Initial Study/Mitigated Negative Declaration for the Morning Star Packing Plant Facility Upgrades Project, Volta, Merced County, California

JANUARY 2024

PREPARED FOR

Merced County

PREPARED BY

SWCA Environmental Consultants

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION FOR THE MORNING STAR PACKING PLANT FACILITY UPGRADES PROJECT, VOLTA, MERCED COUNTY, CALIFORNIA

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SWCA Project No. 79479

January 2024

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1 INTRODUCTION

The Morning Star Packing Company (Applicant) currently owns and operates a tomato processing facility located at 13448 Volta Road, Los Banos, Merced County, California. The Applicant is proposing the Morning Star Packing Plant Facility Upgrades Project (project), which includes upgrades to the existing facility at this location, construction and use of an approximately 15,000-square-foot cafeteria and break room building, installation of an additional tomato evaporator, and installation of a 5-megawatt (MW) natural gas turbine generator to supply power to all on-site facilities. These improvements are generally planned to be constructed/installed between 2024 and 2029.

1.1 Project Location

The project would be located on a 119-acre parcel (Assessor's Parcel Number [APN] 081-060-093-000 and 081-060-094) partially within the unincorporated community of Volta and approximately 3 miles northwest of the city of Los Banos in Merced County, California (Figure 1). All proposed project components would generally be located within a 31-acre area of the project parcel (herein referred to as the project site; Figure 2). The project site is located on the east side of Volta Road and includes existing vehicle access off Volta Road.

The eastern portion of the project site has an Agricultural General Plan Designation and the western portion of the project site has an Industrial General Plan Designation. Zoning designations within the project site include General Agricultural (A-1) on the western portion of the project site and Light Manufacturing (M-1) and General Manufacturing (M-2) on the eastern portion of the site. The project site is generally surrounded by vehicle parking areas and storage uses associated with the packing plant to the north, agricultural lands and cooling ponds associated with the packing plant to the east, cooling pond and vehicle and equipment storage uses associated with the packing plant and residential uses located to the south, and Volta Road and residential uses to the west.

1.2 Environmental Setting

The project site is characterized by industrial uses associated with the operation of the existing Morning Star Packing Plant. The existing area of active operations is approximately 119 acres and includes a 300,000-square-foot processing plant, extensive outdoor storage areas, warehouses, and 12 modular residential buildings used to house employees during the tomato harvesting and processing season. The site also supports a 50-acre cooling pond, which holds water from the packing plant's evaporation equipment, and a 1-acre settling pond, which holds wash water and allows any solids to settle out before it is recycled for use within the plant's operations. The site has flat to nearly level topography and is fully developed, with the exception of planted trees located along the primary access driveway providing access to the site and planted hedges located along the southwestern and western boundary of the project site.

1.3 Project Description

The Applicant is requesting a land use development permit (Major Modification No. MM22-013 to Administrative Application No. AA98-030) to allow for the construction and operation of an approximately 15,000-square-foot cafeteria and break room building, a harvester repair shop, and an additional multi-effect evaporator and the installation of a 5-MW natural gas turbine generator to supply power to all on-site facilities. The project would also include relocation of an employee parking area from its current location to an existing unpaved area on-site. The overall purpose of the project is to improve

working conditions for on-site employees, consolidate vehicle and harvester repair activities in one location to increase efficiency, and improve overall resiliency of the processing plant operations.

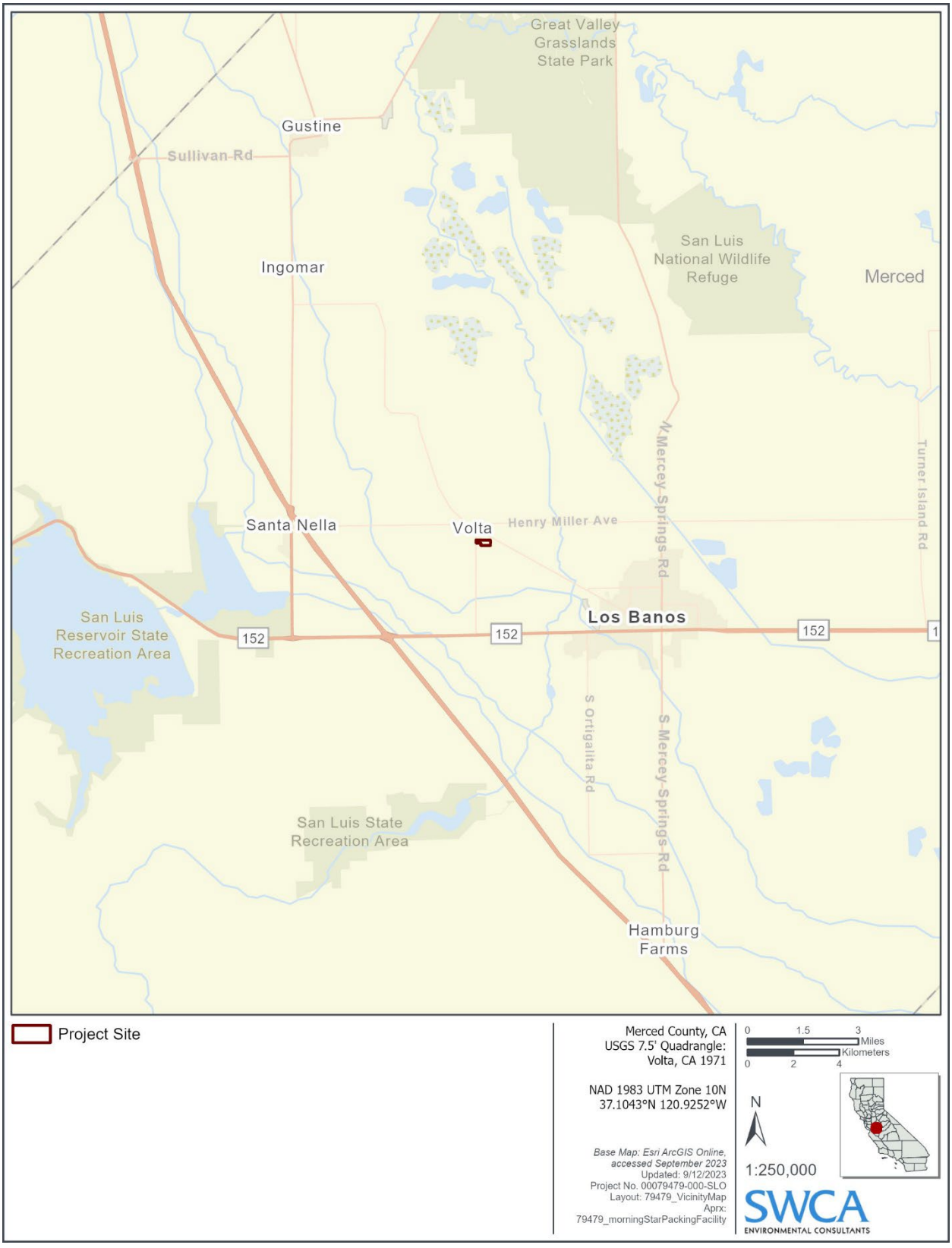

Figure 1. Project vicinity map.

Figure 2. Project location map.

1.3.1 *Project Components*

The proposed cafeteria breakroom building would be an approximately 15,000-square-foot, one-story building and would include a cafeteria, a kitchen, a dining room, restrooms, and lounges for employees (Figure 3). While specific design details and elevations of this proposed building are not yet finalized, the building would have a maximum height of 24 feet, with the ceiling of the first floor being at approximately 9 feet to 10 feet and a roof eave of 15 feet. The building would include installation and use of energy-efficient appliances, light-emitting diode (LED) light fixtures, and low-flow water fixtures. The cafeteria breakroom building would be used by approximately 300 current Morning Star Packing Company employees during the regular packing and shipping season, which typically occurs from July through early November. The proposed cafeteria breakroom building would require approximately seven new employees for ongoing operation and maintenance of the building. The building would rely on a proposed on-site septic system and leach field to collect and treat wastewater. The proposed leach field would be located at the western side of the project site (see Figure 2).

The project also includes the installation of an additional multiple effect tomato evaporator on-site to provide redundancy for existing on-site tomato processing operations. The evaporator would be located within close proximity to the other evaporators and processing equipment located on-site, and additional metal stairway access would be constructed to provide access to the evaporator. The evaporator would process approximately 160 tomatoes per hour and would be used when one of the currently operating evaporators needs to be temporarily brought out of commission for cleaning or maintenance purposes, so as to avoid a decrease in processing capacity rates. The overall tomato processing capacity of the plant would not increase.

Lastly, the project includes the installation of a 5-MW natural gas turbine generator to supply power to all on-site facility operations. The generator would be enclosed within a 2,000- to 3,000-square-foot structure (the exact design and size of this structure has not been finalized yet). An air pollution control system would also be installed in conjunction with the generator in accordance with applicable California Air Resources Board (CARB) and San Juaquin Valley Air Pollution Control District (SJVAPCD) guidelines. Upon installation of the generator, on-site plant operations would be eventually disconnected from existing Pacific Gas and Electric Company (PG&E) electricity service lines, and the generator would supply all of the plant facilities' electricity demands. It is expected that the proposed project would use an average of approximately 60,000 cubic feet of natural gas per hour. Natural gas service would be provided by PG&E.

1.3.2 *Construction*

Each of the proposed project components are generally planned to be constructed/installed between 2024 and 2029, with the construction of the cafeteria and breakroom building being constructed first. Each project component would take approximately 3 to 4 months to complete and would result in a cumulative total of 3 acres of site disturbance, as detailed in Table 1.

Table 1. Project Construction Details

Project Component	Construction Timeline (months)	Total Area of Disturbance (acres)	Earthwork to be Exported (cubic yards)	Earthwork to be Imported (cubic yards)	Maximum Number of Construction Workers On-Site
Cafeteria Break Room Building	4	0.5	600	100	20
Evaporator	3	0.5	50	30	20
Generator	3.5	0.5	30	50	10

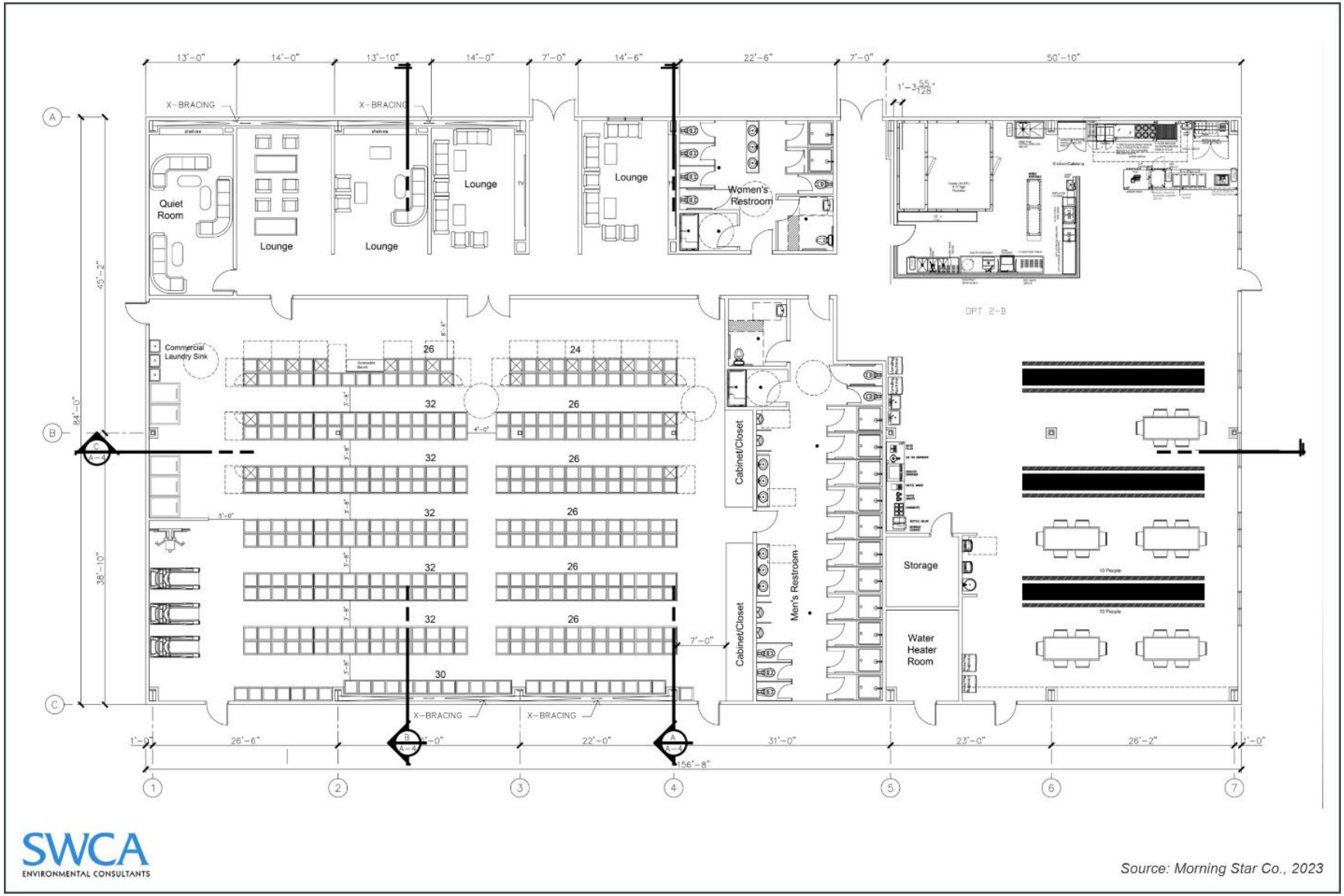

Figure 3. Preliminary floor plan of proposed cafeteria building.

1.4 Potential Authorizations, Permits, and Approvals

The potential authorizations, permits, reviews, and approvals from federal, state, and local agencies that would be required for the project are listed in Table 2.

Table 2. Potential Authorizations, Permits, and Approvals

Permit / Approval / Consultation	Authorizing Agency
State	
California Environmental Quality Act Environmental Compliance	Merced County Community and Economic Development Department
National Pollutant Discharge System Stormwater Permit for Construction Activities	Regional Water Quality Control Board
Oversized/Heavy Load Permit	California Department of Transportation
California Endangered Species Act Compliance	California Department of Fish and Wildlife
Authority to Construct/Permit to Operate	San Joaquin Valley Air Pollution Control District
Local	
Hazardous Materials Business Plan	Merced County Community and Economic Development Department
Land Use Development Permit	Merced County Community and Economic Development Department
Building Permit	Merced County Community and Economic Development Department

2 ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

Environmental Factors Potentially Affected

The proposed project could have a "Potentially Significant Impact" for environmental factors checked below. Please refer to the attached pages for discussion on mitigation measures or project revisions to either reduce these impacts to less than significant levels or require further study.

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

Environmental Determination

On the basis of this initial evaluation:

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

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

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

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

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

Date: _____ **Signed:** _____

I. Aesthetics

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

Setting

The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide people of the state "with . . . enjoyment of aesthetic, natural, scenic and historic environmental qualities" (California Public Resources Code [PRC] Section 21001(b)). A scenic vista is generally defined as a high-quality view displaying good aesthetic and compositional values that can be seen from public viewpoints. Some scenic vistas are officially or informally designated by public agencies or other organizations. A substantial adverse effect on a scenic vista would occur if the project would significantly degrade the scenic landscape as viewed from public roads or other public areas. A proposed project's potential effect on a scenic vista is largely dependent on the degree to which it would complement or contrast with the natural setting, the degree to which it would be noticeable in the existing environment, and whether it detracts from or complements the scenic vista.

The California Scenic Highway Program was created by the State Legislature in 1963 with the intention of protecting and enhancing the natural scenic beauty of California highways and adjacent corridors. A highway may be designated scenic depending on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. According to the California Department of Transportation (Caltrans) State Scenic Highway System Map, the nearest designated scenic highways are Interstate (I-) 5, located approximately 4 miles east of the project site and State Route (SR-) 152, located approximately 3.8 miles southwest of the project site (Caltrans 2018).

The *2030 Merced County General Plan Natural Resources Element* provides context for the existing visual character of the county and identifies policies to protect scenic resources in the county. The existing visual character of Merced County primarily consists of rural and agricultural landscapes, and scenic vistas include the Coastal and Sierra Nevada mountain ranges and the Los Banos, Merced, and San Joaquin Rivers and Bear Creek corridors. In addition, I-5 and SR-152 are designated scenic routes in parts of the county (County of Merced 2013a). The following goal and policies would be applicable to the proposed project:

Goal NR-4: Protect scenic resources and vistas.

Policy NR-4.1: **Scenic Resource Preservation.** Promote the preservation of agricultural land, ranch land, and other open space areas as a means of protecting the County's scenic resources.

Policy NR-4.5: **Light Pollution Reduction.** Require good lighting practices, such as the use of specific light fixtures that reduce light pollution, minimize light impacts, and preserve views of the night sky.

The project site is characterized by industrial uses associated with the operation of the existing packing plant. The site has flat to nearly level topography and is fully developed, with the exception of planted vegetation and trees located along the primary access driveway, providing access to the site, and planted hedges located along the southwestern and western boundary of the project site. The project site is generally surrounded by vehicle parking areas and storage uses associated with the packing plant to the north, agricultural lands and cooling ponds associated with the packing plant to the east, cooling pond and vehicle and equipment storages uses associated with the packing plant and residential uses located to the south, and Volta Road and residential uses to the west.

Environmental Evaluation

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

Scenic vistas in the county include the Coastal and Sierra Nevada mountain ranges and the Los Banos, Merced, and San Joaquin Rivers and Bear Creek corridors (County of Merced 2013a). The project site is not located within the viewshed of a scenic vista; therefore, the project would not have a substantial adverse effect on a scenic vista, and *no impacts* would occur.

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

The nearest designated scenic highways are I-5, located approximately 4 miles east of the project site, and SR-152, located approximately 3.8 miles southwest of the project site (Caltrans 2018). Due to the distance, the project site would not be visible from I-5 or SR-152; therefore, the project would not damage scenic resources within the viewshed of a state scenic highway, and *no impacts* would occur.

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

The project site is located in a rural area and currently consists of existing industrial development associated with the packing plant. The project site is generally surrounded by vehicle parking areas and storage uses associated with the packing plant to the north, agricultural lands and cooling ponds associated with the packing plant to the east, cooling pond and vehicle and equipment storages uses associated with the packing plant and residential uses located to the south, and Volta Road and residential uses to the west. The project includes the construction of an approximately 15,000-square-foot cafeteria

and break room building and an additional multi-effect evaporator and the installation of a 5-MW natural gas turbine generator.

The proposed cafeteria breakroom building would be developed within the western portion of the project site, in close proximity to the existing vehicle parking lot, modular structures, and Morning Star Trucking building. The cafeteria and breakroom building would have a maximum height of approximately 24 feet and would encompass an area of approximately 15,000 square feet. The proposed evaporator would be installed along the eastern property boundary, in close proximity to the other evaporators and industrial development. The gas turbine generator would be installed in the eastern portion of the project site, between the packing plant building and the settling pond. The generator would be enclosed within a 2,000- to 3,000-square-foot structure. The proposed project components would be developed entirely within the footprint of the existing packing plant and would not extend into previously undeveloped areas in a manner that could alter the existing visual character of the project area. Proposed project components would be consistent with the level and scale of the existing packing plant and would not introduce new architectural features or substantially increase the density of buildings at the project site. Therefore, the project would not substantially degrade the existing visual character or quality of public views of the site, and impacts would be *less than significant*.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Existing sources of lighting in the project area are associated with the packing plant, surrounding rural residences, and intermittent vehicle headlights along Volta and Ingomar Grade Roads. The project includes the construction of a cafeteria and break room building and an additional multi-effect evaporator and the installation of a 5-MW natural gas turbine generator, which would result in a marginal increase in lighting at the project site. Lighting fixtures would be installed in a downward-facing direction and shielded as necessary to comply with Merced County Code Section 18.40.070, which requires outdoor lighting to be designed and maintained to contain glare and reflection within the boundaries of the project site; be hooded, directed downward, and away from adjacent properties and public areas; avoid blinking, flashing, or unusually high intensity; and be similar in scale, intensity, and height to surrounding uses. Based on required compliance with the Merced County Code, the project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area; therefore, impacts would be *less than significant.*

Conclusion

The project would not substantially affect a scenic vista, damage a scenic resource, substantially degrade the existing visual character of the project area, or create a source of new light or glare. Therefore, impacts related to aesthetics would be less than significant, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

II. Agriculture and Forestry Resources

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

Setting

The California Department of Conservation (CDOC) Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and current land use. For environmental review purposes under CEQA, the FMMP categories of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land are considered "agricultural land." Other non-agricultural designations include, but are not limited to, Urban and Built-up Land, Other Land, and Water. According to the FMMP, the project site is located on land that is designated as Urban and Built-up land (CDOC 2022).

According to the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey, the project site is underlain by the following soil types (NRCS 2023):

- **Pedcat clay loam, leveled, 0 to 2 percent slopes:** This poorly drained soil has a very high runoff class and a depth to restrictive feature of more than 80 inches. The typical soil profile consists of clay loam, clay, and stratified sandy clay loam to clay. This soil is not considered Prime Farmland by the NRCS.
- **Volta clay loam, partially drained:** This poorly drained soil has a very high runoff class and a depth to restrictive feature of 46 to 60 inches to duripan. The typical soil profile consists of clay loam and cement. This soil is considered Farmland of Statewide Importance by the NRCS.

The Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agriculture or related open space use. In return, landowners receive property tax assessments that are much lower than normal because they are based on farming and open space uses as opposed to full market value. The project site is not subject to a Williamson Act contract (County of Merced 2022).

According to PRC Section 12220(g), forest land is defined as land that can support 10% native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. Timberland is defined as land, other than land owned by the federal government and land designated by the California Board of Forestry and Fire Protection as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees. The project site and surrounding area is not considered forestland by PRC Section 12220(g).

Environmental Evaluation

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

The project site is underlain by land designated as Urban and Built-Up Land by the FMMP (CDOC 2022). The project site does not consist of designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the FMMP; therefore, the proposed project would not result in conversion of Farmland, and *no impacts* would occur.

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

The western portion of the project site is zoned for General Agricultural (A-1) land uses and the remaining portions of the project site are zoned for Light Manufacturing (M-1) and General Manufacturing (M-2) land uses. The project includes the construction of an employee cafeteria and break room building and an additional multi-effect evaporator and the installation of a 5-MW natural gas turbine generator within the existing packing plant, which is a tomato processing and packaging facility. According to the Merced County Zoning Code, agricultural processing plants and associated facilities are an allowable use within the A-1 zoning designation. The project would not create a new land use on the project site and would support ongoing agricultural processing operations. Therefore, the project would be consistent with the existing zoning for A-1 uses. Further, the project site is not subject to a Williamson Act contract. Therefore, the project would not conflict with existing zoning for agricultural use, or a Williamson Act contract, and impacts would be *less than significant*.

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

The project site and surrounding area is not within forest land, timberland, or timberland production land use or zoning designations; therefore, the proposed project would not conflict with the zoning, or cause rezoning of, designated forest land, timberland, or timberland production, and *no impacts* would occur.

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

The project site and surrounding area is not designated or zoned for forest land uses and does not meet the definition of forest land established in PRC Section 12220(g). In addition, the project does not include the removal of any trees; therefore, the project would not result in the loss or conversion of forest land, and *no impacts* would occur.

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

As previously evaluated, the project would not result in the conversion of farmland or forest land and would not interfere with zoning for agricultural or forest land uses. The proposed project would not result in new land uses that could reduce the availability of water for existing agricultural uses in the vicinity of the project site. In addition, the proposed project does not include components that would increase dust that could inadvertently damage crops in the vicinity of the project site. Therefore, the project would not indirectly result in the conversion of Farmland or forest land, and *no impacts* would occur.

Conclusion

The proposed project would not result in the conversion of Farmland or forest land and would not interfere with zoning for agricultural or forest land uses. Therefore, impacts related to agriculture and forestry resources would be less than significant, and incorporation of mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

III. Air Quality

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

Setting

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the U.S. Environmental Protection Agency (USEPA) and California Air Resources Board (CARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). National and state standards have been established for six criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), particulate matter—which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$)—lead (Pb), and sulfur dioxide (SO_2). In addition, state standards exist for visibility-reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and California Ambient Air Quality Standards (CAAQS) are set at levels that protect public health with a margin of safety and are subject to periodic review and revision.

Merced County is located within the San Joaquin Valley Air Basin (SJVAB) and under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The San Joaquin Valley is prone to one of the most challenging air quality problems in the nation, as it is home to over 4,000,000 residents and includes several major metropolitan areas, vast expanses of agricultural land, industrial sources, highways, and schools. Under the NAAQS, the SJVAB is designated as Nonattainment-Extreme for the 8-hour O_3 standard, Maintenance-Serious for the PM_{10} standard, and Nonattainment-Moderate for the $PM_{2.5}$ standard. Under the CAAQS, the SJVAB is designated Nonattainment for the 1-hour O_3 standard, 8-hour O_3 standard, PM_{10} standards, and $PM_{2.5}$ standards.

The SJVAPCD has established air quality thresholds of significance for CO, nitrogen oxides (NO_X), reactive organic gases (ROG), sulfur oxides (SO_X), PM_{10}, and $PM_{2.5}$, as shown in Table 3.

Table 3. San Joaquin Valley Air Pollution Control District Thresholds

		Operational Emissions (TPY)	
Pollutant/Precursor	Construction Emissions (TPY)	Permitted Equipment and Activities	Non-Permitted Equipment and Activities
CO	100	100	100
NO_X	10	10	10
ROG	10	10	10
SO_X	27	27	27
PM_{10}	15	15	15
$PM_{2.5}$	15	15	15

Source: SJVAPCD (2015)
Note: TPY = tons per year

CARBON MONOXIDE

CO, an odorless, colorless, poisonous gas that is highly reactive, is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. CO is a byproduct of motor vehicle exhaust, which contributes more than 66% of all CO emissions nationwide. In cities, automobile exhaust can cause as much as 95% of all CO emissions. These emissions can result in high concentrations of CO, particularly in local areas with heavy traffic congestion. Other sources of CO

emissions include industrial processes and fuel combustion in sources, such as boilers and incinerators. Despite an overall downward trend in concentrations and emissions of CO, some metropolitan areas still experience high levels of CO. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

OZONE

O_3 occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. Here, at ground level, troposphere, or "bad," O_3 is an air pollutant that damages human health, vegetation, and many common materials. It is a key ingredient of urban smog. The troposphere extends to a level about 10 miles up where it meets the second layer, the stratosphere. The stratospheric, or "good," O_3 layer extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays. "Bad" O_3 is what is known as a photochemical pollutant. It needs ROG, NO_X, and sunlight to form. ROG and NO_X are emitted from various sources throughout Merced County. Significant O_3 formation generally requires an adequate number of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. To reduce O_3 concentrations, it is necessary to control the emissions of these O_3 precursors.

O_3 is a regional air pollutant. It is generated over a large area and transported and spread by the wind. As the primary constituent of smog, O_3 is the most complex, difficult to control, and pervasive of the criteria pollutants. Unlike other pollutants, it is not emitted directly into the air by specific sources but is created by sunlight acting on other air pollutants (the precursors), specifically ROG and NO_X. Sources of precursor gases number in the thousands and include common sources, such as consumer products, gasoline vapors, chemical solvents, and combustion byproducts of various fuels. Originating from gas stations, motor vehicles, large industrial facilities, and small businesses such as bakeries and dry cleaners, the O_3-forming chemical reactions often take place in another location, catalyzed by sunlight and heat. Thus, high O_3 concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

PARTICULATE MATTER

Particulate matter (PM_{10} and $PM_{2.5}$) pollution consists of very small liquid and solid particles floating in the air. Some particles are large and dark enough to be seen as soot or smoke, and others are so small they can be detected only with an electron microscope. Particulate matter is a mixture of materials that can include smoke, soot, dust, salt, acids, and metals and can form when gases emitted from motor vehicles and industrial sources undergo chemical reactions in the atmosphere. Particulate matter or airborne dusts are the small particles that remain suspended in the air for long periods of time. Particulates of concern are PM_{10} and $PM_{2.5}$, which are small enough to be inhaled, pass through the respiratory system, and lodge in the lungs, possibly leading to adverse health effects; $PM_{2.5}$ is a subset of PM_{10}.

The composition of PM_{10} and $PM_{2.5}$ can vary greatly with time, location, the sources of the material, and meteorological conditions. Dust, sand, salt spray, metallic and mineral particles, pollen, smoke, mist, and acid fumes are the main components of PM_{10} and $PM_{2.5}$. In addition to those listed previously, secondary particles can also be formed as precipitates from photochemical reactions of gaseous SO_2 and NO_X in the atmosphere to create sulfates (SO_4) and nitrates (NO_3), respectively. Secondary particles are of greatest concern during the winter months when low inversion layers tend to trap the precursors of secondary particulates.

In the western United States, there are sources of PM_{10} in both urban and rural areas. PM_{10} and $PM_{2.5}$ are emitted from stationary and mobile sources, including diesel trucks and other motor vehicles; power

plants; industrial processes; wood-burning stoves and fireplaces; wildfires; dust from roads, construction, landfills, and agriculture; and fugitive windblown dust. Because particles originate from a variety of sources, their chemical and physical compositions vary widely.

COMBUSTION EMISSIONS

Combustion emissions (ROG and NO_X) are most significant when using large diesel-fueled scrapers, loaders, bulldozers, haul trucks, compressors, generators, and other heavy equipment. Emissions can vary substantially from day to day, depending on the level of activity and the specific type of operation. ROG and NO_X are the critical pollutants caused by construction work because of the high output of these pollutants by the heavy diesel equipment normally used in grading operations.

SULFATES

Sulfates (SO_4^{-2}) are particulate products that come from the combustion of sulfur-containing fossil fuels. When sulfur monoxide (SO) or SO_2 is exposed to oxygen, it precipitates out into sulfates (SO_3 or SO_4). Sulfates are the fully oxidized ionic form of sulfur that occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline, diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features.

SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT CLEAN AIR PLAN

The SJVAPCD developed the *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards* (2018 $PM_{2.5}$ Plan), which utilizes extensive science and research, state of the art air quality management, and the best available information in developing a strategy to attain the federal health-based 1997, 2006, and 2012 NAAQS for $PM_{2.5}$ as expeditiously as possible (SJVAPCD 2018). The following summarizes the SJVAPCD's ongoing efforts to improve air quality in the San Joaquin Valley:

1. Regulatory measures that build off existing stringent requirements, including new stationary source measures to further strengthen NO_X and/or $PM_{2.5}$ requirements to achieve greater emissions reductions.
2. Incentive-based measures that accelerate the deployment of cleaner vehicles and technologies in a variety of sectors.
3. State mobile source strategy that reduces emissions from mobile sources under state and federal jurisdiction, including heavy duty trucks, agricultural equipment, locomotives, and off-road equipment.
4. Targeted "hot-spot" strategy that focuses additional regulatory and incentive-based measures for residential wood burning and commercial charbroiling operations.
5. Public outreach and education that encourages and empowers the public to understand air quality issues.
6. Technology advancement and demonstration efforts to advance technology and accelerate the deployment of innovative clean air technologies that can bring about emission reductions as rapidly as practicable.
7. Call for action by the state and federal governments to do their part in taking responsibility for regulating, and taking actions, to reduce emissions in the San Joaquin Valley.

The SJVAPCD is in the process of developing a 2023 $PM_{2.5}$ Plan to address the 2012 $PM_{2.5}$ annual NAAQS and may also include additional analyses for the 2006 $PM_{2.5}$ NAAQS (SJVAPCD 2023).

MERCED COUNTY GENERAL PLAN

The *2030 Merced County General Plan Air Quality Element* provides the following goals and policies related to the reduction of air pollutants and greenhouse gas (GHG) emissions that would be applicable to the proposed project:

Goal AQ-1: Reduce air pollutants and greenhouse gas emissions and anticipate adaptation due to future consequences of global and local climate change.

Goal AQ-4: Reduce traffic congestion and vehicle trips through more efficient infrastructure and support for trip reduction programs.

- **Policy AQ-4.1:** **Decrease Vehicle Miles Traveled.** Require diverse, higher-density land uses (e.g., mixed-use and infill development) to decrease vehicle miles traveled.

Goal AQ-6: Improve air quality in Merced County by reducing emissions of PM_{10} and other particulates from mobile and non-mobile sources.

- **Policy AQ-6.1:** **Particulate Emissions from Construction.** Support the San Joaquin Valley Air Pollution Control District's efforts to reduce particulate emissions from construction, grading, excavation, and demolition to the maximum extent feasible and consistent with State and Federal regulations.
- **Policy AQ-6.2:** **Emissions from County Roads.** Require PM_{10} emission reductions on County-maintained roads to the maximum extent feasible and consistent with State and Federal regulations.
- **Policy AQ-6.3:** **Paving Materials.** Require all access roads, driveways, and parking areas serving new commercial and industrial development to be constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use.

Environmental Evaluation

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

According to the SJVAPCD 2018 $PM_{2.5}$ Plan, the San Joaquin Valley is one of the fastest growing regions in the state, and the California Department of Finance (CDOF) projects that the population of the valley will increase by 19.3% between 2015 and 2030, while the state of California is only projected to increase by 12.5% in that same period (SJVAPCD 2018). An increase in population generally means there will be an increase in air pollutant emissions and vehicle miles traveled (VMT) (SJVAPCD 2018).

The project is limited to the construction and operation of a new cafeteria and break room building for current employees, construction and operation an additional multi-effect evaporator to provide redundancy in processing operations, and the installation of a 5-MW natural gas turbine generator to increase the facility's power source reliability at the packing plant. Construction and operation of the proposed project components would result in a marginal increase of approximately seven employees for ongoing operation and maintenance of the cafeteria and break room building. Other project components would not result in additional employment opportunities. Therefore, the project would not increase the capacity of the packing plant in a manner that would substantially increase the number of employees or vehicle trips within the project area. The project would not significantly increase population growth, VMT, or associated vehicle emissions within the region, which would be consistent with the SJVAPCD 2018 $PM_{2.5}$ Plan, and impacts would be *less than significant*.

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

The SJVAB is designated as Nonattainment-Extreme for the 8-hour O_3 standard, Maintenance-Serious for the PM_{10} standard, and Nonattainment-Moderate for the $PM_{2.5}$ standard under the NAAQS and as Nonattainment for the 1-hour and 8-hour O_3 standards, PM_{10} standard, and $PM_{2.5}$ standard under the CAAQS. The project would generate emissions during construction and operation of the cafeteria and break room building, an additional multi-effect evaporator, and a 5-MW natural gas turbine generator and associated enclosure.

Short-Term Emissions

Heavy equipment and earth-moving construction activities generate fugitive dust and combustion emissions; these may have substantial temporary impacts on local air quality. Fugitive dust emissions would result from land clearing, demolition, excavation, grading activities, and trip generation. Combustion emissions, such as NO_X and PM_{10}, are most significant when using large diesel-fueled scrapers, loaders, bulldozers, haul trucks, compressors, generators, and other types of equipment.

Estimated construction air emissions were calculated for the proposed project by using the California Emissions Estimator Model (CalEEMod). The CalEEMod results are included in Appendix A, and the results of the unmitigated estimated construction emission calculations for the proposed project are shown in Table 4 (AMBIENT Air Quality & Noise Consulting [AMBIENT] 2023).

Table 4. Annual Construction Emissions for the Proposed Project

	Criteria Pollutant (TPY)					
Source	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Total	0.09	0.84	0.89	0.04	0.05	0.04
SJVAPCD Threshold	10	10	100	27	15	15
Exceed Threshold?	*No*	*No*	*No*	*No*	*No*	*No*

Source: AMBIENT (2023a)
Note: TPY = tons per year

Based on the results shown in Table 4, construction air emissions would not exceed the SJVAPCD thresholds for all pollutants. Further, the project would be required to comply with all applicable SJVAPCD Rules and Regulations intended to reduce short-term air emissions in the San Joaquin Valley,

including SJVAPCD Standard Regulation IV (Prohibitions) and SJVAPCD Standard Regulation VIII (Fugitive PM_{10} Prohibitions), which require the implementation of standard dust control and other air quality protection measures. Based on the limited extent of construction-related air emissions and required compliance with SJVAPCD Rules and Regulations, the project would not result in substantial pollutant concentrations during construction activities, and impacts would be *less than significant*.

Long-Term Emissions

Operational air emissions are typically generated by operational vehicle trips and energy use. Estimated operational air emissions were calculated for the proposed project by using the CalEEMod. The CalEEMod results are included in Appendix A, and the results of the estimated annual operational emission calculations for the proposed project are shown in Table 5.

Table 5. Annual Operational Emissions for the Proposed Project

	Criteria Pollutant (TPY)					
Source	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Cafeteria Building	0.08	0.09	0.14	0.01	0.01	0.01
Evaporator	0.01	0.01	0.01	0.01	0.01	0.01
Turbine Generator	0.01	0.01	0.01	0.01	0.01	0.01
Total	**0.10**	**0.11**	**0.16**	**0.03**	**0.03**	**0.03**
SJVAPCD Threshold	**10**	**10**	**100**	**27**	**15**	**15**
Exceed Threshold?	***No***	***No***	***No***	***No***	***No***	***No***

Source: AMBIENT (2023a)
Note: TPY = tons per year

Based on the results shown in Table 5, operational air emissions would comply with the SJVAPCD thresholds for all pollutants. Further, the project would be required to comply with all applicable SJVAPCD Rules and Regulations intended to reduce long-term air emissions in the San Joaquin Valley, including SJVAPCD Standard Regulation IV (Prohibitions), which requires the implementation of air quality protection measures. Based on the limited extent of operational air emissions and required compliance with SJVAPCD Rules and Regulations, the project would not result in substantial pollutant concentrations during construction activities, and impacts would be *less than significant*.

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

The nearest sensitive receptors to the project site are rural residences located approximately 150 feet south of the proposed cafeteria and break room building and 1,250 feet east of the proposed evaporator and turbine generator. Based on the close proximity of the nearest sensitive receptors, the proposed project has the potential to expose nearby residents to short-term construction-related emissions. As discussed in *Impact Discussion III(b)*, construction of the project would generate emissions, including diesel particulate matter (diesel PM) and fugitive dust. Construction and operational emissions would not exceed SJVAPCD thresholds; however, due to the proximity of sensitive receptors, compliance with the SJVAPCD Standard Regulation VIII Control Measures and Mitigation Measures AQ-1 through AQ-3 would be required to reduce the potential for a nuisance and exposure to diesel PM and fugitive dust. Therefore, impacts would be *less than significant with mitigation*.

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

Construction activities generally have the potential to emit odors from diesel equipment, paints, solvents, fugitive dust, and adhesives. Any odors generated by construction activities would be intermittent and temporary, and generally would not extend beyond the construction area. Any construction odors would be temporary and limited to the construction phase of the proposed project. The project would include the construction and operation of an employee cafeteria and break room building, an additional multi-effect evaporator, and 5-MW natural gas turbine generator. The evaporator would be used for the processing of tomatoes and would be used when one of the currently operating evaporators needs to be temporarily brought out of commission for cleaning or maintenance purposes; therefore, the additional evaporator would not increase processing activities in a manner that could generate new sources of other emissions, including odors. The generator would be enclosed within a 2,000- to 3,000-square-foot structure and an air pollution control system would also be installed in conjunction with the generator in accordance with CARB and SJVAPCD guidelines, which would avoid the generation of other emissions, including odors, associated with the new generator. Further, the project would be required to comply with SJVAPCD Rule 4102 (Nuisance), which prohibits the creation of short- and long-term offensive odors. The project is not located in an area with known potential for naturally occurring asbestos (NOA) (California Geologic Survey [CGS] 2011). Therefore, construction activities would not have the potential to expose workers or surrounding land uses to harmful levels of NOA. The project does not include the demolition of existing on-site buildings or other structures that could release asbestos-containing material (ACM) or lead-based paint. Based on required compliance with SJVAPCD Rule 4102, the project would not result in adverse other emissions, including odors, and impacts would be *less than significant*.

Conclusion

The project would be consistent with the goals intended to reduce VMT outlined in the 2018 $PM_{2.5}$ Plan. The project would not generate construction-related or operational air pollutant emissions above SJVAPCD thresholds of significance. With compliance with SJVAPCD Standard Regulation VIII Control Measures and implementation of Mitigation Measures AQ-1 through AQ-3, the project would not expose sensitive receptors to substantial pollutant concentrations. Further, the project would not generate adverse odors or other emissions. Therefore, impacts related to air quality would be less than significant, and no mitigation is necessary.

Mitigation Measures

AQ-1 **Permit Requirements.** Prior to ground disturbance and construction, the Construction Contractor shall obtain all required permits for dust control and the use of portable equipment, 50 horsepower or greater, from the San Joaquin Valley Air Pollution Control District. Upon application for construction permits, all required mitigation measures shall be shown on all applicable grading or construction plans and implemented during all applicable grading and construction activities.

AQ-2 **Dust Control Measures.** No person shall perform any construction, demolition, excavation, extraction, or other earth-moving activities unless measures are sufficiently implemented to limit visible dust emissions (VDE) to 20% opacity and comply with the conditions for a stabilized surface area when applicable. In addition to the requirements of this rule, a person shall comply with all other applicable requirements of San Joaquin Valley Air Pollution Control District Regulation VIII. An individual shall monitor the fugitive dust emissions to ensure the following requirements are met:

1. Pre-Activity:
    a. Pre-water site sufficient to limit VDE to 20% opacity, and
    b. Phase work to reduce the amount of disturbed surface area at any one time.
2. During Active Operations:
    a. Apply water or chemical/organic stabilizers/suppressants sufficient to limit VDE to 20% opacity;
    b. Construct and maintain wind barriers sufficient to limit VDE to 20% opacity. If utilizing wind barriers, control measure 2.a above shall also be implemented; and
    c. Apply water or chemical/organic stabilizers/suppressants to unpaved haul/access roads and unpaved vehicle/equipment traffic areas sufficient to limit VDE to 20% opacity and meet the conditions of a stabilized unpaved road surface.
3. Temporary Stabilization During Periods of Inactivity:
    a. Restrict vehicular access to the area; and
    b. Apply water or chemical/organic stabilizers/suppressants, sufficient to comply with the conditions of a stabilized surface. If an area having 0.5 acre or more of disturbed surface area remains unused for 7 or more days, the area must comply with the conditions for a stabilized surface area as defined in Section 3.58 of Rule 8011.

AQ-3 **Construction Emissions.** The project shall utilize clean off-road construction equipment, including the latest tier equipment, where feasible.

IV. Biological Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
(c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒

	Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
(e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
(f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Setting

The federal Endangered Species Act (FESA) of 1973 provides legislation to protect federally listed plant and wildlife species and requires that the responsible agency or individual consult with the U.S. Fish and Wildlife Service (USFWS) to determine the extent of impact to a particular species. If the USFWS determines that impacts to a species would likely occur, alternatives and measures to avoid or reduce impacts must be identified.

The Migratory Bird Treaty Act (MBTA) of 1918 protects all migratory birds, including their eggs, nests, and feathers. The MBTA was originally drafted to put an end to the commercial trade of bird feathers, popular in the latter part of the 1800s. The MBTA is enforced by the USFWS, and potential impacts to species protected under the MBTA are evaluated by the USFWS in consultation with other federal agencies.

The California Endangered Species Act (CESA) of 1970 ensures legal protection for plants and wildlife formally listed as endangered or threatened by the State of California. California Fish and Game Code (CFGC) Sections 2080 and 2081 prohibit the take (defined as hunting, pursuing, catching, capturing, or killing) of endangered, threatened, or candidate species unless otherwise authorized by permit. The California Department of Fish and Wildlife (CDFW) regulates activities that may result in the "take" of such species. The CESA has a much less inclusive definition of "take" (limited to direct take such as hunting, shooting, capturing, etc.) that does not include the broad "harm" and "harassment" definitions in federal law.

CFGC Sections 3511, 4700, 5050, and 5515 include provisions to protect Fully Protected (FP) species, such as: (1) prohibiting take or possession "at any time" of the species listed in the statute, with few exceptions; (2) stating that "no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to "take" the species;" and (3) stating that no previously issued permits or licenses for take of the species "shall have any force or effect" for authorizing take or possession. The CDFW is unable to authorize incidental take of FP species when activities are proposed in areas inhabited by those species; therefore, project-related activities must avoid take of FP species.

The CDFW also maintains a list of California Species of Special Concern (SSC). Species are given this designation based on limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. Under state law, the CDFW is empowered to review projects for their potential to impact state-listed and SSC species and their habitats.

CFGC Section 3503, Protections of Bird's Nests, includes provisions to protect the nests and eggs of birds. CFGC Section 3503 states: "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." In addition, CFGC Section 3513 states that it is unlawful to take or possess any migratory bird as designated in the MBTA or any part of such migratory birds except as provided by rules and regulations under provisions of the MBTA.

PROJECT SITE SETTING

The project site is characterized by industrial uses associated with the operation of the existing packing plant. The project site has flat to nearly level topography and is fully developed, with the exception of planted trees located along the primary access driveway that provides access to the project site and planted hedges located along the southwestern and western boundary of the project site. There are no surface water or wetland resources located within the project area. Figures 4 and 5 include photographs of the existing conditions of the project site.

Figure 4. Photograph taken on the western side of the project site near approximate location of the proposed employee cafeteria building, facing west (January 30, 2023).

Figure 5. Photograph taken on the eastern side of the project site near approximate location of the proposed 5-MW natural gas generator, facing southeast (January 30, 2023).

SPECIAL-STATUS PLANT SPECIES

Based on a nine-quadrant search of the CDFW California Natural Diversity Database (CNDDB) (CDFW 2023) and the California Native Plant Society (CNPS) Rare Plant Inventory (CNPS 2023), the following special-status plant species are known to occur within the project region (Appendix B):

- Delta button-celery (*Eryngium racemosum*; California Rare Plant Rank [CRPR] 1B.1)
- alkali milk-vetch (*Astragalus tener var. tener*; CRPR 1B.2)
- heartscale (*Atriplex cordulata var. cordulata*; CRPR 1B.2)
- Lost Hills crownscale (*Atriplex coronata var. vallicola*; CRPR 1B.2)
- lesser saltscale (*Atriplex minuscula*; CRPR 1B.1)
- vernal pool smallscale (*Atriplex persistens*; CRPR 1B.2)
- Lemmon's jewelflower (*Caulanthus lemmonii*; CRPR 1B.2)
- hispid salty bird's-beak (*Chloropyron molle ssp. hispidum*; CRPR 1B.1)
- recurved larkspur (*Delphinium recurvatum*; CRPR 1B.2)
- spiny-sepaled button-celery (*Eryngium spinosepalum*; CRPR 1B.2)
- alkali-sink goldfields (*Lasthenia chrysantha*; CRPR 1B.1)
- Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*; CRPR 1B.1)
- Hall's bush-mallow (*Malacothamnus hallii*; CRPR 1B.2)
- shining navarretia (*Navarretia nigelliformis ssp. radians*; CRPR 1B.2)

- California alkali grass (*Puccinellia simplex*; CRPR 1B.2)
- Sanford's arrowhead (*Sagittaria sanfordii*; CRPR 1B.2)
- Arburua Ranch jewelflower (*Streptanthus insignis ssp. lyonia*; CRPR 1B.2)

The project site is fully developed and experiences frequent human and vehicle disturbance; therefore, no special-status plant species are expected to occur on the project site.

SPECIAL-STATUS WILDLIFE SPECIES

Based on a nine-quadrant search of the CDFW CNDDB (CDFW 2023), the following special-status wildlife species are known to occur within the project region (see Appendix B):

- blunt-nosed leopard lizard (*Gambelia sila*): This species is an FP species that typically occurs in sparsely vegetated alkali and desert scrub habitats in areas of low topographic relief. The nearest recorded occurrence of this species is approximately 5.6 miles southwest of the project site (CNDDB Occ. 117). The project site is fully developed and experiences frequent human and vehicle disturbance; therefore, suitable vegetated alkali and desert scrub habitat for this species does not occur on the project site. Due to the lack of suitable habitat and distance from the nearest recorded occurrence, this species is not expected to occur within the project area.
- California red-legged frog (*Rana draytonii*): This species is an SSC that typically occurs in lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation. The nearest recorded occurrence of this species is approximately 14 miles west of the project site (CNDDB Occ. 816). The project site is fully developed and experiences frequent human and vehicle disturbance; therefore, suitable habitat for this species does not occur on the project site. Due to the lack of suitable habitat and distance from the nearest recorded occurrence, this species is not expected to occur within the project area.
- California tiger salamander - Central California Distinct Population Segment (DPS) (*Ambystoma californiense pop. 1*): This species is a federally and state threatened species that typically occurs in vacant or mammal-occupied burrows in grassland, savanna, or open woodland habitats. The nearest recorded occurrence of this species is approximately 7.4 miles northeast of the project site (CNDDB Occ. 12). The project site is fully developed and experiences frequent human and vehicle disturbance; therefore, suitable grassland, savanna, and open woodland habitat for this species does not occur on the project site. Due to the lack of suitable habitat and distance from the nearest recorded occurrence, this species is not expected to occur within the project area.
- Conservancy fairy shrimp (*Branchinecta conservatio*): The species is a federally endangered species that is endemic to the grasslands of the northern two-thirds of the Central Valley and typically occurs in large, turbid pools. The nearest recorded occurrence of this species is approximately 11 miles northeast of the project site (CNDDB Occ. 7). The project site is fully developed and experiences frequent human and vehicle disturbance; therefore, suitable grassland and vernal pool habitat for this species does not occur on the project site. Due to the lack of suitable habitat and distance from the nearest recorded occurrence, this species is not expected to occur within the project area.
- foothill yellow-legged frog - Central Coast DPS (*Rana boylii pop. 4*): This species is a federally threatened and state endangered species that typically occurs in lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation. The nearest recorded occurrence of this species is approximately 10.4 miles northwest of the project site (CNDDB Occ. 101). The project site is fully developed and experiences frequent human and vehicle disturbance; therefore, suitable habitat for this species does not occur on the project site.

Due to the lack of suitable habitat and distance from the nearest recorded occurrence, this species is not expected to occur within the project area.

- giant gartersnake (*Thamnophis gigas*): This species is a federally and state threatened species that typically occurs in freshwater marsh and low-gradient streams and has also adapted to drainage canals and irrigation ditches. The nearest recorded occurrence of this species is approximately 3 miles northeast of the project site (CNDDB Occ. 44). The project site is fully developed and experiences frequent human and vehicle disturbance; therefore, suitable marsh and stream habitat for this species does not occur on the project site. Due to the lack of suitable habitat and distance from the nearest recorded occurrence, this species is not expected to occur within the project area.
- giant kangaroo rat (*Dipodomys ingens*): This species is a federally and state endangered species that typically occurs in annual grasslands on the western side of the San Joaquin Valley and may also occur in alkali scrub habitat. The nearest recorded occurrence of this species is approximately 14 miles southeast of the project site (CNDDB Occ. 36). The project site is fully developed and experiences frequent human and vehicle disturbance; therefore, suitable grassland and scrub habitat for this species does not occur on the project site. Due to the lack of suitable habitat and distance from the nearest recorded occurrence, this species is not expected to occur within the project area.
- longhorn fairy shrimp (*Branchinecta longiantenna*): This species is a federally endangered species that is endemic to the eastern margin of the Central Coast mountains and typically occurs in seasonally astatic grassland vernal pools. The nearest recorded occurrence of this species is approximately 3 miles northeast of the project site (CNDDB Occs. 8, 10). The project site is fully developed and experiences frequent human and vehicle disturbance; therefore, suitable grassland and vernal pool habitat for this species does not occur on the project site. Due to the lack of suitable habitat and distance from the nearest recorded occurrence, this species is not expected to occur within the project area.
- Nelson's antelope squirrel (*Ammospermophilus nelson*): This species is a state threatened species that occurs in the western portion of the San Joaquin Valley in dry, sparsely vegetated loam soils. The nearest recorded occurrence of this species is approximately 14 miles southeast of the project site (CNDDB Occ. 294). The project site is fully developed and experiences frequent human and vehicle disturbance; therefore, suitable habitat for this species does not occur on the project site. Due to the lack of suitable habitat and distance from the nearest recorded occurrence, this species is not expected to occur within the project area.
- steelhead - Central Valley DPS (*Oncorhynchus mykiss irideus pop. 11*): This species is a federally threatened species that typically occurs in flowing waters. The nearest recorded occurrence of this species is approximately 10.4 miles northeast of the project site (CNDDB Occ. 25). The project site is fully developed and experiences frequent human and vehicle disturbance; therefore, suitable habitat for this species does not occur on the project site. Due to the lack of suitable habitat and distance from the nearest recorded occurrence, this species is not expected to occur within the project area.
- Swainson's hawk (*Buteo swainsoni*): This species is a state threatened species that breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. The nearest recorded occurrence of this species is approximately 0.6 mile northeast of the project site (CNDDB Occ. 1,750). There are existing trees within the project site that could provide nesting habitat for migratory bird species within the project area. Based on the presence of potentially suitable habitat with the project area and close proximity of the nearest recorded occurrence, there is some potential for this species to occur within the project area.

- tricolored blackbird (*Agelaius tricolor*): This species is an SSC that typically occurs in freshwater, marsh, and wetland habitats. The nearest recorded occurrence of this species is approximately 0.7 mile northwest of the project site (CNDDB Occ. 658). The project site is fully developed and experiences frequent human and vehicle disturbance; therefore, suitable freshwater, marsh, and wetland habitat for this species does not occur on the project site. Due to the lack of suitable habitat, this species is not expected to occur within the project area.
- valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*): This species is a federally threatened species that typically occurs in riparian scrub habitat. The nearest recorded occurrence of this species is approximately 20.9 miles northwest of the project site (CNDDB Occ. 47). The project site is fully developed and experiences frequent human and vehicle disturbance; therefore, suitable riparian scrub habitat for this species does not occur on the project site. Due to the lack of suitable habitat and distance from the nearest recorded occurrence, this species is not expected to occur within the project area.
- vernal pool fairy shrimp (*Branchinecta lynchi*): This species is a federally endangered species that is endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains and typically occurs in astatic rain-filled pools. The nearest recorded occurrence of this species is approximately 7.8 miles northeast of the project site (CNDDB Occ. 104). The project site is fully developed and experiences frequent human and vehicle disturbance; therefore, suitable grassland and vernal pool habitat for this species does not occur on the project site. Due to the lack of suitable habitat and distance from the nearest recorded occurrence, this species is not expected to occur within the project area.
- vernal pool tadpole shrimp (*Lepidurus packardi*): This species is a federally endangered species that typically occurs in vernal pools and swales containing clear to highly turbid water. The nearest recorded occurrence of this species is approximately 5.2 miles east of the project site (CNDDB Occ. 176). The project site is fully developed and experiences frequent human and vehicle disturbance; therefore, suitable vernal pool habitat for this species does not occur on the project site. Due to the lack of suitable habitat and distance from the nearest recorded occurrence, this species is not expected to occur within the project area.

Environmental Evaluation

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

The project includes ground-disturbing activities for construction of the proposed project, which would have the potential to result in direct removal of special-status plant species if present within the project site during construction. In addition, proposed construction activities have the potential to result in direct (i.e., take) or indirect (e.g., noise, dust, light pollution) disturbance to special-status wildlife species if present within the project area during project construction. As previously identified, the project site is fully developed and experiences frequent human and vehicle disturbance; therefore, no special-status plant species are expected to occur on the project site. As such, the project would not have the potential to result in adverse effects to special-status plant species. Due to the lack of natural areas within the project area, the project site does not provide suitable habitat for special-status wildlife species. However, there is some potential for migratory birds protected under the MBTA to nest within the planted trees and hedges within the project area. Proposed construction activities have the potential to result in direct and indirect disturbance to special-status and nesting bird species if present within the project area during project

construction. Mitigation Measure BIO-1 has been included to require preconstruction nesting bird surveys and identifies the proper protocol to be implemented if birds are found nesting within the project area. Implementation of the identified mitigation would avoid and/or minimize potential impacts related to special-status and nesting migratory birds. Based on the lack of suitable habitat for special-status species and implementation of Mitigation Measure BIO-1, the project would not result in adverse impacts to special-status plant or wildlife species, and impacts would be *less than significant with mitigation*.

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

The project site consists entirely of developed areas and does not include any riparian habitat or sensitive natural communities; therefore, the project would not result in a substantial adverse effect on any riparian habitat or other sensitive natural community, and *no impacts* would occur.

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

According to the USFWS National Wetlands Inventory (NWI) Surface Waters and Wetlands Mapper, there are no mapped wetland areas within or adjacent to the project area (USFWS 2023). Based on the absence of wetlands within the project area, the project would not result in a substantial adverse effect on a federally or state-protected wetland, and *no impacts* would occur.

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

The project site and surrounding area consist entirely of industrial development and other activities associated with the packing plant. There are no waterways within the project area that could provide migratory fish or breeding habitat. Since the project area does not provide terrestrial or aquatic habitat connectivity, the project would not preclude use of the site as a terrestrial or aquatic wildlife corridor. In addition, the project does not include the removal of any trees or shrubs that could reduce the availability of nesting habitat for migratory birds that may occur at the project site. Therefore, the project would not interfere substantially with the movement of migratory species, and *no impacts* would occur.

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

The *2030 Merced County General Plan Natural Resources Element* identifies several policies pertaining to the preservation and protection of biological resources within the county, including protection of natural lands and special habitats (including, but not limited to wetlands, vernal pools, wildlife movement and migration corridors, etc.), establishment of wetland and riparian habitat buffers, wetland avoidance and setbacks, and incorporation of federal and state special-status species surveys and mitigation requirements in the County of Merced's (County) review processes for public and private projects. The project would not result in any potentially significant impacts to sensitive habitats, such as riparian habitats, wetlands, or wildlife migratory corridors. The project would not result in the removal of any

locally important tree species. Therefore, the project would not conflict with any local policies or ordinances, and *no impacts* would occur.

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

Based on the records and literature research conducted for the project, the project site does not overlap with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other conservation plans. Therefore, the project would not conflict with any approved local, regional, or state habitat conservation plans, and *no impacts* would occur.

Conclusion

The project would not result in adverse impacts to special-status plants, sensitive natural communities, wetlands, wildlife corridors, or other sensitive biological resources. Mitigation Measure BIO-1 has been included to avoid and/or minimize potential impacts related to migratory birds. The project would not conflict with a Habitat Conservation Plan. Upon implementation of Mitigation Measure BIO-1, potential impacts related to biological resources would be less than significant.

Mitigation Measures

BIO-1 **Nesting Bird Surveys.** If demolition, site preparation, and/or construction activities are proposed during the typical nesting bird season (February 1–September 15), a nesting bird survey shall be conducted by a qualified biologist no more than 10 days prior to the start of demolition and/or ground-disturbing activities to determine presence/absence of nesting birds. Surveys shall cover all areas potentially affected by the project through direct impacts (e.g., nest destruction) or indirect impacts (e.g., noise, vibration, odors, movement of workers or equipment, etc.). If absence of nesting birds is verified, construction can proceed with submittal of the survey report to the County of Merced Community & Economic Development Department. If nesting activity is detected, the following measures shall be implemented:

1. **Buffer Establishment.** If an active bird nest is observed during preconstruction surveys or during construction, a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors shall be implemented using high-visibility markers or fencing. If an active tricolored blackbird nesting colony is found during preconstruction surveys, a 300-foot no-disturbance buffer shall be implemented. These buffers shall remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental car for survival.
2. **Variance of Buffer Distances.** Variance from the no-disturbance buffers described above may be allowable when there is a compelling biological or ecological reason to do so, such as when the construction area would be concealed from a nest site by topography. Any variance from the no-disturbance buffers shall be advised and supported by a qualified biologist and California Department of Fish and Wildlife shall be notified in advance of implementing a variance.
3. **Nest Monitoring.** If nest buffers are reduced, the biologist shall monitor any construction activities that take place within 250 feet of non-listed bird species

nests, within 300 feet of an active tricolored blackbird nesting colony, and 500 feet of non-listed raptor nests. If nesting birds show any signs of disturbance, including changes in behavior, significantly reducing frequency of nests visits, or refusal to visit the nest, the biologist will stop work and increase the nest buffer. If appropriate on a case-by-case basis, as determined by the qualified biologist, nest monitoring may be reduced to weekly spot-check monitoring, at a minimum, if the biologist determines that the nesting birds have shown no signs of disturbance from construction activities and a continuation of the same types of construction activities are unlikely to disturb the nesting birds.

4. **Nest Removal.** Nests, eggs, or young of birds covered by the Migratory Bird Treaty Act and California Fish and Game Code shall not be moved or disturbed until a qualified biologist has determined that the nest has become inactive or young have fledged and become independent of the nest.
5. **Reporting.** A qualified biologist shall document all active nests and submit a letter report to the County of Merced documenting project compliance with the Migratory Bird Treaty Act, California Fish and Game Code, and applicable project mitigation measures.

V. Cultural Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☐	☐	☒
(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐
(c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

Setting

PRC Section 5024.1 requires that any properties that can be expected to be directly or indirectly affected by a proposed project be evaluated for California Register of Historical Resources (CRHR) eligibility. The purpose of the CRHR is to maintain listings of the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from material impairment and substantial adverse change.

As defined by CEQA, a historical resource includes:

1. A resource listed in or determined to be eligible for listing in the CRHR.
2. Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant. The architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural records of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence.

Resources are evaluated for eligibility for the CRHR under the following four criteria:

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

A records search was conducted at the Central California Information Center (CCIC) located at California State University, Stanislaus, to identify any previously recorded cultural resources within the project area. The records search was negative for previously prepared archaeological survey reports and previously recorded resources within the project site. In addition, two archaeological survey reports have been prepared for areas within 0.25 mile of the project site; however, no previously recorded resources have been identified within 0.25 mile of the project site (CCIC 2023).

Environmental Evaluation

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

The project site consists of existing industrial development and other structures associated with the packing plant. The project does not include the demolition or removal of any on-site structure; therefore, the project would not have the potential to adversely affect any historical resources, and *no impacts* would occur.

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

Construction activities would result in approximately 3 acres of ground disturbance, including 1,580 cubic yards of cut and 480 cubic yards of fill activity. Based on a records search conducted at the CCIC, there are no previously recorded archaeological resources within the project site or within 0.25 mile of the project site; therefore, the project would not have the potential to adversely affect any known cultural archaeological resources. Further, Mitigation Measure CR-1 has been included in the event that previously unidentified cultural resources are uncovered during proposed ground-disturbing activities. With implementation of Mitigation Measure CR-1, the project would not result in a substantial adverse change to an archaeological resource; therefore, impacts would be *less than significant with mitigation*.

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

The project includes the construction and operation of an employee cafeteria and break room building, installation and use of an additional tomato evaporator, and installation and use of a 5-MW natural gas turbine generator. The project components would be located entirely within the existing developed footprint of the Morning Star Tomato Processing Plant. Grading and excavation activities associated with the project would not be located in any area with known sensitivity for cultural resources or human remains.

The project would be required to comply with California Health and Safety Code Section 7050.5, which outlines the protocol for the discovery of human remains. Section 7050.5 states that in the event of an accidental discovery or recognition of any human remains in any location other than a cemetery, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The County Coroner must be notified of the find immediately. If the human remains are determined to be Native American, the County Coroner will notify the Native American Heritage Commission (NAHC) within 24 hours. The NAHC shall then determine and notify a Most Likely Descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Based on required compliance with California Health and Safety Code Section 7050.5, impacts related to disturbance of human remains would be *less than significant*.

Conclusion

The project would not have the potential to adversely affect any historical resources. With implementation of Mitigation Measure CR-1 and required compliance with California Health and Safety Code 7050.5, the proposed project would not adversely affect archaeological resources or human remains, and impacts related to cultural resources would be less than significant.

Mitigation Measures

CR-1 In the event that cultural resources are encountered during project activities, all ground-disturbing activities within a 25-foot radius of the find shall cease and the County of Merced shall be notified immediately. Work shall not continue until a qualified archaeologist assesses the find and determines the need for further study. If the find includes Native American-affiliated materials, a local Native American tribal representative will be contacted to work in conjunction with the approved archaeologist to determine the need for further study. A standard inadvertent discovery clause shall be included in every grading and construction contract to inform contractors of this requirement.

VI. Energy

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
(b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Setting

The project site is located in the PG&E service area. The 2021 PG&E electric power mix consisted of 50% renewable energy sources and 43% GHG-free energy sources (PG&E 2021).

VEHICLE FUEL ECONOMY STANDARDS

In October 2012, the USEPA and National Highway Traffic Safety Administration (NHTSA), on behalf of the U.S. Department of Transportation (USDOT), issued final rules to further reduce GHG emissions and improve corporate average fuel economy (I) standards for light-duty vehicles for model years 2017 and beyond. The NHTSA's I standards have been enacted under the Energy Policy and Conservation Act since 1978. This national program requires automobile manufacturers to build a single light-duty national fleet that meets all requirements under both federal programs and the standards of California and other states. This program would increase fuel economy to the equivalent of 54.5 miles per gallon (mpg), limiting vehicle emissions to 163 grams of carbon dioxide (CO_2) per mile for the fleet of cars and light-duty trucks by the model year 2025.

In January 2017, USEPA Administrator Gina McCarthy signed a Final Determination to maintain the current GHG emissions standards for the model years 2022 through 2025 vehicles. However, on March 15, 2017, USEPA Administrator Scott Pruitt and USDOT Secretary Elaine Chao announced that the USEPA intends to reconsider the Final Determination. On April 2, 2018, USEPA Administrator Pruitt officially withdrew the January 2017 Final Determination, citing information that suggests that these current standards may be too stringent due to changes in key assumptions since the January 2017 Determination. According to the USEPA, these key assumptions include gasoline prices and overly optimistic consumer acceptance of advanced technology vehicles. The April 2nd notice is not USEPA's final agency action, and the USEPA intends to initiate rulemaking to adopt new standards. Until that rulemaking has been completed, the current standards remain in effect.

As part of California's overall approach to reducing pollution from all vehicles, the CARB has established standards for clean gasoline and diesel fuels and fuel economies of new vehicles. The CARB has also put in place innovative programs to drive the development of low-carbon, renewable, and alternative fuels, such as their Low Carbon Fuel Standard Program pursuant to California Assembly Bill (AB) 32 and the Governor's Executive Order S-01-07.

In January 2012, the CARB approved the Advanced Clean Cars Program, which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of zero-emission vehicles, into a single package of standards for vehicle model years 2017 through 2025. The new rules strengthen the GHG standard for 2017 models and beyond. This will be achieved through existing technologies, the use of stronger and lighter materials, and more efficient drivetrains and engines. The program's zero-emission vehicle regulation requires battery, fuel cell, and/or plug-in hybrid electric vehicles to account for up to 15% of California's new vehicle sales by 2025. The program also includes a clean fuels outlet regulation designed to support the commercialization of zero-emission hydrogen fuel cell vehicles planned by vehicle manufacturers by 2015 by requiring increased numbers of hydrogen fueling stations throughout the state. The number of stations will grow as vehicle manufacturers sell more fuel cell vehicles. By 2025, when the rules will be fully implemented, the statewide fleet of new cars and light trucks will emit 34% fewer global warming gases and 75% fewer smog-forming emissions than the statewide fleet in 2016 (CARB 2022).

All self-propelled off-road diesel vehicles 25 horsepower (hp) or greater used in California and most two-engine vehicles (except on-road two-engine sweepers) are subject to the CARB's Regulation for In-Use Off-Road Diesel Fueled Fleets (Off-Road regulation). This includes vehicles that are rented or leased (rental or leased fleets). The overall purpose of the Off-Road regulation is to reduce emissions of NO_X and particulate matter from off-road diesel vehicles operating within California through the implementation of standards, including, but not limited to, limits on idling, reporting and labeling of off-road vehicles, limitations on use of old engines, and performance requirements.

Environmental Evaluation

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

During construction, fossil fuels, electricity, and natural gas would be used by construction vehicles and equipment. The energy consumed during construction would be temporary in nature and would be typical of other similar construction activities in the city. Federal and state regulations in place require the use of fuel-efficient equipment and vehicles and require wasteful activities, such as diesel idling, to be limited. Construction contractors, in an effort to ensure cost efficiency, would not be expected to engage in wasteful or unnecessary energy and fuel practices. Energy consumption during construction would not conflict with a state or local plan for renewable energy and would not be wasteful, unnecessary, or inefficient; therefore, would be *less than significant*.

During operation, the project would require the consumption of energy resources for natural gas usage as well as vehicle trips to and from the project site. The project includes the installation of a 5-MW natural gas turbine generator to supply power to all on-site facility operations. Upon installation of the generator, on-site plant operations would eventually be disconnected from existing PG&E electricity service lines, and the generator would supply all of the plant facilities' electricity demands. It is expected that the proposed project would use an average of approximately 60,000 cubic feet of natural gas per hour during operation. Natural gas service would be provided by PG&E, which is committed to evolving its natural gas system by supporting emerging renewable gas technologies to decarbonize the gas system (PG&E 2023). The project would result in approximately seven new employees at the project site, which would result in a marginal increase in associated vehicle trips to and from the project site. The purpose of the project is to improve employee facilities and improve overall resiliency at the packing plant; therefore, the project would not increase the processing or packing capacity of the packing plant in a manner that could substantially increase energy use. The project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources; therefore, impacts would be *less than significant*.

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

The *2030 Merced County General Plan Natural Resources Element* identifies goals and policies to increase the use of renewable and clean energy resources in the county. As previously identified, upon installation of the generator, on-site plant operations would eventually be disconnected from existing PG&E electricity service lines, and the generator would supply all of the plant facilities' electricity demands. Natural gas service would be provided by PG&E, which is committed to evolving the natural gas system by supporting emerging renewable gas technologies to decarbonize the gas system (PG&E 2023). By using natural gas from PG&E, the project would promote the use of low-carbon-emitting energy resources, which is consistent with the goals and policies of the Natural Resources Element; therefore, impacts would be *less than significant*.

Conclusion

The project would not result in excessive energy use during construction or operation and would be consistent with applicable energy efficiency plans; therefore, impacts related to energy would be less than significant, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

VII. Geology and Soils

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

Setting

Ground shaking refers to the motion that occurs in response to regional and local earthquakes. Seismic ground shaking is influenced by the proximity of the site to an earthquake fault, the intensity of the seismic event, and the underlying soil composition. Ground shaking can endanger life and safety due to damage or collapse of structures or lifeline facilities. Liquefaction is the sudden loss of soil strength due to a rapid increase in soil pore water pressure resulting from ground shaking during an earthquake. Landslides and slope instability can occur as a result of wet weather, weak soils, improper grading, improper drainage, steep slopes, adverse geologic structure, earthquakes, or a combination of these factors.

According to the *Merced County Multi-Jurisdictional Hazard Mitigation Plan*, the nearest faults of major significance to the project area are the San Andreas Fault, approximately 15 miles west; Hayward and Calaveras Faults, approximately 50 miles northwest; White Wolf, Garlock, and Sierra Nevada Faults to the south; and Bear Mountain Fault zone approximately 5 miles east of the respective county lines (County of Merced 2021). According to the CDOC Fault Activity map of California, there are no active faults within 30 miles of the project site and the nearest fault to the project site is the late quaternary O'Neill fault system, located approximately 6 miles southwest of the project site (CDOC 2015). According to the *Final Program Environmental Impact Report for the 2030 Merced County General Plan* (Final PEIR), overall seismic-related risk, including the risk of liquefaction and landslide, in the county is low (County of Merced 2013b).

Highly erodible soils are those that are easily carried by water and, to a lesser extent, by wind. Surface erosion is more commonly visible, but subsurface erosion can lead to damage to pipes, roads, foundations, and other structural elements. Expansive soils are largely comprised of clays, which expand in volume when water is absorbed and shrink as the soil dries. Expansion is measured by shrink-swell potential, which is the volume change in soil with an increase in moisture. If the shrink-swell potential is rated moderate to high, then damage to buildings, roads, structural foundations, and pipes can occur. In the northern portion of the county, there are some areas of expansive clay soil that require special construction standards for foundations and infrastructure. Expansive clay problems can be surmounted by appropriate engineering design and construction techniques.

The project site is underlain by Holocene-age surficial sediments (Qa) consisting of alluvial gravel, sand, and clay. Qa has a low paleontological sensitivity because it is typically too young to yield scientifically significant paleontological specimens (U.S. Geological Survey [USGS] 2007).

Environmental Evaluation

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

a-i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

According to the CDOC Fault Activity Map of California, there are no mapped active faults within 30 miles of the project site (CDOC 2015). Because the project site is not underlain by an Alquist-Priolo or other active fault zone, rupture of a known Alquist-Priolo fault would not occur within the project site, and *no impacts* would occur.

a-ii) Strong seismic ground shaking?

Overall seismic-related risk, including the risk of seismic ground shaking, in the county is low (County of Merced 2013b). The nearest fault to the project site is the inactive late quaternary O'Neill fault system, located approximately 6 miles southwest of the project site (CDOC 2015). The project includes the construction of a cafeteria and break room building and an additional multi-effect evaporator and the installation of a 5-MW natural gas turbine generator within the existing packing plant. The proposed cafeteria and break room building would be required to be constructed in accordance with seismic design standards included in the most recent California Building Code (CBC) and other engineering standards to adequately withstand earthquake loads and associated risk, including seismic ground shaking. Other proposed project components do not include the construction of any occupiable buildings or structures

that would be subject to seismic design standards included in the most recent CBC or that could result in the risk of loss, injury, or death as a result of seismic ground shaking. Based on required compliance with the most recent CBC and proposed project components, the project would not result in the risk of loss, injury, or death as a result of seismic ground shaking, and impacts would be *less than significant*.

a-iii) Seismic-related ground failure, including liquefaction?

According to the Final PEIR, the risk of liquefaction in the county is low (County of Merced 2013b). Proposed occupiable buildings would be required to be constructed in accordance with seismic design standards included in the most recent CBC and other engineering standards to adequately withstand earthquake loads and associated risk, including liquefaction. Other proposed project components do not include the construction of any occupiable buildings or structures that would be subject to seismic design standards included in the most recent CBC or that could result in the risk of loss, injury, or death as a result of liquefaction. Based on required compliance with the most recent CBC and proposed project components, the project would not result in the risk of loss, injury, or death as a result of liquefaction, and impacts would be *less than significant*.

a-iv) Landslides?

According to the Final PEIR, the risk of landslide in the county is low (County of Merced 2013b). The project site and surrounding area consists of relatively flat topography, which further reduces the risk of landslide at the project site. The proposed cafeteria and break room building would be required to be constructed in accordance with seismic design standards included in the most recent CBC and other engineering standards to adequately withstand earthquake loads and associated risk, including seismic ground shaking. Other proposed project components do not include the construction of any occupiable buildings or structures that would be subject to seismic design standards included in the most recent CBC or that could result in the risk of loss, injury, or death as a result of seismic ground shaking. Based on required compliance with the most recent CBC and proposed project components, the project would not result in risk of loss, injury, or death as a result of seismic ground shaking, and impacts would be *less than significant*.

b) Result in substantial soil erosion or the loss of topsoil?

Construction activities would result in approximately 3 acres of ground disturbance, including 1,580 cubic yards of cut and 480 cubic yards of fill activity. Proposed ground-disturbing activities would have the potential to increase erosion or loss of topsoil at the project site. The project would disturb more than 1 acre of soils and would be required to comply with the County Stormwater Ordinance (Merced County Code Section 9.53.010), which requires preparation and implementation of an Erosion Control Plan (ECP). The project would also be required to comply with Central Valley Regional Water Quality Control Board (RWQCB) General Construction Permit requirements. Following project construction, the project site would be covered with hardscapes, which would reduce the potential for long-term erosion to occur at the project site. Based on required compliance with RWQCB and County requirements, impacts related to substantial erosion would be *less than significant*.

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

As previously described, the project site is located in an area with low to moderate potential for landslide and low potential for liquefaction to occur. Additionally, the project site is not located in an area with known land subsidence (USGS 2023). The project would be constructed in accordance with the most

recent CBC to adequately withstand and minimize risk associated with potential ground-failure events; therefore, potential impacts related to ground failure would be *less than significant*.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Soils at the project site consist of clay loam, which has a moderate to high potential for expansion (NRCS 2023). The project would be constructed in accordance with the most recent CBC to adequately withstand and minimize risk associated with potential ground-failure events, including soil expansion; therefore, potential impacts related to soil expansion would be *less than significant*.

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

The project does not include the installation of any septic systems or alternative wastewater disposal systems; therefore, *no impacts* would occur.

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

The project site is underlain by Holocene-age surficial sediments (Qa) consisting of alluvial gravel, sand, and clay (USGS 2007). Qa has a low paleontological sensitivity because it is typically too young to yield scientifically significant paleontological specimens. In addition, the project site primarily consists of previously developed areas; therefore, there is low potential for intact paleontological resources to be present within the proposed area of disturbance. Based on the low paleontological sensitivity of the underlying geologic unit, the project would not disturb paleontological resources, and impacts would be *less than significant*.

Conclusion

Based on required compliance with the most recent CBC, the project would be designed to adequately withstand the effects of seismic activity and other ground-failure events. Based on required compliance with RWQCB and County requirements, the project would not result in substantial erosion or loss of topsoil. The project does not include the installation of septic tanks or alternative wastewater disposal systems. The project would not adversely affect paleontological resources. Therefore, impacts related to geology and soils would be less than significant, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

VIII. Greenhouse Gas Emissions

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
(b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Setting

GHGs are any gases that absorb infrared radiation in the atmosphere and are different from the criteria pollutants discussed in Section III, *Air Quality*. The primary GHGs that are emitted into the atmosphere as a result of human activities are CO_2, methane (CH_4), nitrous oxide (N_2O), and fluorinated gases.

CALIFORNIA GLOBAL WARMING SOLUTIONS ACT

Under the California Global Warming Solutions Act, also known as AB 32, the CARB established statewide GHG emissions cap for 2020, adopted mandatory reporting cards for significant sources of GHG, and adopted a comprehensive plan, known as the Climate Change Scoping Plan, identifying how emission reductions would be achieved from significant GHG sources.

In 2016 Senate Bill (SB) 32 was signed into law, amending the California Global Warming Solutions Act. SB 32, and accompanying Executive Order B-30-15, requires CARB to ensure that statewide GHG emissions are reduced to 40% below the 1990 level by 2030. The CARB 2022 Scoping Plan Update, dated November 16, 2022, identifies a plan to reach carbon neutrality by 2045 or earlier. The 2022 Scoping Plan is the first plan that adds carbon neutrality as a science-based guide beyond established emission reduction targets. It identifies a feasible path to achieve carbon neutrality by 2045, or earlier, while also assessing the progress the state is making toward reducing its GHG emissions by at least 40% below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan.

SUSTAINABLE COMMUNITIES STRATEGY AND CLIMATE PROTECTION ACT

The Sustainable Communities Strategy and Climate Protection Act (SB 375) was signed into law in September 2008. SB 375 builds upon AB 32 by requiring the CARB to develop regional GHG reduction targets for automobile and light-duty truck sectors for 2020 and 2035, as compared to 2005 emissions levels. Regional metropolitan planning organizations (MPOs) will be responsible for preparing a Sustainable Communities Strategy (SCS) with their Regional Transportation Plans (RTPs).

MERCED COUNTY ASSOCIATION OF GOVERNMENTS 2022 REGIONAL TRANSPORTATION PLAN/ SUSTAINABLE COMMUNITIES STRATEGY

The Merced County Association of Governments (MCAG) *2022 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) includes a long-range plan for transportation and mixed-use planning in the county and identifies goals and objectives to reduce transportation-related

GHG emissions, including the creation of bicycle and pedestrian facilities, congestion relief, and mixed-use design (MCAG 2022).

SAN JOAQUIN VALLEY CLIMATE CHANGE ACTION PLAN

The SJVAPCD released the *San Joaquin Valley Climate Change Action Plan* in December 2009. The Climate Change Action Plan established goals and policies to address reductions in GHGs and improvement to regional air quality. The plan also includes Best Performance Standards (BPSs), which are mitigation measures intended to achieve GHG reductions. BPSs include building design elements that reduce energy consumption, project designs that promote pedestrian access, and land use planning decisions that reduce VMT.

2030 MERCED COUNTY GENERAL PLAN

The *2030 Merced County General Plan Air Quality Element* provides the following goals and policy related to the reduction of air pollutants and GHG emissions that would be applicable to the proposed project:

Goal AQ-1: Reduce air pollutants and greenhouse gas emissions and anticipate adaptation due to future consequences of global and local climate change.

Goal AQ-4: Reduce traffic congestion and vehicle trips through more efficient infrastructure and support for trip reduction programs.

Policy AQ-4.1: **Decrease Vehicle Miles Traveled.** Require diverse, higher-density land uses (e.g., mixed-use and infill development) to decrease vehicle miles traveled.

Environmental Evaluation

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The project includes construction and operation of a cafeteria and break room building and an additional multi-effect evaporator and the installation of a 5-MW natural gas turbine generator, which has the potential to generate short- and long-term GHG emissions.

Construction

During construction, GHG emissions would be generated by the consumption of fossil fuels, electricity, and natural gas during construction vehicle and equipment use. Estimated GHG emissions were calculated for the proposed project by AMBIENT using the CalEEMod. The CalEEMod results are included in Appendix A, and the results of the estimated construction emission calculations for the proposed project are shown in Table 6.

Table 6. Annual Construction Emissions for the Proposed Project

Operational Source	Uncontrolled Annual Emissions ($MTCO_2e$)[1]
Cafeteria Building	56.7
Evaporator	38.5
Turbine Generator	43.1
Total	**138.3**

Source: AMBIENT (2023a); Appendix A

[1] $MTCO_2e$ = Metric tons of carbon dioxide equivalent per year; includes emissions from area sources and energy use.

As shown in Table 6, the project would generate 138.3 MTCO2e of GHG emissions during construction. Federal and state regulations in place require fuel-efficient equipment and vehicles and prohibit wasteful activities, such as diesel idling. Construction contractors, in an effort to ensure cost efficiency, would not be expected to engage in wasteful or unnecessary energy and fuel practices. Further, the project would be required to comply with applicable SJVAPCD Rules and Regulations, including SJVAPCD Standard Regulation IV (Prohibitions), which would further reduce the potential for diesel idling. Compliance with existing state and local regulations would reduce GHG emissions during construction activities; therefore, short-term construction activities would not generate substantial GHG emissions that may have a significant impact on the environment, and construction-related impacts would be *less than significant*.

Operation

During operation, the project would require the consumption of energy resources for natural gas usage as well as vehicle trips to and from the project site. Estimated GHG emissions were calculated for the proposed project by AMBIENT using the CalEEMod. The CalEEMod results are included in Appendix A, and the results of the estimated operational emission calculations for the proposed project are shown in Table 7.

Table 7. Annual Construction Emissions for the Proposed Project

Operational Source	Uncontrolled Annual Emissions ($MTCO_2e$)[1]
Cafeteria Building	10.3
Evaporator	894.0
Turbine Generator	6.2
Total	**910.5**

Source: AMBIENT (2023a); Appendix A

[1] $MTCO_2e$ = Metric tons of carbon dioxide equivalent per year; includes emissions from area sources and energy use.

As shown in Table 7, the project would generate 910.5 $MTCO_2e$ of GHG emissions during operation. The majority of GHG emissions generated during operation of the project would result from operation of the proposed evaporator. The evaporator would be used for the processing of tomatoes and would only be used when one of the currently operating evaporators needs to be temporarily brought out of commission for cleaning or maintenance purposes; therefore, operational GHG emissions associated with the evaporator would be consistent with existing conditions and would not represent a substantial increase in overall GHG emissions generated at the packing plant. Further, the project would not increase the capacity of the packing plant in a manner that could generate a substantial amount of new GHG emissions associated with a substantial increase in vehicle trips to and from the project site. Natural gas service for the project would be provided by PG&E, which is committed to evolving the natural gas system by supporting emerging renewable gas technologies to decarbonize the gas system (PG&E 2023). By using

natural gas from PG&E, the project would promote the use of low-carbon-emitting energy sources. Therefore, operation of the project would not generate substantial GHG emissions that may have a significant impact on the environment, and operational impacts would be *less than significant*.

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

The project is within the jurisdiction of the SJVAPCD and would be subject to the Climate Change Action Plan, which established BPSs to reduce VMT. Additionally, the RTP/SCS identifies goals and objectives to reduce transportation-related GHG emissions, including the creation of bicycle and pedestrian facilities, congestion relief, and mixed-use design (MCAG 2022). Operation of the proposed project would result in a marginal increase of approximately seven employees for ongoing operation and maintenance of the cafeteria and breakroom building. Other project components would not result in additional employment opportunities. Therefore, the project would not increase the capacity of the packing plant in a manner that would substantially increase the number of employees or associated vehicle trips, which is consistent with goals and policies related to the reduction of transportation-related GHG emissions. As previously identified, the proposed generator would supply all of the plant facilities' electricity demands and natural gas service would be provided by PG&E, which is committed to supporting emerging renewable gas technologies to decarbonize the gas system (PG&E 2023). By using natural gas from PG&E, the project would reduce the long-term use of non-renewable energy resources, which is consistent with the goals and policies of the SJVAPCD Climate Change Action Plan and MCAG RTP/SCS; therefore, impacts would be *less than significant*.

Conclusion

The project would be consistent with the goals of the SJVAPCD Climate Change Action Plan and RTP/SCS and would not generate a substantial amount of short- or long-term GHG emissions; therefore, impacts related to GHG emissions would be less than significant, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

IX. Hazards and Hazardous Materials

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
(b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
(c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

	Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
(e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
(f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
(g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Setting

The Hazardous Waste and Substances Site (Cortese) List is a planning tool used by the state, local agencies, and developers to comply with CEQA requirements related to the disclosure of information about the location of hazardous materials release sites. California Government Code Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to develop an updated Cortese List at least annually. Various state and local government agencies are required to track and document hazardous material release information for the Cortese List. The California Department of Toxic Substance Control (DTSC) EnviroStor database tracks DTSC cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known contamination, such as federal superfund, state response, voluntary cleanup, school cleanup, school investigation, and military evaluation sites (DTSC 2023). The State Water Resources Control Board (SWRCB) GeoTracker database contains records for sites that impact, or have the potential to impact, water in California, such as Leaking Underground Storage Tank (LUST), Department of Defense, and Cleanup Program Sites (SWRCB 2023). The remaining data regarding facilities or sites identified as meeting the "Cortese List" requirements can be located on the CalEPA website.

Based on a query of the DTSC EnviroStor and SWRCB GeoTracker databases, there are no hazardous materials sites located within or adjacent to the project site (DTSC 2023; SWRCB 2023).

Environmental Evaluation

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

The proposed project would require limited quantities of hazardous substances, including gasoline, diesel fuel, hydraulic fluid, solvents, oils, paints, etc. during construction, which has the potential to result in an accidental spill or release. Construction contractors would be required to comply with applicable federal and state environmental and workplace safety laws for the handling, transport, and storage of hazardous

materials, including 22 California Code of Regulations (CCR) Division 4.5. Compliance with existing regulations would reduce the potential for accidental spills to occur.

Implementation of the project would result in the continued operation of a tomato packing facility and would not result in the establishment of new uses or other components that could increase the transport, use, or disposal of hazardous materials or substances. Operational components of the project would be required to comply with federal and state environmental and workplace safety laws for the handling, transport, and storage of hazardous materials. Compliance with existing regulations would reduce the potential for accidental spills to occur during operation of the proposed project features. Based on required compliance with existing regulations, the project would not result in an increased risk associated with the routine transport, use, or disposal of hazardous materials, and impacts would be *less than significant*.

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

As previously stated, the proposed project would require limited quantities of hazardous substances, including gasoline, diesel fuel, hydraulic fluid, solvents, oils, paints, etc. during construction, which has the potential to result in an accidental spill or release. Construction contractors would be required to comply with applicable federal and state environmental and workplace safety laws for the handling, transport, and storage of hazardous materials, including 22 CCR Division 4.5. Compliance with existing workplace safety laws would reduce the potential for construction-related spills to occur at the project site.

The project is not located in an area with known potential for NOA; therefore, construction activities would not have the potential to expose workers or surrounding land uses to harmful levels of NOA. The project does not include the demolition of existing on-site buildings or other structures that could release ACM or lead-based paint. Further, construction activities would be limited to work within the existing footprint of the packing plant and would not extend into heavily traveled roadways that could result in the disturbance or release of aerially deposited lead (ADL). Therefore, the project would not have the potential to disturb or release other hazardous materials that could affect workers or surrounding land uses.

The project would result in the operation of a new cafeteria and break room building, an additional multi-effect evaporator, and a 5-MW natural gas turbine generator. The evaporator would be used for tomato processing and would be used when one of the currently operating evaporators needs to be temporarily brought out of commission for cleaning or maintenance purposes; therefore, the additional evaporator would not increase processing activities in a manner that could increase the risk of accidental spill or release of hazardous substances or materials. The generator would be enclosed within a 2,000- to 3,000-square-foot structure and would be equipped with an air pollution control system in accordance with CARB and SJVAPCD guidelines, which would avoid the release of hazardous emissions. The proposed equipment would be maintained on-site to further avoid the risk associated with accidental spill or release of hazardous materials or substances. Operational components of the project would be required to comply with federal and state environmental and workplace safety laws for the handling, transport, and storage of hazardous materials, including 22 CCR Division 4.5. Compliance with existing workplace safety laws would reduce the potential to release hazardous materials, substances, and emissions during operation. Based on required compliance with environmental and workplace safety laws, including 22 CCR Division 4.5, the project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, and impacts would be *less than significant*.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The nearest school is Volta Elementary School, approximately 0.45 mile northwest of the project site. Therefore, the proposed project would not emit hazardous emissions or handle acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school, and *no impacts* would occur.

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

Based on a query of the DTSC EnviroStor and SWRCB GeoTracker databases, there are no hazardous materials sites located within or adjacent to the project site (DTSC 2023; SWRCB 2023). The project site is not located on or adjacent to a site that is on a list of hazardous materials sites pursuant to California Government Code Section 65962.5; therefore, the project would not create a significant hazard to the public or the environment related to disturbance of a known hazardous materials site, and *no impacts* would occur.

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

The nearest airport to the project site is Los Banos Airport, approximately 3 miles southeast. The project site is not located within an airport land use plan or within 2 miles of an airport; therefore, the proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area, and *no impacts* would occur.

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

The project site is accessed via an existing paved driveway off Volta Road, which provides adequate emergency and other access to the project site. The existing driveway would continue to provide emergency and worker access to the project site, and no improvements to this driveway would be required for the proposed project. Proposed construction activities would not require any roadway closures or traffic controls that could interfere with emergency response or evacuation efforts. Implementation of the project would generate a marginal increase of approximately seven new employees and would not generate a substantial increase in employees or associated vehicle trips that could otherwise impede emergency response or evacuation efforts within the project area. Therefore, the project would not substantially impair an adopted emergency response plan or emergency evacuation plan, and impacts would be *less than significant*.

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

The project site and surrounding area is located in a Local Responsibility Area (LRA) in an area with low to moderate risk of wildfire (California Department of Forestry and Fire Protection [CAL FIRE] 2023; County of Merced 2021). The project includes the construction of an approximately 15,000-square-foot

cafeteria and break room building and an additional multi-effect evaporator and the installation of a 5-MW natural gas turbine generator. The project would be constructed in accordance with applicable California Fire Code (CFC) requirements to reduce the risk of wildfire ignition at the project site. In addition, the proposed equipment would be properly maintained at the project site to further avoid the risk of wildfire ignition at the project site. Based on required compliance with CFC requirements, the project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires, and impacts would be *less than significant*.

Conclusion

Based on required compliance with the CCR, the project would not result in significant hazards related to the routine transport, use, or disposal of hazardous materials and would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions. The project is not located within 0.25 mile of a school, within 2 miles of an airport, or within or adjacent to a previously recorded hazardous materials site. The project would not impair implementation of an adopted emergency response plan or emergency evacuation plan and would not expose people or structures to a significant risk involving wildfires. Therefore, impacts related to hazards and hazardous materials would be less than significant, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

X. Hydrology and Water Quality

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
(b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
(c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
(iv) Impede or redirect flood flows?	☐	☐	☐	☒

	Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
(e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Setting

The project site is located in the Merced Subbasin of the San Joaquin Valley Groundwater Basin. The Merced Subbasin encompasses approximately 801 square miles of Merced County and key municipalities within the subbasin include Merced County and the cities of Merced, Livingston, and Atwater. The subbasin consists of lands south of the Merced River, between the San Joaquin River to the west and the crystalline basement rock of the Sierra Nevada foothills to the east. The southern subbasin boundary extends west along the Chowchilla River (Merced–Madera County boundary) and along the northern edge of the sphere of influence boundary of Chowchilla Water District. Geologic units in the Merced Subbasin consist of consolidated rocks and unconsolidated deposits. The Merced Subbasin is heavily reliant on groundwater, and users recognize the subbasin has been in overdraft for a long period of time. The subbasin is under the jurisdiction of three Groundwater Sustainability Agencies (GSAs), including the Merced Irrigation-Urban Groundwater Sustainability Agency (MIUGSA), Merced Subbasin Groundwater Sustainability Agency (MSGSA), and Turner Island Water District Groundwater Sustainability Agency #1 (TIWD GSA-1). The *Merced Groundwater Subbasin Groundwater Sustainability Plan* (GSP) identifies sustainable management goals and practices to achieve sustainable groundwater management on a long-term average basis by increasing recharge and/or reducing groundwater pumping, while avoiding undesirable results (Woodard & Curran 2022).

The project site consists of an entirely developed area and there are no surface water features located within or adjacent to the project site.

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) 06047C0825G (effective date 12/2/2008), the project site is within Zone X, an area of minimal flood hazard (FEMA 2023).

Environmental Evaluation

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

Construction activities would result in approximately 3 acres of ground disturbance, including 1,580 cubic yards of cut and 480 cubic yards of fill activity. The project would disturb more than 1 acre of soils and would be required to comply with the County's Stormwater Ordinance (Merced County Code Section 9.53.010), which requires implementation of best management practices (BMPs) during project construction, preparation of an ECP, and implementation of post-construction stormwater control measures. The project would also be required to comply with Central Valley RWQCB General Construction Permit requirements to further address stormwater at the project site. In addition, construction contractors would be required to comply with applicable federal and state environmental and workplace safety laws for the handling, transport, and storage of hazardous materials, which would

reduce the potential for accidental spill of hazardous substances to occur. Based on the required compliance with County and RWQCB requirements, implementation of the proposed project would not violate any water quality standards, and impacts would be *less than significant*.

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

The project includes the construction of a cafeteria and break room building and an additional multi-effect evaporator and the installation of a 5-MW natural gas turbine generator, which would result in a marginal increase in water use at the project site. Water for the project would be supplied by an existing on-site well within the Merced Subbasin of the San Joaquin Valley Groundwater Basin. The proposed cafeteria and break room would be equipped with low-flow water fixtures to maximize efficient use of water at the project site. The proposed evaporator would be used for tomato processing and would be used when one of the currently operating evaporators needs to be temporarily brought out of commission for cleaning or maintenance purposes; therefore, the installation of a new evaporator would not increase tomato processing capacity or associated water use. No water connections would be required for the proposed generator. The project would result in a marginal increase of approximately seven new employees for ongoing operation and maintenance of the proposed cafeteria and break room building. Other project components would not result in additional employment opportunities. Therefore, the project would not increase tomato processing capacity or generate a substantial number of new employees in a manner that could substantially deplete groundwater supply. Further, the project would be located within the existing footprint of the packing plant and would not increase impervious surface area at the site in a manner that could interfere with groundwater recharge. Therefore, the project would not impede sustainable groundwater management of the basin, and impacts would be *less than significant*.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

c-i) Result in substantial erosion or siltation on- or off-site?

Construction activities would result in approximately 3 acres of ground disturbance, including 1,580 cubic yards of cut and 480 cubic yards of fill activity. Proposed ground-disturbing activities would have the potential to increase erosion and siltation at the project site. The project would disturb more than 1 acre of soils and would be required to comply with the County Stormwater Ordinance (Merced County Code Section 9.53.010), which requires preparation and implementation of an ECP. The project would also be required to comply with Central Valley RWQCB General Construction Permit requirements. Following project construction, the project site would be covered with hardscapes, which would reduce the potential for long-term erosion to occur at the project site. Based on required compliance with RWQCB and County requirements, the project would not result in substantial erosion or siltation, and impacts would be *less than significant*.

c-ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

The project includes the construction of an approximately 15,000-square-foot cafeteria and break room building and an additional multi-effect evaporator and the installation of a 5-MW natural gas turbine generator enclosed within a 2,000- to 3,000-square-foot building. The proposed project components would be developed entirely within the existing footprint of the packing plant; therefore, the project

would not increase impervious surface area at the project site in a manner that could increase surface water runoff in a manner that could result in flooding on- or off-site. Further, the project would be required to with the County's Stormwater Ordinance (Merced County Code Section 9.53.010), which requires implementation of post-construction stormwater control measures. Based on required compliance with County requirements, the project would not increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, and impacts would be *less than significant*.

c-iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The project includes the construction of an approximately 15,000-square-foot cafeteria and break room building and an additional multi-effect evaporator and the installation of a 5-MW natural gas turbine generator enclosed within a 2,000- to 3,000-square-foot building. The project would be developed entirely within the existing footprint of the packing plant and would not increase the amount of impervious surface area at the project site in a manner that could significantly increase the rate of stormwater runoff at the project site. Further, the project would be required to comply with the County's Stormwater Ordinance (Merced County Code Section 9.53.010), which requires implementation of BMPs during project construction, preparation of an ECP, and implementation of post-construction stormwater control measures. The project would also be required to comply with the Central Valley RWQCB General Construction Permit requirements. Compliance with County and RWQCB requirements would reduce the potential for short- and long-term pollutants to occur at the project site that could runoff into surrounding areas. Based on required compliance with RWQCB and County requirements, the project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, and impacts would be *less than significant*.

c-iv) Impede or redirect flood flows?

According to FEMA FIRM 06047C0825G (effective date 12/2/2008), the project site is within Zone X, an area of minimal flood hazard; therefore, flood flows are not expected at the project site (FEMA 2023). The project would be developed within the footprint of the existing packing facility and would not result in alteration or other direct impacts to any drainages or surface water features. Further, the project would not increase the amount of impervious surface area at the project site in a manner that could otherwise impede or redirect flood flows, and *no impacts* would occur.

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

According to FEMA FIRM 06047C0825G (effective date 12/2/2008), the project site is within Zone X, an area of minimal flood hazard (FEMA 2023). Additionally, the project site is not located in an area that would be subject to tsunami risk and is not located in proximity to any impounded body of water that would be subject to seiche. The project is not within a flood hazard, tsunami, or seiche zone and would not risk release of pollutants due to project inundation, and *no impacts* would occur.

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

The project site is in the Merced Subbasin of the San Joaquin Valley Groundwater Basin, which is subject to the sustainable management goals and practices included in the Merced Groundwater Subbasin GSP to achieve long-term sustainable groundwater management. As evaluated in *Impact Discussion X(b)*, the

project would not substantially decrease groundwater supply or interfere with groundwater recharge in a manner that would impede sustainable management of the groundwater basin, which is consistent with sustainable management goals of the Merced Groundwater Subbasin GSP, including increasing recharge and reducing groundwater pumping.

The project site is under the jurisdiction of the Central Valley RWQCB and would be subject to the *Water Quality Control Plan for the Central Valley Region* (RWQCB 2019), which establishes water quality objectives for beneficial uses of water resources within the Sacramento and San Joaquin River Basins. The project would be required to comply with the Central Valley RWQCB General Construction Permit requirements, which are codified in the County Stormwater Ordinance (Merced County Code Section 9.53.010). Based on the required compliance with County and RWQCB requirements, the project would be consistent with sustainable management of the San Joaquin Valley groundwater basin and the Water Quality Control Plan, and impacts would be *less than significant*.

Conclusion

The project would not result in adverse impacts related to water quality, groundwater quality, or stormwater runoff. The project would not be located in an area that would be subject to inundation. The project would be consistent with sustainable management of the San Joaquin Valley Groundwater Basin and the *Water Quality Control Plan for the Central Valley Region*. Therefore, impacts related to hydrology and water quality would be less than significant, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

XI. Land Use and Planning

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Physically divide an established community?	☐	☐	☐	☒
(b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☒	☐	☐

Setting

The *2030 Merced County General Plan* consists of 11 elements that serve as the County's "blueprint" or "constitution" for all future land use, development, preservation, and resource conservation decisions. The Land Use Element identifies goals, policies, and standards for future land use, development, community design, energy efficiency, and agriculture/resource protection in the county. The Land Use Element also describes standards for land use designations within the county. The eastern portion of the project site is located within the Agricultural General Plan Designation and the western portion of the project site is located within the Industrial General Plan Designation. Zoning designations within the project site include General Agricultural (A-1) and General Manufacturing (M-2).

Environmental Evaluation

a) Would the project physically divide an established community?

The project includes the construction and operation of an approximately 15,000-square-foot cafeteria and break room building and an additional multi-effect evaporator and the installation of a 5-MW natural gas turbine generator within a 31-acre portion of the existing packing plant. The proposed project would be limited to development on two parcels and would not result in the removal or blockage of existing public roadways or other circulation paths and would not otherwise include any features that would physically divide an established community; therefore, *no impacts* would occur.

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

As evaluated throughout this Initial Study/Mitigated Negative Declaration (IS/MND), the project would be consistent with standards and policies set forth in the General Plan, 2018 $PM_{2.5}$ Plan, Climate Change Action Plan, and RTP/SCS. The project would be required to implement Mitigation Measures AQ-1 through AQ-3, BIO-1, CR-1, and N-1 to mitigate potential impacts associated with Biological Resources, Cultural and Tribal Cultural Resources, and Noise, respectively, which is consistent with the identified plans and policies intended to avoid or mitigate adverse environmental effects. With implementation of the identified mitigation, the project would not conflict with other local policies or regulations adopted for the purpose of avoiding or mitigating environmental effects, and impacts would be *less than significant with mitigation*.

Conclusion

The project would not physically divide an established community. With implementation of mitigation measures identified throughout this IS/MND, the project would be consistent with the General Plan, 2018 $PM_{2.5}$ Plan, Climate Change Action Plan, RTP/SCS, and other applicable documents. Therefore, with implementation of Mitigation Measures AQ-1 through AQ-3, BIO-1, CR-1, and N-1, impacts related to land use and planning would be less than significant.

Mitigation Measures

Implement Mitigation Measures AQ-1 through AQ-3, BIO-1, CR-1, and N-1.

XII. Mineral Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
(b) Result in the loss of availability of a locally- important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Setting

The California Surface Mining and Reclamation Act (SMARA) of 1975 requires that the State Geologist classifies land into mineral resource zones (MRZs) according to the known or inferred mineral potential of the land (PRC Sections 2710–2796). The five MRZs used in the SMARA classification designation process for Merced County are defined below (CGS 2021):

- **MRZ-1:** Areas where available geologic information indicates that little likelihood exists for the presence of significant concrete aggregate resources.
- **MRZ-2:** Areas where geologic information indicates the presence of significant concrete aggregate resources.
- **MRZ-3 cs:** Areas containing known or inferred concrete aggregate resources of undetermined mineral resource significance (crushed stone).
- **MRZ-3 sg:** Areas containing known or inferred concrete aggregate resources of undetermined mineral resource significance (sand and gravel).
- **MRZ-4:** Areas where available geologic information is inadequate to assign to any other mineral resource zone category.

The project site is located in an MRZ-3 area and is not located near any existing mining operations (CGS 2023).

Environmental Evaluation

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

The project site is located in an MRZ-4 area and is not located near any existing mining operations (CGS 2023). The project site is not located in an area with known mineral resources that would be of value to the region and the residents of the state; therefore, the project would not result in the loss of availability of known mineral resources, and *no impacts* would occur.

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

The project site is located in an MRZ-4 area and is not located near any existing mining operations (CGS 2023). The project site is not located in an area with known or locally-important mineral resources; therefore, the project would not result in the loss of availability of any locally important mineral resources, and *no impacts* would occur.

Conclusion

No impacts to mineral resources would occur as a result of the project, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

XIII. Noise

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

Setting

The *2030 Merced County General Plan Health and Safety Element* identifies the policies to reduce or eliminate existing and future conflicts between land uses and noise. Table 8 outlines the County's noise level standards for noise-sensitive areas affected by non-transportation noise sources in the county.

Table 8. Non-Transportation Noise Standards

	Outdoor Areas Median (L_{50}) / Maximum (L_{max})[1]		Interior Median (L_{50})/ Maximum (L_{max})[1]
Receiving Land Use	Daytime	Nighttime	Day or Night
All Residential	55 / 75	50 / 70	35 / 55
Transient Lodging	55 / 75	---	35 / 55
Hospitals & Nursing Homes	55 / 75	---	35 / 55
Theaters and Auditoriums	---	---	30 / 50
Churches, Meeting Halls, Schools, Libraries, etc.	55 / 75	---	35 / 60
Office Buildings	60 / 75	---	45 /65
Commercial Buildings	55 / 75	---	45 /60
Playgrounds, Parks, etc.	65 / 75	---	---
Industry	60 / 80	---	50 / 70

Source: County of Merced (2013a)

[1] L_{50} = median noise level; L_{max} = maximum noise level. These standards shall be reduced by 5 decibels (dB) for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards in this table, then the noise level standards shall be increased at 5 dB increments to encompass the ambient.

[2] Sensitive Outdoor Areas include primary outdoor activity areas associated with any given land use at which noise-sensitivity exists and the location at which the County's exterior noise level standards are applied.

[3] Sensitive Interior Areas includes any interior area associated with any given land use at which noise sensitivity exists and the location at which the County's interior noise level standards are applied. Examples of sensitive interior spaces include, but are not limited to, all habitable rooms of residential and transient lodging facilities, hospital rooms, classrooms, library interiors, offices, worship spaces, theaters. Interior noise level standards are applied within noise-sensitive areas of the various land uses with windows and doors in the closed positions.

Notes:

Outdoor activity areas of transient lodging facilities are not commonly used during nighttime hours.

Since hospitals are often noise-generating uses, the exterior noise level standards are applicable only to clearly identified areas designated for outdoor relaxation by either hospital staff or patients.

The outdoor activity areas of these uses (if any) are not typically used during nighttime hours.

Where median (L_{50}) noise level data is not available for a particular noise source, average (L_{eq}) values may be substituted for the standards of this table provided the noise source operates for at least 30 minutes. If the source operates for less than 30 minutes the maximum noise level (L_{max}) standards shown shall apply.

In addition to the standards outlined in Table 8, the following noise policies would be applicable to the proposed project:

Policy HS-7.1: **Noise Standards for New Land Uses.** Require new development projects to meet the standards shown in [Table 5], at the property line of the proposed use, through either project design or other noise mitigation techniques.

Policy HS-7.3: **Existing Rural Sources.** Discourage new noise sensitive land uses in rural areas with authorized existing noise generating land uses.

Policy HS-7.4: **New Noise or Groundborne Vibration Generating Uses.** Require new commercial and industrial uses to minimize encroachment on incompatible noise sensitive land uses. Also consider the potential for encroachment by residential and other sensitive land uses on adjacent lands that could significantly impact the viability of the commercial or industrial areas.

Policy HS-7.5: **Noise Generating Activities.** Limit noise generating activities, such as construction, to hours of normal business operation.

Policy HS-7.12: **New Project Noise Mitigation Requirements.** Require new projects to include appropriate noise mitigation measures to reduce noise levels in compliance with the [Table 5] standards within sensitive areas. If a project includes the creation of new non-transportation noise sources, require the noise generation of those sources to be mitigated so they do not exceed the interior and exterior noise level standards of [Table 5] at existing noise-sensitive areas in the project vicinity. However, if a noise-generating use is proposed adjacent to lands zoned for residential uses, then the noise generating use shall be responsible for mitigating its noise generation to a state of compliance with the standards shown in [Table 5] at the property line of the generating use in anticipation of the future residential development.

Merced County Code Section 10.60, Noise Control, establishes regulations to avoid excessive noise in the county and Section 10.48.050 establishes standards and specifications for noise in the county. Section 10.48.050, Noise, limits construction hours between 7:00 a.m. and 6:00 p.m. daily and prohibits construction noise between 6:00 p.m. and 7:00 a.m. on weekdays or at any time on a weekend day or legal holiday, except for emergency work.

Environmental Evaluation

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

The project includes construction and operation of a cafeteria and break room building and an additional multi-effect evaporator and the installation of a 5-MW natural gas turbine generator, which has the potential to result in short- and long-term increase in noise within the project area. A *Noise and Vibration Technical Memorandum* was prepared to evaluate potential short- and long-term increases in noise associated with the proposed project (AMBIENT 2023b; Appendix C).

Construction

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Noise levels from typical construction equipment are shown in Table 9.

Table 9. Construction Equipment Noise Emission Levels

Equipment Type	Typical Noise Level (dBA) 50 Feet from Source	
	L_{max}	L_{eq}/L_{50}
Backhoes	78	74
Bulldozers	82	78
Compressors	78	74
Concrete Pump Truck	81	74
Crane	81	73
Auger Drill Rig	85	77
Dump Trucks	77	73
Hydraulic Break Rams	90	80
Front End Loaders	79	75
Pneumatic Tools	85	82
Rollers	80	73

Source: AMBIENT (2023b); Appendix C

The nearest sensitive noise receptors that may be adversely affected by short-term construction-related noise are rural residences located approximately 150 feet south of the proposed cafeteria and break room building and approximately 1,250 feet east of the proposed evaporator and turbine generator. The State of California and County have not developed standardized criteria for assessing construction noise impacts. However, the Federal Transit Administration (FTA) has identified criteria for the assessment of construction-generated noise levels. For noise-sensitive land uses, such as residential land uses, the FTA criteria identify daytime and nighttime average-hourly noise limits of 90 and 80 A-weighted decibels (dBA) average noise level (L_{eq}), respectively (AMBIENT 2023b).

According to the *Noise and Vibration Technical Memorandum*, short-term construction activities are not expected to exceed the FTA's threshold of 80 dBA L_{eq} at the nearest residential land uses (AMBIENT

2023b). However, with regard to residential land uses, activities occurring during the more noise-sensitive evening and nighttime hours (i.e., 10:00 p.m.–7:00 a.m.) are of increased concern. Because exterior ambient noise levels typically decrease during the evening and nighttime hours as community activities (e.g., commercial activities, vehicle traffic) decrease, construction activities performed during these more noise-sensitive periods of the day can result in increased annoyance and potential sleep disruption for occupants of nearby residential dwellings. Therefore, Mitigation Measure N-1 has been identified to reduce construction-related noise near sensitive receptors. With implementation of Mitigation Measure N-1, the project would not result in adverse construction-related noise, and impacts would be *less than significant with mitigation*.

Operation

The proposed project would result in the operation of an employee cafeteria and break room building, a gas turbine generator, and a backup evaporator. As previously stated, the nearest sensitive noise receptors are rural residences located approximately 150 feet south of the proposed cafeteria and break room building and approximately 1,250 feet east of the proposed evaporator and turbine generator. Potential impacts associated with an increase in operational noise are discussed in detail below.

Cafeteria Building

The cafeteria building would result in noise from building mechanical systems (e.g., heating, ventilation, and air conditioning [HVAC] systems/exhaust fan). Noise levels associated with building mechanical systems, such as larger AC units, typically range from 60 to 79 dBA L_{eq} at 5 feet from the source. Assuming a maximum noise level of 79 dBA L_{eq} at 50 feet from the source, predicted operational noise levels associated with the HVAC unit could reach 49 dBA L_{eq} at the nearest residential land use approximately 150 feet south (AMBIENT 2023b). Therefore, predicted noise levels associated with the proposed cafeteria building would not exceed the County's day or nighttime noise standards, and impacts would be *less than significant*.

Gas Turbine Generator

The proposed natural gas turbine generator is proposed to be located approximately 1,250 feet east of the nearest existing residential land use and would be housed within a building structure. According to the *Noise and Vibration Technical Memorandum* prepared for the project, an enclosed generator has an operational noise level of approximately 74 dBA at 50 feet from the source (AMBIENT 2023b). Based on this noise level the predicted operational noise level associated with the turbine generator at the nearest residential land use would be approximately 46 dBA L_{eq} and would not exceed the County's noise standards, and impacts would be *less than significant*.

Evaporator

The evaporator would be located within close proximity to the other evaporators and processing equipment located on-site and would be used when one of the currently operating evaporators needs to be temporarily brought out of commission for cleaning or maintenance purposes. Therefore, the addition of a backup evaporator would not increase the existing noise environment of the facility, and impacts would be *less than significant*.

Roadway Traffic Noise

Operation of the proposed project components would result in a marginal increase of approximately seven employees for ongoing operation and maintenance of the cafeteria and breakroom building. Other project components would not result in additional employment opportunities. Therefore, the project would result in a limited increase in daily vehicle trips within the project area. Typically, a doubling of vehicle traffic

would be required for a noticeable increase to occur. In comparison to existing conditions, implementation of the proposed project would not result in a doubling of vehicle traffic along nearby roadways; therefore, the project would not increase long-term roadway noise in exceedance of County thresholds, and impacts would be *less than significant*.

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

Construction-related groundborne vibration levels associated with the proposed project would be largely associated with the operation of off-road equipment (e.g., vibratory rollers, hoe rams, bulldozers, trucks, jackhammers). The project would not require the use of pile drivers. Groundborne vibration levels associated with construction equipment generally range from approximately 0.003 to 0.210 inches per second (in/sec) peak particle velocity (ppv) at 25 feet (AMBIENT 2023b).

Predicted groundborne vibration levels would range from 0.009 to 0.020 in/sec ppv at the nearest residence and would not exceed the commonly applied criteria for structural damage of 0.5 in/sec ppv or the commonly applied threshold for human annoyance of 0.2 in/sec ppv. Further, with implementation of the construction avoidance and minimization measures identified in Mitigation Measure N-1, construction activities would be limited to daytime hours between 7:00 a.m. and 6:00 p.m., which would further reduce potential annoyance to occupants of nearby structures. Therefore, the project would not generate excessive groundborne vibration or groundborne noise levels, and impacts would be *less than significant*.

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

The nearest airport to the project site is Los Banos Airport, approximately 3 miles southeast. The project site is not located within an airport land use plan or within 2 miles of an airport; therefore, the proposed project would not res expose people residing or working in the project area to excessive noise levels, and *no impacts* would occur.

Conclusion

With implementation of Mitigation Measure N-1, the project would not result in substantial construction-related or operational noise or groundborne vibration. In addition, the project would not result in excessive noise levels for people residing or working in the project area. Therefore, with implementation of the identified mitigation measures, impacts related to noise would be less than significant.

Mitigation Measures

N-1 During construction, the following construction noise best management practices shall be shown on all construction plans and implemented on-site:

1. Construction activities (excluding activities that would result in a safety concern to the public or construction workers) shall be limited to between the hours of 7:00 a.m. and 6:00 p.m., Monday through Saturdays where possible. Construction activities would be prohibited on Sundays and legal holidays. Haul truck operations shall be limited to these same hourly restrictions.

2. Construction equipment shall be properly maintained and equipped with exhaust mufflers and engine shrouds in accordance with manufacturers' recommendations.
3. To the extent locally available, electrified, or alternatively powered construction equipment shall be used.
4. Construction equipment staging areas shall be located at the furthest distance possible from nearby noise-sensitive land uses.
5. Stationary noise sources such as generators, pumps, and pavement crushers, shall be located at the furthest distance possible from noise-sensitive uses.

XIV. Population and Housing

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
(b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Setting

As of 2022, Merced County had a population of approximately 290,014 residents, which was a 3.1% increase from the 2020 population. The average population per household is approximately 3.35 persons in the county (U.S. Census Bureau 2022). By 2046, Merced County is projected to increase by approximately 82,000 persons (a 29% increase), 34,000 households (a 42% increase), and 27,000 jobs (a 32% increase) (MCAG 2022). The site supports an existing vacant residential structure, a domestic water well, septic system, and several clusters of trees and vegetation on the far east side of the property.

Environmental Evaluation

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

The project does not include the construction of new residential or other land uses that could result in direct population growth within the county. The project is limited to the construction and operation of a new cafeteria and break room building and an additional multi-effect evaporator and the installation of a 5-MW natural gas turbine generator to improve employee facilities and increase overall resiliency at the packing plant. Operation of the proposed project components would result in a marginal increase of approximately seven employees for ongoing operation and maintenance of the cafeteria and breakroom building. Other project components would not result in additional employment opportunities. Therefore, the proposed project would not generate a substantial number of new employment opportunities that

could indirectly increase population growth within the county. Proposed construction activities have the potential to generate short-term employment opportunities; however, project construction is expected to use workers from the local employment force and would not require workers to relocate to the project area. The project would not directly or indirectly induce substantial or unplanned population growth, and impacts would be *less than significant*.

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

The project does not include the removal or relocation of existing modular living units currently on-site; therefore, the project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere, and *no impacts* would occur.

Conclusion

The project would not induce substantial planned or unplanned population growth or necessitate the construction of replacement housing elsewhere. Therefore, impacts related to population and housing would be less than significant, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

XV. Public Services

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Setting

The Merced County Fire Department (MCFD) is responsible for fire protection services within the county. The nearest MCFD station is the Los Banos Station located at 525 H Street in the city of Los Banos, approximately 4.4 miles southeast of the project site. The Merced County Sheriff's Office is

responsible for protecting the life and property of the residents living in the unincorporated areas of Merced County. The Sherriff's Office is located at 700 West 22nd Street in the city of Merced, approximately 22 miles northeast of the project site. The nearest Sherriff's Office is the Jess "Pooch" Bowling Justice Center located at 445 I Street in Los Banos, approximately 4.5 miles southeast of the project site. There are 20 school districts with 90 schools, one community college district with two campuses, and one public university in Merced County. There are approximately 114,000 acres of parks and recreational facilities in the county that offer a variety of amenities such as picnicking, swimming, boating, hunting, bird watching, playgrounds, sports fields, and hiking.

Environmental Evaluation

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

Fire protection?

The project does not include the construction of new residences or buildings that would directly increase demand for existing fire protection services. The project would be limited to the installation of additional structures and equipment within the existing footprint of the packing plant and would generate a marginal increase of approximately seven new employees. Therefore, the project would not generate a substantial number of new employment opportunities that could indirectly increase population growth within the county in a manner that would increase demand for existing fire protection services. The project would not require new or physically altered governmental facilities for fire protection services, and impacts would be *less than significant*.

Police protection?

The project does not include the construction of new residences, businesses, or other uses that would directly increase demand for existing police protection services. The project would be limited to the installation of additional structures and equipment within the existing footprint of the packing plant and would generate a marginal increase of approximately seven new employees. Therefore, the project would not facilitate substantial planned or unplanned population growth in a manner that would increase demand on existing police protection services. The project would not require new or physically altered governmental facilities for police protection services, and impacts would be *less than significant*.

Schools?

The project does not include the construction of new residences or other uses that could facilitate an increase in school-aged children within the project area. Therefore, the project would not create an increased demand on local schools, and *no impacts* would occur.

Parks?

The project does not include the construction of new residences, businesses, or other uses that could facilitate population growth and increase demand on existing public park facilities in the project area. Therefore, the proposed project would not require the construction of new or physically altered public park facilities, and *no impacts* would occur.

Other public facilities?

As discussed in Section XIV, *Population and Housing*, the project would not result in substantial planned or unplanned population growth. The project does not propose features that would significantly increase the demand on public facilities, such as libraries or post offices, or result in the need for new or physically altered governmental facilities, and *no impacts* would occur.

Conclusion

The project would not increase demand for fire or police protection services, schools, parks, libraries, or other public facilities. Therefore, no impacts related to public services would occur as a result of the project, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

XVI. Recreation

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

Setting

Merced County contains several federal, state, and County parks and recreational areas in addition to public open space areas. There are approximately 114,000 acres of parks and recreational facilities in the county that offer a variety of amenities, such as picnicking, swimming, boating, hunting, bird watching, playgrounds, sports fields, and hiking. The nearest public park to the project site is Colorado Park, approximately 3.4 miles southeast of the project site.

Environmental Evaluation

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

As discussed in Section XIV, *Population and Housing*, the project does not include the development of new residences, businesses, or other uses that could directly induce population growth within the county. Construction activities are expected to be conducted by workers from the local employment force and operation of the project would be limited to a marginal increase of approximately seven new employees; therefore, construction and operation of the proposed project is not anticipated to require workers to

relocate to the project area. Since the project would not directly or indirectly induce population growth in the project area, the proposed project would not increase the use of existing recreational facilities in a manner that would lead to substantial deterioration of existing recreational facilities, and *no impacts* would occur.

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

The project does not include the development of new or expanded recreational facilities; therefore, *no impacts* would occur related to adverse physical effects on the environment as a result of construction or expansion of recreational facilities.

Conclusion

The project would not increase the use of existing recreational facilities in a manner that would lead to substantial deterioration of existing recreational facilities or require the development of new or expanded recreational facilities. Therefore, no impacts would occur, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

XVII. Transportation

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

Setting

The RTP/SCS identifies strategies to ensure that the Merced County transportation system will continue to operate efficiently in the future with sufficient capacity to meet demand and that mobility options are available for county residents (MCAG 2022).

The *2030 Merced County General Plan Transportation and Circulation Element* establishes goals and policies to meet the needs of motorists, bicyclists, and pedestrians in addition to the needs for the movement of farm equipment and agricultural commodities. Since the circulation needs of urban areas are

significantly different than the needs of rural areas, the County's functional roadway classification system includes distinct categories for urban and rural areas (Merced County 2013a). Table 10 identifies the desired roadway characteristics for each functional roadway classification.

Table 10. Functional Classification – Desired Roadway Characteristics

Location	Functional Classification	ROW (feet)[1]	Lanes[2]	LOS Analysis Threshold[3]	Intersecting Roadways[4]	Private Property Access[5]	Mobility / Operating Speed[6]
Urban	Freeway	Varies	4–8	D	Interchange at 1-mile spacing	None	High
	Expressway	150–180	4–6	D	1 per 0.5 mile	None	High
	Principal Arterial	100–180	2–6	D	1 per 0.25 mile	Very Limited	Medium–High
	Minor Arterial	60–100	2–4	D	1 per 0.25 mile	Limited	Medium
	Collector	60–90	2	D	1 per 0.125 mile	Limited	Low–Medium
	Local	46–60	2	D	No Limit (100-foot offset min.)	Controlled	Low
Rural	Freeway	Varies	4–8	D	Interchange at 2-mile spacing	None	High
	Principal Arterial	Varies	2–4	C	1 per 0.5 mile	Very Limited	High
	Minor Arterial	80–120	2–4	C	1 per 0.5 mile	Limited	Medium–High
	Major Collector	60–90	2–3	C	1 per 0.25 mile	Limited	Medium–High
	Minor Collector	60	2	C	1 per 0.25 mile	Limited	Medium–High
	Local	60	2	C	1 per 0.25 mile	Controlled	Low–High

Source: Merced County (2013a)

[1] Right-of-Way (ROW): The ROW widths shown represent typical ROW widths needed to accommodate the number of travel lanes necessary to support anticipated traffic volumes, shoulders, roadside ditches (rural roadways), curb, gutter, sidewalk, and bicycle lanes (where appropriate). Additional ROW width may be necessary at approaches to intersections to accommodate turn pockets.

[2] Lanes: The number of lanes shown represents the typical number of lanes likely to be necessary for the various types of roadways. In unusual cases, additional lanes may be necessary to accommodate higher traffic volumes.

[3] Level of Service (LOS) Analysis Threshold: The LOS thresholds indicated in this table represents the maximum acceptable weekday AM or PM Peak Hour LOS. Whenever a traffic analysis is prepared as part of a project approval, improvements need to be identified to ensure the resulting operating LOS does not exceed these threshold values.

[4] Intersecting Roadways: The values in this column represent the typical maximum number of intersections along the various types of roadways. In some cases, the number of intersections may be greater; however, a traffic analysis will be required indicating that the safety and function of the roadway will not be significantly compromised.

[5] Private Property Access: Private property access to roadways maintained by the County is granted through the issuance of an encroachment permit by the County Department of Public Works. No access to private property will be permitted on Freeways or Expressways. Access to local roads will generally be approved; however, guidelines for driveways on local roadways in urban areas have been established in the Merced County Improvement Standards and Specifications. Generally, driveways on other roadway types will be permitted; however, the number of driveways will be limited to preserve the safety and function of the roadway. In some cases, joint driveways serving more than one parcel may be required.

[6] Mobility/Operating Speed: The descriptions in this column represent the perceived level of mobility (usually represented by operating speed) a motorist may anticipate experiencing on the various roadway types during non-peak hours.

The project site is located off Volta Road, which is classified as a major collector road in a rural area (Merced County 2013a).

Environmental Evaluation

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

The project site is located off Volta Road, which is designated as a major collector road in a rural area. The Transportation and Circulation Element establishes Level of Service (LOS) standards for roadways within the county. As shown in Table 10, LOS C is considered an acceptable LOS for major collector roads in rural areas. During peak construction activities, it is anticipated that up to 20 construction workers would be on-site and no more than 20 daily truck trips to transport material and equipment would occur. Construction activities would be temporary in nature and would not result in a long-term increase in vehicle trips to and from the site in a manner that could increase vehicle congestion along proximate roadways. The project is limited to the construction and operation of a new cafeteria and break room building and an additional multi-effect evaporator and the installation of a 5-MW natural gas turbine generator to improve employee facilities and increase overall resiliency at the packing plant. Operation of the proposed project would result in a marginal increase of approximately seven employees for ongoing operation and maintenance of the cafeteria and break room building. Other project components would not result in additional employment opportunities. Therefore, the project would not increase the capacity of the packing plant in a manner that would substantially increase the number of employees or associated vehicle trips within the project area. Based on the limited number of vehicle trips generated by implementation of the project, the project would not reduce existing LOS along Volta Road. In addition, based on the limited number of vehicle trips generated by the proposed project, the project would be consistent with applicable VMT-reduction goals included in the RTP/SCS. Based on the limited number of vehicle trips generated by the project, the project would be consistent with the Transportation and Circulation Element and RTP/SCS, and impacts would be *less than significant*.

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

Senate Bill (SB) 743, which became effective July 1, 2020, changes the way transportation impacts are determined in CEQA documents. SB 743 replaces the metric for determining transportation impacts using motor vehicle delay and Level of Service (LOS) to Vehicle Miles Traveled (VMT) in CEQA traffic impact studies. As a result of SB 743, the Merced County Association of Governments (MCAG) prepared the *VMT Thresholds and Implementation Guidelines* (2022) to detail the implementation of the CEQA VMT metric, VMT screening criteria, and VMT analysis thresholds for jurisdictions within the MCAG. According to the *VMT Thresholds and Implementation Guidelines*, projects that are consistent with the jurisdiction's General Plan and generate fewer than 1,000 daily trips may be screened out from the need for a VMT analysis. Additionally, projects that are not consistent with the jurisdiction's General Plan but generate fewer than 500 daily trips may also be screened out from a VMT analysis (MCAG 2022). During construction, it is anticipated that up to approximately 20 construction workers would be on-site and no more than 20 daily truck trips would be required to transport material and equipment; therefore, the average daily combined vehicle and truck trips during construction would be less than 1,000 trips per day. As previously stated, operation of the proposed project would result in a marginal increase of approximately seven employees for ongoing operation and maintenance of the cafeteria and break room building. Other project components would not result in additional employment opportunities. Therefore, the project would not increase the capacity of the packing plant in a manner that would substantially increase the number of employees or associated vehicle trips within the project area. Based on the limited number of construction and operational vehicle trips, the project would not result in or exceed 1,000 trips per day and would not generate a significant increase in VMT, and project impacts would be *less than significant*.

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

There is an existing driveway located off Volta Road that provides access to the project site. The existing driveway would continue to provide emergency and worker access to the site, and no improvements to this driveway would be required for the proposed project; therefore, the proposed project would not introduce new hazardous roadway design features. The project would be consistent with surrounding land uses and would not introduce new incompatible uses (i.e., farm equipment) along nearby roadways. Therefore, the project would not increase roadway hazards, and *no impacts* would occur.

d) Would the project result in inadequate emergency access?

The project site is accessed off an existing driveway from Volta Road. The existing driveway provides adequate emergency and worker access to the project site and no improvements are necessary; therefore, impacts would be *less than significant*.

Conclusion

The project would not generate a substantial number of new vehicle trips, generate a significant increase in VMT, or conflict with a program plan, ordinance, or policy addressing the circulation system. The proposed project would not introduce new hazardous roadway design features or incompatible land uses or result in inadequate emergency access. Therefore, impacts related to traffic and transportation would be less than significant.

Mitigation Measures

Mitigation is not necessary.

XVIII. Tribal Cultural Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
(i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Setting

Approved in 2014, AB 52 added tribal cultural resources to the categories of resources that must be evaluated under CEQA. Tribal cultural resources are defined as either of the following:

1. Sites, features, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
    a. Included or determined to be eligible for inclusion in the CRHR; or
    b. Included in a local register of historical resources as defined in PRC Section 5020.1(k).
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). In applying these criteria for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American Tribe.

Recognizing that tribes have expertise with regard to their tribal history and practices, AB 52 requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area. If the tribe requests consultation within 30 days upon receipt of the notice, the lead agency must consult with the tribe regarding the potential for adverse impacts on tribal cultural resources as a result of a project. Consultation may include discussing the type of environmental review necessary, the presence and/or significance of tribal cultural resources, the level of significance of a project's impacts on the tribal cultural resources, and available project alternatives and mitigation measures recommended by the tribe to avoid or lessen potential impacts on tribal cultural resources.

Environmental Evaluation

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a-i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

The project site consists of existing industrial development and other structures associated with the packing plant. The project does not include the demolition or removal of any on-site structures; therefore, the project would not have the potential to adversely affect any historical resources, and *no impacts* would occur.

a-ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Pursuant to AB 52, the City provided notice to local California native tribes with geographic and/or cultural ties to the project region. Referral letters were sent to tribal representatives on November 3, 2023. No California Native American tribes requested consultation or provided information regarding significant tribal cultural resources to date.

Construction activities would result in approximately 3 acres of ground disturbance, including 1,580 cubic yards of cut and 480 cubic yards of fill activity. Based on a records search conducted at the CCIC and of the NAHC Sacred Lands File, there are no previously recorded archaeological resources within the project area; therefore, the project would not have the potential to adversely affect any known cultural archaeological resources. Further, Mitigation Measure CR-1 has been included in the unlikely event that previously unidentified cultural resources are uncovered during proposed ground-disturbing activities. In addition, the project would be required to comply with California Health and Safety Code Section 7050.5, which outlines the protocol for unanticipated discovery of human remains. Based on implementation of Mitigation Measure CR-1 and required compliance with California Health and Safety Code Section 7050.5, the project would not result in adverse impacts to known or unknown cultural resources, and impacts would be *less than significant with mitigation*.

Conclusion

With implementation of Mitigation Measure CR-1 and required compliance with California Health and Safety Code Section 7050.5, the project would not result in adverse impacts to known or unknown tribal cultural resources. Therefore, with implementation of Mitigation Measure CR-1, impacts related to tribal cultural resources would be less than significant.

Mitigation Measures

Implement Mitigation Measure CR-1.

XIX. Utilities and Service Systems

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

Setting

The project site is located in the Merced Subbasin of the San Joaquin Valley Groundwater Basin. There is a total of nine water and sewer districts that provide potable water and sewer collection services to residents in the county. The community of Volta was previously served by the Volta Community Service District (CSD) for both water and wastewater services; however, the Volta CSD was recently dissolved and annexed by the Santa Nella County Water District. Although the community of Volta is served by the Santa Nella County Water District, the Morning Star Packing Facility is served by private, on-site water and sewer services.

There are two active solid waste landfills within the county that are owned and operated by the Merced County Regional Waste Management Authority (MCRWMA). The Highway 59 Landfill, located at 7040 North Highway 59 in Merced, accepts mixed municipal waste, green and wood materials, tires, and household hazardous wastes (California Department of Resources Recycling and Recovery [CalRecycle] 2005). The Billy Wright Landfill, located at 17173 South Billy Wright Road in Los Banos, accepts mixed municipal, construction and demolition, and agricultural waste (CalRecycle 2010).

Environmental Evaluation

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

The project would require the expansion of utility infrastructure to serve the proposed project features. The project also includes the installation of a 5-MW natural gas turbine generator to supply energy to all on-site facilities. Upon installation of the generator, on-site plant operations would eventually be disconnected from existing PG&E electricity service lines. Proposed utility infrastructure expansion activities would occur within the footprint of the proposed project. As evaluated throughout this IS/MND, the project has the potential to result in adverse impacts related to Air Quality, Biological Resources, Cultural and Tribal Cultural Resources, and Noise. Mitigation Measures AQ-1 through AQ-3, BIO-1, CR-1, and N-1 have been included to avoid and/or minimize adverse impacts to less-than-significant levels. Therefore, upon implementation of the identified mitigation measures, the expansion of utility infrastructure would not result in adverse impacts to the environment; therefore, impacts would be *less than significant with mitigation*.

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

The project currently obtains water from an existing on-site well within the Merced Subbasin of the San Joaquin Valley Groundwater Basin. The project is limited to the construction and operation of a new cafeteria and break room building and an additional multi-effect evaporator and the installation of a 5-MW natural gas turbine generator to improve employee facilities and increase overall resiliency at the packing plant. The proposed cafeteria and break room would be equipped with low-flow water fixtures to maximize efficient use of water at the project site. The proposed evaporator would be used for tomato processing and would be used when one of the currently operating evaporators needs to be temporarily brought out of commission for cleaning or maintenance purposes; therefore, the installation of a new evaporator would not increase tomato processing capacity or associated water use. No additional water use would be required for the proposed generator. Therefore, proposed project components would not result in a substantial increase in groundwater use. The project would result in a marginal increase of approximately seven new employees for ongoing operation and maintenance of the proposed cafeteria and break room building. Other project components would not result in additional employment opportunities. Therefore, the project would not generate a substantial number of new employees in a manner that could otherwise substantially increase groundwater use at the project site. The project would not increase the capacity of the packing plant in a manner that would substantially increase groundwater use at the project site, and impacts would be *less than significant*.

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

Wastewater generated at the project site is treated by an existing on-site septic system. The project is limited to the construction and operation of a new cafeteria and break room building and an additional multi-effect evaporator and the installation of a 5-MW natural gas turbine generator to improve employee facilities and increase overall resiliency at the packing plant. The new cafeteria and break room building would be equipped with additional restroom facilities that would result in a marginal increase in

wastewater production at the project site that would be treated by a proposed on-site septic system. The proposed on-site septic system would be subject to applicable state and County design standards for wastewater facilities and designed to accommodate the flows generated by the proposed cafeteria and break room building. As discussed in *Impact Discussion XIX(b)*, the proposed project would not increase the existing tomato processing capacity at the facility; therefore, the project would not substantially increase wastewater production at the project site, and impacts would be *less than significant*.

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

Construction of the project may result in a temporary increase in solid waste, which would be disposed of in accordance with applicable state and local laws and regulations, such as California Green Building Standards Code (CALGreen) Sections 4.408 and 5.408, which require diversion of at least 75% of construction waste. Based on required compliance with CALGreen regulations, construction of the project would not generate solid waste in excess of local infrastructure capacity. The project would result in a new cafeteria and break room building, an additional multi-effect evaporator, and a new 5-MW natural gas turbine generator, which would result in a marginal increase in operational solid waste. Solid waste generated during project construction and operation would be disposed of at either the Highway 59 Landfill or Billy Wright Landfill, which have adequate capacity to accept the marginal amount of solid waste generated by the proposed project. The proposed project would not generate waste in excess of state or local standards or in excess of the capacity of local infrastructure, and impacts would be *less than significant*.

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

As previously described, operation of the project would result in a marginal increase in solid waste, and construction-related waste (i.e., demolished materials) would be disposed of according to federal and state regulations, including CALGreen standards for diversion of construction waste. Operational and construction-related solid waste would be disposed of in accordance with applicable federal, state, and local waste requirements, and impacts would be *less than significant*.

Conclusion

Implementation of Mitigation Measures AQ-1 through AQ-3, BIO-1, CR-1, and N-1 would reduce potential adverse environmental impacts related to the expansion of utility infrastructure at the project site. The project would not increase the capacity of the packing plant in a manner that would substantially increase groundwater use or wastewater production at the project site. Further, the proposed project would not generate waste in excess of state or local standards or in excess of the capacity of local infrastructure and would be consistent with applicable federal, state, and local waste requirements. With implementation of the identified mitigation measures, impacts related to utilities and service systems would be less than significant.

Mitigation Measures

Implement Mitigation Measures AQ-1 through AQ-3, BIO-1, CR-1, and N-1.

XX. Wildfire

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

Setting

According to the CAL FIRE Fire Hazard Severity Zone (FHSZ) Viewer, the project site and surrounding area is located in an LRA (CAL FIRE 2023). According to the *Merced County Multi-Jurisdictional Hazard Mitigation Plan*, the project area has a low to moderate risk of wildfire (County of Merced 2021).

Environmental Evaluation

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

The project site encompasses an approximately 31-acre area that consists of existing industrial development associated with the packing plant. The project site is accessed via an existing paved driveway off Volta Road. The existing driveway would continue to provide emergency and worker access to the site, and no improvements to this driveway would be required for the proposed project. Proposed construction activities would not require any roadway closures or traffic controls that could interfere with emergency response or evacuation efforts. Implementation of the project would generate a marginal increase of approximately seven new employees and would not generate a substantial increase in employees or associated vehicle trips that could otherwise impede emergency response or evacuation efforts within the project area. Therefore, the project would not substantially impair an adopted emergency response plan or emergency evacuation plan, and impacts would be *less than significant*.

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

The project site and surrounding area is in an LRA in an area with low to moderate risk of wildfire (CAL FIRE 2023; County of Merced 2021). The proposed project includes the construction of a cafeteria and break room building and an additional multi-effect evaporator and the installation of a 5-MW natural gas turbine generator within the existing packing plant, which consists of developed areas and relatively flat topography. The proposed project would be constructed in accordance with applicable CFC requirements to reduce the risk of wildfire ignition at the project site. In addition, the proposed equipment would be properly maintained at the project site to further avoid the risk of wildfire ignition at the project site. Based on required compliance with CFC requirements, the project would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, and impacts would be *less than significant*.

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

The project site and surrounding area is in an LRA in an area with low to moderate risk of wildfire (CAL FIRE 2023; County of Merced 2021). The project would require the expansion of utility infrastructure to serve the proposed project features. The project includes the installation of a 5-MW natural gas turbine generator to supply energy to all on-site facilities. The proposed generator would be enclosed within a 2,000- to 3,000-square-foot structure and would be installed in accordance with applicable CFC and CBC requirements, which would reduce the risk of wildfire ignition at the project site. Upon installation of the generator, on-site plant operations would eventually be disconnected from existing PG&E electricity service lines, which would reduce the facilities' use of existing overhead powerlines in the area. In addition, the proposed equipment would be properly maintained at the project site to further avoid the risk of wildfire ignition. Based on required compliance with CFC and CBC requirements, the installation of utility infrastructure would not exacerbate fire risks, and impacts would be *less than significant*.

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

The project site and surrounding area is in an LRA in an area with low to moderate risk of wildfire (CAL FIRE 2023; County of Merced 2021). The project site is located in an area with low to moderate potential for landslide and low potential for liquefaction to occur (County of Merced 2013b). According to FEMA FIRM 06047C0825G (effective date 12/2/2008), the project site is within Zone X, an area of minimal flood hazard (FEMA 2023). Therefore, the potential for wildfire occurrence and associated post-fire risks are considered low at the project site. Further, the proposed project would be required to comply

with applicable CFC and CBC requirements to reduce the risk of wildfire ignition and associated post-fire risks, and impacts would be *less than significant*.

Conclusion

The project site is located in an area with low risk of wildfire and the proposed project would not exacerbate wildfire or post-wildfire risk. Therefore, impacts would be less than significant, and mitigation is not necessary.

Mitigation Measures

Mitigation is not necessary.

XXI. Mandatory Findings of Significance

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

Environmental Evaluation

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

As discussed in the preceding sections of this IS/MND, the project has the potential to significantly degrade the quality of the environment, including effects on biological and cultural and tribal cultural resources. As discussed in Section IV, *Biological Resources*, of this IS/MND, the project's proposed construction activities have the potential to result in adverse impacts nesting migratory birds protected

under the MBTA. Mitigation Measure BIO-1 has been identified to reduce potential impacts to nesting migratory birds. In addition, as discussed in Section V, *Cultural Resources*, the proposed ground-disturbing activities would not result in adverse impacts to any known cultural resources and Mitigation Measure CR-1 has been included in the unlikely event that previously unidentified cultural resources are uncovered during proposed ground-disturbing activities. Further, the project would be required to comply with California Health and Safety Code Section 7050.5 to address inadvertent discovery of human remains. Implementation of Mitigation Measures BIO-1 and CR-1 would reduce potential impacts to a less-than-significant level.

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

When project impacts are considered alone or in combination with other impacts, the project-related impacts may be significant. Construction and operation of the project would contribute to cumulative impacts related to air quality, biological resources, cultural and tribal cultural resources, and noise. Mitigation measures have been incorporated into the project to reduce project-related impacts to a less-than-significant level. Based on implementation of Mitigation Measures AQ-1 through AQ-3, BIO-1, CR-1, and N-1, the cumulative effects of the proposed project would be less than significant.

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

The project would result in air emissions during construction of the project. Mitigation Measures AQ-1 through AQ-3 have been identified to reduce these project-specific impacts to a less-than-significant level; therefore, the project would not result in substantial, adverse environmental effects to human beings, either directly or indirectly.

Conclusion

Based on implementation of Mitigation Measures AQ-1 through AQ-3, BIO-1, CR-1, and N-1, all potential impacts associated with the construction and operation of the proposed project would be mitigated to less-than-significant levels.

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APPENDIX A

California Emissions Estimator Model Results

Morning Star Cafeteria Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Morning Star Cafeteria
Construction Start Date	11/11/2023
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	25.0
Location	37.09306159694708, -120.92265400228916
County	Merced
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2312
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.19

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

High Turnover (Sit Down Restaurant)	15.0	1000sqft	0.34	15,000	—	—	—	Cafeteria/Break Room

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-5	Use Advanced Engine Tiers
Construction	C-9	Use Dust Suppressants
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-B	Water Active Demolition Sites
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Energy	E-2	Require Energy Efficient Appliances
Energy	E-7*	Require Higher Efficacy Public Street and Area Lighting

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.70	0.59	6.38	6.13	0.01	0.22	0.36	0.55	0.20	0.10	0.27	—	1,819	1,819	0.06	0.18	0.08	1,873
Mit.	0.26	0.24	5.54	8.38	0.01	0.11	0.36	0.47	0.11	0.09	0.20	—	1,819	1,819	0.06	0.18	0.08	1,873
% Reduced	63%	60%	13%	-37%	—	48%	1%	15%	47%	—	27%	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.10	0.09	0.91	1.01	< 0.005	0.03	0.01	0.04	0.03	< 0.005	0.03	—	225	225	0.01	< 0.005	0.03	226
Mit.	0.04	0.04	0.82	1.27	< 0.005	0.01	0.01	0.03	0.01	< 0.005	0.02	—	225	225	0.01	< 0.005	0.03	226
% Reduced	64%	59%	9%	-26%	—	57%	—	42%	56%	—	51%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.02	0.17	0.18	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	37.2	37.2	< 0.005	< 0.005	0.01	37.4
Mit.	0.01	0.01	0.15	0.23	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	37.2	37.2	< 0.005	< 0.005	0.01	37.4
% Reduced	64%	59%	9%	-26%	—	57%	—	42%	56%	—	51%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.68	0.57	5.24	5.49	0.01	0.19	0.36	0.55	0.18	0.10	0.27	—	1,819	1,819	0.04	0.18	0.08	1,873
2024	0.70	0.59	6.38	6.13	0.01	0.22	0.07	0.28	0.20	0.02	0.22	—	1,552	1,552	0.06	0.02	0.01	1,560
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.04	0.03	0.28	0.38	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	78.2	78.2	< 0.005	< 0.005	0.03	79.4
2024	0.10	0.09	0.91	1.01	< 0.005	0.03	0.01	0.04	0.03	< 0.005	0.03	—	225	225	0.01	< 0.005	0.03	226
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.01	0.01	0.05	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.9	12.9	< 0.005	< 0.005	0.01	13.1

2024	0.02	0.02	0.17	0.18	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	37.2	37.2	< 0.005	< 0.005	0.01	37.4

2.3. Construction Emissions by Year, Mitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.26	0.24	5.54	5.36	0.01	0.11	0.36	0.47	0.11	0.09	0.20	—	1,819	1,819	0.04	0.18	0.08	1,873
2024	0.22	0.22	5.46	8.38	0.01	0.09	0.07	0.15	0.08	0.02	0.10	—	1,552	1,552	0.06	0.02	0.01	1,560
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.02	0.01	0.29	0.40	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	78.2	78.2	< 0.005	< 0.005	0.03	79.4
2024	0.04	0.04	0.82	1.27	< 0.005	0.01	0.01	0.03	0.01	< 0.005	0.02	—	225	225	0.01	< 0.005	0.03	226
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	< 0.005	< 0.005	0.05	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.9	12.9	< 0.005	< 0.005	0.01	13.1
2024	0.01	0.01	0.15	0.23	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	37.2	37.2	< 0.005	< 0.005	0.01	37.4

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.17	0.47	0.51	1.08	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	105	987	1,092	10.6	0.03	23.4	1,390
Mit.	0.17	0.47	0.51	1.08	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	105	960	1,065	10.6	0.03	23.4	1,363

% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	3%	2%	< 0.5%	—	—	2%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.06	0.37	0.50	0.42	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	105	984	1,089	10.6	0.03	23.4	1,387
Mit.	0.06	0.37	0.50	0.42	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	105	958	1,063	10.6	0.03	23.4	1,360
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	3%	2%	< 0.5%	—	—	2%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.11	0.42	0.51	0.74	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	105	985	1,090	10.6	0.03	23.4	1,388
Mit.	0.11	0.42	0.51	0.74	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	105	959	1,064	10.6	0.03	23.4	1,362
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	3%	2%	< 0.5%	—	—	2%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.08	0.09	0.14	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	17.4	163	180	1.76	< 0.005	3.88	230
Mit.	0.02	0.08	0.09	0.14	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	17.4	159	176	1.76	< 0.005	3.88	225
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	3%	2%	< 0.5%	2%	—	2%

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.12	0.45	0.01	0.65	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.68	2.68	< 0.005	< 0.005	—	2.69

Energy	0.06	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	976	976	0.11	0.01	—	981
Water	—	—	—	—	—	—	—	—	—	—	—	8.72	8.30	17.0	0.90	0.02	—	45.8
Waste	—	—	—	—	—	—	—	—	—	—	—	96.2	0.00	96.2	9.61	0.00	—	337
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Total	0.17	0.47	0.51	1.08	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	105	987	1,092	10.6	0.03	23.4	1,390
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.06	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	976	976	0.11	0.01	—	981
Water	—	—	—	—	—	—	—	—	—	—	—	8.72	8.30	17.0	0.90	0.02	—	45.8
Waste	—	—	—	—	—	—	—	—	—	—	—	96.2	0.00	96.2	9.61	0.00	—	337
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Total	0.06	0.37	0.50	0.42	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	105	984	1,089	10.6	0.03	23.4	1,387
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.06	0.39	< 0.005	0.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.32	1.32	< 0.005	< 0.005	—	1.33
Energy	0.06	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	976	976	0.11	0.01	—	981
Water	—	—	—	—	—	—	—	—	—	—	—	8.72	8.30	17.0	0.90	0.02	—	45.8
Waste	—	—	—	—	—	—	—	—	—	—	—	96.2	0.00	96.2	9.61	0.00	—	337
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Total	0.11	0.42	0.51	0.74	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	105	985	1,090	10.6	0.03	23.4	1,388
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.07	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.22	0.22	< 0.005	< 0.005	—	0.22
Energy	0.01	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	162	162	0.02	< 0.005	—	162
Water	—	—	—	—	—	—	—	—	—	—	—	1.44	1.37	2.82	0.15	< 0.005	—	7.58

Waste	—	—	—	—	—	—	—	—	—	—	—	15.9	0.00	15.9	1.59	0.00	—	55.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.88	3.88
Total	0.02	0.08	0.09	0.14	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	17.4	163	180	1.76	< 0.005	3.88	230

2.6. Operations Emissions by Sector, Mitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.12	0.45	0.01	0.65	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.68	2.68	< 0.005	< 0.005	—	2.69
Energy	0.06	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	950	950	0.11	0.01	—	955
Water	—	—	—	—	—	—	—	—	—	—	—	8.72	8.30	17.0	0.90	0.02	—	45.8
Waste	—	—	—	—	—	—	—	—	—	—	—	96.2	0.00	96.2	9.61	0.00	—	337
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Total	0.17	0.47	0.51	1.08	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	105	960	1,065	10.6	0.03	23.4	1,363
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.06	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	950	950	0.11	0.01	—	955
Water	—	—	—	—	—	—	—	—	—	—	—	8.72	8.30	17.0	0.90	0.02	—	45.8
Waste	—	—	—	—	—	—	—	—	—	—	—	96.2	0.00	96.2	9.61	0.00	—	337
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Total	0.06	0.37	0.50	0.42	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	105	958	1,063	10.6	0.03	23.4	1,360
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.06	0.39	< 0.005	0.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.32	1.32	< 0.005	< 0.005	—	1.33
Energy	0.06	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	950	950	0.11	0.01	—	955
Water	—	—	—	—	—	—	—	—	—	—	—	8.72	8.30	17.0	0.90	0.02	—	45.8
Waste	—	—	—	—	—	—	—	—	—	—	—	96.2	0.00	96.2	9.61	0.00	—	337
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Total	0.11	0.42	0.51	0.74	< 0.005	0.04	0.00	0.04	0.04	0.00	0.04	105	959	1,064	10.6	0.03	23.4	1,362
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.07	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.22	0.22	< 0.005	< 0.005	—	0.22
Energy	0.01	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	157	157	0.02	< 0.005	—	158
Water	—	—	—	—	—	—	—	—	—	—	—	1.44	1.37	2.82	0.15	< 0.005	—	7.58
Waste	—	—	—	—	—	—	—	—	—	—	—	15.9	0.00	15.9	1.59	0.00	—	55.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.88	3.88
Total	0.02	0.08	0.09	0.14	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	17.4	159	176	1.76	< 0.005	3.88	225

3. Construction Emissions Details

3.1. Site Preparation (2023) - Unmitigated

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

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

Off-Road Equipment	0.58	0.49	3.78	4.61	0.01	0.17	—	0.17	0.16	—	0.16	—	666	666	0.03	0.01	—	668
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.12	9.12	< 0.005	< 0.005	—	9.16
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.51	1.51	< 0.005	< 0.005	—	1.52
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.58	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	79.8	79.8	0.01	< 0.005	0.01	81.0

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.02	1.40	0.30	0.01	0.02	0.28	0.30	0.02	0.08	0.10	—	1,073	1,073	0.01	0.17	0.07	1,124
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.13	1.13	< 0.005	< 0.005	< 0.005	1.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	15.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.43	2.43	< 0.005	< 0.005	< 0.005	2.55

3.2. Site Preparation (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.15	4.09	4.48	0.01	0.09	—	0.09	0.09	—	0.09	—	666	666	0.03	0.01	—	668
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.12	9.12	< 0.005	< 0.005	—	9.16
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.51	1.51	< 0.005	< 0.005	—	1.52
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.58	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	79.8	79.8	0.01	< 0.005	0.01	81.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.02	1.40	0.30	0.01	0.02	0.28	0.30	0.02	0.08	0.10	—	1,073	1,073	0.01	0.17	0.07	1,124
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.13	1.13	< 0.005	< 0.005	< 0.005	1.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.02	15.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.43	2.43	< 0.005	< 0.005	< 0.005	2.55

3.3. Grading (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.17	1.58	1.93	< 0.005	0.07	—	0.07	0.06	—	0.06	—	315	315	0.01	< 0.005	—	317
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.32	4.32	< 0.005	< 0.005	—	4.34
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.72	0.72	< 0.005	< 0.005	—	0.72
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.29	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	39.9	39.9	< 0.005	< 0.005	0.01	40.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.24	0.05	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	186	186	< 0.005	0.03	0.01	195
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.56	0.56	< 0.005	< 0.005	< 0.005	0.57
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.55	2.55	< 0.005	< 0.005	< 0.005	2.67
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.42	0.42	< 0.005	< 0.005	< 0.005	0.44

3.4. Grading (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	1.50	2.03	< 0.005	0.02	—	0.02	0.02	—	0.02	—	315	315	0.01	< 0.005	—	317
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.32	4.32	< 0.005	< 0.005	—	4.34
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.72	0.72	< 0.005	< 0.005	—	0.72

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.29	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	39.9	39.9	< 0.005	< 0.005	0.01	40.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.24	0.05	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	186	186	< 0.005	0.03	0.01	195
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.56	0.56	< 0.005	< 0.005	< 0.005	0.57
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.55	2.55	< 0.005	< 0.005	< 0.005	2.67
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.42	0.42	< 0.005	< 0.005	< 0.005	0.44

3.5. Building Construction (2023) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	0.32	3.31	4.60	0.01	0.15	—	0.15	0.14	—	0.14	—	718	718	0.03	0.01	—	721
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.18	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	39.3	39.3	< 0.005	< 0.005	—	39.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.51	6.51	< 0.005	< 0.005	—	6.54
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.36	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	50.2	50.2	< 0.005	< 0.005	0.01	51.0
Vendor	< 0.005	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	65.9	65.9	< 0.005	0.01	< 0.005	68.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.84	2.84	< 0.005	< 0.005	0.01	2.88
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.61	3.61	< 0.005	< 0.005	< 0.005	3.77
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.47	0.47	< 0.005	< 0.005	< 0.005	0.48
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.62
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.14	3.30	4.94	0.01	0.07	—	0.07	0.06	—	0.06	—	718	718	0.03	0.01	—	721
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.18	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	39.3	39.3	< 0.005	< 0.005	—	39.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.51	6.51	< 0.005	< 0.005	—	6.54

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.36	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	50.2	50.2	< 0.005	< 0.005	0.01	51.0
Vendor	< 0.005	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	65.9	65.9	< 0.005	0.01	< 0.005	68.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.84	2.84	< 0.005	< 0.005	0.01	2.88
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.61	3.61	< 0.005	< 0.005	< 0.005	3.77
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.47	0.47	< 0.005	< 0.005	< 0.005	0.48
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.62
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2024) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.30	3.12	4.60	0.01	0.13	—	0.13	0.12	—	0.12	—	718	718	0.03	0.01	—	721
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.22	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	50.6	50.6	< 0.005	< 0.005	—	50.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.38	8.38	< 0.005	< 0.005	—	8.41
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.33	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.9	48.9	< 0.005	< 0.005	0.01	49.7
Vendor	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	65.0	65.0	< 0.005	0.01	< 0.005	67.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.55	3.55	< 0.005	< 0.005	0.01	3.61
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.58	4.58	< 0.005	< 0.005	0.01	4.78
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.60
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.79
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.14	3.30	4.94	0.01	0.07	—	0.07	0.06	—	0.06	—	718	718	0.03	0.01	—	721
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.23	0.35	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	50.6	50.6	< 0.005	< 0.005	—	50.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.38	8.38	< 0.005	< 0.005	—	8.41
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.33	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.9	48.9	< 0.005	< 0.005	0.01	49.7
Vendor	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	65.0	65.0	< 0.005	0.01	< 0.005	67.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.55	3.55	< 0.005	< 0.005	0.01	3.61
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.58	4.58	< 0.005	< 0.005	0.01	4.78
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.60
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.79
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction Final Stage (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.66	0.56	6.25	5.76	0.01	0.22	—	0.22	0.20	—	0.20	—	1,438	1,438	0.06	0.01	—	1,443

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.67	0.62	< 0.005	0.02	—	0.02	0.02	—	0.02	—	154	154	0.01	< 0.005	—	154
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.4	25.4	< 0.005	< 0.005	—	25.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.33	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.9	48.9	< 0.005	< 0.005	0.01	49.7
Vendor	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	65.0	65.0	< 0.005	0.01	< 0.005	67.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.39	5.39	< 0.005	< 0.005	0.01	5.48
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.94	6.94	< 0.005	< 0.005	0.01	7.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.91
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.15	1.15	< 0.005	< 0.005	< 0.005	1.20
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction Final Stage (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	5.33	8.01	0.01	0.09	—	0.09	0.08	—	0.08	—	1,438	1,438	0.06	0.01	—	1,443
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.57	0.86	< 0.005	0.01	—	0.01	0.01	—	0.01	—	154	154	0.01	< 0.005	—	154
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.10	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.4	25.4	< 0.005	< 0.005	—	25.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.04	0.03	0.03	0.33	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.9	48.9	< 0.005	< 0.005	0.01	49.7
Vendor	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	65.0	65.0	< 0.005	0.01	< 0.005	67.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.39	5.39	< 0.005	< 0.005	0.01	5.48
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.94	6.94	< 0.005	< 0.005	0.01	7.25
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.91
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.15	1.15	< 0.005	< 0.005	< 0.005	1.20
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.1.2. Mitigated

Mobile source emissions results are presented in Sections 2.5. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	375	375	0.06	0.01	—	378
Total	—	—	—	—	—	—	—	—	—	—	—	—	375	375	0.06	0.01	—	378
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	375	375	0.06	0.01	—	378
Total	—	—	—	—	—	—	—	—	—	—	—	—	375	375	0.06	0.01	—	378
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	62.0	62.0	0.01	< 0.005	—	62.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	62.0	62.0	0.01	< 0.005	—	62.6

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	348	348	0.06	0.01	—	352

Total	—	—	—	—	—	—	—	—	—	—	—	—	348	348	0.06	0.01	—	352
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	348	348	0.06	0.01	—	352
Total	—	—	—	—	—	—	—	—	—	—	—	—	348	348	0.06	0.01	—	352
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	57.7	57.7	0.01	< 0.005	—	58.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	57.7	57.7	0.01	< 0.005	—	58.3

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	0.06	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	601	601	0.05	< 0.005	—	603
Total	0.06	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	601	601	0.05	< 0.005	—	603
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

High Turnover (Sit Down Restaurant)	0.06	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	601	601	0.05	< 0.005	—	603
Total	0.06	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	601	601	0.05	< 0.005	—	603
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	0.01	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	99.5	99.5	0.01	< 0.005	—	99.8
Total	0.01	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	99.5	99.5	0.01	< 0.005	—	99.8

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	0.06	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	601	601	0.05	< 0.005	—	603
Total	0.06	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	601	601	0.05	< 0.005	—	603
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	0.06	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	601	601	0.05	< 0.005	—	603
Total	0.06	0.03	0.50	0.42	< 0.005	0.04	—	0.04	0.04	—	0.04	—	601	601	0.05	< 0.005	—	603
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

High Turnover (Sit Down Restaurant)	0.01	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	99.5	99.5	0.01	< 0.005	—	99.8
Total	0.01	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	99.5	99.5	0.01	< 0.005	—	99.8

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.12	0.11	0.01	0.65	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.68	2.68	< 0.005	< 0.005	—	2.69
Total	0.12	0.45	0.01	0.65	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.68	2.68	< 0.005	< 0.005	—	2.69
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.22	0.22	< 0.005	< 0.005	—	0.22
Total	0.01	0.07	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.22	0.22	< 0.005	< 0.005	—	0.22

4.3.2. Mitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.12	0.11	0.01	0.65	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.68	2.68	< 0.005	< 0.005	—	2.69
Total	0.12	0.45	0.01	0.65	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.68	2.68	< 0.005	< 0.005	—	2.69
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consum Products	—	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.22	0.22	< 0.005	< 0.005	—	0.22
Total	0.01	0.07	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.22	0.22	< 0.005	< 0.005	—	0.22

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	8.72	8.30	17.0	0.90	0.02	—	45.8
Total	—	—	—	—	—	—	—	—	—	—	—	8.72	8.30	17.0	0.90	0.02	—	45.8

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	8.72	8.30	17.0	0.90	0.02	—	45.8
Total	—	—	—	—	—	—	—	—	—	—	—	8.72	8.30	17.0	0.90	0.02	—	45.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	1.44	1.37	2.82	0.15	< 0.005	—	7.58
Total	—	—	—	—	—	—	—	—	—	—	—	1.44	1.37	2.82	0.15	< 0.005	—	7.58

4.4.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	8.72	8.30	17.0	0.90	0.02	—	45.8
Total	—	—	—	—	—	—	—	—	—	—	—	8.72	8.30	17.0	0.90	0.02	—	45.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	8.72	8.30	17.0	0.90	0.02	—	45.8

Total	—	—	—	—	—	—	—	—	—	—	—	8.72	8.30	17.0	0.90	0.02	—	45.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	1.44	1.37	2.82	0.15	< 0.005	—	7.58
Total	—	—	—	—	—	—	—	—	—	—	—	1.44	1.37	2.82	0.15	< 0.005	—	7.58

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	96.2	0.00	96.2	9.61	0.00	—	337
Total	—	—	—	—	—	—	—	—	—	—	—	96.2	0.00	96.2	9.61	0.00	—	337
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	96.2	0.00	96.2	9.61	0.00	—	337
Total	—	—	—	—	—	—	—	—	—	—	—	96.2	0.00	96.2	9.61	0.00	—	337
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	15.9	0.00	15.9	1.59	0.00	—	55.7
Total	—	—	—	—	—	—	—	—	—	—	—	15.9	0.00	15.9	1.59	0.00	—	55.7

4.5.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	96.2	0.00	96.2	9.61	0.00	—	337
Total	—	—	—	—	—	—	—	—	—	—	—	96.2	0.00	96.2	9.61	0.00	—	337
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	96.2	0.00	96.2	9.61	0.00	—	337
Total	—	—	—	—	—	—	—	—	—	—	—	96.2	0.00	96.2	9.61	0.00	—	337
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	15.9	0.00	15.9	1.59	0.00	—	55.7
Total	—	—	—	—	—	—	—	—	—	—	—	15.9	0.00	15.9	1.59	0.00	—	55.7

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.88	3.88
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.88	3.88

4.6.2. Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.88	3.88
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.88	3.88

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

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

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

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

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

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	11/20/2023	11/25/2023	5.00	5.00	—
Grading	Grading	11/27/2023	12/1/2023	5.00	5.00	—
Building Construction	Building Construction	12/4/2023	2/5/2024	5.00	46.0	—
Building Construction Final Stage	Building Construction	2/6/2024	3/29/2024	5.00	39.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Site Preparation	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Site Preparation	Off-Highway Tractors	Diesel	Average	1.00	8.00	38.0	0.44
Site Preparation	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Grading	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Building Construction	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Building Construction	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Building Construction	Dumpers/Tenders	Diesel	Average	1.00	4.00	16.0	0.38
Building Construction Final Stage	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction Final Stage	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Building Construction Final Stage	Aerial Lifts	Diesel	Average	2.00	8.00	46.0	0.31

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Site Preparation	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Site Preparation	Off-Highway Tractors	Diesel	Tier 4 Interim	1.00	8.00	38.0	0.44
Site Preparation	Excavators	Diesel	Tier 4 Interim	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	7.00	84.0	0.37

Grading	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Building Construction	Forklifts	Diesel	Tier 4 Interim	1.00	8.00	82.0	0.20
Building Construction	Skid Steer Loaders	Diesel	Tier 4 Interim	1.00	8.00	71.0	0.37
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Building Construction	Dumpers/Tenders	Diesel	Average	1.00	4.00	16.0	0.38
Building Construction Final Stage	Cranes	Diesel	Tier 4 Interim	1.00	8.00	367	0.29
Building Construction Final Stage	Forklifts	Diesel	Tier 4 Interim	1.00	8.00	82.0	0.20
Building Construction Final Stage	Aerial Lifts	Diesel	Tier 4 Interim	2.00	8.00	46.0	0.31

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	10.0	10.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.27	HHDT,MHDT
Site Preparation	Hauling	15.0	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	5.00	10.9	LDA,LDT1,LDT2
Grading	Vendor	—	8.27	HHDT,MHDT
Grading	Hauling	2.60	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	6.30	10.9	LDA,LDT1,LDT2

Building Construction	Vendor	2.46	8.27	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Building Construction Final Stage	—	—	—	—
Building Construction Final Stage	Worker	6.30	10.9	LDA,LDT1,LDT2
Building Construction Final Stage	Vendor	2.46	8.27	HHDT,MHDT
Building Construction Final Stage	Hauling	0.00	20.0	HHDT
Building Construction Final Stage	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	10.0	10.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.27	HHDT,MHDT
Site Preparation	Hauling	15.0	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	5.00	10.9	LDA,LDT1,LDT2
Grading	Vendor	—	8.27	HHDT,MHDT
Grading	Hauling	2.60	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	6.30	10.9	LDA,LDT1,LDT2
Building Construction	Vendor	2.46	8.27	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Building Construction Final Stage	—	—	—	—

Building Construction Final Stage	Worker	6.30	10.9	LDA,LDT1,LDT2
Building Construction Final Stage	Vendor	2.46	8.27	HHDT,MHDT
Building Construction Final Stage	Hauling	0.00	20.0	HHDT
Building Construction Final Stage	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	600	0.00	0.00	—
Grading	100	—	0.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
High Turnover (Sit Down Restaurant)	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	204	0.03	< 0.005
2024	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	22,500	7,500	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
High Turnover (Sit Down Restaurant)	670,247	204	0.0330	0.0040	1,875,506

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
High Turnover (Sit Down Restaurant)	623,478	204	0.0330	0.0040	1,875,506

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
High Turnover (Sit Down Restaurant)	4,553,006	1.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
High Turnover (Sit Down Restaurant)	4,553,006	1.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
High Turnover (Sit Down Restaurant)	178	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
High Turnover (Sit Down Restaurant)	178	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

5.18.2.2. Mitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	32.3	annual days of extreme heat
Extreme Precipitation	1.00	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A

Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	55.4
AQ-PM	12.0
AQ-DPM	19.2
Drinking Water	99.0
Lead Risk Housing	48.2
Pesticides	80.8
Toxic Releases	5.71
Traffic	54.8
Effect Indicators	—
CleanUp Sites	59.0
Groundwater	97.3
Haz Waste Facilities/Generators	7.35
Impaired Water Bodies	96.3
Solid Waste	93.2
Sensitive Population	—
Asthma	93.0
Cardio-vascular	67.6
Low Birth Weights	23.7
Socioeconomic Factor Indicators	—
Education	85.2
Housing	46.5
Linguistic	84.5
Poverty	69.3
Unemployment	95.7

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	18.76042602
Employed	36.78942641
Median HI	22.76401899
Education	—
Bachelor's or higher	6.236365969
High school enrollment	12.44706788
Preschool enrollment	26.60079559
Transportation	—
Auto Access	36.01950468
Active commuting	66.59822918
Social	—
2-parent households	2.55357372
Voting	40.85717952
Neighborhood	—
Alcohol availability	69.80623637
Park access	6.13370974
Retail density	0.384960862
Supermarket access	15.46259464
Tree canopy	6.608494803
Housing	—
Homeownership	38.3036058
Housing habitability	67.2783267
Low-inc homeowner severe housing cost burden	45.47670987

Low-inc renter severe housing cost burden	89.54189657
Uncrowded housing	37.31553959
Health Outcomes	—
Insured adults	31.25882202
Arthritis	0.0
Asthma ER Admissions	15.6
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	19.6
Cognitively Disabled	52.2
Physically Disabled	42.3
Heart Attack ER Admissions	12.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	96.5
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—

Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	16.3
Elderly	81.3
English Speaking	12.7
Foreign-born	56.9
Outdoor Workers	2.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	91.3
Traffic Density	26.9
Traffic Access	0.0
Other Indices	—
Hardship	81.4
Other Decision Support	—
2016 Voting	63.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	85.0
Healthy Places Index Score for Project Location (b)	16.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Based on info provided.
Construction: Off-Road Equipment	Based on information provided.
Operations: Water and Waste Water	No landscaping
Operations: Vehicle Data	Based on

Morning Star Evaporator Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Morning Star Evaporator
Construction Start Date	2/1/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	25.0
Location	37.0933889248568, -120.92257649767085
County	Merced
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2312
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.19

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

General Light Industry	1.50	1000sqft	0.03	1,500	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-B	Water Active Demolition Sites
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Energy	E-7*	Require Higher Efficacy Public Street and Area Lighting

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.00	0.84	7.87	8.29	0.02	0.39	0.01	0.40	0.36	< 0.005	0.36	—	1,765	1,765	0.07	0.02	0.04	1,772
Mit.	0.26	0.26	5.65	10.2	0.02	0.04	0.01	0.05	0.04	< 0.005	0.04	—	1,765	1,765	0.07	0.02	0.04	1,772
% Reduced	74%	69%	28%	-23%	—	89%	—	88%	89%	—	88%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	1.00	0.84	7.87	8.28	0.02	0.39	0.28	0.46	0.36	0.05	0.36	—	1,765	1,765	0.07	0.03	0.02	1,771
Mit.	0.26	0.26	7.62	10.2	0.02	0.21	0.23	0.44	0.20	0.05	0.24	—	1,765	1,765	0.07	0.03	0.02	1,771
% Reduced	74%	69%	3%	-23%	—	45%	19%	5%	45%	15%	33%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.15	0.13	1.17	1.29	< 0.005	0.05	0.01	0.06	0.05	< 0.005	0.05	—	259	259	0.01	< 0.005	0.02	260
Mit.	0.04	0.04	0.95	1.51	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	259	259	0.01	< 0.005	0.02	260
% Reduced	73%	69%	19%	-17%	—	78%	15%	68%	77%	—	74%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.03	0.02	0.21	0.24	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	42.9	42.9	< 0.005	< 0.005	< 0.005	43.1
Mit.	0.01	0.01	0.17	0.28	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	42.9	42.9	< 0.005	< 0.005	< 0.005	43.1
% Reduced	73%	69%	19%	-17%	—	78%	15%	68%	77%	11%	74%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.00	0.84	7.87	8.29	0.02	0.39	0.01	0.40	0.36	< 0.005	0.36	—	1,765	1,765	0.07	0.02	0.04	1,772
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.00	0.84	7.87	8.28	0.02	0.39	0.28	0.46	0.36	0.05	0.36	—	1,765	1,765	0.07	0.03	0.02	1,771
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	0.15	0.13	1.17	1.29	< 0.005	0.05	0.01	0.06	0.05	< 0.005	0.05	—	259	259	0.01	< 0.005	0.02	260
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.03	0.02	0.21	0.24	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	42.9	42.9	< 0.005	< 0.005	< 0.005	43.1

2.3. Construction Emissions by Year, Mitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.26	0.26	5.65	10.2	0.02	0.04	0.01	0.05	0.04	< 0.005	0.04	—	1,765	1,765	0.07	0.02	0.04	1,772
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.26	0.26	7.62	10.2	0.02	0.21	0.23	0.44	0.20	0.05	0.24	—	1,765	1,765	0.07	0.03	0.02	1,771
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.04	0.04	0.95	1.51	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	259	259	0.01	< 0.005	0.02	260
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.01	0.01	0.17	0.28	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	42.9	42.9	< 0.005	< 0.005	< 0.005	43.1

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.05	0.02	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	1.67	30.5	32.2	0.17	< 0.005	0.39	37.5
Mit.	0.01	0.05	0.02	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	1.67	30.5	32.2	0.17	< 0.005	0.39	37.5

% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	0.03	0.02	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	1.67	30.3	31.9	0.17	< 0.005	0.39	37.2
Mit.	< 0.005	0.03	0.02	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	1.67	30.3	31.9	0.17	< 0.005	0.39	37.2
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.04	0.02	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	1.67	30.4	32.1	0.17	< 0.005	0.39	37.3
Mit.	0.01	0.04	0.02	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	1.67	30.4	32.1	0.17	< 0.005	0.39	37.3
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.28	5.03	5.31	0.03	< 0.005	0.06	6.18
Mit.	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.28	5.03	5.31	0.03	< 0.005	0.06	6.18
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.04	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.27	0.27	< 0.005	< 0.005	—	0.27

Energy	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.6	29.6	< 0.005	< 0.005	—	29.8
Water	—	—	—	—	—	—	—	—	—	—	—	0.66	0.63	1.30	0.07	< 0.005	—	3.49
Waste	—	—	—	—	—	—	—	—	—	—	—	1.00	0.00	1.00	0.10	0.00	—	3.51
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Total	0.01	0.05	0.02	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	1.67	30.5	32.2	0.17	< 0.005	0.39	37.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.6	29.6	< 0.005	< 0.005	—	29.8
Water	—	—	—	—	—	—	—	—	—	—	—	0.66	0.63	1.30	0.07	< 0.005	—	3.49
Waste	—	—	—	—	—	—	—	—	—	—	—	1.00	0.00	1.00	0.10	0.00	—	3.51
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Total	< 0.005	0.03	0.02	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	1.67	30.3	31.9	0.17	< 0.005	0.39	37.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.04	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.13	0.13	< 0.005	< 0.005	—	0.13
Energy	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.6	29.6	< 0.005	< 0.005	—	29.8
Water	—	—	—	—	—	—	—	—	—	—	—	0.66	0.63	1.30	0.07	< 0.005	—	3.49
Waste	—	—	—	—	—	—	—	—	—	—	—	1.00	0.00	1.00	0.10	0.00	—	3.51
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Total	0.01	0.04	0.02	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	1.67	30.4	32.1	0.17	< 0.005	0.39	37.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.02	0.02	< 0.005	< 0.005	—	0.02
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.91	4.91	< 0.005	< 0.005	—	4.93
Water	—	—	—	—	—	—	—	—	—	—	—	0.11	0.10	0.21	0.01	< 0.005	—	0.58

Waste	—	—	—	—	—	—	—	—	—	—	—	0.17	0.00	0.17	0.02	0.00	—	0.58
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06
Total	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.28	5.03	5.31	0.03	< 0.005	0.06	6.18

2.6. Operations Emissions by Sector, Mitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.04	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.27	0.27	< 0.005	< 0.005	—	0.27
Energy	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.6	29.6	< 0.005	< 0.005	—	29.8
Water	—	—	—	—	—	—	—	—	—	—	—	0.66	0.63	1.30	0.07	< 0.005	—	3.49
Waste	—	—	—	—	—	—	—	—	—	—	—	1.00	0.00	1.00	0.10	0.00	—	3.51
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Total	0.01	0.05	0.02	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	1.67	30.5	32.2	0.17	< 0.005	0.39	37.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.6	29.6	< 0.005	< 0.005	—	29.8
Water	—	—	—	—	—	—	—	—	—	—	—	0.66	0.63	1.30	0.07	< 0.005	—	3.49
Waste	—	—	—	—	—	—	—	—	—	—	—	1.00	0.00	1.00	0.10	0.00	—	3.51
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Total	< 0.005	0.03	0.02	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	1.67	30.3	31.9	0.17	< 0.005	0.39	37.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.04	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.13	0.13	< 0.005	< 0.005	—	0.13
Energy	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.6	29.6	< 0.005	< 0.005	—	29.8
Water	—	—	—	—	—	—	—	—	—	—	—	0.66	0.63	1.30	0.07	< 0.005	—	3.49
Waste	—	—	—	—	—	—	—	—	—	—	—	1.00	0.00	1.00	0.10	0.00	—	3.51
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Total	0.01	0.04	0.02	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	1.67	30.4	32.1	0.17	< 0.005	0.39	37.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.02	0.02	< 0.005	< 0.005	—	0.02
Energy	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.91	4.91	< 0.005	< 0.005	—	4.93
Water	—	—	—	—	—	—	—	—	—	—	—	0.11	0.10	0.21	0.01	< 0.005	—	0.58
Waste	—	—	—	—	—	—	—	—	—	—	—	0.17	0.00	0.17	0.02	0.00	—	0.58
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06
Total	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.28	5.03	5.31	0.03	< 0.005	0.06	6.18

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

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

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

Off-Road Equipment	0.86	0.72	5.84	7.09	0.01	0.18	—	0.18	0.16	—	0.16	—	945	945	0.04	0.01	—	948
Demolition	—	—	—	—	—	—	0.15	0.15	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.9	25.9	< 0.005	< 0.005	—	26.0
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.29	4.29	< 0.005	< 0.005	—	4.30
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.60	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.1	95.1	0.01	< 0.005	0.01	96.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.16	0.03	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	124	124	< 0.005	0.02	0.01	130
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.69	2.69	< 0.005	< 0.005	0.01	2.73
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.41	3.41	< 0.005	< 0.005	< 0.005	3.57
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.56	0.56	< 0.005	< 0.005	< 0.005	0.59

3.2. Demolition (2025) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.15	7.40	6.67	0.01	0.21	—	0.21	0.20	—	0.20	—	945	945	0.04	0.01	—	948
Demolition	—	—	—	—	—	—	0.10	0.10	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.20	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.9	25.9	< 0.005	< 0.005	—	26.0
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.29	4.29	< 0.005	< 0.005	—	4.30
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.60	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.1	95.1	0.01	< 0.005	0.01	96.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.16	0.03	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	124	124	< 0.005	0.02	0.01	130
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.69	2.69	< 0.005	< 0.005	0.01	2.73
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.41	3.41	< 0.005	< 0.005	< 0.005	3.57
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.56	0.56	< 0.005	< 0.005	< 0.005	0.59

3.3. Site Preparation (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.40	3.18	< 0.005	0.09	—	0.09	0.08	—	0.08	—	494	494	0.02	< 0.005	—	495
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.11	8.11	< 0.005	< 0.005	—	8.14
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.34	1.34	< 0.005	< 0.005	—	1.35
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.36	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	57.0	57.0	< 0.005	< 0.005	0.01	57.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.10	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	80.6	80.6	< 0.005	0.01	0.01	84.4
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.97	0.97	< 0.005	< 0.005	< 0.005	0.98
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.32	1.32	< 0.005	< 0.005	< 0.005	1.39
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.16	0.16	< 0.005	< 0.005	< 0.005	0.16
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23

3.4. Site Preparation (2025) - Mitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.13	2.74	3.27	< 0.005	0.05	—	0.05	0.05	—	0.05	—	494	494	0.02	< 0.005	—	495
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.11	8.11	< 0.005	< 0.005	—	8.14
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.34	1.34	< 0.005	< 0.005	—	1.35
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.36	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	57.0	57.0	< 0.005	< 0.005	0.01	57.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.10	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	80.6	80.6	< 0.005	0.01	0.01	84.4
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.97	0.97	< 0.005	< 0.005	< 0.005	0.98
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.32	1.32	< 0.005	< 0.005	< 0.005	1.39
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.16	0.16	< 0.005	< 0.005	< 0.005	0.16
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23

3.5. Grading (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.17	1.57	2.16	< 0.005	0.06	—	0.06	0.06	—	0.06	—	352	352	0.01	< 0.005	—	353

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.89	2.89	< 0.005	< 0.005	—	2.90
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.48	0.48	< 0.005	< 0.005	—	0.48
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.24	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.0	38.0	< 0.005	< 0.005	< 0.005	38.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.12	0.02	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	92.1	92.1	< 0.005	0.01	0.01	96.5

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.79
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13

3.6. Grading (2025) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.11	1.65	2.28	< 0.005	0.02	—	0.02	0.02	—	0.02	—	352	352	0.01	< 0.005	—	353
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.89	2.89	< 0.005	< 0.005	—	2.90

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.48	0.48	< 0.005	< 0.005	—	0.48
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.24	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.0	38.0	< 0.005	< 0.005	< 0.005	38.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.12	0.02	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	92.1	92.1	< 0.005	0.01	0.01	96.5
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.79
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13

3.7. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.00	0.84	7.86	8.25	0.02	0.39	—	0.39	0.36	—	0.36	—	1,754	1,754	0.07	0.01	—	1,760
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.00	0.84	7.86	8.25	0.02	0.39	—	0.39	0.36	—	0.36	—	1,754	1,754	0.07	0.01	—	1,760
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.95	0.99	< 0.005	0.05	—	0.05	0.04	—	0.04	—	211	211	0.01	< 0.005	—	212
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.0	35.0	< 0.005	< 0.005	—	35.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	5.37	5.37	< 0.005	< 0.005	0.02	5.46
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.39	6.39	< 0.005	< 0.005	0.02	6.68
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.79	4.79	< 0.005	< 0.005	< 0.005	4.86
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.39	6.39	< 0.005	< 0.005	< 0.005	6.68
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.61
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.80
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2025) - Mitigated

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

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

Off-Road Equipment	0.26	0.25	5.63	10.1	0.02	0.04	—	0.04	0.04	—	0.04	—	1,754	1,754	0.07	0.01	—	1,760
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.25	5.63	10.1	0.02	0.04	—	0.04	0.04	—	0.04	—	1,754	1,754	0.07	0.01	—	1,760
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.68	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	211	211	0.01	< 0.005	—	212
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	35.0	35.0	< 0.005	< 0.005	—	35.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	5.37	5.37	< 0.005	< 0.005	0.02	5.46
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.39	6.39	< 0.005	< 0.005	0.02	6.68
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.79	4.79	< 0.005	< 0.005	< 0.005	4.86

Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.39	6.39	< 0.005	< 0.005	< 0.005	6.68
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.61
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.80
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.1.2. Mitigated

Mobile source emissions results are presented in Sections 2.5. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

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

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	9.95	9.95	< 0.005	< 0.005	—	10.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	9.95	9.95	< 0.005	< 0.005	—	10.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	9.95	9.95	< 0.005	< 0.005	—	10.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	9.95	9.95	< 0.005	< 0.005	—	10.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65	< 0.005	< 0.005	—	1.66
Total	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65	< 0.005	< 0.005	—	1.66

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	9.95	9.95	< 0.005	< 0.005	—	10.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	9.95	9.95	< 0.005	< 0.005	—	10.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	9.95	9.95	< 0.005	< 0.005	—	10.0

Total	—	—	—	—	—	—	—	—	—	—	—	—	9.95	9.95	< 0.005	< 0.005	—	10.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65	< 0.005	< 0.005	—	1.66
Total	—	—	—	—	—	—	—	—	—	—	—	—	1.65	1.65	< 0.005	< 0.005	—	1.66

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.7	19.7	< 0.005	< 0.005	—	19.8
Total	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.7	19.7	< 0.005	< 0.005	—	19.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.7	19.7	< 0.005	< 0.005	—	19.8
Total	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.7	19.7	< 0.005	< 0.005	—	19.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.26	3.26	< 0.005	< 0.005	—	3.27
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.26	3.26	< 0.005	< 0.005	—	3.27

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.7	19.7	< 0.005	< 0.005	—	19.8
Total	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.7	19.7	< 0.005	< 0.005	—	19.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.7	19.7	< 0.005	< 0.005	—	19.8
Total	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.7	19.7	< 0.005	< 0.005	—	19.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.26	3.26	< 0.005	< 0.005	—	3.27
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.26	3.26	< 0.005	< 0.005	—	3.27

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

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

Consumer Products	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.27	0.27	< 0.005	< 0.005	—	0.27
Total	0.01	0.04	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.27	0.27	< 0.005	< 0.005	—	0.27
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.02	0.02	< 0.005	< 0.005	—	0.02
Total	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.02	0.02	< 0.005	< 0.005	—	0.02

4.3.2. Mitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.27	0.27	< 0.005	< 0.005	—	0.27
Total	0.01	0.04	< 0.005	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.27	0.27	< 0.005	< 0.005	—	0.27
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipme	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.02	0.02	< 0.005	< 0.005	—	0.02
Total	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.02	0.02	< 0.005	< 0.005	—	0.02

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.66	0.63	1.30	0.07	< 0.005	—	3.49
Total	—	—	—	—	—	—	—	—	—	—	—	0.66	0.63	1.30	0.07	< 0.005	—	3.49
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.66	0.63	1.30	0.07	< 0.005	—	3.49
Total	—	—	—	—	—	—	—	—	—	—	—	0.66	0.63	1.30	0.07	< 0.005	—	3.49
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.11	0.10	0.21	0.01	< 0.005	—	0.58
Total	—	—	—	—	—	—	—	—	—	—	—	0.11	0.10	0.21	0.01	< 0.005	—	0.58

4.4.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.66	0.63	1.30	0.07	< 0.005	—	3.49
Total	—	—	—	—	—	—	—	—	—	—	—	0.66	0.63	1.30	0.07	< 0.005	—	3.49
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.66	0.63	1.30	0.07	< 0.005	—	3.49
Total	—	—	—	—	—	—	—	—	—	—	—	0.66	0.63	1.30	0.07	< 0.005	—	3.49
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.11	0.10	0.21	0.01	< 0.005	—	0.58
Total	—	—	—	—	—	—	—	—	—	—	—	0.11	0.10	0.21	0.01	< 0.005	—	0.58

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

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

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	1.00	0.00	1.00	0.10	0.00	—	3.51
Total	—	—	—	—	—	—	—	—	—	—	—	1.00	0.00	1.00	0.10	0.00	—	3.51
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	1.00	0.00	1.00	0.10	0.00	—	3.51
Total	—	—	—	—	—	—	—	—	—	—	—	1.00	0.00	1.00	0.10	0.00	—	3.51
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.17	0.00	0.17	0.02	0.00	—	0.58
Total	—	—	—	—	—	—	—	—	—	—	—	0.17	0.00	0.17	0.02	0.00	—	0.58

4.5.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	1.00	0.00	1.00	0.10	0.00	—	3.51
Total	—	—	—	—	—	—	—	—	—	—	—	1.00	0.00	1.00	0.10	0.00	—	3.51
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	1.00	0.00	1.00	0.10	0.00	—	3.51

Total	—	—	—	—	—	—	—	—	—	—	—	1.00	0.00	1.00	0.10	0.00	—	3.51
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.17	0.00	0.17	0.02	0.00	—	0.58
Total	—	—	—	—	—	—	—	—	—	—	—	0.17	0.00	0.17	0.02	0.00	—	0.58

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06

4.6.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.39	0.39
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.8.2. Mitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

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

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

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

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

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	2/1/2025	2/15/2025	5.00	10.0	—
Site Preparation	Site Preparation	2/18/2025	2/25/2025	5.00	6.00	—
Grading	Grading	2/26/2025	2/28/2025	5.00	3.00	—
Building Construction	Building Construction	3/1/2025	5/1/2025	5.00	44.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

Demolition	Concrete/Industrial Saws	Diesel	Average	2.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Demolition	Off-Highway Tractors	Diesel	Average	1.00	8.00	38.0	0.44
Demolition	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Site Preparation	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Site Preparation	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Building Construction	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Building Construction	Crawler Tractors	Diesel	Average	1.00	8.00	84.0	0.37
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Building Construction	Dumpers/Tenders	Diesel	Average	1.00	4.00	16.0	0.38
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	2.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Interim	1.00	8.00	36.0	0.38
Demolition	Off-Highway Tractors	Diesel	Tier 4 Interim	1.00	8.00	38.0	0.44
Demolition	Excavators	Diesel	Tier 4 Interim	1.00	8.00	36.0	0.38
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Site Preparation	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38

Site Preparation	Excavators	Diesel	Tier 4 Interim	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Grading	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Building Construction	Forklifts	Diesel	Tier 4 Interim	1.00	8.00	82.0	0.20
Building Construction	Crawler Tractors	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Building Construction	Dumpers/Tenders	Diesel	Average	1.00	4.00	16.0	0.38
Building Construction	Cranes	Diesel	Tier 4 Interim	1.00	8.00	367	0.29

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	12.5	10.9	LDA,LDT1,LDT2
Demolition	Vendor	—	8.27	HHDT,MHDT
Demolition	Hauling	1.80	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	10.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.27	HHDT,MHDT
Site Preparation	Hauling	1.17	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	5.00	10.9	LDA,LDT1,LDT2
Grading	Vendor	—	8.27	HHDT,MHDT

Grading	Hauling	1.33	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.63	10.9	LDA,LDT1,LDT2
Building Construction	Vendor	0.25	8.27	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	12.5	10.9	LDA,LDT1,LDT2
Demolition	Vendor	—	8.27	HHDT,MHDT
Demolition	Hauling	1.80	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	10.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.27	HHDT,MHDT
Site Preparation	Hauling	1.17	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	5.00	10.9	LDA,LDT1,LDT2
Grading	Vendor	—	8.27	HHDT,MHDT
Grading	Hauling	1.33	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.63	10.9	LDA,LDT1,LDT2

Building Construction	Vendor	0.25	8.27	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	1,500	—
Site Preparation	—	50.0	0.00	0.00	—
Grading	30.0	—	0.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Light Industry	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

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

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	2,250	750	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Light Industry	17,796	204	0.0330	0.0040	61,458

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Light Industry	17,796	204	0.0330	0.0040	61,458

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)

General Light Industry	346,875	1.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Light Industry	346,875	1.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	1.86	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	1.86	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

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

5.14.2. Mitigated

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

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

5.18.2.2. Mitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	32.3	annual days of extreme heat

Extreme Precipitation	1.00	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	55.4
AQ-PM	12.0
AQ-DPM	19.2
Drinking Water	99.0
Lead Risk Housing	48.2
Pesticides	80.8

Toxic Releases	5.71
Traffic	54.8
Effect Indicators	—
CleanUp Sites	59.0
Groundwater	97.3
Haz Waste Facilities/Generators	7.35
Impaired Water Bodies	96.3
Solid Waste	93.2
Sensitive Population	—
Asthma	93.0
Cardio-vascular	67.6
Low Birth Weights	23.7
Socioeconomic Factor Indicators	—
Education	85.2
Housing	46.5
Linguistic	84.5
Poverty	69.3
Unemployment	95.7

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	18.76042602
Employed	36.78942641
Median HI	22.76401899
Education	—

Bachelor's or higher	6.236365969
High school enrollment	12.44706788
Preschool enrollment	26.60079559
Transportation	—
Auto Access	36.01950468
Active commuting	66.59822918
Social	—
2-parent households	2.55357372
Voting	40.85717952
Neighborhood	—
Alcohol availability	69.80623637
Park access	6.13370974
Retail density	0.384960862
Supermarket access	15.46259464
Tree canopy	6.608494803
Housing	—
Homeownership	38.3036058
Housing habitability	67.2783267
Low-inc homeowner severe housing cost burden	45.47670987
Low-inc renter severe housing cost burden	89.54189657
Uncrowded housing	37.31553959
Health Outcomes	—
Insured adults	31.25882202
Arthritis	0.0
Asthma ER Admissions	15.6
High Blood Pressure	0.0
Cancer (excluding skin)	0.0

Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	19.6
Cognitively Disabled	52.2
Physically Disabled	42.3
Heart Attack ER Admissions	12.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	96.5
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	16.3
Elderly	81.3
English Speaking	12.7
Foreign-born	56.9
Outdoor Workers	2.7
Climate Change Adaptive Capacity	—

Impervious Surface Cover	91.3
Traffic Density	26.9
Traffic Access	0.0
Other Indices	—
Hardship	81.4
Other Decision Support	—
2016 Voting	63.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	85.0
Healthy Places Index Score for Project Location (b)	16.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification

Construction: Construction Phases	Based on info provided.
Construction: Off-Road Equipment	Based on equipment list provided.
Operations: Water and Waste Water	No Landscaping

Morning Star Turbine Generator Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Morning Star Turbine Generator
Construction Start Date	3/1/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	25.0
Location	37.093372498851124, -120.922636250761
County	Merced
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2312
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.19

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Manufacturing	2.50	1000sqft	0.06	2,500	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-B	Water Active Demolition Sites
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.87	0.73	7.09	7.33	0.02	0.30	0.01	0.31	0.27	< 0.005	0.28	—	1,626	1,626	0.07	0.01	0.07	1,632
Mit.	0.25	0.24	5.57	9.17	0.02	0.07	0.01	0.08	0.06	< 0.005	0.07	—	1,626	1,626	0.07	0.01	0.07	1,632
% Reduced	72%	67%	21%	-25%	—	77%	—	75%	76%	—	76%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.05	0.88	7.63	9.96	0.02	0.29	0.45	0.75	0.27	0.09	0.36	—	1,742	1,742	0.07	0.06	0.03	1,761
Mit.	0.37	0.35	7.29	9.89	0.02	0.13	0.36	0.49	0.12	0.07	0.19	—	1,742	1,742	0.07	0.06	0.03	1,761

% Reduced	65%	61%	4%	1%	—	57%	20%	34%	56%	16%	46%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.19	0.16	1.49	1.59	< 0.005	0.06	0.01	0.08	0.06	< 0.005	0.06	—	341	341	0.01	< 0.005	0.02	343
Mit.	0.05	0.05	1.20	1.92	< 0.005	0.02	0.01	0.03	0.01	< 0.005	0.02	—	341	341	0.01	< 0.005	0.02	343
% Reduced	71%	66%	19%	-21%	—	75%	17%	64%	74%	—	71%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.03	0.03	0.27	0.29	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	56.5	56.5	< 0.005	< 0.005	< 0.005	56.7
Mit.	0.01	0.01	0.22	0.35	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	56.5	56.5	< 0.005	< 0.005	< 0.005	56.7
% Reduced	71%	66%	19%	-21%	—	75%	17%	64%	74%	13%	71%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.87	0.73	7.09	7.33	0.02	0.30	0.01	0.31	0.27	< 0.005	0.28	—	1,626	1,626	0.07	0.01	0.07	1,632
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.05	0.88	7.63	9.96	0.02	0.29	0.45	0.75	0.27	0.09	0.36	—	1,742	1,742	0.07	0.06	0.03	1,761
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.19	0.16	1.49	1.59	< 0.005	0.06	0.01	0.08	0.06	< 0.005	0.06	—	341	341	0.01	< 0.005	0.02	343
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2024	0.03	0.03	0.27	0.29	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	56.5	56.5	< 0.005	< 0.005	< 0.005	56.7

2.3. Construction Emissions by Year, Mitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.25	0.24	5.57	9.17	0.02	0.07	0.01	0.08	0.06	< 0.005	0.07	—	1,626	1,626	0.07	0.01	0.07	1,632
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.37	0.35	7.29	9.89	0.02	0.13	0.36	0.49	0.12	0.07	0.19	—	1,742	1,742	0.07	0.06	0.03	1,761
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.05	0.05	1.20	1.92	< 0.005	0.02	0.01	0.03	0.01	< 0.005	0.02	—	341	341	0.01	< 0.005	0.02	343
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.01	0.01	0.22	0.35	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	56.5	56.5	< 0.005	< 0.005	< 0.005	56.7

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.08	0.03	0.13	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	2.78	50.9	53.7	0.29	< 0.005	0.65	62.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	0.06	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	2.78	50.5	53.2	0.29	< 0.005	0.65	62.0

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.07	0.03	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	2.78	50.7	53.5	0.29	< 0.005	0.65	62.2
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	0.01	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.46	8.39	8.85	0.05	< 0.005	0.11	10.3

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.02	0.07	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.45	0.45	< 0.005	< 0.005	—	0.45
Energy	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.4	49.4	0.01	< 0.005	—	49.7
Water	—	—	—	—	—	—	—	—	—	—	—	1.11	1.05	2.16	0.11	< 0.005	—	5.82
Waste	—	—	—	—	—	—	—	—	—	—	—	1.67	0.00	1.67	0.17	0.00	—	5.85
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.65	0.65
Total	0.02	0.08	0.03	0.13	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	2.78	50.9	53.7	0.29	< 0.005	0.65	62.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.4	49.4	0.01	< 0.005	—	49.7
Water	—	—	—	—	—	—	—	—	—	—	—	1.11	1.05	2.16	0.11	< 0.005	—	5.82
Waste	—	—	—	—	—	—	—	—	—	—	—	1.67	0.00	1.67	0.17	0.00	—	5.85
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.65	0.65

Total	< 0.005	0.06	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	2.78	50.5	53.2	0.29	< 0.005	0.65	62.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.07	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.22	0.22	< 0.005	< 0.005	—	0.22
Energy	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.4	49.4	0.01	< 0.005	—	49.7
Water	—	—	—	—	—	—	—	—	—	—	—	1.11	1.05	2.16	0.11	< 0.005	—	5.82
Waste	—	—	—	—	—	—	—	—	—	—	—	1.67	0.00	1.67	0.17	0.00	—	5.85
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.65	0.65
Total	0.01	0.07	0.03	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	2.78	50.7	53.5	0.29	< 0.005	0.65	62.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.04	0.04	< 0.005	< 0.005	—	0.04
Energy	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.18	8.18	< 0.005	< 0.005	—	8.22
Water	—	—	—	—	—	—	—	—	—	—	—	0.18	0.17	0.36	0.02	< 0.005	—	0.96
Waste	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.97
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Total	< 0.005	0.01	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.46	8.39	8.85	0.05	< 0.005	0.11	10.3

2.6. Operations Emissions by Sector, Mitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.02	0.07	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.45	0.45	< 0.005	< 0.005	—	0.45
Energy	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.4	49.4	0.01	< 0.005	—	49.7

Water	—	—	—	—	—	—	—	—	—	—	—	1.11	1.05	2.16	0.11	< 0.005	—	5.82
Waste	—	—	—	—	—	—	—	—	—	—	—	1.67	0.00	1.67	0.17	0.00	—	5.85
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.65	0.65
Total	0.02	0.08	0.03	0.13	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	2.78	50.9	53.7	0.29	< 0.005	0.65	62.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.4	49.4	0.01	< 0.005	—	49.7
Water	—	—	—	—	—	—	—	—	—	—	—	1.11	1.05	2.16	0.11	< 0.005	—	5.82
Waste	—	—	—	—	—	—	—	—	—	—	—	1.67	0.00	1.67	0.17	0.00	—	5.85
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.65	0.65
Total	< 0.005	0.06	0.03	0.02	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	2.78	50.5	53.2	0.29	< 0.005	0.65	62.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.01	0.07	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.22	0.22	< 0.005	< 0.005	—	0.22
Energy	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.4	49.4	0.01	< 0.005	—	49.7
Water	—	—	—	—	—	—	—	—	—	—	—	1.11	1.05	2.16	0.11	< 0.005	—	5.82
Waste	—	—	—	—	—	—	—	—	—	—	—	1.67	0.00	1.67	0.17	0.00	—	5.85
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.65	0.65
Total	0.01	0.07	0.03	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	2.78	50.7	53.5	0.29	< 0.005	0.65	62.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.04	0.04	< 0.005	< 0.005	—	0.04
Energy	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.18	8.18	< 0.005	< 0.005	—	8.22
Water	—	—	—	—	—	—	—	—	—	—	—	0.18	0.17	0.36	0.02	< 0.005	—	0.96
Waste	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.97

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Total	< 0.005	0.01	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.46	8.39	8.85	0.05	< 0.005	0.11	10.3

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.51	4.69	5.79	0.01	0.19	—	0.19	0.17	—	0.17	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	—	0.25	0.25	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.13	0.16	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	23.3	23.3	< 0.005	< 0.005	—	23.4
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.87	3.87	< 0.005	< 0.005	—	3.88

Demolitio	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.53	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	77.6	77.6	0.01	< 0.005	0.01	78.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.26	0.05	< 0.005	< 0.005	0.05	0.06	< 0.005	0.01	0.02	—	204	204	< 0.005	0.03	0.01	214
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.19	2.19	< 0.005	< 0.005	< 0.005	2.23
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.59	5.59	< 0.005	< 0.005	0.01	5.87
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.36	0.36	< 0.005	< 0.005	< 0.005	0.37
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.93	0.93	< 0.005	< 0.005	< 0.005	0.97

3.2. Demolition (2024) - Mitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	4.12	5.63	0.01	0.07	—	0.07	0.06	—	0.06	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	—	0.16	0.16	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.11	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.3	23.3	< 0.005	< 0.005	—	23.4
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.87	3.87	< 0.005	< 0.005	—	3.88
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.53	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	77.6	77.6	0.01	< 0.005	0.01	78.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.01	< 0.005	0.26	0.05	< 0.005	< 0.005	0.05	0.06	< 0.005	0.01	0.02	—	204	204	< 0.005	0.03	0.01	214
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.19	2.19	< 0.005	< 0.005	< 0.005	2.23
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.59	5.59	< 0.005	< 0.005	0.01	5.87
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.36	0.36	< 0.005	< 0.005	< 0.005	0.37
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.93	0.93	< 0.005	< 0.005	< 0.005	0.97

3.3. Site Preparation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	0.28	2.51	3.18	< 0.005	0.10	—	0.10	0.09	—	0.09	—	494	494	0.02	< 0.005	—	495
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.76	6.76	< 0.005	< 0.005	—	6.79
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.12	1.12	< 0.005	< 0.005	—	1.12
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.40	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.2	58.2	< 0.005	< 0.005	0.01	59.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.07	0.01	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	—	56.3	56.3	< 0.005	0.01	< 0.005	59.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.82	0.82	< 0.005	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.81
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.14	0.14	< 0.005	< 0.005	< 0.005	0.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13

3.4. Site Preparation (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.13	2.74	3.27	< 0.005	0.05	—	0.05	0.05	—	0.05	—	494	494	0.02	< 0.005	—	495
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.76	6.76	< 0.005	< 0.005	—	6.79
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.12	1.12	< 0.005	< 0.005	—	1.12
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.40	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.2	58.2	< 0.005	< 0.005	0.01	59.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.07	0.01	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	—	56.3	56.3	< 0.005	0.01	< 0.005	59.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.82	0.82	< 0.005	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.81
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.14	0.14	< 0.005	< 0.005	< 0.005	0.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13

3.5. Grading (2024) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.18	1.67	2.17	< 0.005	0.07	—	0.07	0.07	—	0.07	—	352	352	0.01	< 0.005	—	353
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.79	5.79	< 0.005	< 0.005	—	5.81
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.96	0.96	< 0.005	< 0.005	—	0.96
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.26	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.8	38.8	< 0.005	< 0.005	< 0.005	39.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.11	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	82.1	82.1	< 0.005	0.01	0.01	86.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.66	0.66	< 0.005	< 0.005	< 0.005	0.67
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.35	1.35	< 0.005	< 0.005	< 0.005	1.42
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.11	0.11	< 0.005	< 0.005	< 0.005	0.11
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23

3.6. Grading (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.11	1.65	2.28	< 0.005	0.02	—	0.02	0.02	—	0.02	—	352	352	0.01	< 0.005	—	353

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.79	5.79	< 0.005	< 0.005	—	5.81
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.96	0.96	< 0.005	< 0.005	—	0.96
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.26	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.8	38.8	< 0.005	< 0.005	< 0.005	39.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.11	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	82.1	82.1	< 0.005	0.01	0.01	86.1

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.66	0.66	< 0.005	< 0.005	< 0.005	0.67
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.35	1.35	< 0.005	< 0.005	< 0.005	1.42
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.11	0.11	< 0.005	< 0.005	< 0.005	0.11
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23

3.7. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.87	0.73	7.08	7.25	0.01	0.30	—	0.30	0.27	—	0.27	—	1,606	1,606	0.07	0.01	—	1,611
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.28	1.31	< 0.005	0.05	—	0.05	0.05	—	0.05	—	290	290	0.01	< 0.005	—	291
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.02	0.23	0.24	< 0.005	0.01	—	0.01	0.01	—	0.01	—	48.1	48.1	< 0.005	< 0.005	—	48.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.14	9.14	< 0.005	< 0.005	0.04	9.30
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.8	10.8	< 0.005	< 0.005	0.03	11.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.52	1.52	< 0.005	< 0.005	< 0.005	1.54
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.96	1.96	< 0.005	< 0.005	< 0.005	2.05
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.25	0.25	< 0.005	< 0.005	< 0.005	0.26
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.34
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2024) - Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.23	5.55	9.09	0.01	0.07	—	0.07	0.06	—	0.06	—	1,606	1,606	0.07	0.01	—	1,611
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	1.00	1.64	< 0.005	0.01	—	0.01	0.01	—	0.01	—	290	290	0.01	< 0.005	—	291
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.18	0.30	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	48.1	48.1	< 0.005	< 0.005	—	48.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.14	9.14	< 0.005	< 0.005	0.04	9.30
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.8	10.8	< 0.005	< 0.005	0.03	11.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.52	1.52	< 0.005	< 0.005	< 0.005	1.54
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.96	1.96	< 0.005	< 0.005	< 0.005	2.05
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.25	0.25	< 0.005	< 0.005	< 0.005	0.26
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.34
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.1.2. Mitigated

Mobile source emissions results are presented in Sections 2.5. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	16.6	16.6	< 0.005	< 0.005	—	16.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	16.6	16.6	< 0.005	< 0.005	—	16.7

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	16.6	16.6	< 0.005	< 0.005	—	16.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	16.6	16.6	< 0.005	< 0.005	—	16.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	2.74	2.74	< 0.005	< 0.005	—	2.77
Total	—	—	—	—	—	—	—	—	—	—	—	—	2.74	2.74	< 0.005	< 0.005	—	2.77

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	16.6	16.6	< 0.005	< 0.005	—	16.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	16.6	16.6	< 0.005	< 0.005	—	16.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	16.6	16.6	< 0.005	< 0.005	—	16.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	16.6	16.6	< 0.005	< 0.005	—	16.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	2.74	2.74	< 0.005	< 0.005	—	2.77
Total	—	—	—	—	—	—	—	—	—	—	—	—	2.74	2.74	< 0.005	< 0.005	—	2.77

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.8	32.8	< 0.005	< 0.005	—	32.9
Total	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.8	32.8	< 0.005	< 0.005	—	32.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.8	32.8	< 0.005	< 0.005	—	32.9
Total	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.8	32.8	< 0.005	< 0.005	—	32.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.43	5.43	< 0.005	< 0.005	—	5.45
Total	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.43	5.43	< 0.005	< 0.005	—	5.45

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.8	32.8	< 0.005	< 0.005	—	32.9
Total	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.8	32.8	< 0.005	< 0.005	—	32.9

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.8	32.8	< 0.005	< 0.005	—	32.9
Total	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.8	32.8	< 0.005	< 0.005	—	32.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.43	5.43	< 0.005	< 0.005	—	5.45
Total	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.43	5.43	< 0.005	< 0.005	—	5.45

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	0.02	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.45	0.45	< 0.005	< 0.005	—	0.45
Total	0.02	0.07	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.45	0.45	< 0.005	< 0.005	—	0.45
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consum Products	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consum er Products	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landsca pe Equipme nt	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.04	0.04	< 0.005	< 0.005	—	0.04
Total	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.04	0.04	< 0.005	< 0.005	—	0.04

4.3.2. Mitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consum er Products	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipment	0.02	0.02	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.45	0.45	< 0.005	< 0.005	—	0.45
Total	0.02	0.07	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.45	0.45	< 0.005	< 0.005	—	0.45
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.04	0.04	< 0.005	< 0.005	—	0.04
Total	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.04	0.04	< 0.005	< 0.005	—	0.04

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	1.11	1.05	2.16	0.11	< 0.005	—	5.82
Total	—	—	—	—	—	—	—	—	—	—	—	1.11	1.05	2.16	0.11	< 0.005	—	5.82
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	1.11	1.05	2.16	0.11	< 0.005	—	5.82
Total	—	—	—	—	—	—	—	—	—	—	—	1.11	1.05	2.16	0.11	< 0.005	—	5.82
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	0.18	0.17	0.36	0.02	< 0.005	—	0.96
Total	—	—	—	—	—	—	—	—	—	—	—	0.18	0.17	0.36	0.02	< 0.005	—	0.96

4.4.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	1.11	1.05	2.16	0.11	< 0.005	—	5.82
Total	—	—	—	—	—	—	—	—	—	—	—	1.11	1.05	2.16	0.11	< 0.005	—	5.82
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	1.11	1.05	2.16	0.11	< 0.005	—	5.82

Total	—	—	—	—	—	—	—	—	—	—	—	1.11	1.05	2.16	0.11	< 0.005	—	5.82
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	0.18	0.17	0.36	0.02	< 0.005	—	0.96
Total	—	—	—	—	—	—	—	—	—	—	—	0.18	0.17	0.36	0.02	< 0.005	—	0.96

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	1.67	0.00	1.67	0.17	0.00	—	5.85
Total	—	—	—	—	—	—	—	—	—	—	—	1.67	0.00	1.67	0.17	0.00	—	5.85
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	1.67	0.00	1.67	0.17	0.00	—	5.85
Total	—	—	—	—	—	—	—	—	—	—	—	1.67	0.00	1.67	0.17	0.00	—	5.85
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.97
Total	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.97

4.5.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	1.67	0.00	1.67	0.17	0.00	—	5.85
Total	—	—	—	—	—	—	—	—	—	—	—	1.67	0.00	1.67	0.17	0.00	—	5.85
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	1.67	0.00	1.67	0.17	0.00	—	5.85
Total	—	—	—	—	—	—	—	—	—	—	—	1.67	0.00	1.67	0.17	0.00	—	5.85
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.97
Total	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.97

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.65	0.65
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.65	0.65

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.65	0.65
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.65	0.65
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11

4.6.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.65	0.65
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.65	0.65
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.65	0.65
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.65	0.65
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	0.11

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

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

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.8.2. Mitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.9.2. Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

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

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

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

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	3/1/2024	3/15/2024	5.00	10.0	—
Site Preparation	Site Preparation	3/15/2024	3/21/2024	5.00	5.00	—
Grading	Grading	3/22/2024	3/29/2024	5.00	6.00	—
Building Construction	Building Construction	4/1/2024	7/1/2024	5.00	66.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Site Preparation	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Site Preparation	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Building Construction	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Building Construction	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Building Construction	Dumpers/Tenders	Diesel	Average	1.00	4.00	16.0	0.38
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	2.00	6.00	84.0	0.37
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	1.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	1.00	8.00	33.0	0.73
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Site Preparation	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Site Preparation	Excavators	Diesel	Tier 4 Interim	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Grading	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Building Construction	Forklifts	Diesel	Tier 4 Interim	1.00	8.00	82.0	0.20
Building Construction	Excavators	Diesel	Tier 4 Interim	1.00	8.00	36.0	0.38
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Building Construction	Dumpers/Tenders	Diesel	Average	1.00	4.00	16.0	0.38
Building Construction	Cranes	Diesel	Tier 4 Interim	1.00	8.00	367	0.29

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	10.9	LDA,LDT1,LDT2
Demolition	Vendor	—	8.27	HHDT,MHDT
Demolition	Hauling	2.90	20.0	HHDT

Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	10.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.27	HHDT,MHDT
Site Preparation	Hauling	0.80	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	5.00	10.9	LDA,LDT1,LDT2
Grading	Vendor	—	8.27	HHDT,MHDT
Grading	Hauling	1.17	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1.05	10.9	LDA,LDT1,LDT2
Building Construction	Vendor	0.41	8.27	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	10.9	LDA,LDT1,LDT2
Demolition	Vendor	—	8.27	HHDT,MHDT
Demolition	Hauling	2.90	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	10.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.27	HHDT,MHDT

Site Preparation	Hauling	0.80	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	5.00	10.9	LDA,LDT1,LDT2
Grading	Vendor	—	8.27	HHDT,MHDT
Grading	Hauling	1.17	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1.05	10.9	LDA,LDT1,LDT2
Building Construction	Vendor	0.41	8.27	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	2,500	—
Site Preparation	—	30.0	0.00	0.00	—

Grading	50.0	—	0.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Manufacturing	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	3,750	1,250	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Manufacturing	29,660	204	0.0330	0.0040	102,431

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Manufacturing	29,660	204	0.0330	0.0040	102,431

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Manufacturing	578,125	1.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Manufacturing	578,125	1.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Manufacturing	3.10	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Manufacturing	3.10	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

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

5.14.2. Mitigated

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

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	CNG	1.00	24.0	3,672	10,573	0.73

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

5.18.2.2. Mitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	32.3	annual days of extreme heat
Extreme Precipitation	1.00	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A

Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	55.4
AQ-PM	12.0
AQ-DPM	19.2
Drinking Water	99.0
Lead Risk Housing	48.2
Pesticides	80.8
Toxic Releases	5.71
Traffic	54.8
Effect Indicators	—
CleanUp Sites	59.0
Groundwater	97.3
Haz Waste Facilities/Generators	7.35
Impaired Water Bodies	96.3
Solid Waste	93.2
Sensitive Population	—
Asthma	93.0
Cardio-vascular	67.6
Low Birth Weights	23.7
Socioeconomic Factor Indicators	—
Education	85.2
Housing	46.5
Linguistic	84.5
Poverty	69.3

Unemployment	95.7

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	18.76042602
Employed	36.78942641
Median HI	22.76401899
Education	—
Bachelor's or higher	6.236365969
High school enrollment	12.44706788
Preschool enrollment	26.60079559
Transportation	—
Auto Access	36.01950468
Active commuting	66.59822918
Social	—
2-parent households	2.55357372
Voting	40.85717952
Neighborhood	—
Alcohol availability	69.80623637
Park access	6.13370974
Retail density	0.384960862
Supermarket access	15.46259464
Tree canopy	6.608494803
Housing	—
Homeownership	38.3036058

Housing habitability	67.2783267
Low-inc homeowner severe housing cost burden	45.47670987
Low-inc renter severe housing cost burden	89.54189657
Uncrowded housing	37.31553959
Health Outcomes	—
Insured adults	31.25882202
Arthritis	0.0
Asthma ER Admissions	15.6
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	19.6
Cognitively Disabled	52.2
Physically Disabled	42.3
Heart Attack ER Admissions	12.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	96.5
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0

No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	16.3
Elderly	81.3
English Speaking	12.7
Foreign-born	56.9
Outdoor Workers	2.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	91.3
Traffic Density	26.9
Traffic Access	0.0
Other Indices	—
Hardship	81.4
Other Decision Support	—
2016 Voting	63.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	85.0
Healthy Places Index Score for Project Location (b)	16.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Based on phasing provided, added demo phase to account for the 2,500 sqft demo that is noted in data needs.
Construction: Off-Road Equipment	Based on equipment list provided.
Operations: Water and Waste Water	No landscaping will done.

APPENDIX B

Species Lists

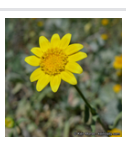
Search Results

35 matches found. Click on scientific name for details

Search Criteria: Quad is one of [**3712017:3712018:3612088:3612181:3712111:3712121:3712028:3712027:3612087**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Acanthomintha lanceolata	Santa Clara thorn-mint	Lamiaceae	annual herb	Mar-Jun	None	None	G4	S4	4.2	Yes	1974-01-01	 © 2005 Barry Breckling
Amsinckia furcata	forked fiddleneck	Boraginaceae	annual herb	Feb-May	None	None	G4	S4	4.2	Yes	1974-01-01	 © 2017 Keir Morse
Androsace elongata ssp. *acuta*	California androsace	Primulaceae	annual herb	Mar-Jun	None	None	G5?T3T4	S3S4	4.2		1994-01-01	 © 2008 Aaron Schusteff
Astragalus tener var. *tener*	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	None	None	G2T1	S1	1B.2	Yes	1994-01-01	No Photo Available
Atriplex cordulata var. *cordulata*	heartscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G3T2	S2	1B.2	Yes	1988-01-01	 © 1994 Robert E. Preston, Ph.D.
Atriplex coronata var. *coronata*	crownscale	Chenopodiaceae	annual herb	Mar-Oct	None	None	G4T3	S3	4.2	Yes	1994-01-01	 © 1994 Robert E. Preston, Ph.D.
Atriplex coronata var. *vallicola*	Lost Hills crownscale	Chenopodiaceae	annual herb	Apr-Sep	None	None	G4T3	S3	1B.2	Yes	1974-01-01	No Photo Available

Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	None	None	G2	S2	1B.1	Yes	1994-01-01	 © 2000 Robert E. Preston, Ph.D.
Atriplex persistens	vernal pool smallscale	Chenopodiaceae	annual herb	Jun-Oct	None	None	G2	S2	1B.2	Yes	2001-01-01	No Photo Available
Caulanthus lemmonii	Lemmon's jewelflower	Brassicaceae	annual herb	Feb-May	None	None	G3	S3	1B.2	Yes	2001-01-01	No Photo Available
Centromadia parryi ssp. *rudis*	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	None	None	G3T3	S3	4.2	Yes	2007-05-22	 © 2019 John Doyen
Chloropyron molle ssp. *hispidum*	hispid salty bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Sep	None	None	G2T1	S1	1B.1	Yes	1974-01-01	No Photo Available
Clarkia breweri	Brewer's clarkia	Onagraceae	annual herb	Apr-Jun	None	None	G4	S4	4.2	Yes	1974-01-01	No Photo Available
Cryptantha rattanii	Rattan's cryptantha	Boraginaceae	annual herb	Apr-Jul	None	None	G4	S4	4.3	Yes	1974-01-01	No Photo Available
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2?	1B.2	Yes	1988-01-01	No Photo Available
Eriogonum nudum var. *indictum*	protruding buckwheat	Polygonaceae	perennial herb	(Apr)May-Oct(Dec)	None	None	G5T4	S4	4.2	Yes	1994-01-01	No Photo Available
Eriogonum vestitum	Idria buckwheat	Polygonaceae	annual herb	Apr-Aug	None	None	G3	S3	4.3	Yes	1974-01-01	No Photo Available
Eryngium racemosum	Delta button-celery	Apiaceae	annual/perennial herb	(May)Jun-Oct	None	CE	G1	S1	1B.1	Yes	1974-01-01	No Photo Available
Eryngium spinosepalum	spiny-sepaled button-celery	Apiaceae	annual/perennial herb	Apr-Jun	None	None	G2	S2	1B.2	Yes	1980-01-01	No Photo Available
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	None	None	G3	S3	4.2	Yes	2001-01-01	 © 2017 John Doyen

Lasthenia chrysantha	alkali-sink goldfields	Asteraceae	annual herb	Feb-Apr	None	None	G2	S2	1B.1	Yes	2019-09-30	 © 2009 California State University, Stanislaus
Lasthenia ferrisiae	Ferris' goldfields	Asteraceae	annual herb	Feb-May	None	None	G3	S3	4.2	Yes	2001-01-01	 © 2009 Zoya Akulova
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	None	None	G4T2	S2	1B.1		1994-01-01	 © 2013 Keir Morse
Leptosiphon ambiguus	serpentine leptosiphon	Polemoniaceae	annual herb	Mar-Jun	None	None	G4	S4	4.2	Yes	1994-01-01	 © 2010 Aaron Schusteff
Malacothamnus hallii	Hall's bush-mallow	Malvaceae	perennial deciduous shrub	(Apr)May-Sep(Oct)	None	None	G2	S2	1B.2	Yes	1974-01-01	 © 2017 Keir Morse
Myosurus minimus ssp. *apus*	little mousetail	Ranunculaceae	annual herb	Mar-Jun	None	None	G5T2Q	S2	3.1		1980-01-01	No Photo Available
Navarretia nigelliformis ssp. *radians*	shining navarretia	Polemoniaceae	annual herb	(Mar)Apr-Jul	None	None	G4T2	S2	1B.2	Yes	1994-01-01	No Photo Available
Navarretia prostrata	prostrate vernal pool navarretia	Polemoniaceae	annual herb	Apr-Jul	None	None	G2	S2	1B.2	Yes	2001-01-01	No Photo Available
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G2	S2	1B.2		2015-10-15	No Photo Available
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	Yes	1984-01-01	 ©2013 Debra L. Cook
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	None	None	G3	S2	2B.2		1994-01-01	No Photo Available
Streptanthus insignis ssp. *insignis*	plumed jewelflower	Brassicaceae	annual herb	Mar-May	None	None	G3G4T3T4	S3S4	4.3	Yes	2021-02-03	No Photo Available

Streptanthus insignis ssp. *lyonii*	Arburua Ranch jewelflower	Brassicaceae	annual herb	Mar-May	None	None	G3G4T2	S2	1B.2	Yes	1984-01-01	No Photo Available
Stuckenia filiformis ssp. *alpina*	northern slender pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	None	None	G5T5	S2S3	2B.2		1994-01-01	 Dana York (2016)
Trichocoronis wrightii var. *wrightii*	Wright's trichocoronis	Asteraceae	annual herb	May-Sep	None	None	G4T3	S1	2B.1		1988-01-01	No Photo Available

Showing 1 to 35 of 35 entries

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2023. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 5 October 2023].

APPENDIX C

Noise and Vibration Technical Memorandum

AMBIENT
AIR QUALITY & NOISE CONSULTING

75 Higuera Street, Suite 105
San Luis Obispo, CA 93401
www.Ambient.Consulting

NOISE & VIBRATION TECHNICAL MEMORANDUM

Date: October 4, 2023

To: SWCA Environmental Consultants, Inc.

From: Kurt Legleiter, Principal

Subject: Construction Noise & Vibration Impact Analysis for the Morning Star Facility Upgrades Project

INTRODUCTION

The Morning Star Packing Company proposes to conduct operational improvements to the facility. The project is located approximately 2.5 miles north of State Route 33 (SR-33) and approximately 3 miles northwest of the City of Los Bano in Merced County. The project location is depicted in Figures 1. This memorandum provides a summary of short-term and long-term noise and vibration impacts associated with the proposed projects construction and operation. Modeling assumptions and results are included in Appendix B.

PROJECT DESCRIPTION

The project includes construction and operation of an approximately 15,000-square-foot cafeteria and break room building, a harvester repair shop, installation of an additional tomato evaporator, and installation of a 5-megawatt (MW) natural gas generator to supply power to all on-site facilities. The project would also include removal of existing modular living units currently on-site and relocation of an employee parking area from its current location to an existing unpaved area on-site.

The new cafeteria breakroom building would be two stories tall and include a cafeteria, a kitchen, dining room, restrooms, and lounge. Employees would utilize the cafeteria breakroom building during the regular packing and shipping season, which typically occurs from July through October/early November. The building would rely on an on-site septic system and leach field to collect and treat wastewater.

The proposed harvester repair workshop would be located adjacent to the existing truck repair/maintenance shop and would be used to rebuild harvesters by replacing used components of tomato harvesting equipment on an annual basis. Harvester rebuilding and repair currently takes place at an off-site location, and constructing a harvester repair workshop on-site adjacent to the truck maintenance shop would allow for better efficiency through shared staffing for both shops.

The project includes installation of an additional multiple effect tomato evaporator on-site to provide redundancy for existing on-site tomato processing operations. The evaporator would be located within close proximity to the other evaporators and processing equipment located on-site. The evaporator would be used for the processing of tomatoes and would be used when one of the currently operating evaporators needs to

be temporarily brought out of commission for cleaning or maintenance purposes, so as to avoid a decrease in processing capacity rates. Overall tomato processing capacity would not increase.

Lastly, the project includes installation of a 5-MW natural gas turbine generator to supply power to all on-site facility operations. The generator would be housed within a two- to three-thousand square foot building structure (the exact design and size of this structure has not been finalized yet). Upon installation of the generator, plant operations would be eventually disconnected from existing PG&E electricity service lines and the generator would supply all plant facilities' electricity demands.

Figure 1. Project Site

NEARBY LAND USES

The project area is located in a predominantly agricultural and commercial area. Nearby land uses include a construction company located to the north, a dog training and rescue to the south, and residential to the west. The residential land uses are located approximately 150 feet from the proposed cafeteria, 275 feet from the proposed harvester repair shop, and 1,250 feet from the proposed evaporator and turbine generator.

REGULATORY FRAMEWORK

Merced County General Plan

The County of Merced (County) has adopted a general plan that contains limitations intended to prevent noise that may create dangerous, injurious, noxious, or otherwise objectionable conditions. These standards are to be applied at the property line of noise-sensitive land uses, such as rear yards, that are intended to accommodate leisure or active use. The County's noise standards for stationary (non-transportation) noise sources are summarized in Table 1. As depicted, noise levels are limited to 55 dBA L_{50} during the daytime hours (7 a.m. to 10 p.m.) excluding office buildings and industry (60 dBA L_{50}), and playgrounds and parks (65 dBA L_{50}). Noise levels are limited to 50 dBA L_{50} during the nighttime hours (10 p.m. to 7 a.m.) (County of Merced 2013).

Table 1. Non-Transportation Noise Standards Medium (L_{50})/Maximum (L_{max})[(1)] dBA

Receiving Land Use	Outdoor Area[(2)]		Interior[(3)]
	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)	Daytime /Nighttime
All Residential	55 / 75	50 / 70	35 / 55
Transient Lodging[(4)]	55 / 75	--	35 / 55
Hospitals and Nursing Home[(5),(6)]	55 / 75	--	35 / 55
Theaters and Auditoriums[(6)]	--	--	30 / 50
Churches, Meeting Halls, Schools, Libraries, etc.[(6)]	55 / 75	--	35 / 60
Office Buildings[(6)]	60 / 75	--	45 / 65
Commercial Buildings[(6)]	55 / 75	--	45 / 65
Playgrounds, Parks, etc.[(6)]	65 / 75	--	--
Industry[(6)]	60 / 80	--	50 / 70

1. These standards shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards in this table, then the noise level standards shall be increased at 5 dB increments to encompass the ambient.

2. Sensitive Outdoor Areas include primary outdoor activity areas associated with any given land use at which noise-sensitivity exists and the location at which the County's exterior noise level standards are applied.

3. Sensitive Interior Areas includes any interior area associated with any given land use at which noise sensitivity exists and the location at which the County's interior noise level standards are applied. Examples of sensitive interior spaces include, but are not limited to, all habitable rooms of residential and transient lodging facilities, hospital rooms, classrooms, library interiors, offices, worship spaces, theaters. Interior noise level standards are applied within noise-sensitive areas of the various land uses with windows and doors in the closed positions.

4. Outdoor activity areas of transient lodging facilities are not commonly used during nighttime hours.

5. Since hospitals often noise-generating uses, the exterior noise level standards are applicable only to clearly identified areas designated for outdoor relaxation by either hospital staff or patients.

6. The outdoor activity areas of these uses (if any) are not typically used during nighttime hours.

7. Where median (L_{50}) noise level data is not available for a particular noise source, average (L_{eq}) values may be substituted for the standards of this table provided the noise source operates for at least 30 minutes. If the source operates less than 30 minutes the maximum noise level standards shown shall apply.

Merced County Code

The County of Merced Municipal Code Title 18 – Zoning Code, Chapter 18.40 – Performance Standards addresses noise associated with public nuisances. The County's municipal code identifies that the maximum noise levels for all land uses be consistent with the County's general plan noise standards. Additionally, the municipal code establishes acceptable periods for construction. Construction activities shall be conducted between the hours of 7 a.m. and 6 p.m. daily (County of Merced 2023).

Construction Vibration

There are no federal, state, or local regulatory standards applicable to groundborne vibration generated by construction. However, Caltrans has developed vibration criteria based on potential structural damage risks and human annoyance. Caltrans-recommended criteria for the evaluation of groundborne vibration levels, with regard to structural damage and human annoyance, are summarized in Table 2. The criteria apply to continuous vibration sources, which includes vehicle traffic and most construction activities. All damage criteria for buildings are in terms of ground motion at the buildings' foundations. No allowance is included for the amplifying effects of structural components (Caltrans 2020).

Table 2. Summary of Groundborne Vibration Levels and Potential Effects

Vibration Level (in/sec ppv)	Human Reaction	Effect on Buildings
0.006-0.019	Threshold of perception; possibility of intrusion.	Vibrations unlikely to cause damage of any type.
0.08	Vibrations readily perceptible.	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected.
0.10	Level at which continuous vibrations begin to annoy people.	Virtually no risk of "architectural" damage to normal buildings.
0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations).	Threshold at which there is a risk of "architectural" damage to fragile buildings.
0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges.	Potential risk of "architectural" damage may occur at levels above 0.3 in/sec ppv for older residential structures and above 0.5 in/sec ppv for newer structures.

The vibration levels are based on peak particle velocity in the vertical direction for continuous vibration sources, which includes most construction activities.
Source: Caltrans 2020

As shown in Table 2, the threshold for architectural damage commonly applied to construction activities is a peak particle velocity (ppv) of 0.20 inches per second (in/sec) for fragile structures and 0.50 in/sec ppv for newer structures. Levels above 0.20 in/sec ppv may result in increased levels of annoyance for people in buildings (Caltrans 2020).

IMPACT ASSESSMENT

Thresholds of Significance

Stationary source noise levels were evaluated in comparison to the County's noise ordinance/general plan standards (refer to Table 1). Accordingly, newly proposed non-transportation noise sources would be considered to have a potentially significant impact if predicted noise levels at nearby noise-sensitive land uses would exceed 55 dBA L_{50} during the daytime hours (7 a.m. to 10 p.m.) or 50 dBA L_{50} during the nighttime hours (10 p.m. to 7 a.m.).

It is important to note that no standardized criteria have been developed by the State of California or the County of Merced for assessing construction noise impacts. However, the Federal Transit Administration (FTA) has identified criteria for the assessment of construction-generated noise levels. For noise-sensitive land uses, such as residential land uses, the FTA criteria identify daytime and nighttime average-hourly noise limits of 90 and 80 dBA L_{eq}, respectively (FTA 2018). Short-term construction noise levels exceeding these levels would be determined to have a potentially significant impact.

The State and County also do not define the levels at which groundborne vibration levels would be considered excessive. For this reason, California Department of Transportation (Caltrans) recommended groundborne vibration thresholds were used for the evaluation of impacts based on increased potential for structural damage and human annoyance, as identified in Table 2. For purposes of this analysis, risks of architectural damage (i.e., minor cracking of plaster walls and ceilings) would be considered potentially significant if construction-generated ground vibration levels at nearby structures would exceed 0.5 in/sec ppv. Ground vibration in excess of 0.2 in/sec ppv would be expected to result in a potential for significant short-term increases in levels of annoyance for occupants of nearby sensitive structures (e.g., residential dwellings).

Methodology

Short-term noise impacts associated with construction activities were analyzed based on typical construction equipment noise levels and distances to the nearest noise-sensitive land uses. Noise levels were calculated based on an average noise-attenuation rate of 6 dB per doubling of distance from the source. Stationary source (non-transportation) noise levels were predicted based on equipment specifications provided, representative noise levels for similar equipment, and assuming an average noise-attenuation rate of 6 dB per doubling of distance from the source. The project's contribution to traffic noise levels along area roadways were qualitatively assessed by comparing the existing traffic volumes in the area with project-generated traffic.

IMPACT DISCUSSION

Construction Noise

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Table 3 summarizes noise levels produced by construction equipment commonly used on roadway improvement construction projects.

Based on the levels depicted in Table 3, individual pieces of construction equipment can be expected to generate instantaneous noise levels ranging from approximately 77 to 90 dBA L_{max} at 50 feet. Average-hourly noise levels associated with the operation of individual pieces of construction equipment can reach up to 82 dBA L_{eq} at 50 feet.

Noise-sensitive land uses located in the project area consist predominantly of agricultural, commercial, and residential land uses. Of these land uses, the nearest residential land use is located approximately 150 feet from the project construction area.

Predicted construction-generated noise levels at the nearest residential land use is summarized in Table 4. Based on the distance noted above and assuming the two loudest pieces of equipment operating simultaneously, the highest predicted average-hourly noise levels would range from approximately 66.5 to 68.9 dBA L_{eq}. Intermittent noise levels could reach levels up to approximately 71.2 dBA L_{max} for brief periods of

time, depending on the equipment used. Actual noise levels will vary depending on various factors, including the type and number of pieces of equipment used and duration of use.

Table 3. Typical Construction Equipment Noise Levels

Equipment	Noise Level (dBA at 50 feet)	
	L_{max}	L_{eq}/L_{50}
Backhoes	78	74
Bulldozers	82	78
Compressors	78	74
Concrete Pump Truck	81	74
Crane	81	73
Auger Drill Rig	85	77
Dump Trucks	77	73
Hydraulic Break Rams	90	80
Front End Loaders	79	75
Pneumatic Tools	85	82
Rollers	80	73

Based on measured instantaneous noise levels (L_{max}), average equipment usage rates, and calculated average hourly (L_{eq}) noise levels derived from the FHWA Road Construction Noise Model (FHWA 2008). Average-hourly noise levels in L_{eq} are considered equivalent to L_{50} noise levels.

Table 4. Predicted Construction Noise Levels at the Nearest Sensitive Land Use

Activity	Noise Level (dBA)[1,2]	
	L_{eq}/L_{50}	L_{max}
Site Prep	68.9	71.2
Grading	66.5	68.0
Building Construction	67.9	69.6
Building Construction Final Stage	67.5	71.0

1. Noise levels were calculated and assuming multiple pieces of equipment operating simultaneously. Predicted noise levels were calculated assuming reconstruction may be required based on distances of 150 feet from the project construction area to the nearest residential land use.
2. Noise levels were calculated using the FHWA Roadway Construction Noise Model, Version 1.1 (2008), based on the equipment levels noted in Table 3. Assume the two loudest pieces of equipment operating simultaneously. Average-hourly noise levels in L_{eq} are considered equivalent to L_{50} noise levels.

Predicted construction noise levels at the nearest residential land use would not exceed the 80 dBA L_{eq} significance threshold. However, with regard to residential land uses, activities occurring during the more noise-sensitive evening and nighttime hours (i.e., 10:00 p.m. to 7:00 a.m.) are of increased concern. Because exterior ambient noise levels typically decrease during the evening and nighttime hours, as community activities (e.g., commercial activities, vehicle traffic) decrease, construction activities performed during these more noise-sensitive periods of the day can result in increased annoyance and potential sleep disruption for occupants of nearby residential dwellings. For these reasons, noise-generating construction activities would be considered to have a potentially significant impact.

Mitigation Measures

Noise-1: The following measures shall be implemented to reduce short-term construction noise impacts:

a. Construction activities (excluding activities that would result in a safety concern to the public or construction workers) shall be limited to between the hours of 7 a.m. and 6 p.m., Monday through Saturdays where possible. Construction activities would be prohibited on Sundays and legal holidays. Haul truck operations shall be limited to these same hourly restrictions.

b. Construction equipment shall be properly maintained and equipped with exhaust mufflers and engine shrouds in accordance with manufacturers' recommendations.

c. To the extent locally available, electrified, or alternatively powered construction equipment shall be used.

d. Construction equipment staging areas shall be located at the furthest distance possible from nearby noise-sensitive land uses.

e. Stationary noise sources such as generators, pumps, and pavement crushers, shall be located at the furthest distance possible from noise-sensitive uses.

Significance After Mitigation

With the implementation of Mitigation Measure Noise-1, construction activities would be limited to daytime hours. The proper maintenance of construction equipment and use of manufacturer-recommended mufflers and engine shrouds would reduce equipment noise levels by approximately 10 dB. With mitigation, this impact would be considered less than significant.

Long-term Exposure to Stationary Source Noise

The proposed project includes the development of an employee cafeteria, harvester repair shop, gas turbine generator, and a backup evaporator. Noise levels typically associated with these land uses, and associated noise impacts are discussed as follows:

Cafeteria Building

Noise sources commonly associated with a cafeteria include building mechanical systems (e.g., HVAC systems/exhaust fan). Noise levels associated with building mechanical systems, such as larger air conditioning units, can range from 60 to 79 dBA L_{eq} at 5 feet. Assuming a maximum noise level of 79 dBA L_{eq} at 50 feet, predicted operational noise levels associated with the HVAC unit could reach 49 dBA L_{eq} at the nearest residential land use. Predicted noise levels associated with HVAC and exhaust fan associated with the proposed cafeteria building would not exceed the County's day or nighttime noise standards. As a result, this impact would be considered less than significant.

Harvester Repair Shop

Noise sources commonly associated with a repair shop include operation of pneumatic tools and air compressors, which is the loudest equipment anticipated to be used onsite. Noise levels associated with this equipment has an average operational noise level of 88 dBA L_{eq} at 10 feet (FHWA 2023). The repair shop would enclose the equipment in a structure that would reduce operational noise levels by a minimum of approximately 15 dBA. Assuming a maximum noise level of 73 dBA L_{eq} at 10 feet, predicted operational noise levels associated with activities conducted at the repair shop could reach 44 dBA L_{eq} at the nearest residential

land use. Predicted noise levels associated with equipment in the repair shop would not exceed the County's noise standards. As a result, this impact would be considered less than significant.

Gas Turbine Generator

The projects natural gas turbine generator is proposed to be located approximately 1,250 feet from the nearest existing residential land use and would be housed within a building structure. Based on noise studies of similar equipment an enclosed generator has an operational noise level of approximately 74 dBA at 50 feet (Solar Turbines 2023). Based on this noise level the predicted operational noise level associated with the turbine generator at the nearest residential land use would be approximately 46 dBA L_{eq}. Predicted noise levels associated with the generator would not exceed the County's noise standards. As a result, this impact would be considered less than significant.

Evaporator

The project also includes installation of an additional multiple effect tomato evaporator on-site to provide redundancy for existing on-site tomato processing operations. The evaporator would be located within close proximity to the other evaporators and processing equipment located on-site. The evaporator would be used when one of the currently operating evaporators needs to be temporarily brought out of commission for cleaning or maintenance purposes. The addition of a backup evaporator would not increase the existing noise environment of the facility. As a result, this impact would be considered less than significant.

Roadway Traffic Noise

Based on project information, during operation the project is estimated to generate 20 additional trips per day at the harvester repair shop and would be equivalent to those generated by the existing repair shop located off site (SWCA, 2023). Typically, a doubling of vehicle traffic would be required before a noticeable increase (i.e., 3 dBA, or greater) would occur. In comparison to existing conditions, implementation of the proposed project would not result in a doubling of vehicle traffic along nearby roadways. As a result, this impact would be considered less than significant.

Construction Vibration

Construction related groundborne vibration levels associated with the proposed project would be largely associated with the operation of off-road equipment (e.g., vibratory rollers, hoe rams, bulldozers, trucks, and jackhammers). The use of pile drivers is not anticipated to be required for this project. Groundborne vibration levels commonly associated with off-road equipment used on roadway are summarized in Table 5. As indicated, groundborne vibration levels associated with construction equipment generally range from approximately 0.003 to 0.210 in/sec ppv at 25 feet.

Predicted groundborne vibration levels at the nearest structure are summarized in Table 6. As depicted in Table 6, predicted groundborne vibration levels at the nearest structure would range from 0.009 to 0.020 in/sec ppv at the nearest residence. Groundborne vibration levels at the nearest structures would not exceed the commonly applied criteria for structural damage of 0.5 in/sec ppv or the commonly applied threshold for human annoyance of 0.2 in/sec ppv. Furthermore, with implementation of the previously noted construction avoidance and minimization measures, construction activities would be largely limited to between the daytime hours of 7 a.m. and 6 p.m., which would reduce potential annoyance to occupants of nearby structures. For these reasons and given that construction activities would be short-term, potential increases in groundborne vibration would be considered to have a less-than-significant impact.

Table 5. Representative Vibration Levels for Construction Equipment

Equipment	Peak Particle Velocity at 25 Feet (in/sec ppv)
Vibratory Roller	0.210
Hoe Ram	0.089
Large Bulldozers	0.089
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozers	0.003

Source: Caltrans 2020

Table 6. Predicted Construction Vibration Levels at the Nearest Structures

Construction Activity	Vibration Level (in/sec ppv) at the Nearest Structure
Site Prep	0.009
Grading	0.009
Building Construction	0.020
Building Construction Final Stage	0.020
Groundborne vibration levels were calculated based on representative equipment levels noted in Table 5. Groundborne vibration levels were calculated assuming the road reconstruction/paving may be required based on a distance of 150 feet from the construction area to the nearest structure.	

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APPENDIX A
Acoustic Fundamentals

ACOUSTIC FUNDAMENTALS

Sound, Noise, and Acoustics

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa). One mPa is approximately one hundred billionth (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this huge range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level in terms of decibels (dB). The threshold of hearing for young people is about 0 dB, which corresponds to 20 mPa.

Addition of Decibels

Because decibels are logarithmic units, SPL cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one automobile produces an SPL of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB, rather, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dB louder than one source.

Geometric Spreading

Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 decibels for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path, and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 decibels for each doubling of distance from a line source.

A-Weighted Decibels

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 Hz and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an "A-weighted" sound level (expressed in units of dBA) can be computed based on this information.

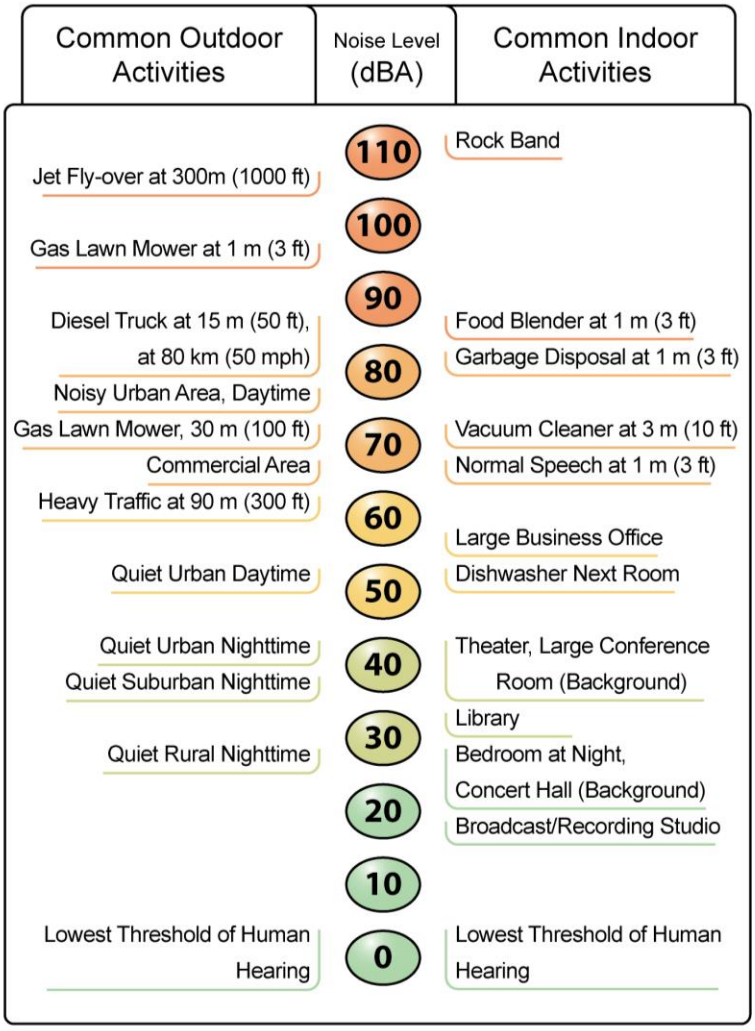
The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Common A-weighted noise levels are depicted in Figure A-1.

Human Response to Changes in Noise Levels

As discussed above, doubling sound energy results in a 3-dB increase in sound. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different than what is measured.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dB changes in sound levels, when exposed to steady, single-frequency ("pure-tone") signals in the midfrequency (1,000 Hz–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5-dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3-dB increase in sound, would generally be perceived as barely detectable.

Table A-1. Common A-Weighted Noise Levels



Source: Caltrans 2019

Common Noise Descriptors

Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors most commonly used for the analysis of construction-generated noise:

- **Equivalent Sound Level (L_{eq}):** L_{eq} represents an average of the sound energy occurring over a specified period. The 1-hour A-weighted equivalent sound level ($L_{eq}^{[h]}$) is the energy average of A-weighted sound levels occurring during a one-hour period.
- **Maximum Sound Level (L_{max}):** L_{max} is the highest instantaneous sound level measured.

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APPENDIX B
Construction Noise & Groundborne Vibration Modeling

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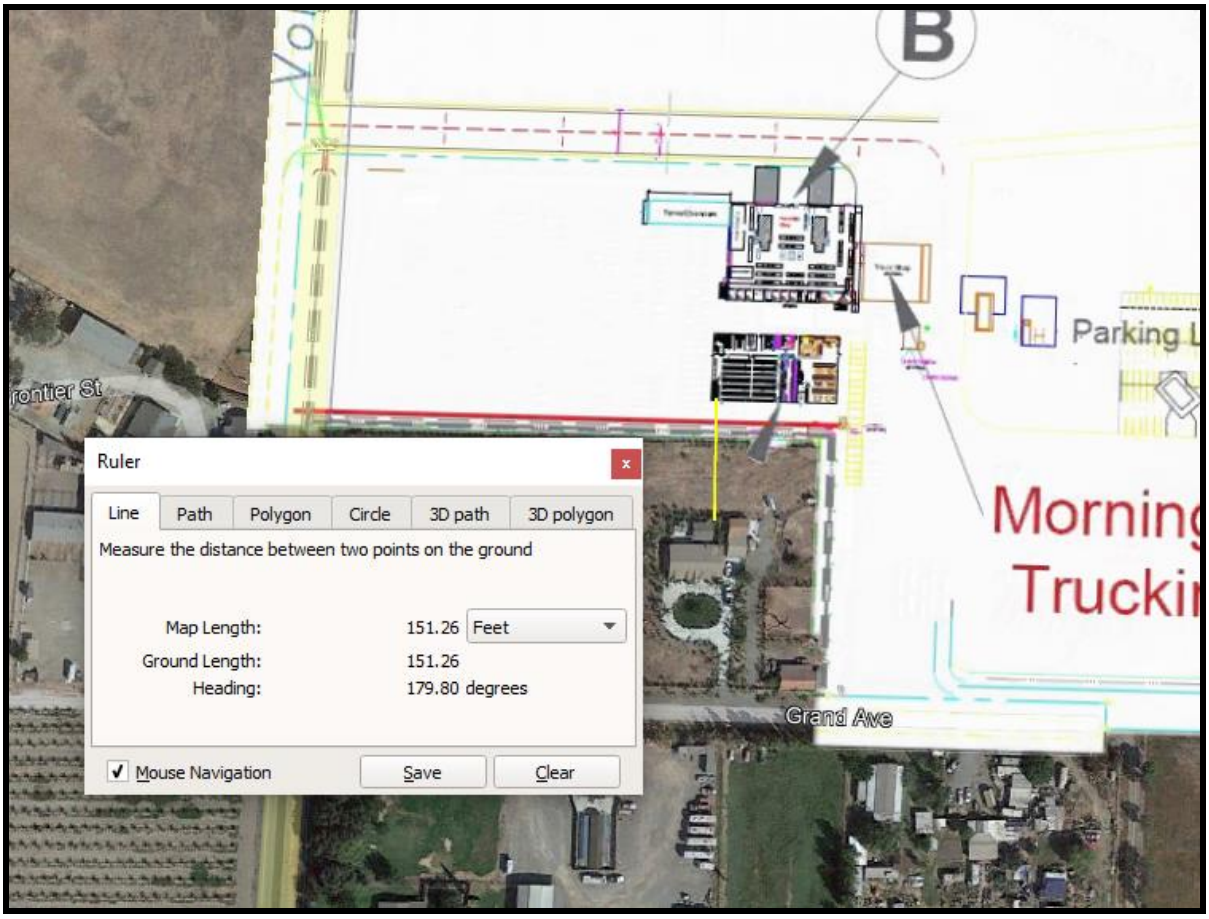
Distances to Nearby Occupied Structures/Outdoor Activity Areas

Cafeteria Breakroom



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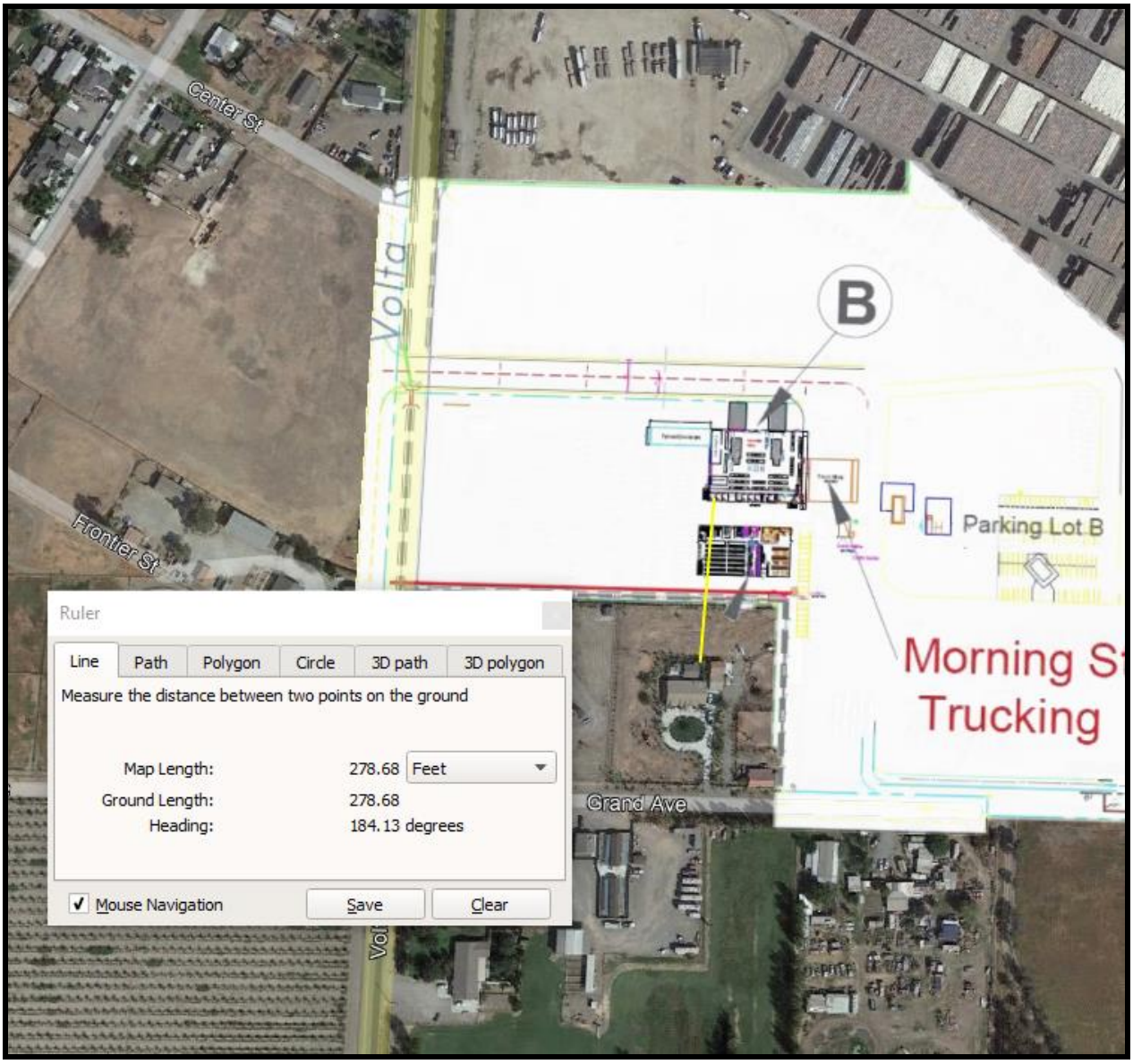
Harvester Repair Shop



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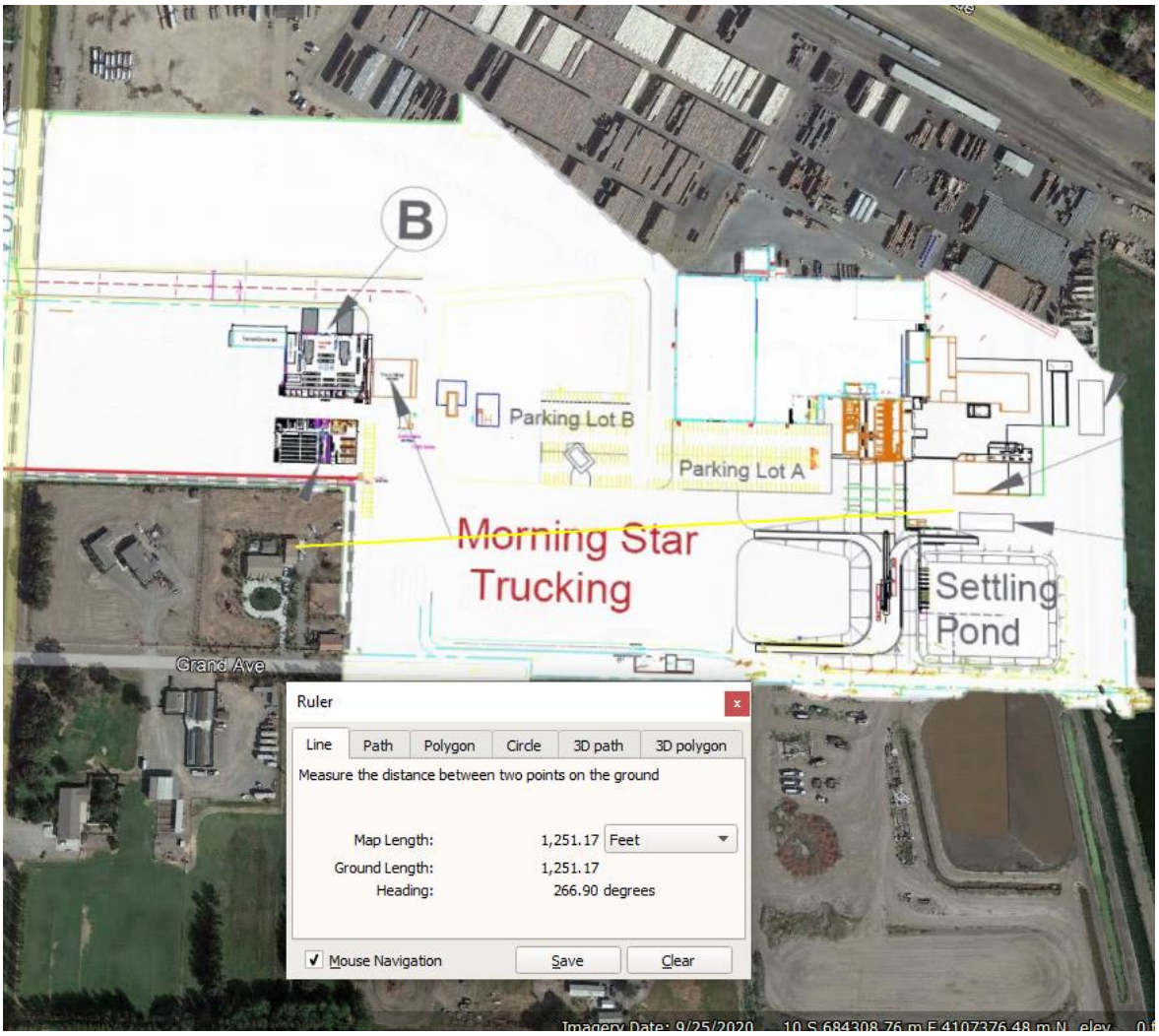
Gas Turbine Generator



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Construction Noise Calculations

Site Prep

Equipment — **Receptor #1: Los Banos**

	Active	Description	Impact Device	Usage(%)	Spec Lmax (dBA)		Actual Lmax (dBA)		Distance to Receptor (feet)	Estimated Shielding (dBA)
1	☑	Backhoe	☐	40%	☐	80.0	☑	77.6	150.0	0.0
2	☐	Dump Truck	☐	40%	☐	84.0	☑	76.5	150.0	0.0
3	☑	Excavator	☐	40%	☐	85.0	☑	80.7	150.0	0.0
4	☐	Front End Loader	☐	40%	☐	80.0	☑	79.1	150.0	0.0
5	☐	Drill Rig Truck	☐	20%	☐	84.0	☑	79.1	150.0	0.0
6	☐	Crane	☐	16%	☐	85.0	☑	80.6	150.0	0.0

Results

Receptor #1: Los Banos

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
	Equipment	Lmax*	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
	Total	71.2	68.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	Backhoe	68.0	64.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	Excavator	71.2	67.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3															
4															
5															

*Total Lmax is the value for the loudest piece of equipment.

Assumes the two loudest pieces of equipment operating simultaneously.

Grading

Equipment — **Receptor #1: Los Banos**

	Active	Description	Impact Device	Usage(%)	Spec Lmax (dBA)		Actual Lmax (dBA)		Distance to Receptor (feet)	Estimated Shielding (dBA)
1	☑	Backhoe	☐	40%	☐	80.0	☑	77.6	150.0	0.0
2	☑	Dump Truck	☐	40%	☐	84.0	☑	76.5	150.0	0.0
3	☐	Excavator	☐	40%	☐	85.0	☑	80.7	150.0	0.0
4	☐	Front End Loader	☐	40%	☐	80.0	☑	79.1	150.0	0.0
5	☐	Drill Rig Truck	☐	20%	☐	84.0	☑	79.1	150.0	0.0
6	☐	Crane	☐	16%	☐	85.0	☑	80.6	150.0	0.0

Results

Receptor #1: Los Banos

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
	Equipment	Lmax*	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
	Total	68.0	66.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	Backhoe	68.0	64.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	Dump Truck	66.9	62.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3															
4															
5															

*Total Lmax is the value for the loudest piece of equipment.

Assumes the two loudest pieces of equipment operating simultaneously.

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AIR QUALITY & NOISE CONSULTING

75 Higuera Street, Suite 105
San Luis Obispo, CA 93401
www.Ambient.Consulting

Building Construction

Equipment — **Receptor #1: Los Banos**

	Active	Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Distance to Receptor (feet)	Estimated Shielding (dBA)
1	☑	Backhoe	☐	40%	80.0	77.6	150.0	0.0
2	☐	Dump Truck	☐	40%	84.0	76.5	150.0	0.0
3	☐	Excavator	☐	40%	85.0	80.7	150.0	0.0
4	☑	Front End Loader	☐	40%	80.0	79.1	150.0	0.0
5	☐	Drill Rig Truck	☐	20%	84.0	79.1	150.0	0.0
6	☐	Crane	☐	16%	85.0	80.6	150.0	0.0

Results

Receptor #1: Los Banos

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
	Equipment	Lmax*	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
	Total	69.6	67.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	Backhoe	68.0	64.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	Front End Loader	69.6	65.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3															
4															
5															

*Total Lmax is the value for the loudest piece of equipment.

Assumes the two loudest pieces of equipment operating simultaneously.

Building Construction Final Stage

Equipment — **Receptor #1: Los Banos**

	Active	Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Distance to Receptor (feet)	Estimated Shielding (dBA)
1	☐	Backhoe	☐	40%	80.0	77.6	150.0	0.0
2	☐	Dump Truck	☐	40%	84.0	76.5	150.0	0.0
3	☐	Excavator	☐	40%	85.0	80.7	150.0	0.0
4	☑	Front End Loader	☐	40%	80.0	79.1	150.0	0.0
5	☐	Drill Rig Truck	☐	20%	84.0	79.1	150.0	0.0
6	☑	Crane	☐	16%	85.0	80.6	150.0	0.0

Results

Receptor #1: Los Banos

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
	Equipment	Lmax*	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
	Total	71.0	67.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1	Front End Loader	69.6	65.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	Crane	71.0	63.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3															
4															
5															

*Total Lmax is the value for the loudest piece of equipment.

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Operational Noise Calculations

Stationary Source	Reference Level	Distance to Receiver (Ft)	Predicted Noise Level (L_{eq}/L_{50})
HVAC/Exhaust Vent	79 dBA @ 50 ft	150	49 dBA
Commercial Loading	66 dBA @ 25 ft	150	50 dBA
Harvester Repair Shop	73 dBA @ 10 ft	275	44 dBA
Enclosed Gas Turbine Generator	75 dBA @ 50 ft	1,250	46 dBA

L_{eq} and L_{50} were assumed to be the same in order to compare documented reference levels to County thresholds.

Construction Groundborne Vibration

REFERENCE VIBRATION LEVELS	
IN ROCK	0.017
VIBRATORY ROLLER	0.21
HOE RAM	0.089
LARGE BULLDOZER	0.089
CAISSON DRILLING	0.089
LOADED TRUCKS	0.076
JACKHAMMER	0.035
SMALL BULLDOZER	0.003

SOURCE:	Site Prep
REFERENCE LEVEL:	0.089
ATTENUATION RATE*:	1.3
DISTANCE	150
PREDICTED GROUND-BORNE VIBRATION LEVEL:	0.009

SOURCE:	Grading
REFERENCE LEVEL:	0.089
ATTENUATION RATE*:	1.3
DISTANCE	150
PREDICTED GROUND-BORNE VIBRATION LEVEL:	0.009

SOURCE:	Building Construction
REFERENCE LEVEL:	0.734
ATTENUATION RATE*:	1.3
DISTANCE	450
PREDICTED GROUND-BORNE VIBRATION LEVEL:	0.017

SOURCE:	Building Construction Final Stage
REFERENCE LEVEL:	0.21
ATTENUATION RATE*:	1.3
DISTANCE	150
PREDICTED GROUND-BORNE VIBRATION LEVEL:	0.020

*USE 1.1 FOR MORE CONSERVATIVE ANALYSIS WHEN SOIL CONDITIONS ARE

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