309**	**8.0309**	**1.7000e-004**	**0.0000**	**8.0351**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9966					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5500e-003	0.0451	0.0580	1.0000e-004		2.6100e-003	2.6100e-003		2.6100e-003	2.6100e-003	0.0000	8.1704	8.1704	5.3000e-004	0.0000	8.1837
Total	**1.0032**	**0.0451**	**0.0580**	**1.0000e-004**		**2.6100e-003**	**2.6100e-003**		**2.6100e-003**	**2.6100e-003**	**0.0000**	**8.1704**	**8.1704**	**5.3000e-004**	**0.0000**	**8.1837**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5700e-003	2.3700e-003	0.0257	9.0000e-005	9.8600e-003	6.0000e-005	9.9200e-003	2.6200e-003	6.0000e-005	2.6800e-003	0.0000	8.0309	8.0309	1.7000e-004	0.0000	8.0351
Total	**3.5700e-003**	**2.3700e-003**	**0.0257**	**9.0000e-005**	**9.8600e-003**	**6.0000e-005**	**9.9200e-003**	**2.6200e-003**	**6.0000e-005**	**2.6800e-003**	**0.0000**	**8.0309**	**8.0309**	**1.7000e-004**	**0.0000**	**8.0351**

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.6500e-003	0.0578	0.0733	1.1000e-004		3.0400e-003	3.0400e-003		2.7900e-003	2.7900e-003	0.0000	9.6264	9.6264	3.1100e-003	0.0000	9.7043
Paving	3.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.3700e-003**	**0.0578**	**0.0733**	**1.1000e-004**		**3.0400e-003**	**3.0400e-003**		**2.7900e-003**	**2.7900e-003**	**0.0000**	**9.6264**	**9.6264**	**3.1100e-003**	**0.0000**	**9.7043**

3.7 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.7300e-003	1.0000e-005	6.6000e-004	0.0000	6.7000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5405	0.5405	1.0000e-005	0.0000	0.5408
Total	**2.4000e-004**	**1.6000e-004**	**1.7300e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.7000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5405**	**0.5405**	**1.0000e-005**	**0.0000**	**0.5408**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.6500e-003	0.0578	0.0733	1.1000e-004		3.0400e-003	3.0400e-003		2.7900e-003	2.7900e-003	0.0000	9.6264	9.6264	3.1100e-003	0.0000	9.7042
Paving	3.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.3700e-003**	**0.0578**	**0.0733**	**1.1000e-004**		**3.0400e-003**	**3.0400e-003**		**2.7900e-003**	**2.7900e-003**	**0.0000**	**9.6264**	**9.6264**	**3.1100e-003**	**0.0000**	**9.7042**

3.7 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.7300e-003	1.0000e-005	6.6000e-004	0.0000	6.7000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5405	0.5405	1.0000e-005	0.0000	0.5408
Total	**2.4000e-004**	**1.6000e-004**	**1.7300e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.7000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5405**	**0.5405**	**1.0000e-005**	**0.0000**	**0.5408**

4.0 Operational Detail - Mobile

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	tons/yr										MT/yr					
Mitigated	0.2967	1.5403	3.4557	0.0159	1.7199	0.0105	1.7304	0.4614	9.7700e-003	0.4711	0.0000	1,470.4258	1,470.4258	0.0455	0.0000	1,471.5641
Unmitigated	0.2967	1.5403	3.4557	0.0159	1.7199	0.0105	1.7304	0.4614	9.7700e-003	0.4711	0.0000	1,470.4258	1,470.4258	0.0455	0.0000	1,471.5641

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	2,073.10	1,533.76	448.33	4,624,758	4,624,758
Parking Lot	0.00	0.00	0.00		
Total	2,073.10	1,533.76	448.33	4,624,758	4,624,758

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Industrial Park	9.50	7.30	7.30	59.00	28.00	13.00	79	19	2
Parking Lot	9.50	7.30	7.30	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
Industrial Park	0.585795	0.036515	0.193581	0.106455	0.012789	0.005274	0.019465	0.028415	0.002699	0.001789	0.005626	0.000921	0.000676
Parking Lot	0.585795	0.036515	0.193581	0.106455	0.012789	0.005274	0.019465	0.028415	0.002699	0.001789	0.005626	0.000921	0.000676

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	519.7003	519.7003	0.0244	5.2200e-003	521.8651
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	575.8677	575.8677	0.0270	5.7800e-003	578.2665
NaturalGas Mitigated	0.0252	0.2286	0.1920	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	248.8546	248.8546	4.7700e-003	4.5600e-003	250.3334
NaturalGas Unmitigated	0.0351	0.3194	0.2683	1.9200e-003		0.0243	0.0243		0.0243	0.0243	0.0000	347.7200	347.7200	6.6600e-003	6.3700e-003	349.7863

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Industrial Park	6.51603e+006	0.0351	0.3194	0.2683	1.9200e-003		0.0243	0.0243		0.0243	0.0243	0.0000	347.7200	347.7200	6.6600e-003	6.3700e-003	349.7863
Parking Lot	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	0.0000
Total		**0.0351**	**0.3194**	**0.2683**	**1.9200e-003**		**0.0243**	**0.0243**		**0.0243**	**0.0243**	**0.0000**	**347.7200**	**347.7200**	**6.6600e-003**	**6.3700e-003**	**349.7863**

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	tons/yr										MT/yr					
Industrial Park	4.66336e+006	0.0252	0.2286	0.1920	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	248.8546	248.8546	4.7700e-003	4.5600e-003	250.3334
Parking Lot	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	0.0000
Total		**0.0252**	**0.2286**	**0.1920**	**1.3700e-003**		**0.0174**	**0.0174**		**0.0174**	**0.0174**	**0.0000**	**248.8546**	**248.8546**	**4.7700e-003**	**4.5600e-003**	**250.3334**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	4.20693e +006	569.8937	0.0267	5.7200e-003	572.2676
Parking Lot	44100	5.9740	2.8000e-004	6.0000e-005	5.9989
Total		**575.8677**	**0.0270**	**5.7800e-003**	**578.2665**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	3.79231e +006	513.7263	0.0241	5.1600e-003	515.8662
Parking Lot	44100	5.9740	2.8000e-004	6.0000e-005	5.9989
Total		**519.7003**	**0.0244**	**5.2200e-003**	**521.8651**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5027	5.0000e-005	5.9600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124
Unmitigated	1.5027	5.0000e-005	5.9600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1775					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3247					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.5000e-004	5.0000e-005	5.9600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124
Total	**1.5028**	**5.0000e-005**	**5.9600e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0117**	**0.0117**	**3.0000e-005**	**0.0000**	**0.0124**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1775					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3247					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.5000e-004	5.0000e-005	5.9600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0117	0.0117	3.0000e-005	0.0000	0.0124
Total	**1.5028**	**5.0000e-005**	**5.9600e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0117**	**0.0117**	**3.0000e-005**	**0.0000**	**0.0124**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	65.2146	0.0780	0.0484	81.5912
Unmitigated	81.2041	0.0974	0.0605	101.6736

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	77.9521 / 3.81246	81.2041	0.0974	0.0605	101.6736
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**81.2041**	**0.0974**	**0.0605**	**101.6736**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	62.3616 / 3.5799	65.2146	0.0780	0.0484	81.5912
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**65.2146**	**0.0780**	**0.0484**	**81.5912**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	84.8482	5.0144	0.0000	210.2078
Unmitigated	84.8482	5.0144	0.0000	210.2078

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	417.99	84.8482	5.0144	0.0000	210.2078
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**84.8482**	**5.0144**	**0.0000**	**210.2078**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	417.99	84.8482	5.0144	0.0000	210.2078
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**84.8482**	**5.0144**	**0.0000**	**210.2078**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Building 4 - 2023

Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	278.53	1000sqft	6.39	278,526.00	0
Parking Lot	50.00	Space	0.45	20,000.00	0

1.2 Other Project Characteristics

Urbanization Urban

Wind Speed (m/s) 2.2

Precipitation Freq (Days) 64

Climate Zone 5

Operational Year 2023

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr) 641.35

CH4 Intensity (lb/MWhr) 0.029

N2O Intensity (lb/MWhr) 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - SF and parking for building 4

Construction Phase - Applicant specified construction schedule. Extended AC to overlap BC for more realistic conditions.

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Trips and VMT - Emissions from trips calculated in model for Buildings 1 to 3 except for BC and AC trips

Demolition - Emissions from demolition calculated in model for Buildings 1 to 3

Grading - Emissions from soil export calculated in model for Buildings 1 to 3.

Architectural Coating - BAAQMD Regulation 8, Rule 3 - 100g/L for traffic marking coatings

Vehicle Trips - Mobile source emissions estimated in Buildings 1 to 3 run

Area Coating - BAAQMD Regulation 8, Rule 3 - 100g/L for traffic marking coatings

Energy Use - Electricity emissions calculated separately

Water And Wastewater - All wastewater treated at Hayward WWTP with aerobic processes with 100 percent cogeneration from solids. Additional one million gallons added to indoor water use for cooling purposes. Outdoor water use in model for Buildings 1 to 3

Solid Waste -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Energy Mitigation - Title 24 reduced by 30% for regulatory compliance with 2019 Standards

Water Mitigation - Regulatory compliance with CALGreen

Fleet Mix -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Parking	150.00	100.00

tblAreaCoating	Area_EF_Parking	150	100
tblConstructionPhase	NumDays	20.00	114.00
tblConstructionPhase	NumDays	230.00	174.00
tblConstructionPhase	NumDays	20.00	64.00
tblConstructionPhase	NumDays	20.00	65.00
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	10.00	22.00
tblEnergyUse	LightingElect	3.58	0.00
tblEnergyUse	NT24E	4.80	0.00
tblEnergyUse	T24E	4.10	0.00
tblLandUse	LandUseSquareFeet	278,530.00	278,526.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00

tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblVehicleTrips	ST_TR	2.49	0.00
tblVehicleTrips	SU_TR	0.73	0.00
tblVehicleTrips	WD_TR	6.83	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaDigestCogenCombDigestGasPercent	0.00	100.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	64,410,062.50	65,410,062.50
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	26.2003	5.4554	4.8196	0.0240	1.5639	0.0191	1.5830	0.4223	0.0180	0.4403	0.0000	2,474.2780	2,474.2780	0.0967	0.0000	2,476.6944
2022	26.1554	5.1474	4.4535	0.0235	1.5639	0.0174	1.5813	0.4223	0.0164	0.4387	0.0000	2,420.4987	2,420.4987	0.0909	0.0000	2,422.7699
Maximum	**26.2003**	**5.4554**	**4.8196**	**0.0240**	**1.5639**	**0.0191**	**1.5830**	**0.4223**	**0.0180**	**0.4403**	**0.0000**	**2,474.2780**	**2,474.2780**	**0.0967**	**0.0000**	**2,476.6944**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	26.2003	5.4554	4.8196	0.0240	1.5639	0.0191	1.5830	0.4223	0.0180	0.4403	0.0000	2,474.2780	2,474.2780	0.0967	0.0000	2,476.6944
2022	26.1554	5.1474	4.4535	0.0235	1.5639	0.0174	1.5813	0.4223	0.0164	0.4387	0.0000	2,420.4987	2,420.4987	0.0909	0.0000	2,422.7699
Maximum	**26.2003**	**5.4554**	**4.8196**	**0.0240**	**1.5639**	**0.0191**	**1.5830**	**0.4223**	**0.0180**	**0.4403**	**0.0000**	**2,474.2780**	**2,474.2780**	**0.0967**	**0.0000**	**2,476.6944**

	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**	**N20**	**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**

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	6.7680	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Energy	0.1591	1.4461	1.2147	8.6800e-003		0.1099	0.1099		0.1099	0.1099		1,735.3449	1,735.3449	0.0333	0.0318	1,745.6572
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	**6.9270**	**1.4464**	**1.2483**	**8.6800e-003**	**0.0000**	**0.1100**	**0.1100**	**0.0000**	**0.1100**	**0.1100**		**1,735.4168**	**1,735.4168**	**0.0335**	**0.0318**	**1,745.7338**

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	6.7680	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Energy	0.1138	1.0350	0.8694	6.2100e-003		0.0787	0.0787		0.0787	0.0787		1,241.9432	1,241.9432	0.0238	0.0228	1,249.3234
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	**6.8818**	**1.0353**	**0.9029**	**6.2100e-003**	**0.0000**	**0.0788**	**0.0788**	**0.0000**	**0.0788**	**0.0788**		**1,242.0151**	**1,242.0151**	**0.0240**	**0.0228**	**1,249.4000**

	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	N20	CO2e
Percent Reduction	0.65	28.43	27.67	28.46	0.00	28.40	28.40	0.00	28.40	28.40	0.00	28.43	28.43	28.28	28.42	28.43

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	3/31/2021	5	64	
2	Site Preparation	Site Preparation	4/1/2021	4/30/2021	5	22	
3	Grading	Grading	5/3/2021	7/30/2021	5	65	
4	Building Construction	Building Construction	8/2/2021	3/31/2022	5	174	
5	Architectural Coating	Architectural Coating	10/25/2021	3/31/2022	5	114	
6	Paving	Paving	4/1/2022	4/29/2022	5	21	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.45

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 417,789; Non-Residential Outdoor: 139,263; Striped Parking Area: 1,200 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	0.00	81	0.73
Demolition	Excavators	3	0.00	158	0.38
Demolition	Rubber Tired Dozers	2	0.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	0.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	0.00	97	0.37
Grading	Excavators	1	0.00	158	0.38
Grading	Graders	1	0.00	187	0.41
Grading	Rubber Tired Dozers	1	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Building Construction	Cranes	1	0.00	231	0.29
Building Construction	Forklifts	3	0.00	89	0.20
Building Construction	Generator Sets	1	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Building Construction	Welders	1	0.00	46	0.45
Architectural Coating	Air Compressors	1	0.00	78	0.48
Paving	Pavers	2	0.00	130	0.42
Paving	Paving Equipment	2	0.00	132	0.36
Paving	Rollers	2	0.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	125.00	49.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	25.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

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

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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**

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**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

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

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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**

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**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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**

3.4 Grading - 2021

Unmitigated Construction On-Site

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

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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**

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**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

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

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.1610	5.1073	1.3725	0.0130	0.3317	0.0114	0.3430	0.0955	0.0109	0.1063		1,379.973 0	1,379.973 0	0.0719		1,381.770 4
Worker	0.4258	0.2901	2.8726	9.1500e-003	1.0269	6.4600e-003	1.0333	0.2724	5.9500e-003	0.2783		911.9208	911.9208	0.0206		912.4367
Total	**0.5868**	**5.3974**	**4.2451**	**0.0222**	**1.3585**	**0.0178**	**1.3764**	**0.3679**	**0.0168**	**0.3847**		**2,291.893 8**	**2,291.893 8**	**0.0925**		**2,294.207 1**

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	0.0000	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**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.1610	5.1073	1.3725	0.0130	0.3317	0.0114	0.3430	0.0955	0.0109	0.1063		1,379.973 0	1,379.973 0	0.0719		1,381.770 4
Worker	0.4258	0.2901	2.8726	9.1500e-003	1.0269	6.4600e-003	1.0333	0.2724	5.9500e-003	0.2783		911.9208	911.9208	0.0206		912.4367
Total	**0.5868**	**5.3974**	**4.2451**	**0.0222**	**1.3585**	**0.0178**	**1.3764**	**0.3679**	**0.0168**	**0.3847**		**2,291.893 8**	**2,291.893 8**	**0.0925**		**2,294.207 1**

3.5 Building Construction - 2022

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	0.0000	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**

3.5 Building Construction - 2022

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	0.1501	4.8353	1.2902	0.0129	0.3317	9.8600e-003	0.3416	0.0955	9.4300e-003	0.1049		1,366.3106	1,366.3106	0.0687		1,368.0276
Worker	0.3974	0.2601	2.6361	8.8100e-003	1.0269	6.3100e-003	1.0332	0.2724	5.8100e-003	0.2782		878.4900	878.4900	0.0185		878.9519
Total	**0.5475**	**5.0954**	**3.9263**	**0.0217**	**1.3586**	**0.0162**	**1.3747**	**0.3679**	**0.0152**	**0.3831**		**2,244.8007**	**2,244.8007**	**0.0872**		**2,246.9795**

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	0.0000	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**

3.5 Building Construction - 2022

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	0.1501	4.8353	1.2902	0.0129	0.3317	9.8600e-003	0.3416	0.0955	9.4300e-003	0.1049		1,366.3106	1,366.3106	0.0687		1,368.0276
Worker	0.3974	0.2601	2.6361	8.8100e-003	1.0269	6.3100e-003	1.0332	0.2724	5.8100e-003	0.2782		878.4900	878.4900	0.0185		878.9519
Total	**0.5475**	**5.0954**	**3.9263**	**0.0217**	**1.3586**	**0.0162**	**1.3747**	**0.3679**	**0.0152**	**0.3831**		**2,244.8007**	**2,244.8007**	**0.0872**		**2,246.9795**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	25.5284					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	**25.5284**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0852	0.0580	0.5745	1.8300e-003	0.2054	1.2900e-003	0.2067	0.0545	1.1900e-003	0.0557		182.3842	182.3842	4.1300e-003		182.4873
Total	**0.0852**	**0.0580**	**0.5745**	**1.8300e-003**	**0.2054**	**1.2900e-003**	**0.2067**	**0.0545**	**1.1900e-003**	**0.0557**		**182.3842**	**182.3842**	**4.1300e-003**		**182.4873**

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					
Archit. Coating	25.5284					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	**25.5284**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0852	0.0580	0.5745	1.8300e-003	0.2054	1.2900e-003	0.2067	0.0545	1.1900e-003	0.0557		182.3842	182.3842	4.1300e-003		182.4873
Total	**0.0852**	**0.0580**	**0.5745**	**1.8300e-003**	**0.2054**	**1.2900e-003**	**0.2067**	**0.0545**	**1.1900e-003**	**0.0557**		**182.3842**	**182.3842**	**4.1300e-003**		**182.4873**

3.6 Architectural Coating - 2022

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					
Archit. Coating	25.5284					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	**25.5284**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.6 Architectural Coating - 2022

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	0.0795	0.0520	0.5272	1.7600e-003	0.2054	1.2600e-003	0.2066	0.0545	1.1600e-003	0.0556		175.6980	175.6980	3.7000e-003		175.7904
Total	**0.0795**	**0.0520**	**0.5272**	**1.7600e-003**	**0.2054**	**1.2600e-003**	**0.2066**	**0.0545**	**1.1600e-003**	**0.0556**		**175.6980**	**175.6980**	**3.7000e-003**		**175.7904**

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					
Archit. Coating	25.5284					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	**25.5284**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.6 Architectural Coating - 2022

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	0.0795	0.0520	0.5272	1.7600e-003	0.2054	1.2600e-003	0.2066	0.0545	1.1600e-003	0.0556		175.6980	175.6980	3.7000e-003		175.7904
Total	**0.0795**	**0.0520**	**0.5272**	**1.7600e-003**	**0.2054**	**1.2600e-003**	**0.2066**	**0.0545**	**1.1600e-003**	**0.0556**		**175.6980**	**175.6980**	**3.7000e-003**		**175.7904**

3.7 Paving - 2022

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Paving	0.0561					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0561**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Paving - 2022

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**

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Paving	0.0561					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0561**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Paving - 2022

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**

4.0 Operational Detail - Mobile

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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Industrial Park	9.50	7.30	7.30	59.00	28.00	13.00	79	19	2
Parking Lot	9.50	7.30	7.30	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
Industrial Park	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	0.1138	1.0350	0.8694	6.2100e-003		0.0787	0.0787		0.0787	0.0787		1,241.9432	1,241.9432	0.0238	0.0228	1,249.3234
NaturalGas Unmitigated	0.1591	1.4461	1.2147	8.6800e-003		0.1099	0.1099		0.1099	0.1099		1,735.3449	1,735.3449	0.0333	0.0318	1,745.6572

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					
Industrial Park	14750.4	0.1591	1.4461	1.2147	8.6800e-003		0.1099	0.1099		0.1099	0.1099		1,735.3449	1,735.3449	0.0333	0.0318	1,745.6572
Parking Lot	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		**0.1591**	**1.4461**	**1.2147**	**8.6800e-003**		**0.1099**	**0.1099**		**0.1099**	**0.1099**		**1,735.3449**	**1,735.3449**	**0.0333**	**0.0318**	**1,745.6572**

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					
Industrial Park	10.5565	0.1138	1.0350	0.8694	6.2100e-003		0.0787	0.0787		0.0787	0.0787		1,241.9432	1,241.9432	0.0238	0.0228	1,249.3234
Parking Lot	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		**0.1138**	**1.0350**	**0.8694**	**6.2100e-003**		**0.0787**	**0.0787**		**0.0787**	**0.0787**		**1,241.9432**	**1,241.9432**	**0.0238**	**0.0228**	**1,249.3234**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.7680	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Unmitigated	6.7680	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766

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	0.7973					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9675					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.1100e-003	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Total	**6.7680**	**3.1000e-004**	**0.0335**	**0.0000**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**		**0.0719**	**0.0719**	**1.9000e-004**		**0.0766**

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	0.7973					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9675					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.1100e-003	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Total	**6.7680**	**3.1000e-004**	**0.0335**	**0.0000**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**		**0.0719**	**0.0719**	**1.9000e-004**		**0.0766**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Building 4 - 2023

Bay Area AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	278.53	1000sqft	6.39	278,526.00	0
Parking Lot	50.00	Space	0.45	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - SF and parking for building 4

Construction Phase - Applicant specified construction schedule. Extended AC to overlap BC for more realistic conditions.

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Trips and VMT - Emissions from trips calculated in model for Buildings 1 to 3 except for BC and AC trips

Demolition - Emissions from demolition calculated in model for Buildings 1 to 3

Grading - Emissions from soil export calculated in model for Buildings 1 to 3.

Architectural Coating - BAAQMD Regulation 8, Rule 3 - 100g/L for traffic marking coatings

Vehicle Trips - Mobile source emissions estimated in Buildings 1 to 3 run

Area Coating - BAAQMD Regulation 8, Rule 3 - 100g/L for traffic marking coatings

Energy Use - Electricity emissions calculated separately

Water And Wastewater - All wastewater treated at Hayward WWTP with aerobic processes with 100 percent cogeneration from solids. Additional one million gallons added to indoor water use for cooling purposes. Outdoor water use in model for Buildings 1 to 3

Solid Waste -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Energy Mitigation - Title 24 reduced by 30% for regulatory compliance with 2019 Standards

Water Mitigation - Regulatory compliance with CALGreen

Fleet Mix -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Parking	150.00	100.00

tblAreaCoating	Area_EF_Parking	150	100
tblConstructionPhase	NumDays	20.00	114.00
tblConstructionPhase	NumDays	230.00	174.00
tblConstructionPhase	NumDays	20.00	64.00
tblConstructionPhase	NumDays	20.00	65.00
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	10.00	22.00
tblEnergyUse	LightingElect	3.58	0.00
tblEnergyUse	NT24E	4.80	0.00
tblEnergyUse	T24E	4.10	0.00
tblLandUse	LandUseSquareFeet	278,530.00	278,526.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
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tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00

tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblVehicleTrips	ST_TR	2.49	0.00
tblVehicleTrips	SU_TR	0.73	0.00
tblVehicleTrips	WD_TR	6.83	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaDigestCogenCombDigestGasPercent	0.00	100.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	64,410,062.50	65,410,062.50
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

Attachment VII

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	26.1627	5.3456	4.8786	0.0253	1.5639	0.0187	1.5826	0.4223	0.0176	0.4400	0.0000	2,603.8361	2,603.8361	0.0930	0.0000	2,606.1614
2022	26.1191	5.0519	4.5180	0.0247	1.5639	0.0171	1.5810	0.4223	0.0161	0.4384	0.0000	2,546.4511	2,546.4511	0.0874	0.0000	2,548.6357
Maximum	**26.1627**	**5.3456**	**4.8786**	**0.0253**	**1.5639**	**0.0187**	**1.5826**	**0.4223**	**0.0176**	**0.4400**	**0.0000**	**2,603.8361**	**2,603.8361**	**0.0930**	**0.0000**	**2,606.1614**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	26.1627	5.3456	4.8786	0.0253	1.5639	0.0187	1.5826	0.4223	0.0176	0.4400	0.0000	2,603.8361	2,603.8361	0.0930	0.0000	2,606.1614
2022	26.1191	5.0519	4.5180	0.0247	1.5639	0.0171	1.5810	0.4223	0.0161	0.4384	0.0000	2,546.4511	2,546.4511	0.0874	0.0000	2,548.6357
Maximum	**26.1627**	**5.3456**	**4.8786**	**0.0253**	**1.5639**	**0.0187**	**1.5826**	**0.4223**	**0.0176**	**0.4400**	**0.0000**	**2,603.8361**	**2,603.8361**	**0.0930**	**0.0000**	**2,606.1614**

	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**	**N20**	**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**

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	6.7680	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Energy	0.1591	1.4461	1.2147	8.6800e-003		0.1099	0.1099		0.1099	0.1099		1,735.3449	1,735.3449	0.0333	0.0318	1,745.6572
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	**6.9270**	**1.4464**	**1.2483**	**8.6800e-003**	**0.0000**	**0.1100**	**0.1100**	**0.0000**	**0.1100**	**0.1100**		**1,735.4168**	**1,735.4168**	**0.0335**	**0.0318**	**1,745.7338**

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	6.7680	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Energy	0.1138	1.0350	0.8694	6.2100e-003		0.0787	0.0787		0.0787	0.0787		1,241.9432	1,241.9432	0.0238	0.0228	1,249.3234
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	**6.8818**	**1.0353**	**0.9029**	**6.2100e-003**	**0.0000**	**0.0788**	**0.0788**	**0.0000**	**0.0788**	**0.0788**		**1,242.0151**	**1,242.0151**	**0.0240**	**0.0228**	**1,249.4000**

	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	N20	CO2e
Percent Reduction	0.65	28.43	27.67	28.46	0.00	28.40	28.40	0.00	28.40	28.40	0.00	28.43	28.43	28.28	28.42	28.43

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	3/31/2021	5	64	
2	Site Preparation	Site Preparation	4/1/2021	4/30/2021	5	22	
3	Grading	Grading	5/3/2021	7/30/2021	5	65	
4	Building Construction	Building Construction	8/2/2021	3/31/2022	5	174	
5	Architectural Coating	Architectural Coating	10/25/2021	3/31/2022	5	114	
6	Paving	Paving	4/1/2022	4/29/2022	5	21	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.45

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 417,789; Non-Residential Outdoor: 139,263; Striped Parking Area: 1,200 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	0.00	81	0.73
Demolition	Excavators	3	0.00	158	0.38
Demolition	Rubber Tired Dozers	2	0.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	0.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	0.00	97	0.37
Grading	Excavators	1	0.00	158	0.38
Grading	Graders	1	0.00	187	0.41
Grading	Rubber Tired Dozers	1	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Building Construction	Cranes	1	0.00	231	0.29
Building Construction	Forklifts	3	0.00	89	0.20
Building Construction	Generator Sets	1	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Building Construction	Welders	1	0.00	46	0.45
Architectural Coating	Air Compressors	1	0.00	78	0.48
Paving	Pavers	2	0.00	130	0.42
Paving	Paving Equipment	2	0.00	132	0.36
Paving	Rollers	2	0.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	125.00	49.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	25.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

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

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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**

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**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

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

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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**

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**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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**

3.4 Grading - 2021

Unmitigated Construction On-Site

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

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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**

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**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

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

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.1520	5.0637	1.1941	0.0134	0.3317	0.0110	0.3427	0.0955	0.0105	0.1060		1,415.896 9	1,415.896 9	0.0665		1,417.558 2
Worker	0.4019	0.2349	3.0704	9.9300e-003	1.0269	6.4600e-003	1.0333	0.2724	5.9500e-003	0.2783		989.9494	989.9494	0.0221		990.5026
Total	**0.5539**	**5.2986**	**4.2645**	**0.0233**	**1.3585**	**0.0174**	**1.3760**	**0.3679**	**0.0164**	**0.3843**		**2,405.846 3**	**2,405.846 3**	**0.0886**		**2,408.060 8**

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	0.0000	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**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.1520	5.0637	1.1941	0.0134	0.3317	0.0110	0.3427	0.0955	0.0105	0.1060		1,415.8969	1,415.8969	0.0665		1,417.5582
Worker	0.4019	0.2349	3.0704	9.9300e-003	1.0269	6.4600e-003	1.0333	0.2724	5.9500e-003	0.2783		989.9494	989.9494	0.0221		990.5026
Total	**0.5539**	**5.2986**	**4.2645**	**0.0233**	**1.3585**	**0.0174**	**1.3760**	**0.3679**	**0.0164**	**0.3843**		**2,405.8463**	**2,405.8463**	**0.0886**		**2,408.0608**

3.5 Building Construction - 2022

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	0.0000	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**

3.5 Building Construction - 2022

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	0.1417	4.7991	1.1230	0.0132	0.3317	9.5100e-003	0.3412	0.0955	9.0900e-003	0.1046		1,402.1081	1,402.1081	0.0635		1,403.6965
Worker	0.3741	0.2107	2.8292	9.5600e-003	1.0269	6.3100e-003	1.0332	0.2724	5.8100e-003	0.2782		953.6192	953.6192	0.0199		954.1160
Total	**0.5158**	**5.0098**	**3.9522**	**0.0228**	**1.3586**	**0.0158**	**1.3744**	**0.3679**	**0.0149**	**0.3828**		**2,355.7273**	**2,355.7273**	**0.0834**		**2,357.8125**

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	0.0000	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**

3.5 Building Construction - 2022

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	0.1417	4.7991	1.1230	0.0132	0.3317	9.5100e-003	0.3412	0.0955	9.0900e-003	0.1046		1,402.1081	1,402.1081	0.0635		1,403.6965
Worker	0.3741	0.2107	2.8292	9.5600e-003	1.0269	6.3100e-003	1.0332	0.2724	5.8100e-003	0.2782		953.6192	953.6192	0.0199		954.1160
Total	**0.5158**	**5.0098**	**3.9522**	**0.0228**	**1.3586**	**0.0158**	**1.3744**	**0.3679**	**0.0149**	**0.3828**		**2,355.7273**	**2,355.7273**	**0.0834**		**2,357.8125**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	25.5284					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	**25.5284**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0804	0.0470	0.6141	1.9900e-003	0.2054	1.2900e-003	0.2067	0.0545	1.1900e-003	0.0557		197.9899	197.9899	4.4300e-003		198.1005
Total	**0.0804**	**0.0470**	**0.6141**	**1.9900e-003**	**0.2054**	**1.2900e-003**	**0.2067**	**0.0545**	**1.1900e-003**	**0.0557**		**197.9899**	**197.9899**	**4.4300e-003**		**198.1005**

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					
Archit. Coating	25.5284					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	**25.5284**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0804	0.0470	0.6141	1.9900e-003	0.2054	1.2900e-003	0.2067	0.0545	1.1900e-003	0.0557		197.9899	197.9899	4.4300e-003		198.1005
Total	**0.0804**	**0.0470**	**0.6141**	**1.9900e-003**	**0.2054**	**1.2900e-003**	**0.2067**	**0.0545**	**1.1900e-003**	**0.0557**		**197.9899**	**197.9899**	**4.4300e-003**		**198.1005**

3.6 Architectural Coating - 2022

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					
Archit. Coating	25.5284					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	**25.5284**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.6 Architectural Coating - 2022

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	0.0748	0.0421	0.5658	1.9100e-003	0.2054	1.2600e-003	0.2066	0.0545	1.1600e-003	0.0556		190.7238	190.7238	3.9700e-003		190.8232
Total	**0.0748**	**0.0421**	**0.5658**	**1.9100e-003**	**0.2054**	**1.2600e-003**	**0.2066**	**0.0545**	**1.1600e-003**	**0.0556**		**190.7238**	**190.7238**	**3.9700e-003**		**190.8232**

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					
Archit. Coating	25.5284					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	**25.5284**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.6 Architectural Coating - 2022

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	0.0748	0.0421	0.5658	1.9100e-003	0.2054	1.2600e-003	0.2066	0.0545	1.1600e-003	0.0556		190.7238	190.7238	3.9700e-003		190.8232
Total	**0.0748**	**0.0421**	**0.5658**	**1.9100e-003**	**0.2054**	**1.2600e-003**	**0.2066**	**0.0545**	**1.1600e-003**	**0.0556**		**190.7238**	**190.7238**	**3.9700e-003**		**190.8232**

3.7 Paving - 2022

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Paving	0.0561					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0561**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Paving - 2022

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**

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Paving	0.0561					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0561**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Paving - 2022

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**

4.0 Operational Detail - Mobile

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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Industrial Park	9.50	7.30	7.30	59.00	28.00	13.00	79	19	2
Parking Lot	9.50	7.30	7.30	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
Industrial Park	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	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	0.1138	1.0350	0.8694	6.2100e-003		0.0787	0.0787		0.0787	0.0787		1,241.9432	1,241.9432	0.0238	0.0228	1,249.3234
NaturalGas Unmitigated	0.1591	1.4461	1.2147	8.6800e-003		0.1099	0.1099		0.1099	0.1099		1,735.3449	1,735.3449	0.0333	0.0318	1,745.6572

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					
Industrial Park	14750.4	0.1591	1.4461	1.2147	8.6800e-003		0.1099	0.1099		0.1099	0.1099		1,735.3449	1,735.3449	0.0333	0.0318	1,745.6572
Parking Lot	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		**0.1591**	**1.4461**	**1.2147**	**8.6800e-003**		**0.1099**	**0.1099**		**0.1099**	**0.1099**		**1,735.3449**	**1,735.3449**	**0.0333**	**0.0318**	**1,745.6572**

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					
Industrial Park	10.5565	0.1138	1.0350	0.8694	6.2100e-003		0.0787	0.0787		0.0787	0.0787		1,241.9432	1,241.9432	0.0238	0.0228	1,249.3234
Parking Lot	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		**0.1138**	**1.0350**	**0.8694**	**6.2100e-003**		**0.0787**	**0.0787**		**0.0787**	**0.0787**		**1,241.9432**	**1,241.9432**	**0.0238**	**0.0228**	**1,249.3234**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.7680	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Unmitigated	6.7680	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766

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	0.7973					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9675					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.1100e-003	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Total	**6.7680**	**3.1000e-004**	**0.0335**	**0.0000**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**		**0.0719**	**0.0719**	**1.9000e-004**		**0.0766**

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	0.7973					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9675					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.1100e-003	3.1000e-004	0.0335	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004		0.0719	0.0719	1.9000e-004		0.0766
Total	**6.7680**	**3.1000e-004**	**0.0335**	**0.0000**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**		**0.0719**	**0.0719**	**1.9000e-004**		**0.0766**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Building 4 - 2023

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	278.53	1000sqft	6.39	278,526.00	0
Parking Lot	50.00	Space	0.45	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - SF and parking for building 4

Construction Phase - Applicant specified construction schedule. Extended AC to overlap BC for more realistic conditions.

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Trips and VMT - Emissions from trips calculated in model for Buildings 1 to 3 except for BC and AC trips

Demolition - Emissions from demolition calculated in model for Buildings 1 to 3

Grading - Emissions from soil export calculated in model for Buildings 1 to 3.

Architectural Coating - BAAQMD Regulation 8, Rule 3 - 100g/L for traffic marking coatings

Vehicle Trips - Mobile source emissions estimated in Buildings 1 to 3 run

Area Coating - BAAQMD Regulation 8, Rule 3 - 100g/L for traffic marking coatings

Energy Use - Electricity emissions calculated separately

Water And Wastewater - All wastewater treated at Hayward WWTP with aerobic processes with 100 percent cogeneration from solids. Additional one million gallons added to indoor water use for cooling purposes. Outdoor water use in model for Buildings 1 to 3

Solid Waste -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Energy Mitigation - Title 24 reduced by 30% for regulatory compliance with 2019 Standards

Water Mitigation - Regulatory compliance with CALGreen

Fleet Mix -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Parking	150.00	100.00

tblAreaCoating	Area_EF_Parking	150	100
tblConstructionPhase	NumDays	20.00	114.00
tblConstructionPhase	NumDays	230.00	174.00
tblConstructionPhase	NumDays	20.00	64.00
tblConstructionPhase	NumDays	20.00	65.00
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	10.00	22.00
tblEnergyUse	LightingElect	3.58	0.00
tblEnergyUse	NT24E	4.80	0.00
tblEnergyUse	T24E	4.10	0.00
tblLandUse	LandUseSquareFeet	278,530.00	278,526.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00

tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblVehicleTrips	ST_TR	2.49	0.00
tblVehicleTrips	SU_TR	0.73	0.00
tblVehicleTrips	WD_TR	6.83	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaDigestCogenCombDigestGasPercent	0.00	100.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	64,410,062.50	65,410,062.50
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.6698	0.2974	0.2385	1.2800e-003	0.0769	1.0000e-003	0.0779	0.0209	9.4000e-004	0.0218	0.0000	119.9925	119.9925	4.5600e-003	0.0000	120.1064
2022	0.8359	0.1642	0.1374	7.6000e-004	0.0482	5.5000e-004	0.0488	0.0131	5.2000e-004	0.0136	0.0000	71.1544	71.1544	2.5600e-003	0.0000	71.2183
Maximum	**0.8359**	**0.2974**	**0.2385**	**1.2800e-003**	**0.0769**	**1.0000e-003**	**0.0779**	**0.0209**	**9.4000e-004**	**0.0218**	**0.0000**	**119.9925**	**119.9925**	**4.5600e-003**	**0.0000**	**120.1064**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.6698	0.2974	0.2385	1.2800e-003	0.0769	1.0000e-003	0.0779	0.0209	9.4000e-004	0.0218	0.0000	119.9925	119.9925	4.5600e-003	0.0000	120.1064
2022	0.8359	0.1642	0.1374	7.6000e-004	0.0482	5.5000e-004	0.0488	0.0131	5.2000e-004	0.0136	0.0000	71.1544	71.1544	2.5600e-003	0.0000	71.2183
Maximum	**0.8359**	**0.2974**	**0.2385**	**1.2800e-003**	**0.0769**	**1.0000e-003**	**0.0779**	**0.0209**	**9.4000e-004**	**0.0218**	**0.0000**	**119.9925**	**119.9925**	**4.5600e-003**	**0.0000**	**120.1064**

	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**	**N20**	**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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
3	**7-1-2021**	**9-30-2021**	0.1254	0.1254
4	**10-1-2021**	**12-31-2021**	0.8201	0.8201
5	**1-1-2022**	**3-31-2022**	1.0062	1.0062
6	**4-1-2022**	**6-30-2022**	0.0006	0.0006
		Highest	1.0062	1.0062

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2349	3.0000e-005	3.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2600e-003
Energy	0.0290	0.2639	0.2217	1.5800e-003		0.0201	0.0201		0.0201	0.0201	0.0000	289.3422	289.3422	5.6000e-003	5.2900e-003	291.0575
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	70.1090	0.0000	70.1090	4.1433	0.0000	173.6921
Water						0.0000	0.0000		0.0000	0.0000	23.1422	93.3730	116.5152	0.0839	0.0512	133.8698
Total	**1.2639**	**0.2640**	**0.2247**	**1.5800e-003**	**0.0000**	**0.0201**	**0.0201**	**0.0000**	**0.0201**	**0.0201**	**93.2512**	**382.7211**	**475.9723**	**4.2328**	**0.0565**	**598.6256**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2349	3.0000e-005	3.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2600e-003
Energy	0.0208	0.1889	0.1587	1.1300e-003		0.0144	0.0144		0.0144	0.0144	0.0000	207.6540	207.6540	4.0300e-003	3.7900e-003	208.8839
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	70.1090	0.0000	70.1090	4.1433	0.0000	173.6921
Water						0.0000	0.0000		0.0000	0.0000	18.5138	74.6984	93.2122	0.0671	0.0410	107.0958
Total	**1.2557**	**0.1889**	**0.1617**	**1.1300e-003**	**0.0000**	**0.0144**	**0.0144**	**0.0000**	**0.0144**	**0.0144**	**88.6228**	**282.3583**	**370.9811**	**4.2145**	**0.0448**	**489.6781**

	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**	**N20**	**CO2e**
Percent Reduction	**0.65**	**28.43**	**28.05**	**28.48**	**0.00**	**28.45**	**28.45**	**0.00**	**28.45**	**28.45**	**4.96**	**26.22**	**22.06**	**0.43**	**20.78**	**18.20**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	3/31/2021	5	64	
2	Site Preparation	Site Preparation	4/1/2021	4/30/2021	5	22	
3	Grading	Grading	5/3/2021	7/30/2021	5	65	
4	Building Construction	Building Construction	8/2/2021	3/31/2022	5	174	
5	Architectural Coating	Architectural Coating	10/25/2021	3/31/2022	5	114	
6	Paving	Paving	4/1/2022	4/29/2022	5	21	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.45

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 417,789; Non-Residential Outdoor: 139,263; Striped Parking Area: 1,200 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	0.00	81	0.73
Demolition	Excavators	3	0.00	158	0.38
Demolition	Rubber Tired Dozers	2	0.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	0.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	0.00	97	0.37
Grading	Excavators	1	0.00	158	0.38
Grading	Graders	1	0.00	187	0.41
Grading	Rubber Tired Dozers	1	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Building Construction	Cranes	1	0.00	231	0.29
Building Construction	Forklifts	3	0.00	89	0.20
Building Construction	Generator Sets	1	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Building Construction	Welders	1	0.00	46	0.45
Architectural Coating	Air Compressors	1	0.00	78	0.48
Paving	Pavers	2	0.00	130	0.42
Paving	Paving Equipment	2	0.00	132	0.36
Paving	Rollers	2	0.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	125.00	49.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	25.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

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

3.2 Demolition - 2021

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.2 Demolition - 2021

Mitigated Construction Off-Site

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

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

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

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

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

3.4 Grading - 2021

Unmitigated Construction On-Site

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

3.4 Grading - 2021

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.4 Grading - 2021

Mitigated Construction Off-Site

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

3.5 Building Construction - 2021

Unmitigated Construction On-Site

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

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	8.5600e-003	0.2815	0.0703	7.3000e-004	0.0177	6.1000e-004	0.0183	5.1100e-003	5.9000e-004	5.7000e-003	0.0000	69.8932	69.8932	3.4400e-003	0.0000	69.9791
Worker	0.0211	0.0146	0.1542	5.1000e-004	0.0543	3.6000e-004	0.0547	0.0145	3.3000e-004	0.0148	0.0000	45.9243	45.9243	1.0300e-003	0.0000	45.9501
Total	**0.0297**	**0.2961**	**0.2245**	**1.2400e-003**	**0.0720**	**9.7000e-004**	**0.0730**	**0.0196**	**9.2000e-004**	**0.0205**	**0.0000**	**115.8175**	**115.8175**	**4.4700e-003**	**0.0000**	**115.9292**

Mitigated Construction On-Site

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

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	8.5600e-003	0.2815	0.0703	7.3000e-004	0.0177	6.1000e-004	0.0183	5.1100e-003	5.9000e-004	5.7000e-003	0.0000	69.8932	69.8932	3.4400e-003	0.0000	69.9791
Worker	0.0211	0.0146	0.1542	5.1000e-004	0.0543	3.6000e-004	0.0547	0.0145	3.3000e-004	0.0148	0.0000	45.9243	45.9243	1.0300e-003	0.0000	45.9501
Total	**0.0297**	**0.2961**	**0.2245**	**1.2400e-003**	**0.0720**	**9.7000e-004**	**0.0730**	**0.0196**	**9.2000e-004**	**0.0205**	**0.0000**	**115.8175**	**115.8175**	**4.4700e-003**	**0.0000**	**115.9292**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

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

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6400e-003	0.1551	0.0384	4.2000e-004	0.0103	3.1000e-004	0.0106	2.9700e-003	3.0000e-004	3.2700e-003	0.0000	40.2664	40.2664	1.9100e-003	0.0000	40.3142
Worker	0.0114	7.5900e-003	0.0825	2.8000e-004	0.0316	2.0000e-004	0.0318	8.4100e-003	1.9000e-004	8.5900e-003	0.0000	25.7400	25.7400	5.4000e-004	0.0000	25.7535
Total	**0.0161**	**0.1627**	**0.1209**	**7.0000e-004**	**0.0419**	**5.1000e-004**	**0.0424**	**0.0114**	**4.9000e-004**	**0.0119**	**0.0000**	**66.0064**	**66.0064**	**2.4500e-003**	**0.0000**	**66.0676**

Mitigated Construction On-Site

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

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6400e-003	0.1551	0.0384	4.2000e-004	0.0103	3.1000e-004	0.0106	2.9700e-003	3.0000e-004	3.2700e-003	0.0000	40.2664	40.2664	1.9100e-003	0.0000	40.3142
Worker	0.0114	7.5900e-003	0.0825	2.8000e-004	0.0316	2.0000e-004	0.0318	8.4100e-003	1.9000e-004	8.5900e-003	0.0000	25.7400	25.7400	5.4000e-004	0.0000	25.7535
Total	**0.0161**	**0.1627**	**0.1209**	**7.0000e-004**	**0.0419**	**5.1000e-004**	**0.0424**	**0.0114**	**4.9000e-004**	**0.0119**	**0.0000**	**66.0064**	**66.0064**	**2.4500e-003**	**0.0000**	**66.0676**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6382					0.0000	0.0000		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	0.0000
Total	**0.6382**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9200e-003	1.3200e-003	0.0140	5.0000e-005	4.9400e-003	3.0000e-005	4.9700e-003	1.3100e-003	3.0000e-005	1.3400e-003	0.0000	4.1749	4.1749	9.0000e-005	0.0000	4.1773
Total	**1.9200e-003**	**1.3200e-003**	**0.0140**	**5.0000e-005**	**4.9400e-003**	**3.0000e-005**	**4.9700e-003**	**1.3100e-003**	**3.0000e-005**	**1.3400e-003**	**0.0000**	**4.1749**	**4.1749**	**9.0000e-005**	**0.0000**	**4.1773**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6382					0.0000	0.0000		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	0.0000
Total	**0.6382**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9200e-003	1.3200e-003	0.0140	5.0000e-005	4.9400e-003	3.0000e-005	4.9700e-003	1.3100e-003	3.0000e-005	1.3400e-003	0.0000	4.1749	4.1749	9.0000e-005	0.0000	4.1773
Total	**1.9200e-003**	**1.3200e-003**	**0.0140**	**5.0000e-005**	**4.9400e-003**	**3.0000e-005**	**4.9700e-003**	**1.3100e-003**	**3.0000e-005**	**1.3400e-003**	**0.0000**	**4.1749**	**4.1749**	**9.0000e-005**	**0.0000**	**4.1773**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8169					0.0000	0.0000		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	0.0000
Total	**0.8169**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2900e-003	1.5200e-003	0.0165	6.0000e-005	6.3200e-003	4.0000e-005	6.3600e-003	1.6800e-003	4.0000e-005	1.7200e-003	0.0000	5.1480	5.1480	1.1000e-004	0.0000	5.1507
Total	**2.2900e-003**	**1.5200e-003**	**0.0165**	**6.0000e-005**	**6.3200e-003**	**4.0000e-005**	**6.3600e-003**	**1.6800e-003**	**4.0000e-005**	**1.7200e-003**	**0.0000**	**5.1480**	**5.1480**	**1.1000e-004**	**0.0000**	**5.1507**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8169					0.0000	0.0000		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	0.0000
Total	**0.8169**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2900e-003	1.5200e-003	0.0165	6.0000e-005	6.3200e-003	4.0000e-005	6.3600e-003	1.6800e-003	4.0000e-005	1.7200e-003	0.0000	5.1480	5.1480	1.1000e-004	0.0000	5.1507
Total	**2.2900e-003**	**1.5200e-003**	**0.0165**	**6.0000e-005**	**6.3200e-003**	**4.0000e-005**	**6.3600e-003**	**1.6800e-003**	**4.0000e-005**	**1.7200e-003**	**0.0000**	**5.1480**	**5.1480**	**1.1000e-004**	**0.0000**	**5.1507**

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
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	0.0000
Paving	5.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.9000e-004**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Paving - 2022

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
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	0.0000
Paving	5.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.9000e-004**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Paving - 2022

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

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	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Industrial Park	9.50	7.30	7.30	59.00	28.00	13.00	79	19	2
Parking Lot	9.50	7.30	7.30	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
Industrial Park	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2.0364	2.0364	9.0000e-005	2.0000e-005	2.0444
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2.0364	2.0364	9.0000e-005	2.0000e-005	2.0444
NaturalGas Mitigated	0.0208	0.1889	0.1587	1.1300e-003		0.0144	0.0144		0.0144	0.0144	0.0000	205.6176	205.6176	3.9400e-003	3.7700e-003	206.8395
NaturalGas Unmitigated	0.0290	0.2639	0.2217	1.5800e-003		0.0201	0.0201		0.0201	0.0201	0.0000	287.3058	287.3058	5.5100e-003	5.2700e-003	289.0131

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Industrial Park	5.38391e+006	0.0290	0.2639	0.2217	1.5800e-003		0.0201	0.0201		0.0201	0.0201	0.0000	287.3058	287.3058	5.5100e-003	5.2700e-003	289.0131
Parking Lot	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	0.0000
Total		**0.0290**	**0.2639**	**0.2217**	**1.5800e-003**		**0.0201**	**0.0201**		**0.0201**	**0.0201**	**0.0000**	**287.3058**	**287.3058**	**5.5100e-003**	**5.2700e-003**	**289.0131**

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	tons/yr										MT/yr					
Industrial Park	3.85313e+006	0.0208	0.1889	0.1587	1.1300e-003		0.0144	0.0144		0.0144	0.0144	0.0000	205.6176	205.6176	3.9400e-003	3.7700e-003	206.8395
Parking Lot	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	0.0000
Total		**0.0208**	**0.1889**	**0.1587**	**1.1300e-003**		**0.0144**	**0.0144**		**0.0144**	**0.0144**	**0.0000**	**205.6176**	**205.6176**	**3.9400e-003**	**3.7700e-003**	**206.8395**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	7000	2.0364	9.0000e-005	2.0000e-005	2.0444
Total		**2.0364**	**9.0000e-005**	**2.0000e-005**	**2.0444**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	7000	2.0364	9.0000e-005	2.0000e-005	2.0444
Total		**2.0364**	**9.0000e-005**	**2.0000e-005**	**2.0444**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2349	3.0000e-005	3.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2600e-003
Unmitigated	1.2349	3.0000e-005	3.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2600e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1455					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0891					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8000e-004	3.0000e-005	3.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2600e-003
Total	**1.2349**	**3.0000e-005**	**3.0200e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.8700e-003**	**5.8700e-003**	**2.0000e-005**	**0.0000**	**6.2600e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1455					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0891					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8000e-004	3.0000e-005	3.0200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2600e-003
Total	**1.2349**	**3.0000e-005**	**3.0200e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.8700e-003**	**5.8700e-003**	**2.0000e-005**	**0.0000**	**6.2600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	93.2122	0.0671	0.0410	107.0958
Unmitigated	116.5152	0.0839	0.0512	133.8698

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	65.4101 / 0	116.5152	0.0839	0.0512	133.8698
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**116.5152**	**0.0839**	**0.0512**	**133.8698**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	52.328 / 0	93.2122	0.0671	0.0410	107.0958
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**93.2122**	**0.0671**	**0.0410**	**107.0958**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	70.1090	4.1433	0.0000	173.6921
Unmitigated	70.1090	4.1433	0.0000	173.6921

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	345.38	70.1090	4.1433	0.0000	173.6921
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**70.1090**	**4.1433**	**0.0000**	**173.6921**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	345.38	70.1090	4.1433	0.0000	173.6921
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**70.1090**	**4.1433**	**0.0000**	**173.6921**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Building 4 - 2030

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	278.53	1000sqft	6.39	278,526.00	0
Parking Lot	50.00	Space	0.45	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	298.65	**CH4 Intensity (lb/MWhr)**	0.014	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Adjusted for mandated compliance of PG&E with SB100 requirements

Land Use - SF and parking for building 4

Construction Phase - Applicant specified construction schedule. Extended AC to overlap BC for more realistic conditions.

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Off-road Equipment - Emissions from equipment calculated in model for Buildings 1 to 3

Trips and VMT - Emissions from trips calculated in model for Buildings 1 to 3 except for BC and AC trips

Demolition - Emissions from demolition calculated in model for Buildings 1 to 3

Grading - Emissions from soil export calculated in model for Buildings 1 to 3.

Architectural Coating - BAAQMD Regulation 8, Rule 3 - 100g/L for traffic marking coatings

Vehicle Trips - Mobile source emissions estimated in Buildings 1 to 3 run

Area Coating - BAAQMD Regulation 8, Rule 3 - 100g/L for traffic marking coatings

Energy Use - Electricity emissions calculated separately

Water And Wastewater - All wastewater treated at Hayward WWTP with aerobic processes with 100 percent cogeneration from solids. Additional one million gallons added to indoor water use for cooling purposes. Outdoor water use in model for Buildings 1 to 3

Solid Waste -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation - Title 24 reduced by 30% for regulatory compliance with 2019 Standards

Water Mitigation - Regulatory compliance with CALGreen

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Parking	150.00	100.00

tblAreaCoating	Area_EF_Parking	150	100
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	100
tblAreaMitigation	UseLowVOCPaintParkingValue	100	150
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	150
tblConstructionPhase	NumDays	20.00	114.00
tblConstructionPhase	NumDays	230.00	174.00
tblConstructionPhase	NumDays	20.00	64.00
tblConstructionPhase	NumDays	20.00	65.00
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	10.00	22.00
tblEnergyUse	LightingElect	3.58	0.00
tblEnergyUse	NT24E	4.80	0.00
tblEnergyUse	T24E	4.10	0.00
tblLandUse	LandUseSquareFeet	278,530.00	278,526.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00

tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.014
tblProjectCharacteristics	CO2IntensityFactor	641.35	298.65
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblVehicleTrips	ST_TR	2.49	0.00
tblVehicleTrips	SU_TR	0.73	0.00
tblVehicleTrips	WD_TR	6.83	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaDigestCogenCombDigestGasPercent	0.00	100.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	64,410,062.50	65,410,062.50
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.6698	0.2974	0.2385	1.2800e-003	0.0769	1.0000e-003	0.0779	0.0209	9.4000e-004	0.0218	0.0000	119.9925	119.9925	4.5600e-003	0.0000	120.1064
2022	0.8359	0.1642	0.1374	7.6000e-004	0.0482	5.5000e-004	0.0488	0.0131	5.2000e-004	0.0136	0.0000	71.1544	71.1544	2.5600e-003	0.0000	71.2183
Maximum	**0.8359**	**0.2974**	**0.2385**	**1.2800e-003**	**0.0769**	**1.0000e-003**	**0.0779**	**0.0209**	**9.4000e-004**	**0.0218**	**0.0000**	**119.9925**	**119.9925**	**4.5600e-003**	**0.0000**	**120.1064**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.6698	0.2974	0.2385	1.2800e-003	0.0769	1.0000e-003	0.0779	0.0209	9.4000e-004	0.0218	0.0000	119.9925	119.9925	4.5600e-003	0.0000	120.1064
2022	0.8359	0.1642	0.1374	7.6000e-004	0.0482	5.5000e-004	0.0488	0.0131	5.2000e-004	0.0136	0.0000	71.1544	71.1544	2.5600e-003	0.0000	71.2183
Maximum	**0.8359**	**0.2974**	**0.2385**	**1.2800e-003**	**0.0769**	**1.0000e-003**	**0.0779**	**0.0209**	**9.4000e-004**	**0.0218**	**0.0000**	**119.9925**	**119.9925**	**4.5600e-003**	**0.0000**	**120.1064**

	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**	**N20**	**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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
3	7-1-2021	9-30-2021	0.1254	0.1254
4	10-1-2021	12-31-2021	0.8201	0.8201
5	1-1-2022	3-31-2022	1.0062	1.0062
6	4-1-2022	6-30-2022	0.0006	0.0006
		Highest	1.0062	1.0062

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2349	3.0000e-005	3.0000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2500e-003
Energy	0.0290	0.2639	0.2217	1.5800e-003		0.0201	0.0201		0.0201	0.0201	0.0000	288.2541	288.2541	5.5500e-003	5.2800e-003	289.9653
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	70.1090	0.0000	70.1090	4.1433	0.0000	173.6921
Water						0.0000	0.0000		0.0000	0.0000	23.1422	43.4799	66.6221	0.0817	0.0508	83.7919
Total	**1.2639**	**0.2640**	**0.2247**	**1.5800e-003**	**0.0000**	**0.0201**	**0.0201**	**0.0000**	**0.0201**	**0.0201**	**93.2512**	**331.7399**	**424.9911**	**4.2306**	**0.0560**	**547.4556**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2349	3.0000e-005	3.0000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2500e-003
Energy	0.0208	0.1889	0.1587	1.1300e-003		0.0144	0.0144		0.0144	0.0144	0.0000	206.5659	206.5659	3.9900e-003	3.7800e-003	207.7917
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	70.1090	0.0000	70.1090	4.1433	0.0000	173.6921
Water						0.0000	0.0000		0.0000	0.0000	18.5138	34.7840	53.2977	0.0654	0.0406	67.0335
Total	**1.2556**	**0.1889**	**0.1617**	**1.1300e-003**	**0.0000**	**0.0144**	**0.0144**	**0.0000**	**0.0144**	**0.0144**	**88.6228**	**241.3557**	**329.9785**	**4.2127**	**0.0444**	**448.5236**

	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**	**N20**	**CO2e**
Percent Reduction	**0.65**	**28.43**	**28.05**	**28.48**	**0.00**	**28.45**	**28.45**	**0.00**	**28.45**	**28.45**	**4.96**	**27.25**	**22.36**	**0.42**	**20.79**	**18.07**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	3/31/2021	5	64	
2	Site Preparation	Site Preparation	4/1/2021	4/30/2021	5	22	
3	Grading	Grading	5/3/2021	7/30/2021	5	65	
4	Building Construction	Building Construction	8/2/2021	3/31/2022	5	174	
5	Architectural Coating	Architectural Coating	10/25/2021	3/31/2022	5	114	
6	Paving	Paving	4/1/2022	4/29/2022	5	21	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.45

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 417,789; Non-Residential Outdoor: 139,263; Striped Parking Area: 1,200 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	0.00	81	0.73
Demolition	Excavators	3	0.00	158	0.38
Demolition	Rubber Tired Dozers	2	0.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	0.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	0.00	97	0.37
Grading	Excavators	1	0.00	158	0.38
Grading	Graders	1	0.00	187	0.41
Grading	Rubber Tired Dozers	1	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Building Construction	Cranes	1	0.00	231	0.29
Building Construction	Forklifts	3	0.00	89	0.20
Building Construction	Generator Sets	1	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Building Construction	Welders	1	0.00	46	0.45
Architectural Coating	Air Compressors	1	0.00	78	0.48
Paving	Pavers	2	0.00	130	0.42
Paving	Paving Equipment	2	0.00	132	0.36
Paving	Rollers	2	0.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	125.00	49.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	25.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

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

3.2 Demolition - 2021

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.2 Demolition - 2021

Mitigated Construction Off-Site

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

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

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

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

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

3.4 Grading - 2021

Unmitigated Construction On-Site

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

3.4 Grading - 2021

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.4 Grading - 2021

Mitigated Construction Off-Site

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

3.5 Building Construction - 2021

Unmitigated Construction On-Site

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

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	8.5600e-003	0.2815	0.0703	7.3000e-004	0.0177	6.1000e-004	0.0183	5.1100e-003	5.9000e-004	5.7000e-003	0.0000	69.8932	69.8932	3.4400e-003	0.0000	69.9791
Worker	0.0211	0.0146	0.1542	5.1000e-004	0.0543	3.6000e-004	0.0547	0.0145	3.3000e-004	0.0148	0.0000	45.9243	45.9243	1.0300e-003	0.0000	45.9501
Total	**0.0297**	**0.2961**	**0.2245**	**1.2400e-003**	**0.0720**	**9.7000e-004**	**0.0730**	**0.0196**	**9.2000e-004**	**0.0205**	**0.0000**	**115.8175**	**115.8175**	**4.4700e-003**	**0.0000**	**115.9292**

Mitigated Construction On-Site

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

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	8.5600e-003	0.2815	0.0703	7.3000e-004	0.0177	6.1000e-004	0.0183	5.1100e-003	5.9000e-004	5.7000e-003	0.0000	69.8932	69.8932	3.4400e-003	0.0000	69.9791
Worker	0.0211	0.0146	0.1542	5.1000e-004	0.0543	3.6000e-004	0.0547	0.0145	3.3000e-004	0.0148	0.0000	45.9243	45.9243	1.0300e-003	0.0000	45.9501
Total	**0.0297**	**0.2961**	**0.2245**	**1.2400e-003**	**0.0720**	**9.7000e-004**	**0.0730**	**0.0196**	**9.2000e-004**	**0.0205**	**0.0000**	**115.8175**	**115.8175**	**4.4700e-003**	**0.0000**	**115.9292**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

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

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6400e-003	0.1551	0.0384	4.2000e-004	0.0103	3.1000e-004	0.0106	2.9700e-003	3.0000e-004	3.2700e-003	0.0000	40.2664	40.2664	1.9100e-003	0.0000	40.3142
Worker	0.0114	7.5900e-003	0.0825	2.8000e-004	0.0316	2.0000e-004	0.0318	8.4100e-003	1.9000e-004	8.5900e-003	0.0000	25.7400	25.7400	5.4000e-004	0.0000	25.7535
Total	**0.0161**	**0.1627**	**0.1209**	**7.0000e-004**	**0.0419**	**5.1000e-004**	**0.0424**	**0.0114**	**4.9000e-004**	**0.0119**	**0.0000**	**66.0064**	**66.0064**	**2.4500e-003**	**0.0000**	**66.0676**

Mitigated Construction On-Site

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

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6400e-003	0.1551	0.0384	4.2000e-004	0.0103	3.1000e-004	0.0106	2.9700e-003	3.0000e-004	3.2700e-003	0.0000	40.2664	40.2664	1.9100e-003	0.0000	40.3142
Worker	0.0114	7.5900e-003	0.0825	2.8000e-004	0.0316	2.0000e-004	0.0318	8.4100e-003	1.9000e-004	8.5900e-003	0.0000	25.7400	25.7400	5.4000e-004	0.0000	25.7535
Total	**0.0161**	**0.1627**	**0.1209**	**7.0000e-004**	**0.0419**	**5.1000e-004**	**0.0424**	**0.0114**	**4.9000e-004**	**0.0119**	**0.0000**	**66.0064**	**66.0064**	**2.4500e-003**	**0.0000**	**66.0676**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6382					0.0000	0.0000		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	0.0000
Total	**0.6382**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9200e-003	1.3200e-003	0.0140	5.0000e-005	4.9400e-003	3.0000e-005	4.9700e-003	1.3100e-003	3.0000e-005	1.3400e-003	0.0000	4.1749	4.1749	9.0000e-005	0.0000	4.1773
Total	**1.9200e-003**	**1.3200e-003**	**0.0140**	**5.0000e-005**	**4.9400e-003**	**3.0000e-005**	**4.9700e-003**	**1.3100e-003**	**3.0000e-005**	**1.3400e-003**	**0.0000**	**4.1749**	**4.1749**	**9.0000e-005**	**0.0000**	**4.1773**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6382					0.0000	0.0000		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	0.0000
Total	**0.6382**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9200e-003	1.3200e-003	0.0140	5.0000e-005	4.9400e-003	3.0000e-005	4.9700e-003	1.3100e-003	3.0000e-005	1.3400e-003	0.0000	4.1749	4.1749	9.0000e-005	0.0000	4.1773
Total	**1.9200e-003**	**1.3200e-003**	**0.0140**	**5.0000e-005**	**4.9400e-003**	**3.0000e-005**	**4.9700e-003**	**1.3100e-003**	**3.0000e-005**	**1.3400e-003**	**0.0000**	**4.1749**	**4.1749**	**9.0000e-005**	**0.0000**	**4.1773**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8169					0.0000	0.0000		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	0.0000
Total	**0.8169**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2900e-003	1.5200e-003	0.0165	6.0000e-005	6.3200e-003	4.0000e-005	6.3600e-003	1.6800e-003	4.0000e-005	1.7200e-003	0.0000	5.1480	5.1480	1.1000e-004	0.0000	5.1507
Total	**2.2900e-003**	**1.5200e-003**	**0.0165**	**6.0000e-005**	**6.3200e-003**	**4.0000e-005**	**6.3600e-003**	**1.6800e-003**	**4.0000e-005**	**1.7200e-003**	**0.0000**	**5.1480**	**5.1480**	**1.1000e-004**	**0.0000**	**5.1507**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8169					0.0000	0.0000		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	0.0000
Total	**0.8169**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2900e-003	1.5200e-003	0.0165	6.0000e-005	6.3200e-003	4.0000e-005	6.3600e-003	1.6800e-003	4.0000e-005	1.7200e-003	0.0000	5.1480	5.1480	1.1000e-004	0.0000	5.1507
Total	**2.2900e-003**	**1.5200e-003**	**0.0165**	**6.0000e-005**	**6.3200e-003**	**4.0000e-005**	**6.3600e-003**	**1.6800e-003**	**4.0000e-005**	**1.7200e-003**	**0.0000**	**5.1480**	**5.1480**	**1.1000e-004**	**0.0000**	**5.1507**

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
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	0.0000
Paving	5.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.9000e-004**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Paving - 2022

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
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	0.0000
Paving	5.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.9000e-004**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Paving - 2022

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

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	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Industrial Park	9.50	7.30	7.30	59.00	28.00	13.00	79	19	2
Parking Lot	9.50	7.30	7.30	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
Industrial Park	0.585795	0.036515	0.193581	0.106455	0.012789	0.005274	0.019465	0.028415	0.002699	0.001789	0.005626	0.000921	0.000676
Parking Lot	0.585795	0.036515	0.193581	0.106455	0.012789	0.005274	0.019465	0.028415	0.002699	0.001789	0.005626	0.000921	0.000676

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.9483	0.9483	4.0000e-005	1.0000e-005	0.9522
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.9483	0.9483	4.0000e-005	1.0000e-005	0.9522
NaturalGas Mitigated	0.0208	0.1889	0.1587	1.1300e-003		0.0144	0.0144		0.0144	0.0144	0.0000	205.6176	205.6176	3.9400e-003	3.7700e-003	206.8395
NaturalGas Unmitigated	0.0290	0.2639	0.2217	1.5800e-003		0.0201	0.0201		0.0201	0.0201	0.0000	287.3058	287.3058	5.5100e-003	5.2700e-003	289.0131

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Industrial Park	5.38391e+006	0.0290	0.2639	0.2217	1.5800e-003		0.0201	0.0201		0.0201	0.0201	0.0000	287.3058	287.3058	5.5100e-003	5.2700e-003	289.0131
Parking Lot	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	0.0000
Total		**0.0290**	**0.2639**	**0.2217**	**1.5800e-003**		**0.0201**	**0.0201**		**0.0201**	**0.0201**	**0.0000**	**287.3058**	**287.3058**	**5.5100e-003**	**5.2700e-003**	**289.0131**

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	tons/yr										MT/yr					
Industrial Park	3.85313e+006	0.0208	0.1889	0.1587	1.1300e-003		0.0144	0.0144		0.0144	0.0144	0.0000	205.6176	205.6176	3.9400e-003	3.7700e-003	206.8395
Parking Lot	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	0.0000
Total		**0.0208**	**0.1889**	**0.1587**	**1.1300e-003**		**0.0144**	**0.0144**		**0.0144**	**0.0144**	**0.0000**	**205.6176**	**205.6176**	**3.9400e-003**	**3.7700e-003**	**206.8395**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	7000	0.9483	4.0000e-005	1.0000e-005	0.9522
Total		**0.9483**	**4.0000e-005**	**1.0000e-005**	**0.9522**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	7000	0.9483	4.0000e-005	1.0000e-005	0.9522
Total		**0.9483**	**4.0000e-005**	**1.0000e-005**	**0.9522**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2349	3.0000e-005	3.0000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2500e-003
Unmitigated	1.2349	3.0000e-005	3.0000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1455					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0891					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.7000e-004	3.0000e-005	3.0000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2500e-003
Total	**1.2349**	**3.0000e-005**	**3.0000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.8700e-003**	**5.8700e-003**	**2.0000e-005**	**0.0000**	**6.2500e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1455					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0891					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.7000e-004	3.0000e-005	3.0000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.8700e-003	5.8700e-003	2.0000e-005	0.0000	6.2500e-003
Total	**1.2349**	**3.0000e-005**	**3.0000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.8700e-003**	**5.8700e-003**	**2.0000e-005**	**0.0000**	**6.2500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	53.2977	0.0654	0.0406	67.0335
Unmitigated	66.6221	0.0817	0.0508	83.7919

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	65.4101 / 0	66.6221	0.0817	0.0508	83.7919
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**66.6221**	**0.0817**	**0.0508**	**83.7919**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	52.328 / 0	53.2977	0.0654	0.0406	67.0335
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**53.2977**	**0.0654**	**0.0406**	**67.0335**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	70.1090	4.1433	0.0000	173.6921
Unmitigated	70.1090	4.1433	0.0000	173.6921

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	345.38	70.1090	4.1433	0.0000	173.6921
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**70.1090**	**4.1433**	**0.0000**	**173.6921**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	345.38	70.1090	4.1433	0.0000	173.6921
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**70.1090**	**4.1433**	**0.0000**	**173.6921**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

N2O Operational GHG Emission Mobile Calculations

Project Code & Title: 20-09879, Clawiter Road Industrial Project - Proposed Project

Vehicle Population Breakdown*	
5460005	Gasoline vehicles
271191	Diesel vehicles
95.3%	Gasoline vehicle %
4.7%	Diesel vehicle %

VMT per Vehicle Type	
42624758	Project VMT (CalEEMod output)
40607823	Gasoline vehicle VMT
2016935	Diesel vehicle VMT

Gasoline Vehicles	
95.3%	Gasoline vehicle %
1.5403	Tons per year mobile NOX emissions (annual output in CalEEMod)
1.47	Gasoline vehicle tons per year NOX emissions
0.0800	Tons per year N2O emissions for gasoline vehicles**
0.0725	Metric tons per year N2O emissions for gasoline vehicles

Diesel Vehicles	
1.60	grams N2O per gallon of fuel for diesel vehicles**
22.99	Diesel average miles per gallon*
0.06961	grams per mile N2O for diesel vehicles
140397.2	grams per year N2O for diesel vehicles
0.1403972	Metric tons per year N2O emissions for diesel vehicles

CO2e Emissions from N2O	
0.2129	Metric tons per year from gasoline + diesel vehicles
298	GWP of N2O***
63.5	**CO2e emissions per year from N2O emissions from gasoline + diesel vehicles**

Sources

***Vehicle population source:**
Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Air District
Region: Bay Area AQMD
Calendar Year: 2030
Season: Annual
Vehicle Classification: EMFAC2011 Categories

****Methodology source:**
EMFAC2017 Volume III - Technical Documentation
https://www.arb.ca.gov/msei/emfac2011-faq.htm

*****GWP source:**
Intergovernmental Panel on Climate Change (IPCC). 2007.
AR4 Climate Change 2007: The Physical Science Basis.
Contrbution of Working Group I to the Fourth Assessment Report of the
Intergovernmental Panel on Climate Change.

Clawiter Road Industrial Project - Building 4

Total Electricity Usage (MWH)
107,600.00

GHG Emission Calculations

	PG&E		CO2E Conversion Calculations	
	Energy Intensity Factor (lbs/MWh)	Emissions (lbs)	Total CO2E Emissions (lbs)	Total CO2E Emissions (MT)
CO2	298.65	32,134,740.00	32,134,740.00	14,576.06
CH4	0.01	1,506.40	42,179.20	19.13
N2O	0.003	322.80	96,194.40	43.63
			TOTAL GHG EMISSIONS FROM ELECTRICITY	**14,638.83**

Notes

- Energy Intensity Factors for PG&E based on CalEEMod defaults and RPS targets for 2030.
- CH4 conversion assumes 1 lb CH4 is equivalent to 28 lbs CO2E
- N2O conversion assumes 1 lb N2O is equivalent to 298 lbs CO2E

Clawiter Industrial Project - Transformer Yard and Transmission Lines - Max Daily 2023

Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	39.09	1000sqft	0.90	39,090.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Conservatively assumed ten poles (each 201 sf) plus 37,080 sf for transformer yard per plan measurement

Construction Phase - Applicant estimated 12 months

Off-road Equipment - Provided by applicant.

Trips and VMT - Include 4 additional one-way trips for cable handler and delivery truck

Vehicle Trips - Max of four daily one-way trips for annual transformer test and changing transformer oil = 0.1 trip per 1000 sf day

Area Coating - No coatings used.

Consumer Products - No degreaser to be used.

Landscape Equipment - No landscaping.

Fleet Mix - 50% of trips by LDT for annual transformer test and 50% of trips by MDV for changing transformer oil

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	2345	0
tblConstructionPhase	NumDays	100.00	260.00
tblConstructionPhase	PhaseEndDate	6/8/2022	12/30/2022
tblConstructionPhase	PhaseStartDate	1/20/2022	1/3/2022
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.58	0.00
tblFleetMix	LDT1	0.04	0.50
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.3410e-003	0.00
tblFleetMix	MCY	5.8320e-003	0.00
tblFleetMix	MDV	0.11	0.50
tblFleetMix	MH	7.4900e-004	0.00
tblFleetMix	MHD	0.02	0.00

tblFleetMix	OBUS	2.6410e-003	0.00
tblFleetMix	SBUS	8.9100e-004	0.00
tblFleetMix	UBUS	2.2000e-003	0.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	OffRoadEquipmentType	Cranes	Rollers
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Graders
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblTripsAndVMT	VendorTripNumber	6.00	10.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	0.10

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.5406	26.6208	17.7519	0.0447	0.1991	1.1493	1.3485	0.0544	1.0662	1.1205	0.0000	4,347.0071	4,347.0071	1.1988	0.0000	4,376.9772
Maximum	**2.5406**	**26.6208**	**17.7519**	**0.0447**	**0.1991**	**1.1493**	**1.3485**	**0.0544**	**1.0662**	**1.1205**	**0.0000**	**4,347.0071**	**4,347.0071**	**1.1988**	**0.0000**	**4,376.9772**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.5406	26.6208	17.7519	0.0447	0.1991	1.1493	1.3485	0.0544	1.0662	1.1205	0.0000	4,347.0071	4,347.0071	1.1988	0.0000	4,376.9772
Maximum	**2.5406**	**26.6208**	**17.7519**	**0.0447**	**0.1991**	**1.1493**	**1.3485**	**0.0544**	**1.0662**	**1.1205**	**0.0000**	**4,347.0071**	**4,347.0071**	**1.1988**	**0.0000**	**4,376.9772**

	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**	**N20**	**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**

Attachment VII

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	3.7000e-004	4.0000e-005	3.9900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.5500e-003	8.5500e-003	2.0000e-005		9.1200e-003
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	6.5100e-003	9.2300e-003	0.0860	2.4000e-004	0.0217	1.5000e-004	0.0218	5.7500e-003	1.4000e-004	5.8800e-003		24.0337	24.0337	6.4000e-004		24.0497
Total	**6.8800e-003**	**9.2700e-003**	**0.0900**	**2.4000e-004**	**0.0217**	**1.6000e-004**	**0.0218**	**5.7500e-003**	**1.5000e-004**	**5.8900e-003**		**24.0423**	**24.0423**	**6.6000e-004**	**0.0000**	**24.0588**

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	3.7000e-004	4.0000e-005	3.9900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.5500e-003	8.5500e-003	2.0000e-005		9.1200e-003
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	6.5100e-003	9.2300e-003	0.0860	2.4000e-004	0.0217	1.5000e-004	0.0218	5.7500e-003	1.4000e-004	5.8800e-003		24.0337	24.0337	6.4000e-004		24.0497
Total	**6.8800e-003**	**9.2700e-003**	**0.0900**	**2.4000e-004**	**0.0217**	**1.6000e-004**	**0.0218**	**5.7500e-003**	**1.5000e-004**	**5.8900e-003**		**24.0423**	**24.0423**	**6.6000e-004**	**0.0000**	**24.0588**

	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	N20	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	Construction	Building Construction	1/3/2022	12/30/2022	5	260	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.9

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
Construction	Rubber Tired Dozers	1	8.00	247	0.40
Construction	Air Compressors	1	8.00	78	0.48
Construction	Bore/Drill Rigs	1	8.00	221	0.50
Construction	Aerial Lifts	1	8.00	63	0.31
Construction	Rollers	1	4.00	80	0.38
Construction	Graders	1	6.00	187	0.41
Construction	Cranes	1	8.00	231	0.29
Construction	Forklifts	2	6.00	89	0.20
Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Construction	10	16.00	10.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Construction - 2022

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	2.4591	25.6007	17.1512	0.0409		1.1465	1.1465		1.0635	1.0635		3,955.7215	3,955.7215	1.1824		3,985.2821
Total	**2.4591**	**25.6007**	**17.1512**	**0.0409**		**1.1465**	**1.1465**		**1.0635**	**1.0635**		**3,955.7215**	**3,955.7215**	**1.1824**		**3,985.2821**

3.2 Construction - 2022

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	0.0306	0.9868	0.2633	2.6300e-003	0.0677	2.0100e-003	0.0697	0.0195	1.9200e-003	0.0214		278.8389	278.8389	0.0140		279.1893
Worker	0.0509	0.0333	0.3374	1.1300e-003	0.1314	8.1000e-004	0.1322	0.0349	7.4000e-004	0.0356		112.4467	112.4467	2.3600e-003		112.5058
Total	**0.0815**	**1.0201**	**0.6007**	**3.7600e-003**	**0.1991**	**2.8200e-003**	**0.2019**	**0.0544**	**2.6600e-003**	**0.0570**		**391.2856**	**391.2856**	**0.0164**		**391.6951**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.4591	25.6007	17.1512	0.0409		1.1465	1.1465		1.0635	1.0635	0.0000	3,955.7215	3,955.7215	1.1824		3,985.2821
Total	**2.4591**	**25.6007**	**17.1512**	**0.0409**		**1.1465**	**1.1465**		**1.0635**	**1.0635**	**0.0000**	**3,955.7215**	**3,955.7215**	**1.1824**		**3,985.2821**

3.2 Construction - 2022

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	0.0306	0.9868	0.2633	2.6300e-003	0.0677	2.0100e-003	0.0697	0.0195	1.9200e-003	0.0214		278.8389	278.8389	0.0140		279.1893
Worker	0.0509	0.0333	0.3374	1.1300e-003	0.1314	8.1000e-004	0.1322	0.0349	7.4000e-004	0.0356		112.4467	112.4467	2.3600e-003		112.5058
Total	**0.0815**	**1.0201**	**0.6007**	**3.7600e-003**	**0.1991**	**2.8200e-003**	**0.2019**	**0.0544**	**2.6600e-003**	**0.0570**		**391.2856**	**391.2856**	**0.0164**		**391.6951**

4.0 Operational Detail - Mobile

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	6.5100e-003	9.2300e-003	0.0860	2.4000e-004	0.0217	1.5000e-004	0.0218	5.7500e-003	1.4000e-004	5.8800e-003		24.0337	24.0337	6.4000e-004		24.0497
Unmitigated	6.5100e-003	9.2300e-003	0.0860	2.4000e-004	0.0217	1.5000e-004	0.0218	5.7500e-003	1.4000e-004	5.8800e-003		24.0337	24.0337	6.4000e-004		24.0497

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	3.91	0.00	0.00	7,419	7,419
Total	3.91	0.00	0.00	7,419	7,419

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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 Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.000000	0.500000	0.000000	0.500000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-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**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-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

	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	3.7000e-004	4.0000e-005	3.9900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.5500e-003	8.5500e-003	2.0000e-005		9.1200e-003
Unmitigated	3.7000e-004	4.0000e-005	3.9900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.5500e-003	8.5500e-003	2.0000e-005		9.1200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7000e-004	4.0000e-005	3.9900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.5500e-003	8.5500e-003	2.0000e-005		9.1200e-003
Total	**3.7000e-004**	**4.0000e-005**	**3.9900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**8.5500e-003**	**8.5500e-003**	**2.0000e-005**		**9.1200e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7000e-004	4.0000e-005	3.9900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.5500e-003	8.5500e-003	2.0000e-005		9.1200e-003
Total	**3.7000e-004**	**4.0000e-005**	**3.9900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**8.5500e-003**	**8.5500e-003**	**2.0000e-005**		**9.1200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Transformer Yard and Transmission Lines - Max Daily 2023

Bay Area AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	39.09	1000sqft	0.90	39,090.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Conservatively assumed ten poles (each 201 sf) plus 37,080 sf for transformer yard per plan measurement

Construction Phase - Applicant estimated 12 months

Off-road Equipment - Provided by applicant.

Trips and VMT - Include 4 additional one-way trips for cable handler and delivery truck

Vehicle Trips - Max of four daily one-way trips for annual transformer test and changing transformer oil = 0.1 trip per 1000 sf day

Area Coating - No coatings used.

Consumer Products - No degreaser to be used.

Landscape Equipment - No landscaping.

Fleet Mix - 50% of trips by LDT for annual transformer test and 50% of trips by MDV for changing transformer oil

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	2345	0
tblConstructionPhase	NumDays	100.00	260.00
tblConstructionPhase	PhaseEndDate	6/8/2022	12/30/2022
tblConstructionPhase	PhaseStartDate	1/20/2022	1/3/2022
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.58	0.00
tblFleetMix	LDT1	0.04	0.50
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.3410e-003	0.00
tblFleetMix	MCY	5.8320e-003	0.00
tblFleetMix	MDV	0.11	0.50
tblFleetMix	MH	7.4900e-004	0.00
tblFleetMix	MHD	0.02	0.00

tblFleetMix	OBUS	2.6410e-003	0.00
tblFleetMix	SBUS	8.9100e-004	0.00
tblFleetMix	UBUS	2.2000e-003	0.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	OffRoadEquipmentType	Cranes	Rollers
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Graders
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblTripsAndVMT	VendorTripNumber	6.00	10.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	0.10

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.5359	26.6070	17.7425	0.0449	0.1991	1.1493	1.3484	0.0544	1.0661	1.1205	0.0000	4,363.9292	4,363.9292	1.1979	0.0000	4,393.8776
Maximum	**2.5359**	**26.6070**	**17.7425**	**0.0449**	**0.1991**	**1.1493**	**1.3484**	**0.0544**	**1.0661**	**1.1205**	**0.0000**	**4,363.9292**	**4,363.9292**	**1.1979**	**0.0000**	**4,393.8776**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.5359	26.6070	17.7425	0.0449	0.1991	1.1493	1.3484	0.0544	1.0661	1.1205	0.0000	4,363.9292	4,363.9292	1.1979	0.0000	4,393.8776
Maximum	**2.5359**	**26.6070**	**17.7425**	**0.0449**	**0.1991**	**1.1493**	**1.3484**	**0.0544**	**1.0661**	**1.1205**	**0.0000**	**4,363.9292**	**4,363.9292**	**1.1979**	**0.0000**	**4,393.8776**

	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**	**N20**	**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**

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	3.7000e-004	4.0000e-005	3.9900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.5500e-003	8.5500e-003	2.0000e-005		9.1200e-003
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	7.9100e-003	7.4600e-003	0.0879	2.6000e-004	0.0217	1.5000e-004	0.0218	5.7500e-003	1.4000e-004	5.8800e-003		26.0098	26.0098	6.7000e-004		26.0264
Total	**8.2800e-003**	**7.5000e-003**	**0.0919**	**2.6000e-004**	**0.0217**	**1.6000e-004**	**0.0218**	**5.7500e-003**	**1.5000e-004**	**5.8900e-003**		**26.0183**	**26.0183**	**6.9000e-004**	**0.0000**	**26.0355**

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	3.7000e-004	4.0000e-005	3.9900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.5500e-003	8.5500e-003	2.0000e-005		9.1200e-003
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	7.9100e-003	7.4600e-003	0.0879	2.6000e-004	0.0217	1.5000e-004	0.0218	5.7500e-003	1.4000e-004	5.8800e-003		26.0098	26.0098	6.7000e-004		26.0264
Total	**8.2800e-003**	**7.5000e-003**	**0.0919**	**2.6000e-004**	**0.0217**	**1.6000e-004**	**0.0218**	**5.7500e-003**	**1.5000e-004**	**5.8900e-003**		**26.0183**	**26.0183**	**6.9000e-004**	**0.0000**	**26.0355**

	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	N20	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	Construction	Building Construction	1/3/2022	12/30/2022	5	260	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.9

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
Construction	Rubber Tired Dozers	1	8.00	247	0.40
Construction	Air Compressors	1	8.00	78	0.48
Construction	Bore/Drill Rigs	1	8.00	221	0.50
Construction	Aerial Lifts	1	8.00	63	0.31
Construction	Rollers	1	4.00	80	0.38
Construction	Graders	1	6.00	187	0.41
Construction	Cranes	1	8.00	231	0.29
Construction	Forklifts	2	6.00	89	0.20
Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Construction	10	16.00	10.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Construction - 2022

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	2.4591	25.6007	17.1512	0.0409		1.1465	1.1465		1.0635	1.0635		3,955.7215	3,955.7215	1.1824		3,985.2821
Total	**2.4591**	**25.6007**	**17.1512**	**0.0409**		**1.1465**	**1.1465**		**1.0635**	**1.0635**		**3,955.7215**	**3,955.7215**	**1.1824**		**3,985.2821**

3.2 Construction - 2022

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	0.0289	0.9794	0.2292	2.7000e-003	0.0677	1.9400e-003	0.0696	0.0195	1.8600e-003	0.0213		286.1445	286.1445	0.0130		286.4687
Worker	0.0479	0.0270	0.3621	1.2200e-003	0.1314	8.1000e-004	0.1322	0.0349	7.4000e-004	0.0356		122.0633	122.0633	2.5400e-003		122.1269
Total	**0.0768**	**1.0064**	**0.5913**	**3.9200e-003**	**0.1991**	**2.7500e-003**	**0.2019**	**0.0544**	**2.6000e-003**	**0.0570**		**408.2078**	**408.2078**	**0.0155**		**408.5955**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.4591	25.6007	17.1512	0.0409		1.1465	1.1465		1.0635	1.0635	0.0000	3,955.7215	3,955.7215	1.1824		3,985.2821
Total	**2.4591**	**25.6007**	**17.1512**	**0.0409**		**1.1465**	**1.1465**		**1.0635**	**1.0635**	**0.0000**	**3,955.7215**	**3,955.7215**	**1.1824**		**3,985.2821**

3.2 Construction - 2022

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	0.0289	0.9794	0.2292	2.7000e-003	0.0677	1.9400e-003	0.0696	0.0195	1.8600e-003	0.0213		286.1445	286.1445	0.0130		286.4687
Worker	0.0479	0.0270	0.3621	1.2200e-003	0.1314	8.1000e-004	0.1322	0.0349	7.4000e-004	0.0356		122.0633	122.0633	2.5400e-003		122.1269
Total	**0.0768**	**1.0064**	**0.5913**	**3.9200e-003**	**0.1991**	**2.7500e-003**	**0.2019**	**0.0544**	**2.6000e-003**	**0.0570**		**408.2078**	**408.2078**	**0.0155**		**408.5955**

4.0 Operational Detail - Mobile

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	7.9100e-003	7.4600e-003	0.0879	2.6000e-004	0.0217	1.5000e-004	0.0218	5.7500e-003	1.4000e-004	5.8800e-003		26.0098	26.0098	6.7000e-004		26.0264
Unmitigated	7.9100e-003	7.4600e-003	0.0879	2.6000e-004	0.0217	1.5000e-004	0.0218	5.7500e-003	1.4000e-004	5.8800e-003		26.0098	26.0098	6.7000e-004		26.0264

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	3.91	0.00	0.00	7,419	7,419
Total	3.91	0.00	0.00	7,419	7,419

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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 Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.000000	0.500000	0.000000	0.500000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-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**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-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

	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	3.7000e-004	4.0000e-005	3.9900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.5500e-003	8.5500e-003	2.0000e-005		9.1200e-003
Unmitigated	3.7000e-004	4.0000e-005	3.9900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.5500e-003	8.5500e-003	2.0000e-005		9.1200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7000e-004	4.0000e-005	3.9900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.5500e-003	8.5500e-003	2.0000e-005		9.1200e-003
Total	**3.7000e-004**	**4.0000e-005**	**3.9900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**8.5500e-003**	**8.5500e-003**	**2.0000e-005**		**9.1200e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7000e-004	4.0000e-005	3.9900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.5500e-003	8.5500e-003	2.0000e-005		9.1200e-003
Total	**3.7000e-004**	**4.0000e-005**	**3.9900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**8.5500e-003**	**8.5500e-003**	**2.0000e-005**		**9.1200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Transformer Yard and Transmission Lines - Annual 2023

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	39.09	1000sqft	0.90	39,090.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Conservatively assumed ten poles (each 201 sf) plus 37,080 sf for transformer yard per plan measurement

Construction Phase - Applicant estimated 12 months

Off-road Equipment - Provided by applicant.

Trips and VMT - Include 4 additional one-way trips for cable handler and delivery truck

Vehicle Trips - Max of four annual one-way trips for annual transformer test and changing transformer oil = 0.00028 trip per 1000 sf day

Area Coating - No coatings used.

Consumer Products - No degreaser to be used.

Landscape Equipment - No landscaping.

Fleet Mix - 50% of trips by LDT for annual transformer test and 50% of trips by MDV for changing transformer oil

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	2345	0
tblConstructionPhase	NumDays	100.00	260.00
tblConstructionPhase	PhaseEndDate	6/8/2022	12/30/2022
tblConstructionPhase	PhaseStartDate	1/20/2022	1/3/2022
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.58	0.00
tblFleetMix	LDT1	0.04	0.50
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.3410e-003	0.00
tblFleetMix	MCY	5.8320e-003	0.00
tblFleetMix	MDV	0.11	0.50
tblFleetMix	MH	7.4900e-004	0.00
tblFleetMix	MHD	0.02	0.00

tblFleetMix	OBUS	2.6410e-003	0.00
tblFleetMix	SBUS	8.9100e-004	0.00
tblFleetMix	UBUS	2.2000e-003	0.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	OffRoadEquipmentType	Cranes	Rollers
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Graders
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblTripsAndVMT	VendorTripNumber	6.00	10.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	0.01

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3295	3.4606	2.3044	5.8200e-003	0.0250	0.1494	0.1744	6.8400e-003	0.1386	0.1454	0.0000	513.2831	513.2831	0.1413	0.0000	516.8158
Maximum	**0.3295**	**3.4606**	**2.3044**	**5.8200e-003**	**0.0250**	**0.1494**	**0.1744**	**6.8400e-003**	**0.1386**	**0.1454**	**0.0000**	**513.2831**	**513.2831**	**0.1413**	**0.0000**	**516.8158**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3295	3.4606	2.3044	5.8200e-003	0.0250	0.1494	0.1744	6.8400e-003	0.1386	0.1454	0.0000	513.2825	513.2825	0.1413	0.0000	516.8153
Maximum	**0.3295**	**3.4606**	**2.3044**	**5.8200e-003**	**0.0250**	**0.1494**	**0.1744**	**6.8400e-003**	**0.1386**	**0.1454**	**0.0000**	**513.2825**	**513.2825**	**0.1413**	**0.0000**	**516.8153**

	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**	**N20**	**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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-3-2022	4-2-2022	0.9373	0.9373
2	4-3-2022	7-2-2022	0.9471	0.9471
3	7-3-2022	9-30-2022	0.9367	0.9367
		Highest	0.9471	0.9471

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.4000e-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	0.0000
Mobile	9.0000e-005	1.1000e-004	1.0700e-003	0.0000	2.7000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2856	0.2856	1.0000e-005	0.0000	0.2858
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2000e-004**	**1.1000e-004**	**1.4300e-003**	**0.0000**	**2.7000e-004**	**0.0000**	**2.7000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2863**	**0.2863**	**1.0000e-005**	**0.0000**	**0.2866**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.4000e-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	0.0000
Mobile	9.0000e-005	1.1000e-004	1.0700e-003	0.0000	2.7000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2856	0.2856	1.0000e-005	0.0000	0.2858
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2000e-004**	**1.1000e-004**	**1.4300e-003**	**0.0000**	**2.7000e-004**	**0.0000**	**2.7000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2863**	**0.2863**	**1.0000e-005**	**0.0000**	**0.2866**

	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	N20	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	Construction	Building Construction	1/3/2022	12/30/2022	5	260	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.9

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

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Construction	Rubber Tired Dozers	1	8.00	247	0.40
Construction	Air Compressors	1	8.00	78	0.48
Construction	Bore/Drill Rigs	1	8.00	221	0.50
Construction	Aerial Lifts	1	8.00	63	0.31
Construction	Rollers	1	4.00	80	0.38
Construction	Graders	1	6.00	187	0.41
Construction	Cranes	1	8.00	231	0.29
Construction	Forklifts	2	6.00	89	0.20
Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37

<u>Trips and VMT</u>

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
Construction	10	16.00	10.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3197	3.3281	2.2297	5.3200e-003		0.1491	0.1491		0.1383	0.1383	0.0000	466.5141	466.5141	0.1395	0.0000	470.0003
Total	**0.3197**	**3.3281**	**2.2297**	**5.3200e-003**		**0.1491**	**0.1491**		**0.1383**	**0.1383**	**0.0000**	**466.5141**	**466.5141**	**0.1395**	**0.0000**	**470.0003**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8500e-003	0.1286	0.0319	3.5000e-004	8.5300e-003	2.6000e-004	8.7800e-003	2.4700e-003	2.4000e-004	2.7100e-003	0.0000	33.3841	33.3841	1.5800e-003	0.0000	33.4237
Worker	5.9500e-003	3.9500e-003	0.0429	1.5000e-004	0.0164	1.1000e-004	0.0165	4.3700e-003	1.0000e-004	4.4700e-003	0.0000	13.3848	13.3848	2.8000e-004	0.0000	13.3918
Total	**9.8000e-003**	**0.1326**	**0.0747**	**5.0000e-004**	**0.0250**	**3.7000e-004**	**0.0253**	**6.8400e-003**	**3.4000e-004**	**7.1800e-003**	**0.0000**	**46.7689**	**46.7689**	**1.8600e-003**	**0.0000**	**46.8155**

3.2 Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3197	3.3281	2.2297	5.3200e-003		0.1491	0.1491		0.1383	0.1383	0.0000	466.5136	466.5136	0.1395	0.0000	469.9998
Total	**0.3197**	**3.3281**	**2.2297**	**5.3200e-003**		**0.1491**	**0.1491**		**0.1383**	**0.1383**	**0.0000**	**466.5136**	**466.5136**	**0.1395**	**0.0000**	**469.9998**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8500e-003	0.1286	0.0319	3.5000e-004	8.5300e-003	2.6000e-004	8.7800e-003	2.4700e-003	2.4000e-004	2.7100e-003	0.0000	33.3841	33.3841	1.5800e-003	0.0000	33.4237
Worker	5.9500e-003	3.9500e-003	0.0429	1.5000e-004	0.0164	1.1000e-004	0.0165	4.3700e-003	1.0000e-004	4.4700e-003	0.0000	13.3848	13.3848	2.8000e-004	0.0000	13.3918
Total	**9.8000e-003**	**0.1326**	**0.0747**	**5.0000e-004**	**0.0250**	**3.7000e-004**	**0.0253**	**6.8400e-003**	**3.4000e-004**	**7.1800e-003**	**0.0000**	**46.7689**	**46.7689**	**1.8600e-003**	**0.0000**	**46.8155**

4.0 Operational Detail - Mobile

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	tons/yr										MT/yr					
Mitigated	9.0000e-005	1.1000e-004	1.0700e-003	0.0000	2.7000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2856	0.2856	1.0000e-005	0.0000	0.2858
Unmitigated	9.0000e-005	1.1000e-004	1.0700e-003	0.0000	2.7000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2856	0.2856	1.0000e-005	0.0000	0.2858

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.39	0.00	0.00	742	742
Total	0.39	0.00	0.00	742	742

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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 Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.000000	0.500000	0.000000	0.500000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	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	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-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	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**

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	tons/yr										MT/yr					
Other Non-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	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**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.4000e-004
Unmitigated	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.4000e-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	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.4000e-004
Total	**3.0000e-005**	**0.0000**	**3.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**7.0000e-004**	**7.0000e-004**	**0.0000**	**0.0000**	**7.4000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.4000e-004
Total	**3.0000e-005**	**0.0000**	**3.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**7.0000e-004**	**7.0000e-004**	**0.0000**	**0.0000**	**7.4000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Transformer Yard and Transmission Lines - 2030

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	39.09	1000sqft	0.90	39,090.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Conservatively assumed ten poles (each 201 sf) plus 37,080 sf for transformer yard per plan measurement

Construction Phase - Applicant estimated 12 months

Off-road Equipment - Provided by applicant.

Trips and VMT - Include 4 additional one-way trips for cable handler and delivery truck

Vehicle Trips - Max of four daily one-way trips for annual transformer test and changing transformer oil = 0.1 trip per 1000 sf day

Consumer Products - No degreaser to be used.

Area Coating - No coatings used.

Landscape Equipment - No landscaping.

Fleet Mix - 50% of trips by LDT for annual transformer test and 50% of trips by MDV for changing transformer oil

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	2345	0
tblConstructionPhase	NumDays	100.00	260.00
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblTripsAndVMT	VendorTripNumber	6.00	10.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	0.10

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3312	3.4796	2.3130	5.8300e-003	0.0250	0.1503	0.1753	6.8400e-003	0.1394	0.1462	0.0000	514.8027	514.8027	0.1418	0.0000	518.3477
Maximum	**0.3312**	**3.4796**	**2.3130**	**5.8300e-003**	**0.0250**	**0.1503**	**0.1753**	**6.8400e-003**	**0.1394**	**0.1462**	**0.0000**	**514.8027**	**514.8027**	**0.1418**	**0.0000**	**518.3477**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.3312	3.4796	2.3130	5.8300e-003	0.0250	0.1503	0.1753	6.8400e-003	0.1394	0.1462	0.0000	514.8021	514.8021	0.1418	0.0000	518.3472
Maximum	**0.3312**	**3.4796**	**2.3130**	**5.8300e-003**	**0.0250**	**0.1503**	**0.1753**	**6.8400e-003**	**0.1394**	**0.1462**	**0.0000**	**514.8021**	**514.8021**	**0.1418**	**0.0000**	**518.3472**

	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**	**N20**	**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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-3-2022	4-2-2022	0.9424	0.9424
2	4-3-2022	7-2-2022	0.9523	0.9523
3	7-3-2022	9-30-2022	0.9419	0.9419
		Highest	0.9523	0.9523

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.4000e-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	0.0000
Mobile	4.7000e-004	2.4500e-003	5.5300e-003	3.0000e-005	2.7600e-003	2.0000e-005	2.7800e-003	7.4000e-004	2.0000e-005	7.6000e-004	0.0000	2.3566	2.3566	7.0000e-005	0.0000	2.3585
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.0000e-004**	**2.4500e-003**	**5.8900e-003**	**3.0000e-005**	**2.7600e-003**	**2.0000e-005**	**2.7800e-003**	**7.4000e-004**	**2.0000e-005**	**7.6000e-004**	**0.0000**	**2.3573**	**2.3573**	**7.0000e-005**	**0.0000**	**2.3592**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.4000e-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	0.0000
Mobile	4.7000e-004	2.4500e-003	5.5300e-003	3.0000e-005	2.7600e-003	2.0000e-005	2.7800e-003	7.4000e-004	2.0000e-005	7.6000e-004	0.0000	2.3566	2.3566	7.0000e-005	0.0000	2.3585
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.0000e-004**	**2.4500e-003**	**5.8900e-003**	**3.0000e-005**	**2.7600e-003**	**2.0000e-005**	**2.7800e-003**	**7.4000e-004**	**2.0000e-005**	**7.6000e-004**	**0.0000**	**2.3573**	**2.3573**	**7.0000e-005**	**0.0000**	**2.3592**

	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	N20	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	Construction	Building Construction	1/3/2022	12/30/2022	5	260	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.9

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

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Construction	Aerial Lifts	1	8.00	63	0.31
Construction	Air Compressors	1	8.00	78	0.48
Construction	Bore/Drill Rigs	1	8.00	221	0.50
Construction	Cranes	1	8.00	231	0.29
Construction	Forklifts	2	6.00	89	0.20
Construction	Graders	1	6.00	187	0.41
Construction	Rollers	1	4.00	80	0.38
Construction	Rubber Tired Dozers	1	8.00	247	0.40
Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37

<u>Trips and VMT</u>

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
Construction	10	16.00	10.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3214	3.3471	2.2383	5.3400e-003		0.1499	0.1499		0.1391	0.1391	0.0000	468.0337	468.0337	0.1399	0.0000	471.5322
Total	**0.3214**	**3.3471**	**2.2383**	**5.3400e-003**		**0.1499**	**0.1499**		**0.1391**	**0.1391**	**0.0000**	**468.0337**	**468.0337**	**0.1399**	**0.0000**	**471.5322**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8500e-003	0.1286	0.0319	3.5000e-004	8.5300e-003	2.6000e-004	8.7800e-003	2.4700e-003	2.4000e-004	2.7100e-003	0.0000	33.3841	33.3841	1.5800e-003	0.0000	33.4237
Worker	5.9500e-003	3.9500e-003	0.0429	1.5000e-004	0.0164	1.1000e-004	0.0165	4.3700e-003	1.0000e-004	4.4700e-003	0.0000	13.3848	13.3848	2.8000e-004	0.0000	13.3918
Total	**9.8000e-003**	**0.1326**	**0.0747**	**5.0000e-004**	**0.0250**	**3.7000e-004**	**0.0253**	**6.8400e-003**	**3.4000e-004**	**7.1800e-003**	**0.0000**	**46.7689**	**46.7689**	**1.8600e-003**	**0.0000**	**46.8155**

3.2 Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3214	3.3471	2.2383	5.3400e-003		0.1499	0.1499		0.1391	0.1391	0.0000	468.0332	468.0332	0.1399	0.0000	471.5317
Total	**0.3214**	**3.3471**	**2.2383**	**5.3400e-003**		**0.1499**	**0.1499**		**0.1391**	**0.1391**	**0.0000**	**468.0332**	**468.0332**	**0.1399**	**0.0000**	**471.5317**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8500e-003	0.1286	0.0319	3.5000e-004	8.5300e-003	2.6000e-004	8.7800e-003	2.4700e-003	2.4000e-004	2.7100e-003	0.0000	33.3841	33.3841	1.5800e-003	0.0000	33.4237
Worker	5.9500e-003	3.9500e-003	0.0429	1.5000e-004	0.0164	1.1000e-004	0.0165	4.3700e-003	1.0000e-004	4.4700e-003	0.0000	13.3848	13.3848	2.8000e-004	0.0000	13.3918
Total	**9.8000e-003**	**0.1326**	**0.0747**	**5.0000e-004**	**0.0250**	**3.7000e-004**	**0.0253**	**6.8400e-003**	**3.4000e-004**	**7.1800e-003**	**0.0000**	**46.7689**	**46.7689**	**1.8600e-003**	**0.0000**	**46.8155**

4.0 Operational Detail - Mobile

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	tons/yr										MT/yr					
Mitigated	4.7000e-004	2.4500e-003	5.5300e-003	3.0000e-005	2.7600e-003	2.0000e-005	2.7800e-003	7.4000e-004	2.0000e-005	7.6000e-004	0.0000	2.3566	2.3566	7.0000e-005	0.0000	2.3585
Unmitigated	4.7000e-004	2.4500e-003	5.5300e-003	3.0000e-005	2.7600e-003	2.0000e-005	2.7800e-003	7.4000e-004	2.0000e-005	7.6000e-004	0.0000	2.3566	2.3566	7.0000e-005	0.0000	2.3585

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	3.91	0.00	0.00	7,419	7,419
Total	3.91	0.00	0.00	7,419	7,419

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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 Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.585795	0.036515	0.193581	0.106455	0.012789	0.005274	0.019465	0.028415	0.002699	0.001789	0.005626	0.000921	0.000676

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	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	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-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	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**

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	tons/yr										MT/yr					
Other Non-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	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**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.4000e-004
Unmitigated	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.4000e-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	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.4000e-004
Total	**3.0000e-005**	**0.0000**	**3.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**7.0000e-004**	**7.0000e-004**	**0.0000**	**0.0000**	**7.4000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.0000e-004	7.0000e-004	0.0000	0.0000	7.4000e-004
Total	**3.0000e-005**	**0.0000**	**3.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**7.0000e-004**	**7.0000e-004**	**0.0000**	**0.0000**	**7.4000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Existing Uses - 2023

Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	381.59	1000sqft	8.76	381,586.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on trip gen memo.

Construction Phase - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Trips and VMT - No construction - existing uses

Grading -

Architectural Coating - No construction - existing uses

Vehicle Trips - Based on trip gen memo from Kittleson

Area Coating - Vehicle storage yard - no painting of parking lines

Energy Use - Vehicle storage yard - no lighting

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	22,895.00	0.00
tblAreaCoating	Area_Parking	22895	0
tblEnergyUse	LightingElect	0.35	0.00
tblLandUse	LandUseSquareFeet	381,590.00	381,586.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00

tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	VendorTripNumber	63.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	160.00	0.00
tblTripsAndVMT	WorkerTripNumber	32.00	0.00
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	1.74

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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**	**N20**	**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**

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	0.1388	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
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	0.9688	4.6739	13.3078	0.0508	4.8775	0.0413	4.9188	1.3049	0.0386	1.3435		5,139.7567	5,139.7567	0.1708		5,144.0254
Total	**1.1075**	**4.6742**	**13.3468**	**0.0508**	**4.8775**	**0.0415**	**4.9190**	**1.3049**	**0.0387**	**1.3436**		**5,139.8402**	**5,139.8402**	**0.1710**	**0.0000**	**5,144.1143**

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	0.1388	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
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	0.9688	4.6739	13.3078	0.0508	4.8775	0.0413	4.9188	1.3049	0.0386	1.3435		5,139.7567	5,139.7567	0.1708		5,144.0254
Total	**1.1075**	**4.6742**	**13.3468**	**0.0508**	**4.8775**	**0.0415**	**4.9190**	**1.3049**	**0.0387**	**1.3436**		**5,139.8402**	**5,139.8402**	**0.1710**	**0.0000**	**5,144.1143**

	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	N20	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	Demolition	Demolition	9/29/2020	10/26/2020	5	20	
2	Site Preparation	Site Preparation	10/27/2020	11/9/2020	5	10	
3	Grading	Grading	11/10/2020	12/7/2020	5	20	
4	Building Construction	Building Construction	12/8/2020	10/25/2021	5	230	
5	Architectural Coating	Architectural Coating	11/23/2021	12/20/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 8.76

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
Demolition	Concrete/Industrial Saws	1	0.00	81	0.73
Demolition	Excavators	3	0.00	158	0.38
Demolition	Rubber Tired Dozers	2	0.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	0.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	0.00	97	0.37
Grading	Excavators	1	0.00	158	0.38
Grading	Graders	1	0.00	187	0.41
Grading	Rubber Tired Dozers	1	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Building Construction	Cranes	1	0.00	231	0.29
Building Construction	Forklifts	3	0.00	89	0.20
Building Construction	Generator Sets	1	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Building Construction	Welders	1	0.00	46	0.45
Architectural Coating	Air Compressors	1	0.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

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

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**

3.2 Demolition - 2020

Mitigated Construction On-Site

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

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**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

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

3.3 Site Preparation - 2020

Mitigated Construction On-Site

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

3.4 Grading - 2020

Unmitigated Construction On-Site

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

3.4 Grading - 2020

Mitigated Construction On-Site

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

3.5 Building Construction - 2020

Unmitigated Construction On-Site

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

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**

3.5 Building Construction - 2020

Mitigated Construction On-Site

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

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**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

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

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**

3.5 Building Construction - 2021

Mitigated Construction On-Site

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

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**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

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

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**

3.6 Architectural Coating - 2021

Mitigated Construction On-Site

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

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**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	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
	lb/day										lb/day					
Mitigated	0.9688	4.6739	13.3078	0.0508	4.8775	0.0413	4.9188	1.3049	0.0386	1.3435		5,139.7567	5,139.7567	0.1708		5,144.0254
Unmitigated	0.9688	4.6739	13.3078	0.0508	4.8775	0.0413	4.9188	1.3049	0.0386	1.3435		5,139.7567	5,139.7567	0.1708		5,144.0254

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	663.97	0.00	0.00	1,639,998	1,639,998
Total	663.97	0.00	0.00	1,639,998	1,639,998

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Parking Lot	9.50	7.30	7.30	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1388	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
Unmitigated	0.1388	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1352					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6100e-003	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
Total	**0.1388**	**3.5000e-004**	**0.0390**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0835**	**0.0835**	**2.2000e-004**		**0.0890**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1352					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6100e-003	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
Total	**0.1388**	**3.5000e-004**	**0.0390**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0835**	**0.0835**	**2.2000e-004**		**0.0890**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Existing Uses - 2023

Bay Area AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	381.59	1000sqft	8.76	381,586.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Based on trip gen memo.

Construction Phase - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Trips and VMT - No construction - existing uses

Grading -

Architectural Coating - No construction - existing uses

Vehicle Trips - Based on trip gen memo from Kittleson

Area Coating - Vehicle storage yard - no painting of parking lines

Energy Use - Vehicle storage yard - no lighting

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	22,895.00	0.00
tblAreaCoating	Area_Parking	22895	0
tblEnergyUse	LightingElect	0.35	0.00
tblLandUse	LandUseSquareFeet	381,590.00	381,586.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00

tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	VendorTripNumber	63.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	160.00	0.00
tblTripsAndVMT	WorkerTripNumber	32.00	0.00
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	1.74

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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**	**N20**	**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**

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	0.1388	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
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	1.1040	4.3961	13.6893	0.0542	4.8775	0.0412	4.9187	1.3049	0.0385	1.3433		5,484.2861	5,484.2861	0.1705		5,488.5479
Total	**1.2427**	**4.3965**	**13.7282**	**0.0542**	**4.8775**	**0.0413**	**4.9189**	**1.3049**	**0.0386**	**1.3435**		**5,484.3696**	**5,484.3696**	**0.1707**	**0.0000**	**5,488.6369**

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	0.1388	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
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	1.1040	4.3961	13.6893	0.0542	4.8775	0.0412	4.9187	1.3049	0.0385	1.3433		5,484.2861	5,484.2861	0.1705		5,488.5479
Total	**1.2427**	**4.3965**	**13.7282**	**0.0542**	**4.8775**	**0.0413**	**4.9189**	**1.3049**	**0.0386**	**1.3435**		**5,484.3696**	**5,484.3696**	**0.1707**	**0.0000**	**5,488.6369**

	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	N20	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	Demolition	Demolition	9/29/2020	10/26/2020	5	20	
2	Site Preparation	Site Preparation	10/27/2020	11/9/2020	5	10	
3	Grading	Grading	11/10/2020	12/7/2020	5	20	
4	Building Construction	Building Construction	12/8/2020	10/25/2021	5	230	
5	Architectural Coating	Architectural Coating	11/23/2021	12/20/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 8.76

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
Demolition	Concrete/Industrial Saws	1	0.00	81	0.73
Demolition	Excavators	3	0.00	158	0.38
Demolition	Rubber Tired Dozers	2	0.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	0.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	0.00	97	0.37
Grading	Excavators	1	0.00	158	0.38
Grading	Graders	1	0.00	187	0.41
Grading	Rubber Tired Dozers	1	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Building Construction	Cranes	1	0.00	231	0.29
Building Construction	Forklifts	3	0.00	89	0.20
Building Construction	Generator Sets	1	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Building Construction	Welders	1	0.00	46	0.45
Architectural Coating	Air Compressors	1	0.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

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

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**

3.2 Demolition - 2020

Mitigated Construction On-Site

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

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**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

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

3.3 Site Preparation - 2020

Mitigated Construction On-Site

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

3.4 Grading - 2020

Unmitigated Construction On-Site

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

3.4 Grading - 2020

Mitigated Construction On-Site

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

3.5 Building Construction - 2020

Unmitigated Construction On-Site

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

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**

3.5 Building Construction - 2020

Mitigated Construction On-Site

Category	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
	lb/day										lb/day					
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**

Mitigated Construction Off-Site

Category	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
	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**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

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

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**

3.5 Building Construction - 2021

Mitigated Construction On-Site

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

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**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

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

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**

3.6 Architectural Coating - 2021

Mitigated Construction On-Site

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

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**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	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
	lb/day										lb/day					
Mitigated	1.1040	4.3961	13.6893	0.0542	4.8775	0.0412	4.9187	1.3049	0.0385	1.3433		5,484.2861	5,484.2861	0.1705		5,488.5479
Unmitigated	1.1040	4.3961	13.6893	0.0542	4.8775	0.0412	4.9187	1.3049	0.0385	1.3433		5,484.2861	5,484.2861	0.1705		5,488.5479

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	663.97	0.00	0.00	1,639,998	1,639,998
Total	663.97	0.00	0.00	1,639,998	1,639,998

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Parking Lot	9.50	7.30	7.30	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1388	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
Unmitigated	0.1388	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1352					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6100e-003	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
Total	**0.1388**	**3.5000e-004**	**0.0390**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0835**	**0.0835**	**2.2000e-004**		**0.0890**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1352					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6100e-003	3.5000e-004	0.0390	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0835	0.0835	2.2000e-004		0.0890
Total	**0.1388**	**3.5000e-004**	**0.0390**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0835**	**0.0835**	**2.2000e-004**		**0.0890**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Existing Uses

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	381.59	1000sqft	8.76	381,586.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	298.65	**CH4 Intensity (lb/MWhr)**	0.014	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 60% RPS by 2030

Land Use - Based on trip gen memo.

Construction Phase - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Trips and VMT - No construction - existing uses

Architectural Coating - No construction - existing uses

Vehicle Trips - Based on trip gen memo from Kittleson

Area Coating - Vehicle storage yard - no painting of parking lines

Energy Use - Vehicle storage yard - no lighting

Grading -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	22,895.00	0.00
tblAreaCoating	Area_Parking	22895	0
tblEnergyUse	LightingElect	0.35	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00

tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.014
tblProjectCharacteristics	CO2IntensityFactor	641.35	298.65
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003
tblTripsAndVMT	VendorTripNumber	63.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	160.00	0.00
tblTripsAndVMT	WorkerTripNumber	32.00	0.00
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	1.74

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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**	**N20**	**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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0250	3.0000e-005	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2700e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1269	0.5933	1.6716	6.6600e-003	0.6103	5.3500e-003	0.6157	0.1638	5.0000e-003	0.1688	0.0000	611.2362	611.2362	0.0198	0.0000	611.7307
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1519**	**0.5933**	**1.6751**	**6.6600e-003**	**0.6103**	**5.3600e-003**	**0.6157**	**0.1638**	**5.0100e-003**	**0.1688**	**0.0000**	**611.2430**	**611.2430**	**0.0198**	**0.0000**	**611.7379**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0250	3.0000e-005	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2700e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1269	0.5933	1.6716	6.6600e-003	0.6103	5.3500e-003	0.6157	0.1638	5.0000e-003	0.1688	0.0000	611.2362	611.2362	0.0198	0.0000	611.7307
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1519**	**0.5933**	**1.6751**	**6.6600e-003**	**0.6103**	**5.3600e-003**	**0.6157**	**0.1638**	**5.0100e-003**	**0.1688**	**0.0000**	**611.2430**	**611.2430**	**0.0198**	**0.0000**	**611.7379**

	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	N20	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	Demolition	Demolition	9/29/2020	10/26/2020	5	20	
2	Site Preparation	Site Preparation	10/27/2020	11/9/2020	5	10	
3	Grading	Grading	11/10/2020	12/7/2020	5	20	
4	Building Construction	Building Construction	12/8/2020	10/25/2021	5	230	
5	Architectural Coating	Architectural Coating	11/23/2021	12/20/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 8.76

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

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	0.00	78	0.48
Demolition	Excavators	3	0.00	158	0.38
Demolition	Concrete/Industrial Saws	1	0.00	81	0.73
Grading	Excavators	1	0.00	158	0.38
Building Construction	Cranes	1	0.00	231	0.29
Building Construction	Forklifts	3	0.00	89	0.20
Building Construction	Generator Sets	1	0.00	84	0.74
Demolition	Rubber Tired Dozers	2	0.00	247	0.40
Grading	Rubber Tired Dozers	1	0.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Grading	Graders	1	0.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	0.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	0.00	247	0.40
Building Construction	Welders	1	0.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

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

3.2 Demolition - 2020

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	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	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**	**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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**

3.3 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	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	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**	**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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	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	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**	**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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**

3.4 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	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	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**	**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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

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

3.5 Building Construction - 2020

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

3.5 Building Construction - 2021

Unmitigated Construction On-Site

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

3.5 Building Construction - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		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	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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**

3.6 Architectural Coating - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

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	tons/yr										MT/yr					
Mitigated	0.1269	0.5933	1.6716	6.6600e-003	0.6103	5.3500e-003	0.6157	0.1638	5.0000e-003	0.1688	0.0000	611.2362	611.2362	0.0198	0.0000	611.7307
Unmitigated	0.1269	0.5933	1.6716	6.6600e-003	0.6103	5.3500e-003	0.6157	0.1638	5.0000e-003	0.1688	0.0000	611.2362	611.2362	0.0198	0.0000	611.7307

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	663.96	0.00	0.00	1,639,980	1,639,980
Total	663.96	0.00	0.00	1,639,980	1,639,980

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Parking Lot	9.50	7.30	7.30	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	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	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	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	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**

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	tons/yr										MT/yr					
Parking Lot	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	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**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0250	3.0000e-005	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2700e-003
Unmitigated	0.0250	3.0000e-005	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2700e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0247					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.2000e-004	3.0000e-005	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2700e-003
Total	**0.0250**	**3.0000e-005**	**3.5100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.8200e-003**	**6.8200e-003**	**2.0000e-005**	**0.0000**	**7.2700e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0247					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.2000e-004	3.0000e-005	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2700e-003
Total	**0.0250**	**3.0000e-005**	**3.5100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.8200e-003**	**6.8200e-003**	**2.0000e-005**	**0.0000**	**7.2700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Clawiter Industrial Project - Existing Uses - 2030

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	381.59	1000sqft	8.76	381,586.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	298.65	**CH4 Intensity (lb/MWhr)**	0.014	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 60% RPS by 2030

Land Use - Based on trip gen memo.

Construction Phase - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Off-road Equipment - No construction - existing uses

Trips and VMT - No construction - existing uses

Grading -

Architectural Coating - No construction - existing uses

Vehicle Trips - Based on trip gen memo from Kittleson

Area Coating - Vehicle storage yard - no painting of parking lines

Energy Use - Vehicle storage yard - no lighting

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	22,895.00	0.00
tblAreaCoating	Area_Parking	22895	0
tblEnergyUse	LightingElect	0.35	0.00
tblLandUse	LandUseSquareFeet	381,590.00	381,586.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00

tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.014
tblProjectCharacteristics	CO2IntensityFactor	641.35	298.65
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003
tblTripsAndVMT	VendorTripNumber	63.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	160.00	0.00
tblTripsAndVMT	WorkerTripNumber	32.00	0.00
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	1.74

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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**	**N20**	**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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0250	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0903	0.4707	1.1587	5.5500e-003	0.6099	3.6000e-003	0.6135	0.1636	3.3500e-003	0.1670	0.0000	512.1576	512.1576	0.0152	0.0000	512.5376
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1153**	**0.4707**	**1.1622**	**5.5500e-003**	**0.6099**	**3.6100e-003**	**0.6135**	**0.1636**	**3.3600e-003**	**0.1670**	**0.0000**	**512.1644**	**512.1644**	**0.0152**	**0.0000**	**512.5449**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0250	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0903	0.4707	1.1587	5.5500e-003	0.6099	3.6000e-003	0.6135	0.1636	3.3500e-003	0.1670	0.0000	512.1576	512.1576	0.0152	0.0000	512.5376
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1153**	**0.4707**	**1.1622**	**5.5500e-003**	**0.6099**	**3.6100e-003**	**0.6135**	**0.1636**	**3.3600e-003**	**0.1670**	**0.0000**	**512.1644**	**512.1644**	**0.0152**	**0.0000**	**512.5449**

	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**	**N20**	**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	Demolition	Demolition	9/29/2020	10/26/2020	5	20	
2	Site Preparation	Site Preparation	10/27/2020	11/9/2020	5	10	
3	Grading	Grading	11/10/2020	12/7/2020	5	20	
4	Building Construction	Building Construction	12/8/2020	10/25/2021	5	230	
5	Architectural Coating	Architectural Coating	11/23/2021	12/20/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 8.76

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

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	0.00	81	0.73
Demolition	Excavators	3	0.00	158	0.38
Demolition	Rubber Tired Dozers	2	0.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	0.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	0.00	97	0.37
Grading	Excavators	1	0.00	158	0.38
Grading	Graders	1	0.00	187	0.41
Grading	Rubber Tired Dozers	1	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Building Construction	Cranes	1	0.00	231	0.29
Building Construction	Forklifts	3	0.00	89	0.20
Building Construction	Generator Sets	1	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	0.00	97	0.37
Building Construction	Welders	1	0.00	46	0.45
Architectural Coating	Air Compressors	1	0.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

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

3.2 Demolition - 2020

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	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	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**	**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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**

3.3 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	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	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**	**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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	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	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**	**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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**

3.4 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	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	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**	**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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

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

3.5 Building Construction - 2020

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

3.5 Building Construction - 2021

Unmitigated Construction On-Site

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

3.5 Building Construction - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		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	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	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**	**0.0000**

3.6 Architectural Coating - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

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	tons/yr										MT/yr					
Mitigated	0.0903	0.4707	1.1587	5.5500e-003	0.6099	3.6000e-003	0.6135	0.1636	3.3500e-003	0.1670	0.0000	512.1576	512.1576	0.0152	0.0000	512.5376
Unmitigated	0.0903	0.4707	1.1587	5.5500e-003	0.6099	3.6000e-003	0.6135	0.1636	3.3500e-003	0.1670	0.0000	512.1576	512.1576	0.0152	0.0000	512.5376

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	663.97	0.00	0.00	1,639,998	1,639,998
Total	663.97	0.00	0.00	1,639,998	1,639,998

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
Parking Lot	9.50	7.30	7.30	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.585795	0.036515	0.193581	0.106455	0.012789	0.005274	0.019465	0.028415	0.002699	0.001789	0.005626	0.000921	0.000676

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	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	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	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	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**

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	tons/yr										MT/yr					
Parking Lot	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	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**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0250	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2600e-003
Unmitigated	0.0250	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2600e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0247					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.2000e-004	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2600e-003
Total	**0.0250**	**3.0000e-005**	**3.4900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.8200e-003**	**6.8200e-003**	**2.0000e-005**	**0.0000**	**7.2600e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0247					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.2000e-004	3.0000e-005	3.4900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.8200e-003	6.8200e-003	2.0000e-005	0.0000	7.2600e-003
Total	**0.0250**	**3.0000e-005**	**3.4900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.8200e-003**	**6.8200e-003**	**2.0000e-005**	**0.0000**	**7.2600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

N2O Operational GHG Emission Mobile Calculations

Project Code & Title: 20-09879, Clawiter Road Industrial Project

Vehicle Population Breakdown*	
5460005	Gasoline vehicles
271191	Diesel vehicles
95.3%	Gasoline vehicle %
4.7%	Diesel vehicle %

VMT per Vehicle Type	
1639998	Project VMT (CalEEMod output)
1562396	Gasoline vehicle VMT
77602	Diesel vehicle VMT

Gasoline Vehicles	
95.3%	Gasoline vehicle %
0.4707	Tons per year mobile NOX emissions (annual output in CalEEMod)
0.45	Gasoline vehicle tons per year NOX emissions
0.0350	Tons per year N2O emissions for gasoline vehicles**
0.0317	Metric tons per year N2O emissions for gasoline vehicles

Diesel Vehicles	
1.60	grams N2O per gallon of fuel for diesel vehicles**
22.99	Diesel average miles per gallon*
0.06961	grams per mile N2O for diesel vehicles
5401.8	grams per year N2O for diesel vehicles
0.0054018	Metric tons per year N2O emissions for diesel vehicles

CO2e Emissions from N2O	
0.0371	Metric tons per year from gasoline + diesel vehicles
298	GWP of N2O***
11.1	**CO2e emissions per year from N2O emissions from gasoline + diesel vehicles**

Sources

***Vehicle population source:**
Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Air District
Region: Bay Area AQMD
Calendar Year: 2030
Season: Annual
Vehicle Classification: EMFAC2011 Categories

****Methodology source:**
EMFAC2017 Volume III - Technical Documentation
https://www.arb.ca.gov/msei/emfac2011-faq.htm

*****GWP source:**
Intergovernmental Panel on Climate Change (IPCC). 2007.
AR4 Climate Change 2007: The Physical Science Basis.
Contrbution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

Criteria Pollutant Emissions Calculations - Generator Operations

Generator Assumptions		
Generator	**Horsepower***	**Notes**
2.5 mW	2345.844504	assumed 70% efficiency per generator spec sheet
600 kW	563.002681	assumed 70% efficiency per generator spec sheet
HP equals kw/.746 EFF (gen.)		

Operational Assumptions	
Hours of Operation per year, one gen	50
Hours of Operation per year, total	1200
# of 2.5 mW generators	23

Emission Calculations - Tier 2 Generators

2.5 mW - Tier 2	g/hp-h	lbs/hp-h	lbs/hr	lbs/year	Averaged over 365 days	Averaged daily total w/ 23 Gens
NO_X	5.3200	0.0117	27.5134	1375.6711	3.7690	86.6861
CO	0.4200	0.0009	2.1721	108.6056	0.2975	6.8436
HC	0.1000	0.0002	0.5172	25.8585	0.0708	1.6294
PM	0.0400	0.0001	0.2069	10.3434	0.0283	0.6518

600 kW - Tier 2	g/hp-h	lbs/hp-h	lbs/hr	lbs/year	Averaged over 365 days	Averaged daily total w/ 1 Gens
NO_X	5.8000	0.0128	7.1990	359.9500	0.9862	0.9862
CO	0.5000	0.0011	0.6206	31.0302	0.0850	0.0850
HC	0.0100	0.0000	0.0124	0.6206	0.0017	0.0017
PM	0.0300	0.0001	0.0372	1.8618	0.0051	0.0051

TOTALS - Tier 2	Daily Emissions (lbs/day)	Annual Emissions (tpy)
NO_X	87.6723	16.0002
CO	6.9287	1.2645
HC	1.6311	0.2977
PM	0.6569	0.1199

Emission Calculations - Tier 4 Generators

2.5 mW - Tier 4	g/hp-h	lbs/hp-h	lbs/hr	lbs/year	Averaged over 365 days	Averaged daily total w/ 23 Gens
NO_X	0.4482	0.0010	2.3182	115.9102	0.3176	7.3039
CO	0.4333	0.0010	2.2412	112.0577	0.3070	7.0612
HC	0.0201	0.0000	0.1039	5.1944	0.0142	0.3273
PM	0.0018	0.0000	0.0091	0.4549	0.0012	0.0287

600 kW - Tier 2	g/hp-h	lbs/hp-h	lbs/hr	lbs/year	Averaged over 365 days	Averaged daily total w/ 1 Gens
NO_X	5.8000	0.0128	7.1990	359.9500	0.9862	0.9862
CO	0.5000	0.0011	0.6206	31.0302	0.0850	0.0850
HC	0.0100	0.0000	0.0124	0.6206	0.0017	0.0017
PM	0.0300	0.0001	0.0372	1.8618	0.0051	0.0051

TOTALS - Tier 4	Daily Emissions (lbs/day)	Annual Emissions (tpy)
NO_X	8.2901	1.5129
CO	7.1462	1.3042
HC	0.3290	0.0600
PM	0.0338	0.0062

GHG Emission Calculations - Generator Operations

Fuel Consumption	203730

Source: Fuel consumption calculations in Section 6, Energy, of IS-MND

Emission Rates (kg/gallon)		
CO_2	CH_4	N_2O
10.21	0.00041	0.00008

Source: https://www.epa.gov/sites/production/files/2018-03/documents/emission-factors_mar_2018_0.pdf

Emissions (MT of CO_2e/year)		
CO_2	CH_4	N_2O
2080.1	2.3	4.9

Total Emissions (MT of CO_2e)	2087.3

Criteria Pollutant Emissions Calculations - Generator Operations

Generator Assumptions		
Generator	Horsepower*	Notes
2.5 mW	2345.844504	assumed 70% efficiency per generator spec sheet
600 kW	563.002681	assumed 70% efficiency per generator spec sheet
HP equals kw/.746 EFF (gen.)		

Operational Assumptions	
Hours of Operation per year, one gen	25
Hours of Operation per year, total	600
# of 2.5 mW generators	23

Emission Calculations - Tier 2 Generators						
2.5 mW - Tier 2	g/hp-h	lbs/hp-h	lbs/hr	lbs/year	Averaged over 365 days	Averaged daily total w/ 23 Gens
NO_X	5.3200	0.0117	27.5134	687.8355	1.8845	43.3431
CO	0.4200	0.0009	2.1721	54.3028	0.1488	3.4218
HC	0.1000	0.0002	0.5172	12.9292	0.0354	0.8147
PM	0.0400	0.0001	0.2069	5.1717	0.0142	0.3259

600 kW - Tier 2	g/hp-h	lbs/hp-h	lbs/hr	lbs/year	Averaged over 365 days	Averaged daily total w/ 1 Gens
NO_X	5.8000	0.0128	7.1990	179.9750	0.4931	0.4931
CO	0.5000	0.0011	0.6206	15.5151	0.0425	0.0425
HC	0.0100	0.0000	0.0124	0.3103	0.0009	0.0009
PM	0.0300	0.0001	0.0372	0.9309	0.0026	0.0026

TOTALS - Tier 2	Daily Emissions (lbs/day)	Annual Emissions (tpy)
NO_X	43.8361	8.0001
CO	3.4643	0.6322
HC	0.8156	0.1488
PM	0.3284	0.0599

Cat® 3516C

Diesel Generator Sets

Image shown may not reflect actual configuration

Bore – mm (in)	170 (6.69)
Stroke – mm (in)	215 (8.46)
Displacement – L (in³)	78 (4764.73)
Compression Ratio	14.7:1
Aspiration	TA
Fuel System	EUI
Governor Type	ADEM™ A3

Standby 60 Hz ekW (kVA)	Mission Critical 60 Hz ekW (kVA)	Prime 60 Hz ekW (kVA)	Continuous 60 Hz ekW (kVA)	Emissions Performance
2500 (3125)	2500 (3125)	2250 (2812)	2050 (2562)	U.S. EPA Stationary Emergency Use Only (Tier 2)

Standard Features

Cat® Diesel Engine
- Meets U.S. EPA Stationary Emergency Use Only (Tier 2) emission standards
- Reliable performance proven in thousands of applications worldwide

Generator Set Package
- Accepts 100% block load in one step and meets NFPA 110 loading requirements
- Conforms to ISO 8528-5 G3 load acceptance requirements
- Reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

Alternators
- Superior motor starting capability minimizes need for oversizing generator
- Designed to match performance and output characteristics of Cat diesel engines

Cooling System
- Cooling systems available to operate in ambient temperatures up to 50°C (122°F)
- Tested to ensure proper generator set cooling

EMCP 4 Control Panels
- User-friendly interface and navigation
- Scalable system to meet a wide range of installation requirements
- Expansion modules and site specific programming for specific customer requirements

Warranty
- 24 months/1000-hour warranty for standby and mission critical ratings
- 12 months/unlimited hour warranty for prime and continuous ratings
- Extended service protection is available to provide extended coverage options

Worldwide Product Support
- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

Financing
- Caterpillar offers an array of financial products to help you succeed through financial service excellence
- Options include loans, finance lease, operating lease, working capital, and revolving line of credit
- Contact your local Cat dealer for availability in your region

Attachment VII

Optional Equipment

Engine

Air Cleaner
- ❑ Single element
- ❑ Dual element

Muffler
- ❑ Industrial grade (15 dB)

Starting
- ❑ Standard batteries
- ❑ Oversized batteries
- ❑ Standard electric starter(s)
- ❑ Heavy duty electric starter(s)
- ❑ Air starter(s)
- ❑ Jacket water heater

Alternator

Output voltage
- ❑ 380V ❑ 6300V
- ❑ 440V ❑ 6600V
- ❑ 480V ❑ 6900V
- ❑ 600V ❑ 12470V
- ❑ 2400V ❑ 13200V
- ❑ 4160V ❑ 13800V

Temperature Rise (over 40°C ambient)
- ❑ 150°C
- ❑ 125°C/130°C
- ❑ 105°C
- ❑ 80°C

Winding type
- ❑ Random wound
- ❑ Form wound

Excitation
- ❑ Internal excitation (IE)
- ❑ Permanent magnet (PM)

Attachments
- ❑ Anti-condensation heater
- ❑ Stator and bearing temperature monitoring and protection

Power Termination

Type
- ❑ Bus bar
- ❑ Circuit breaker
- ❑ 1600A ❑ 2000A
- ❑ 2500A ❑ 3000A
- ❑ 3200A ❑ 4000A
- ❑ 5000A
- ❑ IEC ❑ UL
- ❑ 3-pole ❑ 4-pole
- ❑ Manually operated
- ❑ Electrically operated

Trip Unit
- ❑ LSI ❑ LSI-G
- ❑ LSIG-P

Control System

Controller
- ❑ EMCP 4.2B
- ❑ EMCP 4.3
- ❑ EMCP 4.4

Attachments
- ❑ Local annunciator module
- ❑ Remote annunciator module
- ❑ Expansion I/O module
- ❑ Remote monitoring software

Charging
- ❑ Battery charger – 10A
- ❑ Battery charger – 20A
- ❑ Battery charger – 35A

Vibration Isolators
- ❑ Rubber
- ❑ Spring
- ❑ Seismic rated

Cat Connect

Connectivity
- ❑ Ethernet
- ❑ Cellular
- ❑ Satellite

Extended Service Options

Terms
- ❑ 2 year (prime)
- ❑ 3 year
- ❑ 5 year
- ❑ 10 year

Coverage
- ❑ Silver
- ❑ Gold
- ❑ Platinum
- ❑ Platinum Plus

Ancillary Equipment
- ❑ Automatic transfer switch (ATS)
- ❑ Uninterruptible power supply (UPS)
- ❑ Paralleling switchgear
- ❑ Paralleling controls

Certifications
- ❑ UL 2200 Listed
- ❑ CSA
- ❑ IBC seismic certification
- ❑ OSHPD pre-approval

Note: *Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.*

3516C Diesel Generator Sets
Electric Power

CAT®

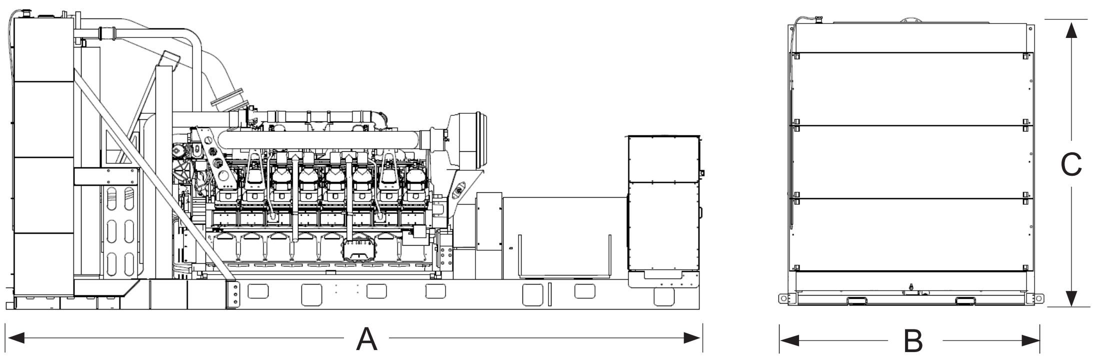
Package Performance

Performance	Standby		Mission Critical		Prime		Continuous	
Frequency	60 Hz		60 Hz		60 Hz		60 Hz	
Gen set power rating with fan	2500 ekW		2500 ekW		2250 ekW		2050 ekW	
Gen set power rating with fan @ 0.8 power factor	3125 kVA		3125 kVA		2812 kVA		2562 kVA	
Emissions	EPA ESE (TIER 2)		EPA ESE (TIER 2)		EPA ESE (TIER 2)		EPA ESE (TIER 2)	
Performance number	EM1894-01		EM1895-02		DM8447-04		DM8268-03	
Fuel Consumption								
100% load with fan – L/hr (gal/hr)	656.8	(175.3)	656.8	(175.3)	593.0	(156.6)	549.3	(145.1)
75% load with fan – L/hr (gal/hr)	510.8	(134.9)	510.8	(134.9)	467.8	(123.6)	435.6	(115.1)
50% load with fan – L/hr (gal/hr)	372.4	(98.4)	372.4	(98.4)	341.9	(90.3)	316.8	(83.7)
25% load with fan – L/hr (gal/hr)	219.3	(57.9)	219.3	(57.9)	203.0	(53.6)	188.9	(49.9)
Cooling System								
Radiator air flow restriction (system) – kPa (in. water)	0.12	(0.48)	0.12	(0.48)	0.12	(0.48)	0.12	(0.48)
Radiator air flow – m^3/min (cfm)	2356	(83201)	2356	(83201)	2800	(98881)	2800	(98881)
Engine coolant capacity – L (gal)	233.0	(61.6)	233.0	(61.6)	233.0	(61.6)	233.0	(61.6)
Radiator coolant capacity – L (gal)	180.0	(47.6)	180.0	(47.6)	268.8	(71.0)	268.8	(71.0)
Total coolant capacity – L (gal)	413.0	(109.2)	413.0	(109.2)	501.8	(132.6)	501.8	(132.6)
Inlet Air								
Combustion air inlet flow rate – m^3/min (cfm)	242.2	(7212.2)	242.2	(7212.2)	193.1	(6819.8)	183.8	(6491.7)
Exhaust System								
Exhaust stack gas temperature – °C (°F)	490.7	(915.2)	490.7	(915.2)	471.3	(880.4)	463.6	(866.5)
Exhaust gas flow rate – m^3/min (cfm)	554.5	(19578.8)	554.5	(19578.8)	507.9	(17935.1)	476.5	(16826.7)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	6.7	(27.0)	6.7	(27.0)	6.7	(27.0)	6.7	(27.0)
Heat Rejection								
Heat rejection to jacket water – kW (Btu/min)	826	(46992)	826	(46992)	777	(44160)	739	(42021)
Heat rejection to exhaust (total) – kW (Btu/min)	2502	(142265)	2502	(142265)	2243	(127532)	2092	(118949)
Heat rejection to aftercooler – kW (Btu/min)	786	(44723)	786	(44723)	690	(39224)	619	(35176)
Heat rejection to atmosphere from engine – kW (Btu/min)	161	(9146)	161	(9146)	150	(8542)	145	(8229)
Heat rejection from alternator – kW (Btu/min)	121	(6853)	121	(6853)	99	(5607)	94	(5368)
Emissions* (Nominal)								
NOx mg/Nm^3 (g/hp-h)	2349.1	(5.32)	2349.1	(5.32)	2206.7	(4.95)	2038.1	(4.62)
CO mg/Nm^3 (g/hp-h)	195.4	(0.42)	195.4	(0.42)	141.2	(0.30)	124.8	(0.27)
HC mg/Nm^3 (g/hp-h)	42.1	(0.10)	42.1	(0.10)	44.4	(0.11)	49.2	(0.12)
PM mg/Nm^3 (g/hp-h)	14.1	(0.04)	14.1	(0.04)	10.9	(0.03)	11.0	(0.03)
Emissions* (Potential Site Variation)								
NOx mg/Nm^3 (g/hp-h)	2818.9	(6.38)	2818.9	(6.38)	2648.0	(5.94)	2445.8	(5.55)
CO mg/Nm^3 (g/hp-h)	351.8	(0.76)	351.8	(0.76)	254.2	(0.55)	224.6	(0.49)
HC mg/Nm^3 (g/hp-h)	55.9	(0.14)	55.9	(0.14)	59.1	(0.15)	65.5	(0.16)
PM mg/Nm^3 (g/hp-h)	19.7	(0.05)	19.7	(0.05)	15.2	(0.04)	15.3	(0.04)

**mg/Nm^3 levels are corrected to 5% O_2. Contact your local Cat dealer for further information.*

3516C Diesel Generator Sets
Electric Power

Weights and Dimensions



Rating ekW (kVA)	Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
2500 (3125)	6800 (267.7)	2339 (92.1)	2997 (118.0)	17 590 (38,780)
2250 (2812)	7033 (276.9)	2767 (108.9)	3018 (118.8)	17 590 (38,780)
2050 (2562)	7033 (276.9)	2767 (108.9)	3018 (118.8)	17 590 (38,780)

Note: *For reference only. Do not use for installation design. Contact your local Cat dealer for precise weights and dimensions.*

Ratings Definitions

Standby
Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Mission Critical
Output available with varying load for the duration of the interruption of the normal source power. Average power output is 85% of the mission critical power rating. Typical peak demand up to 100% of rated power for up to 5% of the operating time. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Prime
Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

Continuous
Output available with non-varying load for an unlimited time. Average power output is 70-100% of the continuous power rating. Typical peak demand is 100% of continuous rated kW for 100% of the operating hours.

Applicable Codes and Standards
AS 1359, CSA C22.2 No. 100-04, UL 142, UL 489, UL 869, UL 2200, NFPA 37, NFPA 70, NFPA 99, NFPA 110, IBC, IEC 60034-1, ISO 3046, ISO 8528, NEMA MG1-22, NEMA MG1-33, 2014/35/EU, 2006/42/EC, 2014/30/EU.

Note: Codes may not be available in all model configurations. Please consult your local Cat dealer for availability.

Data Center Applications
- ISO 8528-1 Data Center Power (DCP) compliant per DCP application of Cat diesel generator set prime power rating.
- All ratings Tier III/Tier IV compliant per Uptime Institute requirements.
- All ratings ANSI/TIA-942 compliant for Rated-1 through Rated-4 data centers.

Fuel Rates
Fuel rates are based on fuel oil of 35º API [16°C (60ºF)] gravity having an LHV of 42,780 kJ/kg (18,390 Btu/lb) when used at 29ºC (85ºF) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.)

www.cat.com/electricpower

Cat® C18 DIESEL GENERATOR SETS

Attachment VI

Standby & Prime: 60Hz

Image shown might not reflect actual configuration

Engine Model	Cat® C18 ACERT™ In-line 6, 4-cycle diesel
Bore x Stroke	145mm x 183mm (5.7in x 7.2in)
Displacement	18.1 L (1106 in³)
Compression Ratio	14.5:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	MEUI
Governor	Electronic ADEM™ A4

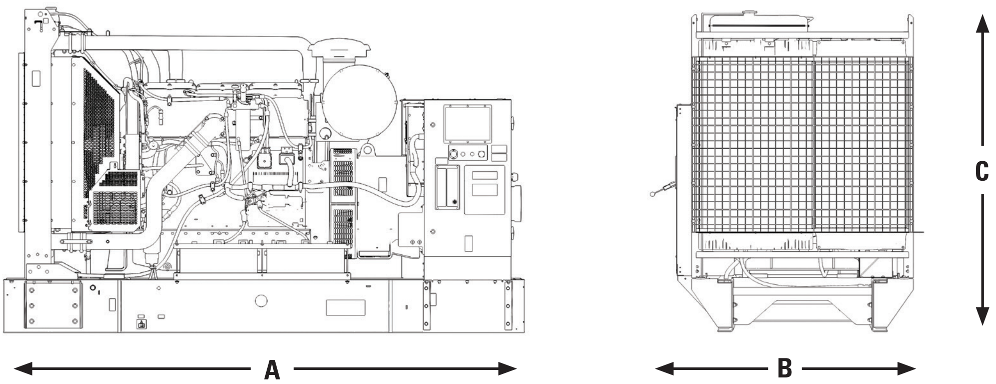
Model	Standby	Prime	Emission Strategy
C18	**600 ekW, 750 kVA**	**545 ekW, 681 kVA**	**TIER II Non-Road**

PACKAGE PERFORMANCE

Performance	Standby	Prime
Frequency	60 Hz	
Genset Power Rating	750 kVA	681 kVA
Genset power rating with fan @ 0.8 power factor	600 ekW	545 ekW
Emissions	TIER II Non-Road	
Performance Number	DM8518-04	DM8522-05
Fuel Consumption		
100% load with fan, L/hr (gal/hr)	161.6 (42.7)	151.1 (39.9)
75% load with fan, L/hr (gal/hr)	129.6 (34.2)	123.6 (32.6)
50% load with fan, L/hr (gal/hr)	91.7 (24.2)	89.2 (23.6)
25% load with fan, L/hr (gal/hr)	46.8 (12.4)	48.7 (12.9)
Cooling System[1]		
Radiator air flow restriction (system), kPa (in. Water)	0.12 (0.48)	0.12 (0.48)
Radiator air flow, m³/min (cfm)	803 (28357)	803 (28357)
Engine coolant capacity, L (gal)	20.8 (5.5)	20.8 (5.5)
Radiator coolant capacity, L (gal)	61 (16)	61 (16)
Total coolant capacity, L (gal)	82 (22)	82 (22)
Inlet Air		
Combustion air inlet flow rate, m³/min (cfm)	47.8 (1687.8)	46.7 (1649.0)
Max. Allowable Combustion Air Inlet Temp, °C (°F)	49 (120)	49 (120)
Exhaust System		
Exhaust stack gas temperature, °C (°F)	534.6 (994.3)	518.2 (964.8)
Exhaust gas flow rate, m³/min (cfm)	135.5 (4784.4)	129.6 (4576.4)
Exhaust system backpressure (maximum allowable) kPa (in. water)	10.0 (40.0)	10.0 (40.0)
Heat Rejection		
Heat rejection to jacket water, kW (Btu/min)	189 (10747)	175 (9953)
Heat rejection to exhaust (total) kW (Btu/min)	634 (36053)	596 (33895)
Heat rejection to aftercooler, kW (Btu/min)	153 (8700)	142 (8076)
Heat rejection to atmosphere from engine, kW (Btu/min)	86 (4902)	83 (4726)

Emissions (Nominal)[2]	Standby		Prime	
NOx, mg/Nm³ (g/hp-hr)	2798.7 (5.8)		2462.2 (5.1)	
CO, mg/Nm³ (g/hp-hr)	225.2 (0.5)		195.1 (0.4)	
HC, mg/Nm³ (g/hp-hr)	3.8 (0.01)		5.0 (0.01)	
PM, mg/Nm³ (g/hp-hr)	13.3 (0.03)		13.1 (0.03)	
Alternator[3]				
Voltages	480V	600V	480V	600V
Motor starting capability @ 30% Voltage Dip	1633 skVA	2023 skVA	1633 skVA	2023 skVA
Current	902 amps	722 amps	819 amps	656 amps
Frame Size	LC7024F	LC7024H	LC7024F	LC7024H
Excitation	AR	AR	AR	AR
Temperature Rise	150 ° C	130 ° C	125 ° C	105 ° C

WEIGHTS & DIMENSIONS



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
3477 (137)	**1628 (64)**	**2102 (83)**	**4431 (9769)**

APPLICABLE CODES AND STANDARDS:

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2006/95/EC, 2006/42/EC, 2004/108/EC.
Note: Codes may not be available in all model configurations. Please consult your local Cat Dealer representative for availability.

STANDBY: Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

PRIME: Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year

RATINGS: Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions.

DEFINITIONS AND CONDITIONS

[1] For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

[2] Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77° F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 BTU/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

[3] UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40° C ambient per NEMA MG1-32.

LET'S DO THE WORK.™

Appendix 2

Revised CEQA Transportation Analysis

CEQA Transportation Analysis - Draft Report

25800-25858 Clawiter Road Industrial Project (Former Gillig Site)

Hayward, California

Prepared For:
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Project Manager: Michael Sahimi
Project Principal: Damian Stefanakis

Project No. 23989
City of Hayward Planning Application #201906718

January 2021

EXECUTIVE SUMMARY

This report presents the findings and conclusions of the California Environmental Quality Act (CEQA) transportation impact analysis conducted by Kittelson & Associates for the proposed 25800-25858 Clawiter Road Industrial Project (the Project) located in Hayward, California. This report documents the CEQA transportation impact analysis conducted for this project and complements the non-CEQA local transportation analysis documented in the *Local Transportation Assessment – Draft Report*. This report also includes traffic volume forecasts and a public transit, pedestrian, and bicycle assessment which are inputs for other CEQA analyses.

The project is located at 25800 and 25858 Clawiter Road, north of State Route 92 (SR-92), in the City of Hayward. The project proposes to demolish the four existing buildings on the site to construct a new four-building industrial park. The project will consist of the following four buildings:

- **Building 1**: a single-story industrial building with 61,444 square feet of industrial space and 5,000 square feet of office space;
- **Building 2**: a single-story industrial building with 51,720 square feet of industrial space and 5,000 square feet of office;
- **Building 3**: a single-story industrial building consisting of 208,931 square feet of industrial space and 5,000 square feet of office; and
- **Building 4**: a three-story data center building with 259,000 square feet of data center space, 7,000 square feet of storage, 10,000 square feet of office, and 2,000 square feet of assembly use.

The project would also include a parking lot with 320 automobile parking spaces and 45 trailer parking spaces. Access to the project site along Clawiter Road would be provided by one ingress/egress easement on the south side of the project and two driveways on the north side. Due to the railroad spur separating the north and south portions of the Project site, connectivity between the two portions is infeasible.

SUMMARY OF FINDINGS

As assessment of vehicle miles traveled (VMT) determined the project can be screened out of a detailed VMT analysis under the City's SB 743-consistent VMT criteria. Therefore, it was determined that the project would have a **less-than-significant** VMT impact. No mitigation measures have been identified.

In addition, the following recommendations were made, to be incorporated as part of this project, consistent with recommendations made in the *Local Transportation Assessment – Draft Report*:

- Coordinate with AC Transit to implement improvements to increase bus stop visibility and user comfort (such as benches and shelters) should bus stops along the project frontage be used for Route 83 or other service.

- Ensure that the project driveways on Clawiter Road are designed for pedestrian visibility safety (sidewalks clearly delineated, improved visibility by minimizing bushes and large signs).
- Coordinate with the City of Hayward to install warning signage (such as bikeway signage and caution signage for exiting vehicles) and continental crosswalks at the project driveways.
- Explore options with the existing property owner to better delineate the southern pedestrian access path through the access easement with high-visibility paint and signage.
- With the City and existing property owner, explore options to install sidewalks along Clawiter Road south of the railroad tracks.
- Ensure the on-site bike sharrows are high-visibility and are accompanied by the appropriate signage.
- The City of Hayward BPMP proposes replacing the bike route along Clawiter Road with separated bike lanes. Therefore, it is recommended that the property owner coordinate with the City to provide the appropriate signage and transition markings for the separate bike lanes at the project driveways. This should include coordination with the City to determine the feasibility of implementing these improvements at this time or to determine a project contribution to improvements to be installed at a future time.

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APPENDICES

1 METHODOLOGIES AND EXISTING TRAFFIC VOLUMES

The Project is located at 25800-25858 Clawiter Road, on the west side of Clawiter Road north of State Route 92 (SR-92), in the City of Hayward. This is the site of the former Gillig Bus Company manufacturing plant. The Project is described in detail in Section 2. The study area and project site are shown in Figure 1.

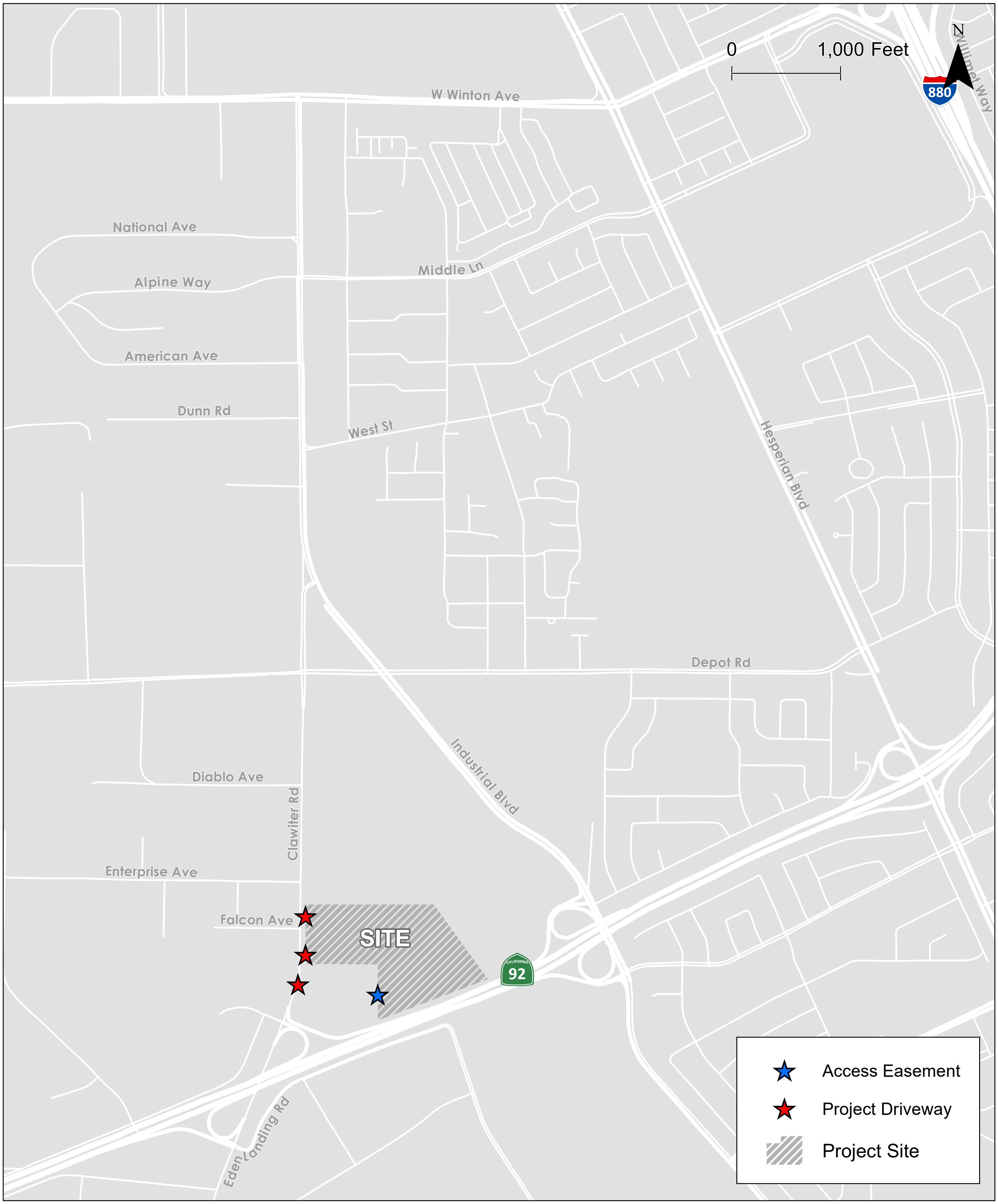
This transportation impact analysis is therefore subject to the regulations and standards currently in place in the City of Hayward. These standards are outlined in the City's recently adopted VMT criteria, as summarized below.

The analysis methodology used in this report was approved by City Transportation Staff prior to commencement of the study.

1.1 VMT IMPACT SIGNIFICANCE CRITERIA

Under Senate Bill (SB) 743, a project's effect on automobile delay shall not constitute a significant environmental impact. Therefore, level of service (LOS) and other similar vehicle delay or capacity metrics may no longer serve as transportation impact metrics for California Environmental Quality Act (CEQA) impact analyses. The Governor's Office of Planning and Research (OPR) has updated the CEQA Guidelines and provided a final technical advisory in December 2018 which recommends vehicle miles traveled (VMT) as the most appropriate measure of transportation impacts under CEQA. For land use and transportation projects, SB 743-compliant CEQA analysis became mandatory on July 1, 2020.

The City of Hayward has adopted VMT thresholds of significance and screening criteria, which are used in this study for impact analysis purposes.



Study Area and Project Site
Hayward, California

Figure
1

H:\23\23989 - Hayward Gillig TIA & Signal Mod\gis\CEQA transportation report\Figure 01 Study Area and Project Site.mxd - msahimi - 4:46 PM 11/19/2020

KITTELSON & ASSOCIATES

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

The City's thresholds of significance by land use are shown in Table 1.

Table 1: Thresholds of Significance for Residential and Employment Projects

Land Use	Threshold of Significance
Residential	15% below existing average VMT per capita for the City of Hayward
Employment - Office	15% below existing regional average VMT per employee
Employment - Industrial	Below existing regional average VMT per employee
Retail	Net increase in total regional VMT

Source: City of Hayward, 2020

The City has also adopted screening criteria, which can be used to quickly identify when a project should be expected to cause a less-than-significant impact related to VMT and would not require a detailed VMT analysis. Before any VMT analysis is undertaken, the project must undergo this screening assessment to determine if it can be screened out of a detailed VMT study. The City's screening criterion for industrial projects is detailed below. Note, all of the following conditions must be met for the project to be screened out.

- Located in areas with below average VMT per employee and/or within a half mile of a major transit stop or corridor.
- Include low VMT-supporting features that will produce low VMT per employee.
- Must include features that are similar to or better than what exists today for density and parking to support no increase in VMT per industrial employee.

1.2 DEVELOPMENT OF FUTURE TRAVEL DEMAND

Future year traffic forecasts were developed for the intersections shown in Figure 2 for the Background Year 2025 and Cumulative Year 2035 conditions. These forecasts were developed using projected peak hour traffic volumes derived from the Hayward General Plan Update version of the Alameda CTC Countywide Model.

The model includes future development throughout the region. The 2035 forecasts are consistent with regional totals for growth projected by ABAG in their Projections 2009 report. Therefore, the traffic forecasts reflect traffic from growth in Hayward as well as traffic from future developments in the region that may use the local roadways. Cumulative 2035 No Project volumes were extracted from the travel model and adjusted based on the incremental or difference method described in NCHRP 255[1] methods, consistent with the methodology used for the Hayward General Plan and other citywide Specific Plans. The method compares 2035 model volumes to existing year model volumes to identify the growth increment, and then adds this increment to the existing counts, thus smoothing out any

[1] Highway Traffic Data for Urbanized Area Project Planning and Design, Transportation Research Board, 1992.

model validation error compared to existing counts. The Background 2025 No Project Volumes were developed by interpolating volumes between existing and Cumulative 2035 volumes.

When new roadway facilities are introduced, future traffic volumes may reduce to a level below existing counts for some turn movements. Within the study area, the planned SR-92/Clawiter interchange improvements are included in the travel demand model and anticipated to result in rerouted local traffic. Therefore, the incremental adjustment method used to produce future traffic forecasts for this study did include some negative traffic growth at some study intersections. These negative growth locations are associated with the anticipated shift in traffic patterns as a result of the planned interchange improvements.

1.3 EXISTING TRAFFIC VOLUMES

1.3.1 Automobile Traffic Volumes

Vehicle turning movement data was collected on Wednesday, August 5, 2020 during the weekday morning (7:00 AM to 9:00 AM) and evening (4:00 PM to 6:00 PM) peak periods. Because the traffic counts were collected during the COVID-19 pandemic, the counts were anticipated to be lower than normal. Therefore, the counts were compared to traffic counts collected during normal conditions from February 2016, July 2017, or January 2020 at five of the study intersections (intersections #1, #3, #5, #12, and #13). Generally, it was found that the AM peak hour counts were up to 35% lower during the pandemic and the PM peak hour counts were up to 20% lower. Therefore, it was concluded that:

- Historical counts would be used to analyze intersections #1, #3, #5, #12, and #13.
- For the remaining intersections, the August 2020 counts would be used with growth applied uniformly (35% to the AM counts and 20% to the PM counts).
- Adjustments would be made to balance volumes between the two Clawiter Road & Industrial Boulevard intersections (east and west).
- Northbound and southbound through volumes at the project's northern and central driveways (which are not used at this time) would be estimated based on adjacent intersections.
- The adjustment methodology was verified and approved by City Transportation staff.

Figure 3 shows the existing automobile peak hour volumes at the study intersections, including the adjusted volumes where applicable. Intersection control (i.e., signalized or stop-controlled) and lane geometries are also shown. Appendix A contains the field-collected count sheets and the COVID-19 adjustment calculations.

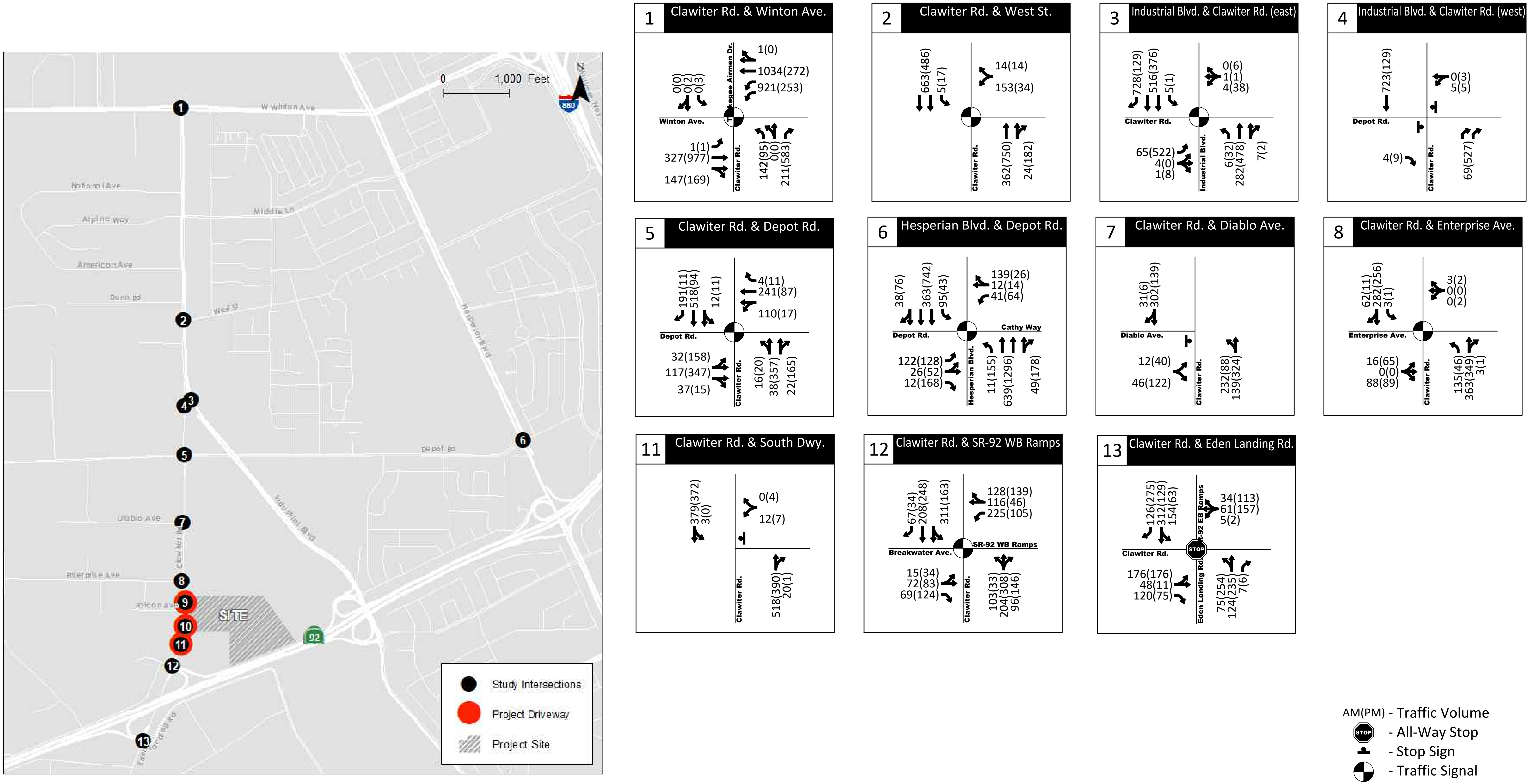
H:\23\23989 - Hayward Gillig TIA & Signal Mod\gis\CEQA transportation report\Figure 02 Intersection Forecast Locations.mxd - msahimi - 4:48 PM 11/19/2020

Intersection Forecast Locations
Hayward, California

Figure
2

KITTELSON & ASSOCIATES

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet



Existing Automobile Peak Hour Volumes
Hayward, CA

Figure 3

1.3.2 Pedestrian and Bicycle Volumes

Pedestrian and bicycle volumes were collected at the study intersections as part of the data collection effort. Table 2 and Table 3 present the pedestrian and bicycle volume data for the weekday AM and weekday PM peak hours, respectively. The tables indicate minimal pedestrian and bicycle activity in the study area, indicative of industrial land uses.

Table 2: Pedestrian and Bicycle Volumes (Weekday AM Peak Hour)

#	Intersection	Pedestrian Crossings (by intersection leg)				Northbound Bicycles			Southbound Bicycles			Eastbound Bicycles			Westbound Bicycles		
		N	S	E	W	L	T	R	L	T	R	L	T	R	L	T	R
1	Clawiter Rd./Tuskegee Airmen Dr. & Winton Ave.	1	6	0	0	0	0	0	0	0	0	0	2	0	1	4	0
2	Clawiter Rd. & West St.	1	0	2	1	0	2	0	0	1	0	1	0	0	0	0	0
3	Clawiter Rd. & Industrial Blvd. (east)	0	0	0	4	1	1	0	0	0	0	0	0	0	0	0	0
4	Clawiter Rd. & Industrial Blvd. (west)	0	0	0	1	0	0	0	0	2	0	0	0	1	0	0	0
5	Clawiter Rd. & Depot Rd.	1	0	1	0	0	1	0	0	2	0	0	0	0	0	0	0
6	Hesperian Blvd. & Depot Rd.	1	0	7	2	0	1	0	0	1	0	0	0	0	1	0	0
7	Clawiter Rd. & Diablo Ave.	0	0	1	1	0	0	0	0	3	0	0	0	0	0	0	0
8	Clawiter Rd. & Enterprise Ave.	0	0	1	0	0	0	0	0	2	1	0	0	0	0	0	0
9	North Dwy. (north half)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10	Central Dwy. (north half)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	South Dwy. (south half)	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
12	Clawiter Rd. & Breakwater Ct./SR-92 WB Ramps	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0
13	Clawiter Rd. & SR-92 EB Ramps/Eden Landing Rd.	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0

Data Source: Quality Counts manual turning movement counts (June 2020).

Table 3: Pedestrian and Bicycle Volumes (Weekday PM Peak Hour)

#	Intersection	Pedestrian Crossings (by intersection leg)				Northbound Bicycles			Southbound Bicycles			Eastbound Bicycles			Westbound Bicycles		
		N	S	E	W	L	T	R	L	T	R	L	T	R	L	T	R
1	Clawiter Rd./Tuskegee Airmen Dr. & Winton Ave.	0	4	0	1	0	0	0	0	0	0	0	5	0	0	1	1
2	Clawiter Rd. & West St.	0	0	0	2	0	1	1	1	1	0	0	0	0	1	0	1
3	Clawiter Rd. & Industrial Blvd. (east)	0	1	1	0	0	1	0	0	1	0	0	0	0	0	0	0
4	Clawiter Rd. & Industrial Blvd. (west)	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5	Clawiter Rd. & Depot Rd.	0	1	0	4	0	0	0	0	0	0	1	1	0	0	0	0
6	Hesperian Blvd. & Depot Rd.	0	3	3	1	1	3	0	0	1	0	0	3	0	0	1	0
7	Clawiter Rd. & Diablo Ave.	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
8	Clawiter Rd. & Enterprise Ave.	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
9	North Dwy. (north half)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10	Central Dwy. (north half)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	South Dwy. (south half)	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
12	Clawiter Rd. & Breakwater Ct./SR-92 WB Ramps	1	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0
13	Clawiter Rd. & SR-92 EB Ramps/Eden Landing Rd.	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0

Data Source: Quality Counts manual turning movement counts (June 2020).

2 PROJECT DESCRIPTION AND VMT IMPACT ANALYSIS

The project is located at 25800 and 25858 Clawiter Road, north of State Route 92 (SR-92), in the City of Hayward. The site consists of six assessor's parcels (APNs 439-0080-003-07, 439-0080-003-12, 439-0080-003-10, 439-0080-003-09, 439-0080-010, and 439-0080-005-02). The north side of the project (approximately 17.21 acres) is currently vacant and consists of the former Gillig Bus Manufacturing facility (282,000 square feet of buildings). The south side of the project (approximately 8.76 acres) is currently occupied by Manheim Auto, for the storage of cars held for auction. The site is bisected by an active railroad spur. The project proposes to demolish the four existing buildings on the site to construct a new four-building industrial park. The project will consist of the following four buildings:

- **Building 1**: a single-story industrial building with 61,444 square feet of industrial space and 5,000 square feet of office space;
- **Building 2**: a single-story industrial building with 51,720 square feet of industrial space and 5,000 square feet of office;
- **Building 3**: a single-story industrial building consisting of 208,931 square feet of industrial space and 5,000 square feet of office; and
- **Building 4**: a three-story data center building with 259,000 square feet of data center space, 7,000 square feet of storage, 10,000 square feet of office, and 2,000 square feet of assembly use.

This results in a combined total of 615,095 square feet of industrial uses. The project would also include a parking lot with 320 automobile parking spaces and 45 trailer parking spaces. Access to the project site along Clawiter Road would be provided by one ingress/egress easement on the south side of the project and two driveways on the north side. Due to the railroad spur separating the north and south portions of the Project site, connectivity between the two portions is infeasible. The project site and study area are shown in Figure 1. The current proposed site plan is shown in Figure 4.

This section discusses the results of the VMT analysis using the City's SB 743-consistent VMT thresholds of significance and screening criteria.

2.1 EQUIVALENT LAND USE AND APPLICABLE THRESHOLDS AND SCREENING CRITERIA

The City of Hayward has developed significant VMT impact thresholds that cover residential, office employment, industrial employment, and retail projects. This is generally consistent with OPR's technical advisory, which provided recommended metrics and impact thresholds for residential, office, and retail projects, since they tend to have the greatest influence of land use projects on VMT in California.

The City's thresholds of significance by land use are shown in Table 1. Given that the project is an industrial park with primarily industrial uses and other minor supporting uses, it was determined that the employment-industrial threshold (VMT per employee below the existing regional average) would be appropriate to apply to the project.

2.2 VMT SCREENING

Before any VMT analysis is undertaken, the Project must undergo screening using the City's screening criteria to determine if it can be expected to cause a less-than-significant impact without conducting a detailed VMT study.

The City's screening criterion for projects analyzed under the employment-industrial threshold is detailed below. Note, all of the following conditions must be met for the project to be screened out.

- Located in areas with below average VMT per employee and/or within a half mile of a major transit stop or corridor.
- Include low VMT-supporting features that will produce low VMT per employee.
- Must include features that are similar to or better than what exists today for density and parking to support no increase in VMT per industrial employee.

The low-VMT area screening criterion applies to this project and the project can be screened out of a detailed VMT analysis for the following reasons:

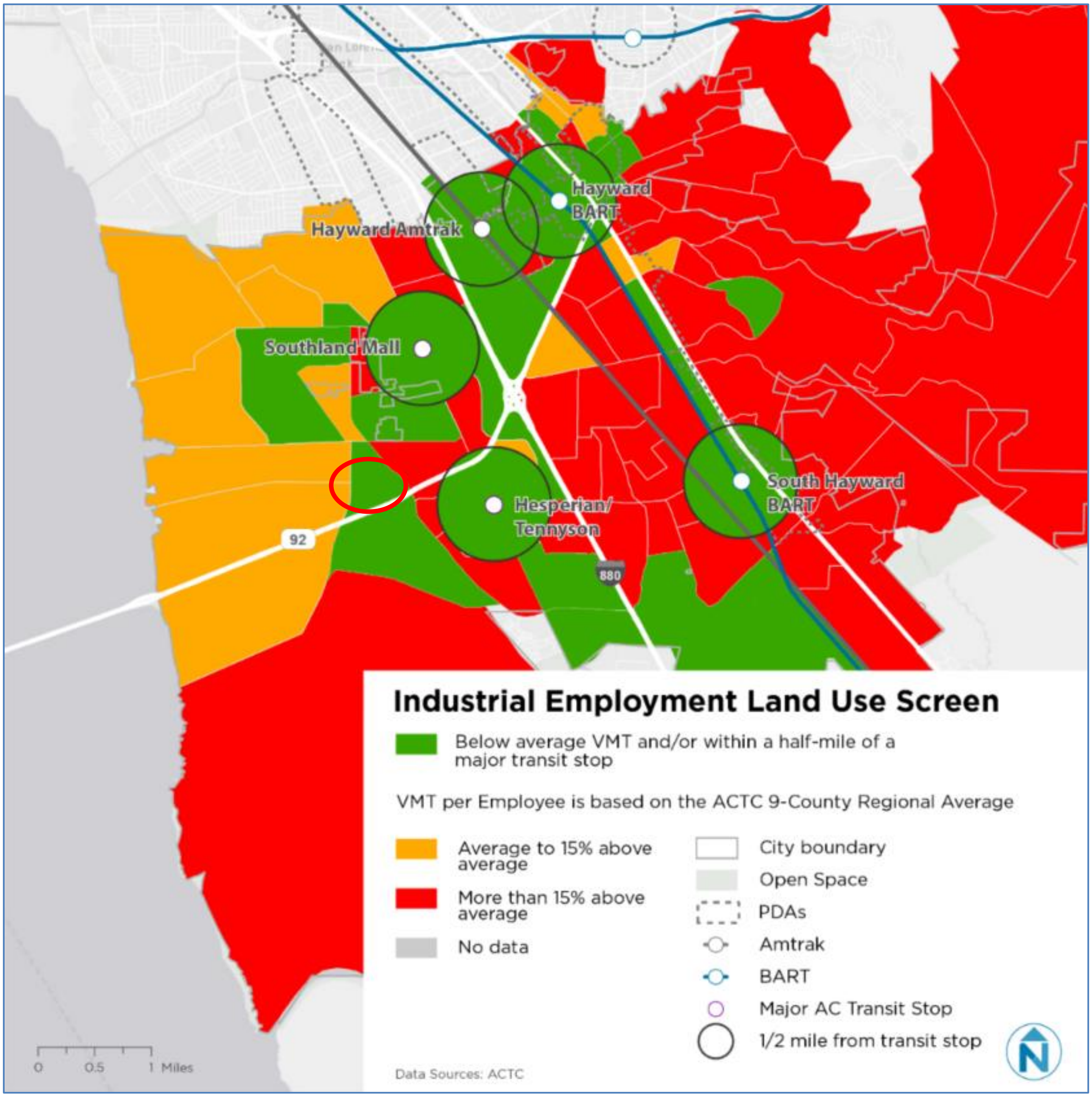
- As shown in Figure 5, the project is located in an area with below average VMT.
- The project includes low-VMT supporting features:
  - Vehicle parking would include both a carpool-designated preferred area, as well as electric vehicle charging stations.
  - The project incentivizes commuting by bike, with bike racks and storage facilities, fitness facilities, and showers. On-site bike sharrows will also be included.
  - An on-site food truck space will be made available so employees are likelier to remain on-site for lunch.
- The project includes features that are similar to or better than what exists today for density and parking to support no increase in VMT per industrial employee. The project improves conditions compared to what is currently on the site:
  - Increases density: The site's previous use had 282,000 square feet of development. With the project, this would increase to approximately 631,000 square feet.
  - Decreases parking: The previous facility provided 450 parking spaces. With the project, on-site parking will decrease to 320 auto parking spaces and 45 trailer parking spaces.

The low-VMT area criterion for industrial projects can therefore be applied to the project and it would not require a detailed VMT analysis. Therefore, the project would have a **less-than-significant** VMT impact.

Figure 4: Project Site Plan

Source: Applicant, Dated: 8/14/2020, Received: 10/8/2020

Figure 5: Employment-Industrial Land Use Screening Map



Project Location

Source: VMT Thresholds of Significance and Screening Criteria – Brief, 2020

3 PROJECT TRIP GENERATION AND DISTRIBUTION

This section provides the vehicle trip generation and distribution estimates for the proposed project.

3.1 TRIP GENERATION

Project trip generation was estimated for the following three time periods:

- Weekday daily
- Weekday AM peak hour
- Weekday PM peak hour

Trips were estimated using data provided by the Institute of Transportation Engineers (ITE) and shown in Table 4. Trip generation for the project was estimated using rates for the Industrial Park land use code (Code 130), which is appropriate for the project's industrial uses and related on-site uses such as office and manufacturing. As shown in Table 4, the project is expected to generate 2,073 weekday daily vehicle trips, 246 weekday AM peak hour vehicle trips, and 246 weekday PM peak hour vehicle trips.

Table 4 also shows trip generation estimates for the existing automobile storage uses on the site's southern portion, as well as the project's net new trip generation when taking a credit for existing uses. ITE does not provide specific trip generation rates for automobile storage; therefore, it was determined that the Warehousing land use code would be appropriate for estimating trip generation for the site's existing uses. An existing credit was not taken for the northern portion of the site since it has been abandoned for a number of years. As shown in Table 4, the project is estimated to generate 1,409 net-new daily vehicle trips, 181 net-new AM peak hour vehicle trips, and 173 net-new PM peak hour vehicle trips.

Table 4: Project Trip Generation Estimate

Trip Generation Rates								
Land Use	**Rate**	**Daily**	**AM Peak Hour**			**PM Peak Hour**		
			In	**Out**	**Total**	**In**	**Out**	**Total**
Warehousing (ITE Code 150)	KSF	1.74	77%	23%	0.17	27%	73%	0.19
Industrial Park (ITE Code 130)	KSF	3.37	81%	19%	0.4	21%	79%	0.4
Trip Generation Estimates								
Land Use	**Size**	**Daily**	**AM Peak Hour**			**PM Peak Hour**		
			In	**Out**	**Total**	**In**	**Out**	**Total**
Existing Use: Warehousing (ITE Code 150)	381.586 KSF	664	50	15	65	20	53	73
Proposed Use: Industrial Park (ITE Code 130)	615.095 KSF	2,073	199	47	246	52	194	246
NET NEW PROJECT TRIPS		**1,409**	**149**	**32**	**181**	**32**	**141**	**173**

Source: Kittelson & Associates, Inc., 2021; Institute of Transportation Engineers, 2017.
Notes: KSF signifies thousand square feet.

3.2 TRIP DISTRIBUTION AND ASSIGNMENT

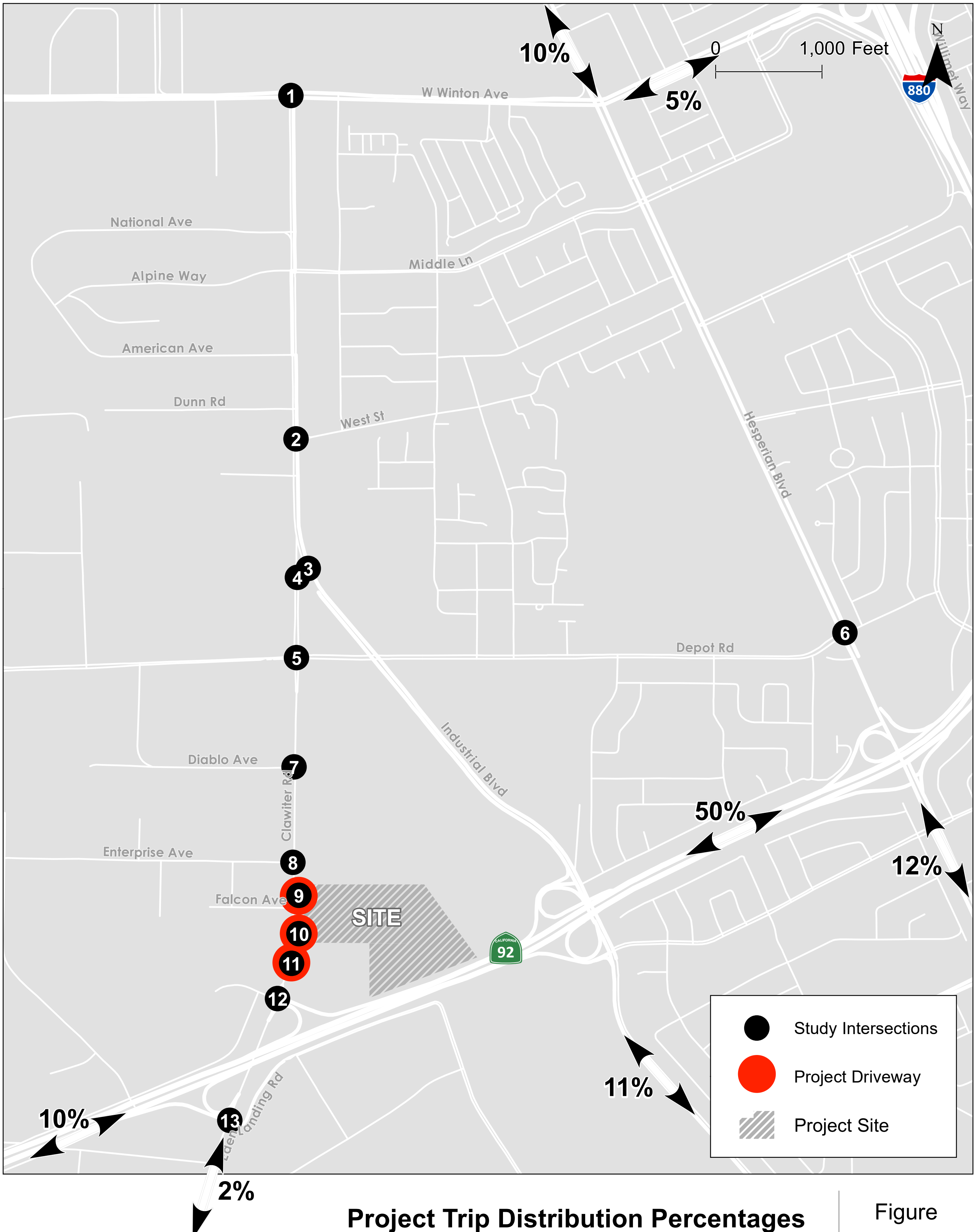
Project trip distribution was developed using the City of Hayward General Plan Update travel demand model. The project trip distribution is based on the model's distribution of trips in and out of the traffic analysis zone (TAZ) representing the project site, as well as adjustments to reflect local travel patterns and circulation conditions. The project trip distribution and intersection count locations are shown in Figure 6.

The trip distribution for the project is as follows:

- 10% to/from the west via SR-92
- 10% to/from the north via Hesperian Boulevard
- 5% to/from the northwest via Winton Avenue
- 50% to/from destinations in the north, east, and south/southeast via SR-92
- 12% to/from the south/southeast via Hesperian Boulevard
- 11% to/from the south/southeast via Industrial Boulevard
- 2% to/from the south via Eden Landing Road and Arden Road

All trip distribution destinations total up to 100%.

Figure 7 presents the weekday AM and PM project-only turning movements that were derived from the trip generation and trip distribution discussed in this section. These project-only volumes will be used in the Existing Plus Project, Background 2025 Plus Project, and Cumulative 2035 Plus Project analyses.



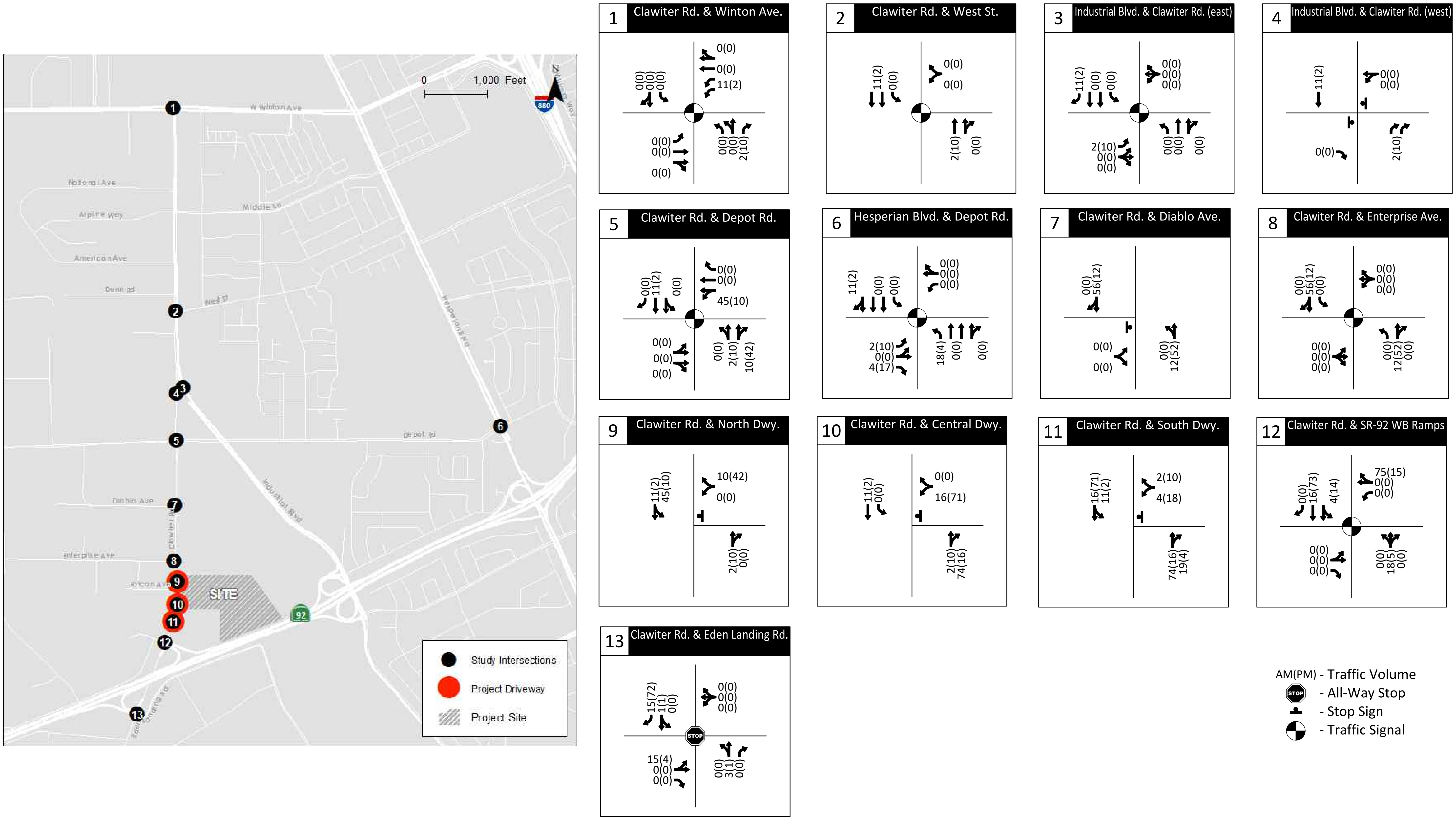
Project Trip Distribution Percentages
Hayward, California

Figure
6

H:\23\23989 - Hayward Gillig TIA & Signal Mod\gis\CEQA transportation report\Figure 6 Project Trip Distribution Percentages.mxd - msahimi - 4:57 PM 11/19/2020

KITTELSON & ASSOCIATES

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet



Project-Only Trips
Hayward, CA

Figure
7

4 INTERSECTION TRAFFIC VOLUME FORECASTS

This chapter provides the traffic volume forecasts at intersections in the study area for the Existing Plus Project, Background Year 2025, Background Year 2025 Plus Project, Cumulative Year 2035, and Cumulative Year 2035 Plus Project conditions.

4.1 EXISTING PLUS PROJECT TRAFFIC VOLUMES

The automobile turning movement counts for the Existing Plus Project scenario were developed from the sum of the Existing Conditions turning movement counts and the Project Only turning movements displayed in Figure 7. Figure 8 presents the Existing Plus Project turning movements.

4.2 BACKGROUND 2025 TRAFFIC VOLUMES

The year 2025 was selected for the background condition consistent with City guidelines. Traffic volumes were developed using projected peak hour traffic volumes derived from the Hayward General Plan Update version of the Alameda CTC Countywide Model.

Figure 9 presents the Background 2025 volumes derived from the travel demand model and the incremental adjustment process described in Section 1.2.

The automobile turning movement counts for the Background Plus Project scenario were developed from the sum of the Background 2025 No Project volumes and the Project Only turning movements described in Section 3 (and displayed in Figure 7). Figure 10 presents the Background Plus Project volumes.

4.3 CUMULATIVE 2035 TRAFFIC VOLUMES

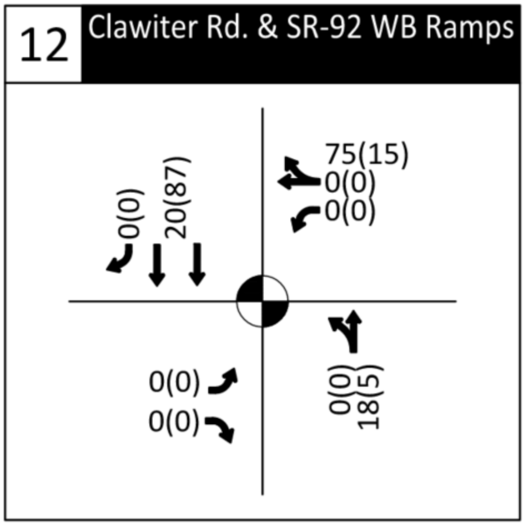
Cumulative Year 2035 vehicle volumes were evaluated using projected peak hour traffic volumes derived from the Hayward General Plan Update version of the Alameda CTC Countywide Model.

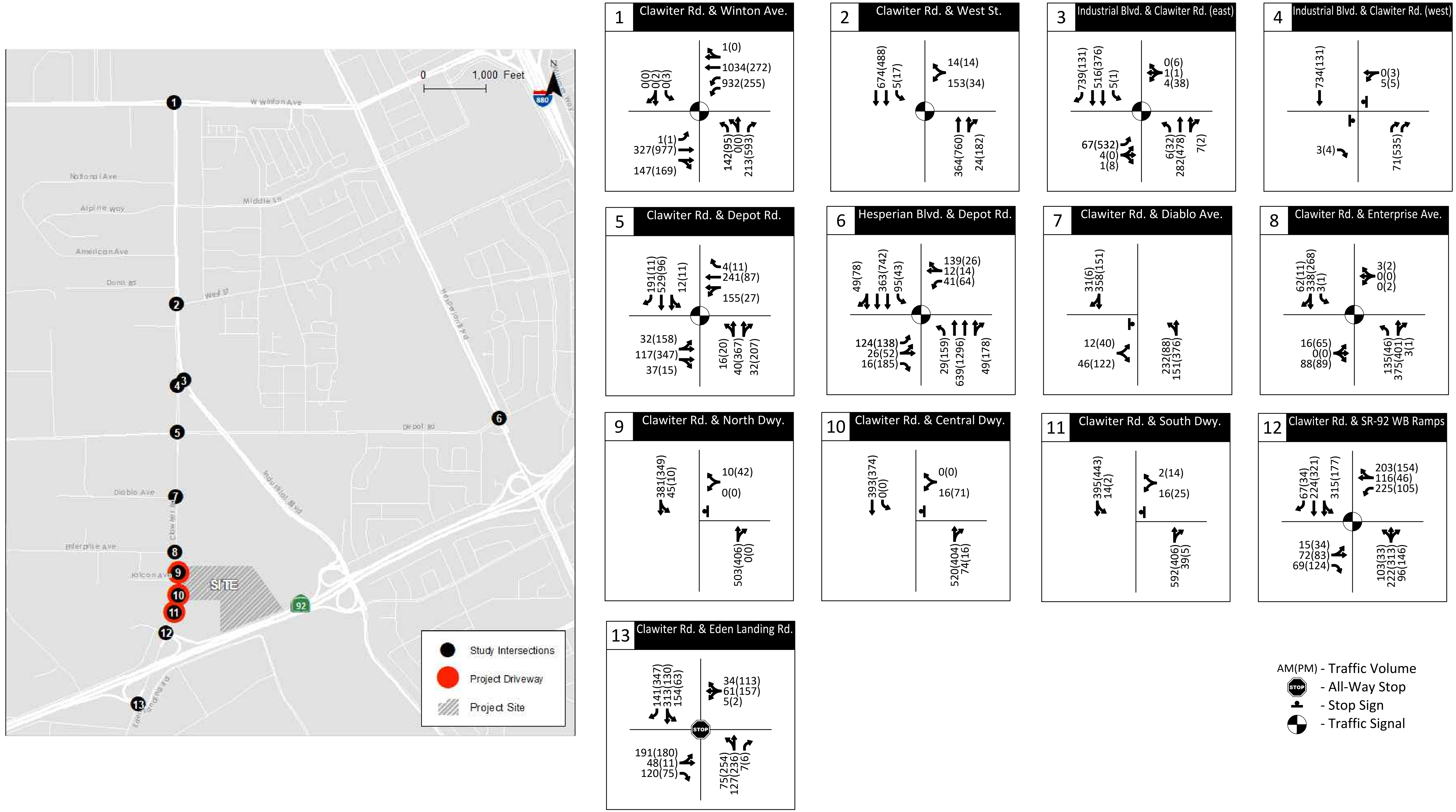
Figure 11 presents the Cumulative 2035 volumes derived from the travel demand model and the incremental adjustment process described in Section 1.2. Note, these volumes account for the future elimination of the southbound left turn and northbound right turn vehicle movements at the Clawiter Road & Breakwater Avenue/SR-92 WB Ramps intersection as a result of the planned SR-92/Clawiter interchange improvements.

The automobile turning movement counts for the Cumulative Plus Project scenario were developed from the sum of the Cumulative 2035 No Project volumes and the Project Only turning movements described in Section 3 (and displayed in Figure 7). Note, given the elimination of the southbound left turn and northbound right turn vehicle movements at the Clawiter Road & Breakwater Avenue/SR-92 WB Ramps intersection, the project trip assignment at this intersection has been modified for the

Cumulative 2035 Plus Project scenario as shown below. Figure 12 presents the Cumulative Plus Project volumes.

Cumulative 2035 Project Trip Assignment at Intersection #12 (Clawiter Rd. & Breakwater Ave./SR-92 WB Ramps)





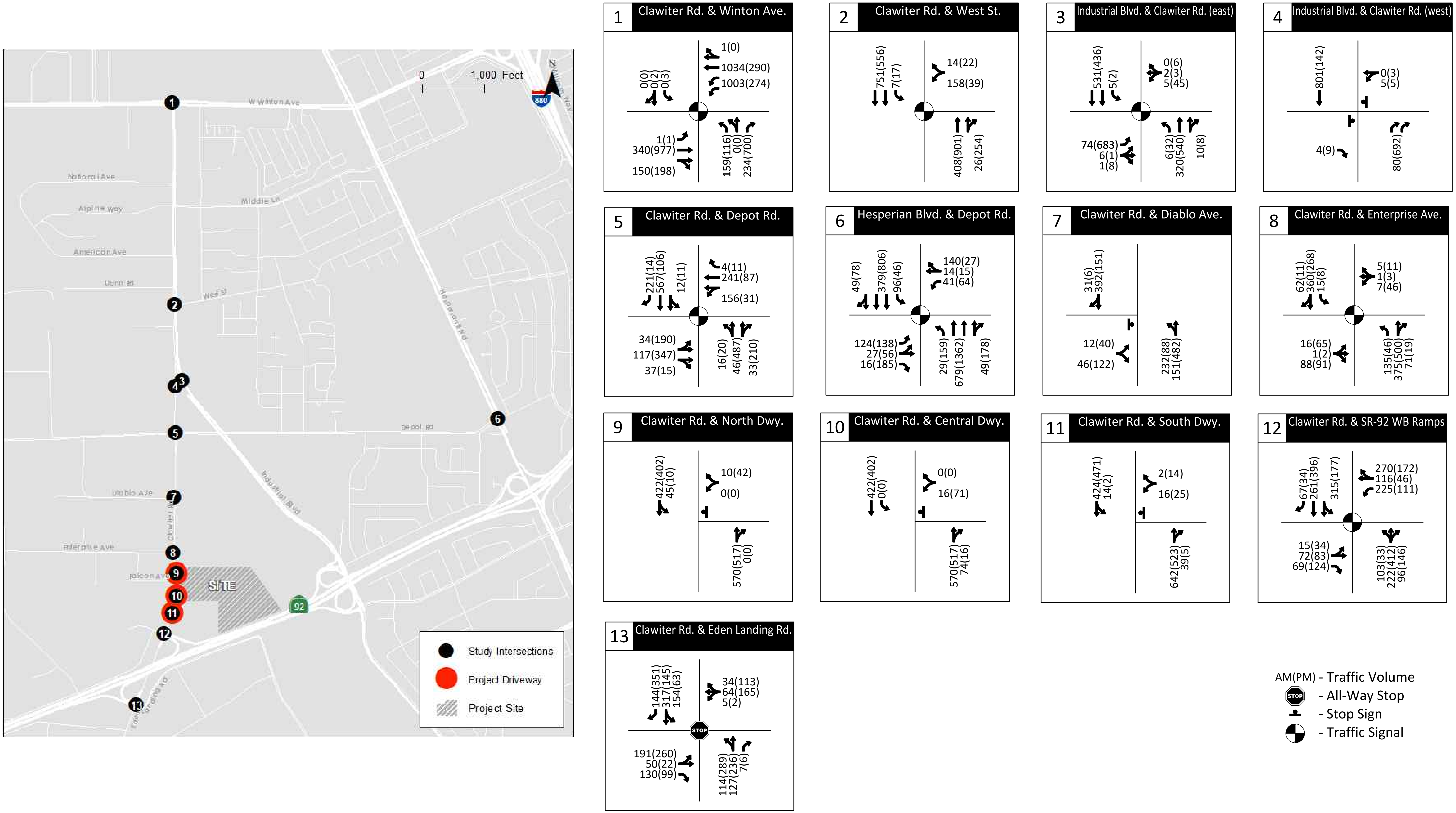
Existing Plus Project Turning Movement Forecasts
Hayward, CA

Figure
8

KITTELSON & ASSOCIATES

Background 2025 Turning Movement Forecasts
Hayward, CA

Figure 9



Background 2025 Plus Project Turning Movement Forecasts
Hayward, CA

Figure
10

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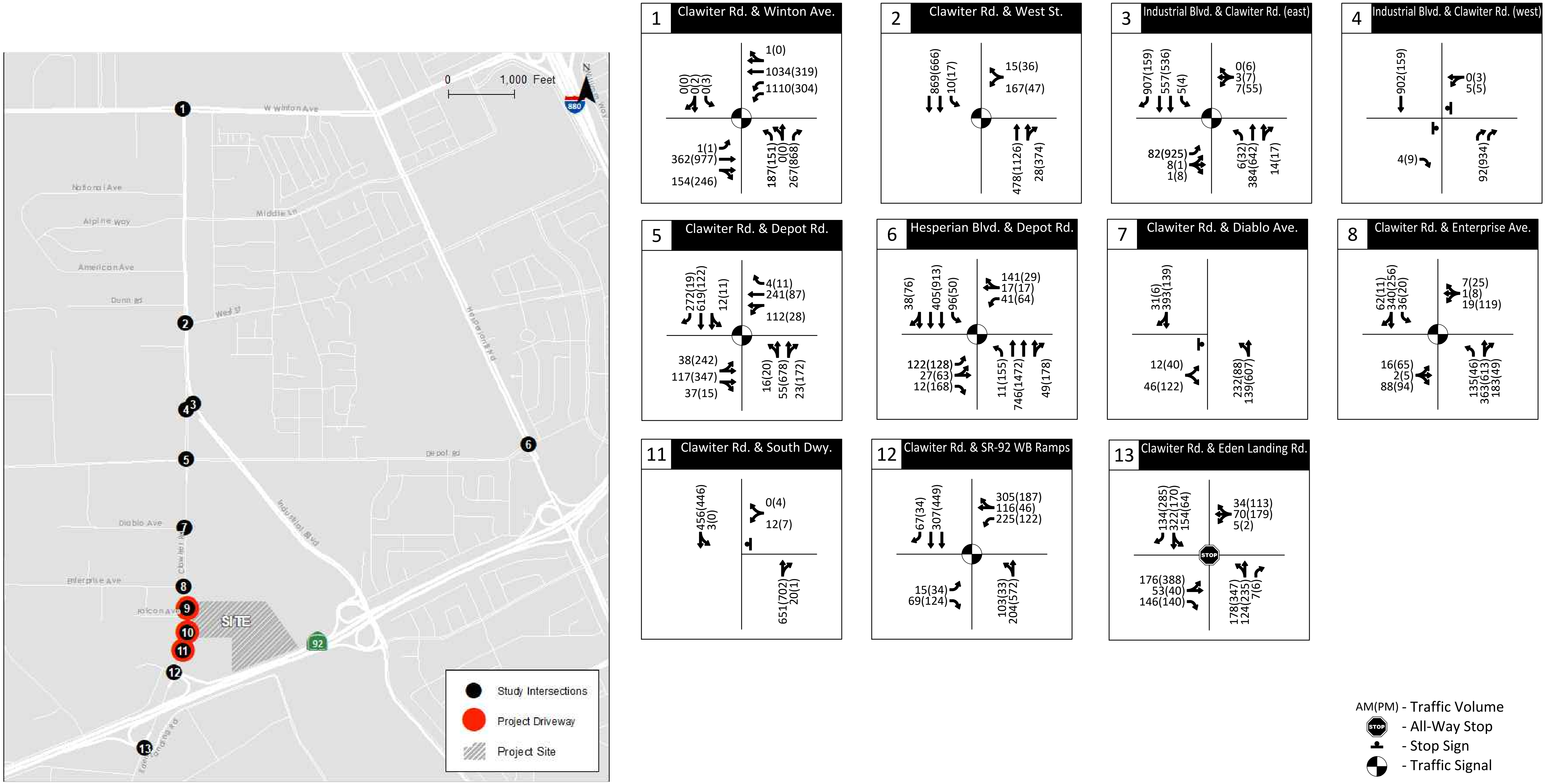

Cumulative 2035 Turning Movement Forecasts
Hayward, CA

Figure 11

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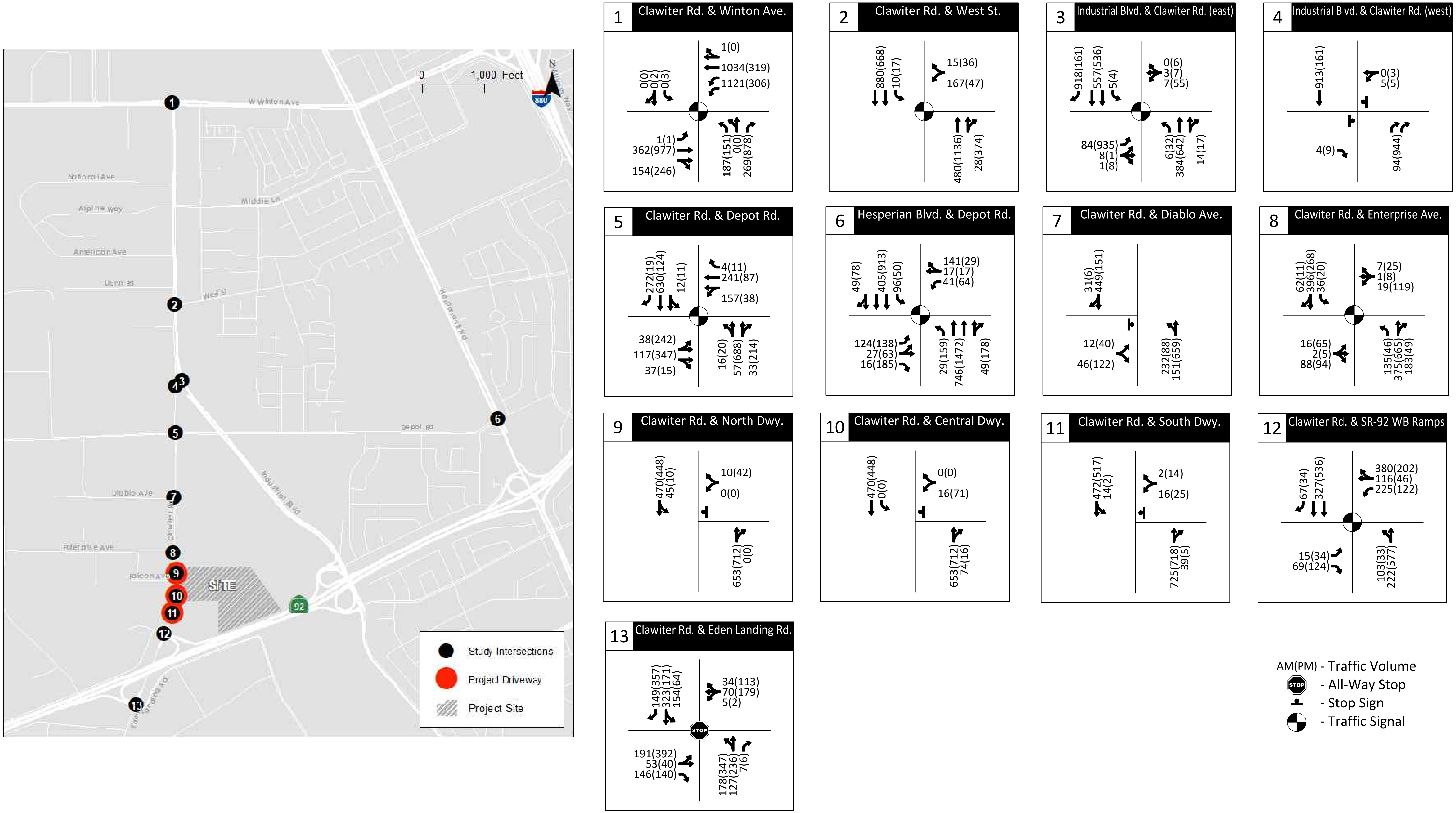
KITTELSON & ASSOCIATES



Cumulative 2035 Plus Project Turning Movement Forecasts
Hayward, CA

Figure 12

KITTELSON & ASSOCIATES

5 PUBLIC TRANSIT, PEDESTRIAN AND BICYCLE ASSESSMENT

This section discusses potential effects on public transit, pedestrians, and bicyclists. To supplement this analysis, the Alameda County Transportation Commission (ACTC) Development Review Complete Streets Checklist was completed and is included as Appendix B.

5.1 PUBLIC TRANSIT ASSESSMENT

The Project is not expected to substantially increase traffic levels at intersections serving local AC Transit buses (such as Routes 86, 97, and M). In addition, the project is not expected to degrade local access to bus stops along Clawiter Road, which can be accessed via the local sidewalk network and existing facilities such as ADA curb ramps and crosswalks; there are no active bus stops near the project or abutting the project driveways; however, there are two inactive Route 83 bus stops near the project driveways which do not have amenities other than a post and sign. Therefore, the property owner should coordinate with AC Transit to implement improvements to increase bus stop visibility and user comfort (such as benches and shelters) should these stops be used for Route 83 or other service.

5.2 PEDESTRIAN ASSESSMENT

The study area features sidewalks and curb ramps that are in good condition. However, sidewalk coverage is limited, especially along Clawiter Road adjacent to the project and the SR-92 ramps. In addition, while some high-visibility ladder crosswalks are provided along Clawiter Road, several standard crosswalks have faded striping.

The pedestrian access point to the north half of the project will be the north driveway along Clawiter Road, and the pedestrian access point to the south half of the project will be the south project driveway along Clawiter Road (the central driveway is not designated as a pedestrian access point). To access the north half of the project, pedestrians can utilize a dedicated pedestrian walkway through the site. Pedestrians accessing the south half of the project will not have a dedicated walkway through the access easement, but rather a path marked with yellow paint for pedestrian access, as shown in Figure 13; this access path is parallel to those used by bicycles, automobiles, and trucks. A dedicated walkway is available east of the easement. In addition, pedestrian lighting is provided at multiple locations in both the north and south halves.

Pedestrians accessing the north half of the project, as well as pedestrians traveling along Clawiter Road, may experience conflicts with vehicles both on-site and at the driveways. Potential pedestrian-oriented treatments that could be considered as part of design review and conditions of approval could include:

- Ensure that the north and central driveways on Clawiter Road are designed for pedestrian visibility safety (sidewalks clearly delineated, improved visibility by minimizing bushes and large signs).

- Coordinate with the City of Hayward to install warning signage (such as caution signage for exiting vehicles) and continental crosswalks at the north and central driveways.

Pedestrians accessing the south half of the project, as well as pedestrians traveling along Clawiter Road, may experience conflicts with vehicles both on-site and at the driveways. Pedestrians accessing the site could face some limitations due to the lack of a dedicated pedestrian walkway and a lack of sidewalks along Clawiter Road south of the railroad tracks. Potential pedestrian-oriented treatments that could be considered as part of design review and conditions of approval could include:

- With the City and existing property owner, explore options such as designing the southern driveway on Clawiter Road for pedestrian visibility safety (e.g. improved visibility by minimizing bushes and large signs) and installing warning signage (such as caution signage for exiting vehicles) and continental crosswalks at the southern driveway.
- Explore options with the existing property owner to better delineate the pedestrian access path through the access easement with high-visibility paint and signage.
- With the City and existing property owner, explore options to install sidewalks along Clawiter Road south of the railroad tracks.

5.3 BICYCLE ASSESSMENT

The study area features several bike routes, including a bike route along Clawiter Road. However, existing dedicated bikeways are limited in the study area.

The site plan includes bike racks around all four buildings, consistent with California Green Building Code (CALGreen) requirements for developers to provide bicycle parking for 5% of the vehicular parking spaces added on a site. 18 short-term bike racks and 18 long-term bike racks are required, and the project has proposed to provide 22 of each, exceeding the state's requirements by 22%. The project will also include showers.

The bicyclist access points to the project consist of the three driveways along Clawiter Road. The bicyclist path through the site (including through the access easement) would be delineated by bicycle "sharrows" stenciled onto driveway pavement, indicating the bike-vehicle shared traffic lane. The bicyclist path of travel runs parallel to the truck path of travel. Alternatively, bicyclists accessing the site's north half can dismount and use the internal pedestrian path on foot.

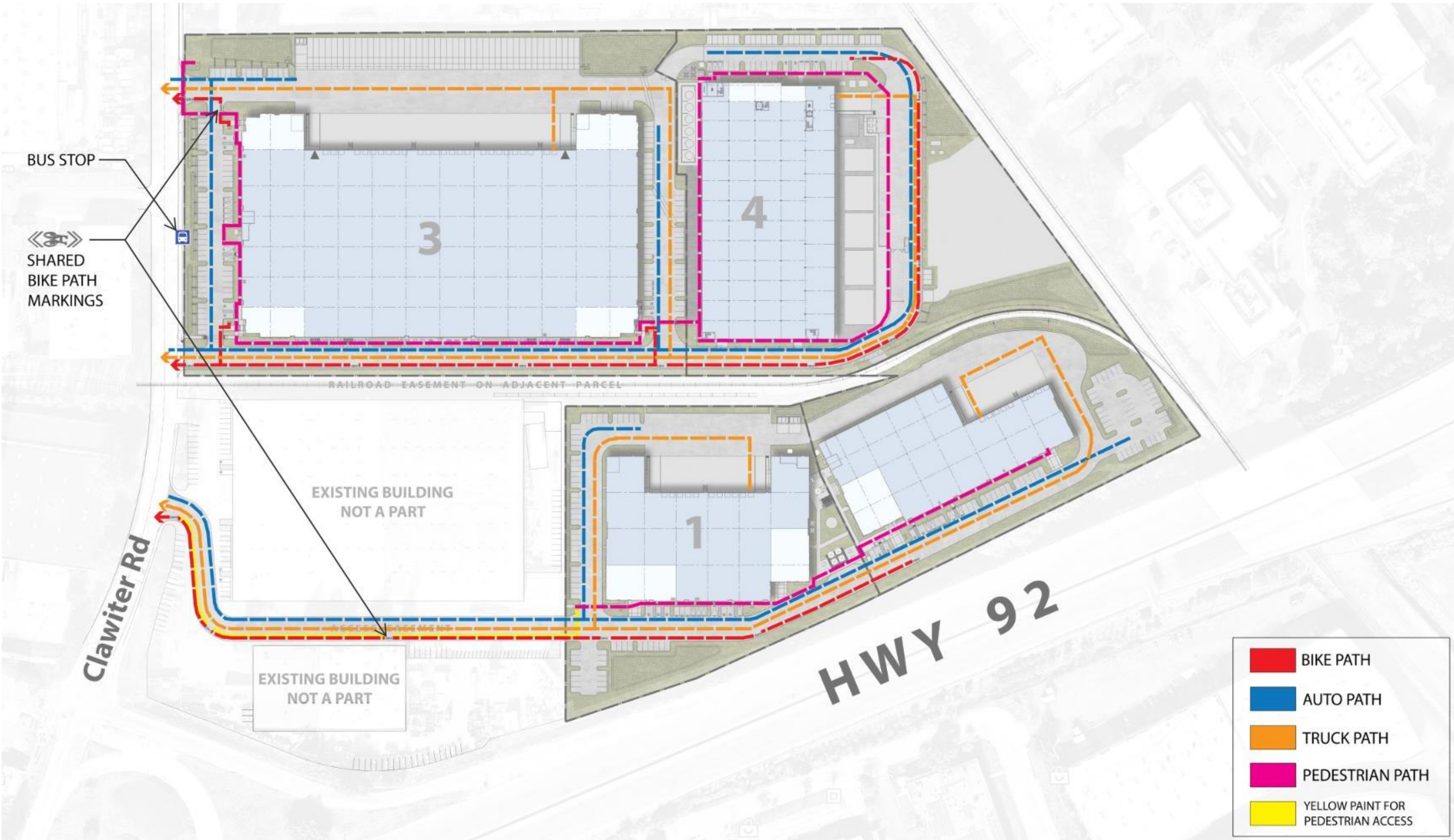
Since bicyclist access to, from, and through the project site consists of shared facilities that would include trucks, bicyclist comfort may be affected due to conflicts with automobiles and trucks. Potential treatments should be considered to increase bicyclist safety as part of design review and conditions of approval. Recommended improvements include:

- Coordinate with the City of Hayward to install signage (such as bikeway signage and caution signage) for vehicles entering or existing the project driveways.

- Ensure the on-site bike sharrows are high-visibility and are accompanied by the appropriate signage.

The City of Hayward Bicycle and Pedestrian Master Plan (BPMP) proposes replacing the bike route along Clawiter Road with separated bike lanes. Therefore, it is recommended that the property owner coordinate with the City to provide the appropriate signage and transition markings for the separated bike lanes at the project driveways. This should include coordination with the City to determine the feasibility of implementing these improvements at this time or to determine a project contribution to improvements to be installed at a future time.

Figure 13: Circulation Plan



Source: Applicant, Dated: 8/14/2020, Received: 10/8/2020

6 SUMMARY OF FINDINGS

As detailed in Section 2, the project can be screened out of a detailed VMT analysis under the City's SB 743-consistent VMT criteria. Therefore, it was determined that the project would have a **less-than-significant** VMT impact. No mitigation measures have been identified.

In addition, the following recommendations were made to be incorporated as part of this project, consistent with recommendations made in the *Local Transportation Assessment – Draft Report*:

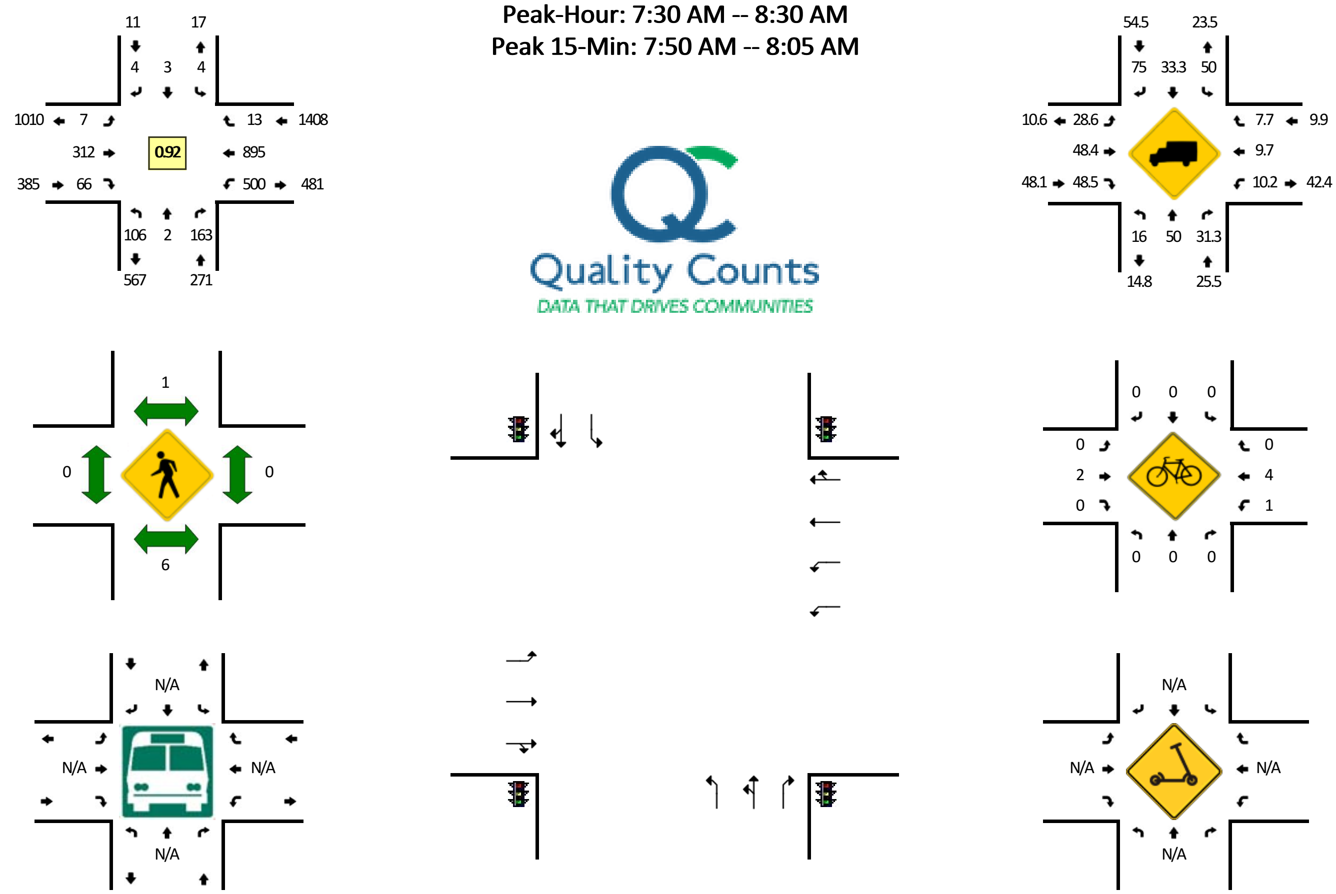
- Coordinate with AC Transit to implement improvements to increase bus stop visibility and user comfort (such as benches and shelters) should bus stops along the project frontage be used for Route 83 or other service.
- Ensure that the project driveways on Clawiter Road are designed for pedestrian visibility safety (sidewalks clearly delineated, improved visibility by minimizing bushes and large signs).
- Coordinate with the City of Hayward to install warning signage (such as bikeway signage and caution signage for exiting vehicles) and continental crosswalks at the project driveways.
- Explore options with the existing property owner to better delineate the southern pedestrian access path through the access easement with high-visibility paint and signage.
- With the City and existing property owner, explore options to install sidewalks along Clawiter Road south of the railroad tracks.
- Ensure the on-site bike sharrows are high-visibility and are accompanied by the appropriate signage.
- The City of Hayward BPMP proposes replacing the bike route along Clawiter Road with separated bike lanes. Therefore, it is recommended that the property owner coordinate with the City to provide the appropriate signage and transition markings for the separate bike lanes at the project driveways. This should include coordination with the City to determine the feasibility of implementing these improvements at this time or to determine a project contribution to improvements to be installed at a future time.

APPENDIX A: TRAFFIC COUNTS AND COVID-19 ADJUSTMENT CALCULATIONS

Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

LOCATION: Clawiter Rd -- W Winton Ave — **QC JOB #:** 15261217
CITY/STATE: Hayward, CA — **DATE:** Wed, Aug 5 2020

Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:50 AM -- 8:05 AM



5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				W Winton Ave (Eastbound)				W Winton Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	8	0	8	0	2	0	0	0	0	42	3	0	35	76	3	0	177	
7:05 AM	8	0	16	0	0	0	0	0	0	32	6	0	45	78	1	0	186	
7:10 AM	10	1	16	0	1	0	0	0	0	30	4	1	36	81	0	0	180	
7:15 AM	6	0	18	0	1	0	0	0	0	23	4	0	32	68	0	0	152	
7:20 AM	8	0	15	0	0	0	0	0	0	28	6	0	33	82	0	0	172	
7:25 AM	4	0	15	0	0	0	0	0	1	22	7	0	33	87	0	0	169	
7:30 AM	12	0	11	0	0	0	1	0	0	24	5	1	39	60	1	0	154	
7:35 AM	6	0	17	0	0	0	0	0	0	28	5	1	32	75	0	0	164	
7:40 AM	6	0	14	0	2	0	0	0	1	19	5	0	43	64	0	0	154	
7:45 AM	13	0	8	0	0	0	1	0	0	19	7	0	43	84	1	0	176	
7:50 AM	10	0	13	0	0	0	0	0	0	20	7	0	63	71	2	0	186	
7:55 AM	9	0	14	0	0	0	0	0	0	26	2	0	42	99	0	0	192	2062
8:00 AM	7	0	10	0	0	0	0	0	0	22	8	1	42	92	1	0	183	2068
8:05 AM	9	1	11	0	0	0	0	0	1	29	1	0	43	81	0	0	176	2058
8:10 AM	6	1	16	0	1	1	1	0	0	34	4	0	41	57	4	1	167	2045
8:15 AM	7	0	9	0	1	1	1	0	0	32	4	1	35	65	2	0	158	2051
8:20 AM	20	0	18	0	0	1	0	0	0	30	9	0	34	65	1	1	179	2058
8:25 AM	1	0	22	0	0	0	0	0	0	29	9	1	41	82	1	0	186	2075
8:30 AM	7	0	13	0	0	0	0	0	0	28	4	0	27	38	1	0	118	2039
8:35 AM	5	0	14	0	0	0	0	0	0	31	4	0	46	61	4	0	165	2040
8:40 AM	10	0	17	0	1	0	0	0	0	37	6	0	27	63	1	0	162	2048
8:45 AM	7	1	19	0	0	0	0	0	0	26	11	0	34	59	1	0	158	2030
8:50 AM	7	0	14	0	1	0	0	0	0	28	1	0	21	67	4	0	143	1987
8:55 AM	8	0	16	0	0	0	1	0	0	33	10	0	36	64	2	0	170	1965

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	104	0	148	0	0	0	0	0	0	272	68	4	588	1048	12	0	2244
Heavy Trucks	24	0	36		0	0	0		0	120	36		68	76	4		364
Buses																	
Pedestrians		8				4				0				0			12
Bicycles	0	0	0		0	0	0		0	4	0		0	12	0		16
Scooters																	

Comments:

Report generated on 8/14/2020 4:49 PM — SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

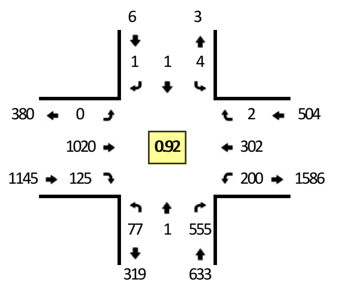
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

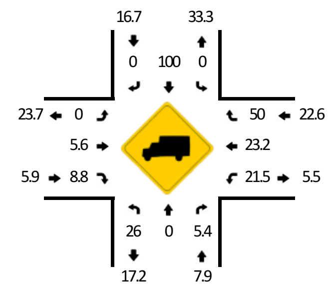
LOCATION: Clawiter Rd -- W Winton Ave | **QC JOB #:** 15261218

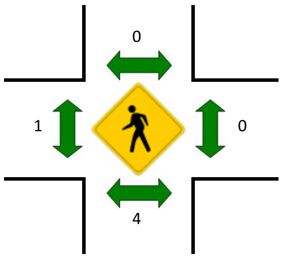
CITY/STATE: Hayward, CA | **DATE:** Wed, Aug 5 2020

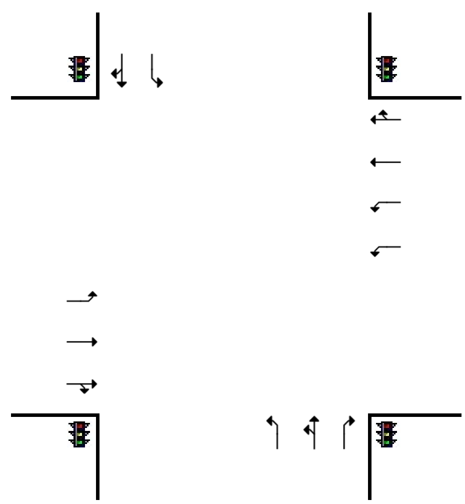
Peak-Hour: 4:10 PM -- 5:10 PM

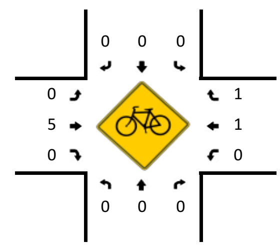
Peak 15-Min: 4:35 PM -- 4:50 PM

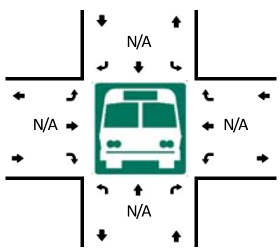


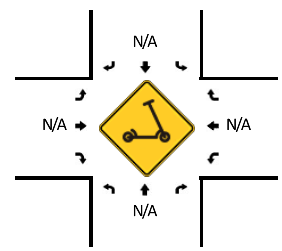












5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				W Winton Ave (Eastbound)				W Winton Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	8	0	56	0	0	0	0	0	0	72	12	0	14	24	0	0	186	
4:05 PM	9	0	55	0	0	0	0	0	0	90	11	0	16	27	0	0	208	
4:10 PM	10	0	49	0	1	0	1	0	0	82	14	0	20	29	2	1	209	
4:15 PM	8	0	50	0	2	0	0	0	0	53	9	0	20	18	0	0	160	
4:20 PM	5	0	47	0	0	0	0	0	0	67	9	0	13	23	0	0	164	
4:25 PM	7	0	53	0	0	0	0	0	0	64	6	0	20	39	0	0	189	
4:30 PM	5	0	39	0	0	0	0	0	0	81	8	0	17	23	0	0	173	
4:35 PM	7	0	54	0	0	1	0	0	0	111	11	0	13	26	0	1	224	
4:40 PM	8	0	58	0	0	0	0	0	0	94	16	0	11	25	0	1	213	
4:45 PM	5	0	47	0	0	0	0	0	0	80	6	0	23	26	0	1	188	
4:50 PM	2	0	33	0	0	0	0	0	0	76	18	0	11	19	0	1	160	
4:55 PM	7	0	37	0	0	0	0	0	0	67	11	0	16	27	0	1	166	2240
5:00 PM	9	0	49	0	1	0	0	0	0	98	4	0	18	24	0	0	203	2257
5:05 PM	4	1	39	0	0	0	0	0	0	147	13	0	11	23	0	1	239	2288
5:10 PM	7	1	52	0	2	0	0	0	0	93	16	0	12	11	0	0	194	2273
5:15 PM	4	0	47	0	1	1	0	0	0	66	7	0	21	27	0	0	174	2287
5:20 PM	2	0	28	0	0	0	0	0	0	52	9	0	13	15	2	0	121	2244
5:25 PM	6	0	47	0	1	0	0	0	0	52	13	0	12	10	1	0	142	2197
5:30 PM	2	0	34	0	1	0	0	0	0	53	10	0	24	16	0	0	140	2164
5:35 PM	4	0	44	0	1	0	0	0	0	83	10	0	11	16	0	0	169	2109
5:40 PM	3	0	46	0	0	0	0	0	0	61	7	0	23	15	0	1	156	2052
5:45 PM	2	0	39	0	0	0	0	0	0	58	5	0	13	16	0	0	133	1997
5:50 PM	5	0	33	0	1	0	0	0	0	42	5	0	19	21	0	0	126	1963
5:55 PM	9	0	26	0	0	0	0	0	0	37	4	0	15	23	1	0	115	1912

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	80	0	636	0	0	4	0	0	0	1140	132	0	188	308	0	12	2500
Heavy Trucks	24	0	32		0	4	0		0	64	16		32	60	0		232
Buses																	
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	4	0		0	4	4		12
Scooters																	

Comments:

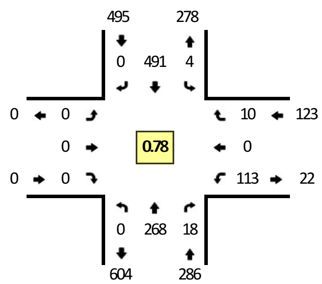
Report generated on 8/14/2020 4:49 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

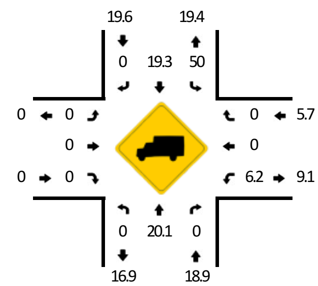
LOCATION: Clawiter Rd -- West St — **QC JOB #:** 15261215

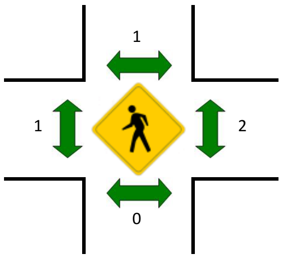
CITY/STATE: Hayward, CA — **DATE:** Wed, Aug 5 2020

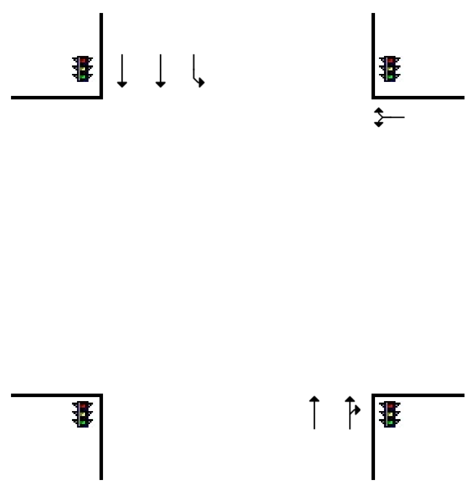


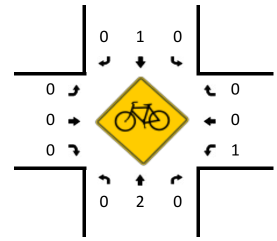
Peak-Hour: 7:15 AM -- 8:15 AM

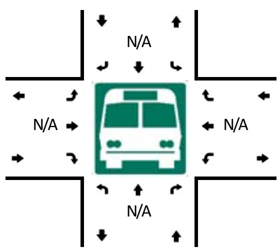
Peak 15-Min: 7:50 AM -- 8:05 AM

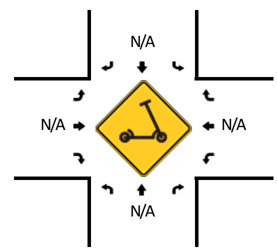












5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				West St (Eastbound)				West St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	21	1	0	0	26	0	0	0	0	0	0	5	0	0	0	53	
7:05 AM	0	32	0	0	0	36	0	0	0	0	0	0	1	0	0	0	69	
7:10 AM	0	16	0	0	2	39	0	0	0	0	0	0	3	0	2	0	62	
7:15 AM	0	18	1	0	0	38	0	0	0	0	0	0	9	0	0	0	66	
7:20 AM	0	26	3	0	0	39	0	0	0	0	0	0	9	0	0	0	77	
7:25 AM	0	15	0	0	0	39	0	0	0	0	0	0	6	0	1	0	61	
7:30 AM	0	21	0	0	0	35	0	0	0	0	0	0	10	0	1	0	67	
7:35 AM	0	24	1	0	1	33	0	0	0	0	0	0	7	0	0	0	66	
7:40 AM	0	25	2	0	0	40	0	0	0	0	0	0	12	0	0	0	79	
7:45 AM	0	16	2	0	0	35	0	0	0	0	0	0	11	0	1	0	65	
7:50 AM	0	28	5	0	3	48	0	0	0	0	0	0	17	0	2	0	103	
7:55 AM	0	23	1	0	0	46	0	0	0	0	0	0	15	0	1	0	86	854
8:00 AM	0	24	1	0	0	61	0	0	0	0	0	0	10	0	3	0	99	900
8:05 AM	0	24	1	0	0	36	0	0	0	0	0	0	6	0	0	0	67	898
8:10 AM	0	24	1	0	0	41	0	0	0	0	0	0	1	0	1	0	68	904
8:15 AM	0	22	0	0	2	35	0	0	0	0	0	0	5	0	0	0	64	902
8:20 AM	0	29	2	0	0	31	0	0	0	0	0	0	2	0	0	0	64	889
8:25 AM	0	20	2	0	0	44	0	0	0	0	0	0	1	0	0	0	67	895
8:30 AM	0	27	3	0	0	34	0	0	0	0	0	0	4	0	1	0	69	897
8:35 AM	0	18	3	0	0	38	0	0	0	0	0	0	5	0	1	0	65	896
8:40 AM	0	28	4	0	0	29	0	0	0	0	0	0	11	0	2	0	74	891
8:45 AM	0	17	4	0	0	29	0	0	0	0	0	0	4	0	1	0	55	881
8:50 AM	0	29	5	0	0	33	0	0	0	0	0	0	2	0	0	0	69	847
8:55 AM	0	21	4	0	0	38	0	0	0	0	0	0	4	0	1	0	68	829

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	300	28	0	12	620	0	0	0	0	0	0	168	0	24	0	1152
Heavy Trucks	0	48	0		4	120	0		0	0	0		4	0	0		176
Buses																	
Pedestrians		0				0				0				8			8
Bicycles	0	4	0		0	4	0		0	0	0		0	0	0		8
Scooters																	

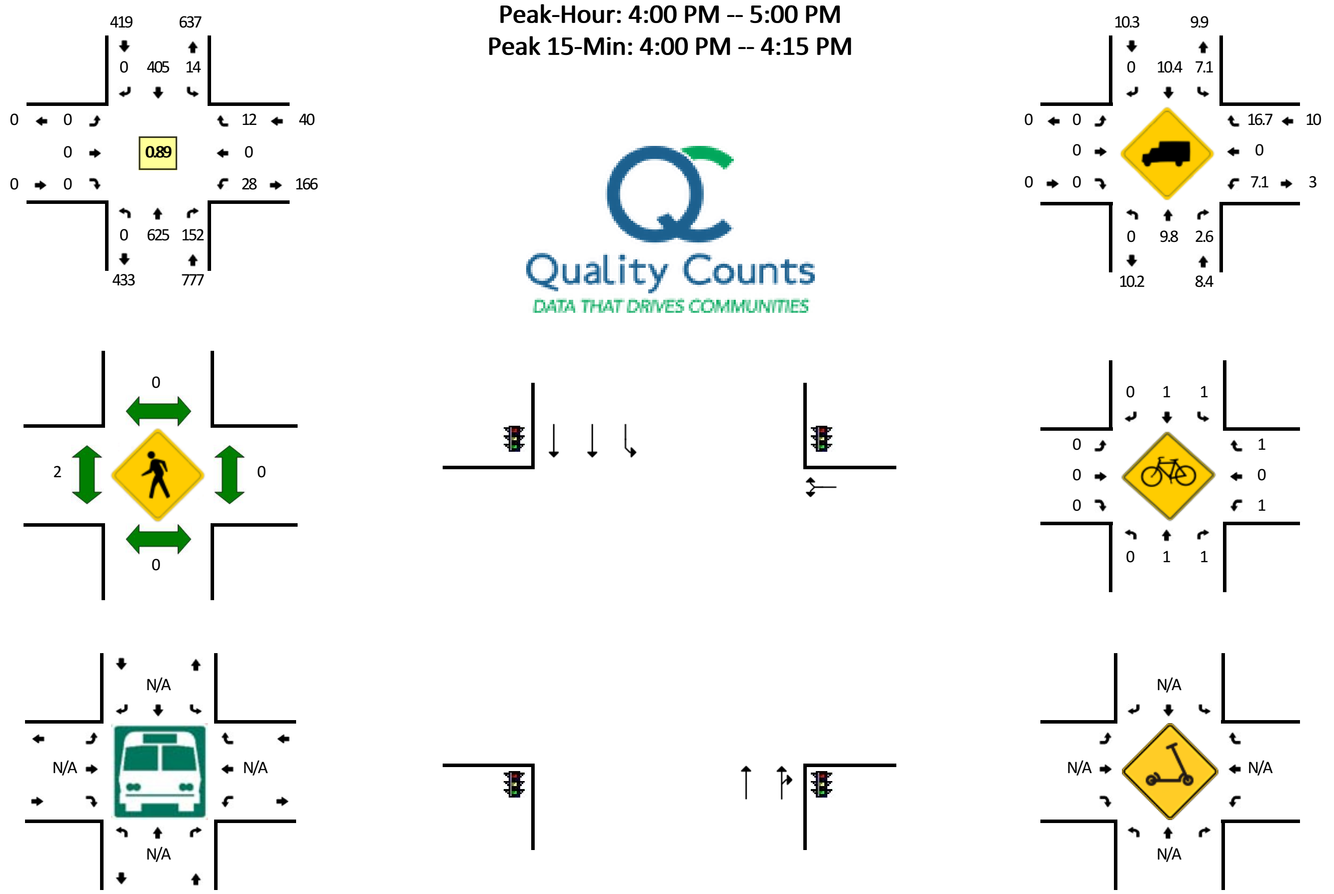
Comments:

Report generated on 8/14/2020 4:49 PM

Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

LOCATION: Clawiter Rd -- West St — **QC JOB #:** 15261216
CITY/STATE: Hayward, CA — **DATE:** Wed, Aug 5 2020

Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM



5-Min Count Period Beginning At	Clawiter Rd (Northbound) Left	Thru	Right	U	Clawiter Rd (Southbound) Left	Thru	Right	U	West St (Eastbound) Left	Thru	Right	U	West St (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	0	61	8	0	1	33	0	0	0	0	0	0	2	0	1	0	106	
4:05 PM	0	54	16	0	1	44	0	0	0	0	0	0	2	0	2	0	119	
4:10 PM	0	71	12	0	0	38	0	0	0	0	0	0	1	0	1	0	123	
4:15 PM	0	57	12	0	1	29	0	0	0	0	0	0	3	0	2	0	104	
4:20 PM	0	40	13	0	0	33	0	0	0	0	0	0	3	0	0	0	89	
4:25 PM	0	51	14	0	0	30	0	0	0	0	0	0	3	0	1	0	99	
4:30 PM	0	55	14	0	3	41	0	0	0	0	0	0	2	0	0	0	115	
4:35 PM	0	62	15	0	1	35	0	0	0	0	0	0	2	0	1	0	116	
4:40 PM	0	46	19	0	1	27	0	0	0	0	0	0	1	0	0	0	94	
4:45 PM	0	41	8	0	0	35	0	0	0	0	0	0	2	0	1	0	87	
4:50 PM	0	39	13	0	4	29	0	0	0	0	0	0	4	0	2	0	91	
4:55 PM	0	48	8	0	2	31	0	0	0	0	0	0	3	0	1	0	93	1236
5:00 PM	0	58	8	0	0	25	0	0	0	0	0	0	3	0	0	0	94	1224
5:05 PM	0	61	14	0	3	35	0	0	0	0	0	0	1	0	0	0	114	1219
5:10 PM	0	72	11	0	1	40	0	0	0	0	0	0	2	0	0	0	126	1222
5:15 PM	0	43	10	0	0	35	0	0	0	0	0	0	1	0	0	0	89	1207
5:20 PM	0	37	7	0	1	24	0	0	0	0	0	0	1	0	1	0	71	1189
5:25 PM	0	47	9	0	1	25	0	0	0	0	0	0	3	0	0	0	85	1175
5:30 PM	0	39	11	0	1	28	0	0	0	0	0	0	3	0	1	0	83	1143
5:35 PM	0	54	9	0	1	31	0	0	0	0	0	0	1	0	1	0	97	1124
5:40 PM	0	40	8	0	1	25	0	0	0	0	0	0	3	0	0	0	77	1107
5:45 PM	0	37	8	0	1	31	0	0	0	0	0	0	2	0	0	0	79	1099
5:50 PM	0	31	6	0	0	27	0	0	0	0	0	0	5	0	0	0	69	1077
5:55 PM	0	34	13	0	1	21	0	0	0	0	0	0	2	0	0	0	71	1055

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	744	144	0	8	460	0	0	0	0	0	0	20	0	16	0	1392
Heavy Trucks	0	76	4		0	32	0		0	0	0		0	0	4		116
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	4	0		0	0	0		4	0	0		8
Scooters																	

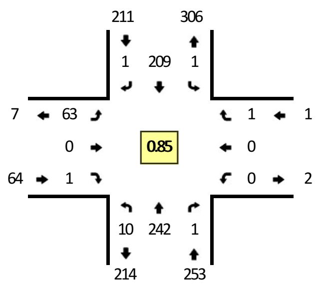
Comments:

Report generated on 8/14/2020 4:49 PM — SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

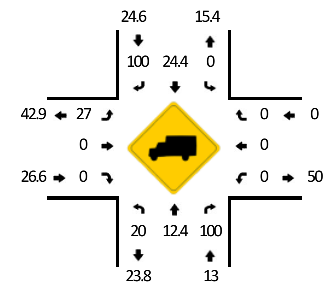
Attachment VII

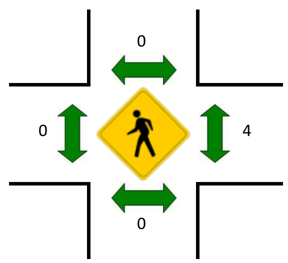
Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

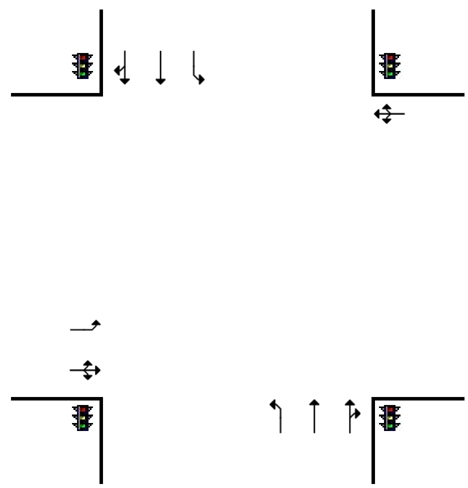
LOCATION: Clawiter Rd -- Industrial Blvd (East Intersection) — **QC JOB #:** 15261211
CITY/STATE: Hayward, CA — **DATE:** Wed, Aug 5 2020

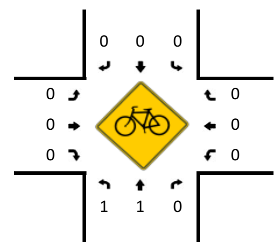


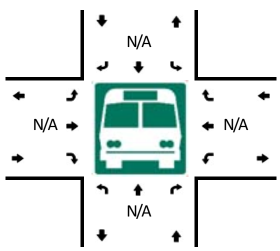
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:50 AM -- 8:05 AM

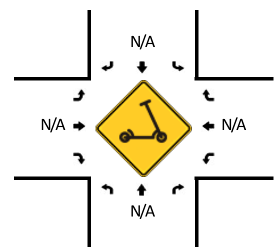












5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				Industrial Blvd (East Intersection) (Eastbound)				Industrial Blvd (East Intersection) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	19	0	0	0	12	0	0	3	0	1	0	0	0	0	0	35	
7:05 AM	0	21	0	1	0	14	0	0	9	0	0	0	0	0	0	0	45	
7:10 AM	0	16	0	0	0	15	0	0	4	0	0	0	0	0	0	0	35	
7:15 AM	1	16	0	0	0	16	0	0	4	0	0	0	0	0	0	0	37	
7:20 AM	0	21	1	0	0	22	0	0	10	0	0	0	0	0	0	0	54	
7:25 AM	0	14	0	0	0	18	0	0	4	0	0	0	0	0	0	0	36	
7:30 AM	1	21	0	0	0	11	0	0	5	0	0	0	0	0	0	0	38	
7:35 AM	0	15	0	0	0	15	0	0	9	0	0	0	0	0	0	0	39	
7:40 AM	0	23	0	0	0	20	0	0	4	0	0	0	0	0	0	0	47	
7:45 AM	2	18	0	0	0	20	0	0	2	0	0	0	0	0	0	0	42	
7:50 AM	1	30	0	0	0	17	0	0	6	0	0	0	0	0	0	0	54	
7:55 AM	0	20	0	0	0	13	0	0	7	0	0	0	0	0	0	0	40	502
8:00 AM	0	25	0	1	1	29	1	0	4	0	0	0	0	0	0	0	61	528
8:05 AM	1	20	0	2	0	15	0	0	5	0	0	0	0	0	0	0	43	526
8:10 AM	0	19	0	1	0	13	0	0	3	0	1	0	0	0	1	0	38	529
8:15 AM	0	14	0	0	0	14	0	0	4	0	0	0	0	0	0	0	32	524
8:20 AM	0	16	0	0	0	15	0	0	11	0	0	0	0	0	0	0	42	512
8:25 AM	0	15	0	1	0	10	0	0	6	0	0	0	0	0	0	0	32	508
8:30 AM	1	21	0	0	0	15	0	0	4	0	0	0	0	0	0	0	41	511
8:35 AM	0	13	0	0	0	15	0	0	8	0	1	0	0	0	0	0	37	509
8:40 AM	0	23	0	1	1	21	0	0	6	0	0	0	0	0	0	0	52	514
8:45 AM	0	9	0	0	0	13	0	0	9	0	2	0	0	0	0	0	33	505
8:50 AM	1	25	1	0	0	17	1	0	11	0	0	0	1	0	0	0	57	508
8:55 AM	2	15	0	0	0	13	0	0	10	0	0	0	0	0	0	0	40	508

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	300	0	4	4	236	4	0	68	0	0	0	0	0	0	0	620
Heavy Trucks	0	40	0		0	36	4		16	0	0		0	0	0		96
Buses																	
Pedestrians		0				0				0				16			16
Bicycles	4	4	0		0	0	0		0	0	0		0	0	0		8
Scooters																	

Comments:

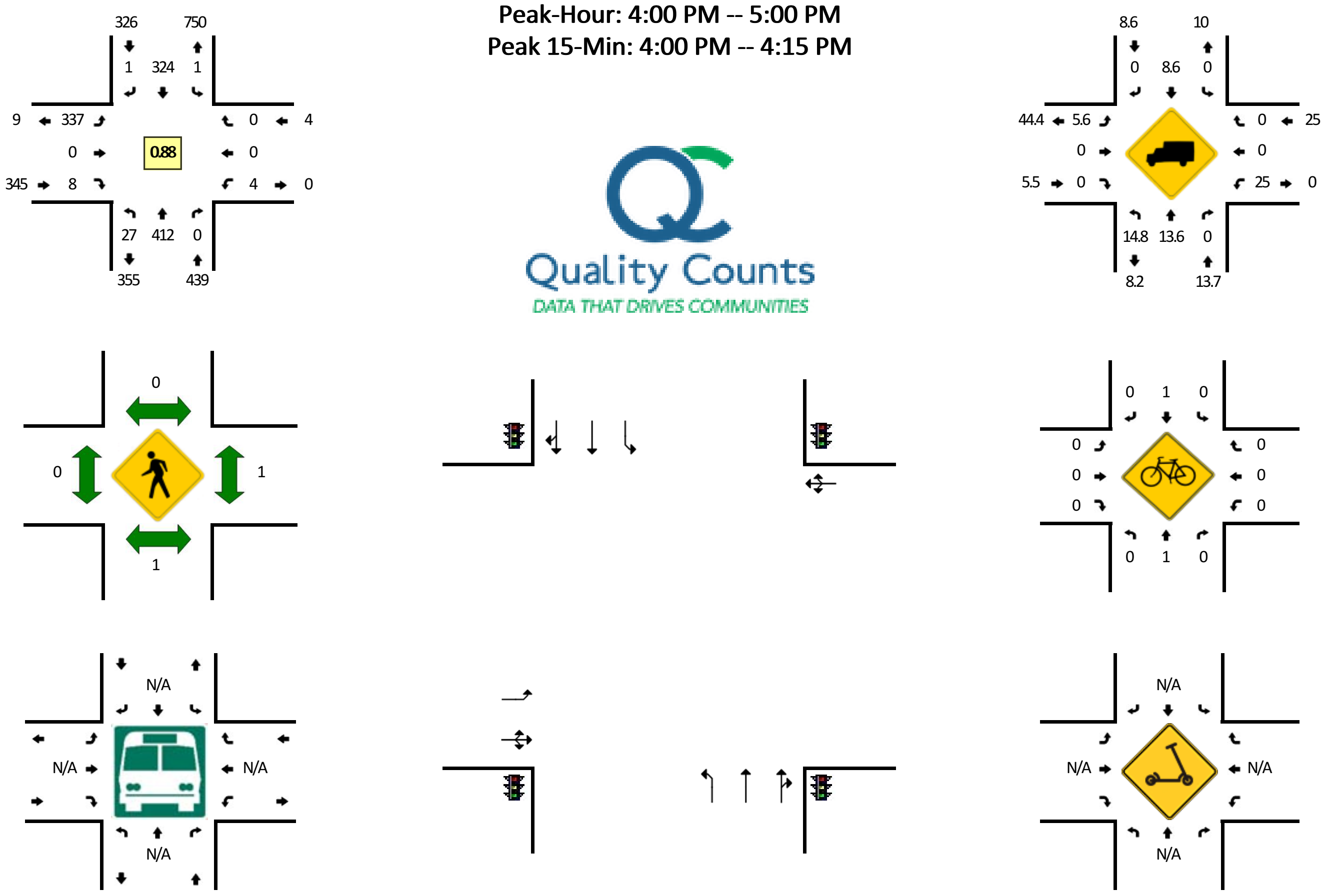
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Clawiter Rd -- Industrial Blvd (East Intersection) | **QC JOB #:** 15261212

CITY/STATE: Hayward, CA | **DATE:** Wed, Aug 5 2020

Peak-Hour: 4:00 PM -- 5:00 PM

Peak 15-Min: 4:00 PM -- 4:15 PM



5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				Industrial Blvd (East Intersection) (Eastbound)				Industrial Blvd (East Intersection) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	33	0	5	0	26	0	0	31	0	0	0	1	0	0	0	97	
4:05 PM	0	37	0	1	0	41	0	0	37	0	0	0	0	0	0	0	116	
4:10 PM	0	38	0	2	0	24	0	0	40	0	0	0	0	0	0	0	104	
4:15 PM	1	39	0	0	0	24	1	0	30	0	0	0	1	0	0	0	96	
4:20 PM	0	30	0	0	0	23	0	0	18	0	0	0	0	0	0	0	71	
4:25 PM	1	41	0	1	0	20	0	0	22	0	2	0	0	0	0	0	87	
4:30 PM	1	37	0	1	0	34	0	0	27	0	0	0	0	0	0	0	100	
4:35 PM	1	33	0	0	0	23	0	0	43	0	0	0	2	0	0	0	102	
4:40 PM	1	35	0	4	0	32	0	1	28	0	2	0	0	0	0	0	103	
4:45 PM	1	20	0	3	0	26	0	0	29	0	2	0	0	0	0	0	81	
4:50 PM	0	35	0	2	0	25	0	0	15	0	1	0	0	0	0	0	78	
4:55 PM	1	34	0	0	0	26	0	0	17	0	1	0	0	0	0	0	79	1114
5:00 PM	0	27	0	1	0	27	0	0	37	0	0	0	1	0	1	0	94	1111
5:05 PM	1	40	0	0	0	24	0	0	34	0	0	0	0	0	0	0	99	1094
5:10 PM	0	35	0	0	0	31	0	0	42	0	0	0	0	0	0	0	108	1098
5:15 PM	1	33	0	1	0	28	0	0	23	0	2	0	0	0	0	0	88	1090
5:20 PM	0	25	0	2	0	24	0	0	15	0	0	0	0	0	0	0	66	1085
5:25 PM	1	35	0	1	0	23	0	0	23	0	0	0	0	0	0	0	83	1081
5:30 PM	0	22	0	0	1	20	0	0	24	0	0	0	0	0	0	0	67	1048
5:35 PM	1	28	0	0	0	25	0	0	29	1	0	0	1	1	1	0	87	1033
5:40 PM	0	25	0	0	0	21	0	0	16	0	0	0	0	0	0	0	62	992
5:45 PM	0	29	0	0	0	18	0	0	15	0	0	0	0	0	1	0	63	974
5:50 PM	1	23	0	0	0	25	0	0	7	0	0	0	0	0	0	0	56	952
5:55 PM	1	28	0	1	0	17	0	0	16	0	0	0	0	0	0	0	63	936

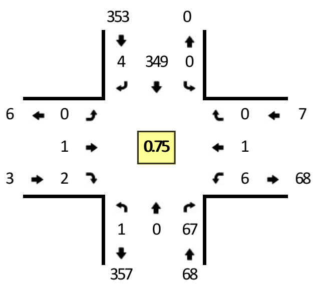
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	432	0	32	0	364	0	0	432	0	0	0	4	0	0	0	1268
Heavy Trucks	4	56	0		0	24	0		24	0	0		0	0	0		108
Buses																	
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	4	0		0	0	0		0	0	0		4
Scooters																	

Comments:

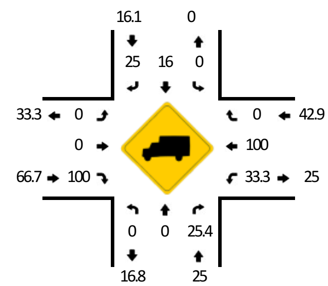
Report generated on 8/14/2020 4:49 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

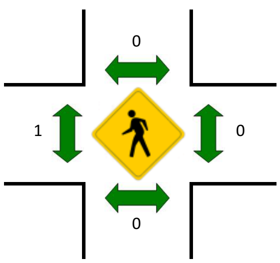
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

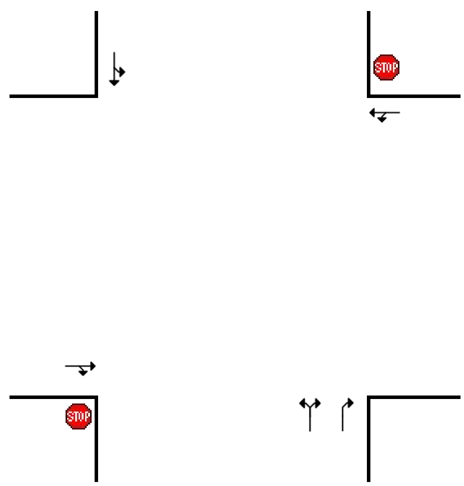
LOCATION: Clawiter Rd -- Industrial Blvd (West Intersection) | **QC JOB #:** 15261213
CITY/STATE: Hayward, CA | **DATE:** Wed, Aug 5 2020

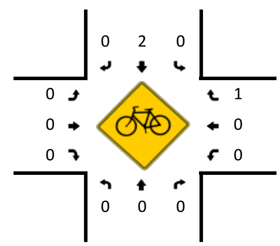


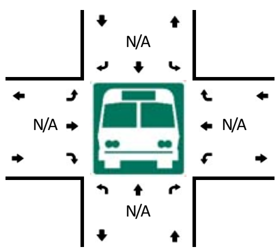
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:50 AM -- 8:05 AM

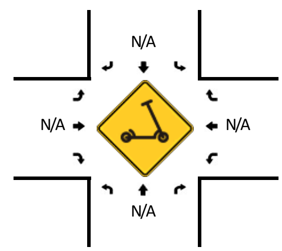












5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				Industrial Blvd (West Intersection) (Eastbound)				Industrial Blvd (West Intersection) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	3	0	0	18	0	0	0	1	0	0	0	0	0	0	22	
7:05 AM	1	0	9	0	0	26	0	0	0	0	1	0	0	0	0	0	37	
7:10 AM	0	0	5	0	0	22	0	0	0	0	0	0	0	0	0	0	27	
7:15 AM	0	0	6	0	0	23	0	0	0	0	0	0	0	1	0	0	30	
7:20 AM	0	0	6	0	0	24	0	0	0	1	0	0	0	0	0	0	31	
7:25 AM	0	0	4	0	0	24	0	0	0	0	0	0	0	0	0	0	28	
7:30 AM	1	0	6	0	0	32	1	0	0	0	0	0	1	0	0	0	41	
7:35 AM	0	0	8	0	0	22	0	0	0	0	1	0	0	0	0	0	31	
7:40 AM	0	0	4	0	0	27	0	0	0	0	0	0	0	0	0	0	31	
7:45 AM	0	0	4	0	0	23	1	0	0	0	0	0	2	0	0	0	30	
7:50 AM	0	0	4	0	0	44	0	0	0	0	0	0	1	0	0	0	49	
7:55 AM	0	0	7	0	0	49	1	0	0	0	0	0	0	0	0	0	57	414
8:00 AM	0	0	4	0	0	30	1	0	0	0	1	0	2	0	0	0	38	430
8:05 AM	0	0	5	0	0	18	0	0	0	1	0	0	0	0	0	0	24	417
8:10 AM	0	0	4	0	0	33	0	0	0	0	0	0	0	0	0	0	37	427
8:15 AM	0	0	6	0	0	23	0	0	0	0	0	0	0	0	0	0	29	426
8:20 AM	0	0	10	0	0	19	0	0	0	0	0	0	0	0	0	0	29	424
8:25 AM	0	0	5	0	0	29	0	0	0	0	0	0	0	1	0	0	35	431
8:30 AM	0	0	3	0	0	23	0	0	0	0	0	0	0	0	0	0	26	416
8:35 AM	1	0	9	0	0	23	0	0	0	0	0	0	0	0	0	0	33	418
8:40 AM	1	0	9	0	0	15	0	0	0	0	0	0	0	0	0	0	25	412
8:45 AM	0	0	10	0	0	24	0	0	0	2	0	0	0	0	0	0	36	418
8:50 AM	0	0	8	0	0	14	0	0	0	0	0	0	1	1	0	0	24	393
8:55 AM	0	0	10	0	0	25	0	0	0	1	1	0	2	0	0	0	39	375

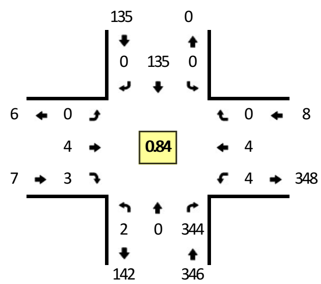
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	60	0	0	492	8	0	0	0	4	0	12	0	0	0	576
Heavy Trucks	0	0	12		0	80	4		0	0	4		8	0	0		108
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	4	0		0	0	0		0	0	4		8
Scooters																	

Comments:

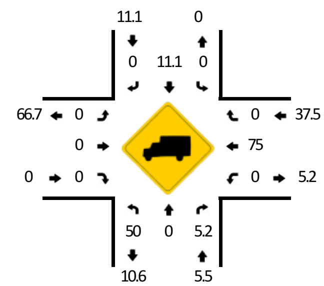
Report generated on 8/14/2020 4:49 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

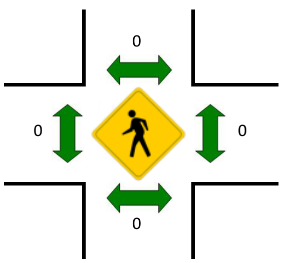
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

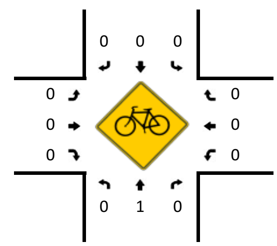
LOCATION: Clawiter Rd -- Industrial Blvd (West Intersection) | **QC JOB #:** 15261214
CITY/STATE: Hayward, CA | **DATE:** Wed, Aug 5 2020

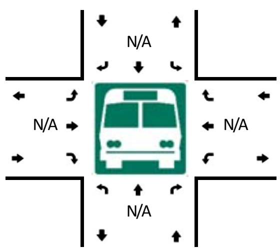


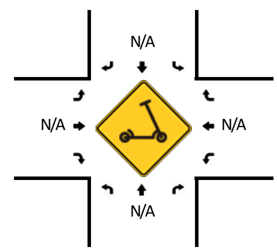
Peak-Hour: 4:05 PM -- 5:05 PM
Peak 15-Min: 4:05 PM -- 4:20 PM











5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				Industrial Blvd (West Intersection) (Eastbound)				Industrial Blvd (West Intersection) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	28	0	0	6	0	0	0	1	0	0	0	1	0	0	36	
4:05 PM	0	0	36	0	0	15	0	0	0	0	0	0	0	0	0	0	51	
4:10 PM	0	0	40	0	0	9	0	0	0	0	0	0	1	0	0	0	50	
4:15 PM	0	0	31	0	0	13	0	0	0	0	1	0	0	1	0	0	46	
4:20 PM	1	0	19	0	0	14	0	0	0	0	1	0	0	0	0	0	35	
4:25 PM	0	0	23	0	0	14	0	0	0	0	0	0	0	1	0	0	38	
4:30 PM	0	0	29	0	0	13	0	0	0	0	0	0	1	0	0	0	43	
4:35 PM	0	0	40	0	0	10	0	0	0	0	0	0	0	1	0	0	51	
4:40 PM	0	0	26	0	0	6	0	0	0	0	0	0	1	0	0	0	33	
4:45 PM	1	0	29	0	0	13	0	0	0	1	0	0	0	1	0	0	45	
4:50 PM	0	0	19	0	0	8	0	0	0	1	0	0	0	0	0	0	28	
4:55 PM	0	0	20	0	0	10	0	0	0	0	0	0	1	0	0	0	31	487
5:00 PM	0	0	32	0	0	10	0	0	0	2	1	0	0	0	0	0	45	496
5:05 PM	0	0	39	0	0	10	0	0	0	0	0	0	1	0	0	0	50	495
5:10 PM	0	0	36	0	0	7	0	0	0	0	0	0	0	0	0	0	43	488
5:15 PM	0	0	20	0	0	16	0	0	0	1	0	0	1	0	0	0	38	480
5:20 PM	0	0	25	0	0	5	1	0	0	0	0	0	0	0	0	0	31	476
5:25 PM	0	0	19	0	0	2	0	0	0	1	0	0	1	0	0	0	23	461
5:30 PM	1	0	23	0	0	10	0	0	0	0	0	0	0	0	0	0	34	452
5:35 PM	0	0	27	0	0	10	0	0	0	0	0	0	1	1	0	0	39	440
5:40 PM	1	0	15	0	0	9	0	0	0	0	1	0	0	0	0	0	26	433
5:45 PM	0	0	16	0	0	14	0	0	0	0	1	0	0	0	0	0	31	419
5:50 PM	0	0	9	0	2	7	0	0	0	0	0	0	1	0	0	0	19	410
5:55 PM	1	0	18	0	0	6	0	0	0	0	0	0	1	0	0	0	26	405

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	428	0	0	148	0	0	0	0	4	0	4	4	0	0	588
Heavy Trucks	0	0	20		0	20	0		0	0	0		0	0	0		40
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

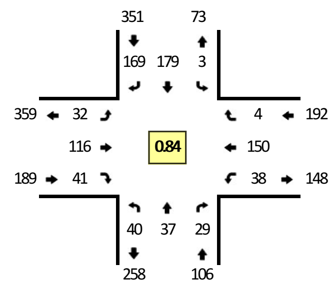
Comments:

Report generated on 8/14/2020 4:49 PM

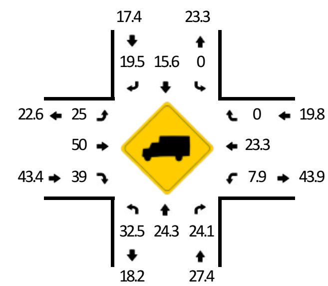
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

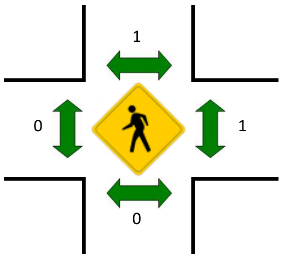
Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

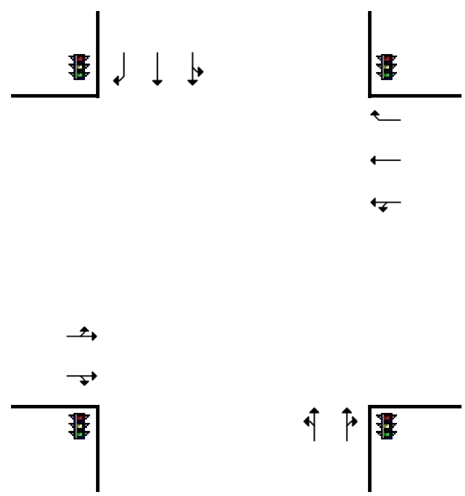
LOCATION: Clawiter Rd -- Depot Rd — **QC JOB #:** 15261209
CITY/STATE: Hayward, CA — **DATE:** Wed, Aug 5 2020

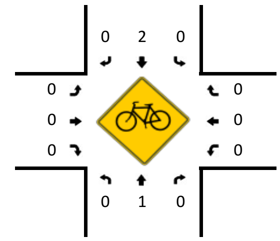


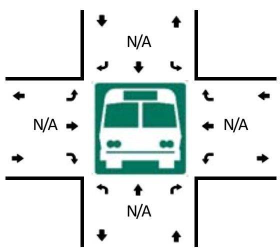
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:50 AM -- 8:05 AM

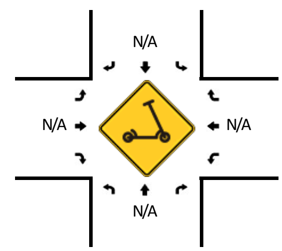












5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				Depot Rd (Eastbound)				Depot Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	2	2	0	0	13	6	0	6	12	1	0	1	7	0	0	53	
7:05 AM	5	4	3	0	0	13	9	0	1	7	2	0	3	9	1	0	57	
7:10 AM	2	4	1	0	0	14	14	0	3	10	3	0	4	13	0	0	68	
7:15 AM	2	3	0	0	0	11	10	0	2	13	2	0	2	8	0	0	53	
7:20 AM	2	1	2	0	1	11	12	0	5	12	6	0	4	15	1	0	72	
7:25 AM	1	3	1	0	0	16	8	0	1	8	2	0	0	10	0	0	50	
7:30 AM	3	4	3	0	0	13	20	0	3	21	3	0	4	9	0	0	83	
7:35 AM	4	5	1	0	0	15	8	0	2	8	3	0	2	11	1	0	60	
7:40 AM	1	0	3	0	0	16	11	0	4	11	5	0	4	17	0	0	72	
7:45 AM	4	6	3	0	2	11	11	0	2	9	4	0	2	11	0	0	65	
7:50 AM	5	2	1	0	0	26	12	0	0	8	4	0	6	16	2	0	82	
7:55 AM	3	3	2	0	0	21	32	0	4	10	2	0	3	15	1	0	96	811
8:00 AM	3	2	3	0	0	22	11	0	1	9	7	0	4	9	0	0	71	829
8:05 AM	4	5	5	0	0	14	8	0	1	7	3	0	1	12	0	0	60	832
8:10 AM	4	1	2	0	0	14	16	0	2	7	4	0	2	10	0	0	62	826
8:15 AM	3	1	1	0	0	10	12	0	5	8	1	0	2	13	0	0	56	829
8:20 AM	2	5	3	0	1	6	11	0	5	10	1	0	4	10	0	0	58	815
8:25 AM	4	3	2	0	0	11	17	0	3	8	4	0	4	17	0	0	73	838
8:30 AM	1	2	5	0	0	11	12	0	6	11	7	0	0	11	1	0	67	822
8:35 AM	6	4	1	0	0	9	18	0	3	10	4	0	3	12	0	0	70	832
8:40 AM	2	7	2	0	0	10	7	0	3	10	3	0	3	14	0	0	61	821
8:45 AM	3	4	2	0	0	12	11	0	6	12	1	0	0	7	0	0	58	814
8:50 AM	3	4	2	0	0	7	7	0	4	13	4	0	3	9	1	0	57	789
8:55 AM	4	8	2	0	1	11	10	0	1	11	3	0	3	11	1	0	66	759

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	44	28	24	0	0	276	220	0	20	108	52	0	52	160	12	0	996
Heavy Trucks	12	4	0		0	44	36		4	36	12		0	40	0		188
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	4	0		0	0	0		0	0	0		4
Scooters																	

Comments:

Report generated on 8/14/2020 4:49 PM — SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Clawiter Rd -- Depot Rd

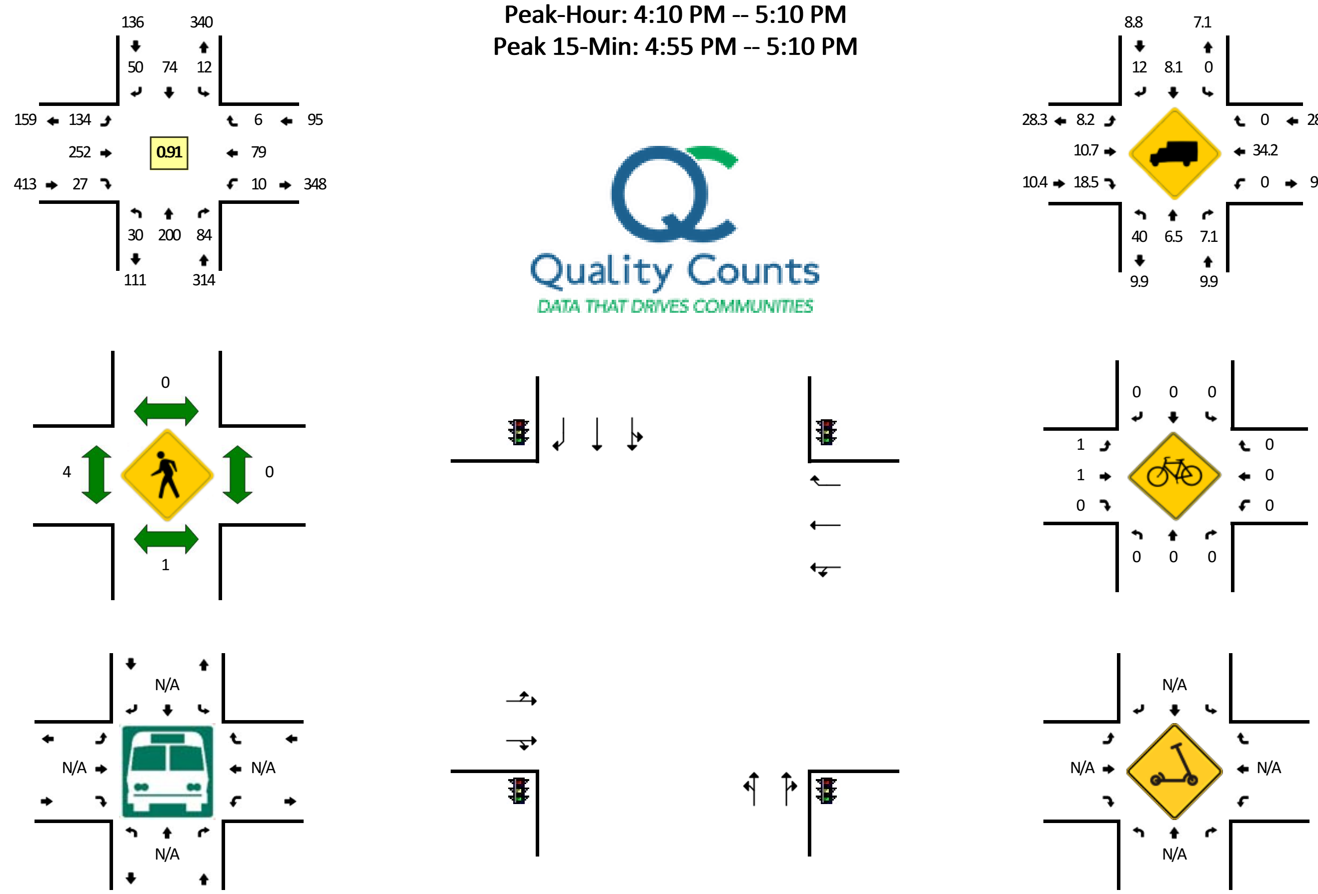
CITY/STATE: Hayward, CA

QC JOB #: 15261210

DATE: Wed, Aug 5 2020

Peak-Hour: 4:10 PM -- 5:10 PM

Peak 15-Min: 4:55 PM -- 5:10 PM



5-Min Count Period Beginning At	Clawiter Rd (Northbound) Left	Thru	Right	U	Clawiter Rd (Southbound) Left	Thru	Right	U	Depot Rd (Eastbound) Left	Thru	Right	U	Depot Rd (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	4	21	11	0	0	2	3	0	9	20	2	0	1	1	1	0	75	
4:05 PM	3	25	6	0	1	9	6	0	10	26	7	0	1	11	0	0	105	
4:10 PM	2	20	11	0	0	3	3	0	15	21	3	0	1	9	0	0	88	
4:15 PM	3	15	4	0	2	9	3	0	12	16	5	0	2	5	0	0	76	
4:20 PM	3	8	4	0	1	9	7	0	9	10	2	0	0	9	0	0	62	
4:25 PM	3	16	4	0	0	9	3	0	9	12	3	0	1	7	1	0	68	
4:30 PM	7	16	6	0	1	6	7	0	19	19	2	0	1	6	0	0	90	
4:35 PM	1	19	10	0	1	3	5	0	14	35	2	0	0	5	0	0	95	
4:40 PM	1	17	10	0	0	6	1	0	6	16	2	0	0	10	1	0	70	
4:45 PM	2	24	8	0	1	3	9	0	7	23	1	0	0	3	1	0	82	
4:50 PM	2	11	7	0	1	5	2	0	6	20	3	0	1	6	1	0	65	
4:55 PM	2	14	5	0	0	9	2	0	5	16	2	0	0	6	2	0	63	939
5:00 PM	2	19	7	0	2	6	4	0	16	24	2	0	2	5	0	0	89	953
5:05 PM	2	21	8	0	3	6	4	0	16	40	0	0	2	8	0	0	110	958
5:10 PM	3	15	6	0	3	5	1	0	11	27	4	0	0	6	0	0	81	951
5:15 PM	2	17	9	0	0	9	8	0	7	13	2	0	2	4	3	0	76	951
5:20 PM	4	7	3	0	1	3	1	0	17	14	1	0	1	6	0	0	58	947
5:25 PM	3	12	7	0	0	2	1	0	5	8	3	0	0	4	1	0	46	925
5:30 PM	4	11	13	0	0	6	3	0	13	25	1	0	2	5	2	0	85	920
5:35 PM	0	11	7	0	0	8	3	0	14	18	1	0	0	3	0	0	65	890
5:40 PM	1	3	2	0	0	8	1	0	9	20	1	0	0	3	2	0	50	870
5:45 PM	4	9	5	0	2	9	3	0	7	9	4	0	0	5	1	0	58	846
5:50 PM	0	9	2	0	2	4	3	0	1	9	0	0	0	2	1	0	33	814
5:55 PM	1	12	1	0	0	2	3	0	7	10	4	0	2	3	1	0	46	797

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	24	216	80	0	20	84	40	0	148	320	16	0	16	76	8	0	1048
Heavy Trucks	4	12	12		0	8	8		20	24	0		0	16	0		104
Buses																	
Pedestrians		0				0				4				0			4
Bicycles	0	0	0		0	0	0		4	0	0		0	0	0		4
Scooters																	

Comments:

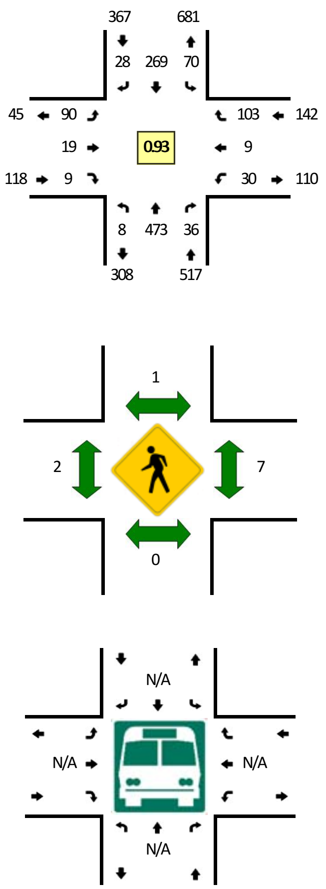
Report generated on 8/14/2020 4:49 PM

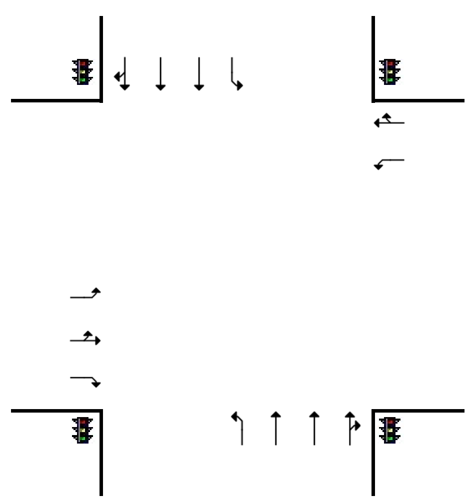
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

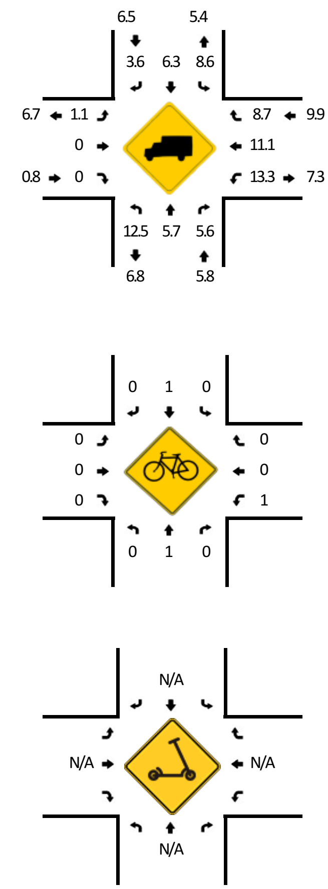
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Hesperian Blvd -- Depot Rd/Cathy Way | **QC JOB #:** 15261219
CITY/STATE: Hayward, CA | **DATE:** Wed, Aug 5 2020

Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 7:40 AM -- 7:55 AM







5-Min Count Period Beginning At	Hesperian Blvd (Northbound) Left	Thru	Right	U	Hesperian Blvd (Southbound) Left	Thru	Right	U	Depot Rd/Cathy Way (Eastbound) Left	Thru	Right	U	Depot Rd/Cathy Way (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	0	34	2	0	2	15	1	1	6	2	1	0	0	1	5	0	70	
7:05 AM	0	14	2	0	4	16	3	0	7	0	0	0	1	0	9	0	56	
7:10 AM	1	47	0	0	5	16	1	1	7	1	0	0	1	1	13	0	94	
7:15 AM	0	28	1	0	1	20	0	1	9	0	2	0	0	0	4	0	66	
7:20 AM	0	47	3	0	2	16	0	0	6	0	1	0	0	0	8	0	83	
7:25 AM	0	23	2	0	6	14	2	1	6	1	0	0	5	3	9	0	72	
7:30 AM	0	40	4	0	5	18	1	1	5	1	0	0	0	0	8	0	83	
7:35 AM	0	43	1	0	8	20	2	2	10	1	0	0	1	0	15	0	103	
7:40 AM	0	50	6	0	5	18	0	2	6	2	2	0	6	0	6	0	103	
7:45 AM	1	43	2	0	4	19	0	2	10	2	0	0	1	2	16	0	102	
7:50 AM	0	50	3	0	3	25	2	1	7	1	1	0	0	0	11	0	104	
7:55 AM	0	37	5	0	7	27	4	0	6	2	1	0	2	0	3	0	94	1030
8:00 AM	0	37	2	0	4	23	1	1	12	2	1	0	2	1	9	0	95	1055
8:05 AM	0	27	3	0	5	18	2	2	8	2	1	0	2	1	10	0	81	1080
8:10 AM	2	41	4	0	6	20	1	2	2	0	2	0	4	1	3	0	88	1074
8:15 AM	2	30	1	0	5	28	7	1	9	3	1	0	5	2	8	0	102	1110
8:20 AM	1	35	5	0	3	16	4	1	7	1	0	0	1	1	8	0	83	1110
8:25 AM	1	32	3	0	2	26	3	1	5	0	0	0	4	0	10	0	87	1125
8:30 AM	1	48	1	0	3	29	2	0	8	3	0	0	2	1	4	0	102	1144
8:35 AM	0	24	2	0	3	27	2	5	8	1	2	0	2	0	6	0	82	1123
8:40 AM	0	46	2	0	6	28	3	4	6	1	1	0	1	1	9	0	108	1128
8:45 AM	0	36	1	0	7	32	2	2	6	0	0	0	3	2	9	0	100	1126
8:50 AM	1	40	6	0	5	23	4	0	3	1	1	0	3	1	11	0	99	1121
8:55 AM	1	25	3	0	4	29	1	1	9	2	2	0	6	0	7	0	90	1117

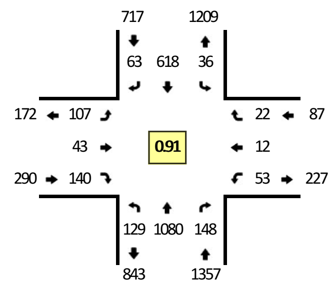
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	4	572	44	0	48	248	8	20	92	20	12	0	28	8	132	0	1236
Heavy Trucks	0	28	4		0	4	0		4	0	0		4	0	12		56
Buses																	
Pedestrians		0				0				4				8			12
Bicycles	0	0	0		0	0	0		0	0	0		4	0	0		4
Scooters																	

Comments:

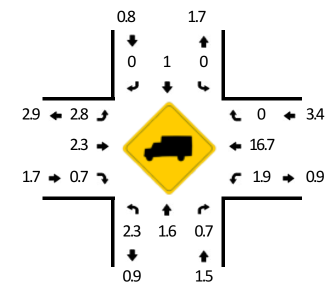
Report generated on 8/14/2020 4:49 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

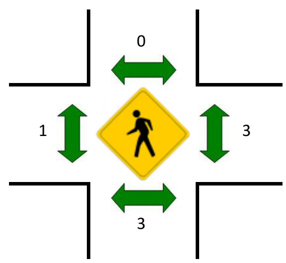
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

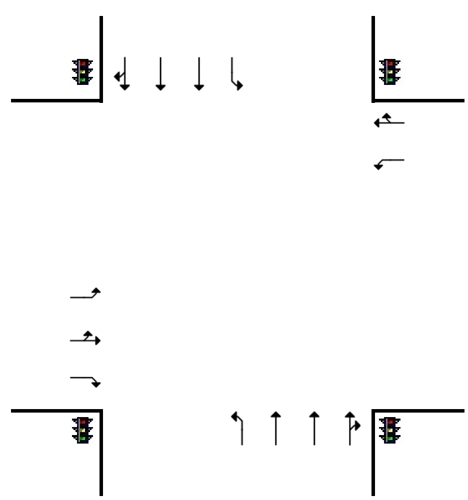
LOCATION: Hesperian Blvd -- Depot Rd/Cathy Way | **QC JOB #:** 15261220
CITY/STATE: Hayward, CA | **DATE:** Wed, Aug 5 2020

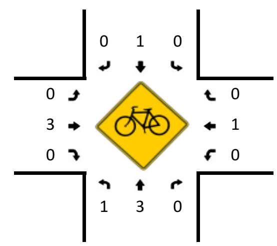


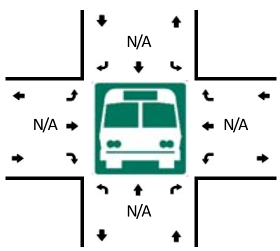
Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

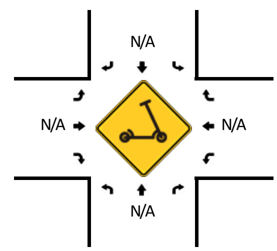












5-Min Count Period Beginning At	Hesperian Blvd (Northbound)				Hesperian Blvd (Southbound)				Depot Rd/Cathy Way (Eastbound)				Depot Rd/Cathy Way (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	106	7	0	0	63	3	0	5	3	9	0	4	1	2	0	208	
4:05 PM	2	100	9	1	2	50	8	0	7	5	18	0	7	2	4	0	215	
4:10 PM	5	93	4	2	0	33	7	0	9	4	10	0	10	3	5	0	185	
4:15 PM	13	107	9	3	1	38	4	0	17	1	9	0	4	1	8	0	215	
4:20 PM	7	91	12	2	2	48	1	0	10	0	8	0	3	1	4	0	189	
4:25 PM	12	83	10	4	1	55	2	0	10	1	3	0	6	1	1	0	189	
4:30 PM	4	89	9	3	1	43	5	0	7	1	8	0	2	0	2	0	174	
4:35 PM	6	103	11	1	6	57	5	0	10	8	18	0	2	1	1	0	229	
4:40 PM	3	93	13	0	2	54	3	0	11	1	15	0	2	1	1	0	199	
4:45 PM	9	90	14	3	5	52	3	0	4	3	13	0	3	1	1	0	201	
4:50 PM	13	72	15	5	2	50	5	0	9	4	9	0	11	2	2	0	199	
4:55 PM	6	88	12	4	3	33	5	0	15	2	7	0	4	0	2	0	181	2384
5:00 PM	6	77	12	0	4	47	6	0	7	6	7	0	2	1	1	0	176	2352
5:05 PM	14	86	17	5	3	58	9	0	4	3	12	0	3	1	3	0	218	2355
5:10 PM	8	112	12	1	3	72	8	0	13	4	11	0	8	1	1	0	254	2424
5:15 PM	12	89	10	2	3	48	4	0	7	1	15	0	7	2	2	0	202	2411
5:20 PM	7	81	13	6	1	38	4	0	11	5	15	0	5	0	2	0	188	2410
5:25 PM	6	91	9	2	3	47	7	0	10	2	8	0	3	1	3	0	192	2413
5:30 PM	7	98	10	3	1	62	4	0	6	4	10	0	3	1	3	0	212	2451
5:35 PM	10	98	11	1	1	48	5	0	2	2	8	0	3	0	3	0	192	2414
5:40 PM	9	98	8	3	0	44	3	0	6	3	5	0	3	2	2	0	186	2401
5:45 PM	8	95	23	3	2	51	6	0	7	0	6	0	3	0	3	0	207	2407
5:50 PM	11	73	7	2	3	56	5	0	3	1	10	0	3	2	0	0	176	2384
5:55 PM	4	74	13	5	3	61	4	0	5	2	9	0	3	3	2	0	188	2391

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	136	1148	156	32	36	712	84	0	96	32	152	0	72	16	24	0	2696
Heavy Trucks	4	28	0		0	8	0		0	0	0		0	4	0		44
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

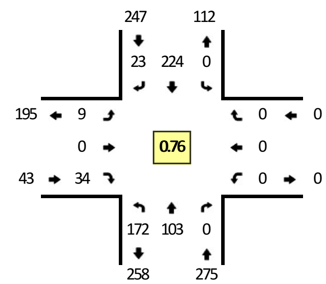
Comments:

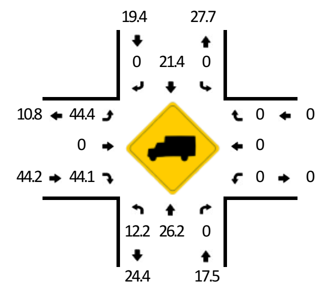
Report generated on 8/14/2020 4:49 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

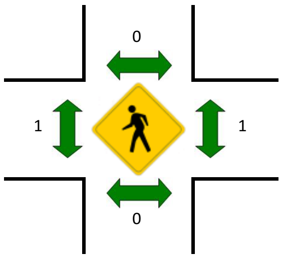
Type of peak hour being reported: Intersection Peak   Method for determining peak hour: Total Entering Volume

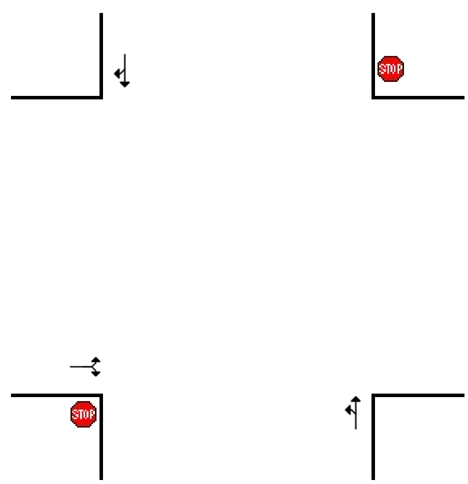
LOCATION: Clawiter Rd -- Diablo Ave   **QC JOB #:** 15261207
CITY/STATE: Hayward, CA   **DATE:** Wed, Aug 5 2020

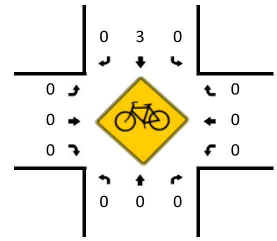
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:50 AM -- 8:05 AM

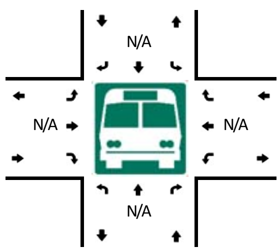


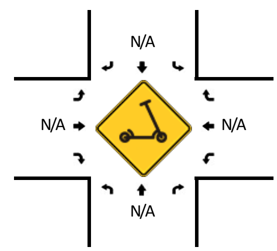












5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				Diablo Ave (Eastbound)				Diablo Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	5	6	0	0	0	13	3	0	1	0	2	0	0	0	0	0	30	
7:05 AM	14	10	0	0	0	15	1	0	0	0	3	0	0	0	0	0	43	
7:10 AM	12	5	0	0	0	20	0	0	1	0	6	0	0	0	0	0	44	
7:15 AM	8	3	0	0	0	12	0	0	0	0	4	0	0	0	0	0	27	
7:20 AM	13	4	0	0	0	17	3	0	0	0	3	0	0	0	0	0	40	
7:25 AM	5	6	0	0	0	18	0	0	0	0	2	0	0	0	0	0	31	
7:30 AM	14	15	0	0	0	17	0	0	0	0	1	0	0	0	0	0	47	
7:35 AM	8	7	0	0	0	19	1	0	0	0	3	0	0	0	0	0	38	
7:40 AM	8	4	0	0	0	23	3	0	1	0	1	0	0	0	0	0	40	
7:45 AM	22	12	0	0	0	13	1	0	2	0	3	0	0	0	0	0	53	
7:50 AM	10	12	0	0	0	33	4	0	0	0	3	0	0	0	0	0	62	
7:55 AM	24	6	0	0	0	19	4	0	1	0	6	0	0	0	0	0	60	515
8:00 AM	20	9	0	0	0	27	2	0	1	0	4	0	0	0	0	0	63	548
8:05 AM	15	9	0	0	0	15	1	0	0	0	3	0	0	0	0	0	43	548
8:10 AM	11	4	0	0	0	19	3	0	1	0	1	0	0	0	0	0	39	543
8:15 AM	18	8	0	0	0	12	0	0	0	0	3	0	0	0	0	0	41	557
8:20 AM	11	6	0	0	0	12	1	0	1	0	5	0	0	0	0	0	36	553
8:25 AM	11	11	0	0	0	15	3	0	2	0	1	0	0	0	0	0	43	565
8:30 AM	7	8	0	0	0	19	0	0	1	0	2	0	0	0	0	0	37	555
8:35 AM	9	9	0	0	0	12	3	0	2	0	6	0	0	0	0	0	41	558
8:40 AM	8	8	0	0	0	14	3	0	2	0	6	0	0	0	0	0	41	559
8:45 AM	10	7	0	0	0	11	0	0	0	0	2	0	0	0	0	0	30	536
8:50 AM	14	17	0	0	0	13	1	0	1	0	2	0	0	0	0	0	48	522
8:55 AM	11	6	0	0	0	15	1	0	3	0	4	0	0	0	0	0	40	502

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	216	108	0	0	0	316	40	0	8	0	52	0	0	0	0	0	740
Heavy Trucks	12	20	0		0	64	0		0	0	24		0	0	0		120
Buses																	
Pedestrians		0				0				4				0			4
Bicycles	0	0	0		0	4	0		0	0	0		0	0	0		4
Scooters																	

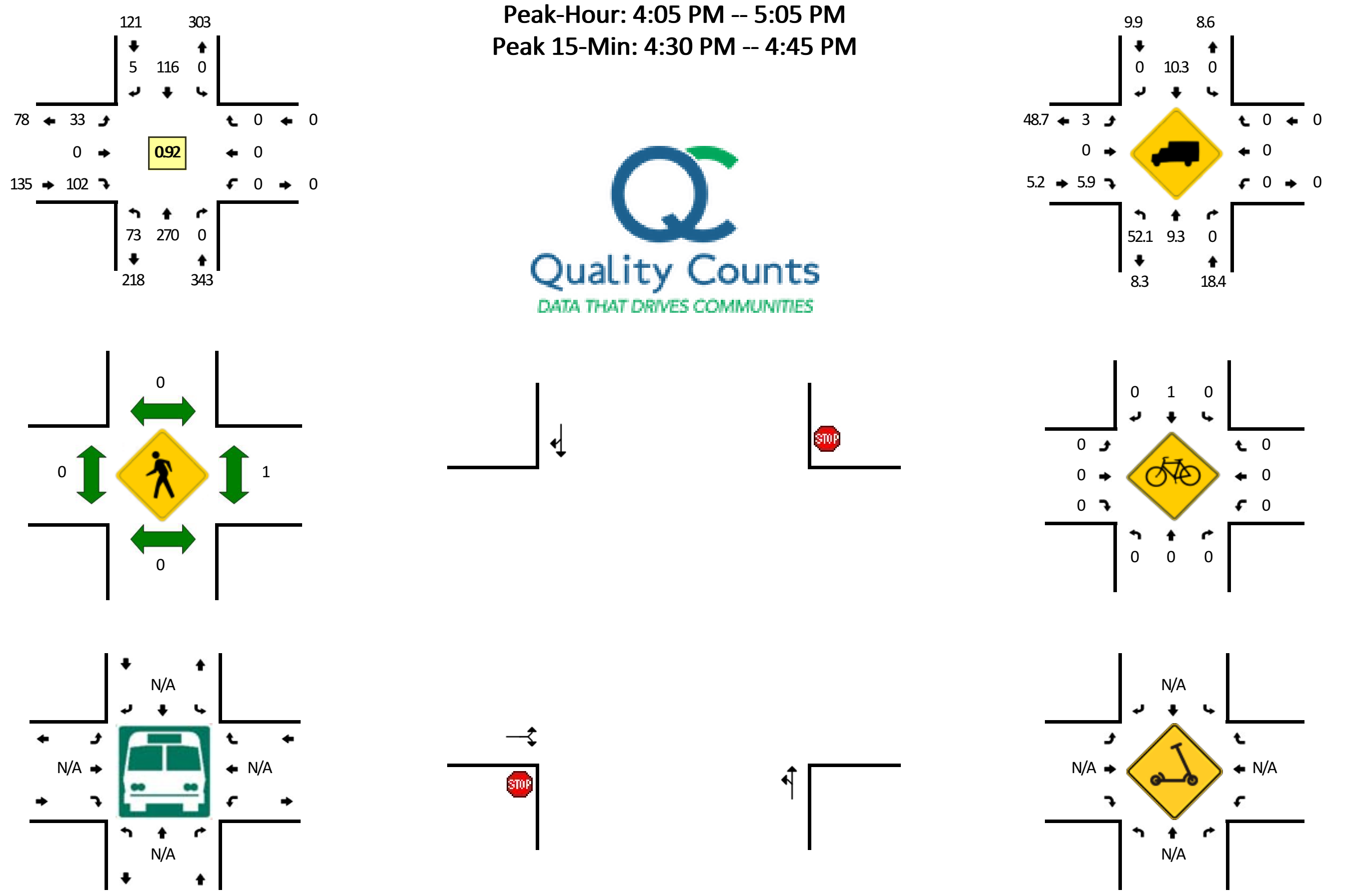
Comments:

Report generated on 8/14/2020 4:49 PM   SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Clawiter Rd -- Diablo Ave | **QC JOB #:** 15261208
CITY/STATE: Hayward, CA | **DATE:** Wed, Aug 5 2020

Peak-Hour: 4:05 PM -- 5:05 PM
Peak 15-Min: 4:30 PM -- 4:45 PM



5-Min Count Period Beginning At	Clawiter Rd (Northbound) Left	Thru	Right	U	Clawiter Rd (Southbound) Left	Thru	Right	U	Diablo Ave (Eastbound) Left	Thru	Right	U	Diablo Ave (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	2	24	0	0	0	5	0	0	7	0	8	0	0	0	0	0	46	
4:05 PM	10	25	0	0	0	11	0	0	3	0	4	0	0	0	0	0	53	
4:10 PM	3	30	0	0	0	10	1	0	3	0	10	0	0	0	0	0	57	
4:15 PM	9	20	0	0	0	15	1	0	2	0	5	0	0	0	0	0	52	
4:20 PM	5	13	0	0	0	13	0	0	2	0	6	0	0	0	0	0	39	
4:25 PM	9	18	0	0	0	11	1	0	2	0	7	0	0	0	0	0	48	
4:30 PM	5	25	0	0	0	9	0	0	4	0	17	0	0	0	0	0	60	
4:35 PM	5	24	0	0	0	6	1	0	5	0	9	0	0	0	0	0	50	
4:40 PM	3	27	0	0	0	9	1	0	4	0	9	0	0	0	0	0	53	
4:45 PM	2	27	0	0	0	5	0	0	2	0	12	0	0	0	0	0	48	
4:50 PM	8	14	0	0	0	9	0	0	4	0	3	0	0	0	0	0	38	
4:55 PM	9	24	0	0	0	8	0	0	1	0	9	0	0	0	0	0	51	595
5:00 PM	5	23	0	0	0	10	0	0	1	0	11	0	0	0	0	0	50	599
5:05 PM	1	27	0	0	0	7	0	0	4	0	12	0	0	0	0	0	51	597
5:10 PM	6	22	0	0	0	9	0	0	4	0	6	0	0	0	0	0	47	587
5:15 PM	1	20	0	0	0	10	0	0	3	0	8	0	0	0	0	0	42	577
5:20 PM	3	12	0	0	0	5	1	0	1	0	5	0	0	0	0	0	27	565
5:25 PM	6	20	0	0	0	4	0	0	2	0	4	0	0	0	0	0	36	553
5:30 PM	5	11	0	0	0	9	1	0	15	0	13	0	0	0	0	0	54	547
5:35 PM	2	12	0	0	0	8	0	0	4	0	5	0	0	0	0	0	31	528
5:40 PM	4	8	0	0	0	9	1	0	3	0	9	0	0	0	0	0	34	509
5:45 PM	6	12	0	0	0	14	0	0	5	0	4	0	0	0	0	0	41	502
5:50 PM	4	7	0	0	0	4	0	0	0	0	6	0	0	0	0	0	21	485
5:55 PM	3	14	0	0	0	8	1	0	0	0	5	0	0	0	0	0	31	465

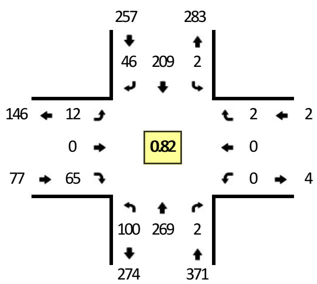
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	52	304	0	0	0	96	8	0	52	0	140	0	0	0	0	0	652
Heavy Trucks	20	40	0		0	4	0		0	0	8		0	0	0		72
Buses																	
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	4	0		0	0	0		0	0	0		4
Scooters																	

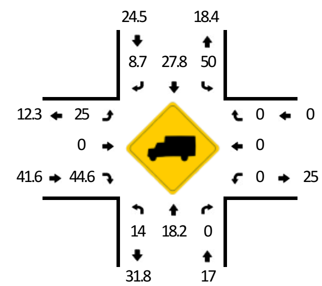
Comments:

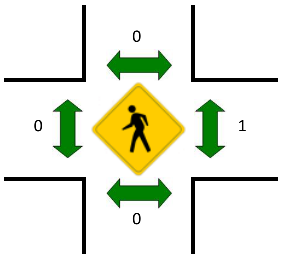
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

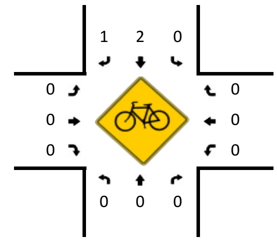
LOCATION: Clawiter Rd -- Enterprise Ave | **QC JOB #:** 15261205
CITY/STATE: Hayward, CA | **DATE:** Wed, Aug 5 2020

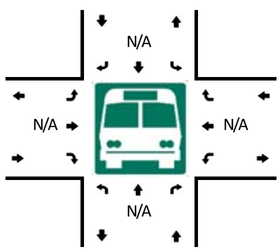
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:50 AM -- 8:05 AM

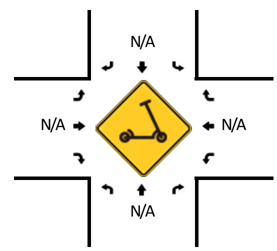












5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				Enterprise Ave (Eastbound)				Enterprise Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	6	11	0	0	0	21	4	0	1	0	3	0	0	0	1	0	47	
7:05 AM	9	22	1	0	0	13	3	0	1	0	4	0	0	0	0	0	53	
7:10 AM	10	16	1	0	0	19	3	0	1	0	7	0	0	0	0	0	57	
7:15 AM	5	16	0	0	0	18	2	0	0	0	6	0	0	0	0	0	47	
7:20 AM	7	15	1	0	1	11	4	0	0	0	2	0	1	0	0	0	42	
7:25 AM	6	12	0	0	1	18	2	0	0	0	2	0	0	0	0	0	41	
7:30 AM	16	25	0	0	0	13	1	0	1	0	6	0	0	0	0	0	62	
7:35 AM	8	14	0	0	0	20	7	0	1	0	5	0	0	0	0	0	55	
7:40 AM	5	13	0	0	0	16	4	0	2	0	6	0	0	0	0	0	46	
7:45 AM	14	33	0	0	0	17	3	0	2	0	5	0	0	0	0	0	74	
7:50 AM	6	22	1	0	1	26	5	0	1	0	3	0	0	0	0	0	65	
7:55 AM	3	30	0	0	0	18	8	0	3	0	7	0	0	0	1	0	70	659
8:00 AM	19	31	0	0	0	18	7	0	0	0	6	0	0	0	0	0	81	693
8:05 AM	5	23	1	0	0	20	2	0	1	0	6	0	0	0	0	0	58	698
8:10 AM	6	15	0	0	0	19	2	0	0	0	5	0	0	0	0	0	47	688
8:15 AM	7	27	0	0	0	15	1	0	0	0	8	0	0	0	0	0	58	699
8:20 AM	5	18	0	0	1	9	5	0	1	0	2	0	0	0	0	0	41	698
8:25 AM	6	18	0	0	0	18	1	0	0	0	6	0	0	0	1	0	50	707
8:30 AM	11	16	0	0	1	19	1	0	2	0	10	0	0	0	0	0	60	705
8:35 AM	2	17	0	0	0	17	3	0	1	0	8	0	1	0	0	0	49	699
8:40 AM	7	16	0	0	0	18	0	0	0	0	6	0	0	0	0	0	47	700
8:45 AM	9	20	0	0	0	12	1	0	0	0	11	0	0	0	0	0	53	679
8:50 AM	6	27	0	0	0	12	1	0	2	0	5	0	0	0	0	0	53	667
8:55 AM	6	19	1	0	1	21	3	0	1	0	1	0	0	0	0	0	53	650

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	112	332	4	0	4	248	80	0	16	0	64	0	0	0	4	0	864
Heavy Trucks	12	40	0		4	64	8		0	0	32		0	0	0		160
Buses																	
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	0	4		0	0	0		0	0	0		4
Scooters																	

Comments:

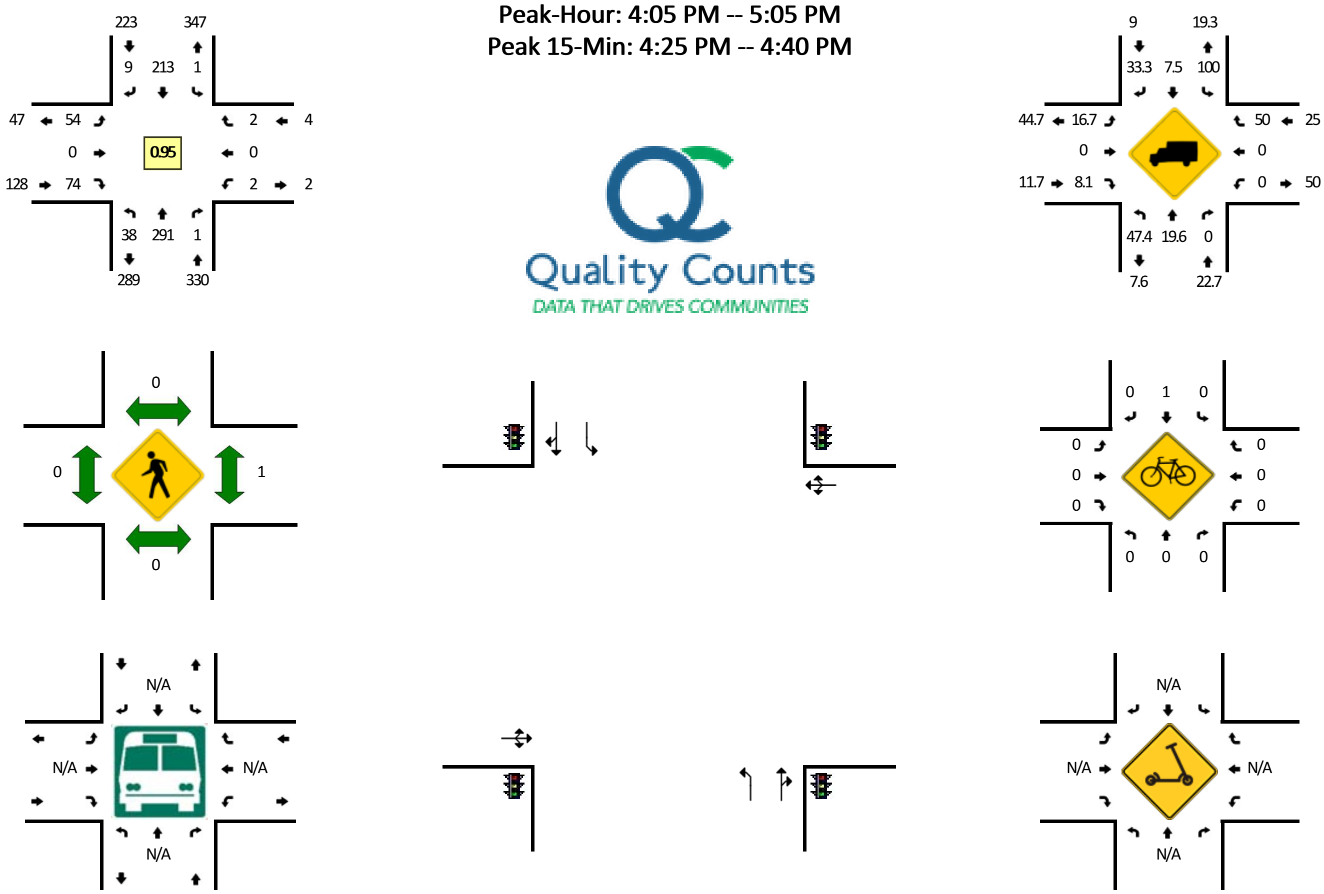
Report generated on 8/14/2020 4:49 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Clawiter Rd -- Enterprise Ave | **QC JOB #:** 15261206
CITY/STATE: Hayward, CA | **DATE:** Wed, Aug 5 2020

Peak-Hour: 4:05 PM -- 5:05 PM
Peak 15-Min: 4:25 PM -- 4:40 PM



5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				Enterprise Ave (Eastbound)				Enterprise Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	24	0	0	0	10	3	0	5	0	4	0	1	0	0	0	50	
4:05 PM	5	28	0	0	0	16	0	0	4	0	5	0	0	0	0	0	58	
4:10 PM	5	30	0	0	1	16	2	0	8	0	4	0	0	0	1	0	67	
4:15 PM	4	20	0	0	0	22	0	0	4	0	5	0	0	0	0	0	55	
4:20 PM	2	14	0	0	0	18	0	0	4	0	10	0	0	0	0	0	48	
4:25 PM	0	28	0	0	0	16	2	0	0	0	4	0	1	0	0	0	51	
4:30 PM	1	24	0	0	0	23	2	0	8	0	6	0	1	0	1	0	66	
4:35 PM	5	23	0	0	0	20	1	0	5	0	10	0	0	0	0	0	64	
4:40 PM	0	23	0	0	0	16	0	0	8	0	4	0	0	0	0	0	51	
4:45 PM	1	27	1	0	0	18	0	0	6	0	8	0	0	0	0	0	61	
4:50 PM	7	16	0	0	0	11	1	0	3	0	2	0	0	0	0	0	40	
4:55 PM	4	33	0	0	0	17	1	0	1	0	8	0	0	0	0	0	64	675
5:00 PM	4	25	0	0	0	20	0	0	3	0	8	0	0	0	0	0	60	685
5:05 PM	0	24	0	0	0	17	1	0	6	0	5	0	0	0	0	0	53	680
5:10 PM	2	25	0	0	0	18	0	0	3	0	5	0	0	0	0	0	53	666
5:15 PM	0	18	1	0	0	18	1	0	2	0	3	0	0	0	1	0	44	655
5:20 PM	2	14	0	0	0	8	1	0	4	0	1	0	2	0	0	0	32	639
5:25 PM	0	22	0	0	0	8	1	0	1	0	4	0	0	0	1	0	37	625
5:30 PM	1	16	0	0	0	19	1	0	2	0	8	0	0	0	0	0	47	606
5:35 PM	1	9	0	0	0	16	1	0	5	0	4	0	1	0	0	0	37	579
5:40 PM	3	11	0	0	0	18	0	0	1	0	4	0	0	0	0	0	37	565
5:45 PM	2	17	0	0	0	16	0	0	2	0	1	0	0	0	0	0	38	542
5:50 PM	0	13	0	0	0	13	0	0	2	0	2	0	0	0	0	0	30	532
5:55 PM	2	11	0	0	0	14	1	0	3	0	4	0	0	0	0	0	35	503

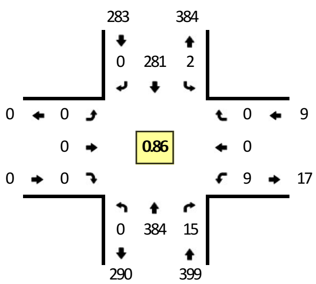
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	24	300	0	0	0	236	20	0	52	0	80	0	8	0	4	0	724
Heavy Trucks	8	76	0		0	24	4		8	0	4		0	0	0		124
Buses																	
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	4	0		0	0	0		0	0	0		4
Scooters																	

Comments:

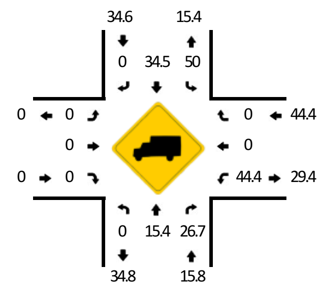
Report generated on 8/14/2020 4:49 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

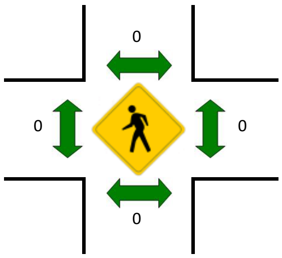
Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

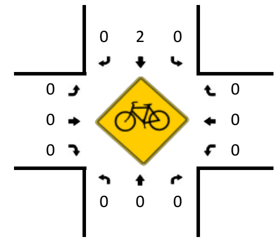
LOCATION: Clawiter Rd -- Southern Dwy — **QC JOB #:** 15261221
CITY/STATE: Hayward, CA — **DATE:** Wed, Aug 5 2020

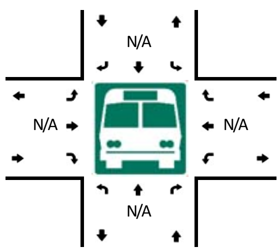


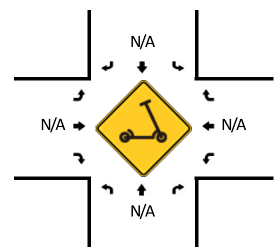
Peak-Hour: 7:40 AM -- 8:40 AM
Peak 15-Min: 7:45 AM -- 8:00 AM











5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				Southern Dwy (Eastbound)				Southern Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	23	2	0	0	23	0	0	0	0	0	0	0	0	1	0	49	
7:05 AM	0	38	0	0	0	22	0	0	0	0	0	0	0	0	0	0	60	
7:10 AM	0	19	3	0	0	25	0	0	0	0	0	0	0	0	0	0	47	
7:15 AM	0	22	2	0	0	20	0	0	0	0	0	0	0	0	0	0	44	
7:20 AM	0	19	1	0	0	17	0	0	0	0	0	0	0	0	0	0	37	
7:25 AM	0	31	1	0	0	21	0	0	0	0	0	0	1	0	2	0	56	
7:30 AM	0	29	0	0	0	25	0	0	0	0	0	0	0	0	0	0	54	
7:35 AM	0	18	0	0	1	25	0	0	0	0	0	0	0	0	1	0	45	
7:40 AM	0	34	2	0	0	15	0	0	0	0	0	0	0	0	0	0	51	
7:45 AM	0	40	0	0	1	31	0	0	0	0	0	0	1	0	0	0	73	
7:50 AM	0	34	2	0	0	23	0	0	0	0	0	0	0	0	0	0	59	
7:55 AM	0	39	2	0	0	28	0	0	0	0	0	0	1	0	0	0	70	645
8:00 AM	0	49	1	0	0	18	0	0	0	0	0	0	0	0	0	0	68	664
8:05 AM	0	34	2	0	0	28	0	0	0	0	0	0	0	0	0	0	64	668
8:10 AM	0	21	0	0	0	25	0	0	0	0	0	0	1	0	0	0	47	668
8:15 AM	0	31	1	0	0	22	0	0	0	0	0	0	0	0	0	0	54	678
8:20 AM	0	27	0	0	1	12	0	0	0	0	0	0	1	0	0	0	41	682
8:25 AM	0	29	1	0	0	25	0	0	0	0	0	0	2	0	0	0	57	683
8:30 AM	0	24	1	0	0	29	0	0	0	0	0	0	1	0	0	0	55	684
8:35 AM	0	22	3	0	0	25	0	0	0	0	0	0	2	0	0	0	52	691
8:40 AM	0	24	0	0	0	24	0	0	0	0	0	0	1	0	0	0	49	689
8:45 AM	0	29	1	0	0	23	0	0	0	0	0	0	6	0	0	0	59	675
8:50 AM	0	38	0	0	0	20	0	0	0	0	0	0	1	0	0	0	59	675
8:55 AM	0	24	0	0	0	17	0	0	0	0	0	0	0	0	0	0	41	646

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	452	16	0	4	328	0	0	0	0	0	0	8	0	0	0	808
Heavy Trucks	0	28	0		4	88	0		0	0	0		0	0	0		120
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

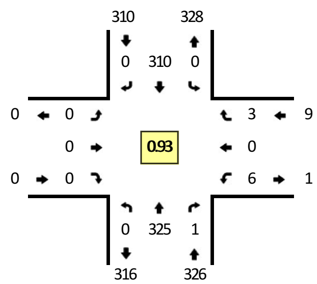
Comments:

Report generated on 8/14/2020 4:49 PM — SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

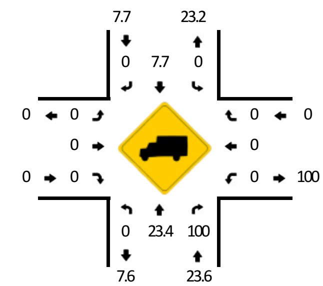
LOCATION: Clawiter Rd -- Southern Dwy — **QC JOB #:** 15261222

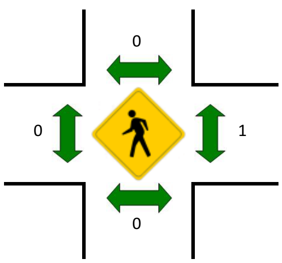
CITY/STATE: Hayward, CA — **DATE:** Wed, Aug 5 2020

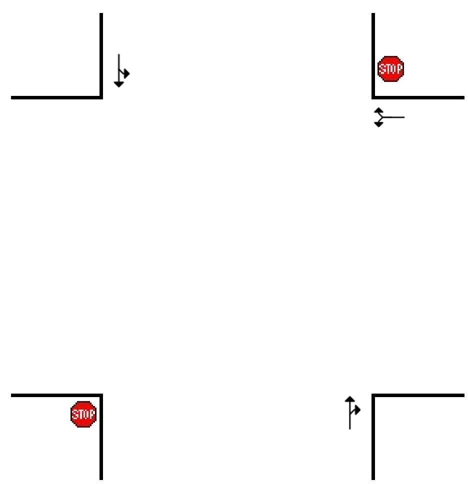


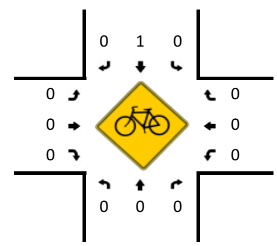
Peak-Hour: 4:05 PM -- 5:05 PM

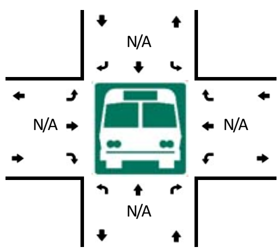
Peak 15-Min: 4:25 PM -- 4:40 PM

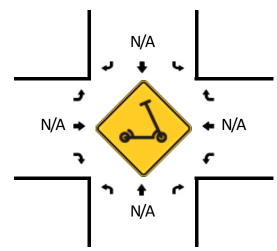












5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				Southern Dwy (Eastbound)				Southern Dwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	25	0	0	0	18	0	0	0	0	0	0	1	0	0	0	44	
4:05 PM	0	35	0	0	0	21	0	0	0	0	0	0	1	0	1	0	58	
4:10 PM	0	33	0	0	0	20	0	0	0	0	0	0	1	0	0	0	54	
4:15 PM	0	21	1	0	0	25	0	0	0	0	0	0	1	0	0	0	48	
4:20 PM	0	24	0	0	0	28	0	0	0	0	0	0	0	0	0	0	52	
4:25 PM	0	23	0	0	0	23	0	0	0	0	0	0	0	0	1	0	47	
4:30 PM	0	29	0	0	0	43	0	0	0	0	0	0	1	0	0	0	73	
4:35 PM	0	20	0	0	0	31	0	0	0	0	0	0	1	0	1	0	53	
4:40 PM	0	21	0	0	0	25	0	0	0	0	0	0	1	0	0	0	47	
4:45 PM	0	32	0	0	0	23	0	0	0	0	0	0	0	0	0	0	55	
4:50 PM	0	25	0	0	0	16	0	0	0	0	0	0	0	0	0	0	41	
4:55 PM	0	32	0	0	0	26	0	0	0	0	0	0	0	0	0	0	58	630
5:00 PM	0	30	0	0	0	29	0	0	0	0	0	0	0	0	0	0	59	645
5:05 PM	0	23	1	0	0	30	0	0	0	0	0	0	0	0	0	0	54	641
5:10 PM	0	27	0	0	0	22	0	0	0	0	0	0	0	0	0	0	49	636
5:15 PM	0	17	0	0	0	23	0	0	0	0	0	0	2	0	0	0	42	630
5:20 PM	0	17	0	0	0	12	0	0	0	0	0	0	0	0	0	0	29	607
5:25 PM	0	20	0	0	0	13	0	0	0	0	0	0	0	0	2	0	35	595
5:30 PM	0	16	0	0	0	31	0	0	0	0	0	0	0	0	0	0	47	569
5:35 PM	0	10	1	0	0	22	0	0	0	0	0	0	0	0	1	0	34	550
5:40 PM	0	14	1	0	0	21	0	0	0	0	0	0	0	0	1	0	37	540
5:45 PM	0	17	0	0	0	13	0	0	0	0	0	0	0	0	0	0	30	515
5:50 PM	0	15	0	0	0	20	0	0	0	0	0	0	0	0	0	0	35	509
5:55 PM	0	10	0	0	0	18	0	0	0	0	0	0	0	0	0	0	28	479

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	288	0	0	0	388	0	0	0	0	0	0	8	0	8	0	692
Heavy Trucks	0	84	0		0	28	0		0	0	0		0	0	0		112
Buses																	
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	4	0		0	0	0		0	0	0		4
Scooters																	

Comments:

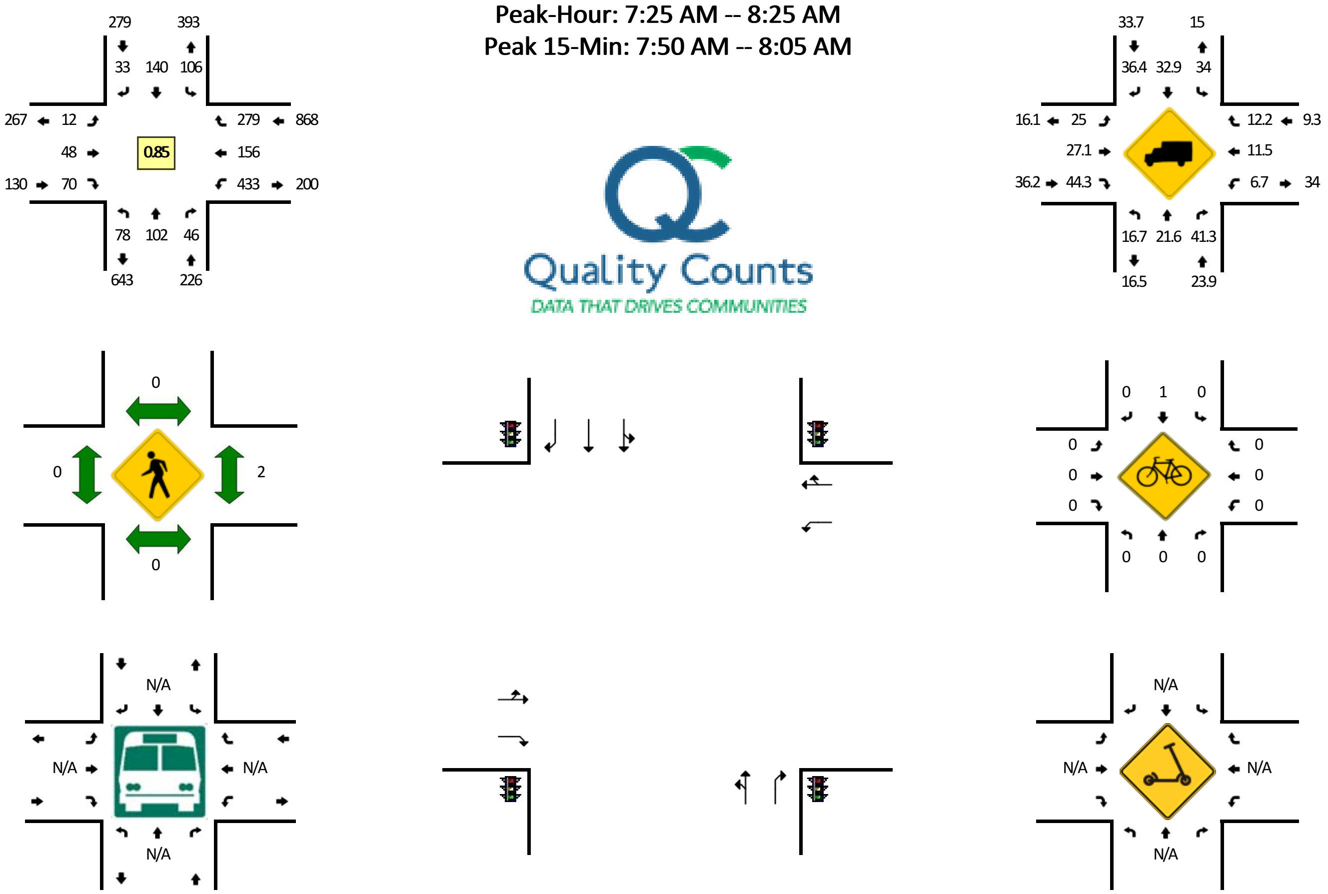
Report generated on 8/14/2020 4:49 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Clawiter Rd -- SR 92 WB Ramp/Breakwater Ct | **QC JOB #:** 15261201
CITY/STATE: Hayward, CA | **DATE:** Wed, Aug 5 2020

Peak-Hour: 7:25 AM -- 8:25 AM
Peak 15-Min: 7:50 AM -- 8:05 AM



5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				SR 92 WB Ramp/Breakwater Ct (Eastbound)				SR 92 WB Ramp/Breakwater Ct (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	7	6	3	0	11	14	1	0	0	5	6	0	25	10	17	0	105	
7:05 AM	6	4	3	0	13	7	0	0	2	5	7	0	45	23	31	0	146	
7:10 AM	5	6	1	0	8	12	5	0	0	3	6	0	16	12	17	0	91	
7:15 AM	4	4	6	0	11	8	2	0	2	6	3	0	23	10	18	0	97	
7:20 AM	14	7	8	0	2	8	3	0	1	6	8	0	19	9	14	0	99	
7:25 AM	4	9	2	0	10	11	5	0	0	9	6	0	31	13	20	0	120	
7:30 AM	5	11	4	0	9	5	3	0	1	6	5	0	27	6	18	0	100	
7:35 AM	10	4	4	0	12	12	3	0	0	3	3	0	29	15	15	0	110	
7:40 AM	8	7	6	0	11	4	3	0	2	5	6	0	36	13	28	0	129	
7:45 AM	4	9	7	0	14	12	3	0	0	5	9	0	24	9	24	0	120	
7:50 AM	5	10	6	0	9	11	1	0	3	2	5	0	42	12	23	0	129	
7:55 AM	6	5	7	0	13	13	3	0	1	4	6	0	49	22	36	0	165	1411
8:00 AM	6	13	1	0	5	16	2	0	1	0	4	0	42	20	38	0	148	1454
8:05 AM	6	13	1	0	5	18	5	0	1	4	7	0	39	11	19	0	129	1437
8:10 AM	9	8	2	0	4	10	2	0	0	4	5	0	41	9	16	0	110	1456
8:15 AM	5	7	2	0	10	19	2	0	1	3	8	0	29	15	23	0	124	1483
8:20 AM	10	6	4	0	4	9	1	0	2	3	6	0	44	11	19	0	119	1503
8:25 AM	7	6	2	0	6	15	1	0	2	1	3	0	27	6	22	0	98	1481
8:30 AM	7	12	1	0	8	23	1	0	0	4	6	0	20	11	13	0	106	1487
8:35 AM	6	8	1	0	6	18	3	0	2	2	7	0	26	15	16	0	110	1487
8:40 AM	7	7	1	0	11	18	0	0	1	5	4	0	30	14	16	0	114	1472
8:45 AM	3	4	1	0	10	17	1	0	2	2	2	0	35	14	23	0	114	1466
8:50 AM	9	12	1	0	7	6	1	0	1	8	3	0	28	16	26	0	118	1455
8:55 AM	9	7	0	0	8	11	0	0	1	3	6	0	34	20	18	0	117	1407

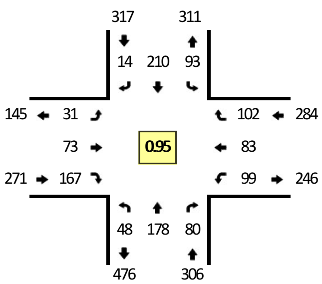
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	68	112	56	0	108	160	24	0	20	24	60	0	532	216	388	0	1768
Heavy Trucks	8	12	20		32	52	12		4	8	28		40	16	24		256
Buses																	
Pedestrians		0				0				0				8			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

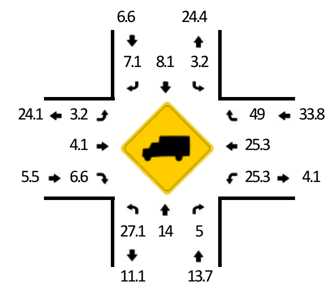
Report generated on 8/14/2020 4:49 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

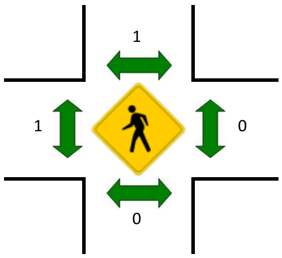
Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

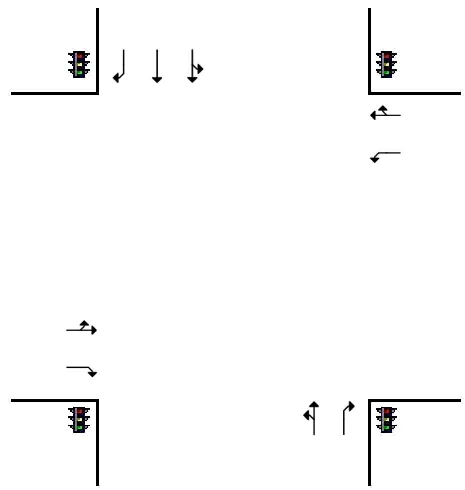
LOCATION: Clawiter Rd -- SR 92 WB Ramp/Breakwater Ct — **QC JOB #:** 15261202
CITY/STATE: Hayward, CA — **DATE:** Wed, Aug 5 2020

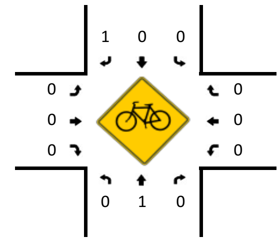


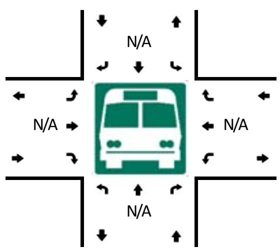
Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

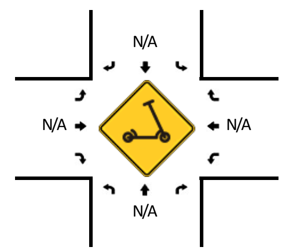












5-Min Count Period Beginning At	Clawiter Rd (Northbound)				Clawiter Rd (Southbound)				SR 92 WB Ramp/Breakwater Ct (Eastbound)				SR 92 WB Ramp/Breakwater Ct (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	18	4	0	4	11	1	0	2	4	17	0	13	4	6	0	89	
4:05 PM	11	45	6	0	19	22	3	0	6	12	27	0	11	7	16	0	185	
4:10 PM	0	1	8	0	0	0	0	0	0	0	1	0	0	0	0	0	10	
4:15 PM	6	13	7	0	8	19	0	0	1	9	9	0	6	5	8	0	91	
4:20 PM	8	9	5	0	11	8	3	0	6	4	16	0	13	12	10	0	105	
4:25 PM	3	12	9	0	6	13	2	0	2	6	9	0	7	4	12	0	85	
4:30 PM	4	18	4	0	12	24	0	0	1	2	10	0	10	3	6	0	94	
4:35 PM	3	7	9	0	10	31	1	0	1	4	12	0	11	12	12	0	113	
4:40 PM	3	17	9	0	6	15	1	0	6	6	15	0	5	4	4	0	91	
4:45 PM	4	19	6	0	8	17	0	0	2	3	12	0	10	9	6	0	96	
4:50 PM	4	14	4	0	3	13	2	0	0	8	20	0	13	13	12	0	106	
4:55 PM	3	14	2	0	6	18	1	0	3	5	11	0	6	5	14	0	88	1153
5:00 PM	4	17	3	0	7	14	2	0	4	7	15	0	11	2	9	0	95	1159
5:05 PM	0	19	12	0	10	25	1	0	1	11	23	0	5	8	4	0	119	1093
5:10 PM	6	19	10	0	6	13	1	0	4	8	15	0	2	6	5	0	95	1178
5:15 PM	5	12	5	0	12	15	2	0	2	3	5	0	11	5	3	0	80	1167
5:20 PM	1	6	0	0	5	6	2	0	0	6	21	0	8	7	10	0	72	1134
5:25 PM	2	15	4	0	4	5	1	0	2	15	13	0	9	5	6	0	81	1130
5:30 PM	5	10	8	0	9	23	0	0	0	3	16	0	10	6	3	0	93	1129
5:35 PM	0	6	8	0	8	15	1	0	0	8	12	0	10	5	5	0	78	1094
5:40 PM	6	6	8	0	5	13	1	0	3	7	16	0	13	6	7	0	91	1094
5:45 PM	4	6	4	0	8	6	0	0	0	2	11	0	12	6	10	0	69	1067
5:50 PM	3	7	4	0	8	11	0	0	1	6	4	0	12	5	7	0	68	1029
5:55 PM	3	5	5	0	4	12	1	0	0	5	11	0	4	5	5	0	60	1001

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	40	220	100	0	92	208	16	0	36	104	212	0	72	64	72	0	1236
Heavy Trucks	12	36	0		0	8	0		0	4	4		24	20	36		144
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	4	0		0	0	0		0	0	0		0	0	0		4
Scooters																	

Comments:

Report generated on 8/14/2020 4:49 PM — SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

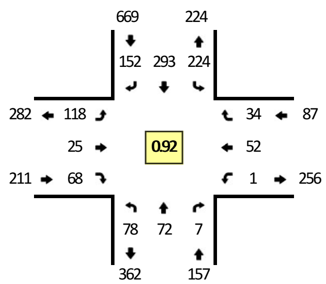
Method for determining peak hour: Total Entering Volume

LOCATION: Clawiter Rd/Eden Landing Rd -- SR 92 EB Ramps/Eden Landing Rd

QC JOB #: 15261203

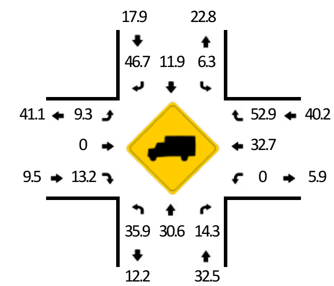
CITY/STATE: Hayward, CA

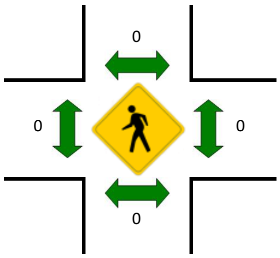
DATE: Wed, Aug 5 2020

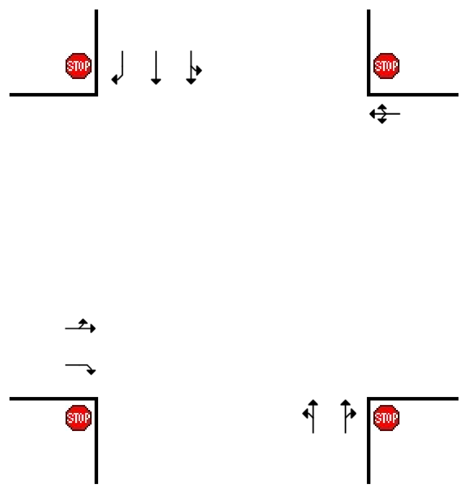


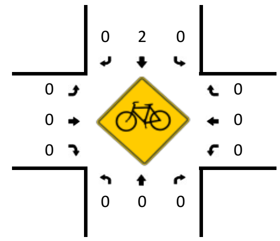
Peak-Hour: 7:45 AM -- 8:45 AM

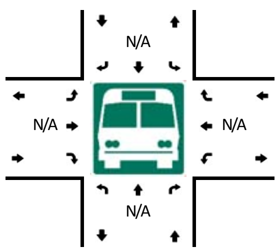
Peak 15-Min: 7:55 AM -- 8:10 AM

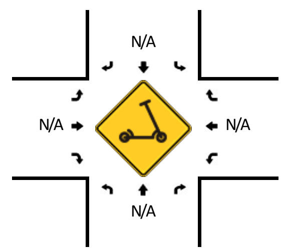












5-Min Count Period Beginning At	Clawiter Rd/Eden Landing Rd (Northbound)				Clawiter Rd/Eden Landing Rd (Southbound)				SR 92 EB Ramps/Eden Landing Rd (Eastbound)				SR 92 EB Ramps/Eden Landing Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	8	7	0	0	14	28	14	0	9	2	5	0	1	3	2	0	93	
7:05 AM	9	5	0	0	18	28	8	0	11	0	7	0	0	4	2	0	92	
7:10 AM	6	2	0	0	15	19	9	0	5	0	6	0	0	6	2	0	70	
7:15 AM	6	7	0	0	6	13	9	0	11	1	2	0	0	9	6	0	70	
7:20 AM	6	7	0	0	14	18	8	0	10	0	4	0	0	6	1	0	74	
7:25 AM	6	6	0	0	10	22	13	0	11	2	7	0	1	6	0	0	84	
7:30 AM	4	5	0	0	15	14	10	0	10	3	6	0	0	2	3	0	72	
7:35 AM	2	4	0	0	19	14	10	0	13	2	7	0	0	4	5	0	80	
7:40 AM	6	8	0	0	17	24	7	0	5	0	5	0	0	2	3	0	77	
7:45 AM	10	6	1	0	18	22	16	0	10	2	6	0	0	1	5	0	97	
7:50 AM	5	9	0	0	11	24	8	0	13	5	9	0	0	8	4	0	96	
7:55 AM	8	6	0	0	26	31	8	0	7	0	6	0	0	7	1	0	100	1005
8:00 AM	9	4	1	0	32	24	8	0	16	4	4	0	1	2	3	0	108	1020
8:05 AM	5	7	1	0	21	32	13	0	10	2	4	0	0	1	3	0	99	1027
8:10 AM	8	6	1	0	19	23	10	0	10	2	4	0	0	3	2	0	88	1045
8:15 AM	6	5	0	0	17	30	14	0	10	4	5	0	0	3	2	0	96	1071
8:20 AM	3	9	1	0	22	30	8	0	10	1	10	0	0	8	1	0	103	1100
8:25 AM	11	6	0	0	16	17	11	0	6	2	5	0	0	6	1	0	81	1097
8:30 AM	2	8	2	0	10	13	15	0	8	0	3	0	0	8	7	0	76	1101
8:35 AM	5	2	0	0	17	20	25	0	9	0	6	0	0	2	2	0	88	1109
8:40 AM	6	4	0	0	15	27	16	0	9	3	6	0	0	3	3	0	92	1124
8:45 AM	10	3	1	0	13	18	14	0	8	3	9	0	0	9	0	0	88	1115
8:50 AM	7	5	0	0	16	16	11	0	7	1	5	0	0	4	7	0	79	1098
8:55 AM	10	1	1	0	16	17	10	0	16	4	4	0	0	5	3	0	87	1085

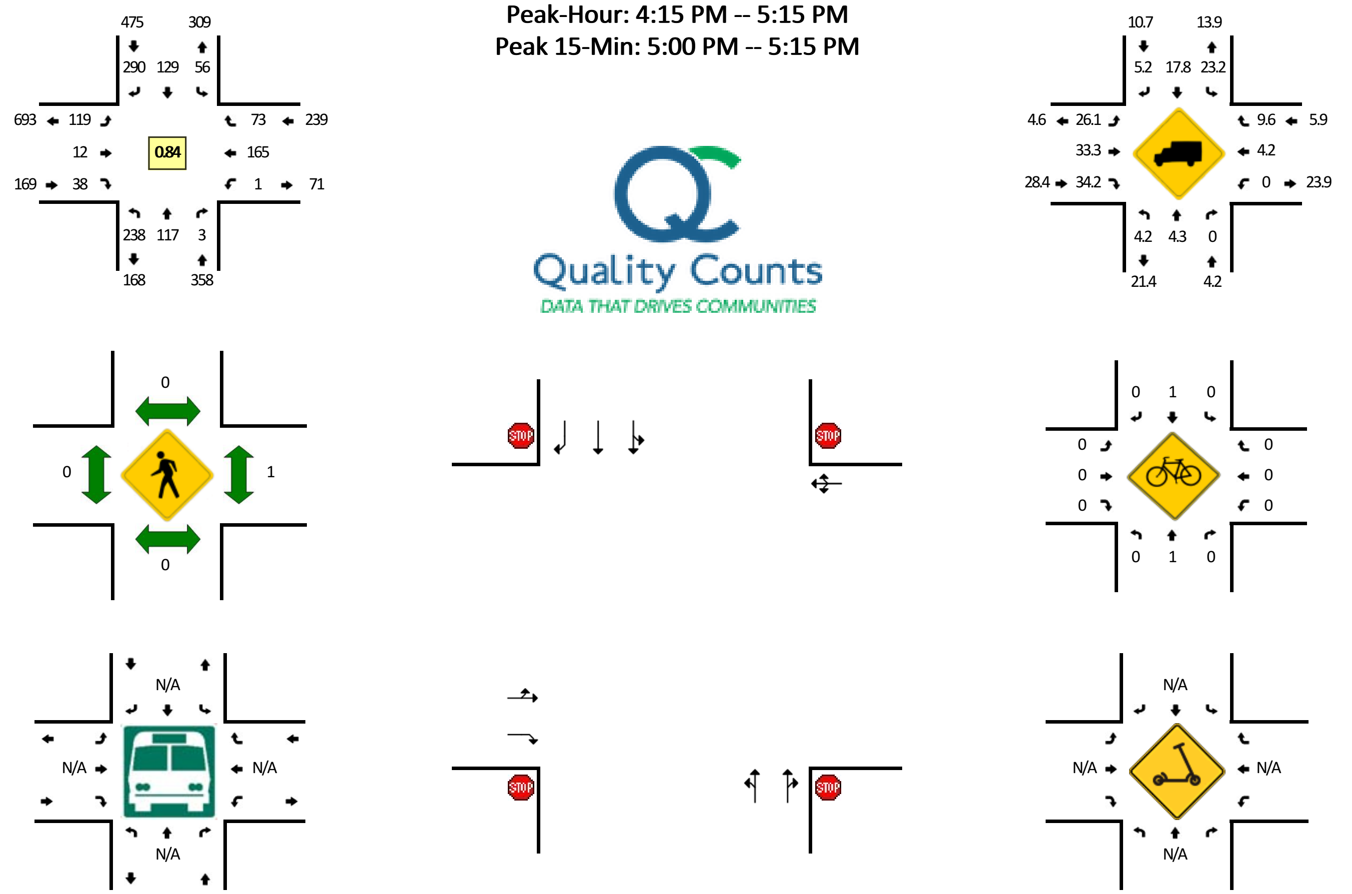
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	88	68	8	0	316	348	116	0	132	24	56	0	4	40	28	0	1228
Heavy Trucks	24	24	0		20	48	48		12	0	4		0	8	8		196
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Clawiter Rd/Eden Landing Rd -- SR 92 EB Ramps/Eden Landing Rd | **QC JOB #:** 15261204
CITY/STATE: Hayward, CA | **DATE:** Wed, Aug 5 2020

Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 5:00 PM -- 5:15 PM



5-Min Count Period Beginning At	Clawiter Rd/Eden Landing Rd (Northbound)				Clawiter Rd/Eden Landing Rd (Southbound)				SR 92 EB Ramps/Eden Landing Rd (Eastbound)				SR 92 EB Ramps/Eden Landing Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	18	9	1	0	6	12	24	0	17	1	1	0	1	22	9	0	121	
4:05 PM	17	10	0	0	3	13	18	0	11	0	8	1	0	20	5	0	106	
4:10 PM	12	11	0	0	2	7	19	0	15	0	3	0	0	14	13	0	96	
4:15 PM	27	12	1	0	6	8	20	0	12	1	2	0	0	11	3	0	103	
4:20 PM	21	9	1	0	3	11	19	0	11	3	2	0	0	11	1	0	92	
4:25 PM	17	7	0	0	5	11	21	0	12	1	1	0	1	11	5	0	92	
4:30 PM	15	6	0	0	4	8	26	0	10	1	4	0	0	12	11	0	97	
4:35 PM	28	13	0	0	5	14	29	0	5	1	2	0	0	13	3	0	113	
4:40 PM	14	16	0	0	4	14	30	0	8	0	3	0	0	15	3	0	107	
4:45 PM	9	9	1	0	9	10	19	0	9	2	6	0	0	8	13	0	95	
4:50 PM	15	4	0	0	5	11	24	0	12	1	2	0	0	11	5	0	90	
4:55 PM	14	6	0	0	6	6	21	0	14	2	1	0	0	11	3	0	84	1196
5:00 PM	24	7	0	0	4	13	22	0	12	0	2	0	0	17	6	0	107	1182
5:05 PM	27	14	0	0	4	16	35	0	9	0	5	0	0	29	9	0	148	1224
5:10 PM	27	14	0	0	1	7	24	0	5	0	8	0	0	16	11	0	113	1241
5:15 PM	16	9	0	0	2	9	16	0	7	1	1	0	0	8	4	0	73	1211
5:20 PM	19	0	0	0	5	8	26	0	7	1	4	0	0	8	2	0	80	1199
5:25 PM	16	8	0	0	2	5	20	0	14	0	2	0	0	5	2	0	74	1181
5:30 PM	16	8	0	0	8	11	33	0	7	0	1	0	0	13	4	0	101	1185
5:35 PM	27	12	0	0	6	6	19	0	2	1	5	0	0	7	3	0	88	1160
5:40 PM	22	5	0	0	7	6	28	0	11	1	5	0	0	9	2	0	96	1149
5:45 PM	9	4	0	0	10	14	11	0	7	2	6	0	0	6	3	0	72	1126
5:50 PM	11	7	0	0	4	8	13	0	4	1	3	0	0	4	2	0	57	1093
5:55 PM	14	6	0	0	4	9	18	0	7	2	2	0	0	11	2	0	75	1084

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	312	140	0	0	36	144	324	0	104	0	60	0	0	248	104	0	1472
Heavy Trucks	12	0	0		4	28	4		32	0	28		0	16	12		136
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	4	0		0	0	0		0	0	0		0	0	0		4
Scooters																	

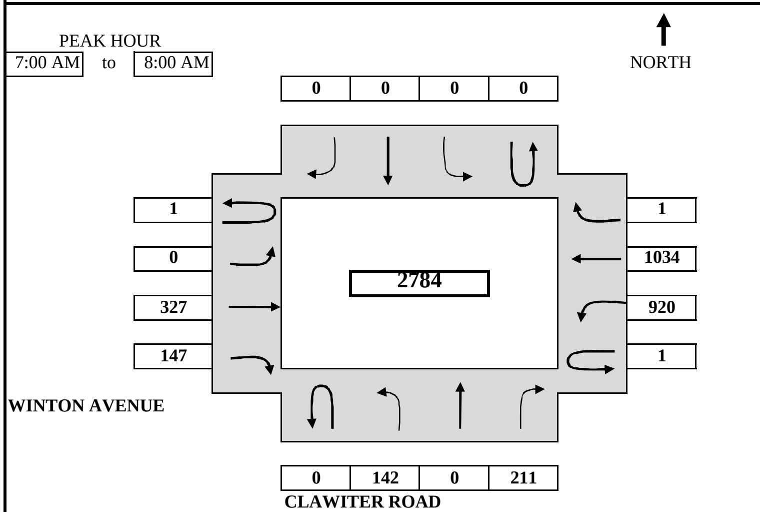
Comments:

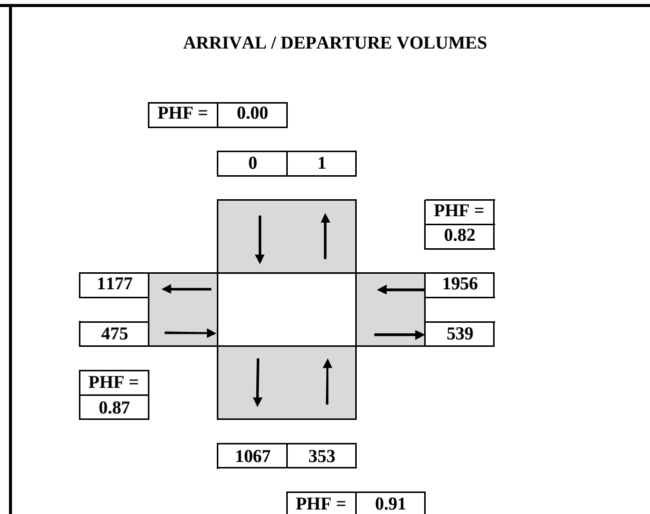
Report generated on 8/14/2020 4:49 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	TRAFFIC COUNTS IN HAYWARD	SURVEY DATE:	2/11/2016	DAY:	THURSDAY
N-S APPROACH:	CLAWITER ROAD	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	WINTON AVENUE	JURISDICTION:	HAYWARD	FILE:	3601011-59AM





TIME		PERIOD	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
From		To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
SURVEY DATA																			
7:00 AM	to	7:15 AM		40	0	57		0	0	0	1	0	89	46	0	279	292	0	**804**
7:15 AM	to	7:30 AM		65	0	106		0	0	0	1	0	173	65	1	465	490	0	**1366**
7:30 AM	to	7:45 AM		101	0	158		0	0	0	1	0	249	101	1	632	729	1	**1973**
7:45 AM	to	8:00 AM		142	0	211		0	0	0	1	0	327	147	1	920	1034	1	**2784**
8:00 AM	to	8:15 AM		180	1	262		0	2	1	1	0	391	168	1	1131	1287	5	**3430**
8:15 AM	to	8:30 AM		206	1	311		0	3	2	1	0	468	186	1	1333	1521	8	**4041**
8:30 AM	to	8:45 AM		248	2	357		2	3	2	1	0	543	211	1	1550	1762	10	**4692**
8:45 AM	to	9:00 AM		292	2	400		10	5	3	1	6	612	230	1	1748	1991	16	**5317**
TOTAL BY PERIOD																			
7:00 AM	to	7:15 AM	0	40	0	57	0	0	0	0	1	0	89	46	0	279	292	0	**804**
7:15 AM	to	7:30 AM	0	25	0	49	0	0	0	0	0	0	84	19	1	186	198	0	**562**
7:30 AM	to	7:45 AM	0	36	0	52	0	0	0	0	0	0	76	36	0	167	239	1	**607**
7:45 AM	to	8:00 AM	0	41	0	53	0	0	0	0	0	0	78	46	0	288	305	0	**811**
8:00 AM	to	8:15 AM	0	38	1	51	0	0	2	1	0	0	64	21	0	211	253	4	**646**
8:15 AM	to	8:30 AM	0	26	0	49	0	0	1	1	0	0	77	18	0	202	234	3	**611**
8:30 AM	to	8:45 AM	0	42	1	46	0	2	0	0	0	0	75	25	0	217	241	2	**651**
8:45 AM	to	9:00 AM	0	44	0	43	0	8	2	1	0	6	69	19	0	198	229	6	**625**
HOURLY TOTALS																			
7:00 AM	to	8:00 AM	0	142	0	211	0	0	0	0	1	0	327	147	1	920	1034	1	**2784**
7:15 AM	to	8:15 AM	0	140	1	205	0	0	2	1	0	0	302	122	1	852	995	5	**2626**
7:30 AM	to	8:30 AM	0	141	1	205	0	0	3	2	0	0	295	121	0	868	1031	8	**2675**
7:45 AM	to	8:45 AM	0	147	2	199	0	2	3	2	0	0	294	110	0	918	1033	9	**2719**
8:00 AM	to	9:00 AM	0	150	2	189	0	10	5	3	0	6	285	83	0	828	957	15	**2533**

PEAK HOUR SUMMARY

7:00 AM to 8:00 AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	
VOLUME	0	142	0	211	0	0	0	0	1	0	327	147	1	920	1034	1	**2784**
PHF BY MOVEMENT	0.00	0.87	0.00	0.93	0.00	0.00	0.00	0.00	0.25	0.00	0.92	0.80	0.25	0.80	0.85	0.25	OVERALL
PHF BY APPROACH	0.91				0.00				0.87				0.82				0.86
BICYCLE	1				0				3				1				**5**
PEDESTRIAN	0				0				2				6				**8**
	N-LEG				**S-LEG**				**E-LEG**				**W-LEG**				
PEDESTRIAN BY LEG:	2				6				0				0				**8**

TEL: (510) 232 - 1271 E MAIL: Baymetrics@gmail.com

Attachment VII

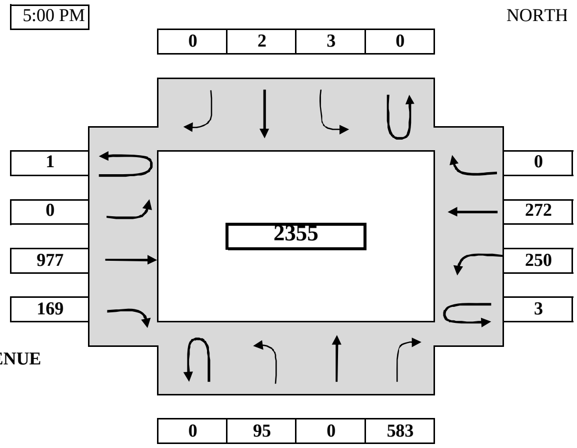
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	TRAFFIC COUNTS IN HAYWARD	SURVEY DATE:	2/11/2016	DAY:	THURSDAY
N-S APPROACH:	CLAWITER ROAD	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	WINTON AVENUE	JURISDICTION:	HAYWARD	FILE:	3601011-59PM

PEAK HOUR
4:00 PM to 5:00 PM

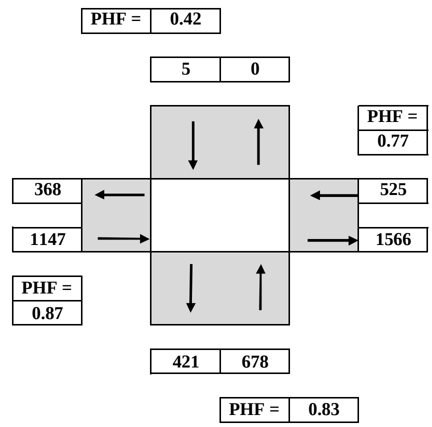
NORTH



WINTON AVENUE

CLAWITER ROAD

ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND U-TURN	NB LEFT	NB THRU	NB RIGHT	SOUTHBOUND U-TURN	SB LEFT	SB THRU	SB RIGHT	EASTBOUND U-TURN	EB LEFT	EB THRU	EB RIGHT	WESTBOUND U-TURN	WB LEFT	WB THRU	WB RIGHT	TOTAL
SURVEY DATA																			
4:00 PM	to	4:15 PM		26	0	177		1	1	0	1	0	274	56	1	71	99	0	707
4:15 PM	to	4:30 PM		49	0	316		1	1	0	1	0	476	86	3	134	150	0	1217
4:30 PM	to	4:45 PM		73	0	458		1	1	0	1	0	736	137	3	188	207	0	1805
4:45 PM	to	5:00 PM		95	0	583		3	2	0	1	0	977	169	3	250	272	0	2355
5:00 PM	to	5:15 PM		119	0	701		3	2	0	3	0	1274	247	3	330	343	0	3025
5:15 PM	to	5:30 PM		136	0	822		3	2	0	3	0	1523	273	3	392	402	0	3559
5:30 PM	to	5:45 PM		157	0	941		4	3	0	3	0	1739	312	3	462	449	0	4073
5:45 PM	to	6:00 PM		176	0	1058		4	3	0	5	0	1932	335	3	520	508	0	4544
TOTAL BY PERIOD																			
4:00 PM	to	4:15 PM	0	26	0	177	0	1	1	0	1	0	274	56	1	71	99	0	707
4:15 PM	to	4:30 PM	0	23	0	139	0	0	0	0	0	0	202	30	2	63	51	0	510
4:30 PM	to	4:45 PM	0	24	0	142	0	0	0	0	0	0	260	51	0	54	57	0	588
4:45 PM	to	5:00 PM	0	22	0	125	0	2	1	0	0	0	241	32	0	62	65	0	550
5:00 PM	to	5:15 PM	0	24	0	118	0	0	0	0	2	0	297	78	0	80	71	0	670
5:15 PM	to	5:30 PM	0	17	0	121	0	0	0	0	0	0	249	26	0	62	59	0	534
5:30 PM	to	5:45 PM	0	21	0	119	0	1	1	0	0	0	216	39	0	70	47	0	514
5:45 PM	to	6:00 PM	0	19	0	117	0	0	0	0	2	0	193	23	0	58	59	0	471
HOURLY TOTALS																			
4:00 PM	to	5:00 PM	0	95	0	583	0	3	2	0	1	0	977	169	3	250	272	0	2355
4:15 PM	to	5:15 PM	0	93	0	524	0	2	1	0	2	0	1000	191	2	259	244	0	2318
4:30 PM	to	5:30 PM	0	87	0	506	0	2	1	0	2	0	1047	187	0	258	252	0	2342
4:45 PM	to	5:45 PM	0	84	0	483	0	3	2	0	2	0	1003	175	0	274	242	0	2268
5:00 PM	to	6:00 PM	0	81	0	475	0	1	1	0	4	0	955	166	0	270	236	0	2189

PEAK HOUR SUMMARY

4:00 PM to 5:00 PM	NORTHBOUND NBU	NBL	NBT	NBR	SOUTHBOUND SBU	SBL	SBT	SBR	EASTBOUND EBU	EBL	EBT	EBR	WESTBOUND WBU	WBL	WBT	WBR	TOTAL
VOLUME	0	95	0	583	0	3	2	0	1	0	977	169	3	250	272	0	2355
PHF BY MOVEMENT	0.00	0.91	0.00	0.82	0.00	0.38	0.50	0.00	0.25	0.00	0.89	0.75	0.38	0.88	0.69	0.00	OVERALL
PHF BY APPROACH	0.83				0.42				0.87				0.77				0.83
BICYCLE	0				0				1				1				2
PEDESTRIAN	0				0				2				5				7
	N-LEG				S-LEG				E-LEG				W-LEG				
PEDESTRIAN BY LEG:	0				7				0				0				7

TEL: (510) 232 - 1271 E MAIL: Baymetrics@gmail.com

Attachment VII

Prepared by National Data & Surveying Services

Clawiter Rd/Industrial Blvd & Bridgeview Tech Park Dwy/Clawiter Rd

Peak Hour Turning Movement Count

ID: 20-08011-002
City: Hayward

Day: Wednesday
Date: 01/15/2020

	PEAK HOURS	COUNT PERIODS
AM	07:00 AM - 08:00 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:15 PM - 05:15 PM	04:00 PM - 06:00 PM

SOUTHBOUND – Clawiter Rd/Industrial Blvd

	Right	Thru	Left	U-Turn	Departing
AM	728	516	5	0	347
NOON	0	0	0	0	0
PM	129	376	1	0	1006
Lanes	1	2	1	0	

EASTBOUND – Bridgeview Tech Park Dwy/Clawiter Rd

	AM	NOON	PM	Lanes
Departing	733	0	137	
U-Turn	0	0	0	0
Left	65	0	522	0
Thru	4	0	0	2
Right	1	0	8	0

WESTBOUND – Bridgeview Tech Park Dwy/Clawiter Rd

	Lanes	PM	NOON	AM
Right	0	6	0	0
Thru	1	1	0	1
Left	0	38	0	4
U-Turn	0	0	0	0
Departing		3	0	16

NORTHBOUND – Clawiter Rd/Industrial Blvd

	Departing	U-Turn	Left	Thru	Right
Lanes		0	1	2	0
PM	447	25	7	478	2
NOON	0	0	0	0	0
AM	523	2	4	282	7

CONTROL

Signalized

	AM	NOON	PM
TEV	1619	0	1593
PHF	0.97		0.92

Total Vehicles (AM)

	Left	Thru	Right
Southbound	5	516	728
Eastbound	65	4	1
Westbound	4	1	0
Northbound	4	282	7

Total Vehicles (Noon)

	Left	Thru	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

Total Vehicles (PM)

	Left	Thru	Right
Southbound	1	376	129
Eastbound	522	0	8
Westbound	38	1	6
Northbound	7	478	2

Bikes (AM)

	Left	Thru	Right
Southbound	0	0	3
Eastbound	0	0	0
Westbound	0	0	0
Northbound	0	0	0

Bikes (NOON)

	Left	Thru	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

Bikes (PM)

	Left	Thru	Right
Southbound	0	0	0
Eastbound	2	0	0
Westbound	0	0	0
Northbound	0	0	0

Pedestrians (Crosswalks)

Crosswalk	Direction	AM	NOON	PM
North	Eastbound	0	0	0
North	Westbound	0	0	0
West	Southbound	0	0	0
West	Northbound	0	0	0
East	Southbound	3	0	0
East	Northbound	0	0	2
South	Eastbound	1	0	0
South	Westbound	0	0	0
NW corner (diagonal)		0	0	0
NE corner (diagonal)		0	0	0
SW corner (diagonal)		0	0	0
SE corner (diagonal)		0	0	0

Attachment VII

Prepared by National Data & Surveying Services

Clawiter Rd & Depot Rd

Peak Hour Turning Movement Count

ID: 20-08011-001
City: Hayward

Day: Wednesday
Date: 01/15/2020

	PEAK HOURS	COUNT PERIODS
AM	07:00 AM - 08:00 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:15 PM - 05:15 PM	04:00 PM - 06:00 PM

Clawiter Rd – SOUTHBOUND

	Right	Thru	Left	U-Turn	Departures
AM	191	518	12	0	74
NOON	0	0	0	0	0
PM	43	94	11	0	526
Lanes	1	1.5	0.5	0	

Depot Rd – EASTBOUND

	AM	NOON	PM	Lanes
Departures	448	0	150	
U-Turn	0	0	0	0
Left	32	0	158	0.5
Thru	117	0	347	1
Right	37	0	15	0.5

Depot Rd – WESTBOUND

	Lanes	PM	NOON	AM
Right	1	11	0	4
Thru	1.5	87	0	241
Left	0.5	17	0	110
U-Turn	0	0	0	0
Departures		523	0	151

Clawiter Rd – NORTHBOUND

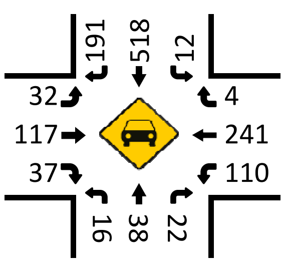
	Departures	U-Turn	Left	Thru	Right
Lanes		0	0.5	1	0.5
PM	126	0	20	357	165
NOON	0	0	0	0	0
AM	665	0	16	38	22

CONTROL

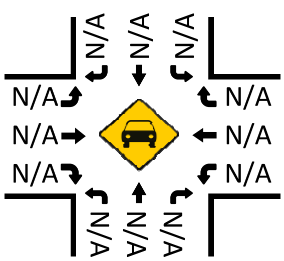
Signalized

	AM	NOON	PM
TEV	1338	0	1325
PHF	0.94		0.90

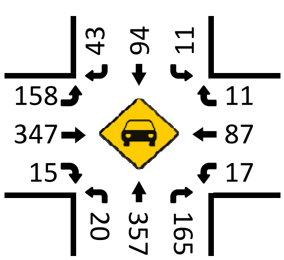
Total Vehicles (AM)



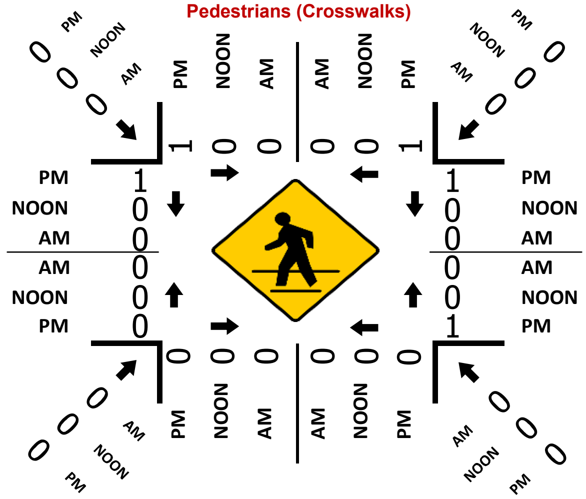
Total Vehicles (Noon)



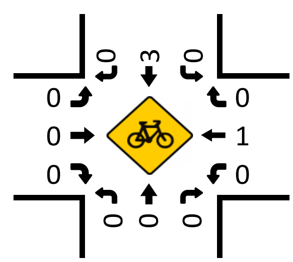
Total Vehicles (PM)



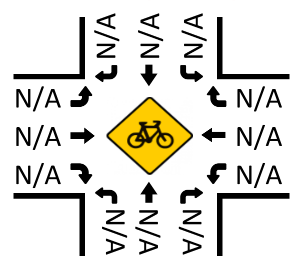
Pedestrians (Crosswalks)



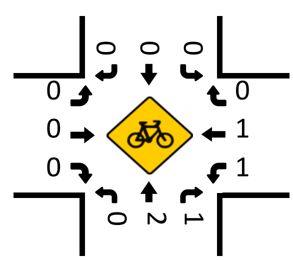
Bikes (AM)



Bikes (NOON)

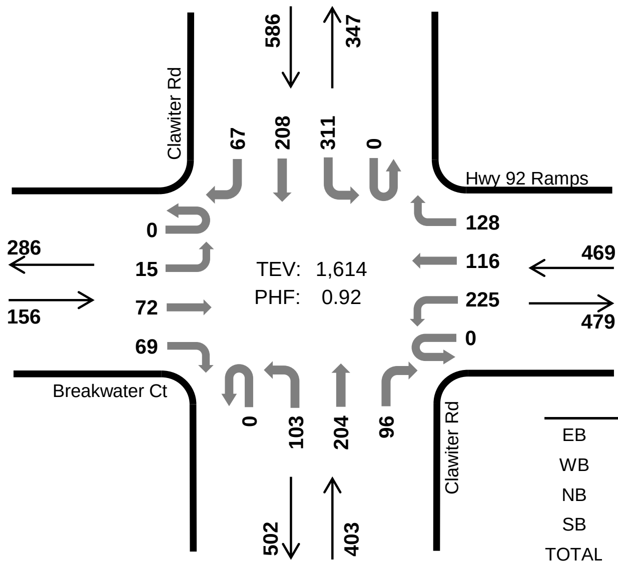


Bikes (PM)

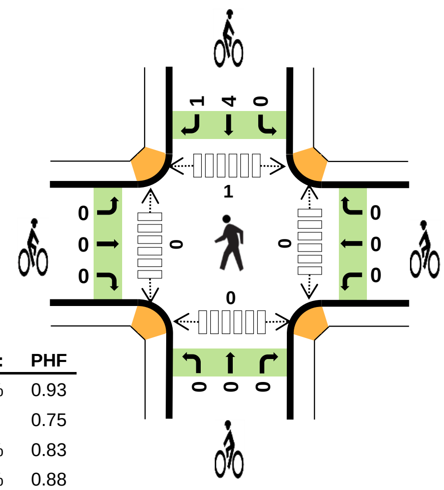


Clawiter Rd
Breakwater Ct

Date: 07/18/2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	23.1%	0.93
WB	9.6%	0.75
NB	13.6%	0.83
SB	15.0%	0.88
TOTAL	13.9%	0.92



Two-Hour Count Summaries

Interval Start	Breakwater Ct Eastbound UT	LT	TH	RT	Hwy 92 Ramps Westbound UT	LT	TH	RT	Clawiter Rd Northbound UT	LT	TH	RT	Clawiter Rd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:00 AM	0	4	17	19	0	27	20	17	0	20	28	39	0	75	24	13	303	0
7:15 AM	**0**	**1**	**23**	**16**	**0**	**43**	**26**	**18**	**0**	**33**	**59**	**30**	**0**	**89**	**40**	**9**	**387**	0
7:30 AM	**0**	**1**	**22**	**17**	**0**	**41**	**20**	**20**	**0**	**24**	**48**	**32**	**0**	**82**	**63**	**21**	**391**	0
7:45 AM	**0**	**10**	**14**	**18**	**0**	**58**	**36**	**50**	**0**	**22**	**51**	**19**	**0**	**77**	**64**	**21**	**440**	1,521
8:00 AM	**0**	**3**	**13**	**18**	**0**	**83**	**34**	**40**	**0**	**24**	**46**	**15**	**0**	**63**	**41**	**16**	**396**	**1,614**
8:15 AM	0	6	11	23	0	83	20	37	0	21	46	15	0	48	49	6	365	1,592
8:30 AM	0	2	8	12	0	86	37	44	0	29	43	13	0	37	57	7	375	1,576
8:45 AM	0	1	7	22	0	89	38	54	0	21	52	15	0	28	41	13	381	1,517
Count Total	0	28	115	145	0	510	231	280	0	194	373	178	0	499	379	106	3,038	0
Peak Hour All	**0**	**15**	**72**	**69**	**0**	**225**	**116**	**128**	**0**	**103**	**204**	**96**	**0**	**311**	**208**	**67**	**1,614**	**0**
Peak Hour HV	**0**	**1**	**14**	**21**	**0**	**18**	**13**	**14**	**0**	**10**	**30**	**15**	**0**	**37**	**43**	**8**	**224**	**0**
Peak Hour HV%	**-**	**7%**	**19%**	**30%**	**-**	**8%**	**11%**	**11%**	**-**	**10%**	**15%**	**16%**	**-**	**12%**	**21%**	**12%**	**14%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	12	12	19	18	*61*	0	0	0	1	*1*	0	0	0	0	*0*
7:15 AM	**6**	**11**	**13**	**20**	***50***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
7:30 AM	**14**	**9**	**14**	**26**	***63***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**7**	**13**	**10**	**25**	***55***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**9**	**12**	**18**	**17**	***56***	**0**	**0**	**0**	**3**	***3***	**0**	**0**	**0**	**0**	***0***
8:15 AM	12	9	12	17	*50*	0	3	0	1	*4*	0	0	0	0	*0*
8:30 AM	9	16	13	27	*65*	0	0	0	1	*1*	0	1	0	0	*1*
8:45 AM	3	22	9	24	*58*	0	0	0	1	*1*	0	0	0	0	*0*
Count Total	72	104	108	174	*458*	0	3	0	9	*12*	0	1	1	0	*2*
Peak Hour	**36**	**45**	**55**	**88**	***224***	**0**	**0**	**0**	**5**	***5***	**0**	**0**	**1**	**0**	***1***

Deon Fouche: 415 - 757 - 7714

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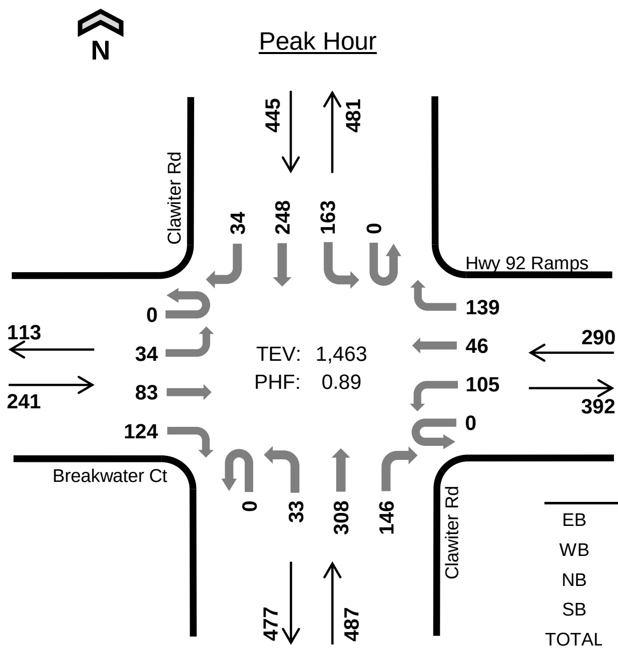
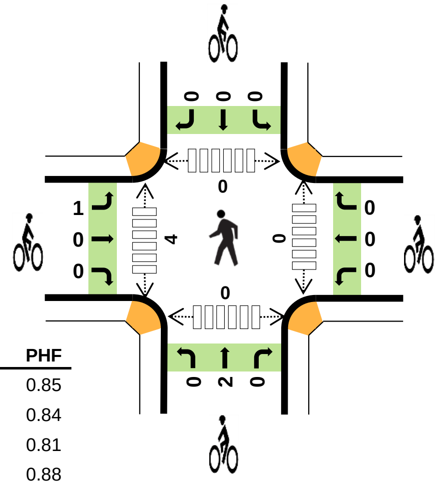
Clawiter Rd
Breakwater Ct

Date: 07/18/2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM

Peak Hour





	HV %:	PHF
EB	3.7%	0.85
WB	27.2%	0.84
NB	14.8%	0.81
SB	12.6%	0.88
TOTAL	14.8%	0.89

Two-Hour Count Summaries

Interval Start	Breakwater Ct Eastbound UT	LT	TH	RT	Hwy 92 Ramps Westbound UT	LT	TH	RT	Clawiter Rd Northbound UT	LT	TH	RT	Clawiter Rd Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	10	11	29	0	26	11	31	0	15	60	26	0	47	61	10	337	0
4:15 PM	**0**	**12**	**26**	**26**	**0**	**23**	**7**	**42**	**0**	**6**	**68**	**28**	**0**	**32**	**55**	**11**	**336**	0
4:30 PM	**0**	**4**	**21**	**34**	**0**	**29**	**10**	**31**	**0**	**9**	**73**	**36**	**0**	**43**	**61**	**8**	**359**	0
4:45 PM	**0**	**9**	**13**	**25**	**0**	**29**	**14**	**43**	**0**	**12**	**67**	**37**	**0**	**40**	**60**	**9**	**358**	1,390
5:00 PM	**0**	**9**	**23**	**39**	**0**	**24**	**15**	**23**	**0**	**6**	**100**	**45**	**0**	**48**	**72**	**6**	**410**	**1,463**
5:15 PM	0	9	15	38	0	15	8	32	0	11	90	44	0	33	28	6	329	1,456
5:30 PM	0	5	18	41	0	13	8	17	0	8	59	48	0	52	69	11	349	1,446
5:45 PM	0	7	8	37	0	19	10	23	0	5	60	21	0	36	48	5	279	1,367
Count Total	0	65	135	269	0	178	83	242	0	72	577	285	0	331	454	66	2,757	0
Peak Hour All	**0**	**34**	**83**	**124**	**0**	**105**	**46**	**139**	**0**	**33**	**308**	**146**	**0**	**163**	**248**	**34**	**1,463**	**0**
Peak Hour HV	**0**	**6**	**0**	**3**	**0**	**20**	**15**	**44**	**0**	**12**	**55**	**5**	**0**	**6**	**48**	**2**	**216**	**0**
Peak Hour HV%	**-**	**18%**	**0%**	**2%**	**-**	**19%**	**33%**	**32%**	**-**	**36%**	**18%**	**3%**	**-**	**4%**	**19%**	**6%**	**15%**	**0**

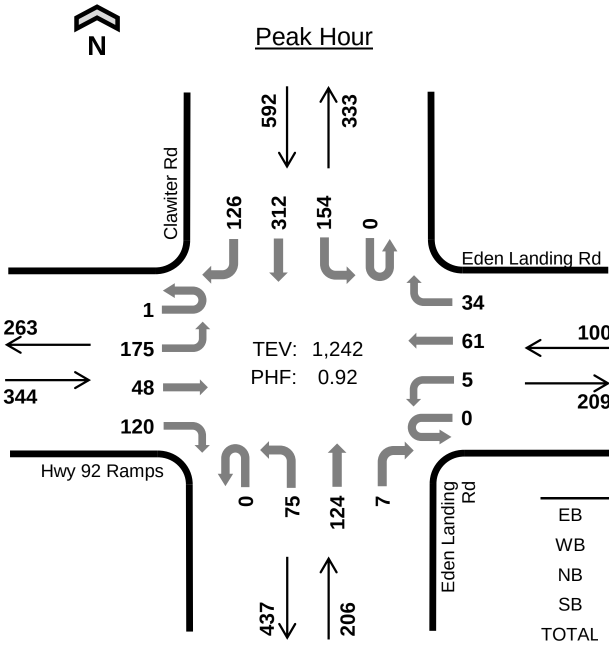
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	2	15	14	18	*49*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	**2**	**20**	**10**	**15**	***47***	**0**	**0**	**1**	**0**	***1***	**0**	**2**	**0**	**0**	*2*
4:30 PM	**2**	**24**	**20**	**11**	***57***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**5**	**22**	**24**	**18**	***69***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
5:00 PM	**0**	**13**	**18**	**12**	***43***	**1**	**0**	**0**	**0**	***1***	**0**	**1**	**0**	**0**	***1***
5:15 PM	3	15	16	5	*39*	0	0	0	0	*0*	1	0	1	0	*2*
5:30 PM	5	7	12	7	*31*	1	0	0	1	*2*	0	0	0	0	*0*
5:45 PM	1	16	10	14	*41*	0	0	2	0	*2*	0	0	0	0	*0*
Count Total	20	132	124	100	*376*	2	0	4	1	*7*	1	4	1	0	*6*
Peak Hour	**9**	**79**	**72**	**56**	***216***	**1**	**0**	**2**	**0**	***3***	**0**	**4**	**0**	**0**	***4***

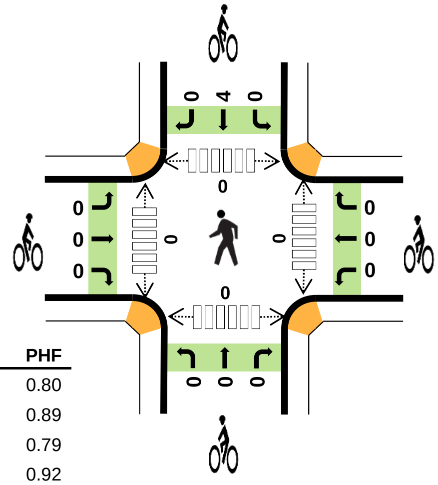
Eden Landing Rd
Hwy 92 Ramps

Date: 07/18/2017
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM

Peak Hour



	HV %:	PHF
EB	7.3%	0.80
WB	38.0%	0.89
NB	27.7%	0.79
SB	15.4%	0.92
TOTAL	17.0%	0.92



Two-Hour Count Summaries

Interval Start	Hwy 92 Ramps Eastbound				Eden Landing Rd Westbound				Eden Landing Rd Northbound				Clawiter Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	1	44	6	28	0	1	10	8	0	20	46	0	0	15	33	24	236	0
7:15 AM	0	54	6	22	0	0	12	13	0	10	46	1	0	30	53	18	265	0
7:30 AM	0	51	4	40	0	0	9	5	0	13	51	1	0	30	60	28	292	0
7:45 AM	**0**	**43**	**12**	**26**	**0**	**1**	**16**	**6**	**0**	**25**	**37**	**3**	**0**	**39**	**69**	**36**	**313**	1,106
8:00 AM	**1**	**42**	**7**	**34**	**0**	**3**	**17**	**8**	**0**	**16**	**35**	**2**	**0**	**32**	**76**	**28**	**301**	1,171
8:15 AM	**0**	**42**	**12**	**17**	**0**	**1**	**13**	**11**	**0**	**13**	**30**	**1**	**0**	**38**	**82**	**31**	**291**	1,197
8:30 AM	**0**	**48**	**17**	**43**	**0**	**0**	**15**	**9**	**0**	**21**	**22**	**1**	**0**	**45**	**85**	**31**	**337**	**1,242**
8:45 AM	0	44	11	43	0	0	9	9	0	16	28	0	0	47	69	37	313	1,242
Count Total	2	368	75	253	0	6	101	69	0	134	295	9	0	276	527	233	2,348	0
Peak Hour All	**1**	**175**	**48**	**120**	**0**	**5**	**61**	**34**	**0**	**75**	**124**	**7**	**0**	**154**	**312**	**126**	**1,242**	**0**
Peak Hour HV	**0**	**17**	**1**	**7**	**0**	**1**	**26**	**11**	**0**	**29**	**28**	**0**	**0**	**11**	**33**	**47**	**211**	**0**
Peak Hour HV%	**0%**	**10%**	**2%**	**6%**	**-**	**20%**	**43%**	**32%**	**-**	**39%**	**23%**	**0%**	**-**	**7%**	**11%**	**37%**	**17%**	**0**

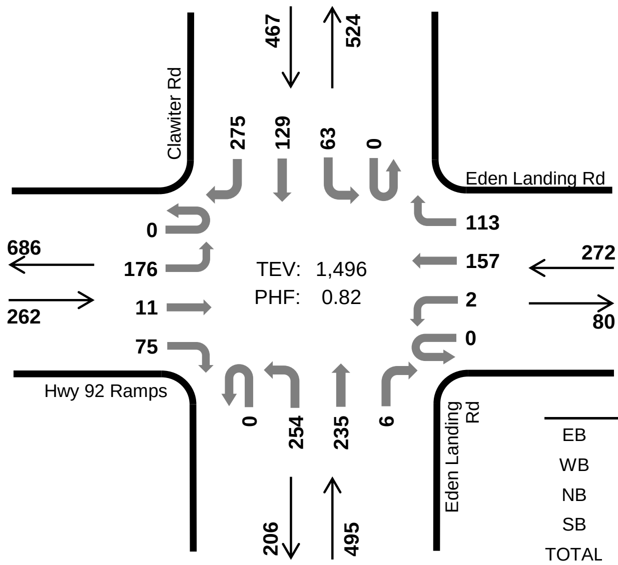
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	6	4	20	11	*41*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	4	10	15	16	*45*	0	0	0	1	*1*	0	0	0	0	*0*
7:30 AM	6	5	11	24	*46*	0	0	0	1	*1*	0	0	0	0	*0*
7:45 AM	**5**	**10**	**9**	**23**	***47***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**6**	**10**	**19**	**19**	***54***	**0**	**0**	**0**	**3**	***3***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**4**	**11**	**13**	**19**	***47***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	*0*
8:30 AM	**10**	**7**	**16**	**30**	***63***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:45 AM	7	1	10	30	*48*	0	0	0	1	*1*	0	0	0	0	*0*
Count Total	48	58	113	172	*391*	0	0	0	7	*7*	0	0	0	0	*0*
Peak Hour	**25**	**38**	**57**	**91**	***211***	**0**	**0**	**0**	**4**	***4***	**0**	**0**	**0**	**0**	***0***

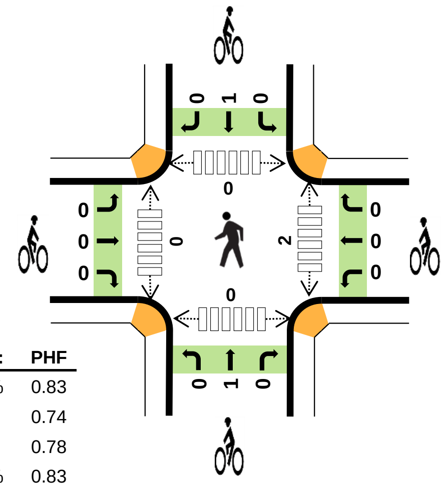
Eden Landing Rd
Hwy 92 Ramps

Date: 07/18/2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM

Peak Hour



	HV %:	PHF
EB	25.2%	0.83
WB	7.0%	0.74
NB	4.4%	0.78
SB	13.1%	0.83
TOTAL	11.2%	0.82



Two-Hour Count Summaries

Interval Start	Hwy 92 Ramps Eastbound				Eden Landing Rd Westbound				Eden Landing Rd Northbound				Clawiter Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	42	4	16	0	0	53	24	0	49	41	2	0	22	29	64	346	0
4:15 PM	0	34	2	19	0	0	27	25	0	46	41	1	0	20	31	47	293	0
4:30 PM	**0**	**37**	**3**	**14**	**0**	**2**	**42**	**33**	**0**	**59**	**47**	**4**	**0**	**20**	**36**	**65**	**362**	0
4:45 PM	**0**	**46**	**3**	**30**	**0**	**0**	**26**	**17**	**0**	**43**	**60**	**0**	**0**	**17**	**35**	**67**	**344**	1,345
5:00 PM	**0**	**50**	**2**	**13**	**0**	**0**	**52**	**40**	**0**	**83**	**74**	**2**	**0**	**15**	**33**	**92**	**456**	1,455
5:15 PM	**0**	**43**	**3**	**18**	**0**	**0**	**37**	**23**	**0**	**69**	**54**	**0**	**0**	**11**	**25**	**51**	**334**	**1,496**
5:30 PM	0	34	0	13	0	2	31	16	0	53	65	2	0	11	39	76	342	1,476
5:45 PM	0	33	2	19	0	0	25	16	0	27	35	0	0	9	33	63	262	1,394
Count Total	0	319	19	142	0	4	293	194	0	429	417	11	0	125	261	525	2,739	0
Peak Hour All	**0**	**176**	**11**	**75**	**0**	**2**	**157**	**113**	**0**	**254**	**235**	**6**	**0**	**63**	**129**	**275**	**1,496**	**0**
Peak Hour HV	**0**	**50**	**4**	**12**	**0**	**0**	**7**	**12**	**0**	**8**	**14**	**0**	**0**	**14**	**24**	**23**	**168**	**0**
Peak Hour HV%	**-**	**28%**	**36%**	**16%**	**-**	**0%**	**4%**	**11%**	**-**	**3%**	**6%**	**0%**	**-**	**22%**	**19%**	**8%**	**11%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	15	5	11	17	*48*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	6	6	6	19	*37*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**16**	**4**	**6**	**13**	***39***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**20**	**6**	**5**	**21**	***52***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
5:00 PM	**19**	**5**	**5**	**16**	***45***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**11**	**4**	**6**	**11**	***32***	**0**	**0**	**0**	**1**	***1***	**1**	**0**	**0**	**0**	***1***
5:30 PM	7	0	7	10	*24*	1	0	1	0	*2*	0	0	0	0	*0*
5:45 PM	8	1	6	13	*28*	0	1	0	0	*1*	0	0	0	0	*0*
Count Total	102	31	52	120	*305*	1	1	2	1	*5*	2	0	0	0	*2*
Peak Hour	**66**	**19**	**22**	**61**	***168***	**0**	**0**	**1**	**1**	***2***	**2**	**0**	**0**	**0**	***2***

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Attachment VII

Intersection	Movement	Weekday AM			Weekday PM		
		Aug 2020	Historical	Growth Rate	Aug 2020	Historical	Growth Rate
Clawiter Rd and Winton Ave	NBL	106	142	34%	77	95	23%
	NBT	2	0	-100%	1	0	-100%
	NBR	163	211	29%	555	583	5%
	SBL	4	0	-100%	4	3	-25%
	SBT	3	0	-100%	1	2	100%
	SBR	4	0	-100%	1	0	-100%
	EBL	7	1	-86%	0	1	#DIV/0!
	EBT	312	327	5%	1020	977	-4%
	EBR	66	147	123%	125	169	35%
	WBL	500	921	84%	200	253	27%
	WBT	895	1,034	16%	302	272	-10%
	WBR	13	1	-92%	2	0	-100%
	Total Entering Vehicles	2,075	2,784	34%	2,288	2,355	3%
Clawiter Rd and Industrial Blvd (east)	NBL	10	6	-40%	27	32	19%
	NBT	242	282	17%	412	478	16%
	NBR	1	7	600%	0	2	#DIV/0!
	SBL	1	5	400%	1	1	0%
	SBT	209	516	147%	324	376	16%
	SBR	353	728	106%	135	129	-4%
	EBL	63	65	3%	337	522	55%
	EBT	0	4	#DIV/0!	0	0	#DIV/0!
	EBR	1	1	0%	8	8	0%
	WBL	0	4	#DIV/0!	4	38	850%
	WBT	0	1	#DIV/0!	0	1	#DIV/0!
	WBR	1	0	-100%	0	6	#DIV/0!
	Total Entering Vehicles	881	1,619	84%	1,248	1,593	28%
Clawiter Rd and Depot Rd	NBL	40	16	-60%	30	20	-33%
	NBT	37	38	3%	200	357	79%
	NBR	29	22	-24%	84	165	96%
	SBL	3	12	300%	12	11	-8%
	SBT	179	518	189%	74	94	27%
	SBR	169	191	13%	50	11	-78%
	EBL	32	32	0%	134	158	18%
	EBT	116	117	1%	252	347	38%
	EBR	41	37	-10%	27	15	-44%
	WBL	38	110	189%	10	17	70%
	WBT	150	241	61%	79	87	10%
	WBR	4	4	0%	6	11	83%
	Total Entering Vehicles	838	1,338	60%	958	1,293	35%
Clawiter Rd and SR-92 WB	NBL	78	103	32%	48	33	-31%
	NBT	102	204	100%	178	308	73%
	NBR	46	96	109%	80	146	83%
	SBL	106	311	193%	93	163	75%
	SBT	140	208	49%	210	248	18%
	SBR	33	67	103%	14	34	143%
	EBL	12	15	25%	31	34	10%
	EBT	48	72	50%	73	83	14%
	EBR	70	69	-1%	167	124	-26%
	WBL	433	225	-48%	99	105	6%
	WBT	156	116	-26%	83	46	-45%
	WBR	279	128	-54%	102	139	36%
	Total Entering Vehicles	1,503	1,614	7%	1,178	1,463	24%
Clawiter Rd and SR-92 EB	NBL	78	75	-4%	238	254	7%
	NBT	72	124	72%	117	235	101%
	NBR	7	7	0%	3	6	100%
	SBL	224	154	-31%	56	63	13%
	SBT	293	312	6%	129	129	0%
	SBR	152	126	-17%	290	275	-5%
	EBL	118	176	49%	119	176	48%
	EBT	25	48	92%	12	11	-8%
	EBR	68	120	76%	38	75	97%
	WBL	1	5	400%	1	2	100%
	WBT	52	61	17%	165	157	-5%
	WBR	34	34	0%	73	113	55%
	Total Entering Vehicles	1,124	1,242	10%	1,241	1,496	21%
Overall Total		6,421	8,597	34%	6,913	8,200	19%

Intersection Averages:			AM:	39%		PM:	22%
FINAL GROWTH FACTORS:			AM:	35%		PM:	20%

Adjusted AM Turning Movement Counts - Vehicle Volume														
Intersection 1, 3, 5, 12, and 13 from previous projects with data from February 2016, July 2017, and January 2020. All others use August 2020 counts with 35% increase in volumes.														
Adjustments made to balance volumes between the two Clawiter/Industrial intersections (#3/#4). Thru volumes at north and central driveways (#9/#10) estimated from adjacent intersections.														
ID	N-S STREET	E-W STREET	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Clawiter Rd/Tuskeegee Airmen Dr	Winton Ave	142	0	211	0	0	0	1	327	147	921	1,034	1
2	Clawiter Rd	West St	0	362	24	5	663	0	0	0	0	153	0	14
3	Clawiter Rd	Industrial Blvd (east)	6	282	7	5	516	728	65	4	1	4	1	0
4	Clawiter Rd	Industrial Blvd (west)	1	0	69	0	723	5	0	1	3	5	0	0
5	Clawiter Rd	Depot Rd	16	38	22	12	518	191	32	117	37	110	241	4
6	Hesperian Blvd	Depot Rd	11	639	49	95	363	38	122	26	12	41	12	139
7	Clawiter Rd	Diablo Ave	232	139	0	0	302	31	12	0	46	0	0	0
8	Clawiter Rd	Enterprise Ave	135	363	3	3	282	62	16	0	88	0	0	3
9	Clawiter Rd	North Dwy	0	501	0	0	370	0	0	0	0	0	0	0
10	Clawiter Rd	Central Dwy	0	518	0	0	382	0	0	0	0	0	0	0
11	Clawiter Rd	South Dwy	0	518	20	3	379	0	0	0	0	12	0	0
12	Clawiter Rd	Breakwater Ct/SR-92 WB	103	204	96	311	208	67	15	72	69	225	116	128
13	Clawiter Rd	SR-92 EB/Eden Landing Rd	75	124	7	154	312	126	176	48	120	5	61	34

Adjusted AM Turning Movement Counts - Vehicle Volume														
Intersection 1, 3, 5, 12, and 13 from previous projects with data from February 2016, July 2017, and January 2020. All others use August 2020 counts with 20% increase in volumes.														
Adjustments made to balance volumes between the two Clawiter/Industrial intersections (#3/#4). Thru volumes at north and central driveways (#9/#10) estimated from adjacent intersections.														
ID	N-S STREET	E-W STREET	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Clawiter Rd/Tuskeegee Airmen Dr	Winton Ave	95	0	583	3	2	0	1	977	169	253	272	0
2	Clawiter Rd	West St	0	750	182	17	486	0	0	0	0	34	0	14
3	Clawiter Rd	Industrial Blvd (east)	32	478	2	1	376	129	522	0	8	38	1	6
4	Clawiter Rd	Industrial Blvd (west)	2	0	525	0	129	0	0	5	4	5	3	0
5	Clawiter Rd	Depot Rd	20	357	165	11	94	11	158	347	15	17	87	11
6	Hesperian Blvd	Depot Rd	155	1,296	178	43	742	76	128	52	168	64	14	26
7	Clawiter Rd	Diablo Ave	88	324	0	0	139	6	40	0	122	0	0	0
8	Clawiter Rd	Enterprise Ave	46	349	1	1	256	11	65	0	89	2	0	2
9	Clawiter Rd	North Dwy	0	396	0	0	347	0	0	0	0	0	0	0
10	Clawiter Rd	Central Dwy	0	394	0	0	372	0	0	0	0	0	0	0
11	Clawiter Rd	South Dwy	0	390	1	0	372	0	0	0	0	7	0	4
12	Clawiter Rd	Breakwater Ct/SR-92 WB	33	308	146	163	248	34	34	83	124	105	46	139
13	Clawiter Rd	SR-92 EB/Eden Landing Rd	254	235	6	63	129	275	176	11	75	2	157	113

APPENDIX B: ACTC DEVELOPMENT REVIEW COMPLETE STREETS CHECKLIST

Development Review Complete Streets Checklist

This checklist is designed to assist the applicant and jurisdiction staff identify and assess a range of Complete Streets-related needs in the vicinity of each development. These needs, if addressed, would better serve the multimodal transportation needs of those coming and going from the site and the surrounding area. The checklist is to be completed during the pre-application phase, but can be used as a reference throughout the development and design of the project. Following completion of the checklist, staff will identify and document project modifications for further evaluation and discussion.

Project Name: 25800-25858 Clawiter Road Industrial Project Project Description / Project Type: Industrial Park
Project Location : 25800-25858 Clawiter Road, Hayward, CA
Project Manager: ____________________
Anticipated construction date:____________________

Pre-Application Phase

Project Description

1. What are the proposed land uses (check all that apply)?
   ☐ residential ☐ commercial /mixed use ☒ industrial
   ☐ civic/institutional ☐ other: Click or tap here to enter text.

2. What are the major trip generators near the project site, if any? (existing and future)
   a) Schools ☐ yes ☒ no
   b) Major employers ☒ yes ☐ no
   c) Civic/community destinations ☐ yes ☒ no
   d) Medium to high-density residential ☐ yes ☒ no
   e) Senior centers/healthcare facilities ☐ yes ☒ no
   f) Daily needs (grocery, retail, etc.) ☐ yes ☒ no
   g) Other: Click or tap here to enter text.

3. Is the project site located on the path to/from nearby trip generators?
   ☒ yes ☒ no
   Explain: Located directly on Clawiter Rd. and adjacent to freeway ramps.

4. Based on the modal priority maps (available at https://alameda-ctc.maps.arcgis.com/apps/View/index.html?appid=2040175145de4305a5f59c6e82ca16c7), list the modal priorities on adjacent streets (check all that apply):

Adjacent Street 1 Name: Clawiter Road

Auto	☐ First	☐Second	☒Other
Bicycle	☒ First	☐Second	☐Other
Pedestrian	☐ First	☒Second	☐Other
Transit	☐ First	☐Second	☒Other
Trucks	☐ First	☐Second	☒Other

Work with Transportation and Engineering Staff to fill out questions 5-8.

5. Within the past five years, have there been any fatal or severe injury collisions within ¼ mile of the site? ☒yes ☐no

   If yes, explain: From 2015 through 2019, six along SR-92 and one at the WB ramp intersection at Industrial Blvd.

6. Within the past five years, have there been any collisions within ¼ mile of the site involving pedestrians or bicyclists? ☒yes ☐no

   If yes, explain: One bike collision on Clawiter Rd. between Diablo Ave. and Enterprise Ave. One bike collision at the SR-92 WB ramp intersection at Industrial Blvd.

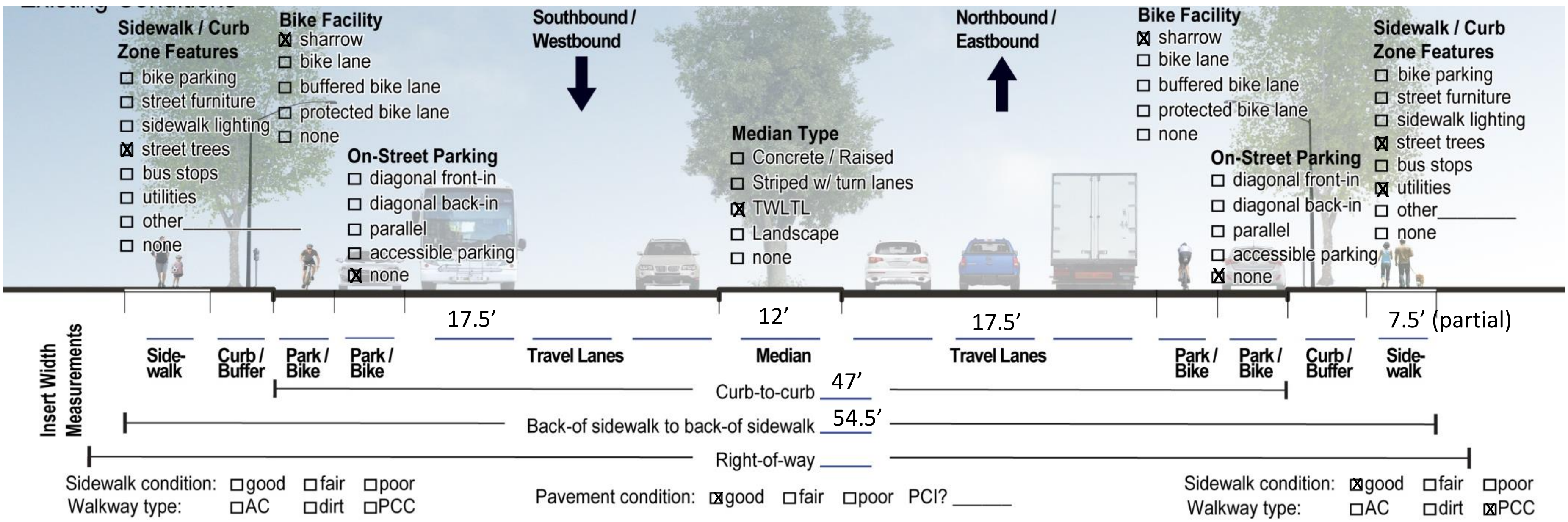
7. Have you observed other opportunities to improve safety performance? (based on field observation) ☒yes ☐no

   If yes, note: Improve crosswalks (e.g. Re-stripe crosswalks to be high-visibility); add sidewalks

Existing Physical Conditions

8. What are the existing right-of-way elements adjacent to the project site? Use cross section graphic for each street adjacent to the site.

Adjacent Street 1 name: Clawiter Road



Plans, Policies, Guidelines, and Standards

9. What are **relevant ongoing or existing plans**?

Plan	Identified Needs (yes or no)				
	Ped	Bike	Transit	Vehicular	Other
Bicycle and Pedestrian Master Plan	☒ yes ☐ no	☒ yes ☐ no	☒ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no
Click or tap here to enter text.	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐no
Click or tap here to enter text.	☐ yes ☐ no	☐ yes ☐no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no
Click or tap here to enter text.	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no
Click or tap here to enter text.	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no	☐ yes ☐ no

List any transportation improvement needs identified in the plan documents listed above:

The Hayward Bicycle and Pedestrian Master Plan (BPMP) update is in progress.

The draft BPMP includes a map of roadways with the top pedestrian prioritization scores, highlighting roads that are prime candidates for improvements. Within the study area, these include portions of Clawiter Road, Winton Avenue, and Hesperian Boulevard.

The draft BPMP includes a map of roadways with the top bicycle prioritization scores, highlighting roads that are prime candidates for improvements. Within the study area, these include portions of Hesperian Boulevard, Clawiter Road, Winton Avenue, Industrial Boulevard, Depot Road, and Breakwater Avenue (parallel to SR 92).

Transportation Evaluation

10. Indicate whether the following elements have been evaluated for existing conditions at the site and surrounding area and list the result for each mode:

Pedestrian

Internal site circulation and pedestrian routes	☒ yes	☐ no
Site access and street frontage	☒ yes	☐ no
Signage and wayfinding	☐ yes	☒ no
Intersections and street crossings	☒ yes	☐ no
Access to/from surrounding area	☒ yes	☐ no
Lighting	☐ yes	☒ no
ADA facilities	☒ yes	☐ no
Other: Click or tap here to enter text.	☐ yes	☐ no

List any pedestrian deficiencies identified:
Crosswalk striping is faded and should be re-striped
Some sidewalk gaps in the study area.

Bicycle

Parking supply and ease of use	☐ yes	☒ no
Site access	☒ yes	☐ no
Signage and wayfinding	☒ yes	☐ no
Intersections	☐ yes	☒ no
Access to/from surrounding area	☒ yes	☐ no
Other: Click or tap here to enter text.	☐ yes	☐ no

List any bicycle deficiencies identified:
Bike lanes are narrow where available.
Bike routes are frequently on the same roadways as truck routes; no signage or sharrows.

Auto

On-street parking	☐ yes	☒ no
Off-street parking	☐ yes	☒ no
Disabled parking	☐ yes	☒ no
Green infrastructure	☐ yes	☒ no
Driveway placement and ped/bike conflict points	☒ yes	☐ no
Other: Click or tap here to enter text.	☐ yes	☐ no

List any auto deficiencies identified:
Click or tap here to enter text.

Transit

Bus stop placement	☒ yes	☐ no
Waiting area amenities and stop design parameters	☒ yes	☐ no
Other: Click or tap here to enter text.	☐ yes	☐ no

List any transit deficiencies identified:
Click or tap here to enter text.

Trucks and Heavy Vehicles

Curbside loading areas	☐ yes	☒ no
On-site loading areas	☐ yes	☒ no
Turning radii	☐ yes	☒ no
Emergency vehicle access	☐ yes	☒ no
Other: Click or tap here to enter text.	☐ yes	☐ no

List any truck/heavy vehicle deficiencies identified:

Click or tap here to enter text.

11. How does the proposed **site design** impact conditions for each mode? If negative or positive, note the impact. (Note: both negative and positive impacts could be found for one mode.)

Mode	Impacts	
Auto	☐ positive ☐ neutral ☒ negative	Potential for intersection delay, including at driveways.
Bicycle	☒ positive ☐ neutral ☒ negative	Improve on-site bike facilities. Potential for increased traffic along bike routes at driveways.
Pedestrian	☐ positive ☐ neutral ☒ negative	Potential for increased heavy vehicle-pedestrian conflicts at driveways and on-site.
Transit	☐ positive ☒ neutral ☐ negative	No transit routes in immediate vicinity of project.
Trucks	☐ positive ☐ neutral ☒ negative	Potential for increased traffic and intersection delay and conflict at driveways.
Other mode?	☐ positive ☐ neutral ☐ negative	Click or tap here to enter text.

External Agency/Stakeholder Coordination

12. List agencies requiring coordination: N/A

Agency	Has coordination occurred? Note any issues that are outstanding.
Click or tap here to enter text.	☐ yes ☐ no
Click or tap here to enter text.	☐ yes ☐ no
Click or tap here to enter text.	☐ yes ☐ no

Click or tap here to enter text.

Maintenance and Construction Phase Considerations

13. How will access for all modes be maintained during construction (check one box per mode)?

Agency	Auto	Bicycle	Pedestrian	Transit	Trucks
Detour for duration of project	☐	☐	☐	☐	☐
Time-of-day closures only (e.g. nighttime)	☒	☒	☒	☐	☐
Short-term closures (e.g. 24 hour) with detour route	☐	☐	☐	☐	☐
Access maintained with reduced facilities*	☐	☐	☐	☐	☐
Full access maintained (work does not impact mode)	☐	☐	☐	☒	☒
Other	☐	☐	☐	☐	☐

*"Access maintained with reduced facilities" could mean some travel lanes closed for vehicles; could mean bicycle lane is closed, with signage for bicycles to share travel lane; could mean that sidewalk is closed with pedestrian space provided on shoulder; could mean that some transit stops are closed; etc.)

14. Will any transportation facilities or street elements be privately maintained? ☐ yes ☒ no

    If yes, explain: Click or tap here to enter text.

15. Will Complete Streets design be applied on privately maintained facilities? ☐ yes ☒ no

Mitigation Monitoring and Reporting Program

The Initial Study-Mitigated Negative Declaration (IS-MND) for the Clawiter Road Industrial Project identifies the mitigation measures that will be implemented to reduce the impacts associated with the project. The California Environmental Quality Act (CEQA) requires a public agency to adopt a monitoring and reporting program for assessing and ensuring compliance with any required mitigation measures applied to proposed development. As stated in section 21081.6(a)(1) of the Public Resources Code:

> ...the public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment.

Section 21081.6 also provides general guidelines for implementing mitigation monitoring programs and indicates that specific reporting and/or monitoring requirements, to be enforced during project implementation, shall be defined as part of adopting a mitigated negative declaration.

The mitigation monitoring table lists those mitigation measures that may be included as conditions of approval for the project. To ensure that the mitigation measures are properly implemented, a monitoring program has been devised which identifies the timing and responsibility for monitoring each measure. The project applicant will have the responsibility for implementing the measures, and the various City of Hayward departments will have the primary responsibility for monitoring and reporting the implementation of the mitigation measures.

The first column identifies mitigation measures that were identified in the Final IS-MND. The second column, entitled “Action Required,” refers to the monitoring action that must be taken to ensure the mitigation measure’s implementation. The third column, entitled “Monitoring Timing,” refers to when the monitoring will occur to ensure that the mitigation action is complete. The fourth column, “Responsible Agency,” refers to the agency responsible for oversight or ensuring that the mitigation measure is implemented. The “Compliance Verification” column is where the Responsible Agency verifies that the measures have been implemented.

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
				Initial	Date	Comments
Air Quality						
AQ-1: Generator Operational Restrictions						
One of the following measures shall be implemented to reduce average daily nitrogen oxide (NO_X) emissions from generator operation for maintenance and testing purposes to a less than significant level: ▪ Generator operation for maintenance and testing purposes shall be limited so that the combined operation of the generator engines for testing and maintenance purposes does not exceed 600 hours (25 hours per generator) in any consecutive 12-month period. The operator shall retain records that include the dates and times of all reliable testing. The Bay Area Air Quality Management District (BAAQMD) regulates the maximum number of hours of operation of the generators for maintenance and testing. The BAAQMD will issue individual Permits to Operate for each generator (or groups of generators) as they are constructed. The conditions in each Permit to Operate will be enforceable by the BAAQMD. Prior to issuance of an occupancy permit for Building 4, the applicant shall provide a letter to the Director of Development Services from the BAAQMD and/or a qualified consultant that documents that the sum of the hours of operation permitted and regulated by BAAQMD for the data center combined does not exceed 600 hours in any consecutive 12-month period. This letter shall include a copy of the BAAQMD-approved Permit to Operate. Any change to the number of generators, the model of generators, or the number of hours the generators will be tested shall require additional air quality analysis. Request for such change shall be made to the City of Hayward Development Services Department with documentation that total emissions from maintenance and testing for the data center would not exceed the significance thresholds for NOX on both an average daily period (54 pounds per day) and annual averaging period (10 tons per year). This documentation shall be reviewed and approved by the Planning Manager or designated representative of the Development Services Department prior to the issuance of any planning permits approving changes to the generators; OR: ▪ The future tenant of Building 4 shall comply with the offset requirements in Section 2-2-302 of BAAQMD Regulation 2, Rule 2 (New Source Review) as part of the air permitting process for the proposed generators. These requirements are enforced for any facility with the potential to emit more than 10 tons per year of NOX or precursor organic compounds. For facilities that have the potential to emit more than 10 tons per year but less than 35 tons per year, offsets must be purchased at a 1:1 ratio from the BAAQMD's Small Facility Banking Account or, if	Review and approve the documentation for either option.	Prior to the issuance of planning permits approving changes to the generators.	City of Hayward Planning Division			

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification Initial	Date	Comments
the Small Facility Banking Account is exhausted or the permit applicant owns or controls offsets, the permit applicant must provide the required offsets. For facilities that have the potential to emit more than 35 tons per year, federally-enforceable offsets must be purchased at a 1.15:1 ratio. Offsets represent ongoing emission reductions that continue every year, year after year, in perpetuity. The BAAQMD regulates the use of offsets for new air emission sources. The BAAQMD will issue individual Authority to Construct for each generator (or groups of generators) as they are constructed and will include offset requirements as part of the Authority to Construct. The conditions in each Authority to Construct will be enforceable by the BAAQMD. Prior to issuance of an occupancy permit for Building 4, the applicant shall provide a letter to the Director of Development Services from the BAAQMD and/or a qualified consultant that documents that the required offsets have been purchased. This letter shall include a copy of the BAAQMD-approved Authority to Construct. Any change to the number of generators or the model of generators or an increase in the number of hours the generators will be tested shall require additional air quality analysis. Request for such change shall be made to the City of Hayward Development Services Department with documentation that additional offsets will be purchased, as necessary, to reduce total emissions from maintenance and testing for the data center such that emissions would not exceed the significance thresholds for NOX on both an average daily period (54 pounds per day) and annual averaging period (10 tons per year). This documentation shall be reviewed and approved by the Planning Manager or designated representative of the Development Services Department prior to the issuance of any planning permits approving changes to the generators.						
Biological Resources						
BIO-1: Nesting Bird Avoidance and Minimization Efforts						
If project construction activities occur during the nesting season (between February 1st and August 31st) a qualified biologist shall conduct a pre-construction survey for nesting birds no more than 14 days prior to construction. The survey shall include the entire project site and a 300-foot buffer to account for nesting raptors. If nests are found the qualified biologist shall establish an appropriate species-specific avoidance buffer of sufficient size to prevent disturbance by project activity to the nest (up to 300 feet for raptors, up to 150 feet for all other birds). The qualified biologist shall perform at least two hours of pre-construction monitoring of the nest to characterize "typical" bird behavior. During construction, active nests identified during the preconstruction survey shall be	Verify that if initial ground disturbing activities occurs between February 1 and August 31, a qualified biologist has prepared a pre-construction survey two weeks prior to start of construction. If active nests are discovered,	Once before construction to review pre-construction survey; as needed during construction to verify buffers established and work is avoiding	City of Hayward Planning Division			

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
				Initial	Date	Comments
monitored by the qualified biologist to determine if construction activities are causing any disturbance to the bird and shall increase the buffer if it is determined the birds are showing signs of unusual or distressed behavior associated with project activities. Atypical nesting behaviors that may cause nest abandonment include, but are not limited to, defensive flights, vocalizations directed towards project personnel/activities, standing up from a brooding position, and flying away from the nest. The qualified biologist shall have authority, through the resident engineer, to order the cessation of all project activities if the nesting birds exhibit atypical behavior that may cause nest failure (nest abandonment and loss of eggs and/or young) until a refined appropriate buffer is established. To prevent encroachment, the established buffer(s) should be clearly marked by high visibility material. The established buffer(s) should remain in effect until the young have fledged or the nest has been abandoned as confirmed by the qualified biologist. The monitoring biologist, in consultation with the resident engineer and project manager shall determine the appropriate protection for active nests on a case by case basis using the criteria described above. The qualified biologist shall prepare a nest monitoring report at the time monitoring has been completed. The report will document the methods and results of the monitoring, and the final status of the nest (i.e., successful fledging of the nest, nest depredation, nest failure due to construction activity).	verify that buffers have been established and work is avoided in in the buffer as appropriate.	buffer zones.				
BIO-2: Special-status Bat Species Avoidance and Minimization						
Focused surveys to determine the presence/absence of roosting bats shall be conducted prior to the initiation of demolition of buildings and removal of mature trees large enough to contain crevices and hollows that could support bat roosting. If no bats or signs of roosting by bats are observed, no further actions are required. If bats or signs of roosting by bats are observed, a qualified biologist will prepare specific recommendations for either partial dismantling to cause bats to abandon the roost, or humane eviction, both to be conducted during seasonal periods of bat activity, if required. If active maternity roosts are identified, the roost shall not be removed during the breeding season (April 15 to August 31) to the extent practicable. If a structure or tree containing a maternity roost must be removed during the breeding season then measures recommended by the qualified biologist shall be implemented to remove or relocate bats from the roost prior to the onset of demolition activities. Such measures may include removal of roosting site during the time of day the roost is unoccupied or the installation of one-way doors, allowing the bats to leave the roost but not to re-enter.	Verify that a qualified biologist has conducted focused surveys. If bats or signs of roosting bats are observed, verify that qualified biologist has prepared recommendations and that recommendations are implemented.	Once before construction to review pre-construction surveys; as needed during construction to verify implementation.	City of Hayward Planning Division			

<table>
<tr><th rowspan="2">Mitigation Measure/
Condition of Approval</th><th rowspan="2">Monitoring and
Reporting Actions</th><th rowspan="2">Monitoring
Timing</th><th rowspan="2">Monitoring
Responsibility</th><th colspan="3">Compliance Verification</th></tr>
<tr><th>Initial</th><th>Date</th><th>Comments</th></tr>
<tr><td colspan="7">BIO-3: Tree Preservation Measures</td></tr>
<tr><td>As outlined in the Tree Protection Plan (Traverso Tree Service, June 2019), the following tree preservation measures are required to protect trees that will be preserved in place as required by HMC Chapter 10, Article 15.
Pre-construction Measures
1. Establish a Tree Protection Zone around each tree to be preserved. For design purposes, the Tree Protection Zone shall be the dripline or property line for trees. No grading excavation, construction or storage of materials shall occur within the protection zone.
2. Spread a 4” thick layer of arborist wood chips beneath the driplines of the redwoods along the southeast property line, up to the proposed limit of grading.
3. Prior to construction or grading, but after wood chips are spread, the contractor shall install 6’ chain-link fencing to construct a temporary Tree Protection Zone (TPZ) around the redwoods along the southeast property line, as indicated on the tree protection plan.
4. TPZ fencing shall remain in an upright sturdy manner from the start of grading until the completion of construction. Fencing shall not be adjusted or removed without consulting the project arborist.
5. Trees to be preserved may require pruning to provide clearance and/or correct defects in structure. All pruning shall be performed by an ISA Certified Arborist or Certified Tree Worker and shall adhere to the latest edition of the ANSI Z133 and A300 safety standards as well as the ISA Best Management Practices for Tree Pruning with a tree pruning permit from the City. The pruning contractor shall have the C-27/D-49 license specification.
6. All tree work shall comply with the Migratory Bird Treaty Act as well as California Fish and Wildlife Code 3503-3513 to not disturb nesting birds. To the extend feasible tree pruning and removal should be scheduled outside of the breeding season. Breeding bird surveys should be conducted prior to tree work by a qualified biologist. Qualified biologists should be involved in establishing work buffers for active nests if needed.
Construction Measures
1. Prior to beginning work, the contractors working in the vicinity of trees for preservation are required to meet with the Project Arborist at the site to review all work procedure, access routes, storage areas and tree protection measures.
2. Any grading, construction, demolition or other work that is expected to encounter tree roots should be monitored by the Project Arborist. Any necessary root pruning shall be performed by a qualified arborist and not by construction</td><td>Verify adherence to tree preservation measures</td><td>Periodically during construction</td><td>City of Hayward Planning Division</td><td></td><td></td><td></td></tr>
</table>

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
				Initial	Date	Comments
personnel. Roots shall be cleanly pruned with a handsaw or sawzall, immediately covered with wet burlap, and kept moist until backfilled. 3. Should TPZ encroachment be necessary, the contractor shall contact the project arborist for 4. consultation and recommendations. 5. The contractor shall keep TPZs free of all construction-related materials including but not limited to debris, fill soil, equipment. The only acceptable material is mulch spread out beneath the trees. 6. If damages should occur to any tree during construction, it should be evaluated as soon as possible by the Project Arborist so that appropriate treatments can be applied. If the damages to tree result in removal, removed tree shall be replaced to its appraised value provided by the Project Arborist and approved by City Landscape Architect. **Landscaping Measures** 1. Tree Protection Zone (TPZ) fencing shall remain in place with the same restrictions until landscape contractor notifies and meets with project arborist. Fences may not be relocated or removed without permission of the Project Arborist. 2. *Proposed irrigation trenching shall be done by hand and shall occur as far from* the redwoods along the southeast property line as possible. Permanent drip irrigation shall be provided to all preserved redwoods. 3. Wood chips shall not be removed; processed mulch made of organic chipped wood in dark brown color may be placed on top of the wood chips for aesthetics. 4. Avoid all fill work, grade changes, and trenching within driplines unless it is performed by hand. Pipes shall be threaded under or through large roots without damaging them. 5. Any additional tree pruning needed for clearance during construction must be performed by a qualified arborist and not by construction personnel with a tree pruning permit from City Landscape Architect. Trees shall be irrigated on a schedule to be determined by the Project Arborist. Each irrigation session shall be wet the soil within the Tree Protection Zone to a depth of 30 inch.						

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
				Initial	Date	Comments
Cultural Resources						
CR-1: Unanticipated Archaeological Resources						
If archaeological resources are encountered during ground-disturbing activities, work within 50 feet of the find shall be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for CRHR eligibility. If the discovery proves to be eligible for the CRHR and cannot be avoided by the project, additional work, such as data recovery excavation, may be warranted to mitigate any significant impacts to historical resources.	Verify that in the event that archaeological artifacts are encountered during project construction, all work in the vicinity of the find has been halted until such time as the find is evaluated	As needed during construction activities; work must stop immediately if resources are discovered, and consultation initiated as soon as practical	City of Hayward Planning Division			
Geology and Soils						
GEO-1: Geotechnical Considerations						
The project applicant shall implement the Foundation Recommendations set forth in Section 7 (Foundations) of the Geotechnical Investigations prepared by Cornerstone Earth Group for Buildings 1, 2, 3, and 4 in January 2020. Recommendations include but are not limited to the seismic design criteria (Section 7.2) and shallow foundations (Section 7.3). In addition, a comprehensive site-specific design-level geotechnical exploration shall be prepared as part of the design process. The exploration may include borings and laboratory soil testing to provide data for preparation of specific recommendations regarding grading, foundation design, corrosion potential, and drainage for the proposed project. The recommendations set forth in the design-level geotechnical exploration shall be implemented.	Verify that building plans incorporate all design and construction criteria specified in the geotechnical report	Once prior to approval of grading permit; periodically on site during grading and construction	City of Hayward Planning Division			
GEO-2: Geotechnical Considerations						
The project applicant shall implement the Grading and Foundation Recommendations set forth in Section 6 (Earthwork) and Section 7 (Foundations) of the Geotechnical Investigations for Buildings 1, 2, 3, and 4 prepared by Cornerstone Earth Group in January 2020. In addition, a comprehensive site-specific design-level geotechnical exploration shall be prepared as part of the design process. The exploration may include borings and	Verify that building plans incorporate all design and construction criteria specified in the geotechnical report	Once prior to approval of grading permit; periodically on site during grading and construction	City of Hayward Planning Division			

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
				Initial	Date	Comments
laboratory soil testing to provide data for preparation of specific recommendations regarding grading, foundation design, corrosion potential, and drainage for the proposed project. The recommendations set forth in the design-level geotechnical exploration shall be implemented.						
GEO-3: Unanticipated Discovery of Paleontological Resources						
In the event an unanticipated fossil discovery is made during the course of project development, construction activity should be halted in the immediate vicinity of the fossil, and a qualified professional paleontologist should be notified and retained to evaluate the discovery, determine its significance, and determine if additional mitigation or treatment is warranted. Work in the area of the discovery will resume once the find is properly documented and authorization is given to resume construction work. Any significant paleontological resources found during construction monitoring will be prepared, identified, analyzed, and permanently curated in an approved regional museum repository under the oversight of the qualified paleontologist.	Verify that in the event that fossils are encountered during project construction, all work in the vicinity of the find has been halted until such time as the find is evaluated.	As needed during construction activities; work must stop immediately if resources are discovered, and consultation initiated as soon as practical	City of Hayward Planning Division			
Greenhouse Gas Emissions						
GHG-1: Greenhouse Gas Reduction Plan						
The project applicant shall prepare and implement a GHG Reduction Plan (GHGRP) that demonstrates emissions reductions from project operation by approximately 16,112 16,506 MT of CO2e per year to 660 MT of CO2e per year for the lifetime of the project, or by an amount determined through further analysis of project GHG emissions at the time of GHGRP preparation. Potential GHG reduction measures included in the GHGRP may include, but would not be limited to, the following: ▪ Procure greater than 60 percent of the electricity consumed by Buildings 1 through 4 from eligible renewable and zero-carbon energy sources by 2030; ▪ Install EV infrastructure some or all loading docks; ▪ Implement a transportation demand management program for employees, which may include the following measures: ○ Priority parking for carpools and vanpools ○ Subsidized transit passes for employees ○ Retention of a transportation demand management coordinator or creation of a website to provide transit information and/or coordinate ridesharing ○ Inclusion of shower and changing facilities in building design	Review and approve the GHGRP for compliance with the measure.	Prior to grading or building permit issuance.	City of Hayward Planning Division			

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
				Initial	Date	Comments
○ Bicycle sharing ○ Emergency ride home program ○ Telecommuting or flexible schedule options to reduce transit time, vehicle miles traveled (VMT), and associated GHG emissions ▪ Directly undertake or fund activities that reduce or sequester GHG emissions ("Direct Reduction Activities") and retire the associated "GHG Mitigation Reduction Credits." A "GHG Mitigation Reduction Credit" shall mean an instrument issued by an Approved Registry and shall represent the estimated reduction or sequestration of 1 MT of CO2e that shall be achieved by a Direct Reduction Activity that is not otherwise required (CEQA Guidelines Section 15126.4[c][3]). A "GHG Mitigation Reduction Credit" must achieve GHG emission reductions that are real, permanent, quantifiable, verifiable, enforceable, and in addition to any GHG emission reduction required by law or regulation or any other GHG emission reduction that otherwise would occur in accordance with the criteria set forth in the California Air Resources Board's most recent Process for the Review and Approval of Compliance Offset Protocols in Support of the Cap-and-Trade Regulation (2013). An "Approved Registry" is an accredited carbon registry that follows approved California Air Resources Board Compliance Offset Protocols. At this time, Approved Registries include American Carbon Registry, Climate Action Reserve, and Verra (California Air Resources Board 2018). Credits from other sources will not be allowed unless they are shown to be validated by protocols and methods equivalent to or more stringent than the California Air Resources Board standards. In the event that a project or program providing GHG Mitigation Reduction Credits to the project applicant loses its accreditation, the project applicant shall comply with the rules and procedures of retiring GHG Mitigation Reduction Credits specific to the registry involved and shall undertake additional direct investments to recoup the loss. ▪ Obtain and retire "Carbon Offsets." "Carbon Offset" shall mean an instrument issued by an Approved Registry and shall represent the past reduction or sequestration of 1 MT of CO2e achieved by a Direct Reduction Activity or any other GHG emission reduction project or activity that is not otherwise required (CEQA Guidelines Section 15126.4[c][3]). A "Carbon Offset" must achieve GHG emission reductions that are real, permanent, quantifiable, verifiable, enforceable, and in addition to any GHG emission reduction required by law or regulation or any other GHG emission reduction that otherwise would occur in accordance with the criteria set forth in the California Air Resources Board's most recent Process for the Review and Approval of Compliance Offset Protocols in Support of the Cap-and-Trade Regulation (2013). If the project applicant chooses to meet some of the GHG reduction requirements by purchasing offsets						

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on an annual and permanent basis, the offsets shall be purchased according to the City's preference, which is, in order of the City's preference: (1) within Hayward; (2) within the BAAQMD jurisdictional area; (3) within the State of California; then (4) elsewhere in the United States. In the event that a project or program providing offsets to the project applicant loses its accreditation, the project applicant shall comply with the rules and procedures of retiring offsets specific to the registry involved and shall purchase an equivalent number of credits to recoup the loss. ▪ Coordinate with PG&E and BAAQMD to identify additional potential GHG emission reduction measures. The GHGRP shall be submitted by the project developer and reviewed and approved by the City of Hayward as being in compliance with this measure prior to grading or building permit issuance. Applicable elements of the approved GHGRP shall be reflected on project site plans prior to certificate of occupancy. No more than 50 percent of the project's total requisite emission reduction over the project's lifetime may be achieved through direct reduction activities and carbon offsets. Condition compliance shall include monitoring and verifying implementation of measures included in the GHGRP.						
Hazards and Hazardous Materials						
HAZ-1 Regulatory Agency UST Involvement – HFD and RWQCB						
Since the project site at 25800 Clawiter Road is listed as a closed HFD UST site (#01-003-009601) and a closed RWQCB LUST site (#01-0701), the applicant shall notify the Hayward City Fire Department UST and the RWQCB LUST of the following: ▪ Current development plan and any modifications to the development plan ▪ Identification of additional underground tank features, if encountered Additionally, all UST removals and associated assessment work shall be completed under the direction of HFD and/or RWQCB, as determined by HFD and RWQCB. The UST closure and agency approval documents shall be reviewed and approved by the City of Hayward prior to issuance of grading permit. Upon identification of UST features onsite, HFD and/or RWQCB could require actions such as: development of removal action workplans; obtaining permits for removal of USTs or other underground features; soil excavation and offsite disposal; assessment of soil and/or groundwater beneath the excavation; and/or completion of UST removal reports or case closure documents.	Review and approve closure and agency approval documents.	Prior to issuance of grading permit.	City of Hayward Planning Division			

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HAZ-2 Regulatory Agency Subsurface Involvement - RWQB						
Since the project site at 25800 and 25858 Clawiter Road is listed as an open RWQCB Cleanup site, the RWQCB Cleanup case #01S0815 shall continue to be utilized for agency oversight of assessment and remediation of this project site through completion of building demolition, subsurface demolition, and construction. The applicant shall notify the SFB RWQCB Cleanup project manager of the following: ▪ Current development plan and any modifications to the development plan ▪ Former onsite use of seven above ground storage tanks that formerly contained wash water, diesel fuel, paint, and paint thinner ▪ Former onsite use of an elevator that may have contained oils containing PCBs ▪ Former onsite use of a subsurface chassis (conveyor) system that may have utilized oils containing PCBs ▪ Former onsite use of two sumps for wash water at the former bus wash facilities: one at the bus wash facility/Water Testing Canopy and one in the northwest corner of the former manufacturing building ▪ Other regulatory UST case listings (HFD and RWQCB) assessment work that will be completed under the direction of other regulatory agencies ▪ All former environmental documents completed for the project site, including 25800 and 25858 Clawiter Road and this Initial Study document Upon notification of the information above, RWQCB could require actions such as: development of subsurface investigation workplans; completion of soil, soil vapor, and/or groundwater subsurface investigations; installation of soil vapor or groundwater monitoring wells; soil excavation and offsite disposal; completion of human health risk assessments; and/or completion of remediation reports or case closure documents. If groundwater wells or soil vapor monitoring probes are identified during demolition, subsurface demolition or construction at 25800 and 25858 Clawiter Road, they will be abandoned/destroyed with approval of RWQCB and under permit from the Alameda County Public Works Agency (ACPWA). Demolition activities will be documented in a letter report submitted to RWQCB within 60 days of the completion of abandonment activities. Abandonment of sub-slab vapor points would be completed with RWQCB approval and demolition activities would be documented in a letter report to RWQCB. The SFB RWQCB closure and agency approval documents shall be submitted and reviewed by the City of Hayward prior to issuance of grading permit. It should also be noted that the SFB RWQCB may determine that Alameda County	Review and approve closure and agency approval documents.	Prior to issuance of grading permit.	City of Hayward Planning Division			

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Department of Environmental Health (ACDEH) or DTSC may be best suited to perform the lead agency duties for the assessment and/or remediation of this project site. Should the lead agency be transferred to ACDEH or DTSC, this and other mitigation measures will still apply to these agencies.						
HAZ-3: Construction Site Management Plan						
The applicant shall implement the September 22, 2020 (or most recent) RWQCB approved Revised Construction Site Management Plan (Revised SMP) (RMD Environmental Solutions 2020) at the project site to address potential issues that may be encountered during redevelopment activities of the property involving subsurface work. The Construction SMP objectives include: ▪ Communicating information to project site construction workers about environmental conditions, ▪ Presenting measures to mitigate potential risks to the environment, construction workers, and other nearby receptors from potential exposure to hazardous substances that may be associated with unknown conditions or unexpected underground structures, and ▪ Presenting protocols for management of known contaminated soil or groundwater encountered during construction activities. The Construction SMP identifies the project contacts, responsibilities, and notification requirements, and outlines the procedures for Health and Safety; Soil Management; Contingency Measures for Discovery of Unexpected Underground Structures; Erosion, Dust, and Odor Management; Groundwater Management; Waste Management; Stormwater Management; and Written Records and Reporting. The Construction SMP shall be reviewed and approved by the City of Hayward prior to issuance of grading permit.	Review and approve Construction SMP.	Prior to issuance of grading permit.	City of Hayward Planning Division			
HAZ-4: Post-Construction Risk Management Plan						
Following construction and during operation of the project site, the August 31, 2020 (or most recent) Post-Construction Risk Management Plan (RMP) approved by the RWQCB shall be implemented (RMD Environmental Solutions 2020). The RMP documents the requirements for the long-term management of activities at the Project site to mitigate potential risks and reduce/minimize exposure to construction workers, occupants, and other site users associated with residual chemical concentrations detected in soil, soil vapor, and groundwater that do not warrant active remediation.	Review and approve RMP.	Prior to issuance of grading permit.	City of Hayward Planning Division			

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This RMP will be incorporated by reference in a Covenant and Environmental Restriction on Property (Land Use Covenant, or LUC), which will be recorded for the project site in the Official Records of Alameda County, California. The RMP will include requirements regarding the following: 1. **Land Use Expectation and Limitations** – future land use at the project site will be limited to industrial, commercial, and/or office space use 2. **Project Site Development and Occupancy Modifications** - modifications to the project site or subsurface work will be conducted in accordance with the Construction SMP, and any contaminated soils brought to the surface by grading, excavation, trenching, or backfilling shall be managed by the Property Owner or its designee in accordance with applicable provisions of local, state and federal law 3. **Contingency Reporting** - if impacted soil or groundwater is encountered during site activities, RWQCB will be notified and upon completion of subgrade work and any offsite removal of soil and groundwater, a report will be prepared by the Environmental Consultant or its designee and submitted to RWQCB 4. **Regulatory Access** - any persons acting pursuant to RWQCB orders, shall have reasonable access to the project site after giving reasonable notice to the Property Owner or Lessor for the purposes of inspection, surveillance, maintenance, or monitoring. Specifically, for contingency reporting, the reports will be uploaded to the SWRCB GeoTracker website https://geotracker.waterboards.ca.gov (GeoTracker Global ID T10000013771; and the reports will include the following information ▪ Brief letter documenting RWQCB notification and the scope of work completed; ▪ Photographs documenting the project site conditions; and ▪ Recommendations for preventative and/or corrective repair needs that are identified to maintain compliance with the RMP.						

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Tribal Cultural Resources						
TCR-1: Unanticipated Discovery of Tribal Cultural Resources						
In the event that cultural resources of Native American origin that may be considered tribal cultural resources are identified during construction, all earth disturbing work within 50 feet of the find must be temporarily suspended or redirected until an archaeologist has evaluated the nature and significance of the find and in consultation with the on-site Native American monitor. If the archaeologist and Native American monitor determine that the resource is a tribal cultural resource and thus significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with state guidelines and in consultation with Native American groups. The plan would include avoidance of the resource or, if avoidance of the resource is infeasible, the plan would outline the appropriate treatment of the	Verify that in the event that cultural artifacts of Native American origin are encountered during project construction, all work in the vicinity of the find has been halted until such time as the find is evaluated	As needed during construction activities; work must stop immediately if resources are discovered, and consultation initiated as soon as practical	City of Hayward Planning Division			