Crescent City Citizens Dock and Seawall Initial Study/Mitigated Negative Declaration

Prepared for:

Crescent City Harbor District
101 Citizens Dock Road,
Crescent City CA 95531
(707) 464-6174

Prepared by:

ICF
980 9th Street
Sacramento, CA
Contact: Sally Zeff
916.212.7555

Moffatt & Nichol
600 University Street, Suite 610
Seattle, WA 98101
Contact: Younes Nouri
(206) 501-2320

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Project Description

1.1 Introduction

The Crescent City Harbor District (CCHD) is proposing to demolish and reconstruct the aged Citizens Dock (herein referred to as the "Dock") and a nearby failing seawall in Crescent City harbor (the "Project"). The purpose of this memorandum is to describe the Project and the related habitat restoration project (South Crescent City Harbor Habitat Restoration Project) that will mitigate for biological impacts from Dock and seawall re-construction. This Initial Study is based on the following Project description.

1.2 Project Location

The Project is located in Crescent City harbor in an unincorporated area of Del Norte County, California near Crescent City (Figure 1). The harbor supports an economically important commercial and recreational fishing fleet, commercial businesses and a Coast Guard station. Harbor facilities include a public boat launch, fish cleaning station and restrooms. There are also two seafood processing plants, a boat repair facility, a recreational vehicle (RV) park and a motel. The Dock and adjacent parking lot are used by the commercial fishing industry for loading fishing gear onto boats and seafood offloading.

Figure 1. Project Location (Citizens Dock, seawall and parking lot and proposed South Harbor Habitat Restoration project)

1.3 Project Objectives

Commercial fishing has been the backbone of Crescent City Harbor for years. Today, the harbor is a hub for the commercial fishing industry, particularly for species like salmon, Dungeness crab, and rockfish. The existing Dock and related seawall are a critical component of the harbor's commercial fishing infrastructure and are important to the local economy. There is no other public infrastructure in Crescent City Harbor to accommodate seafood loading/unloading. The dock and seawall are each more than 50 years old, degraded and require replacement pursuant to recommendations of the most recent condition assessment (M&N 2023). In its existing condition, the Dock is at risk of significant damage from climate related hazards such as tsunamis, storm surges, and sea level rise.

Failure of the Dock would cause job loss throughout the commercial fishing industry and in the businesses and services which support the commercial fleet.

1.4 Project Objectives

The proposed Project objectives are as follows:

- Replace the deteriorated Citizens Dock and seawall.
- Replace seawall and Dock to avoid loss of this important infrastructure in a storm event or other hazard, and maintain infrastructure for commercial fishing economy.
- Improve public access by developing a public observation area and path that connect to the California Coastal Trail and providing an observation area at the foot of the Dock.

The Project will provide a special waterfront experience, providing residents and visitors with waterfront access, dramatic harbor views, and educational and community opportunities for youth and adults.

1.5 Project Components

The Project is described in the following two components.

- Demolition and construction of the Citizens Dock and Seawall.
- Demolition and construction of the South Crescent City Harbor Habitat Restoration Project.

1.5.1 Citizens Dock and Seawall

The CCHD intends to replace the deteriorated steel sheet pile seawall and the aged pile-supported pier called Citizens Dock (herein referred to as 'Dock'). An approximately 400 linear feet public path and an approximately 400 square foot observation area will be developed at the foot of the dock and will connect to the California Coastal Trail. The project also includes:

- Replacement of small buildings atop the Dock and seawall including the existing icehouse, nine fish buyer shacks, fuel station and NOAA tidal gage station (Figure 2).
- Replacement of aged material handling equipment including the replacement of nine existing deteriorated mechanical hoists and the potential addition of one mechanical hoist (Figure 2).

- Utility replacement and improvements including EV truck infrastructure to reduce air pollution and greenhouse gas emissions during the hours when refrigerant trucks are idling as seafood is being loaded into trucks.

The new seawall and Citizens Dock will be resilient and adaptable to expected sea level rise during the dock's 50+ year lifespan, 100-year floods and 50-year tsunami events.

1.5.1.1 Citizens Dock

The existing 33,900 sf concrete dock [1] (Figure 2) will be removed and replaced with two new concrete piers totaling 33,900 sf (Figure 3). The Project has been designed and phased to accommodate the construction of two piers over two in-water work windows so that commercial fishing access is maintained year-round.

Demolition and construction activities will occur over the course of two in-water work windows. Phase 1 will consist of constructing 'Pier 1' to the south of the existing Dock (Figure 3). Phase one is anticipated to take four months. Phase two will consist of demolishing the existing Dock and replacing portions of the Dock with 'Pier 2' (Figure 2). Phase two is anticipated to take four months. It is likely the parking lot (~ 0.5 acre) behind the seawall will be used by the contractor as the primary staging area. The contractor may identify additional areas for storage and laydown (up to a maximum of 10 acres) within the project vicinity including a portion of the parking lot adjacent to the marina, upland disposal site adjacent to the marina, or a vacant unvegetated lot across state highway 99. No construction will occur at night and construction work will occur between the hours of 7:00 a.m. and 6:00 p.m. or sunset, whichever occurs later, on Monday through Friday, or 8:00 a.m. and 6:00 p.m. on Saturdays and Sundays.

Overwater coverage and benthic habitat impacts are summarized in Table 1-1 and 1-2. Demolition and construction methods are discussed in additional detail in Sections 4.1.1.1 and 4.1.1.2.

Table 1-1. Crescent City Citizens Dock Replacement Overwater Coverage Impacts

Structure	Activity	Area Waterward HTL
Phase 1, Pier 1	Install Asphalt/Concrete Decking	13,760 sf
Phase 2, Pier 2	Demolish Existing Asphalt/Concrete Decking	-33,900 sf
	Install Asphalt/Concrete Decking	20,140 sf
Total Net Change/Increase in Overwater Coverage		**0.000 sf**

Table 1-2. Crescent City Citizens Dock Replacement Benthic Habitat Impacts

Structure	Activity	Quantity	Benthic Impacts (sf)
Phase 1, Pier 1	Install 24-inch Steel Pipe Piles	153	480.67
	Install 14-inch ACZA-treated Timber Fender Piles	56	59.87
Phase 2, Pier 2	Remove 13-inch Creosote-treated Timber Piles	-804	-741.08
	Install 24-inch Steel Pipe Piles	90	282.74
	Install 14-inch ACZA-treated Timber Fender Piles	54	57.73
Total Net Increase in Benthic Habitat Impacts		**-451**	**139.93**

[1] The majority of the existing dock is concrete, but there is a 1,830 sf timber decked area at the end of the south wharf.

Public access improvements will be provided along the shoreline (Figure 4). Under existing conditions, the California Coastal Trail does not connect to the shoreline on the east side of Crescent City Harbor. The Project will create a public pathway and fishing activity observation area that connect to the California Coastal Trail. The pathway will be ADA accessible, have seating, lighting, and informational signage regarding local history, commercial fishing, marine life and habitat, and resiliency efforts.

Figure 2. Existing Crescent City Citizens Dock to be Removed

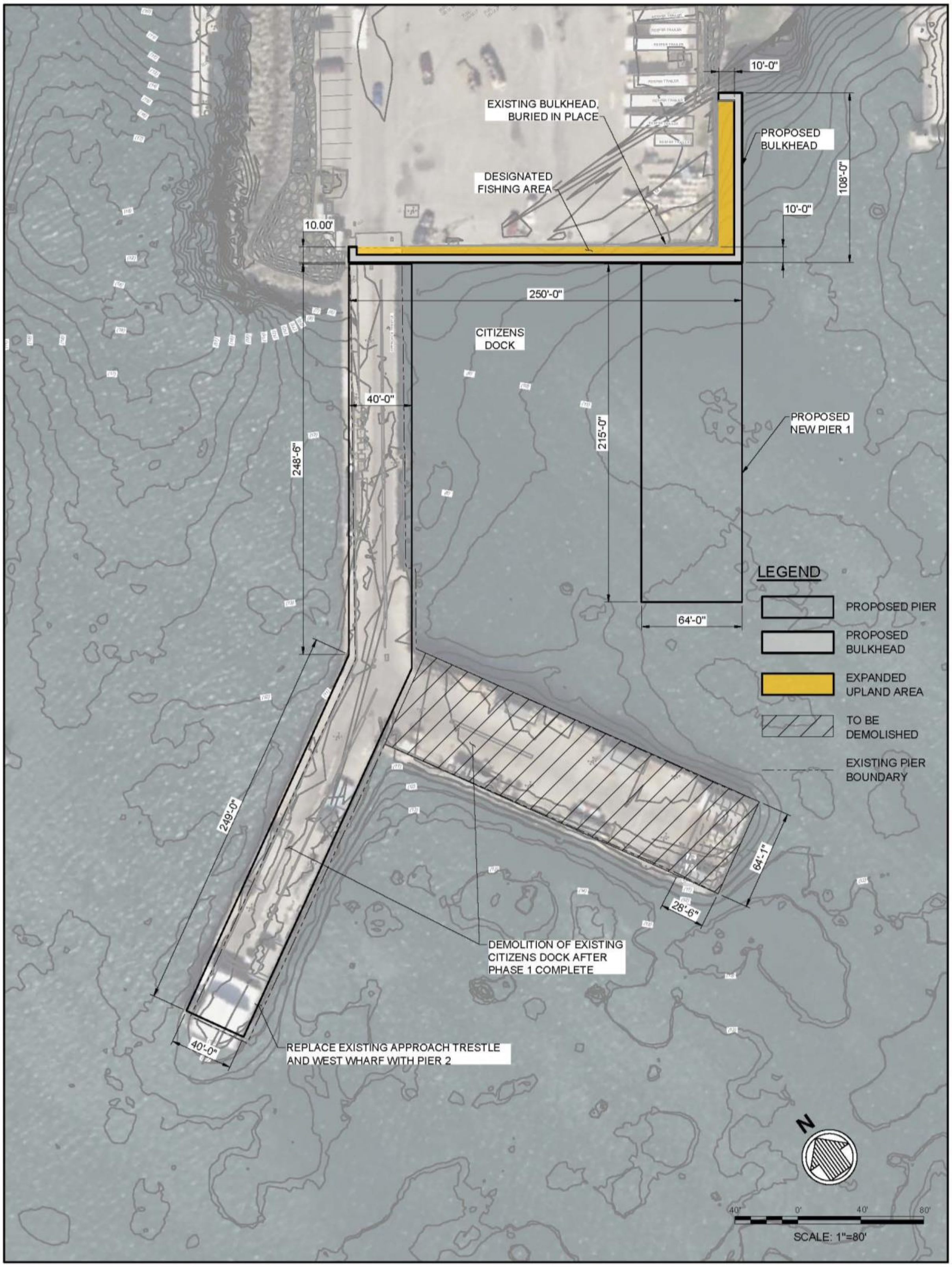


Figure 3. Proposed Citizens Dock and Seawall Project and Phasing

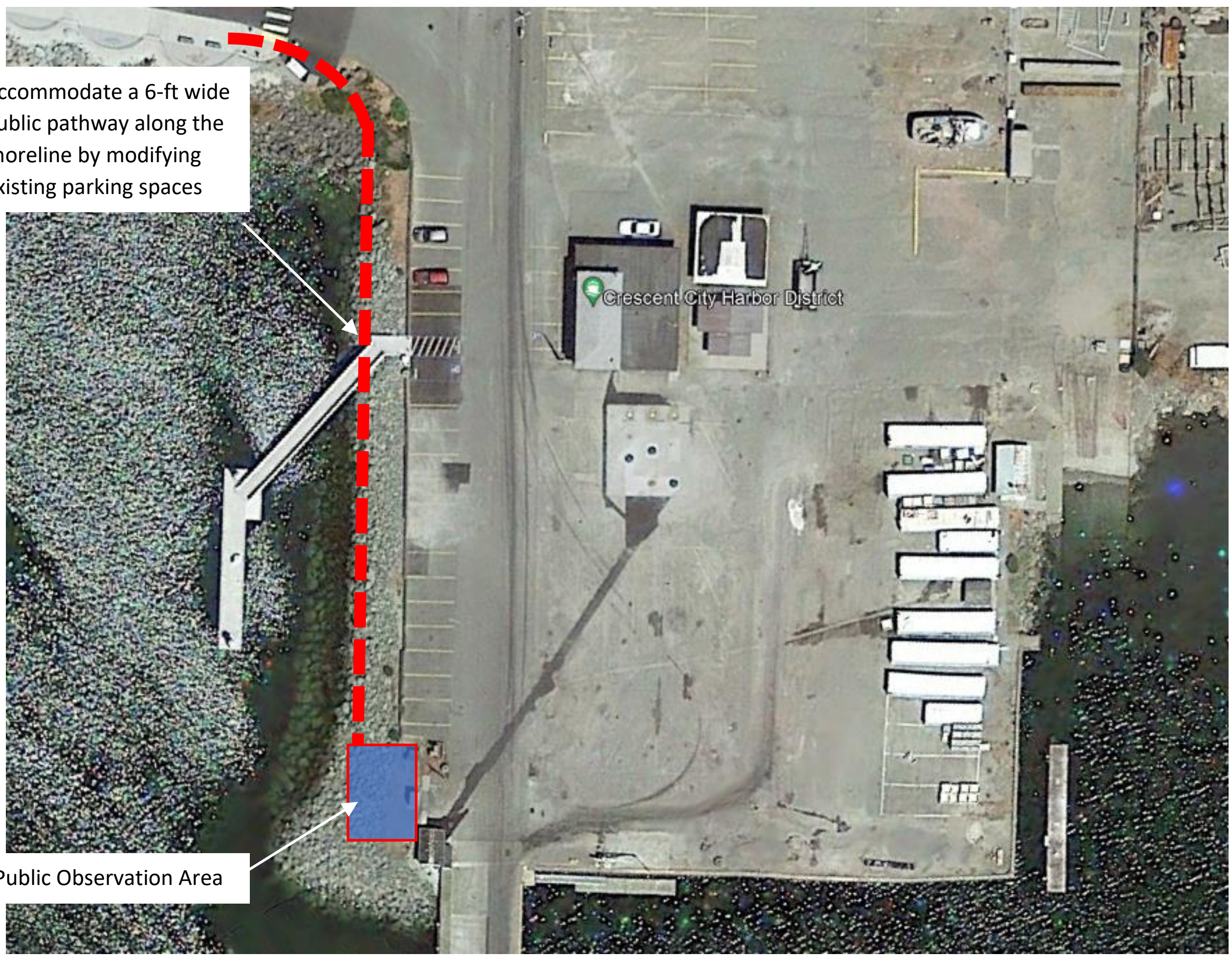


Figure 4. Public Access Improvements

Demolition

All demolition work will occur from land and from the existing dock. Demolition work will start at the waterward edge of the Dock and work shoreward. A log boom and silt curtain will be installed around the Dock that will be demolished. Any material that enters the water will either be retrieved immediately or cleared at the end of each day. The top of deck structures (nine existing fish buyer shacks, the ice storage building, fuel station, NOAA tidal gage, and nine mechanical hoists) will be removed using hand tools, a backhoe and a front end loader. Utilities which currently hang from the exterior of the Dock will be removed. After the top of deck structures and existing utilities are removed, the existing decking which consists of concrete, asphalt, and wood (likely not treated) will be removed with a backhoe and hydraulic hammer. Demolished structures and debris will be loaded into trucks and hauled off site to an appropriate upland disposal facility (likely Del Norte Solid Waste Management Facility).

As the deck is removed, existing 13-inch creosote-treated timber piles will be removed. Vibratory extraction is the primary method proposed for pile removal. Direct-pull methods, likely using a sling on the derrick barge, will be used if vibratory extraction methods are not successful. If the piles break during removal or cannot be removed by direct pull or vibratory removal, they will be cut below the mudline and removed with a clamshell bucket. See Section 4.1.3 for detailed pile removal methods.

Construction

The first phase of the project will involve the construction of Pier 1, a new 13,760 sf concrete decked pier located south of the existing Citizens Dock. During the second phase of the project, a 20,140 sf pier (Pier 2) will be constructed in the same location as the previously removed Dock. Pile installation methods will depend on geotechnical results, but are anticipated to include auger drilling, impact driving, or a combination of the two methods (See Section 4.1.3 for additional detail). After the piles are driven, pre-cast concrete deck will be installed on top of the piles. The pre-cast deck panels will be topped with a cast in place concrete topping slab. Concrete will be pumped by truck. All removed structures will be replaced in-kind using hand tools. All removed utilizes including electric and the fuel line will be replaced. Utilities will be incorporated into the new pier decking. Stormwater drainage will be provided on the existing dock.

An approximate 400 lf ADA accessible pedestrian walkway will be constructed along the shoreline (Figure 4). The pathway will connect to the existing Coastal Trail and to a new 400 sf observation area at the foot of the existing dock. The observation dock will be constructed atop the existing upland area. Approximately three benches will be provided along the trail and at the observation area. In addition, there will be informational signage and lighting. The new pathway will be located on an existing paved surface. Barriers will be provided to delineate the walking pathway from existing commercial facilities.

1.5.1.2 Seawall

A new 360 lf bulkhead wall will be installed approximately 10 feet waterward of the existing deteriorated seawall. The majority of the existing bulkhead wall will remain in place. Demolition and installation of the new seawall will take up to 12 months. In addition to the proposed repair of the seawall, approximately 5,700 sf of damaged concrete will be repaved and regraded. Approximately

30,300 sf of existing pavement will be re-graded to raise the elevation of the seawall for resiliency against sea level rise.

Construction activities waterward of the existing bulkhead will occur during the in-water work window. Some upland paving may occur outside of the in-water work window. Benthic habitat impacts are summarized in Table 1-3. Demolition and construction methods are discussed in additional detail in Sections 4.1.2.1 and 4.1.2.2.

Table 1-3. Seawall Repair Benthic Habitat Impacts

Activity	Benthic Habitat Impact (sf)
Remove 3 Existing 18-inch Steel Piles	-5.30
Remove 1 Existing 8-inch Steel Piles	-0.35
Install Sheetpile Wall and Backfill	3,600
Total Net Increase in Benthic Habitat Impacts	**3,594.35**

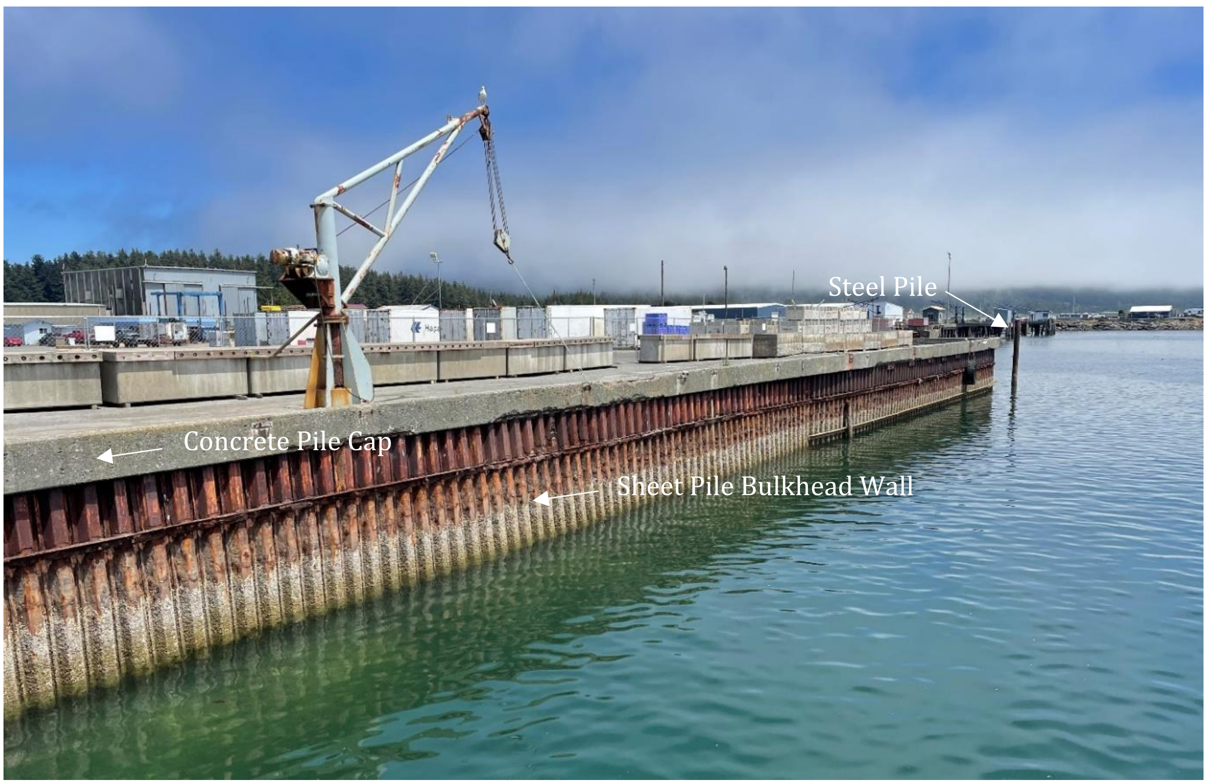


Figure 5. Existing Bulkhead Wall

Demolition

A log boom and silt curtain will be installed around the bulkhead that will be demolished. Prior to any ground disturbing activities erosion control measures will be installed. Any material that enters the water will either be retrieved immediately or cleared at the end of each day. Existing top of deck structures (hoists and cold storage trailers Figures 6 and 7) in the upland pavement repair area will be temporarily or permanently removed using a crane, backhoe, and/or front end loader. Existing damaged pavement shoreward of the existing bulkhead will be sawcut and removed. The majority of the bulkhead, including the sheetpile wall will be left in place, however there will be selective removal of portions of the existing bulkhead pile cap (Figures 6 and 7). The bulkhead pile cap will be sawcut and loaded into trucks for disposal. Demolished structures and debris will be hauled off site to an appropriate upland disposal facility (likely Del Norte Solid Waste Management Facility).

Up to three existing 18-inch diameter steel piles and one existing 8-inch diameter steel pile waterward of the bulkhead wall will be removed (Figure 7). Vibratory extraction is the primary method proposed for pile removal. Direct-pull methods, likely using a sling on a derrick barge, will be used if vibratory extraction methods are not successful. If the piles break during removal or cannot be removed by direct pull or vibratory removal, they will be cut below the mudline and removed with a clamshell bucket. See Section 4.3 for detailed pile removal methods.

Figure 6. To be Demolished Structures, Upland Pavement, and Bulkhead Cap

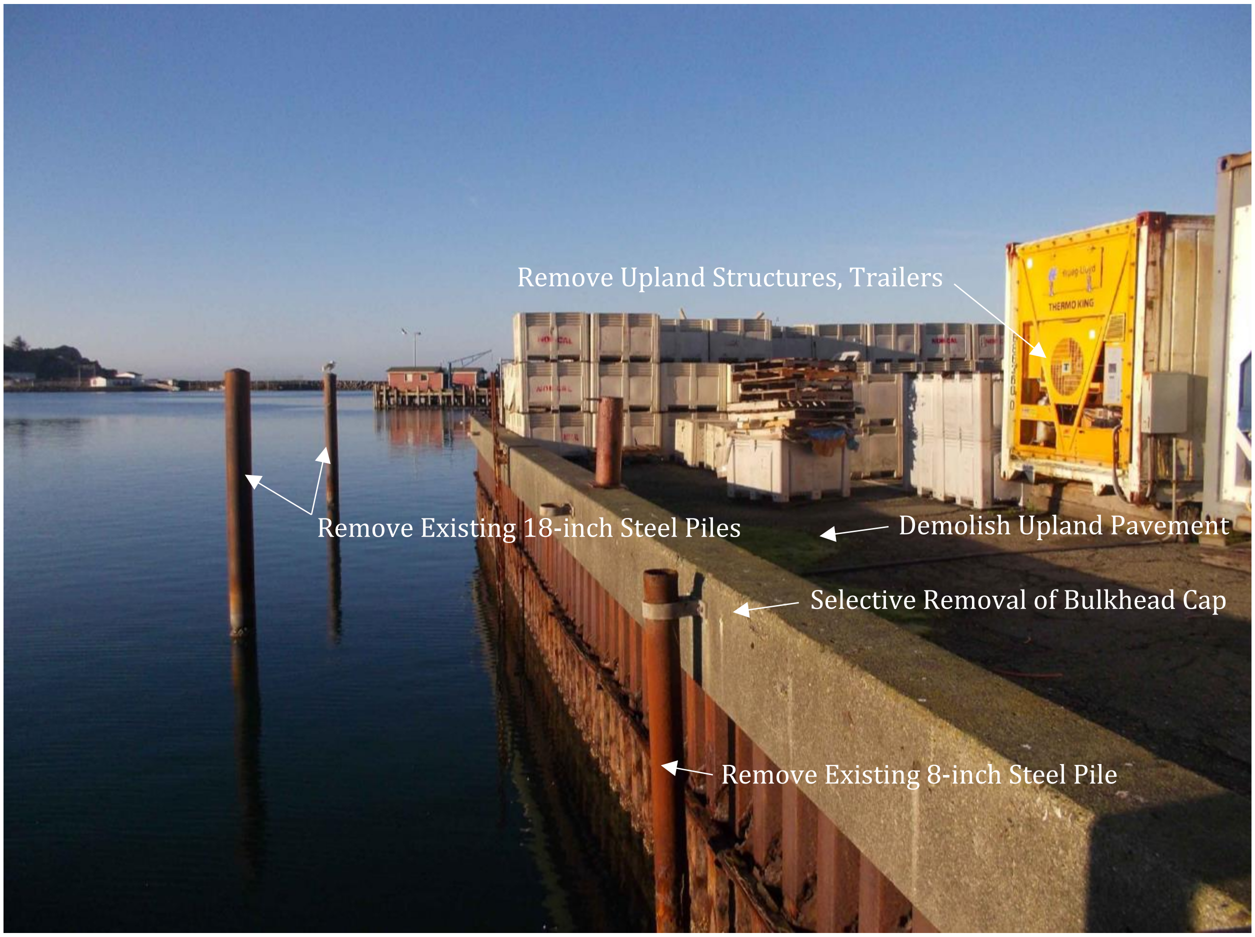


Figure 7. To be Removed Steel Piles, Bulkhead Cap, and Upland Pavement

Construction

New sheetpiles will be installed up to 10 ft waterward of the existing bulkhead. Sheetpiles will be installed with a vibratory hammer (See Section 4.1.3 for additional detail). Up to 100, steel king piles will be installed along the waterward edge of the new bulkhead and up to 100, anchor piles will be driven along the shoreward side of the new bulkhead wall. The king piles and anchor piles will be H-piles or steel pipe piles up to 30-inches in diameter. Pile installation methods will depend on geotechnical results, but are anticipated to include auger drilling, impact driving, or a combination of the two methods (See Section 4.3 for additional detail).

After the sheet pile, king piles, and anchor piles are installed, tie rods will be installed to secure the sheet pile wall. A pile cap will be added on top of the installed seawall. The pile cap may extend approximately 2 ft waterward of the seawall creating up to 720 sf of overwater shading impacts. The area between the new bulkhead and the existing bulkhead will be backfilled with structural fill material, graded, and paved. Surface appurtenances including removed trailers, cleats, hoists, ladders, etc. will be replaced with handheld power tools and cranes. Removed cold storage trailers may be put back into place, or may be replaced with an approximately 8,000 sf building. The building would be constructed with handtools. An additional mechanical hoist may be installed if funding is identified. Approximately two fast charging stations will be provided atop the sea wall for EV trucks. Additionally, one low-capacity long term station will be provided for each reefer cold storage trailer so they are connected to the grid and never running off of generator. Stormwater drainage will be added to the seawall. Stormwater drainage with be directed away from the water to a stormwater drainage system.

1.5.2 Habitat Restoration Project

The reconstructed seawall will result in approximately 3,595 sf of permanent benthic habitat impacts. The reconstructed pier will result in approximately 140 sf of permanent benthic habitat impacts. To provide compensatory mitigation for the increased benthic footprint, additional benthic and water column habitat will be created by increasing the size of an existing small boat harbor. Benthic habitat impacts will be offset at an approximately 1:1 ratio. In addition to the proposed creation of benthic habitat and water column habitat through the expansion of an existing harbor, the removal of 804, 13-inch diameter creosote-treated is anticipated to provide benefits to existing benthic habitat and water column habitat by reducing toxicity potential.

1.5.2.1 South Crescent City Harbor Boat Ramp Area Expansion

The existing South Crescent City boat harbor provides an area to launch small vessels. The existing 25,000 sf small boat harbor will be expanded by 3,600 sf (Figure 8). To maintain the use of the harbor, the existing 6-ft wide float main walk will need to be expanded approximately 48 lf to the new shoreline (Figure 8). Expansion of the harbor will restore approximately 3,600 sf of benthic habitat and water column habitat.

Figure 8. Benthic Habitat and Water Column Habitat Expansion

Demolition

A log boom and silt curtain will be installed around the bulkhead that will be demolished. Prior to any ground disturbing activities erosion control measures will be installed. The existing asphalt will be removed with a backhoe and hydraulic hammer. Material will be loaded into end dump trucks and hauled to disposal. Existing rip rap will be removed using a backhoe and stored for later use. An approximately 3,600 sf area (75 ft long x 48 ft wide) will be excavated along the shoreline to create new benthic and water column habitat. It is anticipated that approximately 3,200 cy of material (75 ft long x 48 ft wide x 24 ft deep) will be removed from the marine environment. Removal of the substrate will be completed with an excavator working from shore. Up to approximately 2, 18-inch steel pipe piles will be removed. Vibratory extraction is the primary method proposed for pile removal. Direct-pull methods, likely using a sling on the derrick barge, will be used if vibratory extraction methods are not successful. If the piles break during removal or cannot be removed by direct pull or vibratory removal, they will be cut below the mudline and removed with a clamshell bucket. See Section 4.3 for detailed pile removal methods.

Construction

The existing concrete float will be extended approximately 48 lf to the new shoreline. To extend the float, up to 288 sf of concrete or aluminum material pre-fabricated float modules will be towed into place and connected with hand tools. Work will be completed from land or from the top of the existing float deck. Up to 2, 18-inch steel pipe piles will be installed. Pile installation methods will depend on geotechnical results, but are anticipated to include auger drilling, impact driving, or a combination of the two methods (See Section 4.3 for additional detail).

1.5.3 Pile Driving/ Removal Methods

Anticipated pile removal and driving methods are summarized in Table 1-4. The anticipated methods are anticipated to be conservative of all potential scenarios, but may need to be refined with further development of the design and after receipt of geotechnical investigations.

Table 1-4. Pile Installation and Removal Methods

Structure	Pile Type	Number of Piles	Installation/ Removal Method	Minutes/ pile	Blows/pile	Piles/day	Total days
Pile Removal							
Existing Dock	13-inch creosote-treated	804	Option 1: Vibratory Extraction	40	N/A	15	Up to 60
			Option 2: Direct pull	40	N/A	15	Up to 60
Existing Seawall	18-inch Steel Pipe	3	Option 1: Vibratory Extraction	40	N/A	3	Up to 1
			Option 2: Direct Pull	40	N/A	3	Up to 1

Structure	Pile Type	Number of Piles	Installation/ Removal Method	Minutes/ pile	Blows/pile	Piles/day	Total days
	8-inch Steel Pipe	1	Option 1: Vibratory Extraction	1	N/A	8	Up to 1
			Option 2: Direct Pull	1	N/A	8	Up to 1
Harbor Expansion	18-inch Steel Pipe Pile	2	Option 1: Vibratory Extraction	30	N/A	2	Up to 1
			Option 2: Direct Pull	30	N/A	2	Up to 1
Pile Installation							
Pier 1	24-inch Steel Pipe	96	Option 1: Combination of 30-inch Auger Drill	240/pile for drilling	NA	2	Up to 60
			and impact hammer	N/A	240		
			Option 2: Impact Driving	N/A	1,800	4	Up to 30
	14-inch ACZA-treated timber	56	Impact Hammer	N/A	2400	8	Up to 10
Pier 2	24-inch Steel Pipe	156	Option 1: Combination of 36-inch Auger Drill	240/pile drilling	NA	2	Up to 90
			and impact hammer	N/A	240		
			Option 2: Impact Driving	N/A	1,800	4	Up to 35
	14-inch ACZA-treated timber	93	Impact Hammer	N/A	2400	4	Up to 30
Seawall	Steel Sheet Pile, Pairs	100 pairs	Vibratory Hammer	120/ pair	N/A	4 pairs	Up to 35
	Steel king piles: H-piles or pipe piles up to 30-inches in diameter	100	Combination of 36-inch Auger Drill	240/pile drilling	NA	3	Up to 40
			and Impact Hammer	N/A	1,800		

Structure	Pile Type	Number of Piles	Installation/ Removal Method	Minutes/ pile	Blows/pile	Piles/day	Total days
	Steel anchor piles: H-piles or pipe piles up to 30-inches in diameter	100	Combination of 36-inch Auger Drill	240/pile drilling	NA	3	Up to 40
			and Impact Hammer	N/A	1,800		
Harbor Expansion	18-inch Steel pipe pile	2	Impact Driving	N/A	2400	2	Up to 11

Chapter 2
CEQA Environmental Checklist

2.1 Aesthetics

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

2.1.1 Environmental Setting

This section analyzes the proposed Project's potential impacts related to aesthetics. It describes existing conditions in the aesthetic resources study area (referred to simply as study area for the rest of this section) and summarizes the overall regulatory framework for aesthetics, and it analyzes the potential for the proposed Project to affect these resources.

The study area is defined by the area in which impacts on aesthetic resources may occur. The study area is determined by evaluating the footprint and height of aboveground project facilities, and their resulting visibility, within the landscape. Because the proposed Project is primarily composed of replacing existing features with similar features that are not very tall, the study area is limited to foreground and middleground views and includes a 3-mile radius from the Project, due to the coastal environment and presence of water-based views that allow for longer-range views due to lack of obstructions. Background views (i.e., views beyond three miles from the Project) were not considered because details become diminished beyond the middleground, and specific project features do not typically stand out in background views.

2.1.1.1 Existing Conditions

As described in Chapter 1, *Introduction*, the Project is located on 35 acres of shoreline property in Crescent City harbor in an unincorporated area of Del Norte County, California adjacent to the southern limits of Crescent City (Figure 1). The Project site is located on the Pacific Ocean, near the Elk Creek outlet, and the study area can be broken down by the coastline located to the south of the harbor, Crescent City to the northwest, and the harbor.

The coastline in the study area located to the south of the harbor consists of beaches, the Crescent Beach Motel, and Del Norte Coast Redwoods State Park and Redwood National Park, which overlap in areas. The beach areas and motel provide visual access to the Project area for recreational viewers. Examples of these types of land use include the Beachfront Park Disc Golf Course, and Melos Coastal Park, the Ocean View Inn, Ocean World, the Bayview Inn, the Quality Inn and Suites Crescent City, the Travelodge by Wyndham Crescent City and the Bayside RV Park. In addition, the coastline south of the harbor is comprised of the Redwood National Park and Del Norte Coast Redwoods State Park, whose hillsides are vegetated with dense evergreen forests that border the coastline. US 101 snakes along the coastline through the forests, but only has views out and over the ocean and to surrounding areas along the coast where there are gaps in the dense roadside vegetation or there are designated overlooks. These overlooks allow for scenic vista views out over the ocean and toward Crescent City, the harbor, and the Project site. However, these views are highly affected by coastal weather conditions and views may be limited to the immediate foreground on foggy or rainy days, include middleground views but lack some detail on hazy days, or extend to the background on clear days where details in the foreground and middleground are more easily seen.

Development associated with Crescent City is located west of the Project site, in a grid pattern, and separated from the harbor by Beachfront Park. Commercial and industrial land uses within Crescent City are located closer to the harbor and US 101, with most residential land uses being located further northwest. However, there are some residents located in close proximity to Beachfront Park. The city supports recreational and tourism development and parks that are an established element along the coastline, and many of these areas provide visual access to the Project area for recreational viewers. Examples of these types of land use include the Beachfront Park Disc Golf Course, Melos Coastal Park, the Ocean View Inn, Ocean World, the Bayview Inn, the Quality Inn and Suites Crescent City, the Travelodge by Wyndham Crescent City and the Bayside RV Park. Development near the harbor tends to be slightly spaced out and becomes slightly denser in residential areas to the northwest. Beachfront Park provides a large open space and includes trees that line Battery Street and Front Street. These trees provide a wind break that serves the dual purpose of being a visual buffer, limiting views of the harbor. Therefore, views of the harbor are most directly afforded from the southern edge of the park, Battery Street, and the parking area, sidewalks, benches, and beaches south of Battery Street. In addition, views of the harbor are provided from the Lighthouse Cove RV Park that is located on the edge of the harbor. Views are also available from the commercial areas along US 101 at the city's eastern entrance such as from Ocean View Inn and Travelodge by Wyndham Crescent City. Nearby areas that attract tourism include The Battery Point Lighthouse and Museum/Crescent City Lighthouse, Battery Point Beach and Vista Area, the B Street Pier, and the Lighthouse Jetty. These features provide views out to the surrounding landscape due to their elevated nature or position in the landscape (e.g., jutting into the harbor).

The harbor area is protected and semi-enclosed by the outer and inner breakwaters, which are rip-rapped, and Anchor Way, and includes sandy beaches along the harbor shoreline in Crescent City. US 101 separates the harbor and Project site from the hillsides that are located east of US 101, which are vegetated with evergreen trees. Elk Creek flows into the harbor near Beachfront Park in Crescent City and is tidally influenced and mostly vegetated with marshlands down to the waterline. Water levels in the harbor and adjacent waterways fluctuate seasonally and daily, which is most visually dominant at low tide when more of the adjacent shoreline and mudflats are exposed. Water within the harbor ranges from smooth to choppy, depending on weather conditions. The harbor supports those working in the fishing industry, as well as being accessible to the general public visiting land-based facilities at the harbor and recreating on the harbor's waters. As a result, activity and movement are also important components of the visual landscapes of the harbor and, depending on the amount of recreational or commercial boating, and waterfowl activity, there is a constantly changing level of activity in the harbor. The California Coastal Trail (Coast Trail) travels through the harbor and past the Project site along Starfish Way and portions of Anchor Way and Citizens Dock Road. Portions of the Coast Trail in the harbor are accessed from the east via the Coast Trail along US 101 and Crescent City Beach and from the west via the paved Harbor Trail that connects the harbor to Sunset Circle (Coastwalk/California Trail Association 2024). The Harbor District has improved walkways and railings around the Inner Boat Basin, facilitating walking and bicycling by the public. Whaler's Island, at the end of Anchor Way, is classified as offshore rocks and therefore included as part of the California Coastal National Monument, as documented by the California Coastal Commission's Critical Coastal Areas Map (California Coastal Commission 2023).

The Project site within the harbor can be broken down into two distinct areas: 1. the Dock replacement area (Figure 1) and 2. the habitat restoration area (Figure 8). The Dock replacement area is located immediately north of the Crescent City Harbor District office. Commercial and recreational fishing land uses are predominantly established in the Dock area and dictate the visual landscape and views associated with this area. The majority of this area consists of a concrete-paved surface area that is either supported by timber structures (the dock) or bounded by the steel seawall and rip-rapped shoreline (the proposed parking area). Visual features associated with the dock include the Y-shaped dock with hoists, the smaller fishing shacks and fuel station building, and the larger icehouse. Visual features associated with the proposed parking area include the storage yards with steel storage containers, storage bins, parking areas, a hoist, and fishing traps. Restaurants, an art gallery, marine supply store, and industrial buildings associated seafood sale and distribution and marine repair and construction are visible immediately south and southwest of the Dock replacement area. Visual features associated with the habitat restoration area include the small vessel launch that consists of a small inlet basin with rip-rapped shorelines, two boat ramps, and floating docks and gangway that are built into Anchor Way, which serves as a breakwater and provides access to Whaler Island.

The Project site, and the areas immediately surrounding the Project site, lack tree cover and there is minimal landscaping to provide aesthetic relief. As a result, the visual landscape associated with the Project is highly utilitarian. The built elements and industrial nature of the Project site contrast with the surrounding natural landscape associated with views of the ocean, undeveloped coastline to the south, and nearby hillsides vegetated with redwood trees. The linear nature, mass, and form of docks, cranes, and industrial and commercial features are prominent visual elements. Color, pattern, and texture in this landscape may vary but expanses of concrete and monotone color of these facilities typically contrast with the greater landscape that has less pavement, more visual diversity, and vegetation. Due to the lack of tree canopy on or near the docks, the existing level of daytime glare tends to be high. Night lighting and glare in the environment can vary by the type of commercial or industrial structure that is present and can be a strong element in the nighttime landscape.

Views of the harbor, ocean, and developed and natural lands surrounding the site are available from the Project site because Project site is more open and tends to maximize views of the harbor and ocean. In addition, views of development along the coast and within Crescent City can be seen but do not dominate views of the natural coastline and ocean.

Land-based views of the Project site exist from the shoreline south of the harbor, from within the harbor, and from Crescent City. Views from the shoreline south of the harbor consist of middleground views available from Crescent Beach Overlook along Highway 101 and beaches along the shoreline. The Project site falls within the scenic vista views available from these locations that are available because it is elevated along the coast, and there is no vegetation obscuring the view. As described above, Project site visibility is largely dependent upon weather and atmospheric conditions. However, when clearly visible, the Dock replacement area blends with other features associated with the harbor but is visible. In addition, it is not likely that the habitat restoration area is visible from the overlook and beaches because it is built into Anchor Way and is located on the harbor side of the jetty. Commercial and industrial development and trees along Beachfront Park serve to buffer the majority of views of the Project site from Crescent City. However, the Dock replacement area and habitat restoration area are visible from the Battery Point Vista Area and the Battery Point Lighthouse, which is at a higher elevation, and from some areas along Sunset Circle, the southern edge of the Beachfront Park, Battery Street, and the parking area, sidewalks, benches, and beaches south of Battery Street. Within the harbor, views of the Dock replacement area are visible from the docks within the inner basin, parking areas along the Anchor Way jetty, and from the Crescent City Harbor District offices, which partially blocks views of the Dock from businesses along Marine Way such as Crescent Seafood, the Crescent Harbor Art Gallery, and Englund Marine and Industrial Supply. The habitat restoration area can be seen from the inner breakwater off of Whaler Island and areas in close proximity to the site along Anchor Way, such as from the public restroom building near the boat launch. The Dock replacement and habitat restoration areas can both be seen from the top of Whaler Island at the end of Anchor Way. When seen from Crescent City and the harbor, the Dock replacement and habitat restoration areas blend with other features associated with the harbor.

Water-based views of the project site are not likely available from the ocean because the positioning of the breakwaters provides visual obstructions so that a direct line of site is not available to the Dock replacement or habitat restoration areas. However, water-based views are available from commercial and recreational watercraft within the harbor. The Dock replacement area is the most visible from the harbor, because it juts out into the harbor. However, the habitat restoration areas can be obscured from certain locations on the harbor where the breakwaters prevent views of this area.

Viewers of the Project area would include fishery workers, roadway users, restaurant workers, recreational visitors, and residential viewers in Crescent City. Roadway users would likely have a moderate visual sensitivity because although their focus is on the roadway, coastal views are aesthetically pleasing. Fishery and restaurant workers would be likely to have a low visual sensitivity because of their familiarity with the Harbor area and focus on day-to-day tasks. Recreationists accessing the harbor area are likely to have a high visual sensitivity for changes in the natural and cultural landscape because they are more likely to place high value on and have a high regard for the natural environment. Residential viewers would likely have a moderate to high sensitivity to changes in the visual environment because of their awareness of the harbor area as part of the visual identity of Crescent City. They are likely to notice dramatic changes in the visual environment.

2.1.1.2 Regulatory Setting

Federal

Coastal Zone Management Act of 1972

The U.S. Congress recognized the growth in the coastal zone by passing the Coastal Zone Management Act (CZMA), which is administered by National Oceanic and Atmospheric Administration (NOAA). The goal is to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone." Authorized by the CZMA in 1972, the Coastal Zone Management Program (CZMP) was established as a voluntary partnership between the federal government and U.S. coastal and Great Lakes states and territories.

Sections of the Coastal Zone Management Act of 1972 that are most relevant to aesthetic resources in the study area are below.

Section 302 (U.S. Government Code [USC], Title 16, Section 1451). (Congressional findings) states:

(b) The coastal zone is rich in a variety of natural, commercial, recreational, ecological, industrial, and esthetic resources of immediate and potential value to the present and future well-being of the Nation and that (e) important ecological, cultural, historic, and esthetic values in the coastal zone which are essential to the well-being of all citizens are being irretrievably damaged or lost.

Section 303 (16 USC 1452). (Congressional declaration of policy) declares:

It is the national policy (2) to encourage and assist the states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone, giving full consideration to ecological, cultural, historic, and esthetic values as well as the needs for compatible economic development, which programs should at least provide for (F) assistance in the redevelopment of deteriorating urban waterfronts and ports, and sensitive preservation and restoration of historic, cultural, and aesthetic coastal features.

Section 306 (16 USC 1455). (Administrative grants) states:

Management programs for administrative grants submitted by coastal states are required to have (2)(G) a definition of the term beach and a planning process for the protection of, and access to, public beaches and other public coastal areas of environmental, recreational, historical, esthetic, ecological, or cultural value.

Section 306 (16 USC 1455). (Administrative grants) further states:

(9) The management program includes procedures whereby specific areas may be designated for the purpose of preserving or restoring them for their conservation, recreational, ecological, historical, or esthetic values.

Section 306A (16 USC 1455a). (Administrative grants) identifies:

The Secretary may make grants to any eligible coastal state to assist that state in meeting one or more of the following objectives: (1) The preservation or restoration of specific areas of the state that (A) are designated under the management program procedures required by section 1455(d)(9) of this title because of their conservation recreational, ecological, or esthetic values, or (B) contain one or more coastal resources of national significance, or for the purpose of restoring and enhancing shellfish production by the purchase and distribution of clutch material on publicly owned reef tracts.

Section 306A (16 USC 1455a). (Administrative grants) identifies:

For purposes of this section, the term "coastal zone enhancement objective" means any of the following objectives: (3) Attaining increased opportunities for public access, taking into account current and future public access needs, to coastal areas of recreational, historical, aesthetic, ecological, or cultural value.

State

California Ocean Plan

The California Ocean Plan is a document with standards which protect California's marine water quality. Policies from the California Ocean Plan (SWRCB 2005:3, 5) that apply to aesthetic resources are described below. (California State Water Resources Control Board, 2019.)

Beneficial Uses

(A) The beneficial uses of the ocean waters of the State that shall be protected include industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance; rare and endangered species; marine habitat; fish migration; fish spawning and shellfish harvesting.

Water Quality Objectives

(C) Physical Characteristics, (2) The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.

California Coastline Preservation and Recreation Plan

This document recognizes California's diverse and attractive shoreline as contributing to the economic and social benefits that enhance the quality of life for Californians and all Americans. Preserving the scenic value of California's coastline is a key consideration. (State of California Parks and Recreation, 1972.)

Principle pertaining to aesthetics: Preserving Natural Features. Goals: a. Selected ecosystems characteristic of the coastal province should be set aside and protected for present and future generations for their esthetic and scientific interest. These areas should preserve extraordinarily scenic or unique natural and near natural phenomena as well as representative examples of distinctive plant and animal communities and geologic features.

California Coastal Act

The California Coastal Act guides how the land on the coast of California is developed or protected, with an emphasis on balancing economics and natural environment. Ensuring public access and preservation of sensitive habitats and open space are objectives. Views and local character are recognized as public resources to be protected. This Act includes the following policy that applies to aesthetic resources. (California Coastal Act, 2024)

Chapter 1. Findings and Declarations and General Provisions. Section 30001 – Legislative findings and declarations; ecological balance. The Legislature hereby finds and declares:

(a) That the California coastal zone is a distinct and valuable natural resource of vital and enduring interest to all the people and exists as a delicately balanced ecosystem.

(b) That the permanent protection of the state's natural and scenic resources is a paramount concern to present and future residents of the state and nation.

(c) That to promote the public safety, health, and welfare, and to protect public and private property, wildlife, marine fisheries, and other ocean resources, and the natural environment, it is necessary to protect the ecological balance of the coastal zone and prevent its deterioration and destruction.

(d) That existing developed uses, and future developments that are carefully planned and developed consistent with the policies of this division, are essential to the economic and social well-being of the people of this state and especially to working persons employed within the coastal zone.

Chapter 1. Findings and Declarations and General Provisions. Section 30001 – Legislative findings and declarations; implementation of plan. The Legislature further finds and declares that:

(a) The California Coastal Zone Conservation Commission, pursuant to the California Coastal Zone Conservation Act of 1972 (commencing with Section 27000), has made a detailed study of the coastal zone; that there has been extensive participation by other governmental agencies, private interests, and the general public in the study; and that, based on the study, the commission has prepared a plan for the orderly, long-range conservation, use, and management of the natural, scenic, cultural, recreational, and manmade resources of the coastal zone.

Chapter 3. Coastal Resources Planning and Management Policies, Article 2. Public Access: Section 30214 – Implementation of public access policies; legislative intent. (a)(4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter.

Chapter 3. Coastal Resources Planning and Management Policies, Article 6. Development: Section 30251 – Scenic and Visual Qualities. The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

Chapter 8. Ports, Article 1. Findings and General Provisions: Section 30701 – Legislative finding and declaration. The Legislature finds and declares that:

(a) The ports of the State of California, including the Humboldt Bay Harbor, Recreation, and Conservation District, constitute one of the state's primary economic and coastal resources and are an essential element of the national maritime industry.

(b) The location of the commercial port districts within the State of California, including the Humboldt Bay Harbor, Recreation, and Conservation District, are well established, and for many years such areas have been devoted to transportation and commercial, industrial, and manufacturing uses consistent with federal, state and local regulations. Coastal planning requires no change in the number or location of the established commercial port districts. Existing ports, including the Humboldt Bay Harbor, Recreation, and Conservation District, shall be encouraged to modernize and construct necessary facilities within their boundaries in order to minimize or eliminate the necessity for future dredging and filling to create new ports in new areas of the state.

State Scenic Highways

The section of Highway 101 adjacent to the Harbor is Eligible for designation as a California State scenic route. The section of 101 starting just south of Crescent City Limits between postmile 11 and 23.1 is officially designated as a California State Scenic Highway. (Caltrans, 2024.) This section of Highway 101 is Redwoods National Park and Del Norte Coast Redwood State Park.

State Wild and Scenic Rivers System

There are no California Wild and Scenic Rivers associated with the study area, per PRC 5093.50-5093.71 of the California Wild and Scenic Rivers Act.

The Smith River watershed is part of the National Wild and Scenic Rivers System, and its many tributaries near the study area are designated Recreational, Scenic and Wild, but none are within six miles of the project area). The intervening topography and vegetation preclude views therefore the project would have no visual impact on receptors along the Smith River.

Local

Del Norte County General Plan Coastal Element

Like all coastal communities in California, Del Norte County is mandated to have a Coastal Element as part of its General Plan, per the California Coastal Act of 1976. This Coastal Element of the General Plan includes the Land Use Plan text and maps. which were approved by the California Coastal Commission on June 3, 1981 and certified on October 12, 1983, after an extensive public engagement process. (Del Norte County,1983.)

Coastal Element

Coastal Act Policies: A major objective of the Coastal Act is to maintain and enhance the quality of coastal waters and marine resources, and to mitigate potential adverse impacts of land uses adjacent to sensitive coastal habitats.

General Policies

V. Policies and Recommendations

A. Coastal Act Policies: Two policies of the California Coastal Act of 1976 address the maintenance of aesthetic resources within the Coastal Zone:30251. The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and where feasible, to restore and enhance visual quality in visually degraded areas.

New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

B. Present Local Policies: Under the "scenic highways" element of the County's General Plan a recommendation is made for a scenic corridor study for sections of Highways101, 197, and 199. Only Highway 101 is within the Coastal Zone Boundary. Upon completion, acceptance and adoption of the scenic corridor study, the following policies are recommended for the segments of the route designated as scenic highway:

4. Land use regulations within the scenic areas will be consistent with the policies of the General Plan.

A recommendation is also made in the General Plan for a County Scenic Drive Program. This proposal envisions a scenic drive meandering along various ocean fronting streets and agricultural backroads from Crescent City to the Oregon Border. Interpretive services in the form of displays and a self-guiding brochure and map are recommended.

2.1.2 Discussion

a) Have a substantial adverse effect on a scenic vista? (less than significant)

This project would have a less than significant impact on existing scenic vistas because it largely consists of replacing existing features with very similar features that would not stand out in the landscape, would blend with existing views of the harbor, and would include similar materials and colors as existing conditions. The impact would be less than significant.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (no impact)

Eligible and officially designated portions of State Scenic Highway US 101 are located within the Redwoods National Park/Del Norte Coast Redwood State Park. These portions of the roadway wind through the forest where dense redwoods do not allow for views of the Project. Therefore, the Project would have no impact on scenic resources associated with a state scenic highway.

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

The Project site, Crescent City, and the areas surrounding the Project site are non-urbanized. The proposed dock replacement would remove Pier 2 and reconstruct the pier mostly in the same place and with the same form, but it would be slightly reconfigured to remove the eastern wharf and only include the western wharf. A new pier, Pier 1, would be built just to the south of Pier 2. The new pier would be the same height as the existing pier, have dimensions that are very close in size to the eastern wharf to be removed, would be consistent with features that viewers expect to see within the harbor, and would blend with existing features at the harbor. The new seawall would be installed approximately 10 feet waterward of the existing seawall and include a new sheet pile wall with pile cap that would cover the gap between the old seawall and new seawall. Extending the wall 10 feet into the harbor is a relatively small distance that would not be very noticeable given the overall scale of features within the harbor especially because the proposed seawall would look so visually similar to the existing seawall.

The observation deck and Coast Trail connection would be located on an existing paved surfaces and include approximately three benches along the trail and at the observation area, informational signage and lighting, and new pathway barriers to delineate the walking pathway from existing commercial facilities. These features would not stand out within the landscape because the addition of benches, signage, lighting, and pathway barriers would be small-scale elements being added to a landscape where such features already exist and where one would expect to see such features to provide physical and visual access to the harbor.

Changes associated with the habitat restoration area would not be very notable, similar to other project features. Expanding the existing boat basin would result in a very minor enlargement of the basin that would only slightly reduce the size of the paved aera to the south of the basin and would not disrupt any notable features. The gangway and floating dock would be relocated to meet constructed conditions. Once complete, the visual character and quality of the boat basin would be same as existing conditions.

Overall, the proposed Project would be constructed with materials that are consistent with existing conditions, be of similar heights and dimensions, and result in only minor expansions so they would not stand out in the visual landscape or constitute a notable change in visual character and visual quality. Therefore, the Project would not substantially degrade the existing visual character or quality of public views of the Dock site and its surroundings. The impact would be less than significant.

d) Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area? (less than significant with mitigation)

As described in the *Existing Conditions* section*,* existing daytime glare in the Project area is moderately high due to the predominance of industrial and commercial infrastructure and lack of large areas of shade-providing vegetation.

During project construction there may be new, temporary sources of nighttime lighting that will be removed when construction is complete. Once built the new dock will look the same but could include new sources of light. Lighting could negatively affect sensitive receptors if not properly designed. Illumination of outdoor spaces using LED lighting can negatively affect humans by increasing nuisance light and glare, in addition to increasing ambient light glow, if proper shielding is not provided and blue-rich white light lamps are used (American Medical Association 2016; International Dark-Sky Association 2010a, 2010b, 2015). Studies have found that a 4000 Kelvin white LED light causes approximately 2.5 times more pollution than high-pressure sodium lighting with the same lumen output, which would affect sensitive receptors, and more than double the perceived brightness of the night sky (Aubé et al. 2013; Falchi et al. 2011, 2016). Mitigation Measure AES-1 would reduce this impact to less than significant by avoiding the use of blue-rich white light lamps.

2.1.3 Mitigation Measures

Mitigation Measure AES-1. Avoid the use of blue-rich white light lamps

LED lighting will avoid the use of blue-rich white light lamps and use a correlated color temperature that is no higher than 3,000 Kelvin, consistent with the International Dark-Sky Associations Fixture Seal of Approval program (International Dark-Sky Association 2010a, 2010b, 2015). In addition, LED lights will use shielding to ensure nuisance glare and to ensure that light spill does not affect sensitive residential viewers.

2.2 Agriculture and Forest Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation	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 the 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?	☐	☐	☐	☒

2.2.1 Environmental Setting

2.2.1.1 Existing Conditions

Existing conditions consist of a harbor supporting recreational boating, commercial and recreational fishing activities.

2.2.1.2 Regulatory Setting

The locations where the seawall and dock will be replaced and the public pathway and observation area will be established are zoned HDMC-C(H) (Harbor Dependent Marine Commercial). This district classification is intended to prioritize the needs of the commercial fishing industry while also accommodating other coastal-dependent commercial and industrial development and coastal-related support facilities within or immediately adjacent to the waters of the harbor in a manner that will encourage the continuation of commercial fishing and other coastal-dependent marine commercial and industrial activities, maintain the marine theme and character of the Harbor, and encourage physical and visual access to the harbor where appropriate.

The location where the habitat restoration project will occur is zoned HDR-C(H) (Harbor Dependent Recreational). This district classification is intended to provide for public and commercial recreational development within or immediately adjacent to the waters of the harbor in a manner that will encourage the continuation of recreational boating and other water-oriented visitor-serving and recreational uses and mutually supportive businesses that enhance public opportunities for coastal recreation, maintain the marine theme and character of the Harbor, and encourage physical and visual access to the harbor on waterfront commercial and recreational sites along or in proximity to the water of the harbor.

There are no agricultural uses, Prime Farmland, Farmland of Statewide Importance or a Williamson Act contract areas located within or adjacent to the Project area.

2.2.2 Discussion

According to the California Department of Conservation (CDC) Farmland Mapping and Monitoring Program's California Important Farmland Finder, the Project site and adjacent lands are not located on and do not encroach upon Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. No existing or planned farming operations occur at the Project Site. There will be no impact.

a) There is no existing zoning for agricultural uses or a Williamson Act contract within the Project area and therefore there will not be any conflict. There will be no impact.

b) There will not be a conflict with existing zoning. Additionally, the site does not include forest land, timberland or timber land zoned Timberland Production. Therefore, there will be no conflict and no impact.

c) There is no forest land at the Project site and therefore there will be no conversion of forestland to non-forest use. There will be no impact.

d) There is no farmland at or in close proximity to the Project site and there no changes in the existing environment that will result in farmland conversion. There will be no impact.

2.2.3 Mitigation Measures

No mitigation measures are required.

2.3 Air Quality

	Potentially Significant Impact	Less-than-Significant with Mitigation	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?	☐	☐	☒	☐

2.3.1 Environmental Setting

The proposed Project area, described in Chapter 1, *Project Description*, is within the North Coast Air Basin (NCAB). Ambient air quality is affected by climatological conditions, topography, and the types and amounts of pollutants emitted. The following sections describe the pollutants of concern and summarize how they move through the air, water, and soil within the air basin, and how air pollution is changed in the presence of other chemicals and particles. This section also summarizes local climate conditions, existing air quality conditions, and sensitive receptors that may be affected by project-generated emissions.

2.3.1.1 Pollutants of Concern

Criteria Pollutants

As discussed above, the federal and state governments have established National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS), respectively, for six criteria pollutants. Ozone is considered a regional pollutant because its precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead are considered local pollutants that tend to accumulate in the air locally.

Particulate matter (PM) is both a local and a regional pollutant. The primary criteria pollutants generated by the proposed Project would be ozone precursors (nitrogen oxides [NO_X] and reactive organic gases [ROG]), NO_2, CO, PM, and SO_2.[2, 3]

[2] There are also ambient air quality standards for lead, sulfates, hydrogen sulfide, vinyl chloride, and visibility particulates. However, these pollutants are typically associated with industrial sources, which are not included as part of the Proposed Program. Accordingly, they are not evaluated further.

[3] Most emission of NO_X are in the form of nitric oxide (NO) (Reşitoğlu 2018). Conversion to NO_2 occurs in the atmosphere as pollutants disperse downwind. Accordingly, NO_2 is not considered a local pollutant of concern for the Proposed Program and is not evaluated further.

All criteria pollutants can have human health and environmental effects at certain concentrations. The ambient air quality standards for these pollutants (Table 2.3-3) are set to public health and the environment within an adequate margin of safety (CAA § 109). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants and form the scientific basis for new and revised ambient air quality standards.

Following is a discussion of the principal characteristics and possible health and environmental effects from exposure to the primary criteria pollutants generated by the proposed Project.

Ozone

Ozone (O^3), or smog, is a photochemical oxidant formed when ROG and NO_X (both by-products of the internal combustion engine) react with sunlight. ROG are compounds made up primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Other sources of ROG are emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products, such as aerosols. The two major forms of NO_X are nitric oxide (NO) and NO_2. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown, irritating gas formed by the combination of NO and oxygen. In addition to serving as an integral participant in ozone formation, NO_X also directly acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens due to impairments to the immune system.

O^3 poses a higher risk to those who already suffer from respiratory diseases (e.g., asthma), children, older adults, and people who are active outdoors. Exposure to O^3 at certain concentrations can make breathing more difficult, cause shortness of breath and coughing, inflame and damage the airways, aggravate lung diseases, increase the frequency of asthma attacks, and cause chronic obstructive pulmonary disease. Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to O^3 may increase the risk of respiratory-related deaths (U.S. Environmental Protection Agency 2024). The concentration of O^3 at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least-responsive individual after a 2-hour exposure to 400 parts per billion of O^3 and a 50% decrement in forced airway volume in the most-responsive individual.

Although the results vary, evidence suggest that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum O^3 concentration reaches 80 parts per billion (U.S. Environmental Protection Agency 2024).

In addition to human health effects, O^3 has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. O^3 can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products.

Carbon Monoxide

CO is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. In the proposed Project area, high CO levels are of greatest concern during the winter, when periods of light winds combine with the formation of ground-level temperature inversions from evening through early morning. These conditions trap pollutants near the ground, reducing the dispersion of vehicle emissions. Moreover, motor vehicles exhibit increased CO emission rates at low air temperatures. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation. Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects to ambient CO (California Air Resources Board 2019).

Particulate Matter

PM consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of particulates are now generally considered: respirable particles with an aerodynamic diameter of 10 micrometers or fewer, or PM10, and fine particles with an aerodynamic diameter of 2.5 micrometers or fewer, or PM2.5. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind on arid landscapes also contributes substantially to local particulate loading. Particulate pollution can be transported over long distances and both PM10 and PM2.5 may adversely affect humans, especially for people who are naturally sensitive or susceptible to breathing problems. Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Depending on its composition, both PM10 and PM2.5 can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. Environmental Protection Agency 2024).

Sulfur Dioxide

SO_2 is generated by industrial processes, natural sources such as volcanoes, and burning of fossil fuels. In recent years, emissions of SO_2 have been significantly reduced by the increasingly stringent controls placed on the sulfur content of fuels used in stationary sources and mobile sources. SO_2 is a precursor to fine PM formation in the form of sulfates, such as ammonium sulfate. Short-term exposure to SO_2 can aggravate the respiratory system, making breathing difficult. Controlled laboratory studies indicate that brief exposure (5 to 10 minutes) of exercising asthmatics to an average SO_2 level of 0.4 part per million (ppm) can result in increases in air resistance. Healthy adults do not show any symptoms resulting from SO_2 at levels as high 1 ppm, even after up to 3 hours of exposure. SO_2 can also affect the environment by damaging foliage and decreasing plant growth (U.S. Environmental Protection Agency 2024).

2.3.1.2 Toxic Air Contaminants

Although NAAQS and CAAQS have been established for criteria pollutants, no ambient standards exist for toxic air contaminants (TACs). Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or because of their acute or chronic health risks. For TACs that are known or suspected carcinogens, the California Air Resources Board (CARB) has consistently found that there are no levels or thresholds below which exposure is risk free. Individual TACs vary greatly in the risks they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another. TACs are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment.

Air toxics are generated by many sources, including stationary sources, such as dry cleaners, gas stations, auto body shops, and combustion sources; mobile sources, such as diesel trucks, ships, and trains; and area sources, such as farms, landfills, and construction sites. Adverse health effects of TACs can be carcinogenic (cancer-causing), short-term (acute) non-carcinogenic, and long-term (chronic) non-carcinogenic. Direct exposure to these pollutants has been shown to cause cancer, birth defects, damage to the brain and nervous system, and respiratory disorders. The principal TAC associated with the proposed Project is diesel particulate matter (DPM). Asbestos is typically a TAC of concern, but the proposed Project area is not within an area of mapped ultramafic rock, and there are no mapped ultramafic rock unit areas in the vicinity (California Department of Conservation 2000). However, existing structures on the proposed Project site are anticipated to be demolished. Therefore, asbestos would be a TAC associated with the proposed Project area.

Diesel Particulate Matter

DPM is generated by diesel-fueled equipment, vehicles, and harbor craft. Short-term exposure to DPM can cause acute irritation (e.g., eye, throat, and bronchial), neurophysiological symptoms (e.g., lightheadedness and nausea), and respiratory symptoms (e.g., cough and phlegm). The International Agency for Research on Cancer has classified diesel engine exhaust as “carcinogenic to humans” (i.e., cancer causing) (International Agency for Research on Cancer 2012).

Asbestos

Asbestos is the name given to many naturally occurring fibrous silicate minerals. It has been mined for applications that require thermal insulation, chemical and thermal stability, and high tensile strength. It is also found in its natural state in rock or soil (known as naturally occurring asbestos, or NOA). Mapping published by the U.S. Geological Survey and California Geological Survey (2000) indicates that the proposed Project site does not have any reported historic asbestos mines, historic asbestos prospects, asbestos-bearing talc deposits, fibrous amphiboles, or ultramafic rock outcrops. Asbestos may have been used during construction of the existing onsite structures, however.

Odors

Offensive odors can be unpleasant and lead to citizen complaints to local governments and air districts. According to CARB’s (2005) *Air Quality and Land Use Handbook*, land uses associated with odor complaints typically include sewage treatment plants, landfills, recycling facilities, manufacturing, and agricultural activities. CARB provides recommended screening distances for siting new receptors near existing odor sources.

2.3.1.3 Climate and Meteorology

The climate of the region is dominated by a cold upwelling of seawater to the ocean surface off the Humboldt Coast. This cold ocean water cools the surface air. During the summer, winds flowing from the Pacific Ocean are drawn on shore by the difference in surface temperatures, resulting in daytime northwesterly winds. In winter, this temperature differential is lower, and surface winds may blow from many directions depending on storm patterns.

As a result of the region’s topography and coastal air movements, inversion conditions are common in the NCAB. Inversions are created when warm air traps cool air near the ground surface and prevents vertical dispersion of air. Valleys, geographic basins, and coastal areas surrounded by higher elevations are the most common locations for inversions to occur. During the summer, inversions are less prominent, and vertical dispersion of the air is good. However, during the cooler months between late fall and early spring, inversions last longer and are more geographically extensive; vertical dispersion is poor, and pollution may be trapped near the ground for several concurrent days.

The mountains and hills within and surrounding the NCAB contribute to the variation of rainfall, temperature, and winds throughout the region. These variables characterize short-term weather conditions and observing long-term averages and trends in these characteristics provides a synopsis of typical climatological conditions in the NCAB. These meteorological conditions affect how air pollution from emissions sources within the NCAB moves through the air within the NCAB in the presence of other chemicals and particles. The Western Regional Climate Center—in collaboration with the National Oceanic and Atmospheric Administration—processes and publicizes regional climate summary data for the western United States. There are several meteorological stations located throughout the NCAB that collect and record climatological data including temperature, precipitation, and wind speed and direction.

The meteorological data station most representative of local climate conditions within the study area is the Crescent City – Jack McNamara Field Airport. The annual average daily maximum temperature at the station is 58 degrees Fahrenheit (°F) and the annual average daily minimum temperature is 46 °F. Total annual precipitation averages about 56 inches, occurring mostly during the winter (Western Regional Climate Center 2009). The data indicate a prominence of winds that average 8 miles per hour (Western Regional Climate Center 2009).

2.3.1.4 Existing Conditions

Ambient Criteria Pollutant Concentrations

The existing air quality conditions in the proposed Project area can be characterized by monitoring data collected in the region. Table 2.3-1 summarizes data for criteria air pollutant levels from the Eureka-Jacobs monitoring station, which is the only currently operating station in Humboldt County, for the last 3 years for which complete data are available (2021–2023). The only currently operating station in Del Norte County collects data solely for PM2.5 and is located at Crescent Elk School in Crescent City; this data is also shown in Table 2.3-1. Air quality concentrations are expressed in terms of ppm or micrograms per cubic m ($\mu g/m^3$).

As shown in Table 2.3-1, no violations of any criteria pollutant NAAQS or CAAQS were reported. As discussed above, the CAAQS and NAAQS define clean air and represent the maximum amount of pollution that can be present in outdoor air without harmful effects on people and the environment.

Table 2.3-1. Ambient Air Quality Monitoring Data from the Eureka-Jacobs Station (2021–2023)

	Eureka-Jacobs		
Pollutant Standards	**2021**	**2022**	**2023**
1-Hour Ozone (O_3)			
Maximum Concentration (ppm)	0.050	0.040	0.071
Number of Days Standard Exceeded [a]			
CAAQS 1-Hour (>0.09 ppm)	0	0	0

Pollutant Standards	Eureka-Jacobs 2021	Eureka-Jacobs 2022	Eureka-Jacobs 2023
8-Hour Ozone (O_3)			
State Maximum Concentration (ppm)	0.044	0.038	0.066
National Maximum Concentration (ppm)	0.044	0.037	0.066
National 4th Highest Concentration (ppm)	0.041	0.036	0.047
Number of Days Standard Exceeded [a]			
CAAQS 8-Hour (>0.070 ppm)	0	0	0
NAAQS 8-Hour (>0.070 ppm)	0	0	0
Carbon Monoxide (CO)			
Maximum 1-Hour Concentration (ppm)	0.8	1.5	0.7
Maximum 8-Hour Concentration (ppm)	0.7	1.4	0.6
Number of Days Standard Exceeded [a]			
NAAQS 8-Hour (≥9 ppm)	0	0	0
CAAQS 8-Hour (≥9.0 ppm)	0	0	0
NAAQS 1-Hour (≥35 ppm)	0	0	0
CAAQS 1-Hour (≥20 ppm)	0	0	0
Nitrogen Dioxide (NO_2)			
State Maximum 1-Hour Concentration	20	27	18
Annual Average Concentration	1	2	1
Number of Days Standard Exceeded [a]			
CAAQS 1-Hour (0.18 ppm)	0	0	0
NAAQS 1-Hour (0.10 ppm)	0	0	0
Particulate Matter (PM10) [c]			
State [c] Maximum 24-Hour Concentration	-	-	-
National [b] Maximum 24-Hour Concentration	61.9	55.0	44.9
State Annual Average Concentration [d]	-	-	-
Number of Days Standard Exceeded [a]			
CAAQS 24-Hour (>50 µg/m^3) [e]	-	-	-
NAAQS 24-Hour (>150 µg/m^3) [e]	0	0	0
Fine Particulate Matter (PM2.5) [f] (State Data from Crescent Elk School)			
State [c] Maximum 24-Hour Concentration	20.6	21.2	107.0
National [b] Maximum 24-Hour Concentration(µg/m^3)	16.2	21.2	24.5
24-hour Standard 98th Percentile (µg/m^3)	15.0	20.0	19.7
National Annual Average Concentration	6.9	6.8	7.0
Number of Days Standard Exceeded [a]			
NAAQS 24-Hour (>35 µg/m^3) [e]	0	0	0

Sources: California Air Resources Board 2024; U.S. Environmental Protection Agency 2024.
mg/m^3 = milligrams per cubic meter; > = greater than; ≥ = greater than or equal to; - = insufficient data

[a] An exceedance is not necessarily a violation.

[b] National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.

[c] State statistics are based on local conditions data, except in the South Coast Air Basin, for which statistics are based on standard conditions data. In addition, state statistics are based on California approved samplers.
[d] State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.
[e] Mathematical estimate of how many days concentrations would have been measured as higher than the level of the standard had each day been monitored. Values have been rounded.
* There was insufficient data available to determine the value.

Attainment Status

Local monitoring data (Table 2.3-1) are used to designate areas as nonattainment, maintenance, attainment, or unclassified for the NAAQS and CAAQS. The four designations are further defined as follows.

- **Nonattainment**: Assigned to areas where monitored pollutant concentrations consistently violate the standard in question.
- **Maintenance**: Assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past, but are no longer in violation of that standard.
- **Attainment**: Assigned to areas where pollutant concentrations meet the standard in question over a designated period of time.
- **Unclassified**: Assigned to areas where data are insufficient to determine whether a pollutant is violating the standard in question.

Table 2.3-2 summarizes the attainment status of the proposed Project area in Del Norte County with respect to the NAAQS and CAAQS.

Table 2.3-2. Federal and State Attainment Status of the Proposed Project Area in Del Norte County

Pollutant	NAAQS	CAAQS
Ozone	Attainment	Attainment
CO	Attainment	Attainment
PM10	Attainment	Attainment
PM2.5	Attainment	Attainment
SO_2	Attainment	Attainment
NO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	No standard	Attainment
Visibility-Reducing Particles	No standard	Unclassified
Hydrogen Sulfide	No standard	Unclassified
Vinyl Chloride	No standard	Unclassified

Sources: California Air Resources Board 2022; U.S. Environmental Protection Agency 2024.

Sensitive Receptors

Sensitive receptors are locations where human populations, especially children, seniors, and sick persons, are found and there is reasonable expectation of continuous human exposure according to the averaging period for ambient air quality standards. Typical sensitive receptors include residences, parks, hospitals and nursing/convalescent homes, and schools and daycare centers. In general, sensitive receptors are concentrated in the cities and towns in Del Norte County. There are no sensitive receptors located within 1,000 feet of the proposed Project area.

2.3.1.5 Regulatory Setting

The federal Clean Air Act (CAA) and its subsequent amendments form the basis for the nation's air pollution control effort. The U.S. Environmental Protection Agency (USEPA) is responsible for implementing most aspects of the CAA. A key element of the CAA is the NAAQS for criteria pollutants. The CAA delegates enforcement of the NAAQS to the states. In California, CARB is responsible for enforcing air pollution regulations and ensuring NAAQS and CAAQS are met. CARB, in turn, delegates regulatory authority for stationary sources and other air quality management responsibilities to local air agencies. The North Coast Unified Air Quality Management District (NCUAQMD) is the local air agency within the proposed Project area. The following sections provide more detailed information on federal, state, and local air quality regulations that apply to the proposed Project.

Federal

Clean Air Act

The CAA was first enacted in 1963 and has been amended numerous times in subsequent years (1965, 1967, 1970, 1977, and 1990). The CAA establishes federal air quality standards, known as NAAQS, for six criteria pollutants and specifies future dates for achieving compliance. The CAA also mandates that the states submit and implement a state implementation plan (SIP) for local areas not meeting those standards. The plans must include pollution control measures that demonstrate how the standards would be met.

The 1990 amendments to the CAA identify specific emission-reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. Table 2.3-3 shows the NAAQS currently in effect for each criteria pollutant, as well as the CAAQS (discussed further below).

Table 2.3-3. Federal and State Ambient Air Quality Standards

		California [d]	National Standards [a]	
Criteria Pollutant	**Average Time**	**Standards**	**Primary**	**Secondary**
Ozone	1-hour	0.09 ppm	None [b]	None [b]
	8–hour	0.070 ppm	0.070 ppm	0.070 ppm
Particulate Matter (PM10)	24-hour	50 μg/m^3	150 μg/m^3	150 μg/m^3
	Annual mean	20 μg/m^3	None	None
Fine Particulate Matter (PM2.5)	24-hour	None	35 μg/m^3	35 μg/m^3
	Annual mean	12 μg/m^3	9.0 μg/m^3	15 μg/m^3
Carbon Monoxide	8-hour	9.0 ppm	9 ppm	None
	1-hour	20 ppm	35 ppm	None
Nitrogen Dioxide	Annual mean	0.030 ppm	0.053 ppm	0.053 ppm
	1-hour	0.18 ppm	0.100 ppm	None
Sulfur Dioxide [c]	Annual mean	None	0.030 ppm	None

Criteria Pollutant	Average Time	California [d] Standards	National Standards [a] Primary	Secondary
	24-hour	0.04 ppm	0.14 ppm	None
	3-hour	None	None	0.5 ppm
	1-hour	0.25 ppm	0.075 ppm	None
Lead	30-day Average	1.5 $\mu g/m^3$	None	None
	Calendar quarter	None	1.5 $\mu g/m^3$	1.5 $\mu g/m^3$
	3-month average	None	0.15 $\mu g/m^3$	0.15 $\mu g/m^3$
Sulfates	24-hour	25 $\mu g/m^3$	None	None
Visibility-reducing Particles	8-hour	-[d]	None	None
Hydrogen Sulfide	1-hour	0.03 ppm	None	None
Vinyl Chloride	24-hour	0.01 ppm	None	None

Source: California Air Resources Board 2016.

ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter; SO_2 = sulfur dioxide.

[a] National standards are divided into primary and secondary standards. Primary standards are intended to protect public health, whereas secondary standards are intended to protect public welfare and the environment.

[b] The federal 1-hour standard of 12 parts per hundred million was in effect from 1979 through June 15, 2005. The revoked standard is referenced because it was employed for such a long period and is a benchmark for SIPs.

[c] The annual and 24-hour NAAQS for SO_2 only apply for 1 year after designation of the new 1-hour standard to those areas that were previously in nonattainment for 24-hour and annual NAAQS.

[d] CAAQS for visibility-reducing particles is defined by an extinction coefficient of 0.23 per kilometer – visibility of 10 miles or more due to particles when relative humidity is less than 70 percent.

Non-Road Diesel Rule

USEPA has established a series of increasingly strict emission standards for new off-road diesel equipment, on-road diesel trucks, and locomotives. New equipment used for project activities, including heavy-duty trucks and off-road construction equipment, would be required to comply with the emission standards.

Vehicle Emissions Standards

The National Highway Traffic Safety Administration (NHTSA) and USEPA set corporate average fuel economy (CAFE) standards for passenger cars and for light trucks (collectively, light-duty vehicles), and separately sets fuel consumption standards for medium- and heavy-duty trucks and engines. The current CAFE standards require an industry-wide fleet average of approximately 49 miles per gallon (mpg) for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8% annually for model years 2024 and 2025, and 10% annually for model year 2026. Phase 2 of the "Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles" applies to model years 2019 through 2027 medium- and heavy-duty vehicles.

On April 12, 2023, USEPA proposed two new federal vehicle standards that will build on the existing CAFE and Phase 2 standards. The "Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium Duty Vehicles" proposes more stringent emission standards for light-duty and medium-duty vehicles for model years 2027 through 2032 and accelerates the deployment of electric- and clean-vehicles. The "Greenhouse Gas Standards for Heavy-Duty Vehicles - Phase 3" establishes fleet mix performance standards for vocational vehicles (e.g., delivery trucks) and trucks typically used to haul freight.

State

California Clean Air Act

In 1988, the state legislature adopted the California Clean Air Act (CCAA), which established a statewide air pollution control program. The CCAA requires all air districts in the state to endeavor to meet the CAAQS by the earliest practical date. Unlike the CAA, the CCAA does not set precise attainment deadlines. Instead, the CCAA establishes increasingly stringent requirements for areas that would require more time to achieve the standards. CAAQS are generally more stringent than NAAQS and incorporate additional standards for sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride. The CAAQS and NAAQS are shown in Table 2.3-3.

CARB and local air districts bear responsibility for meeting the CAAQS, which are to be achieved through district-level air quality management plans incorporated into the SIP. In California, USEPA has delegated authority to prepare SIPs to CARB, which, in turn, has delegated that authority to individual air districts. CARB traditionally has established state air quality standards, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and approving SIPs.

The CCAA substantially adds to the authority and responsibilities of air districts. The CCAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The CCAA also emphasizes the control of “indirect and area-wide sources” of air pollutant emissions. The CCAA gives local air pollution control districts explicit authority to regulate indirect sources of air pollution and to establish traffic control measures.

Statewide Truck and Bus Regulation

CARB adopted the Truck and Bus Regulation in 2008 to focus its efforts on reducing emissions of DPM, NO_X, and other criteria pollutants from diesel-fueled vehicles. This regulation applies to any diesel-fueled vehicle as well as any dual-fuel or alternative-fuel diesel vehicle that travels on public highways; yard trucks with on-road engines; yard trucks with off-road engines used for agricultural operations; school buses; and vehicles with a gross vehicle weight rating (GVWR) of more than 14,000 pounds. The purpose of the regulation is to require trucks and buses registered in the state to have 2010 or newer engines by 2023. Compliance schedules have been established for lighter vehicles (GVWR of 14,000–26,000 pounds) and heavier vehicles (GVWR of more than 26,001 pounds) (California Air Resources Board 2020). As of January 1, 2020, only vehicles that met the requirements of the Trucks and Bus Regulation were allowed to register with the California Department of Motor Vehicles.

Statewide Advanced Clean Truck Regulation

CARB adopted the Advanced Clean Truck Regulation in June 2020 to accelerate a large-scale transition of zero-emission medium-and-heavy-duty vehicles. The regulation requires the sale of zero-emission medium-and-heavy-duty vehicles as an increasing percentage of total annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55% of Class 2b–3 truck sales, 75% of Class 4–8 straight truck sales, and 40% of truck tractor sales. By 2045, every new medium-and-heavy-duty truck sold in California would be zero-emission. Large employers including retailers, manufacturers, brokers, and others are required to report information about shipments and shuttle services to better ensure that fleets purchase available zero-emission trucks.

State Tailpipe Emission Standards

Like USEPA at the federal level, CARB has established a series of increasingly strict emission standards for new off-road diesel equipment, on-road diesel trucks, and harbor craft operating in California. New equipment used for proposed Project activities would be required to comply with the standards.

Carl Moyer Program

The Carl Moyer Memorial Air Quality Standards Attainment Program is a voluntary program that offers grants to owners of heavy-duty vehicles and equipment. The program is a partnership between CARB and the local air districts throughout the state to reduce air pollution emissions from heavy-duty engines. Locally, the air districts administer this program.

Toxic Air Contaminant Regulations

California regulates TACs primarily through the Toxic Air Contaminant Identification and Control Act (Tanner Act) and the Air Toxics "Hot Spots" Information and Assessment Act of 1987 ("Hot Spots" Act). In the early 1980s, CARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Tanner Act created California's program to reduce the public's exposure to air toxics. The "Hot Spots" Act supplements the Tanner Act by requiring a statewide air toxics inventory, notification for people who were exposed to a significant health risk, and facility plans to reduce risks.

In August 1998, CARB identified DPM from diesel-fueled engines as a TAC. In September 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. Implementation of ATCMs has helped reduce statewide DPM concentrations substantially. CARB plans to continue its efforts to reduce DPM emissions and estimates that, by 2035, DPM emissions will be less than half of what they were in 2010.

Local

North Coast Unified Air Quality Management District

At the regional level, responsibilities of air quality districts include overseeing stationary-source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality–related sections of environmental documents required by CEQA. The air quality districts are also responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws and for ensuring that NAAQS and CAAQS are met.

The proposed Project area is located in the NCAB and within the proposed Project area, NCUAQMD is tasked with preparing regional programs and policies designed to improve air quality. The NCUAQMD has published a study titled *1995 PM10 Attainment Plan*, which presents available information about the nature and causes of exceedances of standards for respirable PM10, and to identify cost-effective control measures that can be implemented to bring ambient PM10 levels down (North Coast Unified Air Quality Management District 2019).

In addition, NCUAQMD develops and adopts various rules to reduce emissions throughout the NCAB and implement the *1995 PM10 Attainment Plan* (Davis pers. comm.). The proposed Project may be subject to the following district rules. This list of rules may not be all encompassing, as additional NCUAQMD rules may apply as specific program details are further developed.

- **Rule 104** (Prohibitions) establishes general limitations related to public nuisances, particulate matter, fugitive dust emissions, and sulfur oxide emissions.
- **Rule 110** provides for no net increase in emissions, pursuant to Section 40918 of the Health and Safety Code, from new or modified stationary sources that emit, or have the potential to emit, 25 tons per year or more of any nonattainment pollutant or its precursors.
- **Rule 300** (State Airborne Toxic Control Measures) incorporates California State Air Toxic Control Measures per Health and Safety Code Section 39666.

Del Norte County

Del Norte County General Plan

The *Del Norte County General Plan* was adopted in 2003 and amended in 2021. The general plan's Natural Resources/Conservation section contains a goal and policies related to air quality that are relevant to the GHG emissions issues associated with the proposed Project (Del Norte County 2021). These policies are as follows.

Goal 1.F: To protect and improve air quality in the Del Norte County and the region.

- **Policy 1.F.1:** The County shall cooperate with other agencies to develop a consistent and effective approach to air quality planning and management. To this end, the County shall coordinate with other jurisdictions on the North Coast to establish parallel air quality programs and implementation measures.
- **Policy 1.F.2:** The County shall support the North Coast Unified Air Quality Management District (NCUAQMD) in its development of improved ambient air quality monitoring capabilities and the establishment of standards, thresholds, and rules to more adequately address the air quality impacts of new development.
- **Policy 1.F.3:** The County shall continue to solicit and consider comments from local and regional agencies on proposed projects that may affect regional air quality.
- **Policy 1.F.4:** The County shall continue to submit major development proposals to the NCUAQMD for review and comment in compliance with California Environmental Quality Act (CEQA) prior to consideration by the appropriate decision-making body.
- **Policy 1.F.5:** The County shall continue to encourage project proponents to consult early in the planning process with the County and the NCUAQMD regarding the applicability of transportation control measures (TCM) programs.
- **Policy 1.F.6:** The County shall encourage development to be located and designed to minimize direct and indirect air pollutants.
- **Policy 1.F.7:** In reviewing project applications, where significant emissions are indicated, the County shall consider alternatives or amendments that reduce significant emissions of air pollutants.

- **Policy 1.F.8:** The County shall support and participate in the air quality education programs of the NCUAQMD.
- **Policy 1.F.9:** Unless otherwise specifically permitted, the County shall require developers to pave all access roads, driveways, and parking areas serving new commercial and industrial development.
- **Policy 1.F.10:** In general, the County shall not accept any unpaved roads into the County-maintained road system.

2.3.2 Discussion

a) Conflict with or obstruct implementation of the applicable air quality plan? (less than significant)

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, Del Norte County is designated 'attainment' for all National Ambient Air Quality Standards and California Ambient Air Quality Standards. Within the NCUAQMD, only Humboldt County is designated as "non-attainment" for the state's PM10 standard.

Any use or activity that generates airborne particulate matter may be of concern to the NCUAQMD. The proposed Project would generate PM10 emissions as a result of vehicles and equipment onsite and offsite of the project site to conduct the construction activities associated with the Project. 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 pavement, earthmoving, or demolition activities. During these 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. Dust control measures, such as haul road watering and watering the site of the concrete demolition in the back lands on the project site, will be implemented to control dust. Therefore, construction of the Project is not expected to conflict with NCUAQMD's Rule 104 Section D, and a less than significant impact from construction would occur.

Operation of the Project would include similar types and intensities of operational activities as existing activities. Consequently, operation of the Project is not expected to conflict with NCUAQMD's Rule 104 Section D. The impact would be less than significant.

b) 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)

<u>Construction Criteria Pollutants</u>

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 (Purchio, pers comm.), 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.

The California Emissions Estimator Model (CalEEMod) version 2022.1.1.26 was used to estimate air pollutant emissions from Project construction (Appendix A of this IS). Construction of the Project is expected to begin in 2026 and be complete within approximately 2.5 years. The Project will include demolition, site preparation, grading, paving, seawall construction, habitat restoration, and dock construction. The detailed equipment activity and materials hauling assumptions are provided in Appendix A.

Table 2.3-1 summarizes construction-related emissions. As shown in the table, the Project's construction emissions would not exceed the NCUAQMD's stationary sources emission thresholds in any year of construction. Therefore, the Project's construction emissions are considered to have a less-than-significant impact.

Table 2.3-4. Annual Construction-Generated Emissions of Criteria Air Pollutants and Precursors

Construction Phase(s)	Projected Timing		Emissions (tons)					
	Start	End	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2026 Construction Emissions			0.4	3.4	3.8	<0.1	0.2	0.1
2027 Construction Emissions			0.9	5.9	6.7	<0.1	0.3	0.2
2028 Construction Emissions			1.0	5.8	6.4	<0.1	0.3	0.2
NCUAQMD Annual Mass Emission Thresholds			40	40	100	40	15	10
Exceeds Threshold?			No	No	No	No	No	No

Note: Totals may not add exactly due to rounding.

NCUAQMD = North Coast Unified Air Quality Management District; ROG = reactive organic gases; age system; NO_X = oxides of nitrogen; CO = carbon monoxide; SO_X = oxides of sulfur; PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = fine particulate matter with an aerodynamic diameter of 2.5 microns or less

<u>Operational Criteria Pollutants</u>

Operation of the Project would include similar types and intensities of operational activities as existing activities. Consequently, operation of the Project is expected to generate zero net criteria pollutant emissions. The impact would be less than significant.

c) Expose sensitive receptors to substantial pollutant concentrations? (less than significant)

As described above in Section 2.3.1.4, there are no sensitive receptors located within 1,000 feet of the proposed Project area.

Although construction equipment and heavy-duty truck traffic generate diesel particulate matter (DPM) exhaust, which is a known toxic air contaminant, DPM from these sources would greatly disperse at the large distances to sensitive receptors from the Project site. In addition, as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]), construction contractors would be required to minimize idling times for trucks and equipment to five minutes, as well as to ensure that construction equipment is maintained in accordance with manufacturer's specifications. Given these factors, prolonged exposure of sensitive receptors to substantial pollutant concentrations would not occur. Therefore, the impact of construction-related emissions on sensitive receptors would be less than significant.

Following construction, the Project would not include any sources of new air toxic emissions that would substantially affect sensitive receptors. Therefore, Project operation would not expose nearby sensitive receptors to substantial levels of pollutants. The operation-related impact would be less than significant.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? (less than significant)

Implementation of the project would not result in major sources of odor. The project type is not one of the common types of facilities known to produce odors (e.g., landfill, coffee roaster, wastewater treatment facility). Minor odors from the use of equipment during construction activities would be intermittent, temporary, and would dissipate rapidly from the source with an increase in distance. The impact would be less than significant.

2.3.3 Mitigation Measures

No mitigation measures are required.

2.4 Biological Resources

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

2.4.1 Environmental Setting

2.4.1.1 Existing Conditions

The upland area of the Project site is developed, consisting of pavement, concrete or wood (part of the dock) areas used for parking, seafood offloading and storage, boat launching and other harbor related uses. There is no upland native vegetation, riparian or freshwater aquatic habitat of concern. The aquatic area of the Project site is subtidal and primarily marine influenced, with limited seasonal freshwater influence from Elk Creek. The primary aquatic habitat of concern is eelgrass (*Zostera marina*), though the entire subtidal area is an important habitat for aquatic species.

The harbor is located within the Elk Creek watershed. Construction and dredging events have altered sediment flow and benthic habitat. The nearest known eelgrass bed to the Project site is approximately 15 meters northwest of the South Harbor expansion area. This bed is approximately 2,500 square meters (Merkel and Associates 2018). In addition, there are two other known smaller beds in the harbor, including one bed approximately 100 meters northeast of the existing dock and one bed approximately 215 meters northwest of the South Harbor expansion area.

The following species may occur in the Project vicinity and are identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, by the California Department of Fish and Wildlife (CDFW) as state-listed species or are listed under the Endangered Species Act (ESA).

Common Name	Scientific Name	Status[1]
Fish		
Pacific lamprey	*Entosphenus tridentatus*	CSSC
Green sturgeon, southern DPS	*Acipenser medirostris*	FT/CSSC. Designated critical habitat in Humboldt Bay.
Coho salmon, southern Oregon, northern California ESU	*Oncorhynchus kisutch*	FT/ST
Coastal cutthroat trout	*Oncorhynchus clarki*	CSSC
Tidewater goby	*Eucyclogobius newberryi*	FE
Longfin smelt	*Spirinchus thaleichthys*	ST
Birds		
California brown pelican	*Pelecanus occidentalis californicus*	FP
Marbled murrelet	*Brachyramphus marmoratus*	FT
Marine Mammals		
Harbor seal	*Phoca vitulina*	Protected under the Marine Mammal Protection Act (MMPA)
California sea lion	*Zalophus californiaus*	Protected under the MMPA

Notes: DPS = Distinct Population Segment; ESU = Evolutionarily Significant Unit.

[1] Status abbreviations: FE = Federally listed as endangered; FT = Federally listed as threatened; ST = State-listed as threatened; CSSC = California Species of Special Concern; FP = Fully protected in California.

Fish

Pacific Lamprey. Pacific lamprey are a California Species of Special Concern. They spend most of their life in fresh or marine water, rather than estuaries. The species is known to spawn in Elk Creek (Garwood, 2019), which is a tributary to Crescent City Harbor. Therefore, Pacific lamprey can be expected to occur within the harbor during migration.

Green Sturgeon. The Southern DPS of green sturgeon is listed as threatened under the Federal Endangered Species Act (FESA) and is a California Species of Special Concern. Southern DPS green sturgeon are widely distributed, anadromous, marine-oriented sturgeon found in nearshore coastal waters from California to Canada (Adams et al. 2007). They are highly migratory, moving along the coast in search of food. The Sacramento River has been identified as the only known spawning location for southern DPS green sturgeon (Moyle 2002). Adult green sturgeon migrate back out to the ocean after spawning. Juvenile green sturgeon will spend one to four years in freshwater before migrating back out to bays and deltas and eventually into the ocean (Adams et al. 2007). There is potential for the species to occur within Crescent City Harbor during ocean migration.

Coho Salmon The Southern Oregon/Northern California Coast (SONCC) ESU of coho salmon is listed as threatened under the FESA and California Endangered Species Act (CESA). Coho salmon spend their early life in freshwater streams and forage in coastal waters in their adult life. The species is known to spawn in Elk Creek (Garwood, 2019), which is a tributary to the Crescent City Harbor. Therefore, coho salmon can be expected to occur within Crescent City Harbor during migration.

Coastal Cutthroat Trout Coastal cutthroat trout are an anadromous species and a California Species of Special Concern. The species is known to spawn in Elk Creek (Garwood, 2019), which is a tributary to the Crescent City Harbor. Therefore, coastal cutthroat trout can be expected to occur within Crescent City harbor during migration.

Tidewater Goby. Tidewater goby are listed as Endangered under the FESA. They inhabit the freshwater/saltwater interface where salinity is less than 12 parts per thousand. Although our records search did not reveal any identification of tidewater goby in Elk Creek, it is plausible that there are residential populations there. Crescent City harbor salinities are too high to support tidewater goby.

Longfin Smelt. Longfin smelt are listed as Threatened under the CESA. They are andromous fish that range from San Francisco Bay to the Aleutian Islands in Alaska. No records of longfin smelt occurring in Elk Creek or Crescent City Harbor were found during our records search. However, it is plausible that longfin smelt could spawn in Elk Creek and therefore would occur in Crescent City Harbor. The high salinity of the harbor would likely only allow for survival of adult longfin smelt, not larvae.

Birds

California Brown Pelican. The California Brown Pelican is a fully protected species that feeds in estuaries and nearshore ocean waters, plunge-diving to capture small schooling fishes near the water’s surface. Pelicans roost on sandbars, pilings, jetties, breakwaters, and offshore rocks, sometimes in large communal roosts that can number in the thousands. Roosting is likely in Crescent City Harbor.

Marbled murrelet. Marbled murrelets are Threatened under the FESA and are found in or near the marine environment. They spend most of their lives out in the ocean but nest on shore. In the summer, marbled murrelet individuals typically forage in stratified waters (e.g., tidal rips or river mouths) within three miles of the shore. Foraging activity during this time is highest in areas of upwelling, shallow banks, mouths of bays, narrow passages between islands, over underwater sills, and within kelp beds. There is potential for marbled murrelet’s to feed in Crescent City Harbor.

Marine Mammals

Harbor Seal and California Sea Lion. These species are protected under the Marine Mammal Protection Act. Harbor seals are opportunistic, nearshore coastal foragers that feed primarily on seasonally abundant benthic and epibenthic schooling fish. California sea lions feed on fish and cephalopods, some of which are commercially important species such as salmonids. Both species occur in Crescent City Harbor.

2.4.1.2 Regulatory Setting

Federal

Endangered Species Act

Species listed as endangered and/or threatened by USFWS or NMFS are protected under Section 9 of the FESA, which forbids any person to take an endangered or threatened species. *Take* is defined in Section 3 of the act as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The U.S. Supreme Court ruled in 1995 that the term *harm* includes destruction or modification of habitat. Sections 7 and 10 of the Act may authorize *incidental take* for an otherwise lawful activity (a development project, for example) if it is determined that the activity would not jeopardize survival or recovery of the species. Section 7 applies to projects where a federally listed species is present and there is a federal nexus, such as a federal CWA Section 404 permit (for example, impacts on waters of the United States) that is required. Section 10 applies when a federally listed species is present, but no federal nexus is present.

Marine Mammal Protection Act

The MMPA prohibits, with certain exceptions, the take of marine mammals in waters of the United States and by U.S. citizens on the high seas and the importation of marine mammals and marine mammal products into the United States. Congress passed the MMPA based on the following findings and policies: (1) some marine mammal species or stocks may be in danger of extinction or depletion as a result of human activities, (2) these species of stocks must not be permitted to fall below their optimum sustainable population level (depleted), (3) measures should be taken to replenish these species or stocks, (4) there is inadequate knowledge of the ecology and population dynamics, and (5) marine mammals have proven to be resources of great international significance.

The MMPA was amended substantially in 1994 to provide for: (1) certain exceptions to the take prohibitions, such as for Alaska Native subsistence, and for permits and authorizations for scientific research; (2) a program to authorize and control the taking of marine mammals incidental to commercial fishing operations; (3) preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction; and (4) studies of pinniped-fishery interactions. NMFS and USFWS administer the MMPA. The Proposed Project must be analyzed to ensure that marine mammals protected under the MMPA would not be harassed or injured as a result of Project activities in or adjacent to Humboldt Bay. Any Project activities that may result in Level A or B harassment, injury, or mortality would require consultation with NMFS and USFWS under the MMPA.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 U.S.C. Sections 661-667e, March 10, 1934, as amended 1936, 1946, 1947, 1948, 1949, 1958, 1965, 1978, and 1995; USFWS, 1934) requires that whenever waters or channel of a stream or other body of water are proposed or authorized to be modified by a public or private agency under a federal license or permit, the federal agency must first consult with the USFWS and/or NMFS and with the head of the agency exercising administration over the wildlife resources of the state where construction will occur (in this case the CDFW), with a view to conservation of birds, fish, mammals, and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent.

If direct permanent impacts will occur to Waters of the U.S. from a Proposed Project, then a permit from USACE under CWA Section 404 is required for the construction of the Proposed Project.

USACE is required to consult with USFWS and/or NMFS as appropriate regarding potential impacts to federally-listed species under FESA. Such action may prompt consultation with CDFW, which would review the project pursuant to CESA and issue a consistency letter with USFWS and/or NMFS, if required.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) domestically implements a series of international treaties that provide for migratory bird protection. The MBTA authorizes the Secretary of the Interior to regulate the taking of migratory birds. The act further provides that it is unlawful, except as permitted by regulations, "to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird…" (16 U.S.C. §§ 703–712). This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The current list of species protected by the MBTA can be found in the November 1, 2013 *Federal Register* (78 FR 65844–65864). This list comprises several hundred species, including essentially all native birds. Permits for take of nongame migratory birds can be issued only for specific activities, such as scientific collecting, rehabilitation, propagation, education, taxidermy, and protection of human health and safety and of personal property. USFWS publishes a list of birds of conservation concern to identify migratory nongame birds that are likely to become candidates for listing under FESA without additional conservation actions. The birds of conservation concern list is intended to stimulate coordinated and collaborative conservation efforts among federal, state, tribal, and private parties.

Clean Water Act Section 404 Wetlands

Under Section 404 of the CWA, wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas" (USEPA 2019).

Two general categories of wetlands are recognized: coastal or tidal wetlands, and inland or non-tidal wetlands. USACE defines three characteristics of wetlands: hydrology, hydrophytic plants, and hydric soils. An area must exhibit all three characteristics to be considered a "jurisdictional wetland." Some areas may perform the functions of wetlands, yet not be delineated as jurisdictional wetlands if they do not exhibit all three wetland characteristics.

USACE and USEPA 2008 Compensatory Mitigation for Losses of Aquatic Resources; Final Rule

When there is a proposed discharge of dredged or fill material into wetlands, streams, or other waters of the United States, all appropriate and practicable steps must first be taken to avoid and minimize impacts on aquatic resources. For unavoidable impacts, compensatory mitigation is required to replace the loss of wetland, stream, and/or other aquatic resource functions. The rule provides standards to promote no net loss of wetlands by improving wetland restoration and protection policies, increasing the effective use of wetland mitigation banks, and strengthening the requirements for the use of in-lieu fee mitigation.

State

California Endangered Species Act

CESA establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that affect both a state- and federally-listed species, compliance with FESA will satisfy CESA if CDFW determines that the federal incidental take authorization is consistent with CESA under CFGC Section 2080.1. For projects that would result in a take of a state-only listed species, the project proponent must apply for a take permit under Section 2081(b).

Fully Protected Species and Species of Special Concern

Sections 3511, 3513, 4700, and 5050 of the CFGC pertain to fully protected wildlife species (birds in Sections 3511 and 3513, mammals in Section 4700, and reptiles and amphibians in Section 5050) and strictly prohibit the take of these species. CDFW cannot issue a take permit for fully protected species, except under narrow conditions for scientific research or the protection of livestock or if a natural community conservation plan has been adopted.

State species of concern (SSC) are broadly defined as animals not listed under the CESA, but that are nonetheless of concern to the CDFW because they are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals by the CDFW, land managers, consulting biologists, and others, and is intended to focus attention on the species to help avert the need for costly listing under CESA and cumbersome recovery efforts that might ultimately be required. This designation is also intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them. Although the SSC designation provides no special legal status, they are given special consideration under CEQA during project review.

Native Bird Protection

Section 3503 of the CFGC prohibits the killing of birds and/or the destruction of bird nests. Section 3503.5 prohibits the killing of raptor species and/or the destruction of raptor nests. Typical violations include destruction of active bird and raptor nests as a result of tree removal, and failure of nesting attempts (loss of eggs and/or young) as a result of disturbance of nesting pairs caused by nearby human activity. Section 3513 prohibits any take or possession of birds designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations pursuant to the MBTA. To avoid violation of the take provisions, it is generally required that project-related disturbance at active nesting territories be reduced or eliminated during the nesting cycle.

Porter-Cologne Water Quality Control Act

The State and Regional Water Quality Control Board (RWQCB) also maintain independent regulatory authority over the placement of waste, including fill, into Waters of the State under the Porter-Cologne Water Quality Control Act (State Water Resources Control Board [SWRCB], 1969). Waters of the State are defined by the Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The SWRCB protects all waters in its regulatory scope but has special responsibility for isolated wetlands and headwaters. These water bodies might not be regulated by other programs, such as Section 404 of the CWA. Waters of the State are regulated by the RWQCBs under the State Water Quality Certification Program, which regulates discharges of dredged and fill material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require an USACE permit, or fall under other federal jurisdiction, and have the potential to impact Waters of the State are required to comply with the terms of the Water Quality Certification Program. If a Proposed Project does not require a federal license or permit but does involve activities that may result in a discharge of harmful substances to Waters of the State, the RWQCBs have the option to regulate such activities under their state authority in the form of waste discharge requirements (WDRs) or certification of WDRs.

Native Plant Protection Act of 1973

The Native Plant Protection Act (NPPA) of 1973 (Sec.1900-1913 of the CFGC) includes provisions that prohibit the taking of endangered or rare native plants from the wild and a salvage requirement for landowners. The CDFW administers the NPPA and generally regards as “rare” many plant species included on Lists 1A, 1B, 2A, 2B, 3, and 4 of the CNPS Inventory of Rare and Endangered Vascular Plants of California.

California Rare Plant Rankings

CDFW maintains lists of plants of special concern in California, in addition to those listed as threatened or endangered. These species have no formal protection under CESA, but the values and importance of these lists are widely recognized. Plants with a California Rare Plant Rank of 1A, 1B, and 2 meet the definitions of Section 1901 of the CFGC and may qualify for state listing. Accordingly, for purposes of analysis, such plant species are considered rare plants pursuant to Section 15380 of CEQA.

Natural Community Conservation Planning Act

The Natural Community Conservation Planning (NCCP) Act of 1991 is an effort by the State of California, and numerous private and public partners that is broader in its orientation and objectives than the CESA and FESA. The primary objective of the NCCP Act is to conserve natural communities at the ecosystem scale while accommodating compatible land use. The NCCP Act seeks to anticipate and prevent the controversies and gridlock caused by species listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

California Coastal Act

The California Coastal Act of 1976 recognizes California ports, harbors, and coastline beaches as primary economic and coastal resources and as essential elements of the national maritime industry. Decisions to undertake specific development projects, where feasible, are to be based on consideration of alternative locations and designs in order to minimize any adverse environmental impacts. The California Coastal Act is implemented by the Coastal Commission.

California Eelgrass Mitigation Policy and Implementing Guidelines

NMFS is an office of NOAA and is responsible for the stewardship of the nation’s ocean resources and their habitat. NMFS developed the California Eelgrass Mitigation Policy (CEMP) in order to establish and support a goal of protecting eelgrass and its habitat functions. The CEMP includes guidance on defining eelgrass habitat, surveying, mapping, assessing impacts, avoiding, and minimizing impacts on eelgrass, and mitigation options. Avoidance and minimization measures included within the CEMP relate to turbidity, shading, circulation, and nutrient and sediment loading impacts. Mitigation options include comprehensive management plans, in-kind mitigation, mitigation banks and in-lieu-fee programs, and out-of-kind mitigation. NMFS has provided this policy to other state and federal agencies, including CDFW, as guidance for handling project-related impacts on eelgrass habitat. The California Coastal Commission typically relies on CEMP guidance when assessing projects that may affect eelgrass.

California Wetlands Conservation Policy

The goals of the California Wetlands Conservation Policy, adopted in 1993 (EO W-59-93), are "to ensure no overall net loss, and achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California, in a manner that fosters creativity, stewardship, and respect for private property"; to reduce procedural complexity in the administration of state and federal wetlands conservation programs; and to make restoration, landowner incentive programs and cooperative planning efforts the primary focus of wetlands conservation.

2.4.2 Discussion

a-1) Construction related noise impacts.

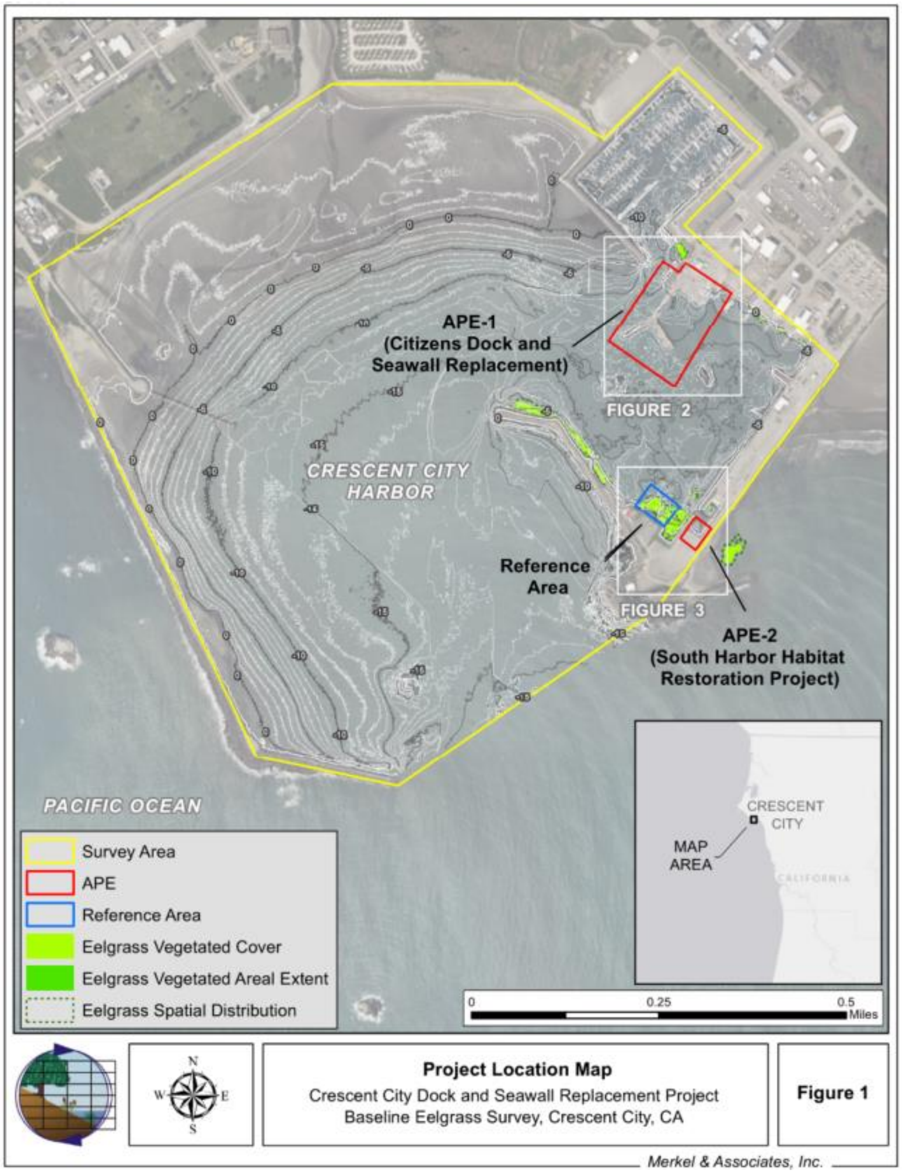
In water noise impacts to marine organisms, including fish, marine mammals and birds, are discussed in Appendix C, Biological Resources. Species that may be affected include harbor seals, sea lions, Pacific lamprey, green sturgeon, coastal cutthroat trout, longfin smelt and California brown pelican. Marbled murrelet are not expected to forage within the harbor and coho salmon are not expected to occur within the harbor during the Project's in water work window which is July 1 – October 15. While there may be an effect to these species, it is less than significant with implementation of Mitigation Measures Bio-1, Bio-2, Bio-3, and Bio-4.

a-2) Construction related water quality impacts.

In water construction activities have the potential to increase water turbidity. However, the types of in-water work (pile removal and installation) only result in minor increases that will be less than significant.

b) Eelgrass

The type of proposed construction activities have potential to impact eelgrass directly, through shading or by altering hydrologic conditions and related sedimentation/erosion. Eelgrass surveys were conducted on August 30 and September 6, 2024 (Merkel 2024, Appendix C, Biological Resources). The following figure from Merkel 2024 shows the extent of mapped eelgrass in relation to the Project's area of potential effect.



As described by Merkel (2024), no eelgrass was mapped within the Project's area of potential effect or adjacent to the area of potential effect. Hence, no direct impacts from construction of the dock, seawall or habitat restoration project are expected to impact eelgrass. However, it is important that construction crews do not impact eelgrass through storage, mooring or staging activities. This potential impact will be avoided with implementation of Mitigation Measure Bio-5, and with implementation of this measure the impact will be less than significant.

c) Benthic Fill and Overwater Cover

The Project will result in temporary and permanent benthic habitat disturbances during pile driving. Temporarily disturbed benthic habitat is anticipated to be quickly recolonized by benthic species and in-benthic invertebrates (Thrush and Dayton 2002). The reconstructed seawall will result in approximately 3,595 sf of permanent subtidal benthic habitat impacts due to placement of fill. The reconstructed pier will result in approximately 140 sf of permanent subtidal benthic habitat impacts due to placement of piles. Permanent benthic impacts will remove habitat for benthic species, including foraging area for fish and invertebrates. Permanent benthic habitat impacts will be offset at an approximately 1:1 ratio by the South Crescent City Harbor Habitat Restoration Project which will excavate land to create XX sf of benthic subtidal habitat. In addition to the proposed creation of benthic habitat and water column habitat through the South Crescent City Harbor Habitat Restoration Project, the removal of 804 13-inch-diameter creosote-treated piles at Citizens Dock will provide benefits to benthic habitat and water column habitat by reducing toxicity potential. Mitigation Measure Bio-6 will ensure that the impact is less than significant.

d) Movement

The nature of the Project (replacement of a dock and seawall and construction of a habitat restoration project) will not block movement of any species. In-water noise may result in some aquatic species temporarily avoiding the area during construction. However, this minor effect would be less than significant without mitigation.

e) Local Policies.

Plans protecting biological resources in the vicinity of the Project include:

- California Coastal Commission Sea Level Rise Policy Guidance, https://www.coastal.ca.gov/climate/slrguidance.html
- Del Norte Local Coastal Program https://www.co.del-norte.ca.us/departments/Planning/Documents
- California Eelgrass Mitigation Policy (CEMP), https://www.cakex.org/sites/default/files/documents/cemp_oct_2014_final.pdf

These plans and policies call for providing maximum public access and recreational use of the coast; protecting wetlands, rare and endangered habitats, environmentally sensitive areas, tidepools, and stream channels; maintaining productive coastal agricultural lands; directing new development to already urbanized areas and protecting scenic beauty.

The Project would not conflict with these plans and policies. Therefore, there would be no impact.

f) Conservation Plans.

There are no habitat conservation plans (HCPs) or other community plans in the Project vicinity and the Project would not conflict with any such plan. Therefore, there would be no impact.

2.4.3 Mitigation Measures

Mitigation Measure Bio-1. Marine mammal exclusion zone

A marine mammal exclusion zone will be monitored during and immediately before pile driving activities. Exclusion zones will be approved by the applicable resource agency prior to federal permit issuance.

Mitigation Measure Bio-2. Limit Pile Driving

Pile driving will not be initiated, or will be temporarily suspended, if a marine mammal is within the defined exclusion zone as will be identified in an Incidental Harassment Authorization that will be retained from the National Marine Fisheries Service.

Mitigation Measure Bio-3. Reduce in-water noise

Methods to reduce in-water noise impacts such as implementation of a soft start technique and use of a wood cushion block will be implemented. Noise reduction techniques will be chosen and implemented based on pile material-specific effectiveness.

Mitigation Measure Bio-4. Limit in water work to July 1 – October 15

In water work will be limited to July 1 – October 15 when coho salmon are not likely to be at or near the Project site.

Mitigation Measure Bio-5. Limit storage, mooring or staging activities during construction

During construction, no storage, mooring or staging activities will occur where eelgrass is known to occur.

Mitigation Measure Bio-6. South Crescent City Harbor Habitat Restoration Project

The South Crescent City Harbor Habitat Restoration Project as described in this Initial Study shall be constructed prior to or concurrently with construction of the dock and seawall.

2.5 Cultural Resources

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

2.5.1 Environmental Setting and Existing Conditions

The Project areas natural setting, prehistory and ethnography and the history of the harbor are described in a cultural resources report for the project prepared by William Rich and Associates which is included in Appendix D, Cultural Resources.

2.5.1.1 Regulatory Setting

The following information regarding the Project's regulatory setting is adapted from the cultural resources report for the project prepared by William Rich and Associates which is included as Appendix D, Cultural Resources.

The National Environmental Policy Act (NEPA) lead agency (the US Department of Transportation Marine Administration) for the proposed project is responsible for compliance with Section 106 of the National Historic Preservation Act (NHPA) and the California Environmental Quality Act (CEQA). As part of the environmental review process, NHPA and CEQA require that the lead agency implement procedures to inventory cultural resources and determine if these resources are significant with requisite integrity to qualify as historical resources, as defined in CEQA Guidelines Title 14. California Code of Regulations, Section 15064.5(a), or a historic property under the Code of Federal Regulations, Title 36 Part 800.4. Other state and federal regulation may also apply to this proposed undertaking action. Notably, Assembly Bill 52 requires the lead agency to consult directly with the culturally affiliated tribes.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that, for projects financed or approved by public agencies, such as the Crescent City Harbor District, the effects of the project on historical resources must be assessed. Historical resources are defined as buildings, sites, structures, or objects that have historical, architectural, archaeological, cultural, or scientific importance.

Under the State CEQA Guidelines, an impact is considered significant if a project will have an effect that may change the significance of the resource (Public Resources Code Section 21084.1). Actions that would change the significance of a historical resource include demolition, replacement, substantial alteration, and relocation of historic properties. Before the level of significance of impacts can be determined and mitigation measures developed, the significance of cultural resources must be determined. The CEQA Guidelines (Section 15064.5) define five cases in which a property can qualify as a significant historic resource for the purposes of CEQA review:

1. The resource is listed in or determined eligible for the listing in the California Register of Historical Resources (CRHR). A resource may be eligible for inclusion in the CRHR if it:
    a. is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
    b. is associated with the lives of persons important in our past;
    c. embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic values; or
    d. has yielded, or may be likely to yield, information important in prehistory or history.
2. Properties that are listed in or eligible for listing in the National Register of Historic Places (see below) are considered eligible for listing in the CRHR, and thus are significant historical resources for the purpose of CEQA (Public Resources Code Section 5024.1(d)(1)).
3. The resource is included in a local register of historic resources, as defined in sec. 5020.1(k) of the Public Resources Code, or is identified as significant in a historical resources survey that meets the requirements of Section 5024.1(g) of the Public Resources Code (unless the preponderance of evidence demonstrates that the resource is not historically or culturally significant).
4. The CEQA lead agency (in this case the Crescent City Harbor District) determines the resource to be significant as supported by substantial evidence in light of the whole record.
5. The CEQA lead agency determines that the resource may be a historical resource as defined in Public Resources Code sec. 5020.1(j) or 5024.1.

National Historic Preservation Act

Because the proposed project has received federal funding and will require federal permits, it is subject to review by the State Historic Preservation Officer. As such, the project is considered a federal undertaking triggering the necessity to comply with Section 106 of the National Historic Preservation Act of 1966 as amended (NHPA). Section 106 of the NHPA requires that, before beginning an undertaking, a federal agency, or those they fund or permit, must take into account the effects of the undertaking on historic properties and afford the Advisory Council on Historic Preservation (ACHP) and other interested parties an opportunity to comment on these actions.

Section 106 of the NHPA prescribes specific criteria for determining whether a project would adversely affect a historic property, as defined in 36 CFR 800.5. An impact is considered significant when prehistoric or historical archaeological sites, structures, or objects listed in or eligible for listing in the NRHP are subjected to the following effects:

- physical destruction of or damage to all or part of the property;
- alteration of a property;
- removal of the property from its historic location;
- change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;

- introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features;
- neglect of a property that causes its deterioration; and
- transfer, lease, or sale of the property.

Historic property significance is evaluated in terms of eligibility for listing in the NRHP. NRHP significance criteria applied to evaluate the historic properties in this study are defined in 36 CFR

60.4 as follows: The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, association, and

1. that are associated with events that have made a significant contribution to the broad patterns of our history; or
2. that are associated with the lives of persons significant in our past; or
3. that embody the distinctive characteristics of type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
4. that have yielded, or may be likely to yield, information important in prehistory or history.

Specific regulations regarding compliance with Section 106 state that, although the tasks necessary to comply with Section 106 may be delegated to others, the federal agency is ultimately responsible for ensuring that the Section 106 process is completed according to statute.

2.5.2 Discussion

a) As described in Section 6 of the Project's cultural resources report (Appendix D, Cultural Resources) "no archaeological, significant historical built-environment, or other cultural resources were identified in the area of potential effect (APE). Historic structures within the APE, including the 1950s-era Citizens Dock and associated outbuildings, have been substantially altered, with all of the original materials being replaced in several rebuilding projects after the structure was damaged by tsunamis in 1964, 2006 and 2011. The adjacent Seawall was built around 1960 and does not appear eligible for the NRHP or CRHR. Due to a substantial loss of integrity, the Citizens Dock also does not appear eligible for listing on the NRHP or CRHR, nor does the Harbor District Office. The South Crescent City Boat Harbor was built over a period of several years in the 1970s and does not meet age criteria for inclusion on the NRHP or CRHR." As such, the Project will not cause a substantial adverse change in the significance of a historical or archeological resource and there will be no impact.

b) As described in Section 6 of the Project's cultural resources report (Appendix D, Cultural Resources) "Based on the project area setting, previous cultural resource survey of the project location, and the current intensive investigation effort, it is unlikely that significant archaeological material will be discovered during ground disturbance at this location" and "Although it appears unlikely that precontact Native American archaeological sites occur at the beach under and adjacent to the Citizens Dock, there may be places of cultural importance requiring coordination and consideration with Tolowa Tribes. There may be a nexus between traditional cultural activities and the nearby offshore rocks, including Whaler Island (tatalɛ't), which may be important resources needing consultation with potential for documentation, evaluation and mitigation. Project elements designed to acknowledge the long lasting and enduring occupancy of the Tolowa people should be considered. It is required that Lead Agencies, for discretionary projects, consult directly with interested Tribes on the project designs, cultural resource findings, resource evaluations and recommended protection measures for such resources. Archaeological sites and places of ethnographic importance to the tribal community often transcend their linear boundaries and information potential, and upon consultation are found to qualify as tribal cultural resources or traditional cultural places under the provisions of state and national environmental laws.."

Letters describing the Project and requesting input from XX tribes under AB52 and Section 106 were sent on XX and the XX responses…

Additionally, Mitigation Measure Cul-1 will provide for appropriate actions in the event that a cultural resource is inadvertently discovered. With Mitigation Measure Cul-1, the impact will be less than significant.

c) As described in Section 6 of the Project's cultural resources report (Appendix D, Cultural Resources), it is unlikely that archeological materials will be found in the project setting. However, Mitigation Measure Cul-1 will provide for appropriate actions in the event that a cultural resource is inadvertently discovered. With Mitigation Measure Cul-1, the impact will be less than significant.

2.5.3 Mitigation Measures

Mitigation Measure Cul-1**. Inadvertent discovery of Cultural Resources.**

If cultural materials (for example, chipped or ground stone, historic debris, building foundations, or bone) are discovered during ground-disturbance activities, work shall be stopped within 20 meters of the discovery, per the requirements of Section 106 (36 CFR 800). Work near the archaeological finds shall not resume until a professional archaeologist, who meets the Secretary of the Interior's Standards and Guidelines, has evaluated the materials and offered recommendations for further action.

2.6 Energy

	Potentially Significant Impact	Less-than-Significant with Mitigation	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in 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?	☐	☐	☐	☐

2.6.1 Environmental Setting

[Body Text]

2.6.1.1 Existing Conditions

[Body Text]

2.6.1.2 Regulatory Setting

[Body Text]

Federal

[Body Text]

State

[Body Text]

Local

[Body Text]

2.6.2 Discussion

[Body Text]

2.6.3 Mitigation Measures

[Body Text]

2.7 Geology and Soils

	Potentially Significant Impact	Less-than-Significant with Mitigation	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 offsite 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?	☐	☐	☐	☒

2.7.1 Environmental Setting

2.7.1.1 Existing Conditions

Crescent City Harbor lies within the Smith River Plain, an approximately 100-square-mile, rectangular-shaped coastal lowland. The harbor lies on the southern edge of a broad, low-relief marine terrace that is part of the North Coast Ranges geologic province. The harbor bedrock consists of sedimentary rocks of the Miocene St. George formation, marine sand and shale, and metamorphic and sedimentary rocks of the Cretaceous to Jurassic-aged Franciscan Complex, predominately Franciscan mélange and Franciscan. Overlying the bedrock is a terrace deposit composed of Pleistocene compacted marine sands and clays of the Battery formation. Geologically recent unconsolidated sand dunes and alluvial deposits are deposited thinly over these formations.

Soils - The majority of deposited sediments in Crescent City Harbor are sourced from littoral transport of sediments into the harbor from the north and south. Composition of the sediment sources from north to south are fairly similar, with approximately equal (30% to 45%) proportions of rock fragments and quartz. Mean grain sizes range from fine to medium sands with a large range in sediment size distribution, from very well sorted (i.e., very poorly graded) to very well graded (i.e., very poorly sorted) (USACE 2006). Sediment samples from the Crescent City Harbor federal channels have been subjected to a comprehensive suite of physical, conventional, and chemical analyses. Previous sampling events (1993, 1998, 2003, 2009, 2011, and 2018) indicate that dredged material from the Entrance Channel has predominantly consisted of sand with little organic matter, while dredged material from the Marina Access Channel has predominantly consisted of sand with moderate organic matter and dredged material from the Inner Harbor Basin Channel has predominantly consisted of fine grain material (silt) with high amounts of organic matter.

Seismicity - Crescent City Harbor resides in a moderately active seismic area on the leading edge of the North American Plate, approximately 50 miles east of the surface trace of the Cascadia Subduction Zone. The Cascadia Subduction Zone is approximately 750 miles long, extending from the Mendocino fracture zone to the Queen Charlotte transform fault off the shore of British Columbia. Regional seismicity is dominated by the subduction of the Gorda Plate underneath the North American Plate. Seismic activity is most likely to occur within the Gorda Plate. No active faults or fault zones are located immediately within the project site, and the closest active fault zone is the Little Salmon Fault located 112 miles away. Other hazards associated with seismic activity, in addition to ground shaking and fault rupture, include landslides, liquefaction, and tsunamis. The harbor is at low risk for landslide or slope failure hazard due to the low relief of the area. Despite being flat land with a relatively high-water table, the harbor exhibits low liquefaction potential because it is underlain by sedimentary or metamorphic rock or compacted marine sediments. The tsunami hazard in Crescent City Harbor is significant based on the historical record, which includes over 32 tsunamis since the tide gauge was installed in 1933.

2.7.2 Discussion

The Project will replace an existing dock and seawall, designate a public access path and viewing area and expand a boat launch area (restoration project). No aspect of the Project will increase the likelihood of earthquakes, ground shaking, liquefaction or landslides. Construction staff will be working in an area that is susceptible to earthquakes. However, this risk will be no different than for people that currently and will continue to occupy the area (and the County in general) for recreation and commercial uses as well as other construction activities. There will be no impact.

A) The Project will replace an existing dock and seawall, designate a public access path and viewing area and expand a boat launch area. No aspect of the Project will create soil erosion. There will be no impact.

B) The Project will replace an existing dock and seawall, designate a public access path and viewing area and expand a boat launch area. The Project will increase the stability of the land behind the seawall, reducing the potential for landslide, lateral spreading, subsidence and liquefaction. There will be no impact.

C) The Project will replace an existing dock and seawall, designate a public access path and viewing area and expand a boat launch area. The Project will increase the stability of the land behind the seawall, reducing risk to life and property. There will be no impact.

D) No septic systems or wastewater systems are proposed as part of the Project. There will be no impact.

E) The Project will replace an existing dock and seawall, designate a public access path and viewing area and expand a boat launch area. Backland areas being demolished and constructed are already developed and there are no paleontological resources or geological features present. Similarly, the in-water area where piles will be removed and installed is not an area that contains paleontological resources or unique geologic features. There will be no impact.

2.7.3 Mitigation Measures

No mitigation measures are required.

2.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less-than-Significant with Mitigation	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?	☐	☐	☒	☐

2.8.1 Environmental Setting

2.8.1.1 Existing Conditions

Global Climate Change

The process known as the *greenhouse effect* keeps the atmosphere near Earth's surface warm enough for the successful habitation of humans and other life forms. The greenhouse effect is created by sunlight that passes through the atmosphere. Some of the sunlight striking Earth is absorbed and converted to heat, which warms the surface. The surface emits a portion of this heat as infrared radiation, some of which is re-emitted toward the surface by GHGs. Human activities that generate GHGs increase the amount of infrared radiation absorbed by the atmosphere, thus enhancing the greenhouse effect and amplifying the warming of Earth.

Increases in fossil fuel combustion and deforestation have exponentially increased concentrations of GHGs in the atmosphere since the Industrial Revolution (Intergovernmental Panel on Climate Change 2023). Rising atmospheric concentrations of GHGs in excess of natural levels result in increasing global surface temperatures— a process commonly referred to as *global warming*. Higher global surface temperatures, in turn, result in changes to Earth's climate system, including increased ocean temperature and acidity, reduced sea ice, variable precipitation, and increased frequency and intensity of extreme weather events (Intergovernmental Panel on Climate Change 2023). Large-scale changes to Earth's system are collectively referred to as *climate change.*

The Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. The IPCC estimates that human-induced warming reached approximately 1 degree Celsius (°C) above pre-industrial levels in 2017, increasing at 0.2°C per decade. Under the current nationally determined contributions of mitigation from each country until 2030, global warming is expected to rise to 3°C by 2100, with warming to continue afterwards (Intergovernmental Panel on Climate Change 2018). Large increases in global temperatures could have substantial adverse effects on the natural and human environments worldwide and in California.

Greenhouse Gases

The principle anthropogenic (human-made) GHGs contributing to global warming are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated compounds, including sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons. Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic sources.

The primary GHGs of concern associated with the proposed Project are CO_2, CH_4, and N_2O. Principal characteristics of these pollutants are discussed below.

- **Carbon dioxide** enters the atmosphere through fossil fuels (oil, natural gas, and coal) combustion, solid waste decomposition, plant and animal respiration, and chemical reactions (e.g., manufacture of cement). CO_2 is also removed from the atmosphere (or *sequestered*) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal solid waste landfills.
- **Nitrous oxide** is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.

Methods have been set forth to describe emissions of GHGs in terms of a single gas to simplify reporting and analysis. The most commonly accepted method to compare GHG emissions is the global warming potential (GWP) methodology defined in IPCC reference documents. IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalent (CO_2e), which compares the gas in question to that of the same mass of CO_2 (CO_2 has a global warming potential of 1 by definition).

Table 2.8-1 lists the global warming potential of CO_2, CH_4, and N_2O; their lifetimes; and their abundance in the atmosphere.

Table 2.8-1. Lifetimes and Global Warming Potentials of Key Greenhouse Gases

Greenhouse Gases	Global Warming Potential (100 years)	Lifetime (years)
CO_2	1	--[a]
CH_4	25	12
N_2O	298	114

Source: California Air Resources Board 2019.
CH_4 = methane; CO_2 = carbon dioxide; N_2O = nitrous oxide
[a] CARB has not identified a lifetime for CO_2.

All GWPs used for CARB's GHG inventory and to assess attainment of the state's 2020 and 2030 reduction targets are considered over a 100-year timeframe (as shown in Table 2.8-1). However, CARB recognizes the importance of short-lived climate pollutants (SLCP) and reducing these emissions to achieve the state's overall climate change goals. SLCPs have atmospheric lifetimes on the order of a few days to a few decades, and their relative climate forcing impacts, when measured in terms of how they heat the atmosphere, can be tens, hundreds, or even thousands of times greater than that of CO_2 (California Air Resources Board 2017).

Recognizing their short-term lifespan and warming impact, SLCPs are measured in terms of CO_2e using a 20-year time period. The use of GWPs with a time horizon of 20 years better captures the importance of the SLCPs and gives a better perspective on the speed at which SLCP emission controls would impact the atmosphere relative to CO_2 emission controls. The SLCP Reduction Strategy addresses the three primary SLCPs: CH_4, hydrofluorocarbon gases, and anthropogenic black carbon. Methane has a lifetime of 12 years and a 20-year GWP of 72. Hydrofluorocarbon gases, which would not be generated by the proposed Project, have lifetimes of 1.4 to 52 years and a 20-year GWP of 437 to 6,350. Anthropogenic black carbon has a lifetime of a few days to weeks and a 20- year GWP of 3,200 (California Air Resources Board 2017).

Greenhouse Gas Reporting

A GHG inventory is a quantification of all GHG emissions and sinks[4] within a selected physical and/or economic boundary. GHG inventories can be performed on a large scale (e.g., for global and national entities) or on a small scale (e.g., for a building or person). Although many processes are difficult to evaluate, several agencies have developed tools to quantify emissions from certain sources. Table 2.8-2 outlines the most recent global, national, and statewide GHG inventories to help contextualize the magnitude of potential proposed Project-related emissions. There is no GHG inventory specifically for the proposed Project area. Mobile sources (e.g., vehicle trips) generate the largest amounts of GHG emissions in the proposed Project area.

Table 2.8-2. Global, National, and State Greenhouse Gas Emissions (metric tons per year)

Emissions Inventory	CO_2e (rounded)
2022 IPCC Global	57,400,000,000
2022 USEPA National	5,489,000,000
2021 CARB State	381,300,000

Sources: Intergovernmental Panel on Climate Change 2023; U.S. Environmental Protection Agency 2024; California Air Resources Board 2023.

CARB = California Air Resources Board; CO_2e = carbon dioxide equivalent; EPA = U.S. Environmental Protection Agency; GHG = greenhouse gas; IPCC = Intergovernmental Panel on Climate Change.

Potential Climate Change Effects

Climate change is a complex process that has the potential to alter local climatic patterns and meteorology. Although modeling indicates that climate change would result in sea level rise (both globally and regionally) as well as changes in climate and rainfall, among other effects, there remains uncertainty about characterizing precise local climate characteristics and predicting precisely how various ecological and social systems would react to any changes in the existing climate at the local level. Regardless of this uncertainty, it is widely understood that substantial climate change is expected to occur in the future, although the precise extent would take further research to define. Specifically, significant impacts from global climate change worldwide and in California include the following.

- Declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in atmospheric water vapor, due to the

[4] A *GHG sink* is a process, activity, or mechanism that removes a GHG from the atmosphere.

atmosphere's ability to hold more water vapor at higher temperatures (California Natural Resources Agency 2018).

- Rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets (Intergovernmental Panel on Climate Change 2018).
- Changing weather patterns, including changes to precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones (Intergovernmental Panel on Climate Change 2018).
- Declining Sierra Mountains snowpack levels, which account for approximately half of the surface water storage in California, by 70% to as much as 90% over the next 100 years (California Natural Resources Agency 2018).
- Increasing the number of days conducive to ozone formation (e.g., clear days with intense sun light) by 25% to 85% (depending on the future temperature scenario) by the end of the twenty-first century in high ozone areas, including Southern California (California Natural Resources Agency 2018).
- Increasing the potential for erosion of California's coastlines and seawater intrusion into the Sacramento Delta and associated levee systems due to the rise in sea level (California Natural Resources Agency 2018).
- Exacerbating the severity of drought conditions in California such that durations and intensities are amplified, ultimately increasing the risk of wildfires and consequential damage incurred (California Natural Resources Agency 2018).
- Under changing climate conditions, agriculture is projected to experience lower crop yields due to extreme heat waves, heat stress and increased water needs of crops and livestock (particularly during dry and warm years), and new and changing pest and disease threats (California Natural Resources Agency 2018).
- The impacts of climate change, such as increased heat-related events, droughts, and wildfires, pose direct and indirect risks to public health, as people would experience earlier death and worsening illnesses. Indirect impacts on public health include increased vector-borne diseases, stress and mental trauma due to extreme events and disasters, economic disruptions, and residential displacement (California Natural Resources Agency 2018).

2.8.1.2 Regulatory Setting

Federal

Several federal executive orders (EO) have recently been signed by President Joe Biden related to GHG emissions and climate resiliency. EO 13990, signed in January 2021, set a national goal to achieve a 50 to 52% reduction from 2005 levels in economy wide net GHG pollution in 2030. EO 14057, signed in December 2021, requires federal agencies to develop strategic processes for achieving, among other things, carbon-free electricity by 2030 and 100% zero-emission vehicle acquisitions by 2035. President Joe Biden has also signed two bills—Infrastructure Investment and Jobs Act (2021) and Inflation Reduction Act (2022)—that provide funding for infrastructure improvements that will reduce GHG emissions and bolster resilience to climate change. Despite these actions, there is currently no federal law or legislatively mandated national GHG reduction target.

Vehicle Emission Standards

The National Highway Traffic Safety Administration (NHTSA) and the U.S. Environmental Protection Agency (USEPA) set corporate average fuel economy (CAFE) standards for passenger cars and for light trucks (collectively, light-duty vehicles), and separately sets fuel consumption standards for medium- and heavy-duty trucks and engines. The current CAFE standards require an industry-wide fleet average of approximately 49 miles per gallon (mpg) for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8% annually for model years 2024 and 2025, and 10% annually for model year 2026. Phase 2 of the *Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles* applies to model years 2019 through 2027 medium- and heavy-duty vehicles.

On April 12, 2023, USEPA proposed two new federal vehicle standards that will build on the existing CAFE and Phase 2 standards. The Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium Duty Vehicles proposes more stringent emission standards for light-duty and medium-duty vehicles for model years 2027 through 2032 and accelerates the deployment of electric- and clean-vehicles. The Greenhouse Gas Standards for Heavy-Duty Vehicles–Phase 3 establishes fleet mix performance standards for vocational vehicles (e.g., delivery trucks) and trucks typically used to haul freight.

State

Reducing GHG emissions in California has been the focus of the state government for approximately two decades. Senate Bill (SB) 32 requires the state to reduce emissions to 40 percent below the 1990 level by 2030. Assembly Bill (AB) 1279 requires California to achieve net zero GHG emissions (i.e., reach a balance between the GHGs emitted and removed from the atmosphere) no later than 2045 and to achieve and maintain net negative GHG emissions from then on. It also mandates an 85% reduction in statewide anthropogenic GHG emissions (from 1990 levels) by 2045. AB 1279 requires state agencies aim to achieve net-zero GHG emissions resulting from their operations no later than 2035, or as soon as feasible thereafter.

California's 2022 Climate Change Scoping Plan (2022 Scoping Plan), prepared by CARB (2022), outlines the main strategies California will implement to achieve the legislated GHG emissions target for 2030 and identifies a technologically feasible and cost-effective path to achieve carbon neutrality by 2045. It identifies the reductions needed by each GHG emission sector (e.g., industry, transportation, electricity generation). The state has also passed more detailed legislation to address GHG emissions associated with industrial sources, transportation, electricity generation, and energy consumption.

Vehicle Efficiency and Zero-Emissions Standards

AB 1493 (Pavley I) required CARB to develop and implement regulations to reduce automobile and light-truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the model year 2009. Additional strengthening of the Pavley standards (referred to previously as Pavley II and now referred to as the Advanced Clean Cars measure) was adopted for vehicle model years 2017–2025 in 2012. Together, the two standards are expected to increase average fuel economy to roughly 54.5 miles per gallon in 2025.

In August 2022, the CARB Board members voted to approve the Advanced Clean Cars II proposal, which will dramatically reduce emissions from passenger cars for model years 2026 through 2035. The requires an increasing proportion of new vehicles to be zero-emission vehicles, with the goal of 100% zero emission vehicles for new vehicles sold by 2035 (California Air Resources Board 2023).

CARB also adopted the Advanced Clean Truck Regulation to accelerate a large-scale transition of zero-emission medium-and-heavy-duty vehicles. The regulation requires the sale of zero-emission medium-and-heavy-duty vehicles as an increasing percentage of total annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55% of Class 2b – 3 truck sales, 75% of Class 4 – 8 straight truck sales, and 40% of truck tractor sales. By 2045, every new medium-and-heavy-duty truck sold in California will be zero-emission. Large employers including retailers, manufacturers, brokers, and others are required to report information about shipments and shuttle services to better ensure that fleets purchase available zero-emission trucks.

Executive Order S-3-05

EO S-3-05 sets forth a series of target dates by which statewide emissions of GHGs need to be progressively reduced, as follows: by 2010, reduce GHG emissions to 2000 levels (approximately 457 million metric tons of CO_2e); by 2020, reduce emissions to 1990 levels (approximately 427 million metric tons CO_2e); and by 2050, reduce emissions to 80% below 1990 levels (approximately 85 million metric tons CO_2e). EOs are binding only on state agencies. Accordingly, EO S-3-05 would guide State agencies' efforts to control and regulate GHG emissions but would have no direct binding effect on local government or private actions. The Secretary of the California Environmental Protection Agency is required to report to the governor and state legislature biannually on the impacts of global warming on California, mitigation and adaptation plans, and progress made toward reducing GHG emissions to meet the targets established in this EO.

Senate Bills 1078, 107, and X1-2

SBs 1078 and 107, California's Renewables Portfolio Standard (RPS), obligates investor-owned utilities, energy service providers, and Community Choice Aggregations to procure an additional 1% of retail sales per year from eligible renewable sources until 20% is reached, no later than 2010. The California Public Utilities Commission (CPUC) and California Energy Commission (CEC) are jointly responsible for implementing the program. SB X1-2 (2011) set forth a longer-range target of procuring 33% of retail sales by 2020.

Assembly Bill 32

One goal of EO S-03-05 was further reinforced by AB 32 (Chapter 488, Statutes of 2006), the Global Warming Solutions Act of 2006, which requires the state to reduce GHG emissions to 1990 levels by 2020. Since AB 32 was adopted, CARB, the CEC, CPUC, and the Building Standards Commission have been developing regulations that would help meet the goals of AB 32. Under AB 32, CARB is required to prepare a Scoping Plan and update it every 5 years. The Scoping Plan was approved in 2008, updated in 2014 and 2017, and the most recent update was approved in 2022 (see discussion of SB 32 below). The Scoping Plan identifies specific measures to reduce GHG emissions to 1990 levels by 2020 and requires CARB and other state agencies to develop and enforce regulations and other initiatives for reducing GHGs. Specifically, the AB 32 Scoping Plan articulates a key role for local governments, recommending they establish GHG reduction goals for both their municipal operations and the community consistent with those of the state.

Executive Order S-01-07—Low Carbon Fuel Standard

With EO S-01-07, Governor Schwarzenegger set forth the low carbon fuel standard for California in 2007. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 20% by 2030.

Senate Bill 97

SB 97 required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the CEQA guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Senate Bill 350—De Leon (Clean Energy and Pollution Reduction Act of 2015)

SB 350 was approved by the state legislature in September 2015 and signed by Governor Brown in October 2015. Its key provisions are to require the following by 2030: (1) a renewables portfolio standard of 50% and (2) a doubling of energy efficiency (electrical and natural gas) by 2030, including improvements to the efficiency of existing buildings. These mandates would be implemented by future actions of the CPUC and CEC.

Senate Bill 32 and Assembly Bill 197

SB 32 requires CARB to ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by 2030. The companion bill, AB 197, creates requirements to form a Joint Legislative Committee on Climate Change Policies, requires CARB to prioritize direct emission reductions and consider social costs when adopting regulations to reduce GHG emissions beyond the 2020 statewide limit, requires CARB to prepare reports on sources of GHGs and other pollutants, establishes 6-year terms for voting members of ARB, and adds two legislators to CARB as non-voting members.

Pursuant to SB 32, CARB updated the prior AB 32 Scoping Plan to address implementation of GHG reduction strategies to meet the 2030 reduction target. The final plan was approved in December 2022. The 2022 plan continues the discussion from the original scoping plan and 2014 and 2017 updates of identifying scientifically backed policies within six of the state's economic sectors to reduce GHGs. The updated Scoping Plan includes various elements, including adding four times the solar and wind capacity by 2045, reaching 100% zero-emission vehicle sales by 2035, evaluating and potentially proposing changes to the Cap and Trade Program, increasing management and protection of California's natural and working lands and creating walkable communities with expanded mass transit and other alternatives to traveling by car.

Senate Bill 605 and Senate Bill 1383

SB 605 directed CARB, in coordination with other State agencies and local air districts, to develop a comprehensive SLCP Reduction Strategy. SB 1383 directed CARB to approve and implement the SLCP Reduction Strategy to achieve the following reductions in SLCPs.

- 40% reduction in methane below 2013 levels by 2030.
- 40% reduction in hydrofluorocarbon gases below 2013 levels by 2030.
- 50% reduction in anthropogenic black carbon below 2013 levels by 2030.

The bill also establishes the following targets for reducing organic waste in landfills and methane emissions from dairy and livestock operations.

- 50% reduction in organic waste disposal from the 2014 level by 2020.
- 75% reduction in organic waste disposal from the 2014 level by 2025.
- 40% reduction in methane emissions from livestock manure management operations and dairy manure management operations below the dairy sector's and livestock sector's 2013 levels by 2030.

CARB and CalRecycle are currently developing regulations to achieve the organic waste reduction goals under SB 1383. In January 2019 and June 2019, CalRecycle proposed new and amended regulations in Titles 14 and 27 of the CCR. Among other things, the regulations set forth minimum standards for organic waste collection, hauling, and composting. The final regulations took effect on January 1, 2022.

Short-Lived Climate Pollutant Reduction Strategy

CARB adopted the SLCP Reduction Strategy in March 2017 as a framework for achieving the methane, hydrofluorocarbon, and anthropogenic black carbon reduction targets set by SB 1383. The SLCP Reduction Strategy includes 10 measures to SLCPs, which fit within a wide range of ongoing planning efforts throughout the state, including CARB's and CalRecycle's proposed rulemaking on organic waste diversion.

Legislation Associated with Electricity Generation

The state passed legislation that requires increasing use of renewables to produce electricity for consumers. Specifically, California utilities are required to generate 44% of their electricity from renewables by 2024 (Senate Bill [SB] 1001), 50% by 2026 (SB 100), 52% by 2027 (SB 100), 60% by 2030 (SB 100), 90% by 2035 (SB 1020), 95% by 2040 (SB 10202), and 100% by 2045 (SB 100/SB 1020). SB 1020 also requires state agencies to rely on 100% renewable energy and zero-carbon resources to serve their own facilities by 2035.

Executive Order B-55-18 and Assembly Bill 1279

EO B-55-18 acknowledges the environmental, community, and public health risks posed by future climate change. It further recognizes the climate stabilization goal adopted by 194 states and the European Union under the Paris Agreement. California is committed to meeting the Paris Agreement goals and going beyond them wherever possible. Based on the worldwide scientific agreement that carbon neutrality must be achieved by midcentury, EO B-55-18 establishes a new state goal to achieve carbon neutrality as soon as possible, and no later than 2045, and to achieve and maintain net negative emissions thereafter. The EO charges the CARB with developing a framework for implementing and tracking progress toward these goals. This EO extends EO S-3-05 but is only binding on state agencies.

AB 1279 (Health and Safety Code Section 38562.2) requires California to achieve net zero GHG emissions (i.e., reach a balance between the GHGs emitted and removed from the atmosphere) no later than 2045 and to achieve and maintain net negative GHG emissions from then on. It also mandates an 85% reduction in statewide anthropogenic GHG emissions (from 1990 levels) by 2045. AB 1279 recognizes that meeting these targets requires direct GHG emission reductions and removal of carbon dioxide from the atmosphere, as well as a nearly complete transition from fossil fuels. As such, the bill directs CARB to work with relevant state agencies to ensure Scoping Plan updates include measures that put California on a trajectory to achieve these targets. It also tasks CARB with implementing strategies that facilitate carbon dioxide removal (CDR) solutions and carbon capture, utilization, and storage technologies (CCUS). To evaluate the State's progress, AB 1279 requires that CARB report progress toward these targets to the legislature annually. By 2035, the bill directs CARB to assess the feasibility and tradeoffs of reducing statewide anthropogenic GHG emissions to 85% below 1990 levels by 2045 and report its findings to the legislature.

Local

North Coast United Air Quality Management District

As discussed in Section 2.3, *Air Quality*, the North Coast United Air Quality Management District (NCUAQMD) is responsible for air quality planning within the North Coast Air Basin. The NCUAQMD has not adopted GHG thresholds. In 2011, NCUAQMD adopted Rule 111, *Federal Permitting Requirements for Sources of GHGs,* into District rules to establish a threshold above which New Source Review and federal Title V permitting applies, and to establish federally enforceable limits on the potential to emit GHGs for stationary sources. However, these regulations are only applicable to stationary sources (NCUAQMD 2019).

Del Norte County

Del Norte County General Plan

The *Del Norte County General Plan* was adopted in 2003 and amended in 2021. The general plan's Natural Resources/Conservation section contains a goal and policies related to air quality that are relevant to the GHG emissions issues associated with the proposed Project (Del Norte County 2021). These policies are as follows.

Goal 1.F: To protect and improve air quality in the Del Norte County and the region.

- **Policy 1.F.4:** The County shall continue to submit major development proposals to the NCUAQMD for review and comment in compliance with California Environmental Quality Act (CEQA) prior to consideration by the appropriate decision-making body.
- **Policy 1.F.5:** The County shall continue to encourage project proponents to consult early in the planning process with the County and the NCUAQMD regarding the applicability of transportation control measures (TCM) programs.
- **Policy 1.F.6:** The County shall encourage development to be located and designed to minimize direct and indirect air pollutants.
- **Policy 1.F.7:** In reviewing project applications, where significant emissions are indicated, the County shall consider alternatives or amendments that reduce significant emissions of air pollutants.

2.8.2 Discussion

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (less than significant)

Construction GHG emissions were calculated by using CalEEMod 2022.1.1.26. Details regarding the construction schedule, construction activities, equipment inventory, assumptions, and data used to calculate construction-related GHG emissions are available in Appendix D (CalEEMod Emissions Report). As shown in Table 2.8-3, project construction is estimated to generate a total of 2,701 metric tons of carbon dioxide equivalent (MTCO2e).

Table 2.8-3. Estimated GHG Emissions from Project Construction (metric tons per year)

Construction Year	CO_2	CH_4	N_2O	HFCs	CO_2e
2026	614	< 1	< 1	< 1	618
2027	1,057	< 1	< 1	< 1	1,062
2028	1,016	< 1	< 1	< 1	1,021
Total	**2,687**	**< 1**	**< 1**	**< 1**	**2,701**

CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; HFC = hydrofluorocarbon; CO_2e = carbon dioxide equivalent, including the relative warming capacity (i.e., GWP) of each GHG

Following construction, the Project would not result in an increase in traffic or dock activity because the Project would not necessitate additional staffing at the facility nor substantially increase the number of visitors, deliveries of materials or supplies compared to current baseline conditions. Therefore, because the Project operational activities would be similar to existing activities, the operational emissions were not quantified. Therefore, the Project's GHG impact would be less than significant.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (less than significant)

This analysis uses the California Air Resources Board (CARB) 2022 Climate Change Scoping Plan as the applicable greenhouse gas reduction strategy (CARB 2022). Del Norte County does not have an adopted greenhouse gas reduction strategy.

The 2022 Climate Change Scoping Plan provides strategies for meeting the mid-term 2030 greenhouse gas reduction target set by Senate Bill (SB) 32. The 2022 Climate Change Scoping Plan also identifies how the State can substantially advance toward the 2050 greenhouse gas reduction target of Executive Order S-3-05, which consists of reducing greenhouse gas emissions to 80 percent below 1990 levels. AB 1279 sets a more ambitious state goal of net-zero GHG emissions by 2045 and an 80 percent reduction in anthropogenic emissions from 1990 levels by 2045. The Scoping Plan recommendations cover several key sectors, including: transportation sustainability; clean electricity grid; sustainable manufacturing and buildings; carbon dioxide removal and capture; short-lived climate pollutants; natural and working lands. The recommended measures in the 2022 Scoping Plan are broad policy and regulatory initiatives that will be implemented at the State level and do not relate to the construction and operation of individual projects. However, the project would include sustainable features such as providing two fast charging stations atop the sea wall for EV trucks. Additionally, one low-capacity long term station would be provided for each reefer cold storage trailer, so they are connected to the grid instead of being powered from fossil-fuel powered generators.

The project would not impede the State developing or implementing the greenhouse gas reduction measures identified in the Scoping Plan. Therefore, the project would not conflict with SB 32 or the 2022 Climate Change Scoping Plan. The impact would be less than significant.

2.8.3 Mitigation Measures

No mitigation measures are required.

2.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less-than-Significant with Mitigation	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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

2.9.1 Environmental Setting

2.9.1.1 Existing Conditions

The site consists of an actively working harbor. While there have historically been temporary incidences of hazardous material spills and contamination, there is not a current clean-up effort required for any past contamination. A search of available environmental records was conducted by Environmental Data Resources, Inc and is included as Appendix E, Hazards.

2.9.2 Discussion

a and b) Accidental spills of oil, grease, or other petroleum products could occur during construction, as construction includes operation of heavy machinery. The potential risk associated with the use of these products does not substantially differ from the baseline conditions in the project area, where vessels navigate the waterways and vehicles access the adjacent upland areas. In order to minimize the risk of accidental spills, the contractor will implement a Spill Prevention, Control, and Countermeasures (SPCC) Plan during all construction activities to contain such products and ensure that the appropriate materials are maintained onsite during construction to respond to any gas, oil, or other leak or spill. If unexpected hazardous materials are encountered during construction, any such material will be addressed and disposed of according to California regulations. The impact will be less than significant.

c) There is not an existing or proposed school within one-quarter mile of the Project. There will be no impact.

d) A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR) (July 31, 2024). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate. Based on this records search, there are no hazardous materials onsite that would create a significant hazard to the public or environment. There will be no impact.

e) The nearest airport (Del Norte County Regional Airport) is 3.3 miles away. There will be no impact.

f) The Project will replace an existing dock and seawall, designate a public access path and viewing area and expand a boat launch area. During construction there will be a minor increase in traffic as construction equipment and materials are brought to the Project site and demolished materials are removed. However, roads will not be closed. Emergency response and evacuation will not be impacted by the Project. There will be no impact.

g) There is not a risk of wildland fire at the developed Project site. There will be no impact.

2.9.3 Mitigation Measures

No mitigation measures are required.

2.10 Hydrology and Water Quality

	Potentially Significant Impact	Less-than-Significant with Mitigation	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 groundwater 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 offsite;	☐	☐	☐	☒
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☐	☒
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
(iv) impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☒	☐	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

2.10.1 Discussion

A) In water work will occur for the replacement of the dock and seawall and expansion of the boat ramp area. This work involves demolition of the existing pier and seawall as well as dock pile and decking installation, seawall construction and excavation and rebuilding of the boat launch facilities. This work could potentially suspend sediments creating turbidity. There is also potential for hazardous material (e.g., petroleum products) spills and for debris to fall into the water. With implementation of Mitigation Measures WQ-1 and WQ-2 the impact will be less than significant.

B) The Project will replace an existing dock and seawall, designate a public access path and viewing area and expand a boat launch area. No aspect of the Project has the potential to decrease groundwater supplies or impede groundwater discharge. There will be no impact.

C) The Project will replace an existing dock and seawall, designate a public access path and viewing area and expand a boat launch area. The Project will reduce the potential for erosion at the site by constructing a more structurally sound seawall. The Project will not increase surface runoff, impede or redirect surface or flood flows. There will be no impact.

D) The Project area is in an area susceptible to tsunami with the potential to release pollutants if the site is inundated during demolition and construction. With implementation of Mitigation Measure WQ-1 the impact will be less than significant. Replacement and elevation of the deteriorated dock and seawall will reduce the risk of a tsunami inundating the site and releasing pollutants. The impact is less than significant with mitigation.

E) The nature of the Project will not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. As described under (a), the impact to water quality will be less than significant. Hence, there will be no impact.

2.10.2 Mitigation Measures

Mitigation Measure WQ-1. Prevent hazardous material spills and construction debris from entering the water

Measures will be implemented to prevent hazardous material spills and construction debris from entering the water, including the following:

- Floating booms to capture debris will be deployed and debris that falls in the water will be immediately removed.
- Routine equipment inspections will be conducted to identify and remedy any leaks.
- Vegetable oil based hydraulic fluids will be used as feasible.
- Equipment maintenance and fueling shall occur in a confined area at least 100 feet upland from the mean high tide line.
- Spill cleanup kits shall be kept on site in order to respond to any spills that occur.

Mitigation Measure WQ-2. Monitor and limit turbidity during constructin

Turbidity will be monitored throughout in-water demolition and construction activities and it will be ensured that turbidity created by demolition and construction does not exceed 20% of background levels. If this threshold is temporarily exceeded, then activities will be halted and alternative methods or minimization measures will be implemented that reduce turbidity generated to 20% or less of background levels.

2.11 Land Use and Planning

	Potentially Significant Impact	Less-than-Significant with Mitigation	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?	☐	☐	☐	☒

2.11.1 Environmental Setting

In March of 2021 the Del Norte County Board of Supervisors unanimously adopted a Local Coastal Program Amendment for the Crescent City Harbor area composed of a comprehensive Harbor Land Use Plan as well as updates to the harbor-specific zoning districts of the Countywide Implementation Plan. The Harbor Coastal Land Use Plan formalizes a long-term vision for the physical evolution of the harbor area and outlines goals, policies, and programs to guide future development of the harbor. The proposed land use/zoning designations support visitor serving and recreational land uses within the District that allow more flexibility in accommodating diverse uses within the harbor area.

2.11.1.1 Existing Conditions

There is an existing dock and seawall that will be replaced at the same locations. The area where the proposed public pathway and observation area will be established is currently used by the public for walking and viewing harbor facilities. Finally, the location of the restoration project is currently (and will remain) a boat ramp facility.

2.11.1.2 Regulatory Setting

The locations where the seawall and dock will be replaced and the public pathway and observation area will be established are zoned HDMC-C(H) (Harbor Dependent Marine Commercial). This district classification is intended to prioritize the needs of the commercial fishing industry while also accommodating other coastal-dependent commercial and industrial development and coastal-related support facilities within or immediately adjacent to the waters of the harbor in a manner that will encourage the continuation of commercial fishing and other coastal-dependent marine commercial and industrial activities, maintain the marine theme and character of the Harbor, and encourage physical and visual access to the harbor where appropriate. Changes of district classification from Harbor Dependent Marine Commercial to another classification are to be made only where such uses are in accord with the adopted land use designations and policies of the Harbor Land Use Plan. The combing District ("H") is in reference to hazards at the site and specifically a relatively high potential for flooding.

The location where the habitat restoration project will occur is zoned HDR-C(H) (Harbor Dependent Recreational). This district classification is intended to provide for public and commercial recreational development within or immediately adjacent to the waters of the harbor in a manner that will encourage the continuation of recreational boating and other water-oriented visitor-serving and recreational uses and mutually supportive businesses that enhance public opportunities for coastal recreation, maintain the marine theme and character of the Harbor, and encourage physical and visual access to harbor on waterfront commercial and recreational sites along or in proximity to the water of the harbor. District classification changes from Harbor Dependent Recreational to another classification are to be made only where such uses are in accord with the adopted land use designations and policies of the Harbor Land Use Plan. The combing District ("H") is in reference to hazards at the site and specifically potential for flooding.

2.11.2 Discussion

The nature of the Project (replacement of a dock and seawall, establishment of a public walkway and observation area, and habitat restoration in the form of expanding a boat launch area) would not divide the existing community. There will be no impact.

a) Land use types would not be altered as a result of the Project and all uses are consistent with County zoning. Specifically, (1) replacement and use of the dock and seawall are consistent with the HDMC zoning intent to prioritize the needs of the commercial fishing community, since these facilities will continue to be primarily used by the commercial fishing community; (2) the public pathway and observation area are consistent with the HDMC zoning intent to encourage physical and visual access to the harbor; and (3) the habitat restoration project is consistent with the HDR zoning because in addition to restoring benthic habitat it will improve public and commercial recreational development within waters of the harbor in a manner that will encourage the continuation of recreational boating and other water-oriented visitor-serving and recreational uses (i.e., the boat launch facility will be improved).

2.11.3 Mitigation Measures

No mitigation measures are required.

2.12 Mineral Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation	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?	☐	☐	☐	☒

2.12.1 Environmental Setting

2.12.1.1 Existing Conditions

There are no known mineral resources of value at the Project site.

2.12.2 Discussion

a and b) The nature of the Project (replacement of a dock and seawall, establishment of a public walkway and observation area, and habitat restoration in the form of expanding a boat launch area) would not impact mineral resources. There will be no impact.

2.12.3 Mitigation Measures

No mitigation measures are required.

2.13 Noise

	Potentially Significant Impact	Less-than-Significant with Mitigation	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 ground-borne vibration or ground-borne 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?	☐	☐	☐	☒

2.13.1 Environmental Setting

2.13.1.1 Fundamentals of Noise and Sound

Overview of Noise and Sound

Noise is commonly defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health. Because noise is an environmental pollutant that can interfere with human activities, CEQA requires an evaluation of noise when considering the environmental impacts of a proposed Project.

Sound is mechanical energy (i.e., vibration) transmitted by pressure waves over a medium such as air or water. Sound is characterized by various parameters, including the rate of oscillation of sound waves (i.e., frequency), the speed of propagation, and the pressure level or energy content (i.e., amplitude). In particular, the sound pressure level is the most common descriptor for characterizing the loudness of an ambient (i.e., existing) sound level. The dB scale, which is a logarithmic scale, is used to quantify sound intensity, with 0 dB corresponding roughly to the threshold of hearing; however, the dB scale does not accurately describe how sound intensity is perceived by human hearing. The human ear is not equally sensitive to all frequencies in the entire spectrum. Therefore, noise measurements are weighted more heavily toward the frequencies to which humans are sensitive in a process called A-weighting, written as dBA and referred to as A-weighted decibels. Table 2.13-1 defines sound measurements and other terminology used in this chapter, and Table 2.13-2 summarizes typical A-weighted sound levels for different noise sources.

Table 2.13-1. Definition of Sound Measurements

Sound Measurements	Definition
Decibel (dB)	A unitless measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude with respect to a reference sound pressure amplitude. The reference pressure is 20 micropascals.
A-Weighted Decibel (dBA)	An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
C-Weighted Decibel (dBC)	The sound pressure level in decibels measured using the C-weighting filter network. C-weighting is very close to an unweighted or *flat* response. C-weighting is used only in special cases (i.e., when low-frequency noise is of particular importance). A comparison of the measured A- and C-weighted level gives an indication of low-frequency content.
Maximum Sound Level (L_{max})	The maximum sound level measured during the measurement period.
Minimum Sound Level (L_{min})	The minimum sound level measured during the measurement period.
Equivalent Sound Level (L_{eq})	The equivalent steady-state sound level that in a stated period of time would contain the same acoustical energy.
Percentile-Exceeded Sound Level (L_{xx})	The sound level exceeded X percent of a specific time period. L_{10} is the sound level exceeded 10 percent of the time, and L_{90} is the sound level exceeded 90 percent % of the time. L_{90} is often considered to be representative of the background noise level in a given area.
Day-Night Level (L_{dn})	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
Community Noise Equivalent Level (CNEL)	The energy average of the A-weighted sound levels occurring during a 24hour period, with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
Ambient Noise Level	The all-encompassing composite of noise (from all sources near and far) associated with a given environment. The normal or existing level of environmental noise at a given location.
Vibration Velocity Level (or Vibration Decibel Level, VdB)	The root-mean-square velocity amplitude for measured ground motion, expressed in dB.
Peak Particle Velocity (peak velocity or PPV)	A measurement of ground vibration, defined as the maximum speed (measured in inches per second) at which a particle in the ground is moving relative to its inactive state. PPV is usually expressed in inches per second.
Frequency: Hertz (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure.

Table 2.13-2. Typical A-weighted Sound Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	—110—	Rock band
Jet flyover at 1,000 feet		
	—100—	
Gas lawnmower at 3 feet		
	—90—	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	—80—	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower at 100 feet	—70—	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	—60—	
		Large business office
Quiet urban daytime	—50—	Dishwasher in next room
Quiet urban nighttime	—40—	Theater, large conference room (background)
Quiet suburban nighttime		
	—30—	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	—20—	
		Broadcast/recording studio
	—10—	
	—0—	

Source: Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment*. FTA Report 0123. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed: July 24, 2024.

In general, human sound perception is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change of 3 dB is barely noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level as it increases or decreases, respectively.

Different types of measurement metrics are used to characterize the time-varying nature of sound. These measurements metrics include the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}), percentile-exceeded sound levels (such as L_{10}, L_{20}), the day-night sound level (L_{dn}), and the CNEL. L_{dn} and CNEL values differ by less than 1 dB. As a matter of practice, L_{dn} and CNEL values are generally considered to be equivalent and are treated as such. These measurements metrics are defined in Table 2.13-1.

For a point source, such as a stationary compressor or a piece of construction equipment, sound attenuates (i.e., lessens in intensity) based on geometry at a rate of 6 dB per doubling of distance. For a line source, such as free-flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance perpendicular to the source.[5] Atmospheric conditions, including wind, temperature gradients, and humidity, can change how sound propagates over distance and can affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface such as grass attenuates at a greater rate than sound that travels over a hard surface such as pavement. The increased attenuation is typically in the range of 1 to 2 dB per doubling of distance. Barriers such as buildings or topographic features that block the line of sight between a source and receiver also increase the attenuation of sound over distance.

Community noise environments are generally perceived as quiet when the 24-hour average noise level is below 45 dBA CNEL, moderate in the 45 to 60 dBA CNEL range, and loud above 60 dBA CNEL. Very noisy urban residential areas are usually around 70 dBA CNEL. Along major thoroughfares, roadside noise levels are typically between 65 and 75 dBA CNEL. Incremental changes of 3 to 5 dB in the existing 1-hour L_{eq}, or the CNEL, are commonly used as thresholds for an adverse community reaction to a noise increase. However, there is evidence that incremental thresholds in this range may not be adequately protective in areas where noise-sensitive uses are located and the CNEL is already high (i.e., above 60 dBA). In these areas, limiting noise increases to 3 dB or less is recommended.[6] Noise intrusions that cause short-term interior noise levels to rise above 45 dBA at night can disrupt sleep. Exposure to noise levels greater than 85 dBA for 8 hours or longer can cause permanent hearing damage.

Noise from Multiple Sources

Because sound pressure levels in decibels are based on a logarithmic scale, they cannot be added or subtracted in the usual arithmetical way. Adding a new noise source to an existing noise source, with both producing noise at the same level, will not double the noise level. If the difference between two noise sources is 10 dBA or more, the higher noise source will dominate, and the resultant noise level will be equal to the noise level of the higher noise source. In general, if the difference between two noise sources is 0 to 1 dBA, the resultant noise level will be 3 dBA higher than the higher noise source, or both sources if they are equal. If the difference between two noise sources is 2 to 3 dBA, the resultant noise level will be 2 dBA above the higher noise source. If the difference between two noise sources is 4 to 10 dBA, the resultant noise level will be 1 dBA higher than the higher noise source.

Attenuation of Noise

A receptor's distance from a noise source affects how noise levels attenuate (i.e., how noise levels decrease), as described briefly in the *Overview of Noise and Sound* subsection of this section. Transportation noise sources tend to be arranged linearly such that roadway traffic attenuates at a rate of 3.0 to 4.5 dBA per doubling of distance from the source, depending on the intervening surface

5 California Department of Transportation. 2020. *Transportation and Construction Vibration Guidance Manual*. April. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf. Accessed: July 24, 2024.

6 Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment*. FTA Report 0123. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed: July 24, 2024.

(paved or vegetated, respectively). Point sources of noise, such as stationary equipment or construction equipment, typically attenuate at a rate of 6.0 to 7.5 dBA per doubling of distance from the source, depending on the intervening surface.[7] For example, a sound level of 80 dBA at 50 feet from the noise source will be reduced to 74 dBA at 100 feet, 68 dBA at 200 feet, and so on, based on the 6 dB point-source reduction over a non-absorptive surface (e.g., pavement instead of vegetation). Noise levels can also be attenuated by "shielding" or providing a barrier between the source and the receptor. With respect to interior noise levels, noise attenuation effectiveness depends on whether windows are closed or open. Based on the U.S. Environmental Protection Agency's (EPA's) national average, closed windows reduce noise levels by approximately 25 dBA, and open windows reduce noise levels by about 15 dBA.[8]

Noise-Sensitive Land Uses

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Noise-sensitive land uses typically may include but are not limited to single- and multi-family residential areas, health care facilities, churches, lodging facilities, and schools. Noise-sensitive land uses where people typically sleep are typically more sensitive to noise during nighttime hours (when people are typically sleeping).

Overview of Ground-borne Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Several different methods are typically used to quantify vibration amplitude; one is peak particle velocity (PPV); another is root-mean-square (RMS) velocity. PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. RMS velocity is defined as the average of the squared amplitude of the signal. Vibration is typically measured in inches per second or millimeters per second.

Operation of heavy construction equipment, particularly pile-driving equipment and other impact devices (e.g., pavement breakers), creates seismic waves that radiate along the surface of and downward into the ground. These surface waves can be felt as ground vibration. Vibration from the operation of this type of equipment can result in effects that range from annoyance for people to damage for structures. Variations in geology and distance result in different vibration levels, including different frequencies and displacements. In all cases, vibration amplitudes decrease with increased distance.

Perceptible ground-borne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they cause rock and soil particles to oscillate. The actual distance that these particles move is usually only a few ten thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of vibration amplitude, referred to as PPV.

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7 The 1.5 dBA variation in attenuation rate (6 dBA vs. 7.5 dBA) can result from ground-absorption effects, which occur as sound travels over soft surfaces such as soft earth or vegetation (7.5 dBA attenuation rate) versus hard surfaces such as pavement or very hard-packed earth (6 dBA rate) (U.S. Housing and Urban Development. 1985. *The Noise Guidebook*, p. 24. Available: https://www.hudexchange.info/onecpd/assets/File/Noise-Guidebook-Chapter-4.pdf. Accessed: February 20, 2024.)

8 U.S. Environmental Protection Agency. 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. Appendix B, Table B-4, p. B-6. March.

Vibration amplitude attenuates over distance through a complex function of how energy is imparted into the ground and the soil or rock conditions through which the vibration is traveling. The following equation is used to estimate the PPV vibration level at a given distance for typical soil conditions:[9]

$$PPV = PPV_{ref} \times (25/Distance)^{1.5}$$

PPV_{ref} is the reference PPV at 25 feet.

Construction Vibration

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile-driving, excavation equipment and vibratory compaction equipment typically generates the highest construction-related ground-borne vibration levels. The activities that are typical of single-impact (transient) or low-rate, repeated impact vibration include blasting and the use of drop balls, impact pile drivers, "pogo stick" compactors, and crack-and-seat equipment.[10] Typically, ground-borne vibration generated by human activities attenuates rapidly with distance from the source of the vibration. In general, such vibration is only an issue when sensitive receptors are located in close proximity. Since rubber tires provide vibration isolation, rubber- tire vehicles rarely create substantial ground-borne vibration effects unless there is a discontinuity or bump in the road that causes the vibration. The PPV descriptor is the most common measure of construction vibration.

With the exception of long-term occupational exposure, vibration levels rarely affect human health. Instead, most people consider vibration to be an annoyance that can affect concentration, disturb sleep or interfere with activities. Studies have shown that the threshold of perception for average persons is a PPV in the range of 0.008 to 0.012 inch per second (in/sec). Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Vibration may be found to be annoying at much lower levels than those defined in commonly used guidance documents. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. On the other hand, persons exposed to elevated ambient vibration levels such as people in an urban environment may tolerate a higher vibration level. People may tolerate infrequent, short-duration vibration levels, but human annoyance to vibration becomes more pronounced if the vibration is continuous or occurs frequently.

High levels of vibration can damage fragile buildings or interfere with sensitive equipment. Depending on the age of the structure and type of vibration (transient, continuous, or frequent intermittent sources), vibration levels with a PPV as low as 0.5 to 2.0 in/sec can damage a structure.

The guidelines developed by the California Department of Transportation (Caltrans) for annoyance and damage potential from the transient and continuous vibration that is usually associated with construction activity are included below under the Regulatory Framework section.

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9 Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment*. FTA Report 0123. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed: January 10, 2024.

10 Ibid.

2.13.1.2 Existing Conditions

Existing Noise Environment

The project site is located south of Crescent City in unincorporated Del Norte County approximately 1,200 feet west of US-101. The land uses immediately surrounding the project site consist primarily of commercial and industrial uses, with several RV parks and hotels located in the vicinity. The nearest existing off-site structures to the portion of the project site near the Citizen's Dock are the Englund Marine Supply building, located approximately 180 feet from the site where construction for the extension of the coastal trail would occur, and the Crescent Seafood building, Crescent Harbor Art Gallery Building, and Coast Guard Auxiliary building, all located approximately 250 feet from project parking lot construction areas. The nearest noise-sensitive use is the Bayside RV park, with the nearest RVs associated with this park located approximately 625 feet from the closest project construction areas. A boat marina is located to the northeast of the project site.

The project site and surrounding area are not densely developed, but include several transient lodgings uses as described above. The US-101 in this area is not heavily trafficked, as confirmed via publicly available Caltrans Census data (and as described below), with an estimated approximately 4,300 vehicles per day traveling along this roadway segment. It is expected that the existing noise environment in the project site vicinity is relatively quiet when compared to more urbanized areas that tend to be exposed to various noise sources such as major highways, large-scale industrial uses, rail lines, etc. Whereas noise levels can range from 65 to 70 dBA L_{dn} in noisy urban residential areas and 75 to 80 dBA L_{dn} in downtown areas, noise levels in normal suburban residential or urban residential areas generally tend to be in the 55 to 60 dBA L_{dn} range (Hoover & Keith 2000). It is expected that the dominant source of ambient noise at the project site is vehicular traffic on the local roadways, especially US-101. Additional noise sources affecting the project site include general commercial and/or industrial noise sources associated with the fishing and harbor uses in the vicinity, and mechanical equipment from these buildings (e.g., air conditioners).

As mentioned previously, the main roadway near the project site is US-101. In order to provide a high-level estimate of average (24-hour) existing ambient noise levels in this area, the publicly available Caltrans Census Data from 2021 (the most recent year available) was reviewed. According to this data set and as mentioned previously, up to approximately 4,300 vehicles per day travel on US-101 north of Sandmine Road and South of Crescent City. Noise modeling of this portion of US-101 was conducted using a spreadsheet model based on the Federal Highway Administration (FHWA) Traffic Noise Model, version 2.5, to help estimate existing traffic noise levels in the project vicinity. The spreadsheet calculates the vehicular traffic noise level at fixed distances and considers the vehicular traffic volume, roadway speed, and vehicle mix that is predicted to occur under each condition. Modeling of approximately 4,300 vehicles was conducted at a distance of approximately 50 feet from the roadway centerline (the approximate distance to nearby sensitive uses) and using a default truck volume of approximately 3% heavy trucks. According to the modeling results, the estimated 24-hour noise level was approximately 62.5 dBA L_{dn} at the noise-sensitive land uses near the project site. Refer to Table 2.13-3 for the existing traffic noise modeling results. Note that this estimated traffic noise level does not include any influence from other noise sources, which could further increase noise beyond the estimated traffic noise described above. However, based on this modeling and the information described above, the project area is expected to have existing ambient noise levels in the 60 dBA L_{dn} to 65 dBA L_{dn} range.

Table 2.13-3. Modeled Existing Traffic Noise Levels Near Project Site

		Existing Noise Level at 50 feet from Roadway Centerline[1]	
Roadway	**Segment**	**dBA L_{dn}**	**dBA CNEL**
US-101	North of Sandmine Road	62.5	63.0

Traffic source: El Dorado County 2023.

Note: Traffic noise modeling relied on a proprietary spreadsheet model that was based on the FHWA Traffic Noise Model, version 2.5.

1 While the existing traffic noise levels shown in this table are at a distance of 50 feet from the centerline of the analyzed roadways, it should be noted that the majority of the on-site residences at the project site are located well beyond this distance from these roadways and thus are exposed to much lower noise levels.

2.13.1.3 Regulatory Setting

This section provides a summary of local noise- and vibration-related plans and policies applicable to the Project, along with applicable regional, state, and federal regulatory guidelines and policies.

Federal

Federal Transit Administration

Noise

The Federal Transit Administration (FTA) has developed general assessment criteria for analyzing construction noise. This assessment is based on simultaneous operation of the two noisiest pieces of equipment. The general assessment criteria for construction noise limits are summarized in Table 2.13-4.

Table 2.13-4. FTA General Assessment Criteria for Construction Noise

	One-hour L_{eq} (dBA)	
Land Use	**Day**	**Night**
Residential	90	80
Commercial	100	100
Industrial	100	100

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, FTA Report No. 0123, 2018, *https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf*, accessed August 31, 2020.

To address the issue of combined noise levels, including noise from impact equipment, a reasonable worst-case scenario, combining noise levels from the two loudest pieces of equipment operating simultaneously at the same location, is evaluated.

Vibration

FTA has also developed guidelines for the assessment of vibration effects. As indicated in Table 2.13-5, FTA's general assessment criteria for evaluating potential construction-generated vibration effects parses annoyance related to interference with interior operations, sleep, and institutional daytime use as a function of the frequency of the vibration event according to three land use categories (described in Table 2.13-5 below).

Table 2.13-5. Federal Transit Administration Ground-borne Vibration Impact Criteria

Land Use Category	GVB Impact Levels (VdB re 1 micro-inch/sec)		
	Frequent Events[a]	Occasional Events[b]	Infrequent Events[c]
Category 1: Buildings where vibration would interfere with interior operations	65 VdB[d]	65 VdB	65 VdB
Category 2: Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use	75 VdB	78 VdB	80 VdB

Source: Federal Transit Administration 2018.

GVB = ground-borne vibration; VdB = vibration decibels.

a. "Frequent events" are defined as more than 70 vibration events from the same source per day. Most rapid transit projects fall into this category.

b. "Occasional events" are defined as between 30 and 70 vibration events from the same source per day. Most commuter trunk lines have operations in this range.

c. "Infrequent events" are defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.

d. This criterion limit is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. For equipment that is more sensitive, a detailed vibration analysis must be performed.

Except for long-term occupational exposure, vibration levels rarely affect human health. Instead, most people consider vibration to be an annoyance that can affect concentration or disturb sleep according to the FTA guidance document. People may tolerate infrequent, short-duration vibration levels, but human annoyance to vibration becomes more pronounced if the vibration is continuous or occurs frequently.

State

California Department of Transportation

Caltrans provides guidelines regarding vibration associated with construction and operation of transportation infrastructure which are commonly applied to non-Caltrans projects throughout the state. Table 2.13-6 provides Caltrans' vibration guidelines for potential damage to different types of structures.

Table 2.13-6. Caltrans Vibration Guidelines for Potential Damage to Structures

Structure Type and Condition	Maximum Peak Particle Velocity (PPV, in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3

New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: California Department of Transportation. 2020. *Transportation and Construction Vibration Guidance Manual*. Final. CT-HWANP-RT-20-365.01.01. April. Sacramento, CA. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf. Accessed: February 3, 2024.

Note: Transient sources create a single, isolated vibration event (e.g., blasting or the use of drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Regarding vibration-related annoyance, people are more sensitive to vibration during nighttime hours (when people generally sleep) rather than daytime hours. Numerous studies have been conducted to characterize the human response to vibration. Table 2.13-7 provides Caltrans' guidelines regarding vibration annoyance potential (expressed here as PPV).

Table 2.13-7. Caltrans Guidelines for Vibration Annoyance Potential Error! Bookmark not defined.

	Maximum PPV (in/sec)	
Human Response	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: California Department of Transportation. 2020. *Transportation and Construction Vibration Guidance Manual*. Final. CT-HWANP-RT-20-365.01.01. April. Sacramento, CA. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf. Accessed: February 3, 2024.

Note: Transient sources create a single, isolated vibration event (e.g., blasting or the use of drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Local

Del Norte County Code

The Del Norte County Code establishes interior and exterior noise standards for residential land uses as well as identifies special provisions for activities that are exempt from these standards. It also identifies the procedure that should be used when measuring noise levels. Relevant portions of the Del Norte County Code are summarized below.

Section 7.07.040 of the County Code identifies specific exterior noise standards for residential land uses within the unincorporated area of the county. Refer to Table 2.13-8 (County Code Table R-2) for the County's exterior noise standards.

In addition, the County code identifies special provisions in Section7.07.060 which shall be exempt from noise standards. One exemption pertains to construction noise as long as the work takes place during certain daytime hours (as described in more detail below).

- Exemption: Noise sources associated with construction, repair, remodeling, or grading of any real property, provided said activities do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a Federal holiday.

Table 2.13-8. Exterior Noise Standards for Residential Property

Period of Time	Noise Level (dBA)
7:00 a.m. to 10:00 p.m.	55
10:00 p.m. to 7:00 a.m.	50

Notes:

- In the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five (5) dB(A).
- It shall be unlawful for any person at any location within the unincorporated area of the County to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, when the foregoing causes the noise level, when measured on any other residential property, either incorporated or unincorporated, to exceed:
  1. The noise standard for a cumulative period of more than thirty (30) minutes in any hour; or
  2. The noise standard plus five (5) dB(A) for a cumulative period of more than fifteen (15) minutes in any hour; or
  3. The noise standard plus ten (10) dB(A) for a cumulative period of more than five (5) minutes in any hour; or
  4. The noise standard plus fifteen (15) dB(A) for a cumulative period of more than one (1) minute in any hour; or
  5. The noise standard plus twenty (20) dB(A) for any period of time.
- In the event the ambient noise level exceeds any of the first four (4) noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

Section 7.07.050 states the specific interior noise standards applicable to residential land uses within the unincorporated area of the county. Refer to Table 2.13-9 (County Code Table R-3) for the County's interior noise standards.

Table 2.13-9. Interior Noise Standards for Residential Property

Period of Time	Noise Level (dBA)
7:00 a.m. to 10:00 p.m.	55
10:00 p.m. to 7:00 a.m.	45

Notes:

- In the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five (5) dB(A).
- It shall be unlawful for any person at any location within the unincorporated area of the County to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, when the foregoing causes the noise level, when measured within any other dwelling unit on any residential property, either incorporated or unincorporated, to exceed:
  1. The interior noise standard for a cumulative period of more than five (5) minutes in any hour; or
  2. The interior noise standard plus five (5) db(A) for a cumulative period of more than one (1) minute in any hour; or
  3. The interior noise standard plus ten (10) db(A) for any period of time.
- In the event the ambient noise level exceeds either of the first two (2) noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the third noise limit category the maximum allowable noise level under said category shall be increased in reflect the maximum ambient noise level.

Del Norte County General Plan

The Del County Notre General Plan identifies policies, standards, and programs to guide development. Part II Section 2, Safety and Noise, outlines standards and policies intended to protect noise-sensitive land uses from excessive noise levels in the County. These policies and goals primarily pertain to the development of new sensitive land uses (noting the project is a construction-only project that would not result in changes to operations after construction is complete). There are no General Plan policies that are directly applicable to the proposed Project.

2.13.2 Discussion

a) The project would not generate 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. (less than significant)

Construction Noise

Construction for the proposed Project has the potential to generate noise that could affect nearby noise-sensitive uses. The proposed Project would require demolition and construction in two areas: the Citizens Dock area and associated seawall, and the nearby habitat restoration area. The evaluation of potential noise impacts associated with project construction was based on the construction schedule, phasing, and equipment assumptions provided by the project sponsor. Note that all project construction would be limited to the standard daytime hours for construction in Del Norte County (7:00 a.m. to 8:00 a.m. weekdays and Saturdays), during which time construction noise is exempt from any quantitative local noise standards. Also note that the focus of this analysis is construction noise effects in air to noise-sensitive land uses and an assessment of in-water noise effects to aquatic species is not included in this analysis.

Estimated noise levels at 50 feet for individual construction equipment proposed for use under the project are shown in Table 2.13-10, below. Noise levels shown are L_{eq} noise levels based on FHWA L_{max} noise levels and standard utilization factors for the equipment from FHWA. Note that the utilization factor is the percentage of time each piece of equipment is typically operated at full power over a specified time period. For example, the L_{eq} value for a piece of equipment that operates at full power over 50 percent of the time is 3 dB less than the L_{max} value.[11]

[11] Federal Highway Administration. 2008. *FHWA Roadway Construction Noise Model (RCNM), Software Version 1.1.* December 8. Prepared by: U.S. Department of Transportation, Research and Innovative Technology Administration, John A. Volpe National Transportation Systems Center, Environmental Measurement and Modeling Division.

Table 2.13-10. Noise from Equipment Proposed for Project Construction (Leq)

Equipment Type	Noise at 50 Feet (L_{eq})
Air Compressor	74
Backhoe	74
Bore/Drill Rig	77
Crane	73
Crew/Survey Boat (based on Push Boat)	78
Excavator	77
Generator	78
Hydraulic Impact Breaker (Based on Mounted Impact Hammer)	83
Pavement Breaker (based on Mounted Impact Hammer)	83
Pile Driver	94
Portable Light Tower (based on Generator (<25KVA)	70
Pump Boom (based on Concrete Pump Truck)	74
Rough Terrain Forklift (based on Front End Loader)	75
Rubber Tired Loader (based on Front End Loader)	75
Runabout Boat (based on Push Boat)	78
Welder	70

Source: Federal Highway Administration. 2006. *FHWA Roadway Construction Noise Model User's Guide*. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/rcnm/rcnm.pdf.

Port of Long Beach, 2009. Middle Harbor Redevelopment Project EIR. April. Available: https://polb.com/download/390/environmental-archive/7072/middle-harbor-redevelopment-project-eir_eis-appendices-a-e-040209.pdf. Accessed: August 12, 2024

Note: Noise levels are based on source noise levels and utilization factors from the FHWA Roadway Construction Noise Model.

In addition to individual equipment noise levels, estimates of combined construction and demolition noise levels by construction area and phase were modeled based on reference noise levels from the FHWA roadway construction noise model, the FTA general assessment construction noise analysis method, and information provided by the project sponsor.[12,13] The FTA recommends combining noise levels from the two loudest pieces of equipment expected to operate simultaneously (e.g., during a given project phase in a given portion of a project site) in roughly the same location. For the purposes of this analysis and to provide a reasonably conservative assessment (because of the amount of equipment proposed for use during each construction phase), the analysis included an evaluation of the three loudest pieces of equipment expected to operate during a given construction phase. Modeling assumes simultaneous operation of these three pieces of equipment operating adjacent to one another on the project site. The FHWA noise source data used in the construction noise model include A-weighted L_{max} noise levels, measured at 50 feet from the construction

[12] Federal Highway Administration. 2006. *FHWA Roadway Construction Noise Model User's Guide*. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/rcnm/rcnm.pdf. Accessed: July 17, 2024.

[13] Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment*, FTA Report No. 0123. September. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf Accessed: July 17, 2024.

equipment, along with utilization factors for the equipment. The evaluation of potential noise impacts associated with project construction at both the Citizens Dock and seawall area and the habitat restoration area is included below.

Citizens Dock and Seawall

Combined noise from construction near the Citizens Dock and seawall portion of the project site was estimated based on the methodology described above. Table 2.13-11 below shows the results of the construction noise modeling for the two construction phases proposed for this area (i.e., seawall and dock construction) at a standard distance of 50 feet from project construction areas. Note that both construction phases propose the use of the same equipment, with the three loudest pieces of equipment being a pile driver and two hydraulic breakers. Because piles would be required for some, but not all, locations associated with seawall construction, modeling was conducted for the seawall construction phase both with and without a pile driver. Refer to Appendix B for detailed results of the construction noise modeling.

Table 2.13-11. Combined Noise Levels for Each Construction Phase at 50 Feet

Construction Phase	Average Composite Hourly Noise Level (L_{eq}) at 50 feet, dBA
Seawalls with Piles	95
Seawalls without Piles	88
Dock (Pier 1 and Pier 2)	95

Source: Construction assumptions were provided by the project sponsor. See Appendix B for modeling data.
Modeling was conducted with the use of data from: Federal Highway Administration. 2006. FHWA Roadway Construction Noise Model User's Guide. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/rcnm/rcnm.pdf. Accessed: February 20, 2023. Port of Long Beach, 2009. Middle Harbor Redevelopment Project EIR. April. Available: https://polb.com/download/390/environmental-archive/7072/middle-harbor-redevelopment-project-eir_eis-appendices-a-e-040209.pdf
Accessed: August 12, 2024

As shown in Table 2.13-11, construction of the Seawall and the Dock (Pier 1 and Pier 2) would both result in worst-case noise levels (during the loudest activities) of approximately 95 dBA at a distance of 50 feet. The nearest noise-sensitive land use to the project site is the Bayside RV Park. Other sensitive uses are located further from project construction areas (e.g., Redwood RV Resort, Curly Redwood Lodge and Super 8 by Wyndham), so the focus of the analysis is on the nearest noise-sensitive use. The Bayside RV Park is located approximately:

- 625 feet from the nearest project construction areas where pile driving is not expected to occur (the bay trail connection in the northwestern portion of the project site)[14]
- 800 feet from the estimated location of the nearest pile driving activity, and
- 925 feet from the nearest portion of dock construction

Estimated combined construction noise levels from the various construction phases/activities at the nearest sensitive use are shown in Table 2.13-12 below.

[14] Note that the parking lot portion of the seawall construction site, where pile driving is also not expected to occur, is 700 feet from the nearby Bayside RV Park; the estimated combined noise level from construction without pile driving at this distance would be 65 dBA L_{eq} (refer to Appendix B).

Table 2.13-12. Estimated Combined Construction Noise Levels at Nearest Sensitive Use

Construction Activity/Phase	Worst-case Distance	Average Construction Noise Level (L_{eq}), dBA
Seawall construction (without pile driver) [a]	625	66
Seawall construction (with pile driver)	800	71
Dock Construction	925	69

Refer to Appendix B for the full details of the construction noise modeling.

a. Includes trail connection (625 feet) and parking lot construction (700 feet).

b. Includes portions of the site where pile driving would occur.

As shown in Table 2.13-12, worst-case construction noise during daytime hours could be in the range of 66 to 71 dBA L_{eq} at the nearest sensitive use. Noise levels at nearby sensitive uses located further away (e.g., the next closest RV park, the nearest hotel, etc.) would be slightly reduced as compared to these numbers.

Although construction noise at the nearby RV parks and Hotels would be perceptible, project construction activities would be limited to the daytime allowable hours for construction in Del Norte County, during which time construction noise is exempt from quantitative noise standards contained in the County Code. For this reason, noise impacts from daytime construction for the seawall portion of the project would be considered less than significant.

Habitat Restoration Project

Regarding the habitat restoration and South Crescent City harbor portions of the project site, combined construction noise for project construction in this area was also estimated based on the methodology described above. Table 2.13-13 below shows the results of the construction noise modeling for the construction phase proposed for this area at a standard distance of 50 feet from project construction areas (with the three loudest pieces of equipment being a pile driver, an excavator, and a crew/survey boat). Refer to Appendix B for detailed results of the construction noise modeling.

Table 2.13-13. Combined Noise Levels for Each Construction Phase at 50 Feet

Construction Phase	Average Composite Hourly Noise Level (L_{eq}) at 50 feet, dBA
Habitat Restoration	94

Construction assumptions were provided by the project sponsor. See Appendix B for modeling data.

Sources:

Federal Highway Administration. 2006. FHWA Roadway Construction Noise Model User's Guide. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/ construction_noise/rcnm/rcnm.pdf. Accessed: February 20, 2023.

Port of Long Beach, 2009. Middle Harbor Redevelopment Project EIR. April. Available: https://polb.com/download/390/environmental-archive/7072/middle-harbor-redevelopment-project-eir_eis-appendices-a-e-040209.pdf. Accessed: August 12, 2024

As shown in Table 2.13-13, construction of the habitat restoration and harbor expansion portions of the project would result in worst-case noise levels (during the loudest activities) of approximately 94 dBA at a distance of 50 feet. The nearest noise-sensitive land use to this portion of the project site is the Redwood RV Resort. Other sensitive uses are located further from project construction areas (e.g., Bayside RV Park, Anchor Beach Inn Crescent City, Curly Redwood Lodge and Super 8 by

Wyndham), so the focus of the analysis is on the nearest noise-sensitive use. The Redwood RV Resort is located approximately:

- 1,675 feet from the nearest portion of the habitat restoration construction area

Estimated combined construction noise levels from the various construction phases/activities at the nearest sensitive use are shown in Table 2.13-14 below.

Table 2.13-14. Estimated Combined Construction Noise Levels at Nearest Sensitive Use

Construction Activity/Phase	Worst-case Distance	Average Construction Noise Level (L_{eq}), dBA
Habitat Restoration	1,675	64

Note: Refer to Appendix B for the full details of the construction noise modeling.

As shown in Table 2.13-14, worst-case construction noise during daytime hours is estimated to be approximately 64 dBA L_{eq} at the nearest sensitive use. Noise levels at other nearby sensitive uses (e.g., the next closest RV park, the nearest hotel, etc.) would be slightly reduced.

Although construction noise at the nearby RV parks and Hotels would be perceptible, project construction activities would be limited to the daytime allowable hours for construction in Del Norte County, during which time construction noise is exempt from quantitative noise standards contained in the County Code. For this reason, noise impacts from daytime construction for the habitat restoration and south Crescent City harbor portions of the project would be considered less than significant.

Construction Haul Truck Noise

Project construction would involve up to 10 one-way haul and vendor trucks on a worst-case day based on information from the project applicant. It is assumed that haul and vendor trucks would use US-101 to travel to and from the proposed Project site. As mentioned previously, the main roadway near the project site is US-101. The publicly available Caltrans Census Data from 2021 (the most recent year available) was reviewed to determine estimated existing traffic volumes along the roadway segment of US-101 near the project site. According to this data set, up to approximately 4,300 vehicles per day travel on US-101 north of Sandmine Road and South of Crescent City. Note that there are sensitive receptors, such as hotels and RV parks, along this segment. As described in the Existing Conditions subsection of this section, noise modeling of this portion of US-101 was conducted using a spreadsheet model based on the FHWA Traffic Noise Model, version 2.5, to estimate existing traffic noise in the project vicinity. To determine potential noise increases associated with the temporary addition of 10 haul and vendor truck trips per day on this route, 10 trucks were added to this total volume and the “existing plus haul truck” traffic scenario was also modeled. The County Code does not include a specific threshold pertaining to construction haul truck noise. Therefore, anticipated daily haul truck noise was assessed to determine if a 3-dB increase (considered to be a “barely perceptible” increase) over the existing traffic noise levels would be expected to occur at nearby noise-sensitive land uses.

A comparison of modeled “Existing” traffic noise and modeled “Existing plus Project Haul Truck” traffic noise is shown in Table 2.13-15 based on the assumptions described above.

Table 2.13-15. Haul Truck Noise Summary

Roadway	Segment	Truck Trips on Segment (per day)	Modeled Distance	Modeled Existing Traffic Noise Level (dBA L_{dn})	Existing plus Haul Truck Trip Noise Level (dBA L_{dn})	Delta dBA L_{dn}
US 101	North of Sandmine Road	10	50	62.5	62.7	0.2

As shown in Table 2.13-15, haul truck activity along the nearby segment of US-101 would not be expected to result in a 3-dB, or “Barely perceptible,” increase in traffic noise. Noise impacts from construction haul truck activity would be less than significant.

Operational Noise

Upon completion of the project, operations at the site would include similar types and intensities of activities as existing activities. Therefore, operational noise would be similar to noise generated at the site under existing conditions. Because operation of the Project is not expected to result in any meaningful changes to the noise environment once project construction is complete, noise impacts related to project operations would be less than significant.

b) The project would not generate excessive ground-borne vibration or ground-borne noise levels. (less than significant)

Building/Structure Damage

The operation of heavy-duty construction equipment can generate localized ground-borne vibration at structures adjacent to construction areas. Ground-borne vibration rarely causes damage to normal buildings or structures. However, a structure’s susceptibility to vibration-induced damage depends on its age, condition, distance from the vibration source, and the vibration level. Vibration resulting from construction of the proposed Project was analyzed using data and modeling methodologies provided by Caltrans’ Transportation and Construction Vibration Guidance Manual.[15] This guidance manual provides typical vibration source levels for various types of construction equipment as well as methods for estimating the propagation of ground-borne vibration over distance. Table 2.13-16 provides the PPV levels of the most vibration-intensive construction equipment expected to be used for the proposed Project at a reference distance of 25 feet, and at other distances. All of the analyzed equipment is classified as continuous/frequent intermittent vibration sources.

15 California Department of Transportation. 2020. *Transportation and Construction Vibration Guidance Manual*. Final. CT-HWANP-RT-20-365.01.01. April. Sacramento, CA.

Table 2.13-16. Vibration Levels for Project Construction Equipment at Various Distances

Equipment	Reference PPV at 25 Feet[a]	PPV at 130 Feet	PPV at 180 Feet	PPV at 250 Feet	PPV at 800 Feet
Pile driver (impact)	1.518	0.128	0.079	0.048	0.008
Pile driver (sonic/vibratory)	0.734	0.062	0.038	0.023	0.004
Vibratory Roller	0.210	0.018	0.011	0.007	0.001
Hoe ram	0.089	0.008	0.005	0.003	0.000
Auger Drill	0.089	0.008	0.005	0.003	0.000
Large bulldozer[b]	0.089	0.008	0.005	0.003	0.000
Loaded trucks	0.076	0.006	0.004	0.002	0.000
Jackhammer	0.035	0.003	0.002	0.001	0.000
Small bulldozer[c]	0.003	0.000	0.000	0.000	0.000

Source: Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment*. FTA Report No. 0123. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed: July 17, 2024.

Note: **Bold** text indicates values that are used in the analysis below.

a. Obtained from FTA *Transit Noise and Vibration Impact Assessment*, 2018.

b. Considered representative of other heavy earthmoving equipment such as excavators, graders, backhoes, etc.

c. Considered representative of smaller equipment such as a small backhoe and front-end loader.

The previously cited Caltrans vibration criteria included in the Transportation and Construction Vibration Guidance Manual are routinely used to evaluate a variety of projects (not merely transit projects) proposed by local jurisdictions, as outlined below. That guidance and the thresholds contained therein (shown in Table 2.13-6. Caltrans Vibration Guidelines for Potential Damage to Structures) is used in the analysis of potential vibration-related damage impacts.

Construction of the proposed Project would involve the use of vibration-intensive equipment, including breaker hammers, pile drivers and auger drills. The nearest existing off-site structures to the portion of the project site near the Citizen's Dock are the Englund Marine Supply building, located approximately 180 feet from the site where construction for the extension of the coastal trail would occur, and the Crescent Seafood building, Crescent Harbor Art Gallery Building, and Coast Guard Auxiliary building, all located approximately 250 feet from project parking lot construction areas. Based on the currently available project information, pile drivers would likely be used further than these distances from adjacent structures. However, to ensure a conservative analysis, the vibration-related damage assessment assumes that all project construction equipment could be used at all portions of the project site.

The potential for structural damage to occur at adjacent or nearby structures can be evaluated by estimating PPV levels from construction equipment at nearby uses and comparing those levels to the Caltrans damage criterion for that type of building. The nearest off-site structures to areas where project construction would occur are generally commercial buildings but appear to be older. Therefore, they are conservatively considered to be most similar to "historic and some old buildings" (0.25 PPV in/sec for continuous sources, such as construction equipment) for the purpose of this analysis. PPV levels associated with the heavy-duty construction equipment proposed for use with the project at a distance of 25 feet, and at project-specific distances, are shown in Table 2.13-16, presented previously. Note that, for the purpose of this analysis, a large bulldozer is considered to be representative of heavy earthmoving equipment, such as an excavator.

As shown in Table 2.13-16 above, project construction equipment could result in a vibration level of up to 0.079 PPV in/sec at the nearest off-site structure from construction in the vicinity of the project seawall (including the connection to the existing coastal trail). Vibration at structures located farther from project construction areas would be even lower, as shown in Table 2.13-16. Because vibration levels from project construction at all adjacent structures would be well below the 0.25 PPV in/sec Caltrans criterion for damage to "historic and some old structures," vibration-related damage impacts from construction in the vicinity of the project seawall would be less than significant.

Regarding the habitat restoration portion of the project, construction in this area would require the use of similar construction equipment, including a loader, an excavator, a crane, a survey boat, an auger drill rig and a pile driver. The most vibration-intensive equipment proposed for use in this area would be the auger drill rig and the pile driver. The nearest existing off-site structure to the portion of the project site near the habitat restoration area is the public restroom, which is not expected to be particularly susceptible to vibration-related damage and is located approximately 130 feet from habitat restoration construction areas. This building is most likely to be similar to a "modern industrial/commercial building" (0.5 PPV in/sec). At a distance of 130 feet, a pile driver (the most vibration-intensive equipment proposed for use) could result in a vibration level of 0.128 PPV in/sec, as shown in Table 2.13-16. This vibration level is below the applicable damage criterion for "modern industrial/commercial buildings," and is also below the more stringent damage criterion for "historic and some old buildings" of 0.25 PPV in/sec. Vibration at structures located farther from project construction areas would be even lower, as shown in Table 2.13-16.

Because vibration levels from project construction near the habitat restoration area are estimated to be below the 0.25 PPV in/sec Caltrans criterion for damage to "historic and some old structures" (and the less stringent 0.5 PPV in/sec Caltrans criterion for damage to "modern industrial/commercial buildings") at the nearest structures, vibration-related damage impacts from construction in the vicinity of the project habitat restoration site would also be less than significant.

Because modeling demonstrates that all project construction activities would likely result in vibration levels below the applicable damage criteria at nearby structures, vibration-related damage impacts from all portions of project construction would be less than significant.

Annoyance/Sleep Disturbance

Regarding the potential for annoyance-related vibration impacts to occur, residential and transient lodging land uses (e.g., hotels, motels, RV Parks) are considered most sensitive to vibration during nighttime hours when people generally sleep. For the purposes of this analysis, a significant annoyance-related vibration impact would occur should strongly perceptible vibration levels (a PPV of 0.1 in/sec per the Caltrans guidelines for vibration annoyance potential [Table 2.13-7]) be generated at nearby residential or transient lodging land uses during nighttime hours, when people generally sleep. Note that no construction is proposed to take place during nighttime hours. Vibration levels at the nearest sensitive uses during daytime hours were modeled and are presented below informational purposes.

The nearest sensitive use to project construction areas is the Bayside RV park. The nearest RVs associated with this park are located approximately 625 feet from the closest project construction areas. Note that the nearest sensitive uses to the habitat restoration portion of the project site are located over 1,675 feet away from habitat restoration construction areas; therefore, the focus of this analysis is on potential construction-related annoyance resulting from construction near the site of the proposed seawall.

At a distance of 625 feet, vibration levels could be up to 0.013 PPV in/sec if a pile driver was used at this distance (noting that most pile driving activity would take place further than 625 feet from this location). Refer to Table 2.13-17 for vibration levels at this distance by equipment type.

Table 2.13-17. Vibration Levels for Project Construction Equipment at Various Distances

Equipment	Reference PPV at 25 Feet[a]	PPV at 625 Feet
Pile driver (impact)	1.518	0.012
Pile driver (sonic/vibratory)	0.734	0.006
Vibratory Roller	0.210	0.002
Hoe ram	0.089	0.001
Auger Drill	0.089	0.001
Large bulldozer[b]	0.089	0.001
Loaded trucks	0.076	0.001
Jackhammer	0.035	0.000
Small bulldozer[c]	0.003	0.000

The estimated worst-case vibration level of 0.013 PPV in/sec (if a pile driver level were to be used within 625 feet of the nearest sensitive use) is below the 0.1 PPV in/sec "strongly perceptible" criterion described above. In addition, no construction would take place during nighttime hours when the 0.1 PPV in/sec "strongly perceptible" threshold would be applied. Therefore, the strongly perceptible criterion would not be exceeded during any time, and no nighttime vibration-related annoyance would be expected to occur. Annoyance-related vibration impacts would be considered 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, expose people residing or working in the project area to excessive noise levels. (no impact)**

The closest airport to the project site is the Del Norte County Regional Airport, which is approximately 3 miles to the northwest. Because the project site is located more than two miles from the nearest public airport or private airstrip, the proposed Project would not expose people working or residing in the project area to excessive aircraft noise levels. There would be no impact related to aircraft noise.

2.13.3 Mitigation Measures

No mitigation measures are required.

2.14 Population and Housing

	Potentially Significant Impact	Less-than-Significant with Mitigation	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?	☐	☐	☐	☒

2.14.1 Discussion

The Project involves replacement of a dock and seawall, establishment of a public walkway and observation area, and habitat restoration in the form of expanding a boat launch area. It will not induce substantial population growth or displace substantial numbers of people or housing. There will be no impact.

2.14.2 Mitigation Measures

No mitigation is required.

2.15 Public Services

	Potentially Significant Impact	Less-than-Significant with Mitigation	Less-than-Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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?	☐	☐	☐	☒

2.15.1 Discussion

A) The Project involves replacement of a dock and seawall, establishment of a public walkway and observation area, and habitat restoration in the form of expanding a boat launch area. The nature of the Project will not create an increase in demand for public services (fire protection, police protection, schools, parks or other public services). Therefore, there will be no impact.

2.15.2 Mitigation Measures

No mitigation is required.

2.16 Recreation

	Potentially Significant Impact	Less-than-Significant with Mitigation	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?	☐	☐	☐	☒

2.16.1 Discussion

a and b) The Project involves replacement of a dock and seawall, establishment of a public walkway and observation area, and habitat restoration in the form of expanding a boat launch area. The nature of the Project would not create an increase in demand for recreational services. Therefore, there will be no impact.

2.16.2 Mitigation Measures

No mitigation is required.

2.17 Transportation

	Potentially Significant Impact	Less-than-Significant with Mitigation	Less-than-Significant Impact	No Impact
Would the project:				
a) Conflict with an a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)(1)?	☐	☐	☐	☒
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?	☐	☐	☐	☒

2.17.1 Discussion

The Project will include a minor traffic increase during demolition and construction activities, but roads will not be closed and the circulation system will not be impacted in a substantial way. Transportation supported by the dock (marine and land) will have minor impacts during demolition and construction activities; however, the dock construction will be phased to keep partial area open during the commercial fishing season for use by commercial fishermen. The impact is less than significant without mitigation.

a) The Project will not change traffic patterns in the long term or impact vehicle miles travelled. There will be no impact.

b) The Project will not change the geometric design of roadways or create an incompatible use. There will be no impact.

c) The Project involves replacement of a dock and seawall, establishment of a public walkway and observation area, and habitat restoration in the form of expanding a boat launch area. It will not impact emergency access. Therefore, there will be no impact.

2.17.2 Mitigation Measures

No mitigation is required.

2.18 Tribal Cultural Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation	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	☐	☒	☐	☐
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.	☐	☒	☐	☐

2.18.1 Environmental Setting

The Project areas potential for tribal cultural resources and cultural history is described in a cultural resources report for the project prepared by William Rich and Associates which is included as Appendix D, Cultural Resources.

2.18.1.1 Regulatory Setting

See regulatory setting description in Section 2.5 (Cultural Resources).

2.18.2 Discussion

a) As described in Section 6 of the Project's cultural resources report (Appendix D, Cultural Resources) "Based on the project area setting, previous cultural resource survey of the project location, and the current intensive investigation effort, it is unlikely that significant archaeological material will be discovered during ground disturbance at this location" and "Although it appears unlikely that precontact Native American archaeological sites occur at the beach under and adjacent to the Citizens Dock, there may be places of cultural importance requiring coordination and consideration with Tolowa Tribes. There may be a nexus between traditional cultural activities and the nearby offshore rocks, including Whaler Island (tatalɛ't), which may be important resources needing consultation with potential for documentation, evaluation and mitigation. Project elements designed to acknowledge the long lasting and enduring occupancy of the Tolowa people should be considered. It is required that Lead Agencies, for discretionary projects, consult directly with interested Tribes on the project designs, cultural resource findings, resource evaluations and recommended protection measures for such resources. Archaeological sites and places of ethnographic importance to the tribal community often transcend their linear boundaries and information potential, and upon consultation are found to qualify as tribal cultural resources or traditional cultural places under the provisions of state and national environmental laws."

Letters describing the Project and requesting input from XX tribes under AB52 and Section 106 were sent on XX and the XX responses…

Additionally, Mitigation Measure TCR-1 will provide for appropriate actions in the event that a cultural resource is inadvertently discovered. With Mitigation Measure TCR-1, the impact will be less than significant.

2.18.3 Mitigation Measures

Mitigation Measure TCR-1. Inadvertent discovery of Cultural Resources.

If cultural materials (for example, chipped or ground stone, historic debris, building foundations, or bone) are discovered during ground-disturbance activities, work shall be stopped within 20 meters of the discovery, per the requirements of Section 106 (36 CFR 800). Work near the archaeological finds shall not resume until a professional archaeologist, who meets the Secretary of the Interior's Standards and Guidelines, has evaluated the materials and offered recommendations for further action.

2.19 Utilities and Service Systems

	Potentially Significant Impact	Less-than-Significant with Mitigation	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?	☐	☐	☐	☒

2.19.1 Environmental Setting

2.19.1.1 Existing Conditions

Utilities in the Project area include the following:

- City of Crescent City Public Works Water and Sewer
- Pacific Power and Coos-Curry Electric Co-Op Inc provide electrical services
- Pacific Gas and Electric natural gas
- AT&T Home Internet
- Blue Star Gas
- Renner Petroleum
- Suburban Propane
- DDR Trash Removal
- Recology Del Norte Waste Removal

2.19.2 Discussion

The project proposes utility replacement and improvements within the study area including incorporating EV truck infrastructure to reduce air pollution and greenhouse gas emissions when refrigerant trucks are idling as seafood is being loaded into trucks.

a) Other than what is described for the Project itself and analyzed in this CEQA document, the Project will not require or result in the relocation or construction of new or expanded utility systems. There will be no impact.

b) The Project involves replacement of a dock and seawall, establishment of a public walkway and observation area, and habitat restoration in the form of expanding a boat launch area. It will not increase water demand. There will be no impact.

c) The Project involves replacement of a dock and seawall, establishment of a public walkway and observation area, and habitat restoration in the form of expanding a boat launch area. It will not increase demand for wastewater services. There will be no impact.

d and e) The Project will generate waste during demolition and construction. All waste will be brought to a permitted facility with sufficient capacity for disposal. There will be no impact.

2.19.3 Mitigation Measures

No mitigation is required.

2.20 Wildfire

	Potentially Significant Impact	Less-than-Significant with Mitigation	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?	☐	☐	☐	☒

2.20.1 Discussion

a-d) The Project site is a developed harbor and there is no potential for wildfire. The Project site is also not within an area of state responsibility or classified as a very high fire hazard severity zone[16]. There will be no impact.

2.20.2 Mitigation Measures

No mitigation is required.

[16] https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones. Accessed September 9, 2024.

2.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less-than-Significant with Mitigation	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?	☐	☒	☐	☐

2.21.1 Discussion

a). The Project will result in impacts on fish and wildlife species, but implementation of Mitigation Measures Bio-1, Bio-2, Bio-3, Bio-4, Bio-5 and Bio-6 will reduce these impacts to a less than significant level.

b). The Project's impacts will be limited to the Project site and vicinity, and mitigation measures will reduce the Project's impacts such that the project will not contribute to cumulative impacts.

c). Project impacts on human beings will be less than significant or less than significant with the implementation of the mitigation measures identified in this Initial Study.

Chapter 3
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Appendix A

Air Quality Appendix

Crescent City Seawall/Dock Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Crescent City Seawall/Dock
Construction Start Date	6/20/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.80
Precipitation (days)	90.0
Location	101 Citizens Dock Rd, Crescent City, CA 95531, USA
County	Del Norte
City	Unincorporated
Air District	North Coast Unified APCD
Air Basin	North Coast
TAZ	101
EDFZ	0-B
Electric Utility	PacifiCorp
Gas Utility	—
App Version	2022.1.1.26

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	33.9	1000sqft	0.78	33,900	0.00	0.00	—	—
Parking Lot	40.0	1000sqft	0.92	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

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.	14.9	12.9	89.7	102	0.18	3.60	1.24	4.20	3.32	0.31	3.45	—	17,842	17,842	0.73	0.66	6.47	17,931
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.70	7.62	46.2	52.3	0.09	1.91	0.41	2.30	1.75	0.09	1.83	—	9,041	9,041	0.37	0.13	0.04	9,088
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.01	5.27	32.2	36.6	0.07	1.32	0.20	1.49	1.22	0.05	1.25	—	6,386	6,386	0.26	0.08	0.38	6,417
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.10	0.96	5.87	6.68	0.01	0.24	0.04	0.27	0.22	0.01	0.23	—	1,057	1,057	0.04	0.01	0.06	1,062

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	8.17	6.88	64.3	68.2	0.16	2.32	1.24	3.57	2.14	0.31	2.45	—	15,352	15,352	0.50	0.66	6.47	15,567

2027	14.9	12.9	89.7	102	0.18	3.60	0.59	4.20	3.32	0.14	3.45	—	17,842	17,842	0.73	0.23	2.48	17,931
2028	8.70	7.62	46.0	50.9	0.09	1.91	0.29	2.20	1.75	0.06	1.82	—	8,924	8,924	0.35	0.12	1.01	8,971
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	6.69	5.62	46.2	52.3	0.09	1.89	0.41	2.30	1.74	0.09	1.83	—	9,041	9,041	0.37	0.13	0.04	9,088
2027	8.43	7.39	45.1	52.0	0.09	1.80	0.41	2.22	1.66	0.09	1.75	—	9,029	9,029	0.37	0.13	0.04	9,076
2028	8.70	7.62	46.1	51.0	0.09	1.91	0.29	2.20	1.75	0.06	1.82	—	8,923	8,923	0.36	0.12	0.03	8,968
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.61	2.19	18.4	20.6	0.04	0.74	0.18	0.92	0.68	0.04	0.72	—	3,710	3,710	0.15	0.07	0.36	3,734
2027	5.40	4.65	32.2	36.6	0.07	1.29	0.20	1.49	1.19	0.05	1.23	—	6,386	6,386	0.26	0.08	0.38	6,417
2028	6.01	5.27	31.9	35.2	0.06	1.32	0.17	1.49	1.22	0.04	1.25	—	6,137	6,137	0.24	0.08	0.24	6,167
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.48	0.40	3.35	3.75	0.01	0.13	0.03	0.17	0.12	0.01	0.13	—	614	614	0.02	0.01	0.06	618
2027	0.98	0.85	5.87	6.68	0.01	0.24	0.04	0.27	0.22	0.01	0.23	—	1,057	1,057	0.04	0.01	0.06	1,062
2028	1.10	0.96	5.82	6.42	0.01	0.24	0.03	0.27	0.22	0.01	0.23	—	1,016	1,016	0.04	0.01	0.04	1,021

3. Construction Emissions Details

3.1. Seawall (2026) - 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	6.27	5.23	45.2	49.4	0.09	1.88	—	1.88	1.73	—	1.73	—	8,456	8,456	0.34	0.07	—	8,485

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.06	0.06	—	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	6.27	5.23	45.2	49.4	0.09	1.88	—	1.88	1.73	—	1.73	—	8,456	8,456	0.34	0.07	—	8,485
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.06	0.06	—	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	2.39	2.00	17.3	18.8	0.03	0.72	—	0.72	0.66	—	0.66	—	3,227	3,227	0.13	0.03	—	3,238
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 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	0.44	0.36	3.15	3.44	0.01	0.13	—	0.13	0.12	—	0.12	—	534	534	0.02	< 0.005	—	536
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.41	0.38	0.23	2.57	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	319	319	0.03	0.01	1.28	326
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	0.01	0.67	0.05	< 0.005	0.01	0.06	0.07	0.01	0.02	0.02	—	269	269	< 0.005	0.04	0.37	282
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.41	0.38	0.29	2.86	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	316	316	0.03	0.02	0.03	322
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	0.01	0.70	0.05	< 0.005	0.01	0.06	0.07	0.01	0.02	0.02	—	269	269	< 0.005	0.04	0.01	281
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.10	1.02	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	121	121	0.01	0.01	0.21	123
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	0.26	0.02	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	103	103	< 0.005	0.02	0.06	107
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.19	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.0	20.0	< 0.005	< 0.005	0.03	20.4

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	0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	17.0	17.0	< 0.005	< 0.005	0.01	17.8

3.3. Seawall (2027) - 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	6.14	5.12	44.1	49.3	0.09	1.80	—	1.80	1.65	—	1.65	—	8,456	8,456	0.34	0.07	—	8,485
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.06	0.06	—	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	6.14	5.12	44.1	49.3	0.09	1.80	—	1.80	1.65	—	1.65	—	8,456	8,456	0.34	0.07	—	8,485
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.06	0.06	—	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	2.05	1.71	14.8	16.5	0.03	0.60	—	0.60	0.55	—	0.55	—	2,830	2,830	0.11	0.02	—	2,839
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 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	0.37	0.31	2.70	3.01	0.01	0.11	—	0.11	0.10	—	0.10	—	468	468	0.02	< 0.005	—	470
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.38	0.36	0.22	2.39	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	314	314	0.03	0.01	1.19	320
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	0.01	0.64	0.05	< 0.005	0.01	0.06	0.07	0.01	0.02	0.02	—	263	263	< 0.005	0.04	0.35	276

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.36	0.26	2.66	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	310	310	0.03	0.01	0.03	316
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	0.01	0.66	0.05	< 0.005	0.01	0.06	0.07	0.01	0.02	0.02	—	263	263	< 0.005	0.04	0.01	276
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.08	0.84	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	104	104	0.01	< 0.005	0.17	106
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	0.22	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	88.1	88.1	< 0.005	0.01	0.05	92.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.15	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.2	17.2	< 0.005	< 0.005	0.03	17.6
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	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.6	14.6	< 0.005	< 0.005	0.01	15.3

3.5. Dock - Pier 2 (2027) - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.09	0.09	—	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.31	0.02	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	122	122	< 0.005	0.02	< 0.005	128
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	—	2.87	2.87	< 0.005	< 0.005	< 0.005	3.01
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	—	0.48	0.48	< 0.005	< 0.005	< 0.005	0.50

3.7. Dock - Pier 2 (2028) - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.09	0.09	—	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.09	0.09	—	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.06	0.06	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.28	0.02	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	0.15	125
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.29	0.02	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	120	120	< 0.005	0.02	< 0.005	125
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.20	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	83.1	83.1	< 0.005	0.01	0.05	87.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.8	13.8	< 0.005	< 0.005	0.01	14.4

3.9. Habitat Restoration (2026) - 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	1.27	1.07	10.0	15.0	0.03	0.37	—	0.37	0.34	—	0.34	—	3,002	3,002	0.12	0.02	—	3,012
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.41	0.62	< 0.005	0.02	—	0.02	0.01	—	0.01	—	123	123	0.01	< 0.005	—	124

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	0.01	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.4	20.4	< 0.005	< 0.005	—	20.5
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.05	0.56	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	69.9	69.9	0.01	< 0.005	0.28	71.3
Vendor	0.01	0.01	0.27	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	110	110	< 0.005	0.01	0.23	115
Hauling	0.11	0.11	7.85	0.59	0.03	0.07	0.73	0.80	0.07	0.19	0.26	—	3,126	3,126	< 0.005	0.49	4.31	3,276
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	2.85	2.85	< 0.005	< 0.005	< 0.005	2.90
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.53	4.53	< 0.005	< 0.005	< 0.005	4.72
Hauling	< 0.005	< 0.005	0.33	0.02	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	128	128	< 0.005	0.02	0.08	134
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	—	0.75	0.75	< 0.005	< 0.005	< 0.005	0.78
Hauling	< 0.005	< 0.005	0.06	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.3	21.3	< 0.005	< 0.005	0.01	22.3

3.11. Dock - Pier 1 (2027) - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.08	0.08	0.05	0.52	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	68.7	68.7	0.01	< 0.005	0.26	70.1
Vendor	0.01	0.01	0.26	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	108	108	< 0.005	0.01	0.21	113
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	0.08	0.08	0.06	0.58	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	68.0	68.0	0.01	< 0.005	0.01	69.1
Vendor	0.01	0.01	0.26	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	108	108	< 0.005	0.01	0.01	112
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	0.03	0.03	0.02	0.21	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	26.0	26.0	< 0.005	< 0.005	0.04	26.5
Vendor	< 0.005	< 0.005	0.10	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.3	41.3	< 0.005	0.01	0.03	43.0
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	0.01	0.01	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.31	4.31	< 0.005	< 0.005	0.01	4.38
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.83	6.83	< 0.005	< 0.005	0.01	7.12
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

3.13. Dock - Pier 1 (2028) - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.08	0.08	0.04	0.49	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	67.5	67.5	0.01	< 0.005	0.24	68.8
Vendor	0.01	0.01	0.24	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	106	106	< 0.005	0.01	0.19	110
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	0.08	0.08	0.05	0.54	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	66.8	66.8	0.01	< 0.005	0.01	67.9
Vendor	0.01	0.01	0.25	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	106	106	< 0.005	0.01	< 0.005	110
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	0.03	0.03	0.02	0.17	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	22.5	22.5	< 0.005	< 0.005	0.04	23.0
Vendor	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.6	35.6	< 0.005	< 0.005	0.03	37.0
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	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.73	3.73	< 0.005	< 0.005	0.01	3.80
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.89	5.89	< 0.005	< 0.005	< 0.005	6.13
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

3.15. Dock - Pier 1/Pier 2 (2027) - 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	6.14	5.12	44.1	49.3	0.09	1.80	—	1.80	1.65	—	1.65	—	8,456	8,456	0.34	0.07	—	8,485
Architectural Coatings	2.09	2.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	6.14	5.12	44.1	49.3	0.09	1.80	—	1.80	1.65	—	1.65	—	8,456	8,456	0.34	0.07	—	8,485
Architectural Coatings	2.09	2.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	2.34	1.95	16.8	18.8	0.03	0.69	—	0.69	0.63	—	0.63	—	3,227	3,227	0.13	0.03	—	3,238
Architectural Coatings	0.80	0.80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	0.43	0.36	3.07	3.43	0.01	0.13	—	0.13	0.12	—	0.12	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	0.15	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.08	0.08	0.05	0.52	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	68.7	68.7	0.01	< 0.005	0.26	70.1
Vendor	0.01	0.01	0.26	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	108	108	< 0.005	0.01	0.21	113
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	0.08	0.08	0.06	0.58	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	68.0	68.0	0.01	< 0.005	0.01	69.1
Vendor	0.01	0.01	0.26	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	108	108	< 0.005	0.01	0.01	112
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	0.03	0.03	0.02	0.21	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	26.0	26.0	< 0.005	< 0.005	0.04	26.5
Vendor	< 0.005	< 0.005	0.10	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	41.3	41.3	< 0.005	0.01	0.03	43.0
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	0.01	0.01	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.31	4.31	< 0.005	< 0.005	0.01	4.38

Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.83	6.83	< 0.005	< 0.005	0.01	7.12
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

3.17. Dock - Pier 1/Pier 2 (2028) - 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	6.42	5.36	45.2	49.7	0.09	1.90	—	1.90	1.75	—	1.75	—	8,458	8,458	0.34	0.07	—	8,487
Architectural Coatings	2.09	2.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	6.42	5.36	45.2	49.7	0.09	1.90	—	1.90	1.75	—	1.75	—	8,458	8,458	0.34	0.07	—	8,487
Architectural Coatings	2.09	2.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	4.46	3.72	31.4	34.5	0.06	1.32	—	1.32	1.21	—	1.21	—	5,876	5,876	0.24	0.05	—	5,896
Architectural Coatings	1.45	1.45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.81	0.68	5.73	6.30	0.01	0.24	—	0.24	0.22	—	0.22	—	973	973	0.04	0.01	—	976
Architectural Coatings	0.26	0.26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.08	0.08	0.04	0.49	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	67.5	67.5	0.01	< 0.005	0.24	68.8
Vendor	0.01	0.01	0.24	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	106	106	< 0.005	0.01	0.19	110
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	0.08	0.08	0.05	0.54	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	66.8	66.8	0.01	< 0.005	0.01	67.9
Vendor	0.01	0.01	0.25	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	106	106	< 0.005	0.01	< 0.005	110
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	0.06	0.05	0.03	0.36	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	46.5	46.5	< 0.005	< 0.005	0.07	47.4

Vendor	0.01	< 0.005	0.17	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	73.4	73.4	< 0.005	0.01	0.06	76.4
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	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.70	7.70	< 0.005	< 0.005	0.01	7.84
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.01	12.6
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

3.19. Dock - Pier 2 Paving (2027) - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paving	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paving	< 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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paving	< 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.21. Dock - Pier 2 Paving (2028) - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paving	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Paving	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paving	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paving	< 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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	0.00	0.00	0.00	0.00	0.00	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

4.10. 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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Seawall	Demolition	6/20/2026	6/20/2027	5.00	260	—
Dock - Pier 2	Demolition	12/20/2027	12/20/2028	5.00	260	—
Habitat Restoration	Building Construction	6/20/2026	7/12/2026	5.00	15.0	—
Dock - Pier 1	Building Construction	6/20/2027	6/20/2028	5.00	260	—
Dock - Pier 1/Pier 2	Building Construction	6/20/2027	12/20/2028	5.00	390	—
Dock - Pier 2 Paving	Paving	12/20/2027	12/20/2028	5.00	260	—

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

Seawall	Concrete/Industrial Saws	Diesel	Average	3.00	10.0	33.0	0.73
Seawall	Air Compressors	Diesel	Average	2.00	10.0	37.0	0.48
Seawall	Pumps	Diesel	Average	1.00	10.0	11.0	0.74
Seawall	Rubber Tired Loaders	Diesel	Average	1.00	10.0	150	0.36
Seawall	Tractors/Loaders/Backhoes	Diesel	Average	1.00	10.0	84.0	0.37
Seawall	Excavators	Diesel	Average	1.00	10.0	36.0	0.38
Seawall	Generator Sets	Diesel	Average	3.00	10.0	14.0	0.74
Seawall	Cranes	Diesel	Average	1.00	10.0	367	0.29
Seawall	Rough Terrain Forklifts	Diesel	Average	1.00	10.0	96.0	0.40
Seawall	Cranes	Diesel	Average	1.00	10.0	367	0.29
Seawall	Bore/Drill Rigs	Diesel	Average	1.00	10.0	83.0	0.50
Seawall	Bore/Drill Rigs	Diesel	Average	1.00	10.0	83.0	0.50
Seawall	Welders	Diesel	Average	2.00	10.0	46.0	0.45
Seawall	Concrete/Industrial Saws	Diesel	Average	1.00	10.0	33.0	0.73
Seawall	Signal Boards	Diesel	Average	4.00	10.0	6.00	0.82
Seawall	Other Construction Equipment	Diesel	Average	1.00	10.0	50.0	0.42
Seawall	Other Construction Equipment	Diesel	Average	1.00	10.0	50.0	0.42
Habitat Restoration	Cranes	Diesel	Average	1.00	10.0	367	0.29
Habitat Restoration	Rubber Tired Loaders	Diesel	Average	1.00	10.0	150	0.36
Habitat Restoration	Excavators	Diesel	Average	1.00	10.0	36.0	0.38
Habitat Restoration	Bore/Drill Rigs	Diesel	Average	1.00	10.0	83.0	0.50
Habitat Restoration	Bore/Drill Rigs	Diesel	Average	1.00	10.0	83.0	0.50
Dock - Pier 1/Pier 2	Generator Sets	Diesel	Average	3.00	10.0	14.0	0.74
Dock - Pier 1/Pier 2	Tractors/Loaders/Backhoes	Diesel	Average	1.00	10.0	84.0	0.37
Dock - Pier 1/Pier 2	Welders	Diesel	Average	2.00	10.0	46.0	0.45

Dock - Pier 1/Pier 2	Air Compressors	Diesel	Average	2.00	10.0	37.0	0.48
Dock - Pier 1/Pier 2	Concrete/Industrial Saws	Diesel	Average	3.00	10.0	33.0	0.73
Dock - Pier 1/Pier 2	Pumps	Diesel	Average	1.00	10.0	11.0	0.74
Dock - Pier 1/Pier 2	Rubber Tired Loaders	Diesel	Average	1.00	10.0	150	0.36
Dock - Pier 1/Pier 2	Excavators	Diesel	Average	1.00	10.0	36.0	0.38
Dock - Pier 1/Pier 2	Cranes	Diesel	Average	1.00	10.0	367	0.29
Dock - Pier 1/Pier 2	Rough Terrain Forklifts	Diesel	Average	1.00	10.0	96.0	0.40
Dock - Pier 1/Pier 2	Cranes	Diesel	Average	1.00	10.0	367	0.29
Dock - Pier 1/Pier 2	Bore/Drill Rigs	Diesel	Average	1.00	10.0	83.0	0.50
Dock - Pier 1/Pier 2	Bore/Drill Rigs	Diesel	Average	1.00	10.0	83.0	0.50
Dock - Pier 1/Pier 2	Concrete/Industrial Saws	Diesel	Average	1.00	10.0	33.0	0.73
Dock - Pier 1/Pier 2	Signal Boards	Diesel	Average	4.00	10.0	6.00	0.82
Dock - Pier 1/Pier 2	Other Construction Equipment	Diesel	Average	1.00	10.0	50.0	0.42
Dock - Pier 1/Pier 2	Other Construction Equipment	Diesel	Average	1.00	10.0	50.0	0.42

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Seawall	—	—	—	—
Seawall	Worker	65.0	6.32	LDA,LDT1,LDT2
Seawall	Vendor	—	5.38	HHDT,MHDT
Seawall	Hauling	3.23	20.0	HHDT
Seawall	Onsite truck	—	—	HHDT
Habitat Restoration	—	—	—	—
Habitat Restoration	Worker	14.2	6.32	LDA,LDT1,LDT2

Habitat Restoration	Vendor	5.56	5.38	HHDT,MHDT
Habitat Restoration	Hauling	37.5	20.0	HHDT
Habitat Restoration	Onsite truck	—	—	HHDT
Dock - Pier 1	—	—	—	—
Dock - Pier 1	Worker	14.2	6.32	LDA,LDT1,LDT2
Dock - Pier 1	Vendor	5.56	5.38	HHDT,MHDT
Dock - Pier 1	Hauling	0.00	20.0	HHDT
Dock - Pier 1	Onsite truck	—	—	HHDT
Dock - Pier 2	—	—	—	—
Dock - Pier 2	Worker	0.00	6.32	LDA,LDT1,LDT2
Dock - Pier 2	Vendor	—	5.38	HHDT,MHDT
Dock - Pier 2	Hauling	1.50	20.0	HHDT
Dock - Pier 2	Onsite truck	—	—	HHDT
Dock - Pier 1/Pier 2	—	—	—	—
Dock - Pier 1/Pier 2	Worker	14.2	6.32	LDA,LDT1,LDT2
Dock - Pier 1/Pier 2	Vendor	5.56	5.38	HHDT,MHDT
Dock - Pier 1/Pier 2	Hauling	0.00	20.0	HHDT
Dock - Pier 1/Pier 2	Onsite truck	—	—	HHDT
Dock - Pier 2 Paving	—	—	—	—
Dock - Pier 2 Paving	Worker	0.00	6.32	LDA,LDT1,LDT2
Dock - Pier 2 Paving	Vendor	—	5.38	HHDT,MHDT
Dock - Pier 2 Paving	Hauling	0.00	20.0	HHDT
Dock - Pier 2 Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction

Water unpaved roads twice daily	55%	55%

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)
Dock - Pier 1/Pier 2	0.00	0.00	50,850	16,950	2,400

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)
Seawall	4,500	0.00	0.00	24,000	—
Dock - Pier 2	0.00	0.00	0.92	33,900	—
Habitat Restoration	0.00	4,500	0.00	0.00	—
Dock - Pier 2 Paving	0.00	0.00	0.00	0.00	0.92

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Light Industry	0.00	0%
Parking Lot	0.92	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	1,499	0.03	< 0.005
2027	0.00	1,499	0.03	< 0.005
2028	0.00	1,499	0.03	< 0.005

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. Biomass Cover Type

5.18.1.1. Unmitigated

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)

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	5.52	annual days of extreme heat
Extreme Precipitation	30.0	annual days with precipitation above 20 mm
Sea Level Rise	0.95	meters of inundation depth
Wildfire	28.3	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 (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
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	N/A	N/A	N/A	N/A
Extreme Precipitation	4	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A
Extreme Precipitation	4	1	1	4
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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 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	0.19
AQ-PM	2.60
AQ-DPM	9.12
Drinking Water	26.0

Lead Risk Housing	34.7
Pesticides	0.00
Toxic Releases	3.26
Traffic	8.80
Effect Indicators	—
CleanUp Sites	71.6
Groundwater	81.3
Haz Waste Facilities/Generators	69.4
Impaired Water Bodies	12.5
Solid Waste	98.1
Sensitive Population	—
Asthma	83.2
Cardio-vascular	97.9
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	63.2
Housing	84.9
Linguistic	20.6
Poverty	74.5
Unemployment	98.9

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	29.11587322
Employed	16.16835622
Median HI	15.39843449

Education	—
Bachelor's or higher	37.08456307
High school enrollment	18.45245733
Preschool enrollment	29.03888105
Transportation	—
Auto Access	38.61157449
Active commuting	18.56794559
Social	—
2-parent households	42.02489414
Voting	52.49582959
Neighborhood	—
Alcohol availability	71.5642243
Park access	19.11972283
Retail density	17.38739895
Supermarket access	20.69806236
Tree canopy	96.35570384
Housing	—
Homeownership	70.21686129
Housing habitability	11.66431413
Low-inc homeowner severe housing cost burden	10.57359168
Low-inc renter severe housing cost burden	7.429744643
Uncrowded housing	37.66200436
Health Outcomes	—
Insured adults	49.59579109
Arthritis	0.0
Asthma ER Admissions	24.6
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	6.1
Cognitively Disabled	8.2
Physically Disabled	3.5
Heart Attack ER Admissions	1.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	90.5
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	23.8
Children	40.5
Elderly	10.6
English Speaking	98.1
Foreign-born	2.7
Outdoor Workers	22.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	92.4

Traffic Density	16.6
Traffic Access	0.0
Other Indices	—
Hardship	68.1
Other Decision Support	—
2016 Voting	28.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	58.0
Healthy Places Index Score for Project Location (b)	30.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
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
Characteristics: Project Details	WRCC Crescent City station
Construction: Construction Phases	Based on data needs responses

Construction: Off-Road Equipment	From data needs responses
Construction: Dust From Material Movement	From data needs responses

Appendix B

Noise Appendix

Appendix B

Noise Data and Modeling Files

Construction Noise Modeling

Table 1. Construction Phases and Workers

Phase	Start Date (day/month/year)	End Date (day/month/year)	Days	# Workers
Seawall	20/06/2026	20/06/2027	260	40
Habitat Restoration	20/06/2026	12/7/2026	15	40
Dock - Pier 1	20/06/2027	20/06/2028	260	40
Dock - Pier 2	20/12/2027	20/12/2028	260	40

Table 2. Construction Equipment by Phase for Each Area of Development

Phase	Sub-Phase	Equipment Type	Number/day	Hours/day Equipment Would Operate	Horsepower and Engine Tier (if known)
		Air Compressor			
		Pavement Breaker			
		Pump Boom	2	10	
		Rubber Tired Loader	3	10	
		Backhoe	1	10	
		Excavator	1	10	
		Generator	1	10	
		Crane	1	10	
		Rough Terrain Forklift	3	10	
		Crane	1	10	
		Crew/Survey Boat (50	1	10	
		hp)	1	10	
		Runabout (50 hp)	1	10	
		Bore/Drill Rig	1	10	
		Piledriver	1	10	
		Welder	1	10	
		Hydraulic Impact	2	10	
		Breaker	1	10	
Seawall		Portable Light Tower	4	10	CalEEMod defaults
		Rubber Tired Loader			
		Excavator	1	10	
		Crane	1	10	
		Crew/Survey Boat (50	1	10	
		hp)	1	10	
		Bore/Drill Rig	1	10	
Habitat Restoration		Piledriver	1	10	CalEEMod defaults
		Air Compressor			
		Pavement Breaker			
		Pump Boom	2	10	
		Rubber Tired Loader	3	10	
		Backhoe	1	10	
		Excavator	1	10	
		Generator	1	10	
		Crane	1	10	
		Rough Terrain Forklift	3	10	
		Crane	1	10	
		Crew/Survey Boat (50	1	10	
		hp)	1	10	
		Runabout (50 hp)	1	10	
		Bore/Drill Rig	1	10	
		Piledriver	1	10	
		Welder	1	10	
		Hydraulic Impact	2	10	
		Breaker	1	10	
Dock	Pier 1 + Pier 2	Portable Light Tower	4	10	CalEEMod defaults

Table 3. Construction Noise Screening Analysis by Phase

Phase	Equipment	Number per Day	Acoustical Use Factor[a]	L_{max} at 50 feet (dBA)[b]	L_{max} at 100 feet (dBA)[b]	Equipment Leq 50 feet	Lmax Rank	Leq Rank
Seawall with Piles	Air Compressor	2	40%	78	72	74	14	11
	Pavement Breaker	3	20%	90	84	83	2	2
	Pump Boom	1	20%	81	75	74	7	13
	Rubber Tired Loader	1	40%	79	73	75	12	9
	Backhoe	1	40%	78	72	74	14	11
	Excavator	1	40%	81	75	77	7	7
	Generator	3	50%	81	75	78	7	6
	Crane	1	16%	81	75	73	7	14
	Rough Terrain Forklift	1	40%	79	73	75	12	9
	Crane	1	16%	81	75	73	7	14
	Crew/Survey Boat (50 hp)	1	40%	82	76	78	5	4
	Runabout (5-hp)	1	40%	82	76	78	5	4
	Bore/Drill Rig	1	20%	84	78	77	4	8
	Piledriver	1	20%	101	95	94	1	1
	Welder	2	40%	74	68	70	16	16
	Hydraulic Impact Breaker	2	20%	90	84	83	2	2
	Portable Light Tower	4	50%	73	67	70	17	17
Seawall without Piles	Air Compressor	2	40%	78	72	74	12	9
	Pavement Breaker	3	20%	90	84	83	1	1
	Pump Boom	1	20%	81	75	74	5	11
	Rubber Tired Loader	1	40%	79	73	75	10	7
	Backhoe	1	40%	78	72	74	12	9
	Excavator	1	40%	81	75	77	5	6
	Generator	3	50%	81	75	78	5	5
	Crane	1	16%	81	75	73	5	12
	Rough Terrain Forklift	1	40%	79	73	75	10	7
	Crane	1	16%	81	75	73	5	12
	Crew/Survey Boat (50 hp)	1	40%	82	76	78	3	3
	Runabout (5-hp)	1	40%	82	76	78	3	3
	Welder	2	40%	74	68	70	14	14
	Hydraulic Impact Breaker	2	20%	90	84	83	1	1
	Portable Light Tower	4	50%	73	67	70	15	15
Habitat Restoration	Rubber Tired Loader	1	40%	79	73	75	6	5
	Excavator	1	40%	81	75	77	4	3
	Crane	1	16%	81	75	73	4	6
	Crew/Survey Boat (50 hp)	1	40%	82	76	78	3	2
	Bore/Drill Rig	1	20%	84	78	77	2	4
	Piledriver	1	20%	101	95	94	1	1
Dock (Pier 1 and Pier 2)	Air Compressor	2	40%	78	72	74	14	11
	Pavement Breaker	3	20%	90	84	83	2	2
	Pump Boom	1	20%	81	75	74	7	13
	Rubber Tired Loader	1	40%	79	73	75	12	9
	Backhoe	1	40%	78	72	74	14	11
	Excavator	1	40%	81	75	77	7	7
	Generator	3	50%	81	75	78	7	6
	Crane	1	16%	81	75	73	7	14
	Rough Terrain Forklift	1	40%	79	73	75	12	9
	Crane	1	16%	81	75	73	7	14
	Crew/Survey Boat (50 hp)	1	40%	82	76	78	5	4
	Runabout (5-hp)	1	40%	82	76	78	5	4
	Bore/Drill Rig	1	20%	84	78	77	4	8
	Piledriver	1	20%	101	95	94	1	1
	Welder	2	40%	74	68	70	16	16
	Hydraulic Impact Breaker	2	20%	90	84	83	2	2
	Portable Light Tower	4	50%	73	67	70	17	17

Table 4. Summary of Construction Noise Levels by Phase

	Hourly Average Noise Level by Phase (dBA L_{eq})			
Distance (feet)	**Seawalls with Piles**	**Seawalls without Piles**	**Habitat Restoration**	**Dock (Pier 1 and Pier 2)**
50	95	88	94	95
100	89	82	88	89
200	83	76	82	83
500	75	68	74	75
600	73	66	73	73
625	73	66	72	73
700	72	65	71	72
800	71	64	70	71
925	69	62	69	69
1000	69	62	68	69
1200	67	60	67	67
1500	65	58	65	65
1675	64	57	64	64
2000	63	56	62	63

Table 5. Construction Noise

Source Data:	Maximum Sound Level (dBA)	Utilization Factor	Leq Sound Level (dBA)
Construction Condition: Seawalls with Piles			
Source 1: Pile Driver - Sound level (dBA) at 50 feet =	101	20%	94.0
Source 2: Hydraulic Impact Breaker (Based on Mounted Impact Hammer) - Sound level (dBA) at 50 feet =	90	20%	83.0
Source 3: Hydraulic Impact Breaker (Based on Mounted Impact Hammer) - Sound level (dBA) at 50 feet =	90	20%	83.0
Calculated Data:			
All Sources Combined - Lmax sound level (dBA) at 50 feet =			102
All Sources Combined - Leq sound level (dBA) at 50 feet =			95

Distance Between Source and Receiver (ft.)	Geometric Attenuation (dB)	Ground Effect Attenuation (dB)	Calculated Lmax Sound Level (dBA)	Calculated Leq Sound Level (dBA)
15	10	0.0	112	105
25	6	0.0	108	101
50	0	0.0	102	95
100	-6	0.0	96	89
200	-12	0.0	90	83
400	-18	0.0	84	77
600	-22	0.0	80	73
800	-24	0.0	78	71
1000	-26	0.0	76	69
1250	-28	0.0	74	67
1500	-30	0.0	72	65

Geometric attenuation based on 6 dB per doubling of distance.

Note: This calculation does not include the effects, if any, of local shielding from walls, topography or other barriers which may reduce sound levels further.

Table 6. Construction Noise

Source Data:	Maximum Sound Level (dBA)	Utilization Factor	Leq Sound Level (dBA)
Construction Condition: Seawalls without Piles			
Source 1: Pavement Breaker (based on Mounted Impact Hammer) - Sound level (dBA) at 50 feet =	90	20%	83.0
Source 2: Hydraulic Impact Breaker (Based on Mounted Impact Hammer) - Sound level (dBA) at 50 feet =	90	20%	83.0
Source 3: Hydraulic Impact Breaker (Based on Mounted Impact Hammer) - Sound level (dBA) at 50 feet =	90	20%	83.0
Calculated Data:			
All Sources Combined - Lmax sound level (dBA) at 50 feet =			95
All Sources Combined - Leq sound level (dBA) at 50 feet =			88

Distance Between Source and Receiver (ft.)	Geometric Attenuation (dB)	Ground Effect Attenuation (dB)	Calculated Lmax Sound Level (dBA)	Calculated Leq Sound Level (dBA)
15	10	0.0	105	98
25	6	0.0	101	94
50	0	0.0	95	88
100	-6	0.0	89	82
200	-12	0.0	83	76
400	-18	0.0	77	70
600	-22	0.0	73	66
800	-24	0.0	71	64
1000	-26	0.0	69	62
1250	-28	0.0	67	60
1500	-30	0.0	65	58

Geometric attenuation based on 6 dB per doubling of distance.

Note: This calculation does not include the effects, if any, of local shielding from walls, topography or other barriers which may reduce sound levels further.

Table 7. Construction Noise

Source Data:	Maximum Sound Level (dBA)	Utilization Factor	Leq Sound Level (dBA)
Construction Condition: Habitat Restoration			
Source 1: Excavator - Sound level (dBA) at 50 feet =	81	40%	77.0
Source 2: Crew/Survey Boat (based on Push Boat) - Sound level (dBA) at 50 feet =	82	40%	78.0
Source 3: Pile Driver - Sound level (dBA) at 50 feet =	101	20%	94.0
Calculated Data:			
All Sources Combined - Lmax sound level (dBA) at 50 feet =			101
All Sources Combined - Leq sound level (dBA) at 50 feet =			94

Distance Between Source and Receiver (ft.)	Geometric Attenuation (dB)	Ground Effect Attenuation (dB)	Calculated Lmax Sound Level (dBA)	Calculated Leq Sound Level (dBA)
15	10	0.0	112	105
25	6	0.0	107	100
50	0	0.0	101	94
100	-6	0.0	95	88
200	-12	0.0	89	82
400	-18	0.0	83	76
600	-22	0.0	80	73
800	-24	0.0	77	70
1000	-26	0.0	75	68
1250	-28	0.0	73	66
1500	-30	0.0	72	65

Geometric attenuation based on 6 dB per doubling of distance.

Note: This calculation does not include the effects, if any, of local shielding from walls, topography or other barriers which may reduce sound levels further.

Table 8. Construction Noise

Source Data:	Maximum Sound Level (dBA)	Utilization Factor	Leq Sound Level (dBA)
Construction Condition: Dock (Pier 1 and Pier 2)			
Source 1: Pile Driver - Sound level (dBA) at 50 feet =	101	20%	94.0
Source 2: Hydraulic Impact Breaker (Based on Mounted Impact Hammer) - Sound level (dBA) at 50 feet =	90	20%	83.0
Source 3: Hydraulic Impact Breaker (Based on Mounted Impact Hammer) - Sound level (dBA) at 50 feet =	90	20%	83.0
Calculated Data:			
All Sources Combined - Lmax sound level (dBA) at 50 feet =			102
All Sources Combined - Leq sound level (dBA) at 50 feet =			95

Distance Between Source and Receiver (ft.)	Geometric Attenuation (dB)	Ground Effect Attenuation (dB)	Calculated Lmax Sound Level (dBA)	Calculated Leq Sound Level (dBA)
15	10	0.0	112	105
25	6	0.0	108	101
50	0	0.0	102	95
100	-6	0.0	96	89
200	-12	0.0	90	83
400	-18	0.0	84	77
600	-22	0.0	80	73
800	-24	0.0	78	71
1000	-26	0.0	76	69
1250	-28	0.0	74	67
1500	-30	0.0	72	65

Geometric attenuation based on 6 dB per doubling of distance.

Note: This calculation does not include the effects, if any, of local shielding from walls, topography or other barriers which may reduce sound levels further.

Caltrans Census Data - Year 2021
(Most recent year available)

(https://dot.ca.gov/programs/traffic-operations/census)

DISTRICT	ROUTE	ROUTE_SFX	COUNTY	PM_PFX	PM	PM_SFX	LOCATION DESCRIPTION	BACK_PEAK_HOUR	BACK_PEAK_MADT	BACK_AADT	AHEAD_PEAK_HOU	AHEAD_PEAK_MADT	AHEAD_AADT
01	101		DN	M	0		HUMBOLDT/DEL NORTE COUNTY LINE				550	5400	3500
01	101		DN	R	.51		HUMBOLDT/DEL NORTE COUNTY LINE	630	5700	3800	450	3450	2900
01	101		DN	R	3.56		SOUTH BANK ROAD	600	5400	3900	600	5400	4200
01	101		DN	R	4.638		KLAMATH, JCT. RTE. 169 SOUTHEAST	600	5400	5100	600	5400	4300
01	101		DN		8.176		REQUA ROAD	800	6600	5000	800	6600	4900
01	101		DN		8.804		NEW HUNTER CREEK ROAD	800	6600	4900	800	6600	5100
01	101		DN		10.87		TREES OF MYSTERY	840	8600	7200	620	6300	4100
01	101		DN		23.77		HUMBOLDT ROAD; BLUFF ROAD	600	6500	4700	740	6100	4200
01	101		DN		24.41		SANDMINE ROAD	600	6500	4200	600	6500	4300
01	101		DN		25.84		CRESCENT CITY, ELK VALLEY ROAD	1500	13700	10700	1750	19600	15500
01	101		DN		26.183	R	CRESCENT CITY, ON M STREET	3300	25500	20000	900	12300	9800
01	101		DN		26.211	R	CRESCENT CITY, ON M STREET AT FRONT STREET	700	8200	6700	900	9600	7800
01	101		DN		26.38	R	CRESCENT CITY, ON M STREET AT 4TH STREET	900	9600	7800	900	9700	7900
01	101		DN		26.663	R	CRESCENT CITY, ON M STREET AT 9TH STREET	900	9700	7900	900	9700	8000
01	101		DN		26.771	R	CRESCENT CITY, NORTH OF 9 TH STREET	1000	10000	9000			
01	101		DN		26.183	L	CRESCENT CITY, ON L ST AT FRONT ST			10700	990	8800	7100

Source: https://dot.ca.gov/programs/traffic-operations/census

Construction Haul Truck Noise Modeling

Link	Roadway	Segment Location	Hard or Soft Ground (H or S)	Total Daily Traffic Volumes **(ADT)**	Traffic Mix Number #	Traffic Mix Description	Vehicle Speed mph max. 80	Sound Levels at Receiver Locations: Distance feet, min. 33 max. 1000	dB Ldn	dB CNEL
1	**US 101, Existing**	**North of Sandmine Road**	H	4,300	1	3% Heavy Trucks	40	50	**62.5**	**63.0**
2	**US 101, Existing Plus Construction Traffic**	**North of Sandmine Road**	H	4,310	2	3.2% Heavy Trucks	40	50	**62.7**	**63.6**

Appendix C
Biological Resources

Appendix D

Cultural Resources

Appendix E
Hazards