Memorandum

Date: April 1, 2022
Updated April 6, 2022

To: Joanna Julian, Thompson-Dorfman Partners, LLC

From: Philip Ault, Director of Noise and Air Quality
Lance Park, Senior Air Quality Scientist

Subject: Air Quality and Greenhouse Gas Emissions Analysis for the Mallard Pointe Improvement Project

This memorandum summarizes the findings of the air quality and greenhouse gas emissions analysis conducted by FirstCarbon Solutions (FCS) for the proposed Mallard Pointe Improvement Project (proposed project) located along Mallard Road, in Belvedere, California. This analysis serves to support the proposed project's Class 32 categorical exemption under the California Environmental Quality Act (CEQA).

PROJECT UNDERSTANDING

The proposed project would demolish 22 existing single-family residential units along Mallard Road and redevelop the 2.8-acre Mallard Pointe site in Belvedere, California.

AIR QUALITY ASSESSMENT

Pursuant to CEQA Guidelines regarding streamlining projects qualifying for a Class 32 exemption, potential impacts that are not peculiar to the proposed project or project site that can be mitigated to a less than significant level by the imposition of City regulations and consistency with the General Plan programs and policies does not require additional analysis.

Clean Air Plan Consistency

A measure for determining whether the proposed project supports the primary goals of the applicable air quality plan, the Bay Area Air Quality Management District (BAAQMD) 2017 Clean Air Plan, is if the proposed project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the air quality plans. This measure is determined by evaluating whether the proposed project was reasonably accounted for the in the Clean Air Plan.

The BAAQMD compiles the regional emissions inventory for the San Francisco Bay Area Air Basin (Air Basin). In part, the regional population, housing, and employment projections developed by the Association of Bay Area Governments (ABAG) are based on local general plan land use patterns. These projections form the foundation for the emissions inventory of the 2017 Clean Air Plan. These demographic trends are incorporated into Plan Bay Area, compiled by ABAG and the Metropolitan Transportation Commission (MTC), to determine priority transportation projects and Vehicle Miles

Traveled (VMT) in the Bay Area. Projects consistent with the applicable local general plan's buildout potential are considered consistent with the regional air quality plan.

The project parcel is designated as "Medium Density Multi-Family Residential" according to the Belvedere General Plan (General Plan), which allows for a housing density of up to 20 dwelling units per acre. [1] The proposed project would develop 42 units (including the proposed Accessory Dwelling Units) on 2.8 acres, which would result in an average housing density of 15 units per acre. Therefore, the proposed project would not add a greater number of residents than what was anticipated in the General Plan. Therefore, the proposed project would be consistent with the buildout potential of the General Plan and subsequent population growth projections in the BAAQMD 2017 Clean Air Plan. **As such, the proposed project would be consistent with the 2017 Clean Air Plan and this air quality impact would be less than significant.**

Cumulative Criteria Pollutant Emissions Impacts

The BAAQMD has screening criteria for project construction and operation in its 2017 CEQA Air Quality Guidelines.[2] If all screening criteria are met by the proposed project, then a detailed air quality assessment is not necessary. These screening criteria consider new development on greenfield sites without any form of mitigation, project design features, or local development requirements that may result in additional emissions reductions.[3] For project construction, all of the following screening criteria must be met to apply the screening criteria to determine whether the proposed project's construction emissions can be considered less than significant.

The most applicable construction screening criteria for the proposed project is 240 dwelling units, identified under the "Condo/townhouse, general" land use type in Table 3-1 of the BAAQMD 2017 CEQA Air Quality Guidelines. As a result, the proposed project consisting of 42 dwelling units would be well below the BAAQMD's most applicable screening criteria of 240 dwelling units. Nonetheless, the proposed project would also need to meet the following requirements to screen out for construction-related air quality impacts:

- All *Basic Construction Mitigation Measures* would be included in the project design and implemented during construction.
- Construction-related activities would not include any of the following:
  - Demolition;
  - Simultaneous occurrence of more than two construction phases (e.g., paving and building construction would occur simultaneously);
  - Simultaneous construction of more than one land use type (e.g., project would develop residential and commercial uses on the same site) (not applicable to high density infill development);

[1] City of Belvedere. Belvedere General Plan. Website: https://www.cityofbelvedere.org/213/General-Plan-Housing. Accessed January 19, 2022.
[2] Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act (CEQA) Air Quality Guidelines. May. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed January 19, 2022.
[3] Ibid.

- Extensive site preparation (i.e., greater than default assumptions used by the Urban Land Use Emissions Model [URBEMIS] for grading, cut/fill, or earth movement); or
- Extensive material transport (e.g., greater than 10,000 cubic yards of soil import/export) requiring a considerable amount of haul truck activity.

Although the proposed project would not exceed the BAAQMD's most applicable construction screening criteria of 240 dwelling units, the proposed project would involve demolition activities. As a result, the proposed project cannot be screened out according to the BAAQMD's construction screening criteria. As such, emissions associated with project construction were quantified and are compared below against the applicable BAAQMD significance thresholds.

Estimation of Criteria Air Pollutants

As the proposed project would result the demolition activities of approximately 34,103 square feet of buildings and 55,480 square feet of pavement, the proposed project would not meet the construction screening criteria. Therefore, construction emissions have been quantified and measured against the BAAQMD significance thresholds, as shown in Table 1. The construction emissions were quantified by applying the CalEEMod (Version 2020.4.0) land use emission model. **As shown below in Table 1, the proposed project's construction emissions would not exceed BAAQMD significance thresholds, and this impact would be less than significant.**

Table 1: Construction Emissions (Unmitigated)

Construction Activity	Air Pollutants (Tons)			
	ROG	NO_X	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
Demolition 2024	0.00509	0.07710	0.00171	0.00159
Site Preparation 2024	0.00293	0.04186	0.00025	0.00025
Grading 2024	0.00325	0.04780	0.00112	0.00105
Building Construction 2024	0.04980	0.34080	0.00935	0.00898
Building Construction 2025	0.05640	0.39100	0.01014	0.00972
Paving 2024	0.00125	0.00447	0.00003	0.00003
Architectural Coating 2025	0.64950	0.02343	0.00011	0.00011
Average Daily Emissions Assessment				
Total Emissions (Tons)	**0.77**	**0.93**	**0.02**	**0.02**
Total Emissions (lbs)	**1,536.44**	**1,852.92**	**45.42**	**43.46**
Average Daily Emissions (lbs/workday)	**3.17**	**3.82**	**0.09**	**0.09**
BAAQMD Significance Thresholds (lbs/day)	***54***	***54***	***82***	***54***
Exceeds threshold?	**No**	**No**	**No**	**No**

Construction Activity	Air Pollutants (Tons)			
	ROG	NO_X	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)

Notes:
BAAQMD = Bay Area Air Quality Management District
lbs = pounds
NO_X = oxides of nitrogen
PM_{10} = particulate matter 10 microns in diameter (includes only exhaust-related emissions)
$PM_{2.5}$ = particulate matter 2.5 microns in diameter (includes only exhaust-related emissions)
ROG = reactive organic gases
[1] Average daily emission estimates are calculated by dividing the total pounds by the 485 total working days of construction. Calculations use unrounded totals.
Source: Attachment A.

The BAAQMD's operational screening criteria for air quality impacts for the "Single-family" and "Condo/townhouse, general" land use are 325 dwelling units and 451 dwelling units, respectively. The proposed project, which proposes developing six single-family residences, 10 duplexes, and 23 apartment units, would fall below the applicable operational screening criterion. However, while they are not specifically anticipated at this time, this analysis conservatively assumes the inclusion of speculative emergency generators for the proposed project. Since the screening criteria do not consider stationary sources (e.g., emergency generators) and the BAAQMD requires that land use and stationary source criteria pollutants be combined for analysis, the operational emissions were quantified and analyzed in Table 2 against the applicable BAAQMD significance thresholds. Please refer to the "CalEEMod Notes" document contained in Attachment A for more detailed modeling assumptions.

Table 2: Operational Emissions (Unmitigated)

Parameter	Air Pollutants (Tons/Year)			
	ROG	NO_X	PM_{10} (Total)	$PM_{2.5}$ (Total)
Area	0.43	0.01	<0.01	<0.01
Energy	<0.01	0.03	<0.01	<0.01
Mobile	0.12	0.12	0.25	0.07
Stationary	0.03	0.10	<0.01	<0.01
Annual Emissions Assessment				
Total (Tons/Year)	**0.58**	**0.26**	**0.26**	**0.08**
BAAQMD Significance Thresholds (Tons/Year)	***10***	***10***	***15***	***10***
Exceeds Significance Threshold?	**No**	**No**	**No**	**No**

Parameter	Air Pollutants (Tons/Year)			
	ROG	NO_X	PM_{10} (Total)	$PM_{2.5}$ (Total)
Average Daily Emissions Assessment				
Average Daily Emissions (lbs/day)	**3.20**	**1.41**	**1.44**	**0.43**
BAAQMD Significance Threshold (lbs/day)	***54***	***54***	***82***	***54***
Exceeds Significance Threshold?	**No**	**No**	**No**	**No**

Notes:
BAAQMD = Bay Area Air Quality Management District
lbs = pounds
NO_X = oxides of nitrogen
PM_{10} = particulate matter 10 microns in diameter
$PM_{2.5}$ = particulate matter 2.5 microns in diameter
ROG = reactive organic gases
[1] Average daily emission estimates are calculated by dividing the total pounds by the 365 total days per year of operation. Calculations use unrounded totals.
Source: Attachment A.

As shown in Table 2, the proposed project would not exceed the BAAQMD's thresholds of significance during operation, indicating that ongoing project operations would not be considered to have the potential to generate a significant quantity of air pollutants. **Therefore, long-term operational impacts associated with criteria pollutant emissions generated by the proposed project would be less than significant.**

Impacts to Sensitive Receptors

The following four criteria were applied to determine the significance of project emissions to sensitive receptors. The proposed project is considered to have a potentially significant impact if:

- **Criterion 1:** Construction of the project would result in an exceedance of the health risk significance thresholds.
- **Criterion 2:** The cumulative health impact would result in an exceedance of the cumulative health risk significance thresholds.
- **Criterion 3:** Operation of the project would result in an exceedance of the health risk significance thresholds.
- **Criterion 4:** A carbon monoxide (CO) hotspot assessment demonstrates that the project would result in the development of a CO hotspot that could cause an exceedance of the CO ambient air quality standards.

Criterion 1: Project Construction Toxic Air Pollutants

As specified by the BAAQMD, health risk and hazard impacts should be analyzed for sensitive receptors within a 1,000-foot radius of the project site.[4] The closest sensitive receptor to the project site is a residence immediately adjacent to the proposed project's southern boundary. Other nearby sensitive receptors accounted for in this analysis include a residence as close as 25 feet northwest of the project site, residential neighborhoods surrounding the project site, Belvedere Park as close as 35 feet southwest of the project site, Belvedere-Hawthorne Nursery School approximately 1,165 feet east of the project site, and Reed Elementary School approximately 1,720 feet north of the project site. The overwhelming majority of sensitive receptors near the project site consist of residences.

Estimation of Construction Diesel Particulate Matter Emissions

Construction $PM_{2.5}$ exhaust emissions were utilized in this assessment to represent construction diesel particulate matter (DPM) emissions and were estimated using CalEEMod, Version 2020.4.0. As shown in the information provided by the project applicant, the proposed project's construction is anticipated to occur from January 2024 through September 2025.

Construction emissions were calculated for each construction activity, as displayed in Table 1. On-site and off-site emissions generated during project construction were modeled with a working schedule of 8 hours per day, 5 days per week.

Based on the analysis presented in this section, emissions were estimated for unmitigated project construction. To characterize the emissions, on-site construction activities are represented with one polygon area source across the entire project site. Off-site construction hauling and vendor truck operation for project construction is represented with a line volume source along Beach Road, San Rafael Avenue, Community Road, and Leeward Road within 1,000 feet of the project site (see Off-site $PM_{2.5}$ Exhaust Adjustment Sheet in Attachment A). Table 3 summarizes the emission rates of unmitigated DPM during construction of the proposed project.

Table 3: Project DPM Construction Emissions

Emissions Scenario	On-site DPM (Tons)	Off-site DPM (Tons)	Total DPM (Tons)
Unmitigated Construction	0.02015	0.00158	0.02173

Notes:
DPM = diesel particulate matter
Source: Attachment A.

[4] Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed January 19, 2022.

Estimation of Cancer Risks and Hazards

The BAAQMD has developed a set of guidelines for estimating cancer risks resulting from exposure to toxic air contaminants (TAC).[5] As part of this guidance, the American Meteorological Society and United States Environmental Protection Agency (EPA) Regulatory Model (AERMOD), Version 21112, air dispersion model was used to estimate the DPM concentrations affecting nearby sensitive receptors during project construction by inputting the estimated construction DPM emissions and representative meteorological data to transport and disperse the construction emissions. Meteorological data from the San Francisco International Airport were obtained from the California Air Resources Board (ARB) to perform the dispersion calculations. The guidelines require using the ARB Hotspots Analysis and Reporting Program (HARP2) software to identify the cancer risk associated with DPM emissions generated during construction activities.[6] The input options for the receptors used are as follows:

Residential Receptors

- Analysis Type: Cancer Risk
- Receptor Type: Individual Resident
- Exposure Duration: User Defined (Tier 2) – 3 Years, 3rd Trimester Start Age
- Intake Rate Percentile: Risk Management Policy (RMP) – *Inhalation Only*
- Selected: "Apply Molecular Weight Adjustment Factor" factor
- Pathways to Evaluate: Inhalation Only
- Selected: "Apply fraction of time at residence to age bins less than 16 years"
- Selected: "Apply fraction of time at residence to age bins greater than or equal to 16 years"
- Selected: "Use Tier 2 breathing rates (L/kg-day)" factor
- Selected: "Use Tier 2 fraction of time at residence" factor

Park Receptors

- Analysis Type: Cancer Risk
- Receptor Type: Individual Resident
- Exposure Duration: User Defined (Tier 2) – 3 Years, 3rd Trimester Start Age
- Intake Rate Percentile: 95th (High End)
- Selected: "Apply Molecular Weight Adjustment Factor" factor
- Pathways to Evaluate: Inhalation Only
- Selected: "Apply fraction of time at residence to age bins less than 16 years"
- Selected: "Apply fraction of time at residence to age bins greater than or equal to 16 years"
- Selected: "Use 8-Hour breathing rates; Moderate Intensity (Recommended)"
- Selected: "Use Tier 2 breathing rates (L/kg-day)" factor
- Selected: "Use Tier 2 fraction of time at residence" factor

[5] Bay Area Air Quality Management District (BAAQMD). 2020. BAAQMD Health Risk Assessment Modeling Protocol. Website: https://www.baaqmd.gov/~/media/files/ab617-community-health/facility-risk-reduction/documents/baaqmd_hra_modeling_protocol-pdf.pdf?la=en. Accessed January 19, 2022.

[6] California Air Resources Board (ARB). Hot Spots Analysis & Reporting Program. 2022. Website: https://ww2.arb.ca.gov/our-work/programs/hot-spots-analysis-reporting-program. Accessed January 19, 2022.

Belvedere-Hawthorne Nursery School Receptor

- Analysis Type: Cancer Risk
- Receptor Type: Individual Resident
- Exposure Duration: User Defined (Tier 2)–3 Years, 3rd Trimester Start Age
- Intake Rate Percentile: 95th (High End)
- Selected: "Apply Molecular Weight Adjustment Factor" factor
- Pathways to Evaluate: Inhalation Only
- Selected: "Use 8-Hour breathing rates; Moderate Intensity (Recommended)"
- Selected: "Use Tier 2 breathing rates (L/kg-day)" factor
- Selected: "Use Tier 2 fraction of time at residence" factor

Elementary School Receptors

- Analysis Type: Cancer Risk
- Receptor Type: Individual Resident
- Exposure Duration: User Defined (Tier 2)–3 Years, 5 years old Start Age
- Intake Rate Percentile: 95th (High End)
- Selected: "Apply Molecular Weight Adjustment Factor" factor
- Pathways to Evaluate: Inhalation Only
- Selected: "Use 8-Hour breathing rates; Moderate Intensity (Recommended)"
- Selected: "Use Tier 2 breathing rates (L/kg-day)" factor
- Selected: "Use Tier 2 fraction of time at residence" factor
- Selected: "Adjustment for workers or 8-hour chronic risk" with "Worker Adjustment Factor" as 1, and Exposure Frequency (days/year)" as 180.

Estimation of Non-Cancer Chronic Hazards

TACs can also cause chronic (long-term) effects related to non-cancer illnesses such as reproductive effects or birth defects, or adverse environmental effects. Non-cancer health risks are conveyed in terms of the hazard index (HI), a ratio of the predicted concentration of the facility's reported TAC emissions to a concentration considered acceptable to public health professionals. A significant risk is defined as an HI of 1 or greater. An HI of less than 1 indicates that no significant health risks are expected from the facility's TAC emissions. The relationship for the non-cancer hazards of TACs is given by the following equation:

$$HI = C_{ann}/REL$$

Where:

HI = Hazard Index: an expression of the potential for chronic non-cancer health risks
C_{ann} = Annual average TAC concentration (micrograms per liter [$\mu g/m^3$])
REL = Reference Exposure Level: the DPM concentration at which no adverse health effects are anticipated

Annual concentrations of DPM as predicted by the air dispersion model are used to estimate chronic non-cancer hazards. The California Office of Environmental Health Hazard Assessment (OEHHA) has defined a REL for DPM of 5 $\mu g/m^3$.

Estimation of Health Risks and Hazards from Project Construction

To assess impacts to off-site sensitive receptors, discrete receptors are placed at locations of existing residences located in the vicinity of the project boundary. As previously discussed, project construction is anticipated to start in January 2024 and conclude by September 2025. The following AERMOD modeling parameters were utilized to identify the DPM concentration at identified receptors.

Sensitive receptors (e.g., schools, daycare facilities, hospitals, care facilities, residences, parks) in the immediate project vicinity are represented in the model with discrete Cartesian receptors at a flagpole height of 1.5 meters. For residential parks and schools, a boundary of 5-meter spaced discrete receptors was placed around the perimeter of that land use to identify potential impacts at the closest point to the project site.

1. A nested Cartesian grid was placed in AERMOD with the following spacing parameters:
    - 20 meters spacing within the project site and up to 200 meters from the project site.
    - 50 meters spacing between 200 meters and 500 meters from the project site.
    - 100 meters spacing between 500 meters and 1,000 meters from the project site.
    - 200 meters spacing between 1,000 and 2,000 meters from the project site.
2. AERMOD's non-default regulatory dispersion option was selected. Among the dispersion control options available, the Fast All Sources option was selected.
3. The "Rural" dispersion coefficient was used as greater than 50 percent of the surrounding three kilometers is open water.
4. Emissions were characterized in the model using various area and volume sources to represent different activities. The following describes the emission sources utilized in the model for each model scenario.
    - On-site construction activities are represented with one polygon area source across the entire project site.
    - Off-site construction hauling and vendor truck operation for project construction is represented with line volume sources along Beach Road, San Rafael Avenue, Community Road, and Leeward Road.
5. Off-site emissions were adjusted to account for off-site emissions that would occur within 1,000 feet of the project site (see Off-Site $PM_{2.5}$ Exhaust Adjustment Sheet in Attachment A).
6. Meteorological data from the San Francisco International Airport Air Monitoring Station, Station ID 23230. This station was selected as it is the closest monitoring station to the project site, and it resembles physical site characteristics and elevation generally representative of the project site. The San Francisco International Airport Air Monitoring Station provides preprocessed meteorological data covering the years 2009-2014. The model used all years of available meteorological data.

The Maximally Impacted Sensitive Receptor (MIR) during project construction were found at the single-family residence immediately adjacent to the proposed project's southern boundary; however, for informational purposes, the risk and hazard results for the nearby Belvedere Park and schools are provided as well. Table 4 presents a summary of the proposed project's construction cancer risk, chronic non-cancer hazard, and annual $PM_{2.5}$ concentration impacts at each MIR, which are each individually assessed against the BAAQMD's significance thresholds.

Table 4: Estimated Health Risks and Hazards During Project Construction (Unmitigated)

Impact Scenario	Cancer Risk (Risk per million)	Chronic Non-Cancer Hazard Index[1]	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
MIR: Resident	4.20	0.01	<0.01
MIR: Belvedere Park	7.70	0.02	<0.01
MIR: Belvedere-Hawthorne Nursery School	0.15	<0.01	<0.01
MIR: Reed Elementary School	<0.01	<.0.01	<0.01
Maximum MIR Impact	**7.70**	**0.02**	**<0.01**
BAAQMD Thresholds of Significance	**10**	**1**	**0.3**
Exceeds Individual Source Threshold?	**No**	**No**	**No**

Notes:
$\mu g/m^3$ = micrograms per cubic meter
BAAQMD = Bay Area Air Quality Management District
$PM_{2.5}$ = particulate matter 2.5 microns in diameter
[1] Chronic non-cancer hazard index was estimated by dividing the annual DPM concentration (as $PM_{2.5}$ exhaust) by the REL of 5 $\mu g/m^3$.
MIR = Maximally Impacted Sensitive Receptor
Source: Attachment A.

As shown in Table 4, the MIRs provided represent the MIR across all potentially impacted receptors during project construction in the project area. As illustrated therein, the proposed project's construction DPM emissions would not exceed the BAAQMD's cancer risk, chronic non-cancer hazard index, and annual $PM_{2.5}$ thresholds of significance at any MIR. **Therefore, the proposed project's construction emissions would not result in significant health impacts to nearby sensitive receptors.**

Criterion 2: Cumulative Health Impact

The BAAQMD recommends assessing the potential cumulative impacts from sources of TACs within 1,000 feet of a project. For a project-level analysis, BAAQMD provides several tools for use in screening potential sources of TACs. The BAAQMD-provided tools used to assess the potential cumulative impacts from TACs are described below:

- **Health Risks for Local Roadways.** The BAAQMD pre-calculated concentrations and the associated potential cancer risks and $PM_{2.5}$ concentration increases for each county within their jurisdiction for roadways that carry at least 30,000 Average Daily Traffic (ADT). For certain areas, the BAAQMD also included local roadways that meet BAAQMD's "major roadway" criteria of 10,000 vehicles or 1,000 trucks per day. The latest available screening tool is in the form of a Geographic Information System (GIS) raster file. The proposed project is not located in a Community Air Risk Evaluation (CARE) Program area;[7] therefore, the BAAQMD's local roadway calculator and the City's General Plan Environmental Impact Report (EIR)[8] were utilized in combination with the BAAQMD's roadway raster file to identify cancer risk, chronic non-cancer hazard, and $PM_{2.5}$ concentrations at the MIR associated with local roadways.
- **Freeway Screening Analysis Tool**. The BAAQMD prepared a GIS tool that contains pre-estimated cancer risk and $PM_{2.5}$ concentration increases for highways within the Bay Area. The nearest freeways to the proposed project include State Route (SR) 131 (Tiburon Boulevard), approximately 900 feet northeast of the project site.
- **Stationary Source Risk and Hazard Screening Tools**. The BAAQMD prepared a GIS tool[9] with the location of permitted sources and provides a health risk calculator that estimates and refines screen-level cancer risk, a non-cancer health hazard index, and $PM_{2.5}$ concentrations using emissions data from BAAQMD's permitting database.[10] For each emissions source, the BAAQMD provides conservative estimates of cancer risk and $PM_{2.5}$ concentrations. Based on information from the GIS tool, two BAAQMD-permitted stationary sources exist within the vicinity of 1,000 feet of the project site.
- **Rail Screening Tools.** The BAAQMD prepared GIS tools that contain estimated cancer risks and $PM_{2.5}$ concentrations from railroad operations at any point within the Air Basin. Based on review of available aerial imagery, no railways are within 1,000 feet of the project site. However, the cancer risk and $PM_{2.5}$ concentrations were still retrieved from the BAAQMD's raster tool to identify potential health impacts associated with existing rail lines outside of a 1,000-foot radius from the project site.

Cumulative Health Risk Assessment at the Maximum Impacted Sensitive Receptor

A cumulative Health Risk Assessment was performed that examined the cumulative impacts of the proposed project's construction emissions and sources of TAC emissions within 1,000 feet of the project site.

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[7] Bay Area Air Quality Management District (BAAQMD). 2014. Community Air Risk Evaluation Program. Website: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program. Accessed January 19, 2022.

[8] City of Belvedere. 2010. General Plan 2030 Volume Three: Technical Report and Appendices. Website: https://www.cityofbelvedere.org/DocumentCenter/View/1778/Vol-3_--Technical-Reports-and-Appendices?bidId=. Accessed March 22, 2022.

[9] Bay Area Air Quality Management District (BAAQMD). 2019. Permitted Stationary Sources Risk and Hazards. Permitted Stationary Sources Risk and Hazards. Website: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65. Accessed January 19, 2022.

[10] Bay Area Air Quality Management District (BAAQMD). Tools and Methodologies: BAAQMD Health Risk Calculator Beta 4.0. Website: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools. Accessed December 20, 2021.

The cumulative health risk results, including health risks from the existing stationary source, are summarized during project construction in Table 5. Cumulative health risk results shown therein are representative of the health risks to the MIR that would experience the highest concentration of pollutants, which represents the park MIR from Table 4.

Table 5: Summary of the Cumulative Health Impacts at the MIR during Construction

Source/Impact Scenario	Source Type	Distance to MIR[1](Feet)	Cancer Risk (Risk per million)	Chronic Non-Cancer Hazard Index	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Project Impacts					
Project Construction	Diesel Construction Equipment	–	7.70	0.01	<0.01
Existing Permitted Stationary Sources (BAAQMD Facility ID)[2]					
Sanitary District #5 of Marin County (ID 23998)	Natural Gas Generator	1,190	<0.01	<0.01	<0.01
City of Belvedere (ID 100555)	Gas Dispensing Facility	1,310	<0.01	0.00	0.00
Existing Local Roadway Impacts					
Existing Local Roadway Network		–	0.10	ND	<0.01
Tiburon Boulevard		840	2.14	ND	0.03
Existing Rail Line Impacts					
Existing Rail Lines		–	0.11	ND	<0.01
Existing Freeway Impacts					
Existing Freeways		900	10.15	ND	0.05
Cumulative Health Impacts					
Cumulative Maximum with Project DPM Emissions			**20.22**	**0.02**	**0.12**
BAAQMD's Cumulative Thresholds of Significance			**100**	**10**	**0.8**
Threshold Exceedance?			**No**	**No**	**No**

Notes:
$\mu g/m^3$ = micrograms per cubic meter
BAAQMD = Bay Area Air Quality Management District
DPM = diesel particulate matter
HI = Hazard Index
MIR = Maximally Impacted Sensitive Receptor
ND = no data available
$PM_{2.5}$ = particulate matter 2.5 microns in diameter
[1] The MIR above represents the greatest impacted MIR, which is Belvedere Park just south of the project site.
[2] Assumes emissions remain constant with time.
Source: Attachment A.

As shown in Table 5, the cumulative impacts from the project construction and existing sources of TACs would be less than the BAAQMD's cumulative thresholds of significance. **Thus, the cumulative health risk impacts from project construction would be less than significant.**

Criterion 3: Operational Emissions Health Risks

As previously discussed, the proposed project's operational emissions would be below the BAAQMD's applicable significance thresholds. The proposed project is residential in nature and would not result in industrial or manufacturing or other substantial TAC-generating land uses. The proposed project's emissions would largely be generated by stationary source equipment and gasoline-fueled vehicles. Furthermore, any stationary source equipment permitted by the BAAQMD for the proposed project would undergo its own analysis to ensure that health impacts are less than significant.

Therefore, the proposed project would not generate criteria pollutant and precursor emissions in excess of established thresholds during operation. **As a result, the proposed project would not result in significant health impacts to nearby sensitive receptors during operation and the impact of operation would be less than significant.**

Criterion 4: Carbon Monoxide Hotspot Assessment

Based on the Transportation Study prepared for the proposed project, the proposed project would generate 267 daily weekday trips, consisting of 21 AM peak-hour weekday trips and 26 PM peak-hour weekday trips.[11] According to the City's General Plan EIR, the greatest traffic volumes experienced in Belvedere under the General Plan's cumulative 2020 conditions would be Tiburon Boulevard west of San Rafael Avenue with 22,080 ADT.[12] The BAAQMD's CEQA Air Quality Guidelines provides screening criteria for determining whether a project could potentially result in a CO hotspot, which consist of: (1) 44,000 vehicles per hour along any roadway segment or intersection, (2) 24,000 vehicles per hour along any roadway segment or intersection with features that substantially limit air flow, such as tunnels or overpasses, or (3) conflict with a local congestion management plan. If the proposed project meets any of these screening criteria, it would present the potential to result in a CO hotspot.

Conservatively assuming that all 22,080 existing daily trips along Tiburon Boulevard would occur during the PM peak-hour and all 26 project-generated PM peak-hour vehicle trips would travel along Tiburon Boulevard west of San Rafael Avenue, the proposed project would not result in local roadways experiencing greater than 24,000 vehicles per hour, regardless of whether those roadways contain features which substantially limit air flow. Finally, the BAAQMD identifies the potential for CO hotspots to occur if a project presents a conflict with the local congestion management plan. As the size and nature of the proposed project does not trigger the need for a level of service analysis,[13] it is presumed that the proposed project would not conflict with the local congestion management plan. **Therefore, the proposed project would not generate sufficient vehicle traffic volumes during project operation to**

[11] Parisi Transportation Consulting. Transportation Study for Mallard Pointe Project. Accessed March 9, 2022.
[12] City of Belvedere. 2010. General Plan 2030 Volume Three: Technical Report and Appendices. Website: https://www.cityofbelvedere.org/DocumentCenter/View/1778/Vol-3_--Technical-Reports-and-Appendices?bidId=. Accessed March 22, 2022.
[13] Parisi Transportation Consulting. Transportation Study for Mallard Pointe Project. Accessed March 9, 2022.

substantiate creating a CO hotspot. Impacts related to the potential creation of a CO hotspot would be less than significant.

As described above, the proposed project would not expose sensitive receptors at nearby residences to substantial pollutant concentrations during either construction or operations. **Therefore, this impact would be less than significant.**

Odor Impacts

For odor impacts, residences are not considered to be odor-generating land uses.[14] However, odors would be generated from residential laundry cleaning, vehicle exhaust, outdoor cooking, and waste disposal. These occurrences would be small in quantity and duration and would not pose an objectionable odor impact to a substantial number of people. Therefore, operational impacts associated with the proposed project's potential to create odors would be less than significant. As a receptor, the proposed project is surrounded by the Belvedere Lagoon and none of the odor-generating land uses is identified within screening distances based on BAAQMD guidelines. **Therefore, the proposed project would not be subject to any significant odor impact.**

Therefore, with implementation of applicable BAAQMD BMPs and policies, along with compliance with state and federal air quality regulations, approval of the proposed project would not result in any significant effects relating to air quality. **Therefore, the proposed project meets the criteria of CEQA Guidelines Section 15332(d) with respect to air quality.**

GREENHOUSE GAS EMISSIONS ASSESSMENT

Greenhouse Gas Emissions

Pursuant to CEQA Guidelines regarding streamlining projects qualifying for a Class 32 exemption, potential impacts that are not peculiar to the proposed project or project site that can be mitigated to a less than significant level by the imposition of City regulations and consistency with General Plan programs and policies do not require additional analysis.

Construction Impacts

The proposed project would emit greenhouse gas (GHG) emissions during construction from the operation of off-road equipment and vehicles, construction worker vehicles, and any soil or material hauling that may occur. Attachment A includes detailed construction assumptions. The BAAQMD does not presently provide a construction-related GHG generation threshold but recommends that construction-generated GHGs be quantified and disclosed. Table 6 presents the total GHG emissions generated during all construction activities. In the absence of a construction emission threshold, construction GHG emissions are amortized over the expected lifetime of the proposed project (30 years).

[14] Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act (CEQA) Air Quality Guidelines. May. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed January 19, 2022.

The proposed project's amortized construction GHG emissions are then added to the operational GHG emissions in Table 7.

Table 6: Construction Greenhouse Gas Emissions

Construction Activity	MT CO_2e
Demolition	22
Site Preparation	14
Grading	12
Building Construction	271
Paving	1
Architectural Coating	10
Total Construction Emissions	**331**
Emissions Amortized Over 30 Years[1]	**11**

Notes:
MT CO_2e = metric tons of carbon dioxide equivalent
[1] Construction GHG emissions are amortized over the 30-year lifetime of the proposed project.
Source: CalEEMod Output in Attachment A.

Long-term Operational Impacts

Operational or long-term emissions occur over the life of a project. The major sources for operational GHG emissions include motor vehicles, natural gas consumption, electricity consumption, water transport, and waste decomposition.

A more detailed description of the assumptions used to estimate project-generated GHG emissions and detailed modeling results are included in Attachment A. Operational GHG emissions by source are shown in Table 7. For buildings in general, it is reasonable to look at a 30-year time frame, since this is a typical interval before a new building requires the first major renovation.[15] Therefore, this analysis includes construction emissions amortized over the anticipated life of the proposed project (30 years). As presented in Table 6, project construction emissions were calculated as 331 metric tons (MT) carbon dioxide equivalent (CO_2e) for the entire construction duration. When amortized over 30 years, construction emissions equal 11 MT CO_2e per year.

The BAAQMD mass emissions threshold of 1,100 MT CO_2e per year was designed for the region to meet the Assembly Bill (AB) 32 goal of reducing GHG emissions to 1990 levels by 2020. This significance threshold is based on the AB 32 GHG reduction goals and a "gap analysis" that attributes an appropriate share of GHG emissions reductions to new land use development projects in BAAQMD's jurisdiction. However, the BAAQMD has not yet adopted a significance threshold that is aligned with the State's 2030 GHG reduction target codified by Senate Bill (SB) 32. Accordingly, BAAQMD's existing mass emissions

[15] International Energy Agency (IEA). 2008. Energy Efficiency Requirements in Building Codes, Energy Efficiency Policies for New Buildings.

threshold is no longer appropriate for analyzing the GHG impacts of projects being implemented after 2020 without adjusting the threshold to be consistent with the SB 32 target of reducing Statewide GHG emissions by 40 percent below 1990 levels by 2030.

Because the proposed project would be constructed after 2020, the BAAQMD significance threshold of 1,100 MT CO_2e per year was adjusted to reflect "substantial progress" toward the SB 32 target of 40 percent below 1990 levels (i.e., 60 percent of 1990 levels). Therefore, the BAAQMD's current significance threshold of 1,100 MT CO_2e per year was adjusted to 660 MT CO_2e per year (1,100 x 0.60 = 660) and is utilized in this analysis to determine whether the proposed project would result in potentially significant impacts related to GHG emissions. If operation of the proposed project would generate GHG emissions, including amortized construction emissions, that exceed this bright-line threshold, the proposed project would then need to be analyzed against an appropriate efficiency threshold.

The estimated total annual GHG emissions, including amortized construction emissions and proposed project operational emissions, were compared with the bright-line threshold of 660 MT CO_2e/year to determine significance at project buildout in the year 2025 and are included in Table 7. It should be noted that existing land use emissions are not shown in this analysis, thereby providing a conservative assessment of the proposed project's GHG emission impacts.

Table 7: Operational Greenhouse Gas Emissions

Emission Source	Year 2025 Annual Emissions (MT CO_2e/Year)
Area	3
Energy	52
Mobile (Vehicles)	211
Waste	8
Water	5
Amortized Construction Emissions[1]	11
Total Emissions	**290**
Bright-Line Threshold	***660***
Does project exceed threshold?	**No**

Notes:
MT CO_2e = metric tons of carbon dioxide equivalent
[1] Construction GHG emissions are amortized over the 30-year lifetime of the proposed project.
Source: CalEEMod Output in Attachment A.

As shown in Table 7, the proposed project's combined operational emissions and amortized construction emissions would not exceed the BAAQMD recommended thresholds for GHG emissions and this impact would be less than significant.

As previously mentioned, back-up emergency generators are not specifically anticipated or planned as part of the proposed project; however, to provide a conservative assessment of potential project impacts, speculative back-up emergency generators were included in this analysis. The estimated GHG emissions generated by the speculative back-up generators are shown in Table 8 and compared against the BAAQMD's stationary source significance threshold of 10,000 MT CO_2e per year. According to the operational model outputs (see Attachment A), the proposed project is anticipated to consume approximately 218,642 kilowatt-hours (kWh) per year. As such, assuming an average operation of 365 days per year and 24 hours per day, the proposed project is estimated to need an average supply of 25 kilowatts (kW) at any given time. Assuming 2 horsepower for each kW of necessary supply, the proposed project is estimated to require a 50-horsepower generator. To conservatively build in the potential use of speculative generators for the proposed project, each building (15) was assumed to be outfitted with a 50-horsepower generator. As such, 15 generators at 50 horsepower each were included in the proposed project's emissions modeling. As permitted stationary sources would be limited to no greater than 50 hours per year for maintenance and testing purposes, the generators were assumed to operate 50 hours per year each. **As shown in Table 8, the speculative back-up generators would not result in a significant impact related to GHG emissions.**

Table 8: Stationary Source Operational GHG Emissions (Year 2025)

Emission Source	Year 2025 Annual Emissions (MT CO_2e/Year)
Stationary Sources (15 Speculative Generators)	14
Bright-Line Significance Threshold (MT CO_2e/year)	***10,000***
Exceeds Threshold?	**No**
Notes: MT CO_2e = metric tons of carbon dioxide equivalent Source: Attachment A.	

Consistency with Local GHG Reduction Plan

To determine the proposed project's consistency with applicable plans, policies, or regulations adopted for the purpose of reducing the GHG emissions, the proposed project's consistency with the City of Belvedere Climate Action Plan (CAP) is discussed below.

The City adopted its CAP in 2011, which includes four strategy categories to guide the City's effort in reducing GHG emissions. The four categories presented in the CAP include "Land Use and Transportation," "Green Building, Energy Efficiency and Renewable Energy," "Waste Reduction, Recycling and Zero Waste," and "Water and Wastewater" to identify reduction strategies and actions that are applicable for communities and government agencies. In 2010, the City integrated the 2005 GHG

emissions inventory into its 2030 General Plan. The overall GHG emissions reduction goal of the CAP is 15 percent below 2005 baseline levels by 2020.[16]

The CAP includes GHG reduction strategies and actions relating to transportation, land use, energy, water, solid waste, 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. For instance, Goal 3.2.C5, Accelerate Adoption of Electric Vehicles, encourages private development to provide prioritized parking for hybrid, electric, and carpool vehicles as well as electric vehicle (EV) charging stations. The proposed project would be required to comply with Title 24, Part 11, of the California Building Standards Code (CBC) to provide parking for clean air vehicles and EV charging station infrastructure.

Goal 3.3.C3, Reduce Energy Use in New Residential Buildings, states the City's intention to require a higher level of energy efficiency for new construction and renovation. The proposed project would be required to comply with Title 24, Part 11, of the CBC for energy efficiency and other green building requirements.

Goal 3.5.C1, Divert All Food Waste from Landfill, considers a composting program alongside the recycling program and promotes residential composting. Goal 3.5.C2, Reduce All Other Solid Waste Disposal to Landfills by 25 percent, states that the City would work with the City's solid waste provider to expand recycling services offered to the community. Goal 3.6.C1, Reduce Hot Water Use in Community by 15 percent, aims to develop community wide water use reduction benchmarks in conjunction with Marin Municipal Water District, and a mechanism to inform the community of ongoing progress. The proposed project would be required to comply with the applicable City requirements as well as State requirements for inclusion of low-flow water fixtures, waste diversion, and composting, as applicable. As such, the proposed project would be consistent with the CAP policies.

Provided the above discussions, the proposed project would support and implement the applicable measures of the City's CAP, and the proposed project's GHG emission impacts would be less than significant. Therefore, the proposed project meets the criteria of CEQA Guidelines Section 15332(d) with respect to GHG emissions.

SUMMARY

Based on the project understanding described above, the proposed project would result in less than significant impacts to air quality. The analysis further determined that the proposed project would not generate criteria pollutant, TAC, or GHG emissions, either directly or indirectly, that may have a significant impact on the environment or surrounding receptors; nor would the proposed project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

[16] City of Belvedere. Sustainable Belvedere. Website: https://www.cityofbelvedere.org/223/Sustainable-Belvedere. Accessed January 18, 2022.

Thank you for the opportunity to conduct an air quality and greenhouse gas emissions impacts analysis. Please feel free to contact Phil Ault (559.930.6191 or pault@fcs-intl.com) or Lance Park (805.535.5412 or lpark@fcs-intl.com) should you have any questions.

Sincerely,

Lance Park, Senior Air Quality Specialist
FirstCarbon Solutions
1350 Treat Boulevard, Suite 380
Walnut Creek, CA 94597

Philip Ault, Director of Noise and Air Quality
FirstCarbon Solutions
1350 Treat Boulevard, Suite 380
Walnut Creek, CA 94597

Attachment A: Air Quality Modeling Results and Supporting Calculations

Attachment A:
Air Quality Modeling Results and Supporting Calculations

Attachment A: Air Quality and Greenhouse Gas Emissions Supporting Information

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Mallard Pointe CalEEMod Notes

Note 1

The following proposed and existing land uses are drawn from information provided by the project applicant, dated February 14, 2022. Land uses provided below were represented in CalEEMod with the most relevant land use subtype available in the model. For example, there is no landscaping land use subtype in CalEEMod; therefore, the CalEEMod land use subtype City Park was utilized to represent landscaped areas.

Land Uses	Size or Number	Footprint (Square Feet)	Gross Building Area (Square Feet)	Net Acreage (Footprint Acreage)
Existing on Project Site				
Single-Family House/Duplex	22	34,103 SF	34,103 SF	0.8 acres
Paved surfaces		55,480 SF		1.3 acres
Landscaping		29,500 SF		0.7 acres
Proposed Project				
Single Family Residence	6 DU + 3 ADUs	17,057 SF	23,983 SF	0.4 acres
Duplex	10 DU	17,516 SF	19,632 SF	0.4 acres
Apartment Mid Rise	23 DU	16,905 SF	47,325 SF	0.4 acres
Paved surfaces	27 spaces	30,200 SF	-	0.7 acres
Landscaping		37,400 SF	-	0.9 acres
			Total On-site	**2.8**

Note 2s

The following anticipated construction schedule was provided by the project applicant, dated February 14, 2022. As the dates and total workdays do not exactly align, the start date and total workdays were utilized for each construction activity in the model.

Construction Activity	Phase Start Date	Phase End Date	Working Days per Week	Total Number of Working Days
Demolition	Jan 2, 2024	Feb 13, 2024	5	29
Site Preparation	Feb 6, 2024	April 9, 2024	5	40
Grading	Feb 6, 2024	Mar 5, 2024	5	20
Building Construction	April 9, 2024	Dec 9, 2025	5	420
Paving	June 17, 2024	June 21, 2024	5	5
Architectural Coating	Feb 3, 2025	Sep 1, 2025	5	140

Note 3

According to email correspondence with the project applicant on February 15, 2022, the general contractor confirmed that the default construction equipment provided by CalEEMod is a reasonable representation of anticipated equipment use but clarified that the equipment utilized during project

construction would operate 30 percent of the time on average. As such, the equipment list was adjusted to reflect 30 percent of the default hours per day.

Note 4

According to applicant-provided information, dated February 14, 2022, approximately 34,103 square feet of building space and 55,480 square feet of pavement would be removed during demolition, resulting in approximately 3,658 tons of demolition debris. In addition, approximately 1,500 cubic yards of soil would be exported during grading activities.

Note 5

The project's vehicle trip generation is based on a Transportation Study prepared by Parisi Transportation Consulting, dated December 13, 2021.[1] As such, the trip generation rates in the model were updated to reflect this information. Because the Transportation Study identifies a different breakdown of trip assignment between apartments, single family dwellings, and condos, the total daily trips generated by the proposed project (267) were identified and then divided proportionally among the various residential land use types depending on each land use type's proportional share of total dwelling units.

Note 6

According to the BAAQMD's Regulation 6, Rule 3, new residential developments are prohibited from installing wood-burning stoves and fireplaces. As a result, the model was adjusted to remove the inclusion of wood-burning devices.

Note 7

BAAQMD *Basic Construction Mitigation Measures Recommended For All Proposed Projects* was applied to this project, which includes watering exposed areas at minimum twice per day and limiting construction vehicle speeds to 15 miles per hour on unpaved roads.

The project applicant indicated via email correspondence that Tractors/Loaders/Backhoes, Graders, Scrapers, Pavers, Paving Equipment, and Air Compressors would be certified to meet Tier 4 Interim standards and Concrete/Industrial Saws, Forklifts, Generator Sets, and Rollers would be certified to meet Tier 4 Final standards. Therefore, the model was adjusted to reflect this information.

Note 8

According to the operational model outputs, the proposed project would consume approximately 218,642 kWh per year. As such, assuming an average operation of 365 days per year and 24 hours per day, the proposed project is estimated to need an average supply of 25 kW per hour. Assuming 2 horsepower for each kW of supply, the proposed project is estimated to require a 50-horsepower generator. To conservatively build in the potential use of generators for the proposed project, each building (15) was assumed to be outfitted with a 50-horsepower generator. As such, 15 generators at 50 horsepower each were included in the model. As permitted stationary sources would be limited to no greater than 50 hours per year for maintenance and testing purposes, the generators were assumed to operate 50 hours per year.

Note 9

According to the California Code of Regulations, Title 24, Part 6, Subchapter 8 – Low-Rise Residential Building – Performance and Prescriptive Compliance Approaches, Section 150.1(c)14, "[a]ll low-rise

[1] Parisi Transportation Consulting. 2021. FINAL Mallard Pointe Transportation Study; Belvedere, CA. December 13.

residential buildings shall have a photovoltaic (PV) system meeting the minimum qualification requirements as specified in Joint Appendix JA11, with annual electrical output equal or greater than the dwelling's annual electrical usage as determined by Equation 150.1-C:"

Equation 150.1-C Annual Photovoltaic Electrical Output

kWPV = (CFA x A)/1,000 + (NDwell x B)

Where:

kWPV = kWdc size of the PV system

CFA = conditioned floor area

NDwell = number of dwelling units

A = Adjustment factor from Table 150.1-C

B = Dwelling adjustment factor from Table 150.1-C

As the project is located in climate zone 3, the A adjustment factor mentioned above is identified as 0.628 and the B adjustment factor mentioned above is identified as 1.12. The conditioned floor area is based on the building square footage.

Therefore:

kWPV = (90,940 x 0.628)/1,000 + (42 x 1.12) = 104.15 kWPV

While this accounts for the entire project's kW PV system, it does not provide the annual production rate that would be generated by this size of system. Therefore, the total kW PV system was reduced to a per-dwelling-unit kW PV system to determine the expected annual production rate. 104.15 kW PV divided by 42 dwelling units results in an average 2.48 kW PV system per dwelling unit.

According to TheEcoExperts.com,[2] a 2 kW PV system has an average annual production rate of 1,700 kWh/year. The below equation proportionally applies the same average annual production rate to the calculated 2.48 kW system per each dwelling unit.

Therefore:

(2.48/2) * 1,700 kWh/year = 2,108 kWh/year

Therefore, the proposed project is expected to result in an average on-site electricity generation rate of 2,108 kWh per dwelling unit per year. As such, after multiplying 2,108 kWh per year by 42 dwelling units, the proposed project would generate an estimated 88,536 kWh annually.

[2] Theecoexperts.com. 2016. Solar Panel Output. Website: http://www.theecoexperts.com/solar-panel-output/. Accessed March 10, 2022.

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

Mallard Pointe Project

Marin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	0.70	Acre	0.70	30,200.00	0
City Park	0.90	Acre	0.90	37,400.00	0
Apartments Mid Rise	23.00	Dwelling Unit	0.38	47,325.00	66
Condo/Townhouse	10.00	Dwelling Unit	0.40	19,632.00	29
Single Family Housing	9.00	Dwelling Unit	0.39	23,983.00	26

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	69
Climate Zone	5			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Note 1

Construction Phase - Note 2

Off-road Equipment - Note 3

Off-road Equipment - Note 3

Off-road Equipment - Note 3

Off-road Equipment - Note 3

Off-road Equipment - Note 3

Off-road Equipment - Note 3

Mallard Pointe Project - Marin County, Annual

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

Demolition - Note 4

Grading - Note 4

Vehicle Trips - Note 5

Woodstoves -

Construction Off-road Equipment Mitigation - Note 7

Energy Mitigation - Note 9

Fleet Mix -

Stationary Sources - Emergency Generators and Fire Pumps - Note 8

Area Mitigation - Note 6

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

Mallard Pointe Project - Marin County, Annual

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

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	29.00
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tblConstructionPhase	NumDays	6.00	20.00
tblConstructionPhase	NumDays	220.00	420.00
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	10.00	140.00
tblConstructionPhase	PhaseEndDate	1/29/2024	2/9/2024
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tblConstructionPhase	PhaseEndDate	2/9/2024	3/4/2024
tblConstructionPhase	PhaseEndDate	12/13/2024	11/17/2025
tblConstructionPhase	PhaseEndDate	12/27/2024	6/21/2024
tblConstructionPhase	PhaseEndDate	1/10/2025	8/15/2025
tblConstructionPhase	PhaseStartDate	1/30/2024	2/6/2024
tblConstructionPhase	PhaseStartDate	2/2/2024	2/6/2024
tblConstructionPhase	PhaseStartDate	2/10/2024	4/9/2024
tblConstructionPhase	PhaseStartDate	12/14/2024	6/17/2024
tblConstructionPhase	PhaseStartDate	12/28/2024	2/3/2025
tblGrading	MaterialExported	0.00	1,500.00
tblLandUse	LandUseSquareFeet	30,492.00	30,200.00
tblLandUse	LandUseSquareFeet	39,204.00	37,400.00
tblLandUse	LandUseSquareFeet	23,000.00	47,325.00
tblLandUse	LandUseSquareFeet	10,000.00	19,632.00
tblLandUse	LandUseSquareFeet	16,200.00	23,983.00
tblLandUse	LotAcreage	0.61	0.38
tblLandUse	LotAcreage	0.63	0.40
tblLandUse	LotAcreage	2.92	0.39
tblOffRoadEquipment	UsageHours	6.00	1.80
tblOffRoadEquipment	UsageHours	8.00	2.40

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

tblOffRoadEquipment	UsageHours	8.00	2.40
tblOffRoadEquipment	UsageHours	8.00	2.40
tblOffRoadEquipment	UsageHours	7.00	2.10
tblOffRoadEquipment	UsageHours	8.00	2.40
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tblOffRoadEquipment	UsageHours	8.00	2.40
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tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
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tblVehicleTrips	PB_TP	3.00	0.00
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tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00

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

tblVehicleTrips	ST_TR	4.91	5.74
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tblVehicleTrips	SU_TR	4.09	4.78
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	6.28	5.45
tblVehicleTrips	SU_TR	8.55	7.43
tblVehicleTrips	WD_TR	5.44	6.36
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	7.32	6.36
tblVehicleTrips	WD_TR	9.44	6.36

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					
2024	0.0825	0.6761	0.7083	1.9000e-003	0.1299	0.0241	0.1539	0.0334	0.0228	0.0562	0.0000	170.9768	170.9768	0.0230	8.0700e-003	173.9573
2025	0.7210	0.5325	0.6828	1.7400e-003	0.0677	0.0180	0.0856	0.0183	0.0172	0.0355	0.0000	154.6473	154.6473	0.0159	6.2900e-003	156.9180
Maximum	**0.7210**	**0.6761**	**0.7083**	**1.9000e-003**	**0.1299**	**0.0241**	**0.1539**	**0.0334**	**0.0228**	**0.0562**	**0.0000**	**170.9768**	**170.9768**	**0.0230**	**8.0700e-003**	**173.9573**

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	Attachment A				tons/yr								MT/yr			

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2024	0.0623	0.5121	0.7570	1.9000e-003	0.0913	0.0125	0.1038	0.0240	0.0119	0.0359	0.0000	170.9767	170.9767	0.0230	8.0700e-003	173.9572
2025	0.7059	0.4144	0.7015	1.7400e-003	0.0677	0.0103	0.0779	0.0183	9.8400e-003	0.0281	0.0000	154.6472	154.6472	0.0159	6.2900e-003	156.9179
Maximum	**0.7059**	**0.5121**	**0.7570**	**1.9000e-003**	**0.0913**	**0.0125**	**0.1038**	**0.0240**	**0.0119**	**0.0359**	**0.0000**	**170.9767**	**170.9767**	**0.0230**	**8.0700e-003**	**173.9572**

	ROG	NOx	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	**4.38**	**23.34**	**-4.84**	**0.00**	**19.50**	**45.99**	**24.15**	**18.33**	**45.72**	**30.29**	**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	**1-2-2024**	**4-1-2024**	0.2387	0.1757
2	**4-2-2024**	**7-1-2024**	0.1646	0.1259
3	**7-2-2024**	**10-1-2024**	0.1742	0.1334
4	**10-2-2024**	**1-1-2025**	0.1763	0.1355
5	**1-2-2025**	**4-1-2025**	0.3633	0.3259
6	**4-2-2025**	**7-1-2025**	0.4769	0.4384
7	**7-2-2025**	**9-30-2025**	0.3180	0.2805
		Highest	0.4769	0.4384

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5607	6.5000e-003	0.4936	3.8000e-004		0.0278	0.0278		0.0278	0.0278	2.6485	1.4083	4.0567	5.0700e-003	1.6000e-004	4.2323
Energy	4.0400e-003	0.0346	0.0147	2.2000e-004		2.7900e-003	2.7900e-003		2.7900e-003	2.7900e-003	0.0000	60.2419	60.2419	4.0400e-003	1.1300e-003	60.6797
Mobile	0.1178	0.1177	1.0925	2.2500e-003	0.2513	1.6300e-003	0.2529	0.0671	1.5200e-003	0.0686	0.0000	207.4492	207.4492	0.0137	9.2000e-003	210.5325
Stationary	0.0308	0.1003	0.1117	1.5000e-004		4.5300e-003	4.5300e-003		4.5300e-003	4.5300e-003	0.0000	14.2799	14.2799	2.0000e-003	0.0000	14.3300
Waste						0.0000	0.0000		0.0000	0.0000	5.3143	0.0000	5.3143	0.3141	0.0000	13.1660
Water						0.0000	0.0000		0.0000	0.0000	0.8682	2.2759	3.1441	0.0895	2.1500e-003	6.0232
Total	**0.7133**	**0.2591**	**1.7124**	**3.0000e-003**	**0.2513**	**0.0368**	**0.2881**	**0.0671**	**0.0367**	**0.1038**	**8.8309**	**285.6552**	**294.4861**	**0.4284**	**0.0126**	**308.9637**

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	0.4317	5.3900e-003	0.3123	3.0000e-005		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003	0.0000	2.5918	2.5918	5.3000e-004	4.0000e-005	2.6163
Energy	4.0400e-003	0.0346	0.0147	2.2000e-004		2.7900e-003	2.7900e-003		2.7900e-003	2.7900e-003	0.0000	52.0503	52.0503	2.7100e-003	9.7000e-004	52.4071
Mobile	0.1178	0.1177	1.0925	2.2500e-003	0.2513	1.6300e-003	0.2529	0.0671	1.5200e-003	0.0686	0.0000	207.4492	207.4492	0.0137	9.2000e-003	210.5325
Stationary	0.0308	0.1003	0.1117	1.5000e-004		4.5300e-003	4.5300e-003		4.5300e-003	4.5300e-003	0.0000	14.2799	14.2799	2.0000e-003	0.0000	14.3300
Waste						0.0000	0.0000		0.0000	0.0000	5.3143	0.0000	5.3143	0.3141	0.0000	13.1660
Water						0.0000	0.0000		0.0000	0.0000	0.8682	2.2759	3.1441	0.0895	2.1500e-003	6.0232
Total	**0.5843**	**0.2579**	**1.5312**	**2.6500e-003**	**0.2513**	**0.0108**	**0.2621**	**0.0671**	**0.0107**	**0.0778**	**6.1825**	**278.6470**	**284.8295**	**0.4225**	**0.0124**	**299.0750**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	18.08	0.43	10.58	11.67	0.00	70.59	9.01	0.00	70.80	25.03	29.99	2.45	3.28	1.37	2.22	3.20

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	1/2/2024	2/9/2024	5	29	
2	Site Preparation	Site Preparation	2/6/2024	4/1/2024	5	40	
3	Grading	Grading	2/6/2024	3/4/2024	5	20	
4	Building Construction	Building Construction	4/9/2024	11/17/2025	5	420	
5	Paving	Paving	6/17/2024	6/21/2024	5	5	
6	Architectural Coating	Architectural Coating	2/3/2025	8/15/2025	5	140	

Acres of Grading (Site Preparation Phase): 18

Acres of Grading (Grading Phase): 6

Acres of Paving: 0.7

Residential Indoor: 184,154; Residential Outdoor: 61,385; Non-Residential Indoor: 2; Non-Residential Outdoor: 1; Striped Parking Area: 1,812

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	2.40	81	0.73
Demolition	Rubber Tired Dozers	1	2.40	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	2.40	97	0.37
Site Preparation	Graders	1	2.40	187	0.41
Site Preparation	Scrapers	1	2.40	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	2.10	97	0.37
Grading	Graders	1	2.40	187	0.41
Grading	Rubber Tired Dozers	1	2.40	247	0.40
Grading	Tractors/Loaders/Backhoes	2	2.10	97	0.37
Building Construction	Cranes	1	2.40	231	0.29
Building Construction	Forklifts	2	2.10	89	0.20
Building Construction	Generator Sets	1	2.40	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	1.80	97	0.37
Building Construction	Welders	3	2.40	46	0.45
Paving	Cement and Mortar Mixers	1	2.40	9	0.56
Paving	Pavers	1	2.40	130	0.42
Paving	Paving Equipment	1	2.40	132	0.36
Paving	Rollers	2	2.40	80	0.38
Paving	Tractors/Loaders/Backhoes	1	2.40	97	0.37
Architectural Coating	Air Compressors	1	1.80	78	0.48

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

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	362.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	188.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	55.00	16.00	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	11.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0391	0.0000	0.0391	5.9300e-003	0.0000	5.9300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2600e-003	0.0604	0.0587	1.1000e-004		2.7500e-003	2.7500e-003		2.5600e-003	2.5600e-003	0.0000	9.1748	9.1748	2.3200e-003	0.0000	9.2329
Total	**6.2600e-003**	**0.0604**	**0.0587**	**1.1000e-004**	**0.0391**	**2.7500e-003**	**0.0419**	**5.9300e-003**	**2.5600e-003**	**8.4900e-003**	**0.0000**	**9.1748**	**9.1748**	**2.3200e-003**	**0.0000**	**9.2329**

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

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	4.0000e-004	0.0269	7.6100e-003	1.1000e-004	3.0500e-003	2.0000e-004	3.2500e-003	8.4000e-004	1.9000e-004	1.0300e-003	0.0000	11.1680	11.1680	7.2000e-004	1.7800e-003	11.7169
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.1000e-004	3.7900e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	4.0000e-004	1.0000e-005	4.0000e-004	0.0000	1.1290	1.1290	3.0000e-005	3.0000e-005	1.1389
Total	**8.9000e-004**	**0.0272**	**0.0114**	**1.2000e-004**	**4.5300e-003**	**2.1000e-004**	**4.7400e-003**	**1.2400e-003**	**2.0000e-004**	**1.4300e-003**	**0.0000**	**12.2969**	**12.2969**	**7.5000e-004**	**1.8100e-003**	**12.8557**

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					0.0176	0.0000	0.0176	2.6700e-003	0.0000	2.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2000e-003	0.0499	0.0610	1.1000e-004		1.5000e-003	1.5000e-003		1.3900e-003	1.3900e-003	0.0000	9.1748	9.1748	2.3200e-003	0.0000	9.2329
Total	**4.2000e-003**	**0.0499**	**0.0610**	**1.1000e-004**	**0.0176**	**1.5000e-003**	**0.0191**	**2.6700e-003**	**1.3900e-003**	**4.0600e-003**	**0.0000**	**9.1748**	**9.1748**	**2.3200e-003**	**0.0000**	**9.2329**

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

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	4.0000e-004	0.0269	7.6100e-003	1.1000e-004	3.0500e-003	2.0000e-004	3.2500e-003	8.4000e-004	1.9000e-004	1.0300e-003	0.0000	11.1680	11.1680	7.2000e-004	1.7800e-003	11.7169
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.1000e-004	3.7900e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	4.0000e-004	1.0000e-005	4.0000e-004	0.0000	1.1290	1.1290	3.0000e-005	3.0000e-005	1.1389
Total	**8.9000e-004**	**0.0272**	**0.0114**	**1.2000e-004**	**4.5300e-003**	**2.1000e-004**	**4.7400e-003**	**1.2400e-003**	**2.0000e-004**	**1.4300e-003**	**0.0000**	**12.2969**	**12.2969**	**7.5000e-004**	**1.8100e-003**	**12.8557**

3.3 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.5400e-003	0.0000	9.5400e-003	1.0300e-003	0.0000	1.0300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.4400e-003	0.0787	0.0575	1.5000e-004		2.9800e-003	2.9800e-003		2.7400e-003	2.7400e-003	0.0000	12.9200	12.9200	4.1800e-003	0.0000	13.0245
Total	**7.4400e-003**	**0.0787**	**0.0575**	**1.5000e-004**	**9.5400e-003**	**2.9800e-003**	**0.0125**	**1.0300e-003**	**2.7400e-003**	**3.7700e-003**	**0.0000**	**12.9200**	**12.9200**	**4.1800e-003**	**0.0000**	**13.0245**

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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	4.2000e-004	2.6000e-004	3.2200e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	0.9583	0.9583	3.0000e-005	3.0000e-005	0.9667
Total	**4.2000e-004**	**2.6000e-004**	**3.2200e-003**	**1.0000e-005**	**1.2600e-003**	**1.0000e-005**	**1.2700e-003**	**3.4000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**0.9583**	**0.9583**	**3.0000e-005**	**3.0000e-005**	**0.9667**

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					4.3000e-003	0.0000	4.3000e-003	4.6000e-004	0.0000	4.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5100e-003	0.0416	0.0819	1.5000e-004		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	12.9200	12.9200	4.1800e-003	0.0000	13.0245
Total	**2.5100e-003**	**0.0416**	**0.0819**	**1.5000e-004**	**4.3000e-003**	**2.4000e-004**	**4.5400e-003**	**4.6000e-004**	**2.4000e-004**	**7.0000e-004**	**0.0000**	**12.9200**	**12.9200**	**4.1800e-003**	**0.0000**	**13.0245**

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

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	4.2000e-004	2.6000e-004	3.2200e-003	1.0000e-005	1.2600e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004	0.0000	0.9583	0.9583	3.0000e-005	3.0000e-005	0.9667
Total	**4.2000e-004**	**2.6000e-004**	**3.2200e-003**	**1.0000e-005**	**1.2600e-003**	**1.0000e-005**	**1.2700e-003**	**3.4000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**0.9583**	**0.9583**	**3.0000e-005**	**3.0000e-005**	**0.9667**

3.4 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0213	0.0000	0.0213	0.0103	0.0000	0.0103	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9000e-003	0.0415	0.0261	6.0000e-005		1.7200e-003	1.7200e-003		1.5800e-003	1.5800e-003	0.0000	5.4311	5.4311	1.7600e-003	0.0000	5.4750
Total	**3.9000e-003**	**0.0415**	**0.0261**	**6.0000e-005**	**0.0213**	**1.7200e-003**	**0.0231**	**0.0103**	**1.5800e-003**	**0.0119**	**0.0000**	**5.4311**	**5.4311**	**1.7600e-003**	**0.0000**	**5.4750**

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.1000e-004	0.0140	3.9500e-003	6.0000e-005	1.5800e-003	1.0000e-004	1.6900e-003	4.4000e-004	1.0000e-004	5.3000e-004	0.0000	5.7999	5.7999	3.7000e-004	9.3000e-004	6.0850
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.6000e-004	2.0100e-003	1.0000e-005	7.9000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.5989	0.5989	2.0000e-005	2.0000e-005	0.6042
Total	**4.7000e-004**	**0.0141**	**5.9600e-003**	**7.0000e-005**	**2.3700e-003**	**1.0000e-004**	**2.4800e-003**	**6.5000e-004**	**1.0000e-004**	**7.4000e-004**	**0.0000**	**6.3989**	**6.3989**	**3.9000e-004**	**9.5000e-004**	**6.6892**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.6000e-003	0.0000	9.6000e-003	4.6300e-003	0.0000	4.6300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7800e-003	0.0337	0.0322	6.0000e-005		1.0200e-003	1.0200e-003		9.5000e-004	9.5000e-004	0.0000	5.4311	5.4311	1.7600e-003	0.0000	5.4750
Total	**2.7800e-003**	**0.0337**	**0.0322**	**6.0000e-005**	**9.6000e-003**	**1.0200e-003**	**0.0106**	**4.6300e-003**	**9.5000e-004**	**5.5800e-003**	**0.0000**	**5.4311**	**5.4311**	**1.7600e-003**	**0.0000**	**5.4750**

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.1000e-004	0.0140	3.9500e-003	6.0000e-005	1.5800e-003	1.0000e-004	1.6900e-003	4.4000e-004	1.0000e-004	5.3000e-004	0.0000	5.7999	5.7999	3.7000e-004	9.3000e-004	6.0850
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.6000e-004	2.0100e-003	1.0000e-005	7.9000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.5989	0.5989	2.0000e-005	2.0000e-005	0.6042
Total	**4.7000e-004**	**0.0141**	**5.9600e-003**	**7.0000e-005**	**2.3700e-003**	**1.0000e-004**	**2.4800e-003**	**6.5000e-004**	**1.0000e-004**	**7.4000e-004**	**0.0000**	**6.3989**	**6.3989**	**3.9000e-004**	**9.5000e-004**	**6.6892**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0458	0.3674	0.4040	7.2000e-004		0.0154	0.0154		0.0148	0.0148	0.0000	59.5100	59.5100	0.0111	0.0000	59.7871
Total	**0.0458**	**0.3674**	**0.4040**	**7.2000e-004**		**0.0154**	**0.0154**		**0.0148**	**0.0148**	**0.0000**	**59.5100**	**59.5100**	**0.0111**	**0.0000**	**59.7871**

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	2.0000e-003	0.0719	0.0264	3.2000e-004	0.0100	4.0000e-004	0.0104	2.8900e-003	3.8000e-004	3.2700e-003	0.0000	31.4409	31.4409	1.2100e-003	4.4300e-003	32.7925
Worker	0.0137	8.5600e-003	0.1056	3.4000e-004	0.0414	2.1000e-004	0.0416	0.0110	1.9000e-004	0.0112	0.0000	31.4577	31.4577	8.7000e-004	8.5000e-004	31.7343
Total	**0.0157**	**0.0804**	**0.1320**	**6.6000e-004**	**0.0514**	**6.1000e-004**	**0.0520**	**0.0139**	**5.7000e-004**	**0.0145**	**0.0000**	**62.8987**	**62.8987**	**2.0800e-003**	**5.2800e-003**	**64.5269**

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

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	0.0341	0.2604	0.4186	7.2000e-004		8.7400e-003	8.7400e-003		8.4100e-003	8.4100e-003	0.0000	59.5100	59.5100	0.0111	0.0000	59.7871
Total	**0.0341**	**0.2604**	**0.4186**	**7.2000e-004**		**8.7400e-003**	**8.7400e-003**		**8.4100e-003**	**8.4100e-003**	**0.0000**	**59.5100**	**59.5100**	**0.0111**	**0.0000**	**59.7871**

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	2.0000e-003	0.0719	0.0264	3.2000e-004	0.0100	4.0000e-004	0.0104	2.8900e-003	3.8000e-004	3.2700e-003	0.0000	31.4409	31.4409	1.2100e-003	4.4300e-003	32.7925
Worker	0.0137	8.5600e-003	0.1056	3.4000e-004	0.0414	2.1000e-004	0.0416	0.0110	1.9000e-004	0.0112	0.0000	31.4577	31.4577	8.7000e-004	8.5000e-004	31.7343
Total	**0.0157**	**0.0804**	**0.1320**	**6.6000e-004**	**0.0514**	**6.1000e-004**	**0.0520**	**0.0139**	**5.7000e-004**	**0.0145**	**0.0000**	**62.8987**	**62.8987**	**2.0800e-003**	**5.2800e-003**	**64.5269**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0512	0.4130	0.4812	8.6000e-004		0.0161	0.0161		0.0155	0.0155	0.0000	71.3571	71.3571	0.0131	0.0000	71.6842
Total	**0.0512**	**0.4130**	**0.4812**	**8.6000e-004**		**0.0161**	**0.0161**		**0.0155**	**0.0155**	**0.0000**	**71.3571**	**71.3571**	**0.0131**	**0.0000**	**71.6842**

Unmitigated Construction Off-Site

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3100e-003	0.0851	0.0306	3.7000e-004	0.0120	4.8000e-004	0.0125	3.4700e-003	4.5000e-004	3.9200e-003	0.0000	37.0107	37.0107	1.4300e-003	5.2100e-003	38.5993
Worker	0.0155	9.2300e-003	0.1186	4.0000e-004	0.0496	2.4000e-004	0.0498	0.0132	2.2000e-004	0.0134	0.0000	36.4597	36.4597	9.5000e-004	9.6000e-004	36.7695
Total	**0.0178**	**0.0943**	**0.1491**	**7.7000e-004**	**0.0616**	**7.2000e-004**	**0.0623**	**0.0167**	**6.7000e-004**	**0.0173**	**0.0000**	**73.4704**	**73.4704**	**2.3800e-003**	**6.1700e-003**	**75.3688**

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	0.0386	0.2967	0.4994	8.6000e-004		9.4200e-003	9.4200e-003		9.0500e-003	9.0500e-003	0.0000	71.3570	71.3570	0.0131	0.0000	71.6842
Total	**0.0386**	**0.2967**	**0.4994**	**8.6000e-004**		**9.4200e-003**	**9.4200e-003**		**9.0500e-003**	**9.0500e-003**	**0.0000**	**71.3570**	**71.3570**	**0.0131**	**0.0000**	**71.6842**

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	2.3100e-003	0.0851	0.0306	3.7000e-004	0.0120	4.8000e-004	0.0125	3.4700e-003	4.5000e-004	3.9200e-003	0.0000	37.0107	37.0107	1.4300e-003	5.2100e-003	38.5993
Worker	0.0155	9.2300e-003	0.1186	4.0000e-004	0.0496	2.4000e-004	0.0498	0.0132	2.2000e-004	0.0134	0.0000	36.4597	36.4597	9.5000e-004	9.6000e-004	36.7695
Total	**0.0178**	**0.0943**	**0.1491**	**7.7000e-004**	**0.0616**	**7.2000e-004**	**0.0623**	**0.0167**	**6.7000e-004**	**0.0173**	**0.0000**	**73.4704**	**73.4704**	**2.3800e-003**	**6.1700e-003**	**75.3688**

3.6 Paving - 2024

Unmitigated Construction On-Site

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.3000e-004	6.0800e-003	8.7800e-003	1.0000e-005		3.0000e-004	3.0000e-004		2.7000e-004	2.7000e-004	0.0000	1.1636	1.1636	3.7000e-004	0.0000	1.1728
Paving	9.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5500e-003**	**6.0800e-003**	**8.7800e-003**	**1.0000e-005**		**3.0000e-004**	**3.0000e-004**		**2.7000e-004**	**2.7000e-004**	**0.0000**	**1.1636**	**1.1636**	**3.7000e-004**	**0.0000**	**1.1728**

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	1.0000e-004	6.0000e-005	7.5000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2246	0.2246	1.0000e-005	1.0000e-005	0.2266
Total	**1.0000e-004**	**6.0000e-005**	**7.5000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2246**	**0.2246**	**1.0000e-005**	**1.0000e-005**	**0.2266**

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	2.3000e-004	4.4100e-003	9.9600e-003	1.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.1636	1.1636	3.7000e-004	0.0000	1.1728
Paving	9.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.1500e-003**	**4.4100e-003**	**9.9600e-003**	**1.0000e-005**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**1.1636**	**1.1636**	**3.7000e-004**	**0.0000**	**1.1728**

Mitigated Construction Off-Site

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	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	1.0000e-004	6.0000e-005	7.5000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2246	0.2246	1.0000e-005	1.0000e-005	0.2266
Total	**1.0000e-004**	**6.0000e-005**	**7.5000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2246**	**0.2246**	**1.0000e-005**	**1.0000e-005**	**0.2266**

3.7 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6465					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5900e-003	0.0241	0.0380	6.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003	0.0000	5.3618	5.3618	2.9000e-004	0.0000	5.3691
Total	**0.6501**	**0.0241**	**0.0380**	**6.0000e-005**		**1.0800e-003**	**1.0800e-003**		**1.0800e-003**	**1.0800e-003**	**0.0000**	**5.3618**	**5.3618**	**2.9000e-004**	**0.0000**	**5.3691**

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

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	1.9000e-003	1.1300e-003	0.0145	5.0000e-005	6.0700e-003	3.0000e-005	6.0900e-003	1.6100e-003	3.0000e-005	1.6400e-003	0.0000	4.4580	4.4580	1.2000e-004	1.2000e-004	4.4958
Total	**1.9000e-003**	**1.1300e-003**	**0.0145**	**5.0000e-005**	**6.0700e-003**	**3.0000e-005**	**6.0900e-003**	**1.6100e-003**	**3.0000e-005**	**1.6400e-003**	**0.0000**	**4.4580**	**4.4580**	**1.2000e-004**	**1.2000e-004**	**4.4958**

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	0.6465					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1400e-003	0.0223	0.0385	6.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	5.3618	5.3618	2.9000e-004	0.0000	5.3691
Total	**0.6476**	**0.0223**	**0.0385**	**6.0000e-005**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**5.3618**	**5.3618**	**2.9000e-004**	**0.0000**	**5.3691**

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

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	1.9000e-003	1.1300e-003	0.0145	5.0000e-005	6.0700e-003	3.0000e-005	6.0900e-003	1.6100e-003	3.0000e-005	1.6400e-003	0.0000	4.4580	4.4580	1.2000e-004	1.2000e-004	4.4958
Total	**1.9000e-003**	**1.1300e-003**	**0.0145**	**5.0000e-005**	**6.0700e-003**	**3.0000e-005**	**6.0900e-003**	**1.6100e-003**	**3.0000e-005**	**1.6400e-003**	**0.0000**	**4.4580**	**4.4580**	**1.2000e-004**	**1.2000e-004**	**4.4958**

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	0.1178	0.1177	1.0925	2.2500e-003	0.2513	1.6300e-003	0.2529	0.0671	1.5200e-003	0.0686	0.0000	207.4492	207.4492	0.0137	9.2000e-003	210.5325
Unmitigated	0.1178	0.1177	1.0925	2.2500e-003	0.2513	1.6300e-003	0.2529	0.0671	1.5200e-003	0.0686	0.0000	207.4492	207.4492	0.0137	9.2000e-003	210.5325

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	146.28	132.02	109.94	361,693	361,693
City Park	0.00	0.00	0.00		
Condo/Townhouse	63.60	70.70	54.50	164,690	164,690
Parking Lot	0.00	0.00	0.00		
Single Family Housing	57.24	74.61	66.87	158,922	158,922
Total	267.12	277.33	231.31	685,305	685,305

4.3 Trip Type Information

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

	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
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	100	0	0
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	100	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.541923	0.061611	0.201809	0.122882	0.023723	0.005505	0.006748	0.003708	0.000660	0.000400	0.027531	0.000725	0.002774
City Park	0.541923	0.061611	0.201809	0.122882	0.023723	0.005505	0.006748	0.003708	0.000660	0.000400	0.027531	0.000725	0.002774
Condo/Townhouse	0.541923	0.061611	0.201809	0.122882	0.023723	0.005505	0.006748	0.003708	0.000660	0.000400	0.027531	0.000725	0.002774
Parking Lot	0.541923	0.061611	0.201809	0.122882	0.023723	0.005505	0.006748	0.003708	0.000660	0.000400	0.027531	0.000725	0.002774
Single Family Housing	0.541923	0.061611	0.201809	0.122882	0.023723	0.005505	0.006748	0.003708	0.000660	0.000400	0.027531	0.000725	0.002774

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	12.0379	12.0379	1.9500e-003	2.4000e-004	12.1569
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	20.2296	20.2296	3.2700e-003	4.0000e-004	20.4296
NaturalGas Mitigated	4.0400e-003	0.0346	0.0147	2.2000e-004		2.7900e-003	2.7900e-003		2.7900e-003	2.7900e-003	0.0000	40.0124	40.0124	7.7000e-004	7.3000e-004	40.2501
NaturalGas Unmitigated	4.0400e-003	0.0346	0.0147	2.2000e-004		2.7900e-003	2.7900e-003		2.7900e-003	2.7900e-003	0.0000	40.0124	40.0124	7.7000e-004	7.3000e-004	40.2501

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

	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					
Apartments Mid Rise	194189	1.0500e-003	8.9500e-003	3.8100e-003	6.0000e-005		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	10.3627	10.3627	2.0000e-004	1.9000e-004	10.4243
City Park	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
Condo/Townhouse	208294	1.1200e-003	9.6000e-003	4.0800e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1154	11.1154	2.1000e-004	2.0000e-004	11.1814
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
Single Family Housing	347320	1.8700e-003	0.0160	6.8100e-003	1.0000e-004		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	18.5343	18.5343	3.6000e-004	3.4000e-004	18.6445
Total		**4.0400e-003**	**0.0346**	**0.0147**	**2.2000e-004**		**2.7900e-003**	**2.7900e-003**		**2.7900e-003**	**2.7900e-003**	**0.0000**	**40.0124**	**40.0124**	**7.7000e-004**	**7.3000e-004**	**40.2501**

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					
Apartments Mid Rise	194189	1.0500e-003	8.9500e-003	3.8100e-003	6.0000e-005		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	10.3627	10.3627	2.0000e-004	1.9000e-004	10.4243
City Park	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
Condo/Townhouse	208294	1.1200e-003	9.6000e-003	4.0800e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1154	11.1154	2.1000e-004	2.0000e-004	11.1814
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
Single Family Housing	347320	1.8700e-003	0.0160	6.8100e-003	1.0000e-004		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	18.5343	18.5343	3.6000e-004	3.4000e-004	18.6445
Total		**4.0400e-003**	**0.0346**	**0.0147**	**2.2000e-004**		**2.7900e-003**	**2.7900e-003**		**2.7900e-003**	**2.7900e-003**	**0.0000**	**40.0124**	**40.0124**	**7.7000e-004**	**7.3000e-004**	**40.2501**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	89386.5	8.2704	1.3400e-003	1.6000e-004	8.3522
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	48390.6	4.4773	7.2000e-004	9.0000e-005	4.5216
Parking Lot	10570	0.9780	1.6000e-004	2.0000e-005	0.9877
Single Family Housing	70294.7	6.5039	1.0500e-003	1.3000e-004	6.5682
Total		**20.2296**	**3.2700e-003**	**4.0000e-004**	**20.4296**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	71679.3	6.6320	1.0700e-003	1.3000e-004	6.6976
City Park	-17707.2	-1.6383	-0.0003	0.0000	-1.6545
Condo/Townhouse	30683.4	2.8389	4.6000e-004	6.0000e-005	2.8670
Parking Lot	-7137.2	-0.6604	-0.0001	0.0000	-0.6669
Single Family Housing	52587.5	4.8656	7.9000e-004	1.0000e-004	4.9137
Total		**12.0379**	**1.9400e-003**	**2.5000e-004**	**12.1569**

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

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.4317	5.3900e-003	0.3123	3.0000e-005		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003	0.0000	2.5918	2.5918	5.3000e-004	4.0000e-005	2.6163
Unmitigated	0.5607	6.5000e-003	0.4936	3.8000e-004		0.0278	0.0278		0.0278	0.0278	2.6485	1.4083	4.0567	5.0700e-003	1.6000e-004	4.2323

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	0.0647					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3575					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1292	2.9100e-003	0.1820	3.7000e-004		0.0261	0.0261		0.0261	0.0261	2.6485	0.8988	3.5473	4.5800e-003	1.6000e-004	3.7107
Landscaping	9.3600e-003	3.5900e-003	0.3116	2.0000e-005		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	0.5094	0.5094	4.9000e-004	0.0000	0.5216
Total	**0.5607**	**6.5000e-003**	**0.4936**	**3.9000e-004**		**0.0278**	**0.0278**		**0.0278**	**0.0278**	**2.6485**	**1.4083**	**4.0567**	**5.0700e-003**	**1.6000e-004**	**4.2323**

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

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	0.0647					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3575					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.1000e-004	1.8000e-003	7.7000e-004	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	2.0823	2.0823	4.0000e-005	4.0000e-005	2.0947
Landscaping	9.3600e-003	3.5900e-003	0.3116	2.0000e-005		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	0.5094	0.5094	4.9000e-004	0.0000	0.5216
Total	**0.4317**	**5.3900e-003**	**0.3123**	**3.0000e-005**		**1.8800e-003**	**1.8800e-003**		**1.8800e-003**	**1.8800e-003**	**0.0000**	**2.5918**	**2.5918**	**5.3000e-004**	**4.0000e-005**	**2.6163**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.1441	0.0895	2.1500e-003	6.0232
Unmitigated	3.1441	0.0895	2.1500e-003	6.0232

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.49854 / 0.944733	1.5316	0.0490	1.1700e-003	3.1064
City Park	0 / 1.07233	0.3473	6.0000e-005	1.0000e-005	0.3507
Condo/Townhouse	0.65154 / 0.410754	0.6659	0.0213	5.1000e-004	1.3506
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.586386 / 0.369678	0.5993	0.0192	4.6000e-004	1.2155
Total		**3.1441**	**0.0895**	**2.1500e-003**	**6.0232**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.49854 / 0.944733	1.5316	0.0490	1.1700e-003	3.1064
City Park	0 / 1.07233	0.3473	6.0000e-005	1.0000e-005	0.3507
Condo/Townhouse	0.65154 / 0.410754	0.6659	0.0213	5.1000e-004	1.3506
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.586386 / 0.369678	0.5993	0.0192	4.6000e-004	1.2155
Total		**3.1441**	**0.0895**	**2.1500e-003**	**6.0232**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	5.3143	0.3141	0.0000	13.1660
Unmitigated	5.3143	0.3141	0.0000	13.1660

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	10.58	2.1476	0.1269	0.0000	5.3207
City Park	0.08	0.0162	9.6000e-004	0.0000	0.0402
Condo/Townhouse	4.6	0.9338	0.0552	0.0000	2.3134
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	10.92	2.2167	0.1310	0.0000	5.4917
Total		**5.3143**	**0.3141**	**0.0000**	**13.1660**

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

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	10.58	2.1476	0.1269	0.0000	5.3207
City Park	0.08	0.0162	9.6000e-004	0.0000	0.0402
Condo/Townhouse	4.6	0.9338	0.0552	0.0000	2.3134
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	10.92	2.2167	0.1310	0.0000	5.4917
Total		**5.3143**	**0.3141**	**0.0000**	**13.1660**

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
Emergency Generator	15	0	50	50	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

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

Unmitigated/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
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (50 - 75 HP)	0.0308	0.1003	0.1117	1.5000e-004		4.5300e-003	4.5300e-003		4.5300e-003	4.5300e-003	0.0000	14.2799	14.2799	2.0000e-003	0.0000	14.3300
Total	**0.0308**	**0.1003**	**0.1117**	**1.5000e-004**		**4.5300e-003**	**4.5300e-003**		**4.5300e-003**	**4.5300e-003**	**0.0000**	**14.2799**	**14.2799**	**2.0000e-003**	**0.0000**	**14.3300**

Operational Vehicle Trip Generation Rate Adjustments

Trip-Generating CalEEMod Land Use	Size Metric	Size	Default Trip Generation Rates[1]			Total Weekday Trips[2,3]	Adjusted Trip Generation Rates (Based on proportional change to weekday trips)		
			Weekday	Saturday	Sunday		Weekday	Saturday	Sunday
Apartments Mid Rise	Dwelling Unit	23	5.44	4.91	4.09	146.21	6.36	5.74	4.78
City Park	Acre	0.9	0.78	1.96	2.19	-	-	-	-
Condo/Townhouse	Dwelling Unit	10	7.32	8.14	6.28	63.57	6.36	7.07	5.45
Parking Lot	Acre	0.7	-	-	-	-	-	-	-
Single Family Housing	Dwelling Unit	9	9.44	9.54	8.55	57.21	6.36	8.29	7.43

Notes/Sources:

[1] California Air Pollution Control Officers Association (CAPCOA). 2021. California Emissions Estimator Model (CalEEMod), Version 2020.4.0.

[2] Parisi Transportation Consulting. 2021. FINAL Mallard Pointe Transportation Study; Belvedere, CA. December 13.

[3] Because the Final Mallard Pointe Transportation Study identifies a different breakdown of trip assignment between apartments, single family dwellings, and condos, the total daily trips generated by the proposed project (267) were identified and then divided proportionally among the various residential land use types depending on each land use type's proportional share of total dwelling units.

Demolition Debris Calculations

Parameters[1]			
1	building st	10	cf building volume
1	cf building volume	0.25	cf waste volume
1	cf	0.037	cy
1	cy waste volume	0.5	ton waste weight
1	**sf**	**0.04625**	**ton waste material**

Description	square feet[2]	height/ depth (ft)[3]	density (lbs/cf)[4]	Demolition Weight (pounds)	Demolition Weight (tons)
Buildings	34,103	-	-	-	1,577.26
Pavement	55,480	0.5	150	4,161,000	2,080.50
Totals	**89,583**	-	-	-	**3,658**

Notes:
cy = cubic yard
gsf = gross square feet
sf = square feet
cf = cubic feet

[1] Source: California Air Pollution Control Officers Association (CAPCOA). 2017. Appendix A Calculation Details for CalEEMod. October.

[2] Source: Thompson Dorfman. Request For Information. Dated February 14, 2022.

[3] Source: DC Construction Services. 2017. How Thick Is Parking Lot Asphalt? Website: https://dccpaving.com/how-thick-is-parking-lot-asphalt/. Accessed March 10, 2022.

[4] Source: SFGate. 2019. How to Calculate Asphalt Weight Per Yard. Website: https://homeguides.sfgate.com/calculate-asphalt-weight-per-yard-81825.html. Accessed March 10, 2022.

Project Construction Emissions

File Name: Mallard Pointe Project - Marin County, Annual
Timestamp: Date: 3/25/2022 8:14 AM

Construction Emissions (tons)

Construction Activity	ROG	NO_X	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
on site	0.00420	0.04990	0.00150	0.00139
off site	0.00089	0.02720	0.00021	0.00020
Demolition 2024	**0.00509**	**0.07710**	**0.00171**	**0.00159**
on site	0.00251	0.04160	0.00024	0.00024
off site	0.00042	0.00026	0.00001	0.00001
Site Preparation 2024	**0.00293**	**0.04186**	**0.00025**	**0.00025**
on site	0.00278	0.03370	0.00102	0.00095
off site	0.00047	0.01410	0.00010	0.00010
Grading 2024	**0.00325**	**0.04780**	**0.00112**	**0.00105**
on site	0.03410	0.26040	0.00874	0.00841
off site	0.01570	0.08040	0.00061	0.00057
Building Construction 2024	**0.04980**	**0.34080**	**0.00935**	**0.00898**
on site	0.03860	0.29670	0.00942	0.00905
off site	0.01780	0.09430	0.00072	0.00067
Building Construction 2025	**0.05640**	**0.39100**	**0.01014**	**0.00972**
on site	0.00115	0.00441	0.00003	0.00003
off site	0.00010	0.00006	0.00000	0.00000
Paving 2024	**0.00125**	**0.00447**	**0.00003**	**0.00003**
on site	0.64760	0.02230	0.00008	0.00008
off site	0.00190	0.00113	0.00003	0.00003
Architectural Coating 2025	**0.64950**	**0.02343**	**0.00011**	**0.00011**
On Site Total	**0.73094**	**0.70901**	**0.02103**	**0.02015**
Off Site Total	**0.03728**	**0.21745**	**0.00168**	**0.00158**

Note: The application of BAAQMD Dust Control Measures would reduce the generation of fugitive dust emissions and would not affect ROG, NOx, PM10 Exhaust, or PM2.5 Exhaust emission estimates.

Average Daily Construction Emissions

Metric	ROG	NO_X	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
Total Emissions (tons)	0.77	0.93	0.02	0.02
Total Emissions (lbs)	1,536.44	1,852.92	45.42	43.46
Average Daily Emissions (lbs/workday)	**3.17**	**3.82**	**0.09**	**0.09**
Significance Thresholds (lbs/day)	*54*	*54*	*82*	*54*

Construction Phase	Workdays
Demolition	29
Site Preparation	40
Grading	20
Building Construction	420
Paving	5
Architectural Coating	140
Net Working Days	485

Mitigation Applied	Mitigation Description			
None	N/A			

Project Operational Emissions

File Name: Mallard Pointe Project - Marin County, Annual

Timestamp: Date: 3/25/2022 8:14 AM

Emissions Source	ROG	NO_x	PM_{10} (Total)	$PM_{2.5}$ (Total)
	Tons per Year			
Area	0.43	0.01	0.00	0.00
Energy	0.00	0.03	0.00	0.00
Mobile	0.12	0.12	0.25	0.07
Stationary	0.03	0.10	0.00	0.00
Waste	-	-	-	-
Water	-	-	-	-
Total	**0.58**	**0.26**	**0.26**	**0.08**
BAAQMD Significance Thresholds	10	10	15	10
Exceeds Threshold?	**No**	**No**	**No**	**No**

Note: All zeros displayed in the above table represent emission values which are below 0.005 tons per year and have subsequently rounded down. All true zero values are represented with "-".

Average Daily Operational Emissions (lbs/day)

Emissions/Thresholds	ROG	NO_x	PM_{10} (Total)	$PM_{2.5}$ (Total)
Total Emissions (tons)	0.58	0.26	0.26	0.08
Total Emissions (lbs)	1168.68	515.98	524.18	155.58
Average Daily Emissions (lbs/day)	**3.20**	**1.41**	**1.44**	**0.43**
BAAQMD Significance Thresholds	54	54	82	54
Project Exceeds Threshold?	**No**	**No**	**No**	**No**

Project Operational GHG Emissions

Construction GHG Emissions

File Name: Mallard Pointe Project - Marin County, Annual

Timestamp: Date: 3/25/2022 8:14 AM

Emissions Source	Construction MT CO_2e
Demolition	22
Site Preparation	14
Grading	12
Building Construction	271
Paving	1
Architectural Coating	10
Total	**331**
Amortized Over 30 Years	11

Operational GHG Emissions (Year 2025)

File Name: Mallard Pointe Project - Marin County, Annual

Timestamp: Date: 3/25/2022 8:14 AM

Emissions Source	Proposed Project MT CO_2e/Year
Area	3
Energy	52
Mobile	211
Waste	8
Water	5
Amortized Construction Emissions	11
Total Emissions	**290**
Bright-Line Significance Threshold (MT CO_2 e/year)	*660*
Exceeds Threshold?	**No**
Note: Consistent with BAAQMD guidance, the GHG emission estimates shown above discount biogenic GHGs.	

Operational GHG Emissions (Year 2025)

File Name: Mallard Pointe Project - Marin County, Annual

Timestamp: Date: 3/25/2022 8:14 AM

Emissions Source	Proposed Project MT CO_2e/Year
Stationary Sources (15 Speculative Generators)	14
Bright-Line Significance Threshold (MT CO_2 e/year)	*10,000*
Exceeds Threshold?	**No**
Note: Consistent with BAAQMD guidance, the GHG emission estimates shown above discount biogenic GHGs.	

Mallard Pointe Project Construction Emissions

Annual Construction Emissions (tons)
(as taken from CalEEMod)

Construction Activity	$PM_{2.5}$ (Exhaust)
Onsite	0.00139
Offsite	0.00020
Demolition	**0.00159**
Onsite	0.00024
Offsite	0.00001
Site Preparation	**0.00025**
Onsite	0.00095
Offsite	0.00010
Grading	**0.00105**
Onsite	0.01746
Offsite	0.00124
Building Construction	**0.01870**
Onsite	0.00003
Offsite	0.00000
Paving	**0.00003**
Onsite	0.00008
Offsite	0.00003
Architectural Coating	**0.00011**
Total Onsite	**2.02E-02**
Total Offsite	**1.58E-03**

Exhaust $PM_{2.5}$ AERMOD Inputs

Construction Hours	**3,880.00**	**(8 hours/day, 485 workdays)**
Elapsed Hours	**16,296.00**	**(24 hours/day, 490 workdays)**
Variable Factor	**4.20**	
On-Site Emissions	**40.30**	**pounds**
	18,279.76	**grams**
	1.122E+00	**grams/hours**
	3.116E-04	**grams/sec**
Off-Site Emissions	**3.16**	**pounds**
	1,433.35	**grams**
	8.796E-02	**grams/hour**
	2.443E-05	**grams/sec**

Off-Site AERMOD Input Adjustments

Model Feature	Length (Miles)	Proportion of Total	$PM_{2.5}$ (Exhaust) Emission Rate (g/sec)[1,2]
Offsite[3]	0.5	100.00%	**1.479E-06**
Totals	*0.5*	*100.00%*	*1.479E-06*

Notes:

[1] Conversion factor of 453.592 grams/pound was used to convert daily emissions expressed in pounds to daily emissions expressed in grams.

[2] Off-site emissions used in the AERMOD air dispersion model were reduced to account for the proportion of emissions occurring within 1,000 feet of the project site.

[3] Offsite emissions are represented in AERMOD span Beach Road, San Rafael Avenue, Community Road, and Leeward Road within 1,000 feet of the project site.

Off-Site Emission Adjustment for 1,000-foot Radius of Project Site

Phase Name	Days	Vendor Trip Number (Daily)	Hauling Trip Number (Total)	Vendor Trip Length	Hauling Trip Length
Demolition	29	-	362	7.3	20
Site Preparation	40	-	-	7.3	20
Grading	20	-	188	7.3	20
Building Construction	420	16	-	7.3	20
Paving	5	-	-	7.3	20
Architectural Coating	140	-	-	7.3	20
	Totals	**6,720**	**550**		

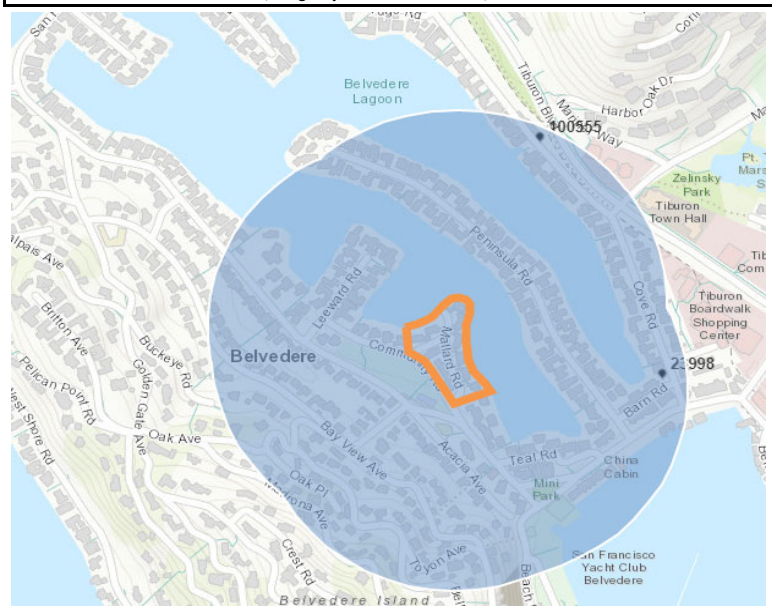
Diesel-Fueled Vehicle Results		
	Total Vehicle Trips	Vehicle Miles Traveled (VMT)
Vendor Trucks	6,720.00	49,056.00
Hauling Trucks	550	11,000
	Total VMT	**60,056**

AERMOD 1,000-ft Radius Adjustment		
	Total Vehicle Trips	Vehicle Miles Traveled (VMT)
Vendor Trucks	6,720.00	3,360.00
Hauling Trucks	550	275
	Total VMT	**3,635.00**

Proportion of off-site emissions occuring within 1,000 of project site:	**6.0527%**

Existing Stationary Sources within 1,000 Feet of the Project

Lat, Long Project Site: 37°52'30.12", 122°27'55.03"



Permitted Stationary Sources within 1,000 feet of the Project Site:

1 23998 Sanitary District #5 of Marin County
2 100555 City of Belvedere

Sanitary District #5 of Marin County

Facility ID	23998
Name	Sanitary District #5 of Marin County
Address	Cove, Rd Pump Station
City	Tiburon
St	CA
Zip	94920
County	Marin
Cancer (per million)	0.000
Hazard	0.000
PM_2.5 (ug/m3)	0.000
Type	Contact BAAQMD
Latitude	37.875
Longitude	-122.461

Sanitary District #5 of Marin County
Facility ID 23998

Distance from MIR: 1,190 feet

Data provided by BAAQMD:		Data adjusted for distance to MIR:	
Cancer Risk	0.00104	Cancer Risk	<0.001
Hazard	0.00001	Hazard	<0.001
PM2.5 (ug/m3)	0.00003	PM2.5 (ug/m3)	<0.001
Source Type	Natural Gas Generator		

Generic Case

Distance (meters)	Distance (feet)	Multiplier	Enter Risk or Hazard	Adjusted Risk or Hazard	Enter PM2.5 Concentration	Adjusted PM2.5 Concentration
0	0.0	1.000		0		0
300	984.3	0.132	0.00104	0.00013702	0.00003	3.9524E-06
300	984.3	0.132	0.0001	1.3175E-05		0

City of Belvedere

Facility ID	100555
Name	City of Belvedere
Address	85 Lagoon Rd
City	Belvedere
St	CA
Zip	94920
County	Marin
Cancer (per million)	0.090
Hazard	0.000
PM_2.5 (ug/m3)	0.000
Type	Gas Dispensing Facility
Latitude	37.878
Longitude	-122.464

City of Belvedere
Facility ID 100555

Distance from MIR: 1,310 feet

Data provided by BAAQMD:		Data adjusted for distance to MIR:	
Cancer Risk	0.090	Cancer Risk	0.001
Hazard	0.000	Hazard	0.000
PM2.5 (ug/m3)	0.000	PM2.5 (ug/m3)	0.000
Source Type	Gas Dispensing Facility		

Gas Station

Distance (meters)	Distance (feet)	Distance adjustment multiplier	Enter Risk or Hazard	Adjusted Risk or Hazard
0	0.0	1.000		0.0000
300	984.3	0.015	0.09	0.0013

Control Pathway

AERMOD

Dispersion Options

Titles

Mallard Point Construction

Dispersion Options

☐ Regulatory Default ☒ Non-Default Options

☒ Flat & Elevated Terrain
☐ No Stack-Tip Downwash (NOSTD)
☐ Run in Screening Mode
☐ Conversion of NOx to NO2 (OLM or PVMRM)
☐ No Checks for Non-Sequential Met Data
☒ Fast All Sources (FASTALL)
☐ Fast Area Sources (FASTAREA)
☐ Optimized Area Source Plume Depletion
☐ Gas Deposition

BETA Options:

☐ Capped and Horizontal Stack Releases
☐ Adjusted Friction Velocity (u*) in AERMET (ADJ_U*)
☐ Low Wind Options

☐ SCIM (Sampled Chronological Input Model)
☐ Ignore Urban Night / Daytime Transition (NOURBTRAN)

Dispersion Coefficient

Rural

Output Type

☒ Concentration
☐ Total Deposition (Dry & Wet)
☐ Dry Deposition
☐ Wet Deposition

Plume Depletion

☐ Dry Removal
☐ Wet Removal

Output Warnings

☐ No Output Warnings
☐ Non-fatal Warnings for Non-sequential Met Data

Pollutant / Averaging Time / Terrain Options

Pollutant Type

PM2.5

Averaging Time Options

Hours ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 6 ☐ 8 ☐ 12 ☐ 24

☐ Month ☒ Period ☐ Annual

Exponential Decay

☐ Yes ☒ No

Terrain Height Options

☐ Flat ☒ Elevated

SO: Meters
RE: Meters
TG: Meters

Flagpole Receptors

☒ Yes ☐ No

Default Height = 1.50 m

Control Pathway

Optional Files

Re-Start File	Init File	Multi-Year Analyses	Event Input File	Error Listing File
☐	☐	☐	☐	■

Detailed Error Listing File

Filename: 55660002 Mallard Pt.err

Source Pathway - Source Inputs

Polygon Area Sources

Source Type: AREA POLY

Source: PROJECT (Project Site)

Base Elevation (Optional)	Release Height [m]	Emission Rate [g/ (s-m^2)]	Initial Vertical Dim. [m]	Number of Vertices (or sides)	X Coordinate for Vertices [m]	Y Coordinate for Vertices [m]
6.00	3.33	2.78E-8		25	547045.82	4191989.01
		2.78E-8			547103.90	4192009.89
		2.78E-8			547100.06	4192016.61
		2.78E-8			547084.22	4192031.97
		2.78E-8			547076.30	4192041.09
		2.78E-8			547071.26	4192053.33
		2.78E-8			547067.66	4192071.33
		2.78E-8			547065.50	4192089.33
		2.78E-8			547064.78	4192110.69
		2.78E-8			547068.86	4192125.81
		2.78E-8			547071.02	4192140.45
		2.78E-8			547067.90	4192151.97
		2.78E-8			547059.74	4192158.93
		2.78E-8			547047.50	4192161.57
		2.78E-8			547035.98	4192152.93
		2.78E-8			547023.26	4192140.21
		2.78E-8			547005.74	4192127.01
		2.78E-8			546990.86	4192114.29
		2.78E-8			546975.50	4192111.17
		2.78E-8			546978.86	4192070.85
		2.78E-8			546989.18	4192062.69
		2.78E-8			547001.66	4192053.09
		2.78E-8			547010.06	4192044.21
		2.78E-8			547021.34	4192029.09
		2.78E-8			547032.86	4192005.81

Source Pathway - Source Inputs

Line Volume Sources

Source Type: LINE VOLUME
Source: OFFSITE (Offsite)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
8.00	1.48E-6		547358.22	4191959.05	6.00	2.83
			547285.49	4191906.55	6.00	2.83
			547235.95	4191874.40	6.00	2.83
			547216.01	4191869.68	6.09	2.83
			547150.84	4191850.57	6.55	2.83
			547109.04	4191897.94	6.85	2.83
			547062.99	4191947.43	6.08	2.83
			547023.05	4192019.63	6.00	2.83
			547005.68	4192044.27	5.00	2.83
			546994.79	4192054.96	3.89	2.83
			546977.98	4192064.32	4.02	2.83
			546958.89	4192071.20	4.08	2.83
			546911.33	4192085.33	3.11	2.83
			546888.93	4192096.71	3.14	2.83
			546843.93	4192126.34	2.88	2.83
			546815.75	4192086.56	4.77	2.83
			546801.44	4192097.44	5.00	2.83
			546714.05	4192204.94	3.14	2.83

Source Pathway - Source Inputs

Volume Sources Generated from Line Sources

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFSITE	L0000001	547354.97	4191956.71	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000002	547348.49	4191952.02	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000003	547342.00	4191947.34	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000004	547335.51	4191942.66	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000005	547329.03	4191937.98	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000006	547322.54	4191933.29	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000007	547316.05	4191928.61	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000008	547309.57	4191923.93	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000009	547303.08	4191919.25	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000010	547296.59	4191914.56	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000011	547290.11	4191909.88	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000012	547283.56	4191905.29	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000013	547276.85	4191900.94	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000014	547270.14	4191896.58	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000015	547263.42	4191892.23	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000016	547256.71	4191887.87	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000017	547250.00	4191883.52	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000018	547243.29	4191879.16	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000019	547236.58	4191874.81	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000020	547228.90	4191872.73	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000021	547221.11	4191870.89	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000022	547213.37	4191868.90	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000023	547205.69	4191866.65	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000024	547198.01	4191864.40	6.00	2.83	1.36E-8	8.00		3.72	2.63

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFSITE	L0000025	547190.34	4191862.15	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000026	547182.66	4191859.90	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000027	547174.98	4191857.65	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000028	547167.31	4191855.40	6.04	2.83	1.36E-8	8.00		3.72	2.63
	L0000029	547159.63	4191853.14	6.23	2.83	1.36E-8	8.00		3.72	2.63
	L0000030	547151.95	4191850.89	6.50	2.83	1.36E-8	8.00		3.72	2.63
	L0000031	547146.31	4191855.70	6.59	2.83	1.36E-8	8.00		3.72	2.63
	L0000032	547141.02	4191861.69	6.63	2.83	1.36E-8	8.00		3.72	2.63
	L0000033	547135.73	4191867.69	6.59	2.83	1.36E-8	8.00		3.72	2.63
	L0000034	547130.43	4191873.69	6.49	2.83	1.36E-8	8.00		3.72	2.63
	L0000035	547125.14	4191879.69	6.45	2.83	1.36E-8	8.00		3.72	2.63
	L0000036	547119.85	4191885.69	6.47	2.83	1.36E-8	8.00		3.72	2.63
	L0000037	547114.56	4191891.69	6.16	2.83	1.36E-8	8.00		3.72	2.63
	L0000038	547109.26	4191897.69	6.09	2.83	1.36E-8	8.00		3.72	2.63
	L0000039	547103.82	4191903.55	6.40	2.83	1.36E-8	8.00		3.72	2.63
	L0000040	547098.37	4191909.41	6.37	2.83	1.36E-8	8.00		3.72	2.63
	L0000041	547092.92	4191915.26	6.38	2.83	1.36E-8	8.00		3.72	2.63
	L0000042	547087.47	4191921.12	6.46	2.83	1.36E-8	8.00		3.72	2.63
	L0000043	547082.02	4191926.98	6.47	2.83	1.36E-8	8.00		3.72	2.63
	L0000044	547076.57	4191932.83	6.41	2.83	1.36E-8	8.00		3.72	2.63
	L0000045	547071.12	4191938.69	6.27	2.83	1.36E-8	8.00		3.72	2.63
	L0000046	547065.67	4191944.55	6.07	2.83	1.36E-8	8.00		3.72	2.63
	L0000047	547061.03	4191950.99	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000048	547057.15	4191957.99	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000049	547053.28	4191964.99	6.00	2.83	1.36E-8	8.00		3.72	2.63

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFSITE	L0000050	547049.41	4191971.99	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000051	547045.54	4191978.99	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000052	547041.66	4191985.99	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000053	547037.79	4191992.99	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000054	547033.92	4191999.99	6.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000055	547030.05	4192006.99	5.98	2.83	1.36E-8	8.00		3.72	2.63
	L0000056	547026.18	4192013.99	5.65	2.83	1.36E-8	8.00		3.72	2.63
	L0000057	547022.16	4192020.90	5.39	2.83	1.36E-8	8.00		3.72	2.63
	L0000058	547017.55	4192027.44	5.22	2.83	1.36E-8	8.00		3.72	2.63
	L0000059	547012.94	4192033.98	5.09	2.83	1.36E-8	8.00		3.72	2.63
	L0000060	547008.33	4192040.51	4.77	2.83	1.36E-8	8.00		3.72	2.63
	L0000061	547003.25	4192046.65	4.45	2.83	1.36E-8	8.00		3.72	2.63
	L0000062	546997.54	4192052.26	4.24	2.83	1.36E-8	8.00		3.72	2.63
	L0000063	546991.17	4192056.98	4.15	2.83	1.36E-8	8.00		3.72	2.63
	L0000064	546984.18	4192060.87	4.18	2.83	1.36E-8	8.00		3.72	2.63
	L0000065	546977.13	4192064.63	4.08	2.83	1.36E-8	8.00		3.72	2.63
	L0000066	546969.60	4192067.34	4.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000067	546962.08	4192070.05	4.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000068	546954.47	4192072.51	2.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000069	546946.80	4192074.79	2.23	2.83	1.36E-8	8.00		3.72	2.63
	L0000070	546939.13	4192077.07	2.49	2.83	1.36E-8	8.00		3.72	2.63
	L0000071	546931.46	4192079.35	2.74	2.83	1.36E-8	8.00		3.72	2.63
	L0000072	546923.79	4192081.63	3.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000073	546916.13	4192083.91	3.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000074	546908.66	4192086.69	3.00	2.83	1.36E-8	8.00		3.72	2.63

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFSITE	L0000075	546901.53	4192090.31	3.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000076	546894.39	4192093.93	3.00	2.83	1.36E-8	8.00		3.72	2.63
	L0000077	546887.37	4192097.74	3.14	2.83	1.36E-8	8.00		3.72	2.63
	L0000078	546880.68	4192102.14	3.07	2.83	1.36E-8	8.00		3.72	2.63
	L0000079	546874.00	4192106.54	2.99	2.83	1.36E-8	8.00		3.72	2.63
	L0000080	546867.32	4192110.94	2.92	2.83	1.36E-8	8.00		3.72	2.63
	L0000081	546860.64	4192115.34	2.81	2.83	1.36E-8	8.00		3.72	2.63
	L0000082	546853.96	4192119.74	2.71	2.83	1.36E-8	8.00		3.72	2.63
	L0000083	546847.28	4192124.14	2.67	2.83	1.36E-8	8.00		3.72	2.63
	L0000084	546841.62	4192123.09	2.88	2.83	1.36E-8	8.00		3.72	2.63
	L0000085	546837.00	4192116.56	3.26	2.83	1.36E-8	8.00		3.72	2.63
	L0000086	546832.37	4192110.03	3.58	2.83	1.36E-8	8.00		3.72	2.63
	L0000087	546827.75	4192103.50	3.92	2.83	1.36E-8	8.00		3.72	2.63
	L0000088	546823.13	4192096.97	4.34	2.83	1.36E-8	8.00		3.72	2.63
	L0000089	546818.50	4192090.45	4.51	2.83	1.36E-8	8.00		3.72	2.63
	L0000090	546813.17	4192088.52	4.68	2.83	1.36E-8	8.00		3.72	2.63
	L0000091	546806.81	4192093.36	4.90	2.83	1.36E-8	8.00		3.72	2.63
	L0000092	546800.65	4192098.42	4.89	2.83	1.36E-8	8.00		3.72	2.63
	L0000093	546795.60	4192104.63	4.54	2.83	1.36E-8	8.00		3.72	2.63
	L0000094	546790.55	4192110.84	4.26	2.83	1.36E-8	8.00		3.72	2.63
	L0000095	546785.51	4192117.04	4.05	2.83	1.36E-8	8.00		3.72	2.63
	L0000096	546780.46	4192123.25	3.91	2.83	1.36E-8	8.00		3.72	2.63
	L0000097	546775.42	4192129.46	3.85	2.83	1.36E-8	8.00		3.72	2.63
	L0000098	546770.37	4192135.67	3.81	2.83	1.36E-8	8.00		3.72	2.63
	L0000099	546765.32	4192141.87	3.77	2.83	1.36E-8	8.00		3.72	2.63

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFSITE	L0000100	546760.28	4192148.08	3.73	2.83	1.36E-8	8.00		3.72	2.63
	L0000101	546755.23	4192154.29	3.69	2.83	1.36E-8	8.00		3.72	2.63
	L0000102	546750.18	4192160.50	3.65	2.83	1.36E-8	8.00		3.72	2.63
	L0000103	546745.14	4192166.71	3.62	2.83	1.36E-8	8.00		3.72	2.63
	L0000104	546740.09	4192172.91	3.58	2.83	1.36E-8	8.00		3.72	2.63
	L0000105	546735.04	4192179.12	3.54	2.83	1.36E-8	8.00		3.72	2.63
	L0000106	546730.00	4192185.33	3.50	2.83	1.36E-8	8.00		3.72	2.63
	L0000107	546724.95	4192191.54	3.46	2.83	1.36E-8	8.00		3.72	2.63
	L0000108	546719.91	4192197.74	3.42	2.83	1.36E-8	8.00		3.72	2.63
	L0000109	546714.86	4192203.95	3.38	2.83	1.36E-8	8.00		3.72	2.63

Receptor Pathway

Receptor Networks

Note: Terrain Elavations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

Discrete Receptors

Discrete Cartesian Receptors

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	546963.98	4192092.93		2.00	
2	546943.58	4192097.25		2.29	
3	547093.10	4191993.46		2.09	
4	547082.04	4191971.20		4.61	
5	547104.30	4191959.85		3.28	
6	547164.12	4192129.26		0.00	
7	547174.59	4192100.07		0.00	
8	547186.53	4192070.30		0.77	
9	547196.25	4192054.82		1.09	
10	547155.33	4192149.30		0.00	
11	547146.93	4192167.78		0.00	
12	547137.81	4192184.34		0.00	
13	547124.37	4192198.74		0.40	
14	547109.25	4192214.82		0.94	
15	547093.41	4192226.83		0.77	
16	547073.44	4192244.53		0.92	
17	547053.52	4192260.86		0.65	
18	547039.12	4192272.62		0.87	
19	546951.97	4191987.29		6.66	
20	546973.89	4191960.33		7.00	
21	546984.44	4191946.27		7.03	
22	546923.31	4192001.10		7.00	
23	546911.54	4192010.94		6.86	
24	546890.65	4192020.79		6.53	
25	547210.40	4192037.86		1.56	
26	547218.71	4192019.58		0.79	
27	547232.34	4192005.29		1.40	
28	547021.96	4192285.07		1.00	
29	547009.15	4192299.81		0.97	
30	546992.80	4192311.81		1.00	

31	546976.46	4192324.07	0.90
32	546958.37	4192335.02	0.96
33	546939.44	4192345.48	1.00
34	546915.08	4192351.94	0.86
35	546766.37	4192192.83	2.04
36	546790.93	4192159.79	2.32
37	546779.05	4192174.73	2.22
38	546802.57	4192131.54	2.87
39	546815.93	4192141.52	2.50
40	546833.30	4192152.82	2.13
41	546846.87	4192169.53	1.32
42	546884.29	4192144.77	1.12
43	546874.95	4192131.42	1.53
44	546904.61	4192112.10	1.97
45	546926.83	4192105.08	2.33
46	546846.24	4192090.83	4.00
47	546862.02	4192087.97	4.00
48	546698.60	4192192.48	4.31
49	546709.33	4192178.43	4.42
50	546719.68	4192163.35	4.58
51	546734.11	4192147.89	4.70
52	546743.41	4192134.07	4.77
53	546755.93	4192120.27	4.93
54	546765.51	4192102.76	5.29
55	546778.29	4192089.62	5.00
56	546796.43	4192072.90	5.00
57	546817.68	4192063.17	5.83
58	546835.57	4192052.50	5.91
59	546854.66	4192039.72	6.17
60	546933.56	4191992.66	6.82
61	547035.11	4191945.10	6.33
62	547100.93	4191937.05	6.03
63	547118.79	4191925.10	2.95
64	547138.60	4191909.36	1.46
65	547161.60	4191914.31	0.47
66	547179.99	4191928.99	1.94
67	547201.93	4191921.92	4.95
68	547227.40	4191917.67	5.80

69	547248.80	4191920.50	5.23
70	547150.85	4191885.15	6.02
71	547158.24	4191872.46	6.08
72	547174.09	4191881.79	6.00
73	547198.12	4191886.39	6.00
74	547274.27	4191929.64	5.20
75	547287.54	4191939.19	6.00
76	547327.93	4191967.82	6.00
77	547450.25	4192097.69	1.98
78	547462.78	4192103.44	1.99
79	547471.60	4192083.62	2.26
80	547477.10	4192053.45	4.88
81	547457.66	4192045.01	5.44
82	547451.27	4192078.25	2.00
83	547454.43	4192099.61	1.97
84	547458.60	4192101.52	1.97
85	547464.54	4192099.48	2.02
86	547466.31	4192095.51	2.09
87	547468.07	4192091.55	2.15
88	547469.84	4192087.58	2.20
89	547472.39	4192079.31	2.29
90	547473.17	4192075.00	4.00
91	547473.96	4192070.69	4.00
92	547474.74	4192066.38	4.02
93	547475.53	4192062.07	4.31
94	547476.31	4192057.76	4.59
95	547473.21	4192051.76	4.99
96	547469.32	4192050.07	5.11
97	547465.44	4192048.39	5.22
98	547461.55	4192046.70	5.33
99	547456.75	4192049.76	5.13
100	547455.83	4192054.51	4.81
101	547454.92	4192059.26	4.49
102	547454.01	4192064.00	4.18
103	547453.10	4192068.75	4.00
104	547452.18	4192073.50	4.00
105	547451.02	4192083.11	2.00
106	547450.76	4192087.97	2.00

107	547450.51	4192092.83	2.00
108	546982.09	4191989.73	6.56
109	547008.47	4192032.19	5.15
110	546990.49	4192048.56	4.51
111	546965.66	4192064.59	4.11
112	546914.02	4192079.20	3.00
113	546880.27	4192095.04	3.45
114	546859.42	4192067.53	5.00
115	546892.68	4192051.29	5.04
116	546945.60	4192018.75	6.16
117	546959.77	4192008.83	5.99
118	546984.78	4191993.72	6.41
119	546987.47	4191997.71	6.26
120	546990.15	4192001.70	6.13
121	546992.84	4192005.69	6.02
122	546995.53	4192009.68	5.90
123	546998.22	4192013.67	5.77
124	547000.91	4192017.66	5.63
125	547003.60	4192021.65	5.50
126	547006.28	4192025.64	5.37
127	547007.49	4192028.63	5.27
128	547007.18	4192034.22	5.08
129	547004.80	4192036.76	5.00
130	547001.78	4192040.17	4.81
131	546997.89	4192043.79	4.65
132	546993.81	4192046.22	4.57
133	546987.15	4192050.79	4.47
134	546983.79	4192053.79	4.43
135	546979.93	4192055.84	4.40
136	546975.23	4192058.05	4.37
137	546971.57	4192059.52	4.33
138	546966.90	4192061.22	4.28
139	546959.86	4192063.73	4.18
140	546955.49	4192065.37	4.08
141	546950.32	4192066.57	4.01
142	546944.98	4192068.58	4.00
143	546938.97	4192070.16	4.00
144	546938.11	4192073.10	2.52

145	546932.20	4192072.36	4.00
146	546927.68	4192073.99	2.87
147	546923.36	4192075.65	3.00
148	546918.34	4192077.26	3.00
149	546909.95	4192081.27	3.00
150	546905.56	4192083.18	3.00
151	546902.07	4192085.76	3.00
152	546897.71	4192087.62	3.00
153	546893.35	4192089.47	3.01
154	546888.99	4192091.33	3.16
155	546884.63	4192093.18	3.30
156	546877.29	4192091.11	3.55
157	546874.31	4192087.18	3.65
158	546871.33	4192083.25	3.75
159	546868.36	4192079.32	3.85
160	546865.38	4192075.39	3.94
161	546862.40	4192071.46	5.00
162	546863.58	4192065.50	5.04
163	546867.74	4192063.47	4.98
164	546871.89	4192061.44	4.95
165	546876.05	4192059.41	4.93
166	546880.21	4192057.38	4.93
167	546884.37	4192055.35	4.95
168	546888.52	4192053.32	4.98
169	546896.75	4192048.79	5.19
170	546900.82	4192046.28	5.36
171	546904.89	4192043.78	5.53
172	546908.96	4192041.28	5.69
173	546913.03	4192038.78	5.86
174	546917.10	4192036.27	6.01
175	546921.18	4192033.77	6.10
176	546925.25	4192031.27	6.17
177	546929.32	4192028.76	6.21
178	546933.39	4192026.26	6.23
179	546937.46	4192023.76	6.23
180	546941.53	4192021.25	6.21
181	546949.14	4192016.27	6.10
182	546952.69	4192013.79	6.02

183	546956.23	4192011.31	5.99
184	546963.49	4192005.65	6.03
185	546967.21	4192002.46	6.14
186	546970.93	4191999.28	6.25
187	546974.65	4191996.10	6.35
188	546978.37	4191992.91	6.46
189	547069.40	4192685.31	4.86
190	547139.23	4192803.27	11.92
191	547128.04	4192817.17	10.64
192	547122.62	4192837.17	10.69
193	547121.60	4192850.73	10.93
194	547104.65	4192865.31	9.72
195	547086.01	4192879.88	7.81
196	547071.77	4192888.36	6.96
197	547047.03	4192879.88	8.19
198	547030.08	4192862.93	7.58
199	547011.44	4192846.66	6.08
200	546983.64	4192843.95	6.82
201	546952.12	4192842.93	5.87
202	546932.79	4192849.03	6.27
203	546915.17	4192860.22	6.95
204	546901.27	4192865.64	6.68
205	546892.46	4192856.49	5.62
206	546880.25	4192832.09	4.07
207	546953.81	4192789.37	4.09
208	546990.76	4192762.26	4.23
209	547023.98	4192733.10	4.56
210	547071.89	4192689.52	4.94
211	547074.39	4192693.74	5.02
212	547076.88	4192697.95	5.11
213	547079.38	4192702.16	5.19
214	547081.87	4192706.37	5.27
215	547084.36	4192710.59	5.35
216	547086.86	4192714.80	5.44
217	547089.35	4192719.01	5.52
218	547091.85	4192723.23	5.60
219	547094.34	4192727.44	5.71
220	547096.83	4192731.65	5.85

221	547099.33	4192735.86	5.94
222	547101.82	4192740.08	5.99
223	547104.32	4192744.29	6.11
224	547106.81	4192748.50	6.54
225	547109.30	4192752.72	6.96
226	547111.80	4192756.93	7.37
227	547114.29	4192761.14	8.06
228	547116.78	4192765.35	8.67
229	547119.28	4192769.57	9.22
230	547121.77	4192773.78	9.69
231	547124.27	4192777.99	10.10
232	547126.76	4192782.21	10.44
233	547129.25	4192786.42	10.70
234	547131.75	4192790.63	10.87
235	547134.24	4192794.84	11.09
236	547136.74	4192799.06	11.51
237	547136.43	4192806.75	11.45
238	547133.64	4192810.22	11.00
239	547130.84	4192813.70	10.81
240	547126.96	4192821.17	10.67
241	547125.87	4192825.17	10.69
242	547124.79	4192829.17	10.70
243	547123.70	4192833.17	10.70
244	547122.28	4192841.69	10.76
245	547121.94	4192846.21	10.82
246	547118.21	4192853.65	10.69
247	547114.82	4192856.56	10.44
248	547111.43	4192859.48	10.20
249	547108.04	4192862.39	9.96
250	547100.92	4192868.22	9.40
251	547097.19	4192871.14	9.03
252	547093.47	4192874.05	8.61
253	547089.74	4192876.97	8.16
254	547082.45	4192882.00	7.47
255	547078.89	4192884.12	7.15
256	547075.33	4192886.24	6.84
257	547067.65	4192886.95	7.23
258	547063.52	4192885.53	7.48

259	547059.40	4192884.12	7.69
260	547055.28	4192882.71	7.89
261	547051.15	4192881.29	8.05
262	547043.64	4192876.49	8.00
263	547040.25	4192873.10	7.97
264	547036.86	4192869.71	7.89
265	547033.47	4192866.32	7.76
266	547026.35	4192859.68	7.38
267	547022.62	4192856.42	7.12
268	547018.90	4192853.17	6.80
269	547015.17	4192849.91	6.43
270	547006.81	4192846.21	6.21
271	547002.17	4192845.76	6.35
272	546997.54	4192845.31	6.47
273	546992.91	4192844.85	6.59
274	546988.27	4192844.40	6.71
275	546979.14	4192843.80	6.68
276	546974.63	4192843.66	6.53
277	546970.13	4192843.51	6.39
278	546965.63	4192843.37	6.25
279	546961.13	4192843.22	6.11
280	546956.62	4192843.08	5.97
281	546948.25	4192844.15	5.90
282	546944.39	4192845.37	5.95
283	546940.52	4192846.59	6.00
284	546936.66	4192847.81	6.14
285	546929.27	4192851.27	6.50
286	546925.74	4192853.51	6.71
287	546922.22	4192855.74	6.85
288	546918.69	4192857.98	6.91
289	546910.54	4192862.03	6.88
290	546905.90	4192863.83	6.79
291	546898.33	4192862.59	6.30
292	546895.40	4192859.54	5.94
293	546890.43	4192852.42	5.28
294	546888.39	4192848.36	4.94
295	546886.36	4192844.29	4.68
296	546884.32	4192840.22	4.47

297	546882.29	4192836.16	4.27
298	546884.34	4192829.72	4.13
299	546888.42	4192827.34	4.18
300	546892.51	4192824.97	4.24
301	546896.60	4192822.60	4.22
302	546900.68	4192820.22	4.15
303	546904.77	4192817.85	4.06
304	546908.86	4192815.48	3.96
305	546912.94	4192813.10	3.88
306	546917.03	4192810.73	3.80
307	546921.12	4192808.36	3.73
308	546925.20	4192805.98	3.70
309	546929.29	4192803.61	3.75
310	546933.38	4192801.24	3.81
311	546937.46	4192798.86	3.87
312	546941.55	4192796.49	3.92
313	546945.64	4192794.12	3.98
314	546949.72	4192791.74	4.04
315	546957.51	4192786.66	4.00
316	546961.20	4192783.95	3.93
317	546964.90	4192781.24	3.89
318	546968.59	4192778.53	3.86
319	546972.29	4192775.82	3.86
320	546975.98	4192773.10	3.88
321	546979.68	4192770.39	3.93
322	546983.37	4192767.68	3.99
323	546987.07	4192764.97	4.11
324	546994.45	4192759.02	4.36
325	546998.14	4192755.78	4.43
326	547001.83	4192752.54	4.36
327	547005.52	4192749.30	4.35
328	547009.22	4192746.06	4.39
329	547012.91	4192742.82	4.49
330	547016.60	4192739.58	4.53
331	547020.29	4192736.34	4.54
332	547027.22	4192729.69	4.55
333	547030.47	4192726.27	4.55
334	547033.71	4192722.86	4.58

335	547036.96	4192719.45	4.59
336	547040.20	4192716.03	4.57
337	547043.45	4192712.62	4.53
338	547046.69	4192709.21	4.48
339	547049.93	4192705.79	4.45
340	547053.18	4192702.38	4.45
341	547056.42	4192698.96	4.47
342	547059.67	4192695.55	4.53
343	547062.91	4192692.14	4.64
344	547066.16	4192688.72	4.75

Plant Boundary Receptors

Receptor Groups

Record Number	Group ID	Group Description
1	FENCEPRI	Cartesian plant boundary Primary Receptors
2	FENCEINT	Cartesian plant boundary Intermediate Receptors

Meteorology Pathway

AERMOD

Met Input Data

Surface Met Data

Filename: C:\Users\lpark\OneDrive - ADEC Solutions USA, Inc\Desktop\01. Project Files\5566.0002 Mallard Point\HRA\

Format Type: Default AERMET format

Profile Met Data

Filename: C:\Users\lpark\OneDrive - ADEC Solutions USA, Inc\Desktop\01. Project Files\5566.0002 Mallard Point\HRA\

Format Type: Default AERMET format

Wind Speed

☐ Wind Speeds are Vector Mean (Not Scalar Means)

Wind Direction

Rotation Adjustment [deg]:

Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 2.40 [m]

Meteorological Station Data

Stations	Station No.	Year	X Coordinate [m]	Y Coordinate [m]	Station Name
Surface		2009			SAN FRANCISCO/INT'L ARPT
Upper Air		2009			OAKLAND/WSO AP

Data Period

Data Period to Process

Start Date: 1/1/2009 Start Hour: 1 End Date: 1/2/2014 End Hour: 24

Wind Speed Categories

Stability Category	Wind Speed [m/s]	Stability Category	Wind Speed [m/s]
A	1.54	D	8.23
B	3.09	E	10.8
C	5.14	F	No Upper Bound

Sensitive Receptor Summary

Mallard Point Construction

PM2.5 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.01093	ug/m^3	R-1	546963.98	4192092.93	2.00	1.50	227.00	
PERIOD		0.00543	ug/m^3	R-2	546943.58	4192097.25	2.29	1.50	227.00	
PERIOD		0.01350	ug/m^3	R-3	547093.10	4191993.46	2.09	1.50	227.00	
PERIOD		0.00781	ug/m^3	R-4	547082.04	4191971.20	4.61	1.50	227.00	
PERIOD		0.00455	ug/m^3	R-5	547104.30	4191959.85	3.28	1.50	227.00	
PERIOD		0.00258	ug/m^3	R-6	547164.12	4192129.26	0.00	1.50	227.00	
PERIOD		0.00282	ug/m^3	R-7	547174.59	4192100.07	0.00	1.50	227.00	
PERIOD		0.00283	ug/m^3	R-8	547186.53	4192070.30	0.77	1.50	227.00	
PERIOD		0.00265	ug/m^3	R-9	547196.25	4192054.82	1.09	1.50	227.00	
PERIOD		0.00234	ug/m^3	R-10	547155.33	4192149.30	0.00	1.50	227.00	
PERIOD		0.00204	ug/m^3	R-11	547146.93	4192167.78	0.00	1.50	227.00	
PERIOD		0.00175	ug/m^3	R-12	547137.81	4192184.34	0.00	1.50	227.00	
PERIOD		0.00153	ug/m^3	R-13	547124.37	4192198.74	0.40	1.50	227.00	
PERIOD		0.00126	ug/m^3	R-14	547109.25	4192214.82	0.94	1.50	227.00	
PERIOD		0.00112	ug/m^3	R-15	547093.41	4192226.83	0.77	1.50	227.00	
PERIOD		0.00099	ug/m^3	R-16	547073.44	4192244.53	0.92	1.50	227.00	
PERIOD		0.00088	ug/m^3	R-18	547039.12	4192272.62	0.87	1.50	227.00	
PERIOD		0.00397	ug/m^3	R-19	546951.97	4191987.29	6.66	1.50	227.00	
PERIOD		0.00386	ug/m^3	R-20	546973.89	4191960.33	7.00	1.50	227.00	
PERIOD		0.00357	ug/m^3	R-21	546984.44	4191946.27	7.03	1.50	227.00	

Sensitive Receptor Summary

Mallard Point Construction

PM2.5 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00292	ug/m^3	R-22	546923.31	4192001.10	7.00	1.50	227.00	
PERIOD		0.00258	ug/m^3	R-23	546911.54	4192010.94	6.86	1.50	227.00	
PERIOD		0.00196	ug/m^3	R-24	546890.65	4192020.79	6.53	1.50	227.00	
PERIOD		0.00234	ug/m^3	R-25	547210.40	4192037.86	1.56	1.50	227.00	
PERIOD		0.00214	ug/m^3	R-26	547218.71	4192019.58	0.79	1.50	227.00	
PERIOD		0.00186	ug/m^3	R-27	547232.34	4192005.29	1.40	1.50	227.00	
PERIOD		0.00083	ug/m^3	R-28	547021.96	4192285.07	1.00	1.50	227.00	
PERIOD		0.00074	ug/m^3	R-29	547009.15	4192299.81	0.97	1.50	227.00	
PERIOD		0.00068	ug/m^3	R-30	546992.80	4192311.81	1.00	1.50	227.00	
PERIOD		0.00061	ug/m^3	R-31	546976.46	4192324.07	0.90	1.50	227.00	
PERIOD		0.00054	ug/m^3	R-32	546958.37	4192335.02	0.96	1.50	227.00	
PERIOD		0.00049	ug/m^3	R-33	546939.44	4192345.48	1.00	1.50	227.00	
PERIOD		0.00043	ug/m^3	R-34	546915.08	4192351.94	0.86	1.50	227.00	
PERIOD		0.00043	ug/m^3	R-35	546766.37	4192192.83	2.04	1.50	227.00	
PERIOD		0.00058	ug/m^3	R-36	546790.93	4192159.79	2.32	1.50	227.00	
PERIOD		0.00050	ug/m^3	R-37	546779.05	4192174.73	2.22	1.50	227.00	
PERIOD		0.00071	ug/m^3	R-38	546802.57	4192131.54	2.87	1.50	227.00	
PERIOD		0.00074	ug/m^3	R-39	546815.93	4192141.52	2.50	1.50	227.00	
PERIOD		0.00082	ug/m^3	R-41	546846.87	4192169.53	1.32	1.50	227.00	
PERIOD		0.00138	ug/m^3	R-42	546884.29	4192144.77	1.12	1.50	227.00	
PERIOD		0.00136	ug/m^3	R-43	546874.95	4192131.42	1.53	1.50	227.00	

Sensitive Receptor Summary

Mallard Point Construction

PM2.5 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00224	ug/m^3	R-44	546904.61	4192112.10	1.97	1.50	227.00	
PERIOD		0.00345	ug/m^3	R-45	546926.83	4192105.08	2.33	1.50	227.00	
PERIOD		0.00116	ug/m^3	R-46	546846.24	4192090.83	4.00	1.50	227.00	
PERIOD		0.00137	ug/m^3	R-47	546862.02	4192087.97	4.00	1.50	227.00	
PERIOD		0.00028	ug/m^3	R-48	546698.60	4192192.48	4.31	1.50	227.00	
PERIOD		0.00035	ug/m^3	R-50	546719.68	4192163.35	4.58	1.50	227.00	
PERIOD		0.00040	ug/m^3	R-51	546734.11	4192147.89	4.70	1.50	227.00	
PERIOD		0.00050	ug/m^3	R-53	546755.93	4192120.27	4.93	1.50	227.00	
PERIOD		0.00054	ug/m^3	R-54	546765.51	4192102.76	5.29	1.50	227.00	
PERIOD		0.00061	ug/m^3	R-55	546778.29	4192089.62	5.00	1.50	227.00	
PERIOD		0.00072	ug/m^3	R-56	546796.43	4192072.90	5.00	1.50	227.00	
PERIOD		0.00087	ug/m^3	R-57	546817.68	4192063.17	5.83	1.50	227.00	
PERIOD		0.00103	ug/m^3	R-58	546835.57	4192052.50	5.91	1.50	227.00	
PERIOD		0.00126	ug/m^3	R-59	546854.66	4192039.72	6.17	1.50	227.00	
PERIOD		0.00321	ug/m^3	R-60	546933.56	4191992.66	6.82	1.50	227.00	
PERIOD		0.00447	ug/m^3	R-61	547035.11	4191945.10	6.33	1.50	227.00	
PERIOD		0.00276	ug/m^3	R-62	547100.93	4191937.05	6.03	1.50	227.00	
PERIOD		0.00219	ug/m^3	R-63	547118.79	4191925.10	2.95	1.50	227.00	
PERIOD		0.00160	ug/m^3	R-64	547138.60	4191909.36	1.46	1.50	227.00	
PERIOD		0.00158	ug/m^3	R-65	547161.60	4191914.31	0.47	1.50	227.00	
PERIOD		0.00174	ug/m^3	R-66	547179.99	4191928.99	1.94	1.50	227.00	

Sensitive Receptor Summary

Mallard Point Construction

PM2.5 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00146	ug/m^3	R-67	547201.93	4191921.92	4.95	1.50	227.00	
PERIOD		0.00126	ug/m^3	R-68	547227.40	4191917.67	5.80	1.50	227.00	
PERIOD		0.00117	ug/m^3	R-69	547248.80	4191920.50	5.23	1.50	227.00	
PERIOD		0.00109	ug/m^3	R-70	547150.85	4191885.15	6.02	1.50	227.00	
PERIOD		0.00093	ug/m^3	R-71	547158.24	4191872.46	6.08	1.50	227.00	
PERIOD		0.00102	ug/m^3	R-72	547174.09	4191881.79	6.00	1.50	227.00	
PERIOD		0.00104	ug/m^3	R-73	547198.12	4191886.39	6.00	1.50	227.00	
PERIOD		0.00110	ug/m^3	R-74	547274.27	4191929.64	5.20	1.50	227.00	
PERIOD		0.00108	ug/m^3	R-75	547287.54	4191939.19	6.00	1.50	227.00	
PERIOD		0.00042	ug/m^3	BHNS-1	547450.25	4192097.69	1.98	1.50	227.00	
PERIOD		0.00039	ug/m^3	BHNS-2	547462.78	4192103.44	1.99	1.50	227.00	
PERIOD		0.00040	ug/m^3	BHNS-3	547471.60	4192083.62	2.26	1.50	227.00	
PERIOD		0.00042	ug/m^3	BHNS-4	547477.10	4192053.45	4.88	1.50	227.00	
PERIOD		0.00046	ug/m^3	BHNS-5	547457.66	4192045.01	5.44	1.50	227.00	
PERIOD		0.00044	ug/m^3	BHNS-6	547451.27	4192078.25	2.00	1.50	227.00	
PERIOD		0.00041	ug/m^3	BHNS-7	547454.43	4192099.61	1.97	1.50	227.00	
PERIOD		0.00040	ug/m^3	BHNS-8	547458.60	4192101.52	1.97	1.50	227.00	
PERIOD		0.00039	ug/m^3	BHNS-9	547464.54	4192099.48	2.02	1.50	227.00	
PERIOD		0.00040	ug/m^3	BHNS-10	547466.31	4192095.51	2.09	1.50	227.00	
PERIOD		0.00040	ug/m^3	BHNS-11	547468.07	4192091.55	2.15	1.50	227.00	
PERIOD		0.00040	ug/m^3	BHNS-12	547469.84	4192087.58	2.20	1.50	227.00	

Sensitive Receptor Summary

Mallard Point Construction

PM2.5 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00040	ug/m^3	BHNS-13	547472.39	4192079.31	2.29	1.50	227.00	
PERIOD		0.00041	ug/m^3	BHNS-14	547473.17	4192075.00	4.00	1.50	227.00	
PERIOD		0.00041	ug/m^3	BHNS-15	547473.96	4192070.69	4.00	1.50	227.00	
PERIOD		0.00041	ug/m^3	BHNS-16	547474.74	4192066.38	4.02	1.50	227.00	
PERIOD		0.00041	ug/m^3	BHNS-17	547475.53	4192062.07	4.31	1.50	227.00	
PERIOD		0.00042	ug/m^3	BHNS-18	547476.31	4192057.76	4.59	1.50	227.00	
PERIOD		0.00043	ug/m^3	BHNS-19	547473.21	4192051.76	4.99	1.50	227.00	
PERIOD		0.00043	ug/m^3	BHNS-20	547469.32	4192050.07	5.11	1.50	227.00	
PERIOD		0.00044	ug/m^3	BHNS-21	547465.44	4192048.39	5.22	1.50	227.00	
PERIOD		0.00045	ug/m^3	BHNS-22	547461.55	4192046.70	5.33	1.50	227.00	
PERIOD		0.00046	ug/m^3	BHNS-23	547456.75	4192049.76	5.13	1.50	227.00	
PERIOD		0.00046	ug/m^3	BHNS-24	547455.83	4192054.51	4.81	1.50	227.00	
PERIOD		0.00046	ug/m^3	BHNS-25	547454.92	4192059.26	4.49	1.50	227.00	
PERIOD		0.00045	ug/m^3	BHNS-26	547454.01	4192064.00	4.18	1.50	227.00	
PERIOD		0.00045	ug/m^3	BHNS-27	547453.10	4192068.75	4.00	1.50	227.00	
PERIOD		0.00045	ug/m^3	BHNS-28	547452.18	4192073.50	4.00	1.50	227.00	
PERIOD		0.00044	ug/m^3	BHNS-29	547451.02	4192083.11	2.00	1.50	227.00	
PERIOD		0.00043	ug/m^3	BHNS-30	547450.76	4192087.97	2.00	1.50	227.00	
PERIOD		0.00043	ug/m^3	BHNS-31	547450.51	4192092.83	2.00	1.50	227.00	
PERIOD		0.00620	ug/m^3	P-1	546982.09	4191989.73	6.56	1.50	227.00	
PERIOD		0.02267	ug/m^3	P-2	547008.47	4192032.19	5.15	1.50	227.00	

Sensitive Receptor Summary

Mallard Point Construction

PM2.5 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.02043	ug/m^3	P-3	546990.49	4192048.56	4.51	1.50	227.00	
PERIOD		0.01233	ug/m^3	P-4	546965.66	4192064.59	4.11	1.50	227.00	
PERIOD		0.00305	ug/m^3	P-5	546914.02	4192079.20	3.00	1.50	227.00	
PERIOD		0.00171	ug/m^3	P-6	546880.27	4192095.04	3.45	1.50	227.00	
PERIOD		0.00136	ug/m^3	P-7	546859.42	4192067.53	5.00	1.50	227.00	
PERIOD		0.00215	ug/m^3	P-8	546892.68	4192051.29	5.04	1.50	227.00	
PERIOD		0.00479	ug/m^3	P-9	546945.60	4192018.75	6.16	1.50	227.00	
PERIOD		0.00558	ug/m^3	P-10	546959.77	4192008.83	5.99	1.50	227.00	
PERIOD		0.00682	ug/m^3	P-11	546984.78	4191993.72	6.41	1.50	227.00	
PERIOD		0.00755	ug/m^3	P-12	546987.47	4191997.71	6.26	1.50	227.00	
PERIOD		0.00839	ug/m^3	P-13	546990.15	4192001.70	6.13	1.50	227.00	
PERIOD		0.00937	ug/m^3	P-14	546992.84	4192005.69	6.02	1.50	227.00	
PERIOD		0.01054	ug/m^3	P-15	546995.53	4192009.68	5.90	1.50	227.00	
PERIOD		0.01197	ug/m^3	P-16	546998.22	4192013.67	5.77	1.50	227.00	
PERIOD		0.01369	ug/m^3	P-17	547000.91	4192017.66	5.63	1.50	227.00	
PERIOD		0.01580	ug/m^3	P-18	547003.60	4192021.65	5.50	1.50	227.00	
PERIOD		0.01843	ug/m^3	P-19	547006.28	4192025.64	5.37	1.50	227.00	
PERIOD		0.02034	ug/m^3	P-20	547007.49	4192028.63	5.27	1.50	227.00	
PERIOD		0.02291	ug/m^3	P-21	547007.18	4192034.22	5.08	1.50	227.00	
PERIOD		0.02275	ug/m^3	P-22	547004.80	4192036.76	5.00	1.50	227.00	
PERIOD		0.02271	ug/m^3	P-23	547001.78	4192040.17	4.81	1.50	227.00	

Sensitive Receptor Summary

Mallard Point Construction

PM2.5 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.02228	ug/m^3	P-24	546997.89	4192043.79	4.65	1.50	227.00	
PERIOD		0.02115	ug/m^3	P-25	546993.81	4192046.22	4.57	1.50	227.00	
PERIOD		0.01963	ug/m^3	P-26	546987.15	4192050.79	4.47	1.50	227.00	
PERIOD		0.01905	ug/m^3	P-27	546983.79	4192053.79	4.43	1.50	227.00	
PERIOD		0.01776	ug/m^3	P-28	546979.93	4192055.84	4.40	1.50	227.00	
PERIOD		0.01598	ug/m^3	P-29	546975.23	4192058.05	4.37	1.50	227.00	
PERIOD		0.01444	ug/m^3	P-30	546971.57	4192059.52	4.33	1.50	227.00	
PERIOD		0.01252	ug/m^3	P-31	546966.90	4192061.22	4.28	1.50	227.00	
PERIOD		0.00997	ug/m^3	P-32	546959.86	4192063.73	4.18	1.50	227.00	
PERIOD		0.00867	ug/m^3	P-33	546955.49	4192065.37	4.08	1.50	227.00	
PERIOD		0.00739	ug/m^3	P-34	546950.32	4192066.57	4.01	1.50	227.00	
PERIOD		0.00636	ug/m^3	P-35	546944.98	4192068.58	4.00	1.50	227.00	
PERIOD		0.00540	ug/m^3	P-36	546938.97	4192070.16	4.00	1.50	227.00	
PERIOD		0.00523	ug/m^3	P-37	546938.11	4192073.10	2.52	1.50	227.00	
PERIOD		0.00455	ug/m^3	P-38	546932.20	4192072.36	4.00	1.50	227.00	
PERIOD		0.00406	ug/m^3	P-39	546927.68	4192073.99	2.87	1.50	227.00	
PERIOD		0.00370	ug/m^3	P-40	546923.36	4192075.65	3.00	1.50	227.00	
PERIOD		0.00332	ug/m^3	P-41	546918.34	4192077.26	3.00	1.50	227.00	
PERIOD		0.00280	ug/m^3	P-42	546909.95	4192081.27	3.00	1.50	227.00	
PERIOD		0.00258	ug/m^3	P-43	546905.56	4192083.18	3.00	1.50	227.00	
PERIOD		0.00242	ug/m^3	P-44	546902.07	4192085.76	3.00	1.50	227.00	

Sensitive Receptor Summary

Mallard Point Construction

PM2.5 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00224	ug/m^3	P-45	546897.71	4192087.62	3.00	1.50	227.00	
PERIOD		0.00209	ug/m^3	P-46	546893.35	4192089.47	3.01	1.50	227.00	
PERIOD		0.00194	ug/m^3	P-47	546888.99	4192091.33	3.16	1.50	227.00	
PERIOD		0.00184	ug/m^3	P-48	546884.63	4192093.18	3.30	1.50	227.00	
PERIOD		0.00167	ug/m^3	P-49	546877.29	4192091.11	3.55	1.50	227.00	
PERIOD		0.00161	ug/m^3	P-50	546874.31	4192087.18	3.65	1.50	227.00	
PERIOD		0.00155	ug/m^3	P-51	546871.33	4192083.25	3.75	1.50	227.00	
PERIOD		0.00150	ug/m^3	P-52	546868.36	4192079.32	3.85	1.50	227.00	
PERIOD		0.00145	ug/m^3	P-53	546865.38	4192075.39	3.94	1.50	227.00	
PERIOD		0.00140	ug/m^3	P-54	546862.40	4192071.46	5.00	1.50	227.00	
PERIOD		0.00143	ug/m^3	P-55	546863.58	4192065.50	5.04	1.50	227.00	
PERIOD		0.00159	ug/m^3	P-57	546871.89	4192061.44	4.95	1.50	227.00	
PERIOD		0.00169	ug/m^3	P-58	546876.05	4192059.41	4.93	1.50	227.00	
PERIOD		0.00179	ug/m^3	P-59	546880.21	4192057.38	4.93	1.50	227.00	
PERIOD		0.00202	ug/m^3	P-61	546888.52	4192053.32	4.98	1.50	227.00	
PERIOD		0.00229	ug/m^3	P-62	546896.75	4192048.79	5.19	1.50	227.00	
PERIOD		0.00243	ug/m^3	P-63	546900.82	4192046.28	5.36	1.50	227.00	
PERIOD		0.00259	ug/m^3	P-64	546904.89	4192043.78	5.53	1.50	227.00	
PERIOD		0.00276	ug/m^3	P-65	546908.96	4192041.28	5.69	1.50	227.00	
PERIOD		0.00313	ug/m^3	P-67	546917.10	4192036.27	6.01	1.50	227.00	
PERIOD		0.00334	ug/m^3	P-68	546921.18	4192033.77	6.10	1.50	227.00	

Sensitive Receptor Summary

Mallard Point Construction

PM2.5 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00356	ug/m^3	P-69	546925.25	4192031.27	6.17	1.50	227.00	
PERIOD		0.00379	ug/m^3	P-70	546929.32	4192028.76	6.21	1.50	227.00	
PERIOD		0.00403	ug/m^3	P-71	546933.39	4192026.26	6.23	1.50	227.00	
PERIOD		0.00428	ug/m^3	P-72	546937.46	4192023.76	6.23	1.50	227.00	
PERIOD		0.00453	ug/m^3	P-73	546941.53	4192021.25	6.21	1.50	227.00	
PERIOD		0.00500	ug/m^3	P-74	546949.14	4192016.27	6.10	1.50	227.00	
PERIOD		0.00520	ug/m^3	P-75	546952.69	4192013.79	6.02	1.50	227.00	
PERIOD		0.00540	ug/m^3	P-76	546956.23	4192011.31	5.99	1.50	227.00	
PERIOD		0.00573	ug/m^3	P-77	546963.49	4192005.65	6.03	1.50	227.00	
PERIOD		0.00585	ug/m^3	P-78	546967.21	4192002.46	6.14	1.50	227.00	
PERIOD		0.00596	ug/m^3	P-79	546970.93	4191999.28	6.25	1.50	227.00	
PERIOD		0.00605	ug/m^3	P-80	546974.65	4191996.10	6.35	1.50	227.00	
PERIOD		0.00613	ug/m^3	P-81	546978.37	4191992.91	6.46	1.50	227.00	
PERIOD		0.00010	ug/m^3	E-1	547069.40	4192685.31	4.86	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-2	547139.23	4192803.27	11.92	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-3	547128.04	4192817.17	10.64	1.50	227.00	
PERIOD		0.00005	ug/m^3	E-4	547122.62	4192837.17	10.69	1.50	227.00	
PERIOD		0.00005	ug/m^3	E-5	547121.60	4192850.73	10.93	1.50	227.00	
PERIOD		0.00005	ug/m^3	E-6	547104.65	4192865.31	9.72	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-7	547086.01	4192879.88	7.81	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-8	547071.77	4192888.36	6.96	1.50	227.00	

Sensitive Receptor Summary

Mallard Point Construction

PM2.5 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00006	ug/m^3	E-9	547047.03	4192879.88	8.19	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-10	547030.08	4192862.93	7.58	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-11	547011.44	4192846.66	6.08	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-12	546983.64	4192843.95	6.82	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-13	546952.12	4192842.93	5.87	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-14	546932.79	4192849.03	6.27	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-15	546915.17	4192860.22	6.95	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-16	546901.27	4192865.64	6.68	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-17	546892.46	4192856.49	5.62	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-18	546880.25	4192832.09	4.07	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-19	546953.81	4192789.37	4.09	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-20	546990.76	4192762.26	4.23	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-21	547023.98	4192733.10	4.56	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-22	547071.89	4192689.52	4.94	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-23	547074.39	4192693.74	5.02	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-24	547076.88	4192697.95	5.11	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-25	547079.38	4192702.16	5.19	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-26	547081.87	4192706.37	5.27	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-27	547084.36	4192710.59	5.35	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-28	547086.86	4192714.80	5.44	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-29	547089.35	4192719.01	5.52	1.50	227.00	

Sensitive Receptor Summary

Mallard Point Construction

PM2.5 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00008	ug/m^3	E-30	547091.85	4192723.23	5.60	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-31	547094.34	4192727.44	5.71	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-32	547096.83	4192731.65	5.85	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-33	547099.33	4192735.86	5.94	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-34	547101.82	4192740.08	5.99	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-35	547104.31	4192744.29	6.11	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-36	547106.81	4192748.50	6.54	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-37	547109.30	4192752.72	6.96	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-38	547111.80	4192756.93	7.37	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-39	547114.29	4192761.14	8.06	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-40	547116.78	4192765.35	8.67	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-41	547119.28	4192769.57	9.22	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-42	547121.77	4192773.78	9.69	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-43	547124.27	4192777.99	10.10	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-44	547126.76	4192782.21	10.44	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-45	547129.25	4192786.42	10.70	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-46	547131.75	4192790.63	10.87	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-47	547134.24	4192794.84	11.09	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-48	547136.74	4192799.06	11.51	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-49	547136.43	4192806.75	11.45	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-50	547133.64	4192810.22	11.00	1.50	227.00	

Sensitive Receptor Summary

Mallard Point Construction

PM2.5 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00006	ug/m^3	E-52	547126.96	4192821.17	10.67	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-53	547125.87	4192825.17	10.69	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-54	547124.79	4192829.17	10.70	1.50	227.00	
PERIOD		0.00005	ug/m^3	E-55	547123.70	4192833.17	10.70	1.50	227.00	
PERIOD		0.00005	ug/m^3	E-56	547122.28	4192841.69	10.76	1.50	227.00	
PERIOD		0.00005	ug/m^3	E-57	547121.94	4192846.21	10.82	1.50	227.00	
PERIOD		0.00005	ug/m^3	E-58	547118.21	4192853.65	10.69	1.50	227.00	
PERIOD		0.00005	ug/m^3	E-59	547114.82	4192856.56	10.44	1.50	227.00	
PERIOD		0.00005	ug/m^3	E-60	547111.43	4192859.48	10.20	1.50	227.00	
PERIOD		0.00005	ug/m^3	E-61	547108.04	4192862.39	9.96	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-62	547100.92	4192868.22	9.40	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-63	547097.19	4192871.14	9.03	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-64	547093.47	4192874.05	8.61	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-65	547089.74	4192876.97	8.16	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-66	547082.45	4192882.00	7.47	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-67	547078.89	4192884.12	7.15	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-68	547075.33	4192886.24	6.84	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-69	547067.65	4192886.95	7.23	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-70	547063.52	4192885.53	7.48	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-71	547059.40	4192884.12	7.69	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-72	547055.28	4192882.71	7.89	1.50	227.00	

Sensitive Receptor Summary

Mallard Point Construction

PM2.5 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00006	ug/m^3	E-73	547051.15	4192881.29	8.05	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-74	547043.64	4192876.49	8.00	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-75	547040.25	4192873.10	7.97	1.50	227.00	
PERIOD		0.00006	ug/m^3	E-76	547036.86	4192869.71	7.89	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-77	547033.47	4192866.32	7.76	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-78	547026.35	4192859.68	7.38	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-79	547022.62	4192856.42	7.12	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-80	547018.90	4192853.17	6.80	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-81	547015.17	4192849.91	6.43	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-82	547006.81	4192846.21	6.21	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-83	547002.17	4192845.76	6.35	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-84	546997.54	4192845.31	6.47	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-85	546992.91	4192844.85	6.59	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-86	546988.27	4192844.40	6.71	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-87	546979.14	4192843.80	6.68	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-88	546974.63	4192843.66	6.53	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-89	546970.13	4192843.51	6.39	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-90	546965.63	4192843.37	6.25	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-91	546961.13	4192843.22	6.11	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-92	546956.62	4192843.08	5.97	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-93	546948.25	4192844.15	5.90	1.50	227.00	

Sensitive Receptor Summary

Mallard Point Construction

PM2.5 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00008	ug/m^3	E-94	546944.39	4192845.37	5.95	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-95	546940.52	4192846.59	6.00	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-96	546936.66	4192847.81	6.14	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-97	546929.27	4192851.27	6.50	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-98	546925.74	4192853.51	6.71	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-99	546922.22	4192855.74	6.85	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-100	546918.69	4192857.98	6.91	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-101	546910.54	4192862.03	6.88	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-102	546905.90	4192863.83	6.79	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-103	546898.33	4192862.59	6.30	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-104	546895.40	4192859.54	5.94	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-105	546890.43	4192852.42	5.28	1.50	227.00	
PERIOD		0.00007	ug/m^3	E-106	546888.39	4192848.36	4.94	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-108	546884.32	4192840.22	4.47	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-109	546882.29	4192836.16	4.27	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-110	546884.34	4192829.72	4.13	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-111	546888.42	4192827.34	4.18	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-112	546892.51	4192824.97	4.24	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-113	546896.60	4192822.60	4.22	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-114	546900.68	4192820.22	4.15	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-115	546904.77	4192817.85	4.06	1.50	227.00	

Sensitive Receptor Summary

Mallard Point Construction

PM2.5 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00008	ug/m^3	E-116	546908.86	4192815.48	3.96	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-117	546912.94	4192813.10	3.88	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-118	546917.03	4192810.73	3.80	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-119	546921.12	4192808.36	3.73	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-120	546925.20	4192805.98	3.70	1.50	227.00	
PERIOD		0.00008	ug/m^3	E-121	546929.29	4192803.61	3.75	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-122	546933.38	4192801.24	3.81	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-123	546937.46	4192798.86	3.87	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-124	546941.55	4192796.49	3.92	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-125	546945.64	4192794.12	3.98	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-126	546949.72	4192791.74	4.04	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-127	546957.51	4192786.66	4.00	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-128	546961.20	4192783.95	3.93	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-129	546964.90	4192781.24	3.89	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-130	546968.59	4192778.53	3.86	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-132	546975.98	4192773.10	3.88	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-133	546979.68	4192770.39	3.93	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-134	546983.37	4192767.68	3.99	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-135	546987.06	4192764.97	4.11	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-136	546994.45	4192759.02	4.36	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-137	546998.14	4192755.78	4.43	1.50	227.00	

Sensitive Receptor Summary

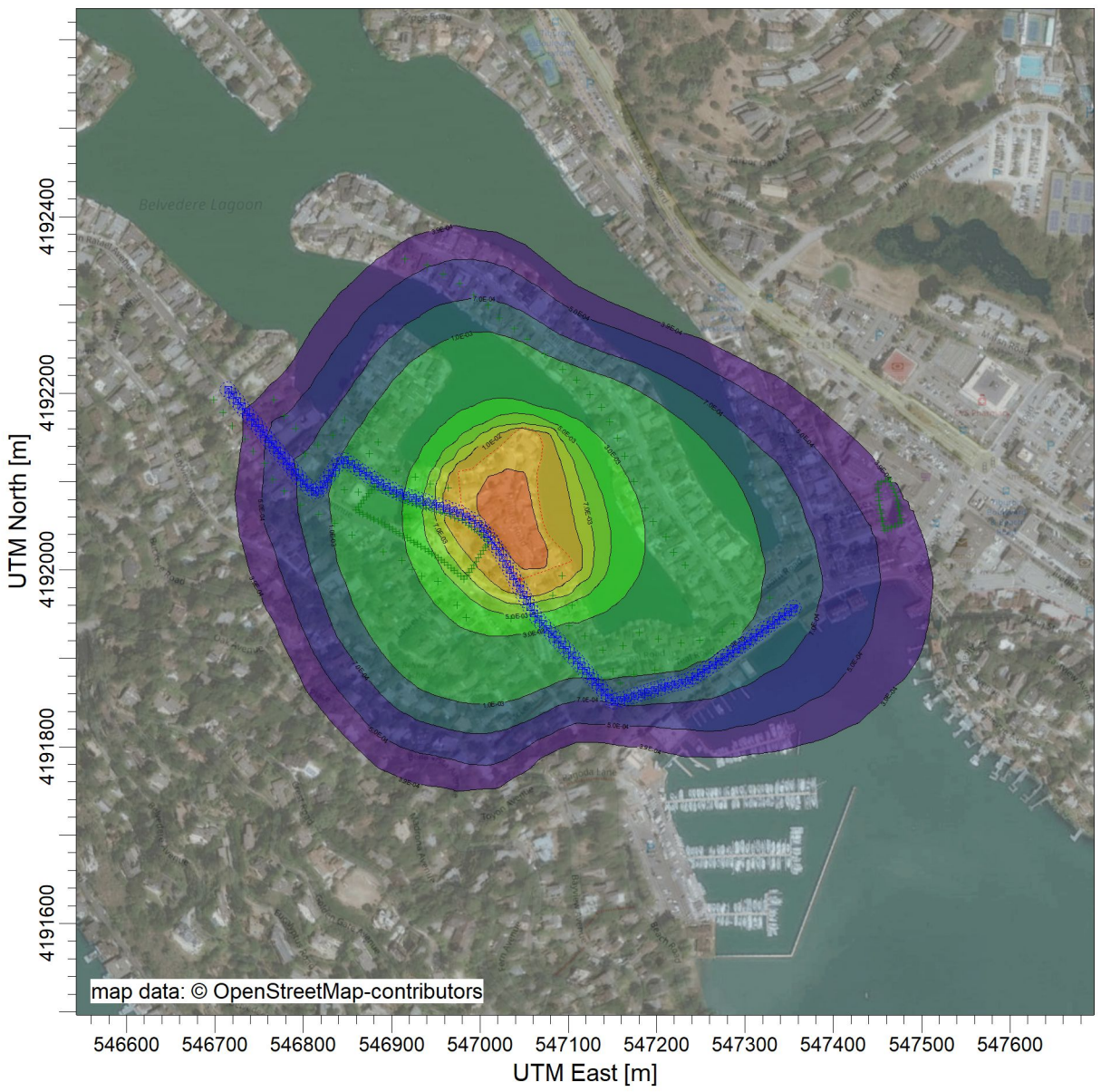
Mallard Point Construction

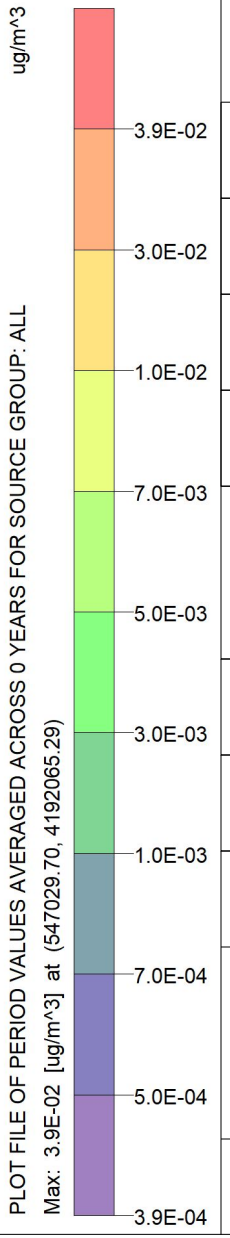
PM2.5 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	Receptor ID	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.00009	ug/m^3	E-138	547001.83	4192752.54	4.36	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-139	547005.52	4192749.30	4.35	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-140	547009.22	4192746.06	4.39	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-141	547012.91	4192742.82	4.49	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-142	547016.60	4192739.58	4.53	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-143	547020.29	4192736.34	4.54	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-144	547027.22	4192729.69	4.55	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-145	547030.47	4192726.27	4.55	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-146	547033.71	4192722.86	4.58	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-147	547036.96	4192719.45	4.59	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-148	547040.20	4192716.03	4.57	1.50	227.00	
PERIOD		0.00009	ug/m^3	E-149	547043.45	4192712.62	4.53	1.50	227.00	
PERIOD		0.00010	ug/m^3	E-150	547046.69	4192709.21	4.48	1.50	227.00	
PERIOD		0.00010	ug/m^3	E-151	547049.93	4192705.79	4.45	1.50	227.00	
PERIOD		0.00010	ug/m^3	E-152	547053.18	4192702.38	4.45	1.50	227.00	
PERIOD		0.00010	ug/m^3	E-153	547056.42	4192698.96	4.47	1.50	227.00	
PERIOD		0.00010	ug/m^3	E-154	547059.67	4192695.55	4.53	1.50	227.00	
PERIOD		0.00010	ug/m^3	E-155	547062.91	4192692.14	4.64	1.50	227.00	
PERIOD		0.00010	ug/m^3	E-156	547066.16	4192688.72	4.75	1.50	227.00	

PROJECT TITLE:

Mallard Point Construction





COMMENTS:

SOURCES:

2

RECEPTORS:

2354

OUTPUT TYPE:

Concentration

MAX:

3.9E-02 ug/m^3

COMPANY NAME:

MODELER:

DATE:

3/18/2022

SCALE: 1:7,758

0 0.2 km

PROJECT NO.: