

3.2 Air Quality

This Section evaluates the potential impacts to air quality resulting from construction and operation of the Project against significance thresholds derived from applicable local, state or federal policies, or from Appendix G of the CEQA Guidelines.

3.2.1 Study Area

The study area for air quality impacts includes the Project Area and the North Coast Air Basin.

3.2.2 Setting

North Coast Air Basin

The Project Area is located in Humboldt County in the North Coast Air Basin, which is comprised of Del Norte, Humboldt, Mendocino, and Trinity Counties, as well as the northern and western portion of Sonoma County. The Project Area is located within the North Coast Unified Air Quality Management District (NCUAQMD).

Climate

The local climates, or sub-climates, within the North Coast Air Basin are affected by elevation and proximity to the Pacific Ocean. Humboldt County contains sub-climates that are created by local topography and proximity to the ocean. The study area is located proximal to the Pacific Ocean (Humboldt Bay) and is influenced by coastal fog throughout the year. Precipitation within the County is seasonal, with 90 percent of the annual precipitation occurring between October and April. During the winter, moderate temperatures, frequent fog, and moderate to heavy precipitation cause inversions, which impact air quality. Inversions are created when warm air traps cool air near the ground surface and hinders vertical dispersion. Humboldt County commonly experiences two types of inversions, vertical and horizontal, that affect the vertical depth of the atmosphere through which pollutants can be mixed. Vertical air movement is important in spreading pollutants through a thicker layer of air. Horizontal movement is important in spreading pollutants over a wider area. Upward dispersion of pollutants is hindered wherever the atmosphere is stable; that is, where warm air overlies cooler air below (Humboldt County 2017).

Sensitive Receptors

Sensitive receptors are people who are particularly susceptible to the adverse effects of air pollution. The California Air Resources Board (CARB) has identified the following people most likely to be affected by air pollution: children, the elderly, the acutely ill, and the chronically ill, especially those with cardio-respiratory diseases. Sensitive receptors include residences, schools, playgrounds, childcare centers, retirement homes, hospitals, and medical clinics. The Project Area is located in a rural industrial area. There are no sensitive receptors in the vicinity of any project component. The nearest residence to the Terrestrial Development Site is approximately 1,600 feet (0.3 mile) from the site boundary. Similarly, there are no sensitive receptors in the vicinity of the Humboldt Bay Water Intakes site. The nearest residences to the Humboldt Bay Water Intakes site are residences located in the community of Samoa, approximately 1,100 feet northwest from the closest portion of the Humboldt Bay Water Intakes pipeline alignment.

Existing Air Quality – Criteria Air Pollutants

California and the federal government (i.e., the EPA) have established ambient air quality standards for several different pollutants. Most standards have been set to protect public health, but standards for some pollutants have other purposes, such as to protect crops, protect materials, or avoid nuisance conditions. Of pollutants that may be generated by the proposed Project, those of greatest concern are emitted by motor vehicles. These pollutants include fine particulate matter (PM) less than 2.5 microns in diameter (PM_{2.5}) and particulate matter less than 10 microns in diameter (PM₁₀). Other pollutants that are less problematic to the region include ozone precursors (nitrogen oxides

[NOX] and reactive organic gases [ROG]) and carbon monoxide. Table 3.2-1 Relevant California and National Ambient Air Quality Standards and Attainment Status summarizes state and federal ambient air quality standards.

Table 3.2-1 Relevant California and National Ambient Air Quality Standards and Attainment Status

Pollutant	Averaging Time	California Standards		National Standards	
		Standard	Humboldt County Status	Standard	Humboldt County Status
Ozone	8-hour	0.070 ppm (137 µg/m ³)	Attainment	0.075 ppm (147 µg/m ³)	Unclassified/ Attainment
	1-hour	0.09 ppm (180 µg/m ³)	Attainment	None	NA
Carbon Monoxide	1-hour	20 ppm (23 mg/m ³)	Attainment	35 ppm (40 mg/m ³)	Unclassified/ Attainment
	8-hour	9.0 ppm (10 mg/m ³)	Attainment	9 ppm (10 mg/m ³)	
Nitrogen Dioxide	1-hour	0.18 ppm (339 µg/m ³)	Attainment	0.100 ppm (188 µg/m ³)	Unclassified/ Attainment
	Annual	0.030 ppm (57 µg/m ³)	Status not reported	0.053 ppm (100 µg/m ³)	
Sulfur Dioxide	1-hour	0.25 ppm (655 µg/m ³)	Attainment	0.075 ppm (196 µg/m ³)	Unclassified
	24-hour	0.04 ppm (105 µg/m ³)	Attainment	0.14 ppm (365 µg/m ³)	
	Annual	None	NA	0.03 ppm (56 µg/m ³)	
Respirable Particulate Matter (PM10)	24-hour	50 µg/m ³	Nonattainment	150 µg/m ³	Unclassified
	Annual	20 µg/m ³	Attainment	None	
Fine Particulate Matter (PM2.5)	24-hour	None	NA	35 µg/m ³	Unclassified/ Attainment
	Annual	12 µg/m ³	Attainment	12 µg/m ³	

Sources: BAAQMD 2017a. NCUAQMD 2021.

Notes:

ppm = parts per million

mg/m³ = milligrams per cubic meter

µg/m³ = micrograms per cubic meter

Particulate Matter

Particulate matter is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust. Particles 10 microns or less in diameter are defined as respirable particulate matter or PM10. PM10 emissions include unpaved road dust, smoke from wood stoves, construction dust, open burning of vegetation, and airborne salts and other particulate matter naturally generated by ocean surf. Fine particles are 2.5 microns or less in diameter (PM2.5) and, while also respirable, can contribute significantly to regional haze and reduction of visibility. Inhalable particulates come from smoke, dust, aerosols, and metallic oxides. Although particulates are found naturally in the air, most particulate matter found in the study area is emitted either directly or indirectly by motor vehicles, agricultural activities, and wind erosion of disturbed areas. Most PM2.5 is comprised of combustion products such as smoke. Extended exposure to PM can increase the risk of chronic respiratory disease (BAAQMD 2017b).

Ozone

Ground-level ozone is the principal component of smog. Ozone is not directly emitted into the atmosphere, but instead forms through a photochemical reaction of reactive organic gases (ROG) and nitrogen oxides (NO_x), which are known as ozone precursors. Ozone levels are highest from late spring through autumn when precursor emissions are high and meteorological conditions are warm and stagnant. Motor vehicles create the majority of ROG and NO_x emissions in California. Exposure to levels of ozone above current ambient air quality standards can lead to human health effects such as lung inflammation, tissue damage and impaired lung function. Ozone exposure is also associated with symptoms such as coughing, chest tightness, shortness of breath, and the worsening of asthma symptoms (BAAQMD 2017b). The greatest risk for harmful health effects belongs to outdoor workers, athletes, children, and others who spend greater amounts of time outdoors during periods of high ozone levels, typically during the summer.

Carbon Monoxide

Carbon Monoxide is a non-reactive pollutant that is toxic, invisible, and odorless. It is formed by the incomplete combustion of fuels. The largest sources of CO emissions are motor vehicles, wood stoves, and fireplaces. Carbon Monoxide is directly emitted to the atmosphere, where levels are strongly influenced by meteorological factors such as wind speed and atmospheric stability. The health threat from elevated ambient levels of CO is most serious for those who suffer from heart disease, like angina, clogged arteries, or congestive heart failure; however, high levels of CO can affect even healthy people. People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. At extremely high levels, CO is poisonous and can cause death.

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer or serious illness) and include, but are not limited to, the criteria air pollutants listed in Table 3.2-1. Toxic Air Contaminants are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). Toxic Air Contaminants are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a freeway).

According to the CARB, diesel exhaust is a complex mixture of gases, vapors, and fine particles. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the state's Proposition 65 or under the federal Hazardous Air Pollutants programs. California has adopted a comprehensive diesel risk reduction program, and recently adopted new regulations requiring the retrofit and/or replacement of construction equipment, on-highway diesel trucks, and diesel buses in order to lower PM_{2.5} emissions and reduce statewide cancer risk from diesel exhaust. See Section 3.2.3, below.

3.2.3 Regulatory Framework

The federal Clean Air Act of 1977 (CAA) governs air quality in the United States. In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulations under the California Clean Air Act.

Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level. The identification, regulation, and monitoring of TACs is relatively new compared to that for criteria air pollutants that have established ambient air quality standards. Specifically, TACs are regulated or evaluated on the basis of risk to human health rather than comparison to an ambient air quality standard or emission-based threshold.

Federal

The federal Clean Air Act of 1977 (CAA) governs air quality in the United States. The U.S. Environmental Protection Agency (EPA) is responsible for enforcing the federal CAA. The EPA is also responsible for establishing the National Ambient Air Quality Standards (NAAQS) for the following six 'criteria' air pollutants: ozone, particulate matter (PM₁₀

and PM2.5), nitrogen dioxide, carbon monoxide, lead, and sulfur dioxide. The NAAQS are required under the CAA and subsequent amendments.

State

California Clean Air Act

In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulations under the California Clean Air Act. The California Clean Air Act is administered by the California Air Resources Board (CARB), which is part of the California Environmental Protection Agency, and by the Air Quality Management Districts at the regional and local levels. The CARB is responsible for meeting the state requirements of the federal CAA, administering the California Clean Air Act, and establishing the California Ambient Air Quality Standards (CAAQS) which include the six NAAQS criteria pollutants listed above as well as visibility-reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. The CARB regulates mobile air pollution sources, such as motor vehicles. It is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment.

California Diesel Risk Reduction Program

CARB identified particulate emissions from diesel-fueled engines as TACs in August 1998. Following the identification process, CARB was required by law to determine if there is a need for further control, which led to the risk management phase of the program.

For the risk management phase, CARB formed the Diesel Advisory Committee to assist in the development of a risk management guidance document and a risk reduction plan. With the assistance of the Diesel Advisory Committee and its subcommittees, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles and the Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines. The Diesel Advisory Committee approved these documents on September 28, 2000, paving the way for the next step in the regulatory process: the control measure phase. The adopted Diesel Risk Reduction Plan contains the goals

During the control measure phase, specific statewide regulations designed to further reduce Diesel particulate matter (DPM) emissions from diesel-fueled engines and vehicles have and continue to be evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce DPM emissions. Multiple Airborne Toxic Control Measures (ATCMs) have since been adopted, reducing DPM emissions for mobile sources such as Diesel-fueled Transportation Refrigeration Units (TRU) and TRU Generator Sets, and commercial vehicles.

Regional and Local

North Coast Unified Air Quality Management District

The NCUAQMD, one of 35 air districts in California, has jurisdiction over Humboldt, Del Norte, and Trinity counties. The NCUAQMD 's primary responsibility is for controlling air pollution from stationary sources and is committed to achieving and maintaining healthful air quality throughout the tri-county jurisdiction. The NCUAQMD has permit authority over most types of stationary emission sources and can require stationary sources to obtain permits, impose emission limits, set fuel or material specifications, or establish operational limits to reduce air emissions. The NCUAQMD monitors air quality, enforces local, state and federal air quality regulations for counties within its jurisdiction, inventories and assess the health risks of TACs, and adopts rules that limit pollution.

The NCUAQMD is listed as "attainment" or "unclassified" for all the federal and state ambient air quality standards except for the state 24-hour particulate (PM10) standard. For construction emissions, the NCUAQMD has indicated that emissions are not considered regionally significant for projects whose construction will be of relatively short in duration, lasting less than one year. For project construction lasting more than one year or that involves above

average construction intensity in volume of equipment or area disturbed, construction emissions may be compared to the stationary source emissions thresholds.

To address non-attainment for PM10, the NCUAQMD adopted a Particulate Matter Attainment Plan in 1995. This plan presents available information about the nature and causes of PM10 standard exceedances and identifies cost-effective control measures to reduce PM10 emissions to levels necessary to meet the CAAQS. However, the NCUAQMD states that the plan, “should be used cautiously as it is not a document that is required in order for the District to come into attainment for the state standard” (NCUAQMD 2021). Therefore, compliance with applicable NCUAQMD PM10 rules is applied as the threshold of significance for the purposes of analysis, which includes NCUAQMD Rule 104 Section D, Fugitive Dust Emissions.

Pursuant to Rule 104 Section D, the handling, transporting, or open storage of materials in such a manner, which allows or may allow unnecessary amounts of particulate matter to become airborne, shall not be permitted. Reasonable precautions shall be taken to prevent particulate matter from becoming airborne, including, but not limited to covering open bodied trucks when used for transporting materials likely to give rise to airborne dust and the use of water during the grading of roads or the clearing of land.

For operational activities, Rule 110 - New Source Review (NSR) And Prevention of Significant Deterioration establishes the pre-construction review requirements for new and modified stationary sources of air pollution and to provide mechanisms by which authorities to construct for such sources may be granted without interfering with the attainment or maintenance of ambient air quality standards.

Humboldt Bay Area Plan – Local Coastal Plan

There are no applicable policies in the Humboldt Bay Area Plan that address air quality

3.2.4 Evaluation Criteria and Thresholds of Significance

Evaluation Criteria	Significance Thresholds	Sources
Would the Project conflict with or obstruct implementation of the applicable air quality plan?	Compliance with NCUAQMD Rule 104 – Prohibitions, Subsection D (Fugitive Dust Emissions)	CEQA Guidelines Appendix G, Checklist Item III (a) NCUAQMD Rules and Regulations
Would the Project result in a cumulatively considerable net increase in any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	Exceed NCUAQMD Rule 110 – New Source Review & Prevention of Significant Deterioration Section E, Best Available Control Technology, Table 1.0 Significance Thresholds	CEQA Guidelines Appendix G, Checklist Items III (b) NCUAQMD Rule and Regulations, Rule 110 - New Source Review (NSR) & Prevention of Significant Deterioration (PSD), Section E.1 – BACT NCUAQMD Air Quality Planning & CEQA: Environmental Review Guidelines (NCUAQMD 2018)
Would the Project expose sensitive receptors to substantial pollutant concentrations?	Increased cancer risk of greater than 10.0 in a million Increased non-cancer risk of greater than 1.0 Hazard Index (Chronic or Acute)	CEQA Guidelines Appendix G, Checklist Item III (c) Air Resource Board’s Air Toxic Control Measures (ATCMs)
Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Creation of a new substantial odor or dust source near existing sensitive receptors	CEQA Guidelines Appendix G, Checklist Item III (d)

3.2.5 Methodology

The California Emissions Estimator Model (CalEEMod) version 2020.4.0 was used to estimate air pollutant emissions from project construction and operation (Appendix B). For the purposes of the modeling, project construction is assumed to begin in early 2022 with construction completed in phases, with full completion by 2028. Project-specific construction phasing and equipment type, were input, as detailed within Appendix B. Additionally, construction related fugitive dust emissions are discussed qualitatively. Impacts related to construction dust are considered significant if dust is allowed to leave the site (NCUAQMD 2015).

Operations of the facility would ramp-up from an anticipated first year of operation in 2025 to full operations by 2029. Therefore, emissions were estimated for year 2025 and 2029. Operational emissions were estimated using CalEEMod, using the land use types and amounts identified in the Project Description (Chapter 2), and employee and hauling trip generation rate and trip distance. Impacts from operational emissions are also discussed in the context of compliance with the air district regulations for new source emissions.

The Terrestrial Development component of the Project can produce odors generally limited to exhaust fumes from gas- and diesel-powered equipment and generators. Odors are generally considered an annoyance rather than a health hazard. The ability to detect and respond to odors varies considerably among the population and is quite subjective. Odors are analyzed qualitatively, based on the potential for the project to generate objectionable odors off-site and wind patterns in the area.

3.2.6 Impacts and Mitigation Measures

Impact AQ-a: Would the Project conflict with or obstruct implementation of the applicable air quality plan? (Less than Significant with Mitigation)

This impact relates to consistency with an adopted attainment plan. Within the Project vicinity, the NCUAQMD is responsible for monitoring and enforcing local, state, and federal air quality standards.

As noted above, Humboldt County is designated 'attainment' for all National Ambient Air Quality Standards. With regard to the California Ambient Air Quality Standards, Humboldt County is designated attainment for all pollutants except PM10. Humboldt County is designated as "non-attainment" for the state's PM10 standard. Therefore, any use or activity that generates airborne particulate matter may be of concern to the NCUAQMD.

Terrestrial Development

The proposed Project will create PM10 emissions in part through vehicles coming and going to the Project Site and associated construction activity.

Construction

Rule 104, Section D – Fugitive Dust Emissions is used by the NCUAQMD to address non-attainment for PM10. Pursuant to Rule 104 Section D, the handling, transporting, or open storage of materials in such a manner, which allows or may allow unnecessary amounts of particulate matter to become airborne, shall not be permitted. Reasonable precautions shall be taken to prevent particulate matter from becoming airborne, including, but not limited to covering open bodied trucks when used for transporting materials likely to give rise to airborne dust and the use of water during the grading of roads or the clearing of land. During earth moving activities, fugitive dust (PM10) would be generated. The amount of dust generated at any given time would be highly variable and is dependent on the size of the area disturbed at any given time, amount of activity, soil conditions, and meteorological conditions. Unless controlled, fugitive dust emissions during typical construction activities of the Project could be a significant impact, therefore, Mitigation Measure AQ-1 will be incorporated to comply with NCUAQMD's Rule 104 Section D. The Proposed Project includes explosive demolition, a non-typical construction activity, of the boiler building and smokestacks. Explosive demolition of the boiler building, and smokestacks would result in fugitive dust emissions. However, such fugitive dust emissions would be short-term, lasting minutes, and would be limited to those explosive

demolition activities. As such, explosive demolition for the boiler and smokestacks would not generate an exceedance of the state 24-hour ambient air quality standard, and would result in a less than significant impact.

Operation

Operation of the Project would not include the handling, transporting or open storage of materials in which fugitive particulate matter (dust) may become airborne. Due to the absence of handling, transport or open storage of materials that would generate fugitive particulate matter, operation of the Project is not expected to conflict with NCUAQMD's Rule 104 Section D. No impact from operation of the Project would result.

Mitigation

Mitigation Measure AQ-1 Best Management Practices to Reduce Air Pollution.

The contractor shall implement the following BMPs during construction; the BMPs shall be included as notes on final construction plans:

- Equipment and activity must not emit dust that is visible crossing the property line, except for short-term activities related to explosive demolition of the boiler building and smoke stack.
- All exposed surfaces (e.g., parking areas, staging areas, soil piles, active graded areas, excavations, and unpaved access roads) shall be watered two times per day in areas of active construction or as necessary in conjecture with other dust suppression methods (such as gravel application) to appropriately control dust. The County or NCUAQMD may require additional treatment in periods of high wind or other circumstances causing visible dust to be generated by the construction site.
- All vehicle speeds on unpaved roads shall be limited to 15 mph, unless the unpaved road surface has been treated for dust suppression with water, rock, wood chip mulch, or other dust prevention measures.
- All haul trucks transporting soil, sand, or other loose material off-site shall clean all side boards and headboards of material and be adequately wetted and covered.
- Use of mud rumbler mats will be required to reduce off-site tracking of mud and dirt. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day, as necessary. The use of dry power sweeping is prohibited.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes. Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications.
- Materials screening, transfer points on a belt conveyor, and crushers must have dust control measures such that:
 - No screening operation, or transfer point on a belt conveyor discharges into the air any visible emissions other than uncombined water vapor, for a period aggregating more than three minutes in any one hour which are 50% as dark or darker in shade as that designated as number one on the Ringelmann Chart, or 10% opacity.
 - No crusher discharges into the air any visible emissions other than uncombined water vapor, for a period aggregating more than three minutes in any one hour which are 75% as dark or darker in shade as that designated as number one on the Ringelmann Chart, or 15% opacity.
 - Control measures may include installation and operation of spray bars on all conveyors; installation of shrouds at all drop points; or any other measure(s) deemed as effective as the prior listed measures.

With implementation of Mitigation Measure AQ-1, the Project will not conflict with applicable air plans. The potential impacts would be reduced to a less-than-significant level with mitigation.

Level of Significance: Less than Significant with Mitigation Incorporated

Ocean Discharge

Ocean discharge would have no impact. The Project would merely utilize the exiting Ocean Discharge outfall infrastructure currently existing. No conflicts with applicable air plans would result. No impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

Humboldt Bay Water Intakes

As with the Terrestrial Development, the Humboldt Bay Water Intakes construction activity would include earth disturbance and, therefore, potential to result in fugitive dust. The amount of dust generated at any given time would be highly variable and is dependent on the size of the area disturbed at any given time, amount of activity, soil conditions, and meteorological conditions. Unless controlled, fugitive dust emissions during construction of the Project could be a significant impact, therefore, Mitigation Measure AQ-1 will be incorporated to comply with NCUAQMD's Rule 104 Section D.

Mitigation

Mitigation Measure AQ-1 Best Management Practices to Reduce Air Pollution.

Refer to the Terrestrial Development impact discussion above, for the full text of Mitigation Measure AQ-1 Best Management Practices to Reduce Air Pollution.

With implementation of Mitigation Measure AQ-1, the Project will not conflict with applicable air plans. The potential impacts would be reduced to a less-than-significant level with mitigation.

Level of Significance: Less than Significant with Mitigation Incorporated

Compensatory Off-Site Restoration Component

Compensatory Off-Site Restoration Component includes construction activity; however, this Project component would not include any earth-disturbing activities such as grading or excavation. Therefore, this component would not be a source of localized fugitive dust (PM10) emissions. No conflicts with applicable air plans would result. No impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

Impact AQ-b: Would the Project result in a cumulatively considerable net increase in any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard? (Less than Significant with Mitigation)

The project's potential to generate criteria pollutants of concern during construction and operation is assessed in this Section. As noted above, Humboldt County is designated nonattainment of the State's PM10 standard. The County is designated attainment for all other state and federal standards. Potential impacts of concern will be exceedances of state or federal standards for PM10. Localized PM10 is of concern during construction because of the potential to emit fugitive dust during earth-disturbing activities

Terrestrial Development

Construction

Localized PM10

The Project will include clearing and grubbing, demolition, excavation, grading, asphalt paving, and building construction. Generally, the most substantial air pollutant emissions will be dust generated from demolition, site clearing and grubbing, grading, and excavation. If uncontrolled, these emissions could lead to both health and nuisance impacts. Construction activities would also temporarily generate emissions of equipment exhaust and other air contaminants. The Project's potential impacts from equipment exhaust are assessed separately below.

The NCUAQMD does not have formally adopted thresholds of significance for fugitive, dust-related particulate matter emissions above and beyond Rule 104, Section D, which does not provide quantitative standards. For the purposes of analysis, this document uses the Bay Area Air Quality Management District (BAAQMD) approach to determining significance for fugitive dust emissions from Project construction. The BAAQMD bases the determination of significance for fugitive dust on a consideration of the control measures to be implemented. If all appropriate emissions control measures recommended by BAAQMD are implemented for a project, then fugitive dust emissions during construction are not considered significant. BAAQMD recommends a specific set of "Basic Construction Measures" to reduce emissions of construction-generated PM10 to less than significant. Without incorporation of these Basic Construction Measures, the Project's construction-generated fugitive PM10 (dust) would result in a potentially significant impact.

As stated in Impact AQ-a, above, explosive demolition of the boiler building, and smokestacks would result in fugitive dust emissions. However, such fugitive dust emissions would be short-term, lasting minutes, and would be limited to those explosive demolition activities. As such, explosive demolition for the boiler and smokestacks would not generate an exceedance of the state 24-hour ambient air quality standard, and would result in a less than significant impact.

The Basic Construction Measure controls recommended by the BAAQMD are incorporated into Mitigation Measure AQ-1. These controls are consistent with NCUAQMD Rule 104 (D), Fugitive Dust Emission, and provide supplemental, additional control of fugitive dust emissions beyond that which would occur with Rule 104 (D) compliance alone. Therefore, with incorporation of Mitigation Measure AQ-1, the Project would result in a less than significant impact for construction-period PM10 generation and would not violate or substantially contribute to an existing or projected air quality violation.

Construction Criteria Pollutants

The NCUAQMD does not have established CEQA significance criteria to determine the significance of impacts that may result from a project; however, the NCUAQMD does have criteria pollutant significance thresholds for new or modified stationary source projects proposed within the NCUAQMD's jurisdiction. NCUAQMD has indicated that it is appropriate for lead agencies to compare proposed construction emissions that last more than one year to its stationary source significance thresholds (Davis 2019), which are:

- Nitrogen oxides – 40 tons per year,
- Reactive organic gases – 40 tons per year,
- PM10 – 15 tons per year, and
- Carbon monoxide – 100 tons per year.

If an individual project's emission of a particular criteria pollutant is within the thresholds outlined above, the project's effects concerning that pollutant are considered to be less than significant.

Table 3.2-2 Construction Regional Pollutant Emissions summarizes construction-related emissions. As shown in the table, the Terrestrial Development's construction emissions would not exceed the NCUAQMD's stationary sources emission thresholds in any year of construction. Therefore, the Terrestrial Development's construction emissions are considered to have a less-than-significant impact.

Table 3.2-2 Terrestrial Development Construction Regional Pollutant Emissions

Parameter (year)	Emissions (tons)			
	ROG	NO _x	CO	PM ₁₀
Construction (2022)	0.6	5.4	5.3	0.3
Construction (2023)	0.3	2.7	3.0	0.2
Construction (2024)	1.4	10.7	15.8	1.2
Construction (2025)	1.8	11.5	19.7	2.1
Construction (2026)	0.9	6.3	10.8	1.1
Construction (2027)	1.1	7.2	12.0	1.5
Construction (2028)	0.4	2.4	4.1	0.2
NCUAQMD Stationary Source Thresholds	40	40	100	15

Operation

Following construction, operation of the Project would include of backup generators, stationary sources of air emissions. It is assumed that each generator would be tested on an alternating basis each Typical run time for testing would be approximately 10 hours per year and would be for no more than 50 hours per year. Although sustained use of the generators is not anticipated, it is possible that the generators would be used during a power outage. The backup power generation system can run as long as necessary in the event of a prolonged power outage, but would be permitted to be used a maximum 500 hours in a given year. The emissions estimates submitted for the stationary source permits with the NCUAQMD were used in this analysis, and reflect a maximum 500 annual hours of use; therefore, the emissions analysis is overly conservative. The Project would also result in operational trips (employee, short-hauling, and long-hauling), as well as energy consumption. Project operational emissions, including emergency back-up generator use, were estimated using CalEEMod version 2020.4.0. Operational emissions were modeled for year 2025 and 2029. Operational on-road mobile emissions were estimated for hauling activity within the NCUAQMD's jurisdiction (North Coast Air Basin). Mobile emissions that would be emitted within the North Coast Air Basin are shown in Table 3.2-3 and Table 3.2-4 for years 2025 and 2029, respectively. As shown in the tables, the Terrestrial Development's operational emissions are below the NCUAQMD's stationary sources emission thresholds. Therefore, the Terrestrial Development's operational emissions are considered to have a less than significant impact.

Table 3.2-3 Terrestrial Development Operational Regional Pollutant Emissions Within NCUAQMD (2025)

Parameter (Year 2025)	Emissions (tons)			
	ROG	NO _x	CO	PM ₁₀
Area	2.94	0.00	0.01	0.00
Energy Use	0.01	0.10	0.08	0.01
Off Road/Stationary	0.02	0.21	0.30	0.01
Employee	0.10	0.26	2.04	0.40
Hauling	0.09	3.16	0.64	0.28
Total 2026 Operations	3.17	3.73	3.07	0.70
NCUAQMD Stationary Source Thresholds	40	40	100	15

Table 3.2-4 Terrestrial Development Operational Regional Pollutant Emissions Within NCUAQMD (2029)

Parameter (Year 2029)	Emissions (tons)			
	ROG	NOX	CO	PM10
Area	2.94	0.00	0.01	0.00
Energy Use	0.01	0.10	0.08	0.01
Off Road/Stationary	0.02	0.21	0.30	0.01
Employee	0.07	0.06	0.65	0.21
Hauling	0.04	2.39	0.51	0.30
Total 2026 Operations	3.08	2.76	1.54	0.52
NCUAQMD Stationary Source Thresholds	40	40	100	15

Mitigation

Mitigation Measure AQ-1 Best Management Practices to Reduce Air Pollution.

Refer to the Impact AQ-1 above, for the full text of Mitigation Measure AQ-1 Best Management Practices to Reduce Air Pollution.

With implementation of Mitigation Measure AQ-1, the Terrestrial Development will not generate substantial fugitive dust during construction. The potential impacts would be reduced to a less-than-significant level with mitigation.

Level of Significance: Less than Significant with Mitigation Incorporated

Ocean Discharge

Ocean discharge would have no impact. The Project would merely utilize the existing Ocean Discharge outfall infrastructure currently existing. No construction or operational air pollutants would be generated during the opening or use of the discharge. No impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

Humboldt Bay Water Intakes

Humboldt Bay Water Intakes Construction

Localized PM10

As with the Terrestrial Development, the Humboldt Bay Water Intakes construction activity would include earth disturbance and, therefore, potential to result in fugitive dust. The amount of dust generated at any given time would be highly variable and is dependent on the size of the area disturbed at any given time, amount of activity, soil conditions, and meteorological conditions. Unless controlled, fugitive dust emissions during construction of the Project could be a significant impact, therefore, Mitigation Measure AQ-1 will be incorporated to comply with NCUAQMD's Rule 104 Section D.

Construction Criteria Pollutants

Table 3.2-5 Humboldt Bay Water Intakes Construction Regional Pollutant Emissions summarizes construction-related emissions. As shown in the table, the Humboldt Bay Water Intakes' construction emissions would not exceed the NCUAQMD's stationary sources emission thresholds in any year of construction. Therefore, the Humboldt Bay Water Intake's construction emissions are considered to have a less-than-significant impact.

Table 3.2-5 Humboldt Bay Water Intakes Construction Regional Pollutant Emissions

Parameter (year)	Emissions (tons)			
	ROG	NOX	CO	PM10
Construction (2022)	0.02	0.36	0.28	0.03
NCUAQMD Stationary Source Thresholds	40	40	100	15

Mitigation

Mitigation Measure AQ-1 Best Management Practices to Reduce Air Pollution.

Refer to the Impact AQ-1 above, for the full text of Mitigation Measure AQ-1 Best Management Practices to Reduce Air Pollution.

Implementation of Mitigation Measure AQ-1, the Humboldt Bay Water Intakes will not generate substantial fugitive dust during construction. The potential impacts would be reduced to a less-than-significant level with mitigation.

Level of Significance: Less than Significant with Mitigation Incorporation

Compensatory Off-Site Restoration Component

Localized PM10

Compensatory Off-Site Restoration Component includes construction activity; however, this Project component would not include any earth-disturbing activities such as grading or excavation. Therefore, potential to result in fugitive dust would be less than significant.

Construction Criteria Pollutants

Table 3.2-6 Compensatory Off-Site Restoration Construction Regional Pollutant Emissions summarizes construction-related emissions. As shown in the table, the Compensatory Off-Site Restoration's construction emissions would not exceed the NCUAQMD's stationary sources emission thresholds in any year of construction. Therefore, the Compensatory Off-Site Restoration's construction emissions are considered to have a less-than-significant impact.

Table 3.2-6 Compensatory Off-Site Restoration Regional Pollutant Emissions

Parameter (year)	Emissions (tons)			
	ROG	NOX	CO	PM10
Construction (2023)	0.01	0.12	0.10	0.01
NCUAQMD Stationary Source Thresholds	40	40	100	15

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

Impact AQ-c: Would the Project expose sensitive receptors to substantial pollutant concentrations? (Less than Significant with Mitigation)

Sensitive receptors include school-aged children (schools, daycare, playgrounds), the elderly (retirement community, nursing homes), the infirm (medical facilities/offices), and those who exercise outdoors regularly (public and private exercise facilities, parks). The nearest residence to the Terrestrial Development Site is approximately 1,600 feet (0.3 mile) from the site boundary. The nearest residence to the Humboldt Bay Water Intakes site are residences located in the community of Samoa, approximately 1,100 feet northwest from the closest portion of the Humboldt Bay Water Intakes pipeline alignment. The nearest residence to the Compensatory Off-Site Restoration site are residences in Fields Landing located more than 900 feet east of the site.

BAAQMD's Basic Construction Measures included in Mitigation Measure AQ-1 (BMPs to Reduce Air Pollution) minimize idling times for off-road vehicles to five minutes (as required by CARB's Regulation for In-Use Off-Road Diesel-Fueled Fleets [Off-Road Rule]) and ensures construction equipment is maintained in accordance with manufacturer's specifications.

Terrestrial Development

Terrestrial Development construction activities would occur for multiple years, starting in 2022 and ending in 2028. Although the Project is expected to include prolonged construction equipment use, the nearest potential receptor is more than 0.3 mile from the Project boundary.

As stated in Impact AQ-a, above, explosive demolition of the boiler building, and smokestacks would result in fugitive dust emissions. However, such fugitive dust emissions would be short-term, lasting minutes, and would be limited to those explosive demolition activities. Due to distance to the nearest potential receptor and the implementation of Mitigation Measure AQ-1, which would control fugitive dust, the Terrestrial Development would not result in the exposure of sensitive receptors to substantial pollutant concentrations. Therefore, with implementation of Mitigation Measure AQ-1, the construction-related impact would be less than significant with mitigation.

Following construction, the Terrestrial Development would include stationary sources of air emissions that could result in long-term operational emissions of criteria air pollutants. Monthly apparatus checks of emergency back-up generators is assumed to require a maximum of 10 hours of use. The backup power generation system can run as long as necessary in the event of a prolonged power outage, but would be permitted by the NCUAQMD to be used a maximum 500 hours in a given year. As part of the permitting process, the NCUAQMD would verify the generators are either EPA- or CARB-certified or achieves emission standards for emergency standby diesel generators in other ways, prior to authorizing installation. Given the generators would only be utilized during potential power outages or emergencies, and the NCUAQMD would establish operation and monitoring protocols for these uses, emissions from generator usage is a small component of the project and will not contribute significantly to the overall operation emissions. Due to the limited use of such equipment and compliance with regulatory requirements and the distance to the nearest sensitive receptor, Terrestrial Development operation would not expose nearby sensitive receptors to substantial levels of pollutants. The operation-related impact would be less than significant.

Mitigation

Mitigation Measure AQ-1 Best Management Practices to Reduce Air Pollution.

Refer to the Impact AQ-1 above, for the full text of Mitigation Measure AQ-1 Best Management Practices to Reduce Air Pollution.

With implementation of Mitigation Measure AQ-1, the Terrestrial Development will not generate substantial fugitive dust during construction, and would not expose sensitive receptors to substantial pollutant concentrations. The potential impacts would be reduced to a less-than-significant level with mitigation.

Level of Significance: Less than Significant with Mitigation Incorporation

Ocean Discharge

Ocean discharge would have no impact. The Project would merely utilize the existing Ocean Discharge outfall infrastructure currently existing. No construction or operational air pollutants would be generated during the opening or use of the discharge; therefore, sensitive receptors would not be exposed to substantial pollutant concentrations. No impact would occur.

Mitigation Measures: No mitigation is necessary.

Level of Significance: No Impact.

Humboldt Bay Water Intakes

The nearest potential receptor is more than 0.2 mile from the Project boundary. As with the Terrestrial Development, the Humboldt Bay Water Intakes construction activity would include earth disturbance and, therefore, potential to result in fugitive dust. The amount of dust generated at any given time would be highly variable and is dependent on the size of the area disturbed at any given time, amount of activity, soil conditions, and meteorological conditions. Unless controlled, fugitive dust emissions during construction of the Project could be a significant impact, therefore, Mitigation Measure AQ-1 will be incorporated to comply with NCUAQMD's Rule 104 Section D.

Humboldt Bay Water Intakes pumps are electric, and would not generate localized emissions and would not have the potential to expose sensitive receptors to substantial pollutant concentrations. No operational impact would occur.

Mitigation

Mitigation Measure AQ-1 Best Management Practices to Reduce Air Pollution

Refer to the Impact AQ-1 above, for the full text of Mitigation Measure AQ-1 Best Management Practices to Reduce Air Pollution.

With implementation of Mitigation Measure AQ-1, the Humboldt Bay Water Intakes will not generate substantial fugitive dust during construction, and would not expose sensitive receptors to substantial pollutant concentrations. The potential impacts would be reduced to a less-than-significant level with mitigation.

Level of Significance: Less than Significant with Mitigation Incorporated

Compensatory Off-Site Restoration Component

The nearest residence to the Compensatory Off-Site Restoration site are residences in Fields Landing located more than 900 feet east of the site and the Spartina removal will be well removed from any residential areas. Compensatory Off-Site Restoration Component includes construction activity; however, this Project component would not include any earth-disturbing activities such as grading or excavation. Therefore, the potential to result in a quantity of fugitive dust that would affect sensitive receptors would be less than significant.

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

Impact AQ-d: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? (Less than Significant with Mitigation)

The nearest residence to the Terrestrial Development Site is approximately 1,600 feet (0.3 mile) from the site boundary. The nearest residences to the Humboldt Bay Water Intakes site are residences located in the community of Samoa, approximately 1,100 feet northwest from the closest portion of the Humboldt Bay Water Intakes pipeline alignment. The nearest residence to the Compensatory Off-Site Restoration site are residences in Fields Landing located more than 900 feet east of the site.

Terrestrial Development

The Terrestrial Development would create exhaust fumes from gas- and diesel-powered equipment during construction, as well as short-term fugitive dust (lasting minutes) during explosive demolition of the boiler building and smokestacks. The likelihood of these odors and emissions reaching nearby receptors is influenced by atmospheric conditions (wind) and distance. Due to the distance to the nearest potential receptor and unstable atmospheric conditions (frequent wind), the Terrestrial Development emissions or odors caused by construction would not adversely affect a substantial amount of people.

Terrestrial Development demolition could result in exposure of construction workers to Asbestos Containing Material (ACM) that may be present in the existing facilities. During demolition and construction asbestos abatement would be

conducted, as necessary, throughout the pulp mill site to remove existing ACM from existing Project Site structures prior to building demolition. Appropriate notifications would be made to the NCUAQMD in accordance with the National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements prior to the commencement of asbestos abatement and/or demolition work at the Projects Site. A licensed abatement contractor would be engaged by NAFC, or the General Contractor, to conduct abatement work in accordance with specifications. Building and structure demolition would commence once asbestos abatement work is complete, as applicable to each structure. Therefore, implementation of regulatory requirements would ensure that potential impacts from exposure to ACM during demolition would be less than significant. However, Mitigation Measure AQ-2 is applied herein to enhance compliance with the regulatory requirements.

Following construction, Terrestrial Development operations will not result in any major sources of odor or emissions, except for the infrequent use of backup generators for monthly checks, or during electrical power outages, should it be needed. Therefore, a less than significant impact would result.

Mitigation

Mitigation Measure AQ-2: Best Management Practices to Reduce Asbestos Emissions During Demolition

The contractor shall implement the following BMPs during abatement and demolition; the BMPs shall be included as notes on final demolition plans:

- Work impacting material containing less than 1% asbestos (unclassified work) shall be performed in accordance with Class II asbestos work protocols as outlined in 8 CCR 1529.
- All interior asbestos abatement work impacting asbestos, including Class II and unclassified work, shall be performed within sealed negative-pressure containments.
- Negative-pressure containments established at the interior of a structure shall be constructed and vented to the exterior in accordance with 8 CCR 1529. If additional suspect asbestos material is discovered during site work, then work in that area shall stop, the material wetted, and access to the area restricted until an appropriate asbestos characterization can be made.

Implementation of Mitigation Measure AQ-2 would reduce the potential impact related to exposure of workers or the public to ACM during demolition by establishing protocols for asbestos abatement, which could result in a significant impact to air quality if not adhered to. Therefore, the impacts would be less than significant with mitigation.

Level of Significance: Less than Significant with Mitigation Incorporated

Ocean Discharge

No construction or operational air pollutants would be generated during the opening or use of the Ocean Discharge; therefore, the Ocean Discharge would not result in emissions that would adversely affect a substantial number of people. No impact would occur.

Mitigation Measures: No mitigation is necessary.

Level of Significance: No Impact.

Humboldt Bay Water Intakes

Similar to the Terrestrial Development, the Humboldt Bay Water Intakes would create limited exhaust fumes from gas- and diesel-powered equipment during construction. The likelihood of these odors and emissions reaching nearby receptors is influenced by atmospheric conditions (wind) and distance. Due to the distance to the nearest potential receptor and unstable atmospheric conditions (frequent wind), the Humboldt Bay Water Intake emissions or odors caused by construction would not adversely affect a substantial amount of people.

Following construction, Humboldt Bay Water Intakes operations will not result in any major sources of odor or emissions. Therefore, a less than significant impact would result.

Mitigation Measures: No mitigation is necessary.

Level of Significance: Less than Significant.

Compensatory Off-Site Restoration Component

Similar to the Terrestrial Development and Humboldt Bay Water Intakes, the Compensatory Off-Site Restoration component would create limited exhaust fumes from gas- and diesel-powered equipment during construction. The likelihood of these odors and emissions reaching nearby receptors is influenced by atmospheric conditions (wind) and distance. Due to the distance to the nearest potential receptor and unstable atmospheric conditions (frequent wind), the Compensatory Off-Site Restoration Component emissions or odors caused by construction would not adversely affect a substantial amount of people.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less Than Significant

3.2.7 Cumulative Impacts

Impact AQ-C-1: Would the Project contribute to a cumulatively significant impact to air quality? (Less than Significant with Mitigation)

By its nature, air pollution is largely a cumulative impact, in that individual projects are rarely sufficient in size to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions may contribute to cumulative adverse air quality impacts. The NCUAQMD's stationary source thresholds, applied to the construction and operation of this project, consider the Air Basin's attainment status, continued attainment of the standards, and attainment of the daily PM10 CAAQS. Therefore, the stationary source thresholds, when used as regional thresholds of significance for criteria and precursor air pollutants, are the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified regional significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Finally, consistency with an attainment plan is a cumulative analysis, as it analyzes a project regarding an adopted plan that is based on growth projections for the region. Therefore, the project-level analysis above for Impacts AQ-a and AQ-b also would constitute the cumulative impact analysis, and no additional cumulative impacts analysis is required. As shown in Impact AQ-a, the project would conflict with or obstruct implementation of the applicable air quality plan during project construction through generate of fugitive dust during construction. As shown in Impact AQ-b, the project would result in a cumulatively considerable net increase of a nonattainment criteria pollutant through generate of fugitive dust during construction. However, implementation of Mitigation Measure AQ-1 would reduce these impacts to less than significant. Therefore, the Project would not result in a cumulatively considerable impact for attainment plan consistency or cumulatively considerable emissions of nonattainment criteria pollutants after incorporation of Mitigation Measure AQ-1.

As detailed in Impact AQ-c, the project may expose sensitive receptors to substantial pollutant concentrations of fugitive dust during project construction. However, implementation of Mitigation Measure AQ-1 would reduce this impact to less than significant. Therefore, the Project would not result in a cumulatively considerable impact for exposure of sensitive receptors to substantial pollutant concentrations after incorporation of Mitigation Measure AQ-1.

The potential for exposure of construction workers to Asbestos Containing Materials (ACM) was identified in Impact AQ-d. This impact is restricted to the location of building demolition on the Project site; as it is highly localized and would not extend beyond the Project footprint, the Project would not result in a cumulatively considerable impact with the cumulative projects listed in Chapter 3, Analysis Overview. Therefore, implementation of the project would not contribute to a cumulative impact for these criteria.

Mitigation

Mitigation Measure AQ-1: Best Management Practices to Reduce Air Pollution

Mitigation Measure AQ-2: Best Management Practices to Reduce Asbestos Emissions During Demolition

With implementation of Mitigation Measure AQ-1, the Project will not generate substantial fugitive dust during construction, and would not expose sensitive receptors to substantial pollutant concentrations. The potential impacts would be reduced to a less-than-significant level with mitigation. Implementation of Mitigation Measure AQ -2 would reduce the potential impact related to exposure of workers or the public to ACM during demolition by establishing protocols for asbestos abatement, which could result in a significant impact to air quality if not adhered to. Therefore, the impacts would be less than significant with mitigation.

Level of Significance: Less than Significant with Mitigation Incorporated

3.2.8 References

Bay Area Air Quality Management District (BAAQMD). 2017a. Air Quality Standards and Attainment Status. Website: <https://www.baaqmd.gov/about-air-quality/research-and-data/air-quality-standards-and-attainment-status>. Accessed July 28, 2021. Last Update January 1, 2017.

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