
EXECUTIVE SUMMARY

The Port of Oakland (Port), in partnership with the United States Army Corps of Engineers (USACE), is proposing the Oakland Harbor Turning Basins Widening Project (Proposed Project) at the Oakland Seaport (Seaport) in Alameda County, California. The Proposed Project involves widening the diameter of the existing turning basins in the Seaport. The Port, as the Lead Agency pursuant to the California Environmental Quality Act (CEQA), prepared this Draft Environmental Impact Report (EIR) to inform decision-makers at the Port, other responsible agencies, and the public of the potential physical effects on the environment that could result from implementation of the Proposed Project.

ES.1. PROPOSED PROJECT LOCATION AND EXISTING USES

The Seaport¹ is at the western end of the City of Oakland, adjacent to the eastern shoreline of San Francisco Bay (Bay), south of the Interstate 80 San Francisco-Oakland Bay Bridge, and north of the City of Alameda (Alameda). The Seaport is served by the Oakland Harbor, a federal commercial waterway, which generally consists of the Entrance Channel, the Outer Harbor Channel and its Outer Harbor Turning Basin (OHTB), and the Inner Harbor Channel and its Inner Harbor Turning Basin (IHTB). The Oakland Harbor waterways are deep-draft navigation channels that support commercial vessel access to the Seaport. The Seaport is the only deep-draft container port in Northern California, and services more than 99 percent of the containerized goods for Northern California.

The Outer Harbor Channel is immediately south of the San Francisco-Oakland Bay Bridge, and the Inner Harbor Channel is in the waterway between the Seaport and Alameda. The IHTB and OHTB are widened areas of the Inner and Outer Harbor Channels that allow commercial vessels to turn around; the IHTB is approximately 1,500 feet in diameter and the OHTB is approximately 1,650 feet in diameter. The channels and turning basins were last improved to provide a water depth of 50 feet mean lower low water (MLLW)² and widened turning basins—a construction effort that concluded in 2009 (-50-Foot Project). Since the completion of the -50-Foot Project, routine dredging (removal of material from the bottom of the Bay or channel) has been conducted to maintain the authorized depth of -50 feet MLLW.

The landside locations of Proposed Project improvements include:

- a portion of Port-owned property at Howard Terminal to the north of the IHTB;
- private property along the Alameda shoreline to the southeast of the IHTB (referred to in this Draft EIR as the “Alameda Site”); and
- Port-owned property at Berth 26 in the Outer Harbor Terminal.

¹ For this document, the Seaport encompasses areas beyond Port-owned lands that rely on the Port’s operations and the Oakland Harbor waterway. Therefore, the Seaport spans and includes approximately 1,300 acres of Port-owned waterfront and inland lands, approximately 200 acres of land owned by City of Oakland, and approximately 300 acres of private land owned and operated by entities such as the Union Pacific Rail Road and Schnitzer Steel Industries/Radius Recycling, for a total of approximately 1,800 acres.

² Mean lower low water refers to the water elevation of the lowest low tides averaged over a 19-year period.

Howard Terminal is not currently an active container terminal for offloading cargo from container vessels, but serves a variety of maritime support uses including truck parking, container storage, vessel berthing (docking) for maintenance and storage, and training of longshore workers and other logistics services that support Port operations. On the Oakland (northern) side of the IHTB, land uses along the shoreline from Howard Terminal and to the west are characterized by maritime and industrial uses associated with the Seaport.

The Alameda Site is developed with two warehouse buildings that are currently leased by Continental Terminals Annex as a storage facility for coffee beans. On the Alameda (southern) side of the IHTB, light industrial and maritime land uses adjacent to the IHTB are surrounded primarily by single- and multi-family residential development and parks, some of which are currently in construction.

Berth 26 is in the TraPac Terminal container handling and storage yard and is paved. Land uses in the Outer Harbor Terminal consist of maritime and industrial uses associated with international and domestic trade.

ES.2. PROPOSED PROJECT OBJECTIVES

The purpose of the Proposed Project is to provide navigational improvements that address inefficiencies and suboptimal conditions currently experienced by vessels in the Oakland Harbor. Current container vessels calling the Port exceed the maximum dimensions of the constructed turning basins. The existing turning basins were designed and constructed for a 6,500 in twenty-foot equivalent unit (TEU) container vessel with a 1,139-foot length, 140-foot beam (width), and 48-foot draft (how deep the boat is under the water). The vessels transiting in the Oakland Harbor today are longer, wider, and can sit deeper than the design vessel that last served as the basis for improvement of the Oakland Harbor. The limiting factor that has resulted in transit restrictions and inefficiencies is the existing width of the turning basins. These inefficiencies are projected to not only continue, but to increase in the future because longer vessels are expected to transit the Oakland Harbor with greater frequency as fleet turnover trends continue to replace older, smaller vessels with newer, larger vessels.

Section 15124(b) of the California Environmental Quality Act (CEQA) Guidelines requires an EIR to include a statement of objectives sought by the Proposed Project. The Port has identified the following objectives for the Proposed Project:

- Optimize transit efficiencies for commercial deep-draft vessels across the entire Seaport for both the current and the projected increase in the frequency of calls to the Seaport by longer vessels;
- Maintain the Port's competitiveness as the principal ocean gateway for international cargo shipments in Northern California;
- Improve flexibility for commercial deep draft vessels calling the Seaport to connect to shore power to reduce their emissions while at berth, in alignment with the Port's vision of a zero emissions Seaport;
- Improve conditions for vessel maneuvering and safety, including reducing environmental risk associated with existing maneuvering limitations; and

- Modernize essential waterway infrastructure to fully accommodate the projected fleet mix of vessels calling the Seaport.

ES.3. PROPOSED PROJECT

The Proposed Project involves widening both the IHTB and OHTB to accommodate a vessel that is 1,310 feet long and 193 feet wide, with an estimated cargo capacity of 19,000 TEUs.

Expansion of IHTB consists of widening the existing IHTB an additional 334 feet—from 1,500 feet to 1,834 feet—with a depth of -50 feet MLLW, consistent with the existing depth of the IHTB. In addition to in-water work to widen the IHTB, landside property would be removed at Howard Terminal and the Alameda Site. New bulkheads would be installed at Howard Terminal and the Alameda Site along the proposed modified shoreline and between the northwestern portion of the IHTB footprint and the Schnitzer Steel/Radius Recycling property, which lies to the west of Howard Terminal. Removal of land would occur via both landside excavation and dredging from the water. Dredging would be performed with an electric-powered dredge connected to existing electrical infrastructure adjacent to the Alameda shoreline or to electrical infrastructure that would be added on the eastern side of Howard Terminal near Berth 68.

The OHTB would be widened an additional 315 feet—from 1,650 feet to 1,965 feet—with a depth of -50 feet MLLW, consistent with the existing depth of the OHTB. Widening the OHTB does not require the removal of landside property and would be accomplished via dredging. To support electrical dredging for widening the OHTB, electrical infrastructure would be added near Berth 26.

The Proposed Project is designed to improve both vessel transit efficiencies and navigational safety in the Oakland Harbor. The Proposed Project is not a development project that removes a barrier to growth, shifts cargo from one port to another, or increases the Port's container handling capabilities. It is assumed that the economic variables that directly influence economic growth and subsequent demand for Port services remain constant under the Proposed Project and future conditions without the Proposed Project; therefore, the Port's total projected volume serviced would remain the same both with and without widening of the turning basins.

ES.4. ENVIRONMENTAL IMPACTS

Chapter 3 of this Draft EIR describes the environmental resources present in the vicinity of the Proposed Project and examines the potential environmental impacts associated with the Proposed Project for each environmental resource topic considered under the CEQA Guidelines. Chapter 4 of this Draft EIR provides a cumulative effects analysis that describes the impacts of the Proposed Project in combination with those from current and reasonably foreseeable probable future projects. **Table ES-1** summarizes the individual project and cumulative environmental impacts that would result from implementation of the Proposed Project, mitigation measures that would avoid or reduce the magnitude of potentially significant impacts, and the resulting levels of significance for each impact. Even with implementation of mitigation measures, the Proposed Project would result in significant and unavoidable impacts related to air quality and noise.

ES.5. ALTERNATIVES CONSIDERED

As required under Section 15126.6(a) of the CEQA Guidelines, an EIR must discuss a range of reasonable alternatives to the Proposed Project. In addition, even though it would not meet any of the Proposed Project objectives, CEQA Guidelines Section 15126.6(e) requires consideration of a No Project Alternative that represents the existing conditions, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved.

The following alternatives are evaluated in Chapter 5 this Draft EIR. These alternatives were identified as potentially feasible alternatives that would meet at least some of the project objectives and would potentially avoid or substantially lessen one or more of the significant environmental effects of the Proposed Project.

- Alternative 1 – Widening of IHTB Only
- Alternative 2 – Widening of the OHTB Only
- Alternative 3 – Widening of the IHTB and OHTB with use of Diesel Dredges
- Alternative 4 – No Project Alternative

Widening of the OHTB Only (Alternative 2) would be the environmentally superior alternative. Alternative 2 would eliminate the Proposed Project's significant and unavoidable air quality and noise impacts; however, Alternative 2 would fail to meet most of the project objectives. Widening of the IHTB Only (Alternative 1) would lessen the extent of environmental impacts compared to the Proposed Project but would not eliminate any of the Proposed Project's significant and unavoidable impacts; Alternative 1 would also fail to meet most of the project objectives. Widening of the IHTB and OHTB with use of Diesel Dredges (Alternative 3) would meet all of the project objectives but would increase the severity of significant and unavoidable air quality and noise impacts compared to the Proposed Project.

Table ES-1: Summary of Proposed Project Impacts, Mitigation Measures, and Resulting Level of Significance

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Aesthetics		
Impact AES-1: Would the Proposed Project have a substantial adverse effect on a scenic vista?	None required	Less than Significant
Impact AES-2: Would the Proposed Project substantially damage scenic resources, including but not limited to trees, rocks, outcroppings, and historic buildings, within a state scenic highway?	None required	Less than Significant
Impact AES-3: Would the Proposed Project substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage point)? If in an urbanized area, would the Proposed Project conflict with applicable zoning and other regulations governing scenic quality?	None required	Less than Significant
Impact AES-4: Would the Proposed Project create a new source of substantial light or glare that would adversely affect day- or nighttime views in the area?	None required	Less than Significant
Impact C-AES-1: Potential for the Proposed Project, combined with reasonably foreseeable future projects in the vicinity, to result in significant cumulative aesthetic impacts.	None required	Less than Significant

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Air Quality		
<p>Impact AIR-1: Would the Proposed Project conflict with or obstruct implementation of an applicable air quality plan?</p>	<p>MM AIR-1: Construction Air Quality Mitigation</p> <p>The Port shall require the contractor to implement construction-related air quality emission reduction measures. All requirements will be included in applicable bid documents, purchase orders, and contracts, with the contractors demonstrating the ability to supply the compliant on- or off-road construction equipment for use prior to any ground-disturbing and construction activities. The measures are as follows:</p> <ul style="list-style-type: none"> a. Require all diesel-fueled off-road construction equipment used on land to be equipped with United States Environmental Protection Agency Tier 4 final compliant engines or better as a condition of contract unless a unique piece of equipment is not available as a Tier 4 engine. b. Use zero-emission and hybrid-powered equipment, to the greatest extent possible. The performance criterion for meeting this standard assumes availability by at least two commercial rental facilities in the San Francisco Bay Area Air Basin, to the greatest extent possible. c. Require all on-road heavy-duty trucks to conform to the most stringent emissions standard as a condition of their contract. This currently means a 2015 model year or newer truck. d. Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to no more than two minutes. Provide clear signage that posts this requirement for workers at the entrances to the site. The Port will conduct random monthly surveys to check for compliance with idling times to ensure compliance with this measure. 	<p>Significant and Unavoidable</p>

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Air Quality (Cont'd)		
	<ul style="list-style-type: none"> e. Require all construction equipment to be maintained and properly tuned in accordance with manufacturer’s specifications. Equipment shall be checked by a certified mechanic in accordance with manufacturer’s specifications and determined to be running in proper condition prior to operation. f. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. g. All haul trucks transporting soil, sand, or other loose material off site shall be covered. h. All visible mud or dirt trackout onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day, or other suitable practices to remove dirt from tire mechanisms shall be employed to minimize occurrences of trackout. The use of dry power sweeping is prohibited. i. All vehicle speeds on unpaved roads shall be limited to 15 mph. j. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. k. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph in a given hour. l. All trucks and equipment, including their tires, shall be washed off prior to leaving the site. m. Unpaved roads providing access to sites 100 feet or further from a paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel. 	

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Air Quality (Cont'd)		
	<ul style="list-style-type: none"> n. Publicly visible signs shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District’s General Air Pollution Complaints number shall also be posted on a publicly visible sign to ensure compliance with applicable regulations. o. Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities. p. Install wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity. q. Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas as soon as possible and water the ground cover appropriately until vegetation is established. r. Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than 1 percent. s. Minimize the amount of excavated material or waste materials stored at the site. <p>Hydroseed or apply non-toxic soil stabilizers to construction areas, including previously graded areas, that are expected to be inactive for at least 10 calendar days.</p>	
<p>Impact AIR-2: Would the Proposed Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?</p>	<p>MM AIR-1: Construction Air Quality Mitigation</p>	<p>Significant and Unavoidable</p>

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Air Quality (Cont'd)		
Impact AIR-3: Would the Proposed Project expose sensitive receptors to substantial pollutant concentrations?	MM AIR-1: Construction Air Quality Mitigation	Significant and Unavoidable
Impact AIR-4: Would the Proposed Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	None required	Less than Significant
Impact C-AIR-1: Potential for the Proposed Project, combined with reasonably foreseeable future projects in the vicinity, to expose sensitive people to substantial pollutant concentrations.	MM AIR-1: Construction Air Quality Mitigation	Significant and Unavoidable
Biological Resources		
Impact BIO-1: Would the Proposed Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, United States Fish and Wildlife Service, or National Marine Fisheries Service?	<p>MM BIO-1A: Silt Curtains Silt curtains shall be used when dredging sediment with elevated levels of chemical contaminants, as determined through the pre-construction sediment quality characterization and as required by Project permits, or when dredging within 250 meters (or 820 feet, as determined by the pre-construction eelgrass survey) of eelgrass beds. Prior to in-water construction, a silt curtain shall be deployed from the water's edge and pushed out to the deployed location to avoid entrapping aquatic wildlife species.</p> <p>MM BIO-1B: Worker Education Program A worker education program shall be implemented for special-status fish, birds, and marine mammals that could be adversely impacted by construction activities. The program shall include a presentation to all workers on biology, general behavior, distribution, habitat needs, sensitivity to human activities, legal protection status, and project-specific protective measures for each species. Workers shall also be provided with written materials containing this information. Written material shall be provided in different languages as needed.</p>	Less than Significant with Mitigation

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Biological Resources (Cont'd)		
	<p>MM BIO-1C: Pile-Driving–Related Measures</p> <p>The following measures shall be implemented to reduce potential impacts from pile driving on special-status fish, marine mammals, and birds:</p> <ul style="list-style-type: none"> • To the extent feasible, all pilings or similar in-water structures shall be installed and removed with vibratory pile drivers only. If feasible, vibratory pile driving shall be conducted following USACE’s Proposed Additional Procedures and Criteria for Permitting Projects under a Programmatic Determination of Not Likely to Adversely Affect Select Listed Species in California. • An impact pile driver shall only be used where necessary to complete installation of piles or in-water structures in accordance with seismic safety or other engineering criteria. If impact driving is needed for in-water pile installation, the following measures shall be implemented: • Prior to the start of impact pile driving, the Port, in coordination with USACE, shall prepare NMFS-approved Hydroacoustic and Biological Monitoring Plan (described above) to protect fish and marine mammals. <ul style="list-style-type: none"> ○ Piles driven with an impact driver shall employ a “soft start” technique to give fish an opportunity to move out of the area before full-powered impact driving begins. Only a single impact hammer would be operated at a time. ○ The impact hammer shall be cushioned using a 12-inch-thick wood cushion block during all impact hammer pile-driving operations. ○ During impact pile-driving of steel piles, a bubble curtain shall be used to attenuate underwater sound levels. ○ The Port, in coordination with USACE, shall monitor and verify sound levels during pile-driving activities. The sound monitoring results would be made available to NMFS and other regulatory agencies as needed. 	

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Biological Resources (Cont'd)		
	<ul style="list-style-type: none"> • A Hydroacoustic and Biological Monitoring Plan shall be prepared prior to the start of construction for review and approval by NMFS. This plan shall provide details on the methods used to monitor and verify sound levels during pile-driving activities. The plan shall include specific measures to minimize exposure of marine mammals and fish to high sound levels, including conditions requiring construction work to temporarily stop. • To the extent feasible, based on Project design, cost, and schedule considerations, impact pile driving shall not occur during the bird breeding season of February 1 to August 15. If impact pile driving must occur during the bird breeding season, work areas plus an appropriate buffer area determined by a qualified biologist shall be surveyed by a qualified biologist to verify the presence or absence of nesting raptors or other birds. If the survey indicates the potential presence of nesting raptors or other nesting birds, an appropriately sized buffer shall be applied around the nest in which no work would be allowed until the young have successfully fledged, so that nesting birds are not disturbed by the Project activity. In general, buffer sizes of 200 feet for raptors should suffice to prevent disturbance to birds nesting in the urban environment, but the buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest. <p>In addition, the Long Term Management Strategy program dredging work window for California least tern in the Proposed Project vicinity is August 1 through March 15 each year. If impact pile-driving activities must occur outside of this work window, the Port shall coordinate with the USACE to initiate additional consultation with USFWS to obtain written authorization to work outside this window.</p>	

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Biological Resources (Cont'd)		
<p>Impact BIO-2: Would the Proposed Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, United States Fish and Wildlife Service, or National Marine Fisheries Service?</p>	<p>MM BIO-1A: Silt Curtains (also MM HYD-1) MM BIO-1C: Pile-Driving–Related Measures MM BIO-2: Eelgrass Surveys</p> <p>Prior to the start of any in-water construction, the Port, in coordination with USACE, shall conduct an NMFS-approved eelgrass survey, consistent with the measures described in the NMFS October 2014 California Eelgrass Mitigation Policy and Implementation Guidelines (CEMP). The survey shall include the following:</p> <ul style="list-style-type: none"> • Before in-water construction activities occur in the marine environment, eelgrass surveys shall be conducted in the in-water work areas plus a 250-meter (820-foot) buffer, and at an appropriate reference site(s). Surveys shall take place within 60 days before the start of construction, consistent with the methods outlined in the CEMP. • After construction, a post-action survey of the eelgrass habitat in the in-water work areas plus a 250-meter (820-foot) buffer, and at an appropriate reference site(s), shall be completed. Surveys shall take place within 30 days of completion of construction, or within the first 30 days of the next active growth period that follows completion of construction and occurs outside of the active growth period. • Areas of direct and indirect impact shall be determined from an analysis that compares the pre-action condition of eelgrass habitat with the post-action conditions from this survey, relative to eelgrass habitat change at the reference site(s), in accordance with the methods described in the CEMP. 	<p>Less than Significant with Mitigation</p>

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Biological Resources (Cont'd)		
	<ul style="list-style-type: none"> If impacts to eelgrass are known to occur prior to construction, based on the preconstruction survey, or observed to occur after construction, the Port, in coordination with the USACE, shall develop a mitigation plan to achieve no net loss in eelgrass function, following the steps recommended in the CEMP. Potential mitigation options include comprehensive management plans, in-kind mitigation, mitigation banks and in-lieu-fee programs, and out-of-kind mitigation, as defined in the CEMP. 	
Impact BIO-3: Would the Proposed Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	None required	Less than Significant
Impact C-BIO-1: Potential for the Proposed Project, combined with reasonably foreseeable future projects in the vicinity, to result in significant cumulative biological impacts.	MM BIO-1A: Silt Curtains MM BIO-1B: Worker Education Program MM BIO-1C: Pile-Driving–Related Measures MM BIO-2: Eelgrass Surveys	Less than Significant with Mitigation
Cultural Resources		
Impact CUL-1: Would the Proposed Project cause a substantial adverse change in the significance of a historical resource as defined in Public Resources Code Section 15064.5?	None required	No Impact

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Cultural Resources (Cont'd)		
<p>Impact CUL-2: Would the Proposed Project cause a substantial adverse change in the significance of an archaeological resource pursuant to Public Resources Code Section 15064.5?</p>	<p>MM CUL-2: Inadvertent/Unanticipated Archaeological Cultural Resources Discovery Protocols</p> <p>If a potential archaeological resource is discovered during Project construction, the following actions shall be taken:</p> <ol style="list-style-type: none"> 1. Dredging and excavation work, or any other activities at the locations and within 50 feet of the finds must halt. 2. The crew member(s) shall immediately notify the Project Construction Manager and the Port Project Manager. 3. Work can be shifted to other Project areas to avoid loss of work time. However, work shall only resume in the suspected area once the situation has been properly examined and assessed by a qualified archaeologist, and the Port has given notification that work may resume. <p>To ensure that the work force is aware of the regulatory protections afforded to cultural resources, the potential impacts that could occur with the inadvertent discovery of previously unknown archaeological resources during Project construction, how to recognize archaeological resources, as well as the procedures to be followed in the event of such a discovery, the Port shall provide a cultural resources awareness training to the Project's prime contractor and subcontractors involved with sediment- and soil-disturbing activities. The Port shall also provide a construction "ALERT" sheet for the Project prepared by a qualified archaeologist. The ALERT sheet shall contain, at a minimum, visuals that depict each type of artifact that could potentially be encountered, as well as the procedures to be followed in the event of a potential discovery (see below), and the contact information of those Port personnel who are to be contacted in the event of a discovery. Prior to any soil-disturbing</p>	<p>Less than Significant with Mitigation</p>

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Cultural Resources (Cont'd)		
	<p>activities, each contractor shall be responsible for ensuring that the ALERT sheet is circulated to all field personnel. The ALERT sheet shall also be posted in a visible location at the Project site, as well as being available at any time during construction.</p> <p>In the event that potential archaeological resources are inadvertently discovered during Project construction, all activity within a 50-foot radius of the find shall be stopped, the appropriate Port personnel shall be notified as listed above, and a qualified archaeologist shall be retained by the Port to examine the find. Project personnel shall not collect or move any uncovered materials whether suspected to be archaeological in nature or not. The archaeologist shall provide a preliminary evaluation of the find(s) to determine whether it meets the definition of a historical or unique archaeological resource.</p> <p>If the find(s) meets the definition of a historical resource (i.e., it is California Register of Historical Resources-eligible) or unique archaeological resource under CEQA, then it shall be avoided and preserved in place (the preferred method if feasible). Feasibility of avoidance shall be determined with consideration of factors such as the nature of the find, Project design, costs, and other considerations. If avoidance is not feasible, as determined by the Port, the qualified archaeologist shall prepare a treatment plan that includes measures to reduce impacts to the resource. The treatment plan measures may include, but need not be limited to, design changes to limit disturbance of the resource and/or data recovery.</p>	

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Cultural Resources (Cont'd)		
<p>Impact CUL-3: Would the Proposed Project disturb any human remains, including those interred outside of dedicated cemeteries?</p>	<p>MM CUL-3: Inadvertent/Unanticipated Discovery of Human Remains</p> <p>In the event that human remains are inadvertently discovered during Project construction, all work shall immediately halt in accordance with Health and Safety Code Section 7050.5 and Public Resources Code Sections 5097.94 and 5097.98. The Port shall also notify the Alameda County Coroner of the discovery. If the Alameda County Coroner determines that an investigation of the cause of death is required or that the remains are Native American, all work shall cease within 50 feet of the remains until appropriate arrangements are made. If the remains are Native American, the Port shall contact the California Native American Heritage Commission, pursuant to subdivision (c) of Section 7050.5 of the California Health and Safety Code. If the Port determines that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities.</p>	<p>Less than Significant with Mitigation</p>
<p>Impact C-CUL-1: Potential for the Proposed Project, combined with reasonably foreseeable future projects in the vicinity, to result in significant cumulative impacts on historical resources (NRHP and/or CRHR listed or eligible to be listed), including both historic architecture and archaeological resources, including those with human remains.</p>	<p>MM CUL-2: Inadvertent/Unanticipated Archaeological Cultural Resources Discovery Protocols</p> <p>MM CUL-3: Inadvertent/Unanticipated Discovery of Human Remains</p>	<p>Less than Significant with Mitigation</p>

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Energy		
<p>Impact ENE-1: Would the Proposed Project result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during Project construction or operation?</p>	<p>MM ENE-1: Switch to Diesel Dredging during Peak Electricity Demand Events The Port’s Project Managers and the Port’s supervising staff shall enroll in the California Independent System Operator’s notification system prior to any dredging activities, so that Project Managers and Port supervisorial staff receive the Emergency Energy Alert notices. When an Emergency Energy Alert 3 Notice to prepare for rotating power outages is issued by the California Independent System Operator for the Northern California Region and/or the California Independent System Operator Grid and/or Alameda Municipal Power, the Port shall cease electric dredging activities, and may continue dredging activities using alternative means of power (diesel-generation).</p>	<p>Less than Significant with Mitigation</p>
<p>Impact ENE-2: Would the Proposed Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?</p>	<p>None required</p>	<p>Less than Significant</p>
<p>Impact C-ENE-1: Potential for the Proposed Project, combined with reasonably foreseeable future projects in the vicinity, to result in significant cumulative energy impacts.</p>	<p>MM ENE-1: Switch to Diesel Dredging during Peak Electricity Demand Events</p>	<p>Less than Significant with Mitigation</p>
Geology/Soils		
<p>Impact GEO-1: Would the Proposed Project expose people or structures to strong seismic ground shaking and seismic-related ground failure such as liquefaction?</p>	<p>None required</p>	<p>Less than Significant</p>
<p>Impact GEO-2: Would the Proposed Project result in substantial soil erosion or the loss of topsoil?</p>	<p>None required</p>	<p>Less than Significant</p>

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Geology/Soils (Cont'd)		
<p>Impact GEO-3: Would the Proposed Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Proposed Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?</p>	<p>None required</p>	<p>Less than Significant</p>
<p>Impact GEO-4: Would the Proposed Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?</p>	<p>None required</p>	<p>Less than Significant</p>
<p>Impact GEO-5: Would the Proposed Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</p>	<p>MM GEO-5: Inadvertent Discovery of Paleontological Resources Before construction begins, the Port shall ensure that all construction personnel receive awareness training that includes information on the possibility of encountering fossils during construction, and proper procedures in the event fossils are encountered. Pursuant to State CEQA Guidelines Section 15064.5(f), in the event that any paleontological resources are discovered during ground-disturbing activities, all work within 50 feet of the resources shall be halted and the Port shall consult with a qualified paleontologist to assess the significance of the find. In the event of discovery of paleontological resources, the assessment shall be done in accordance with the Society of Vertebrate Paleontology standards. If any find is determined to be significant, appropriate avoidance measures shall be considered unless avoidance is determined unnecessary or infeasible. Feasibility of avoidance shall be determined with consideration of factors such as the nature of the find, Proposed</p>	<p>Less than Significant with Mitigation</p>

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Geology/Soils (Cont'd)		
	Project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery, excavation) shall be instituted. Work may proceed on other parts of the Project site while measures for the paleontological resources are implemented. All significant paleontological materials recovered shall be subject to scientific analysis, professional museum curation, and/or a report prepared by a qualified paleontologist, as appropriate, according to current professional standards.	
Impact C-GEO-1: Potential for the Proposed Project, combined with reasonably foreseeable future projects in the vicinity, to result in significant cumulative impacts to geology, soils, seismicity, or paleontological resources.	MM GEO-5: Inadvertent Discovery of Paleontological Resources	Less than Significant with Mitigation
Greenhouse Gas Emissions		
Impact GHG-1: Would the Proposed Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	<p>MM GHG-1: Construction GHG Mitigation</p> <p>The Port shall require the contractor to implement construction-related GHG emission reduction measures. All requirements shall be included in applicable bid documents, purchase orders, and contracts, with the contractors demonstrating the ability to supply the compliant on- or off-road construction equipment for use prior to any ground-disturbing and construction activities. The measures to include are as follows:</p> <ul style="list-style-type: none"> • Use zero-emission and hybrid-powered equipment to the greatest extent possible. The performance criteria for meeting this standard are availability by at least two commercial rental facilities in the San Francisco Bay Area Air Basin. 	Less than Significant with Mitigation

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Greenhouse Gas Emissions (Cont'd)		
	<ul style="list-style-type: none"> • Require all on-road heavy-duty trucks to be the most stringent emissions standard as a condition of contract. This currently means a 2015 model year or newer truck. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to no more than two minutes. Provide clear signage that posts this requirement for workers at the entrances to the site, and the Port will conduct random monthly surveys to check for compliance with idling times to ensure compliance with this measure. • Use California Air Resources Board-approved renewable diesel fuel R99 or R100 in off-road construction equipment and on-road trucks. • Use United States Environmental Protection Agency SmartWay-certified trucks for deliveries and equipment transport. • Require all construction equipment be maintained and properly tuned in accordance with manufacturer’s specifications. Equipment should be checked by a certified mechanic and determined to be running in proper condition prior to operation. • Encourage and provide carpools, shuttle vans, transit passes, and/or secure bicycle parking to construction workers, and offer meal options on site or shuttles to nearby meal destinations for construction employees. • Recycle or salvage nonhazardous construction and demolition debris. • Develop a plan to efficiently use water for adequate dust control because substantial amounts of energy can be consumed during the pumping of water. 	

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Greenhouse Gas Emissions (Cont'd)		
Impact GHG-2: Would the Proposed Project conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs?	None Required	Less than Significant
Impact C-GHG-1: Potential for the Proposed Project, combined with reasonably foreseeable future projects in the vicinity, to result in significant cumulative GHG impacts.	Mitigation Measure GHG-1: Construction GHG Mitigation	Less than Significant with Mitigation
Hazards and Hazardous Materials		
Impact HAZ-1: Would the Proposed Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials?	None Required	Less than Significant
Impact HAZ-2: Would the Proposed Project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e., the "Cortese List") and could create a significant hazard to the public or the environment?	None Required	Less than Significant
Impact HAZ-3: Would the Proposed Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	MM TRA-1: Traffic Control Plan (see Transportation section below)	Less than Significant with Mitigation

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Hazards and Hazardous Materials (Cont'd)		
<p>Impact C-HAZ-1: Potential for the Proposed Project, combined with reasonably foreseeable future projects in the vicinity, to result in significant cumulative hazards and hazardous materials impacts.</p>	<p>MM TRA-1: Traffic Control Plan</p>	<p>Less than Significant with Mitigation</p>
Hydrology/Water Quality		
<p>Impact HYD-1: Would the Proposed Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface- or groundwater quality?</p>	<p>MM HYD-1: Silt Curtains Silt curtains shall be used when dredging sediment with elevated levels of chemical contaminants, as determined through the pre-construction sediment quality characterization and as required by Project permits, or when dredging within 250 meters (or 820 feet, as determined by the pre-construction eelgrass survey) of eelgrass beds. Prior to in-water construction, a silt curtain shall be deployed from the water's edge and pushed out to the deployed location to avoid entrapping aquatic wildlife species.</p>	<p>Less than Significant with Mitigation</p>
<p>Impact HYD-2: Would the Proposed Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?</p>	<p>None Required</p>	<p>Less than Significant</p>

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Hydrology/Water Quality (Cont'd)		
<p>Impact HYD-3: Would the Proposed Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would (1) result in a substantial erosion or siltation on- or off-site; (2) substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site; (3) create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (4) impede or redirect flood flows?</p>	None Required	Less than Significant
<p>Impact HYD-4: Would the Proposed Project in flood hazard, tsunami, or seiche zones risk release of pollutants due to project inundation?</p>	None Required	Less than Significant
<p>Impact HYD-5: Would the Proposed Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?</p>	MM HYD-1: Silt Curtains	Less than Significant with Mitigation
<p>Impact C-HYD-1: Potential for the Proposed Project, combined with reasonably foreseeable future projects in the vicinity, to result in significant hydrology and water quality impacts.</p>	MM HYD-1: Silt Curtains	Less than Significant with Mitigation

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Land Use/Planning		
Impact LUP-1: Would the Proposed Project physically divide an established community?	None Required	Less than Significant
Impact LUP-2: Would the Proposed Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	None Required	Less than Significant
Impact C-LUP-1: Potential for the Proposed Project, combined with reasonably foreseeable future projects in the vicinity, to result in significant cumulative land use impacts.	None Required	Less than Significant
Noise		
Impact NOI-1: Would the Proposed Project generate a substantial temporary or periodic increase in ambient noise levels at sensitive receptors.	<p>MM NOI-1A: Pile Driving Noise-Reducing Techniques and Muffling Devices</p> <p>The Port shall require the construction contractor to use noise-reducing pile-driving techniques if conducted within 1,500 feet of receptors identified in Table 3.12-14 that could be subject to significant pile-driving noise. Construction contractors shall be required to use construction equipment with state-of-the-art noise shielding and muffling devices. For impact hammer driving, these techniques shall include use of cushion blocks during pile installation activities within 1,500 feet of sensitive receptors in Oakland and Alameda. The impact pile hammer shall be cushioned using a wood cushion block or other material sufficient to obtain an 11 dBA reduction for all impact hammer pile-driving operations. For all pile-driving activities, at least 14 calendar days prior, the Port, in coordination with USACE, shall notify residents within 1,500 feet of the pile-driving activities of the dates, hours, and expected duration of such activities.</p>	Significant and Unavoidable

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Noise (Cont'd)		
	<p>MM NOI-1B: Erection of a Temporary Noise Barrier To address significant nighttime noise impacts at the Mosley Avenue residences in Alameda, the Port shall require contractors, as a condition of contract, to construct a temporary 12-foot noise barrier along the southern edge of the harbor on the Alameda side of the turning basin during nighttime dredging activities at the Alameda Site. The barrier shall be installed at a location approximately 220 feet from the noise source and 380 feet from the nearest receptors. The barrier's location would serve as a lateral extension of the existing warehouse structure on the Alameda Site, north of the athletic fields. The barrier shall be of solid construction with no apparent gaps. Barriers are generally constructed with two layers of 0.5-inch-thick plywood (with joints staggered), and K-rail or other support; or a limp mass barrier material weighing 2 pounds per square foot.</p> <p>MM NOI-1C: Truck Operation Restriction in Alameda The Port shall require contractors, as a condition of contract, to monitor and limit truck trip generation so that no more than 23 truck trips per hour (approximately one truck every 3 minutes) enter or egress the Alameda Site work area as part of the Project Traffic Control Plan.</p>	
<p>Impact NOI-2: Would the Proposed Project generate excessive groundborne vibration or groundborne noise levels?</p>	None Required	Less than Significant
<p>Impact C-NOI-1: Potential for the Proposed Project, combined with reasonably foreseeable future projects in the vicinity, to result in significant cumulative noise and vibration impacts.</p>	None Required	Less than Significant

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Recreation		
Impact REC-1: Would the Proposed 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?	None Required	Less than Significant
Impact REC-2: Would the Proposed Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	None Required	Less than Significant
Impact C-REC-1: Potential for the Proposed Project, combined with reasonably foreseeable future projects in the vicinity, to result in significant cumulative impacts on recreation.	None Required	Less than Significant
Transportation		
Impact TRA-1: Would the Proposed Project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<p>MM TRA-1: Traffic Control Plan</p> <p>The Port shall require the construction contractor, as a term of the construction contract, to develop a comprehensive construction traffic control plan (TCP) that includes measures to minimize the effects of Project-related construction traffic on overall circulation, including traffic, transit, bicycle, and pedestrian routes, safety, and emergency access.</p> <p>Measures in the construction TCP would include at minimum the following:</p> <ul style="list-style-type: none"> • Site plans for ingress and egress locations showing existing signage/stripping, speed limits, locations of proposed temporary traffic controls (e.g., signage, flaggers), and detours (if required), to minimize vehicle, bicycle and pedestrian conflicts and ensure safety for all travelers, particularly during periods of heavy hauling activity; 	Less than Significant with Mitigation

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Transportation (Cont'd)		
	<ul style="list-style-type: none"> • Encourage passenger vehicle use of alternative routes (to avoid construction traffic); • Identification and enforcement of designated truck haul routes. Enforcement may include compliance monitoring and reporting by the contractor; • Advance written notification of neighboring residents, businesses, and other property owners, as well as the Cities of Oakland and Alameda and key stakeholders of any substantial increases in construction traffic (e.g., ramping up of hauling activity); • Maintenance of adequate emergency access at the Project sites and general access for neighboring properties at all times; and • Designated construction worker parking locations and management plan (e.g., carpool/vanpool programs, and leased parking in remote/off-site parking facilities). 	
Impact TRA-2: Would the Proposed Project Result in inadequate emergency access?	MM TRA-1: Traffic Control Plan	Less than Significant with Mitigation
Impact TRA-3: Would the Proposed Project change vessel traffic patterns, resulting in unplanned or regularly occurring delays, substantial adverse change in freedom of movement, increased safety risks, or introduction of safety hazards?	None Required	Less than Significant
Impact C-TRA-1: Potential for the Proposed Project, combined with reasonably foreseeable future projects in the vicinity, to result in significant cumulative transportation impacts.	MM TRA-1: Traffic Control Plan	Less than Significant with Mitigation

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Tribal Cultural Resources		
<p>Impact TCR-1: Would the Proposed Project have a substantial adverse effect on a tribal cultural resource, defined in Public Resources Code Section 21074?</p>	<p>MM TCR-1: Inadvertent/Unanticipated Tribal Cultural Resources Discovery Protocols</p> <p>If tribal cultural resources or potential tribal cultural resources are discovered during Project construction, the following actions shall be taken:</p> <ol style="list-style-type: none"> 1. Dredging and excavation work, or any other activities at the locations and within 50 feet of the finds must halt. 2. The crew member(s) shall immediately notify the Project Construction Manager and the Port Project Manager. 3. Work can be shifted to other Project areas to avoid loss of work time. However, work shall only resume in the suspected area once the situation has been properly examined and assessed by a qualified archaeologist, and the Port has given notification that work may resume. <p>To ensure that the work force is aware of the regulatory protections afforded to tribal cultural resources, the potential impacts that could occur with the inadvertent discovery of previously unknown precontact archaeological resources during Project construction, how to recognize precontact archaeological resources that could be determined to also represent tribal cultural resources, as well as the procedures to be followed in the event of such a discovery, the Port shall provide a cultural resources awareness training to the Project’s prime contractor and subcontractors involved with sediment- and soil-disturbing activities. The Port shall also provide a construction “ALERT” sheet for the Project prepared by a qualified archaeologist. The ALERT sheet shall contain, at a minimum, visuals that depict each type of precontact artifact that could potentially be encountered, as well as the procedures to be followed in the event of a potential discovery (see below), and the contact information of those Port personnel who are to be contacted in the event of a discovery.</p>	<p>Less than Significant with Mitigation</p>

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Tribal Cultural Resources (Cont'd)		
	<p>Prior to any soil-disturbing activities, each contractor shall be responsible for ensuring that the ALERT sheet is circulated to all field personnel. The ALERT sheet shall also be posted in a visible location at the Project site.</p> <p>In the event that potential precontact archaeological resources are inadvertently discovered during Project construction, all activity within a 50-foot radius of the find shall be stopped, the appropriate Port personnel shall be notified as listed above, and a qualified archaeologist shall be retained by the Port to examine the find. Project personnel shall not collect or move any uncovered materials—whether suspected to be archaeological in nature or not. The archaeologist shall provide a preliminary evaluation of the find(s) to determine if a precontact archeological resources is represented; and if so, whether it meets the definition of a potential tribal cultural resource.</p> <p>If the find(s) meet the definition of a potential tribal cultural resource under CEQA, then it shall be avoided and preserved in place (the preferred method if feasible). Feasibility of avoidance shall be determined with consideration of factors such as the nature of the find, Project design, costs, and other considerations. If avoidance is not feasible, as determined by the Port, the Port will consult the appropriate tribal entities as well as the qualified archaeologist to prepare a treatment plan that includes measures to reduce impacts to the resource. The treatment plan measures may include, but need not be limited to, design changes to limit disturbance of the resource, minimizing processing of materials for reburial, minimizing handling of tribal cultural resources objects, leaving objects in place within the landscape, or returning tribal cultural resources objects to a location in the general vicinity of the Proposed Project where they will not be subject to future disturbance. Data recovery as well as the development of interpretive materials may also be deemed appropriate.</p>	

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Tribal Cultural Resources (Cont'd)		
Impact C-TCR-1: Potential for the Proposed Project, combined with reasonably foreseeable future projects in the vicinity, to result in significant cumulative impacts on tribal cultural resources.	MM TCR-1: Inadvertent/Unanticipated Tribal Cultural Resources Discovery Protocols	Less than Significant with Mitigation
Utilities/Service Systems		
Impact UTL-1: Would the Proposed Project require or result in the construction of new or expanded water supply, wastewater collection or treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	None Required	Less than Significant
Impact UTL-2: Would the Proposed Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?	None Required	Less than Significant
Impact UTL-3: Would the Proposed Project result in a determination by the wastewater treatment provider, which serves or may serve the Project, that it has adequate capacity to serve the Project’s projected demand in addition to the provider’s existing commitments?	None Required	Less than Significant

Proposed Project Impact	Mitigation Measure(s)	Level of Significance after Mitigation (if required)
Utilities/Service Systems (Cont'd)		
Impact UTL-4: Would the Proposed Project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	None Required	Less than Significant
Impact UTL-5: Would the Proposed Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	None Required	Less than Significant
Impact C-UTL-1: Potential for the Proposed Project, combined with reasonably foreseeable future projects in the vicinity, to result in significant cumulative impacts on utilities and service systems.	None Required	Less than Significant

Notes:

- CEMP = California Eelgrass Mitigation Policy and Implementation Guidelines
- CEQA = California Environmental Quality Act
- dba = A-weighted decibels
- GHG = greenhouse gas
- MM = Mitigation Measure
- NMFS = National Marine Fisheries Service
- PG&E = Pacific Gas and Electric Company
- Port = Port of Oakland
- TCP = traffic control plan
- USACE = United States Army Corps of Engineers
- USFWS = United States Fish and Wildlife Service