

**CALIFORNIA COASTAL COMMISSION**

CENTRAL COAST DISTRICT OFFICE  
725 FRONT STREET, SUITE 300  
SANTA CRUZ, CA 95060  
PHONE: (831) 427-4863  
FAX: (831) 427-4877  
WEB: WWW.COASTAL.CA.GOV



# Th14e

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Staff: Sarah Carvill - SC  
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Hearing Date: 7/12/2018

## STAFF REPORT: CDP HEARING

**Application Number:** 3-18-0160

**Applicant:** Santa Cruz Port District

**Project Location:** Santa Cruz Harbor and Harbor Beach/Twin Lakes State Beach in the City of Santa Cruz and unincorporated Santa Cruz County.

**Project Description:** Renewal, for the next ten years, of permit for annual maintenance dredging of the entrance channel and inner harbor with disposal into the nearshore environment, into the surf line, and on the dry beach at Harbor Beach/Twin Lakes State Beach; authorization of two emergency CDPs for two extensions of the dredging season issued under previous permits.

**Staff Recommendation:** Approval with Conditions.

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## SUMMARY OF STAFF RECOMMENDATION

The Santa Cruz Port District has requested approval of a ten-year coastal development permit (CDP) to dredge and dispose of sediments from the entrance channel and the inner portions of the Santa Cruz Harbor. The Harbor is a commercial fishing/small craft facility in the City of Santa Cruz with berths for approximately 920 vessels used for commercial fishing and recreation. The Harbor receives sediment inputs from littoral drift, as well as from a creek that empties into its inland terminus. Dredging is therefore required to maintain depths necessary for navigation, and has been ongoing in some form since 1965. The most recent permit had a five-year term that expired at the close of the 2017-2018 dredging season. The Port District is now seeking to continue the dredging program authorized under the previous permit, with no changes

proposed apart from the extended permit term and a proportional increase in the volume of sediments that may be dredged from the entrance channel during the life of the permit (i.e., from 1,280,000 cubic yards (cy) over five years to 2,560,000 cy over ten years).

The permit would authorize dredging and disposal of (1) 2,560,000 cy of sandy entrance channel sediments onto Harbor-adjacent beaches or into the surf zone over ten years; (2) up to 20,000 cy per year of sandy inner harbor sediment, or 10,000 cy per year of sandy inner harbor sediment and 10,000 cy per year of finer-grained inner harbor sediment (i.e., silts and clays) at a rate not to exceed 550 cy of silts and clays per day, through an offshore pipeline into the nearshore environment; and (3) up to 35,000 cy of inner harbor sediment at an upland site or at a federally approved offshore disposal site. All dredging would be subject to timing limitations to protect public access and to avoid impacts to steelhead consistent with the requirements of the National Marine Fisheries Service, and dredged materials proposed for unconfined aquatic disposal would be tested according to the requirements of the Army Corps of Engineers and U.S. Environmental Protection Agency.

The Coastal Act allows for the dredging of harbor waters in order to maintain depths necessary for navigation where there is no feasible less environmentally damaging alternative and where feasible mitigation measures have been provided to minimize adverse environmental effects. The Port District has evaluated dredging alternatives in accordance with Commission requests and found no other feasible options for maintaining present uses in the Harbor. However, a variety of mitigation measures have been identified, tested, and implemented under past permits, and the environmental impacts of dredging are expected to be temporary and generally less than significant. Moreover, the proposed dredging activities will support coastal-dependent boating uses and ensure that a large volume of sandy sediments will become available for beach replenishment, both of which are high-priority outcomes under the Coastal Act.

The Port District has also requested authorization of two emergency CDPs (ECDP 3-12-016-G and ECDP G-3-16-0040) submitted under previous permits for extensions of the dredging season beyond April 30<sup>th</sup>. Extensions of the dredging season, which have ranged from two to four weeks in duration in recent years, are sometimes necessary when storm, wave, and other conditions produce shoaling and other hazardous conditions at the Harbor mouth.<sup>1</sup> In recognition that such conditions will inevitably occur in some years, staff recommends that the Commission authorize these ECDPs, and that the proposed ten-year permit be conditioned to allow extension of the dredging season in any year upon written request of the Port District, provided that the Executive Director and other permitting agencies agree that an extension is warranted by conditions in the Harbor, and provided that all dredging operations cease before Memorial Day weekend. The only other amendment to the conditions in the previous permit recommended by staff is removal of a requirement that the Port District evaluate certain modifications to its dredging program. The Port District has satisfactorily completed those evaluations and implemented all appropriate modifications, so that special condition is no longer required.

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<sup>1</sup> Shorter extensions (i.e., two weeks or less) were allowed without an emergency CDP under the discretion granted to the Executive Director in the conditions of CDP 3-10-023. Month-long extensions were considered to be beyond the scope of permit conditions and required Commission authorization.

As conditioned, the project is consistent with the Coastal Act, and Staff recommends **approval** of the CDP. The motion is found on page 4 below.

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## I. MOTION AND RESOLUTION

Staff recommends that the Commission, after public hearing, **approve** a coastal development permit for the proposed development. To implement this recommendation, staff recommends a **YES** vote on the following motion. Passage of this motion will result in approval of the CDP as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

***Motion:** I move that the Commission **approve** Coastal Development Permit Number 3-18-0160 pursuant to the staff recommendation, and I recommend a **yes** vote.*

***Resolution to Approve CDP:** The Commission hereby approves Coastal Development Permit Number 3-18-0160 and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.*

## II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the Permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. **Interpretation.** Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.
4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the Permittee to bind all future owners and possessors of the subject property to the terms and conditions.

## III. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

**1. Scope of Permit.** This ten-year coastal development permit (commencing with the 2018-2019 dredge season in the fall of 2018 and ending with the completion of the 2027-2028 dredge season in the spring of 2028) authorizes the dredging and disposal of Harbor sediments as described in the Dredging Operations Manual (see **Exhibit 3**), including changes to it that are reviewed and approved by the Executive Director (if the Executive Director determines the changes do not require a CDP amendment) and as follows:

- a) Dredging of a maximum total of 2,560,000 cubic yards of entrance channel sediment (consisting of greater than 80% sand) over the ten-year term of the permit, with disposal through the offshore pipeline or onto the beach or into the surf zone at Harbor Beach/Twin Lakes State Beach. All disposal of entrance channel sediments onto the dry beach or into the surf zone shall be consistent with the requirements of the Monterey Bay Unified Air Pollution Control District, as noted in **Special Condition 3** below and as described in **Exhibit 5**.
- b) Annual dredging of up to 20,000 cubic yards of clean inner harbor sandy sediment (>80% sand) or up to 10,000 cubic yards per year of silts/clays (<80% sand) plus 10,000 cubic yards/year of sandy sediment (>80% sand), with disposal through the offshore pipeline into the nearshore environment at a rate of not more than 550 cubic yards of silts and clay per day.
- c) Annual dredging of up to 35,000 cubic yards of inner harbor sediment with disposal at an upland site or at a federally approved offshore disposal site.

Minor adjustments to the above parameters may be allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources.

**2. Timing of Dredging and Disposal.** All dredging and disposal activities will be conducted during daylight hours, Monday through Friday only. The following date limitations on dredging and disposal operations apply:

- a) Entrance channel dredging and disposal: November 1<sup>st</sup> to April 30<sup>th</sup> of each dredge season. Extension of the dredging season (consistent with the above weekday and daylight hour restrictions) may be allowed by the Executive Director upon written request of Permittee, provided (1) the extension is deemed reasonable and necessary to maintain commercial and recreational boating uses in the Harbor; (2) the Army Corps of Engineers (ACOE), the U.S. Environmental Protection Agency (EPA), the Monterey Bay National Marine Sanctuary (the Sanctuary), the Central Coast Regional Water Quality Control Board (RWQCB), the California Department of Parks and Recreation (State Parks), the City of Santa Cruz, and Santa Cruz County approve the extension in writing; and (3) entrance channel dredging operations are concluded prior to Memorial Day Weekend.
- b) Upper (north) harbor dredging and disposal:
  - i) If the material from the north harbor is greater than 80% sand, then dredging with disposal into the nearshore environment is limited to between November 1<sup>st</sup> and April 30<sup>th</sup> of each dredge season.

- ii) If the material from the north harbor is less than 80% sand, then dredging with disposal into the nearshore environment is limited to between October 1<sup>st</sup> and February 28<sup>th</sup> of each dredge season.
- c) Lower (south) harbor dredging and nearshore disposal: November 1<sup>st</sup> to April 30<sup>th</sup> of each dredge season.
- d) For the inner harbor (comprised of the south and north harbors): if any disposal site (including an upland site) is being used, other than disposal through the offshore pipeline into the nearshore environment, dredging may take place between July 1<sup>st</sup> and April 30<sup>th</sup> of each dredge season.
- e) Installation of the offshore pipeline may take place no earlier than September 15<sup>th</sup>, with removal by May 15<sup>th</sup> of the following year.

Minor adjustments to the above date and time limitations may be allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources.

3. **Air Quality.** All disposal of entrance channel sediments onto the dry beach or into the surf zone shall be consistent with the requirements of the Monterey Bay Unified Air Pollution Control District (**Exhibit 5**). If the hydrogen sulfide protocol is amended by the Monterey Bay Unified Air Pollution Control District during the ten-year term of this permit, the Permittee shall submit the amended protocol to the Executive Director for review.
4. **Sampling Analysis Plan, Dredged Material Analysis, Dredging Operations Plan. PRIOR TO COMMENCEMENT OF INDIVIDUAL DREDGING EPISODES,** the Permittee shall submit to the Executive Director for review and approval:
  - a) A Sampling Analysis Plan (SAP) describing sediment sampling locations and applicable testing protocols. The SAP must be approved by the Executive Director prior to sediment sampling.
  - b) Dredged material analysis (chemical, physical, biological) as required by ACOE, EPA, and the RWQCB, as well as sampling and testing information.
  - c) A Dredging Operation Plan that includes plans showing the specific area(s) and volume(s) to be dredged.
5. **Testing Requirements.** All dredged materials shall be tested according to the requirements of the ACOE and EPA using the most current ACOE and EPA testing methods and/or procedures. All dredged materials proposed for unconfined aquatic disposal shall meet RWQCB and EPA Clean Water Act disposal standards.
6. **Other Agency Requirements. PRIOR TO COMMENCEMENT OF DREDGING AND DISPOSAL OPERATIONS,** the Permittee shall submit to the Executive Director for review a copy of a valid permit, letter of permission, or evidence that no permit is necessary from the following agencies: ACOE, EPA, the Sanctuary, the RWQCB, State Parks, the City of Santa Cruz, and Santa Cruz County.

- 7. Disposal Pipelines.** When not in use during the dredging season, the flexible above-ground surf line pipeline shall be removed from the beach area unless this is proven, to the Executive Director's satisfaction, to be infeasible, in which case it shall be pulled away from the surf line and placed at the base of the small bluff fronting East Cliff Drive in a manner most protective of public recreational access and public views. Regarding the permanent portion of the offshore pipeline, this pipeline shall be buried to a depth of at least 2 to 3 feet until approximately the mean high water line during the dredging season. This pipeline shall be buried completely to a depth of at least 2 to 3 feet during the non-dredging season. This permit does not authorize any riprap or other protective devices or measures to protect the permanent or temporary portions of any disposal pipeline.
- 8. Notification of Berming.** The Permittee shall notify the Executive Director of any request from State Parks or Santa Cruz County to move sand with the tractor to form a berm to protect East Cliff Drive and its associated infrastructure or to protect State Parks' public restrooms. Such berming activities shall be the minimum amount necessary to protect this public infrastructure from imminent threat of flooding while not impeding general public access to the beach. The notification shall describe the conditions that have rendered such a request necessary to protect public infrastructure, and shall not commence absent approval of the Executive Director.
- 9. Liability for Costs and Attorneys' Fees.** The Permittee shall reimburse the Coastal Commission in full for all Coastal Commission costs and attorneys' fees (including but not limited to such costs/fees that are: (1) charged by the Office of the Attorney General; and (2) required by a court that the Coastal Commission incurs in connection with the defense of any action brought by a party other than the Permittee against the Coastal Commission, its officers, employees, agents, successors and assigns challenging the approval or issuance of this permit. The Permittee shall reimburse the Coastal Commission within 60 days of being informed by the Executive Director of the amount of such costs/fees. The Coastal Commission retains complete authority to conduct and direct the defense of any such action against the Coastal Commission.

## **IV. FINDINGS AND DECLARATIONS**

### **A. PROJECT DESCRIPTION**

#### **Harbor Background**

The Santa Cruz Harbor (Harbor) is a commercial fishing/small craft harbor in the City of Santa Cruz, at the northern end of Monterey Bay. It is located approximately 3,000 feet east (downcoast) of the San Lorenzo River mouth, between Harbor Beach and Twin Lakes and Seabright State Beaches, and fronts Sanctuary waters (see **Exhibit 1**). Permanent jetties placed along the east and west sides of the Harbor's entrance channel provide year-round access to the Monterey Bay and Pacific Ocean. The jetties and the outer portion of the Harbor were constructed between April 1962 and January 1964, and the facility was expanded into the upper portion of the former Woods Lagoon in 1972.

The Harbor now encompasses approximately 38 acres of land area and 52 acres of water area, and provides berths for approximately 920 boats, including dory ties and end-tie space. In addition to these berthing facilities, the Harbor provides public amenities such as boat servicing



operations, a public boat launch, restrooms and small craft docks, restaurants and shops, about three acres of sandy beach on the downcoast side of the jetties (i.e., Harbor Beach), and over 1,000 parking spaces that support marine related uses. Overall, the Harbor facilitates ocean-related functions such as boat-launching, berthing for commercial vessels and recreational boats, boat repair areas, marine-related retail/commercial businesses, restaurants, sailing programs, a yacht club and boat sales. The majority of boat use at the Harbor is for recreational purposes, as opposed to commercial fishing, although a vibrant commercial fishing community operates out of the Harbor.

### **Dredging Overview**

U.S. Army Corps of Engineers (ACOE) began dredging the Harbor entrance channel in 1965 in accordance with its mandate to maintain navigable harbors and inland waterways. In 1986, the Santa Cruz Port District assumed responsibility for the entrance channel (i.e., the area between the two jetties, from their seaward ends to the fuel dock; see **Exhibit 1**) under an agreement with the ACOE.<sup>2</sup> The Port District also conducts dredging in the inner harbor (i.e., the area inland of the fuel dock). The Commission has authorized both dredging operations through a series of Consistency Determinations (CDs) and Coastal Development Permits (CDPs). The most recent of these, CDP 3-10-023, had a five-year term and expired on April 30, 2018, at the end of the 2017-2018 dredge season.<sup>3</sup>

Dredging of the Harbor entrance channel is required because of the fairly constant easterly (downcoast) movement of sand along the coast and, by extension, across the Harbor entrance. Ocean currents, wave conditions, and annual rainfall directly affect the amount of sandy sediment deposited into the entrance channel waters, and shoaling of the Harbor mouth can occur due to natural and unavoidable littoral drift processes. Because of the Harbor's entrance configuration in relation to approaching swells, and for other related reasons, winter storms occasionally render the Harbor entrance impassable. Many of these factors are subject to significant interannual variability, and yearly dredge volumes vary considerably as a result. To accommodate this variation, the Commission authorized the Port District to remove 1,280,000 cubic yards (cy) of sediment from the entrance channel over the five-year term of the most recent permit. During the same period of time, actual annual dredge volumes ranged from 111,953 cy in the 2013-2014 season to 483,465 cy in the 2015-2016 season.<sup>4</sup> Because entrance channel sediments are subject to the filtering effect of waves and currents before entering the Harbor,<sup>5</sup>

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<sup>2</sup> The original agreement expired in 2013, and ACOE and the Port District entered into a new Memorandum of Agreement in 2015.

<sup>3</sup> For a complete review of Commission actions on dredging operations in the Santa Cruz Harbor, see the adopted staff report for CDP 3-10-023, pp. 6-12.

<sup>4</sup> High-sediment conditions in the 2015-2016 dredging season resulted in breaking waves at the Harbor mouth, and in April 2016 the Port District submitted ECDP G-3-16-0040 to extend daily dredging hours, expand the dredging week to include Saturdays, and extend the season to May 31<sup>st</sup>, 2016. G-3-16-0040 is one of two ECDPs for which the Port District is requesting authorization as part of this application; the other (3-12-016-G) was submitted in May of 2012. High final dredge volumes in both seasons are partly due to the fact that dredging was allowed to occur over a longer period of time in these years under ECDPs. However, the total volume dredged from the entrance channel over the term of CDP 3-10-023 (covering the 2012-2013 through 2017-2018 dredging seasons) was 1,075,505 cy, well below the maximum 1,280,000 cy allowed under the permit.

<sup>5</sup> Sediments entering the ocean are sorted by the forces of waves and currents based on differences in grain size, density, and shape. In the Santa Cruz Littoral Cell, sandy sediments (>180 microns in diameter) travel in the littoral

they generally have a high sand content (>80%) and are suitable for unconfined disposal in the nearshore environment or directly on the beach.<sup>6</sup> CDP 3-10-023 consequently allowed the Port District to dispose of entrance channel sediments offshore, in the surf zone, and on the beach itself, provided disposal was limited to the daylight hours of weekdays between November 1<sup>st</sup> and April 30<sup>th</sup>.

While the entrance channel receives sediment primarily from littoral drift at the harbor mouth, the inner harbor is impacted by sediment deliveries from both the harbor mouth and the 3.5 square mile Arana Creek watershed, which terminates in the upper (northern) portion of the Harbor (i.e., the area north of the Murray Street Bridge). Historically, Arana Creek flowed into Woods Lagoon, and when Woods Lagoon was converted into the Harbor, Arana Creek was directed into the inner harbor through culverts under the upper harbor parking area. Consequently, sediment inputs from the upper harbor area are primarily from Arana Creek, while the lower (southern) portion of the inner harbor (i.e., the area between the fuel dock and the Murray Street Bridge) is impacted by sediment from the creek and the entrance channel. On average, Arana Creek delivers approximately 1,000 to 15,000 cubic yards of sediment to the Harbor each year, however the amount can be much higher. For example, during the 2005-2006 winter season, which was a period of exceptionally high rainfall, the north harbor received over 40,000 cubic yards of sediment from Arana Creek. Because inputs from Arana Creek are not filtered by wave action and coastal currents, they typically have a much lower sand content than entrance channel sediments. This limits the amount that can be released in nearshore and beach environments. CDP 3-10-023 allowed dredging of up to 20,000 cy of clean inner harbor sandy sediment (>80% sand) annually, or up to 10,000 cy per year of silts/clays (<80% sand) plus 10,000 cy per year of sandy sediment (>80% sand), with disposal through the offshore pipeline into the nearshore environment at a rate of not more than 550 cubic yards of silts and clay per day. An additional 35,000 cy of inner harbor sediment could be removed provided disposal occurred at an upland site or a federally approved offshore disposal site. The permissible timeframe for inner harbor dredging under CDP 3-10-023 varied based on the location in which the dredging occurred and the sand content of the dredged material.

Dredging of the entrance channel is currently accomplished with the *Twin Lakes*, a hydraulic dredge with a 16-inch-diameter disposal pipe. In the inner harbor, most dredging is conducted using the smaller (8-inch disposal diameter) *Squirt* dredge, though the *Twin Lakes* is occasionally

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drift or are deposited on beaches in the Santa Cruz area. Sediments smaller than 180 microns (i.e., silt and clay) are transported offshore to the continental shelf and deposited in a midshelf mudbelt extending from south of Santa Cruz to north of Half Moon Bay. The mudbelt is up to 30 meters thick on the continental shelf offshore of the San Lorenzo River, which discharges an average of 278,000 cy of sediment per year to the Santa Cruz Bight. Approximately 73% (203,000 cy) of that annual discharge is estimated to be silt and clay sediment.

<sup>6</sup> To be suitable for beach replenishment, sediment must contain an acceptable composition of grain sizes. Historically, sediment composed of at least 80% sand (and no more than 20% finer grained materials; also referred to as fines, mud, or silt), or within 10% of the sand composition of the sediment at the disposal site, was the commonly identified standard for nourishment purposes. However, the 80% sand standard is a “rule of thumb” guideline to be applied in situations where more detailed information is lacking. Recent studies and monitoring at Santa Cruz have shown that an increased percentage of inner harbor fine-grained material, when placed at limited rates and volumes in the nearshore zone immediately east of the harbor mouth, does not cause adverse impacts to marine resources, and in fact, may benefit some benthic habitats. For further discussion of these studies, see the adopted staff report for CDP 3-10-023.

used there, as well. The Port District also utilizes a submersible Toyo pump for dredging in the inner harbor and, on rare occasions, clamshell dredging via a land-based crane.<sup>7</sup> These dredges (not including the clamshell dredge) connect to a system of permanent onshore dredge disposal pipelines that extend just under the sandy surface of Harbor Beach between 5th and 6th Avenues (see **Exhibit 2**). The Port District temporarily connects additional piping to route dredged materials to the dry beach and/or the surf line, and uses a tractor to disperse beach sand in a manner that protects the dredge pipeline switches from erosion and wave run-up. Additionally, a Y-valve connection at the east jetty allows the Port District to install an offshore disposal pipeline that extends about 100 yards from the beach along the ocean floor. Generally, it is placed at the beginning of the dredge season (before October 1<sup>st</sup>), and remains in place until the end of the dredge season (April 30<sup>th</sup>), with removal required by May 15<sup>th</sup> of each year.

### **Dredging and Disposal Options Study**

The Port District's dredging program has been informed by multiple studies and demonstration projects, and refined in response to input from the Commission and other state and federal agencies.<sup>8</sup> In order to ensure that they are suitable for unconfined disposal in the coastal environment, dredged materials are subject to extensive testing under a protocol that must be approved by all permitting agencies prior to the start of each dredge season.<sup>9</sup>

Nevertheless, dredging of the Harbor has resulted in some ongoing impacts to the public. These include the presence of pipelines on the beach, the use of tractors to move pipelines and distribute dredged materials in the beach area, and nuisance emissions of hydrogen sulfide gas, which is released when the dredge snorkel encounters pockets of decomposing seaweed entrained in the entrance channel sediments. Prior to the adoption of CDP 3-10-023, the Commission required that the Port District undertake a study to determine if viable options exist to reduce these impacts. The final report, entitled *Santa Cruz Harbor – Dredging & Disposal Options Study (Phases 1 & 2)* (Options Study) and completed by Moffatt and Nichol in December 2011, analyzed eight potential modifications to the dredging program that would reduce the incidence of hydrogen sulfide releases, the amount of flexible dredge discharge pipeline handling, and/or the amount of beach grooming requiring tractor operations. Special Condition #9 of CDP 3-10-023 required the Port District to conduct further evaluations of the seven modifications that received positive scores in the Options Study, to report on these evaluations in writing, and to include those modifications that were determined to be feasible and capable of achieving the desired outcomes (i.e., reduction of hydrogen sulfide emissions,

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<sup>7</sup> Crane-based clamshell dredging is used when disposal will take place at an upland site, which is relatively rare. The last instances in which the Port District disposed of dredged materials at an upland site were in the 2007-2008 dredging season.

<sup>8</sup> For a thorough treatment of the evolution of the dredging program and the studies that informed it, see the adopted staff report for CDP 3-10-023. Since the approval of that permit, the only significant investigation undertaken specifically to inform dredging and disposal activities in the Santa Cruz Harbor is the Dredging Operations Condition Compliance Memo, which is provided as **Exhibit 4** of this report.

<sup>9</sup> Prior to each dredge episode (i.e., season), the suitability of the proposed dredged material for disposal in any of the proposed aquatic locations is evaluated by ACOE, EPA, the RWQCB, the Commission, and the Sanctuary. The U.S. Fish and Wildlife Service (FWS), the National Marine Fisheries Service (NMFS), and the California Department of Fish and Wildlife (CDFW) play an advisory role. The group considers chemical and biological testing results, as well as physical grain size analyses, in relation to standards established by the EPA and ACOE.

pipeline handling, and/or beach grooming) as part of the project description in its application for renewal of the dredging and disposal permit.

As directed, the Port District submitted a written evaluation of the prospective dredging modifications with its application for the proposed project (**Exhibit 4**). Of the seven options the Port District was required to analyze, five were ruled out, in most cases because implementing various “degassing” technologies would require placement of additional infrastructure on Harbor Beach, impacting visual resources and public access.<sup>10</sup> However, the Port District adopted the two remaining options, and either tested or implemented four additional strategies not required or identified in the original report. The Port District operates a new, \$4.8 million dredge (named *Twin Lakes*) equipped with a degassing eductor, which strips hydrogen sulfide and releases it underwater, neutralizing the odor.<sup>11</sup> The new dredge has also changed the manner in which sediment is lifted from the channel floor to reduce the likelihood of continuous dredging from seaweed-rich areas. Finally, dredge crews now stop work for short periods of time when hydrogen sulfide levels threaten to exceed the thresholds that force a shutdown under Monterey Bay Unified Air Pollution Control District (Air District)<sup>12</sup> protocols. This approach, known as Protocol Avoidance Measures (PAM), has been increasingly effective in reducing mandatory shutdowns and odor complaints since its implementation in the 2012-2013 dredge season.<sup>13</sup>

### **Proposed Project**

The Port District has requested a permit to continue the dredging program approved under CDP 3-18-023 for a ten-year term. As in the previous permit, dredging from the inner harbor would be subject to annual limits linked to sand content and disposal method, as well as daily limits on disposal of silts and clay (see **Special Condition 1**). Work in the entrance channel would again be subject to a cap on the total volume of sediment dredged over the life of the permit, in this case twice the amount allowed under the five-year permit, or 2,560,000 cy total over the ten-year life of the permit. All restrictions on the time of day, days of the week, and months of the year

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<sup>10</sup> Potential modifications eliminated from consideration by the Port District included (1) a seawater spray system, which mixes seawater with the dredged slurry at the discharge point; (2) a poor boy degasser, which uses a series of baffles installed in cylindrical tower on shore to remove hydrogen sulfide gas from the dredge slurry before it is deposited on the beach or in the surf zone; (3) a degasser booster pump, which is similar to the poor boy degasser but uses different shore-based technology to separate hydrogen sulfide gas from the slurry; (4) pre-dredge plowing or jetting, which is intended to dislodge entrained seaweed and associated hydrogen sulfide gas from the seafloor prior to dredging; and (5) an improved offshore pipeline. All are described in detail in **Exhibit 4**. Modifications 1-3 and 5 would require installation of additional infrastructure on or near the beach (for example, a device that produces seawater mist and sprays it in proximity to beachgoers; a trestle in the surf zone), posing a nuisance to beachgoers and/or degrading the visual character of the area. Modification 4 would have been difficult to test and posed risks to the dredge and its crew, as the dredge head can become lodged on organic debris (e.g., submerged logs) while plowing.

<sup>11</sup> The degassing eductor was one of the two remaining, positive-scoring modifications identified by the Options Study, and it was originally installed on the older *Seabright* dredge. In addition to being generally cleaner in terms of diesel emissions, the new *Twin Lakes* dredge was designed for use with the degassing eductor, which has improved the eductor’s performance.

<sup>12</sup> The Air District is now doing business as the Monterey Bay Air Resources District (MBARD), however its legal name remains Monterey Bay Unified Air Pollution Control District.

<sup>13</sup> PAM also indirectly reduces the need for tractor operations by eliminating the need to reposition pipeline following a protocol shutdown.

during which dredging may occur would remain the same (see **Special Condition 2**). Aside from the extended term of the permit, the Port District has proposed no changes to the dredging program.

Additionally, the Port District has requested authorization of two emergency CDPs (ECDPs) issued under previous permits. ECDPs 3-12-016-G and G-3-16-0040 extended the 2011-2012 and 2015-2016 dredge seasons into the month of May.<sup>14</sup> In those years, storm, wave, and other conditions produced shoaling and breaking waves at the Harbor mouth that persisted late in the dredge season, creating a hazard to life and property and threatening critical Harbor infrastructure, including the fuel pier and pipelines. The extensions allowed the Port District to maintain the entrance channel and prevent damage to the fueling apparatus that might otherwise have resulted in spillage of gasoline and diesel into Harbor waters.

## **B. STANDARD OF REVIEW**

The Harbor is located within the Commission's original jurisdiction, as are the beach and nearshore area where the Port District disposes of dredged materials. Thus, the standard of review for the proposed project is the Coastal Act.

## **C. LAND USE PRIORITIES**

The Santa Cruz Harbor accommodates a number of coastal-related and coastal-dependant activities including commercial fishing and recreational boating. The proposed project includes maintenance dredging to remove accumulated sediment from the boat berthing areas and navigational channels. Coastal-dependent and coastal-related developments are among the highest priority Coastal Act uses.

The Coastal Act defines coastal-dependent and coastal-related as follows:

***Section 30101.** "Coastal-dependent development or use" means any development or use which requires a site on, or adjacent to, the sea to be able to function at all.*

***Section 30101.3.** "Coastal-related development" means any use that is dependent on a coastal-dependent development or use.*

**Coastal Act Section 30001.5** states, in relevant part:

***30001.5.** The Legislature further finds and declares that the basic goals of the state for the coastal zone are to:*

*(a) Protect, maintain, and where feasible, enhance and restore the overall quality of the*

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<sup>14</sup> ECDP 3-12-016-G extended the dredging season to May 11<sup>th</sup>, 2012, while ECDP G-3-16-0040 allowed dredging to continue to May 31<sup>st</sup>, 2016. An extension of the dredging season was also granted in April 2017; however this was for a shorter period of time (two weeks) and therefore could be granted by the Executive Director under the discretion provided in Special Condition 2 of CDP 3-10-023. ECDP 3-12-016-G was submitted during the term of the previous five-year permit, CDP 3-05-065, for which the condition language did not provide the Executive Director with the same discretion to allow shorter extensions. .

*coastal zone environment and its natural and artificial resources....*

*(c) Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.*

*(d) Assure priority for coastal-dependent and coastal-related development over other development on the coast...*

**Coastal Act Sections 30234, 30234.5 and 30255** also provide:

***30234.** Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.*

***30234.5.** The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.*

***30255.** Coastal-dependent developments shall have priority over other developments on or near the shoreline. Except as provided elsewhere in this division, coastal-dependent developments shall not be sited in a wetland. When appropriate, coastal-related developments should be accommodated within reasonable proximity to the coastal-dependent uses they support.*

The Santa Cruz Harbor is one of only six harbors located along the Central Coast, and is the primary recreational port in Monterey Bay. Proposed dredging areas in the Harbor include areas where sediment deposition routinely reduces depths in and around navigational channels and berthing areas. During extreme depositional events, vessels must time their maneuvers in and out of the Harbor with the tides. Maneuvering within the Harbor has also at times proved difficult during low tides, when many vessels rest on the muddy bottom sediments. While efforts have been made to reduce sediment inputs from the Arana Creek watershed, with some notable successes,<sup>15</sup> continued sediment inflows from the creek and littoral drift are natural, expected, and inevitable. If no action is taken, these processes will result in severe impairment of Harbor capacity and risk to vessels. The only alternatives to continued dredging on the current scale — namely, a reengineered jetty and an upcoast sand trap — have been analyzed by the Port District and found to be infeasible and/or to have significant downsides—including, in each case, the fact

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<sup>15</sup> The Port District is one of several public entities involved with the Arana Gulch Watershed Alliance (AGWA), which works to secure funding for watershed remediation and enhancement projects in Arana Gulch. In 2002, with funds from CDFW and the Coastal Conservancy, AGWA and the Resource Conservation District (RCD) commissioned the Arana Gulch Watershed Enhancement Plan, one of the goals of which was to reduce erosion and sedimentation in the watershed. The Plan included an assessment of current sediment and salmonid fisheries conditions and recommended a series of restoration projects to repair individual sites or constraints in the watershed. A number of projects were implemented, reducing the amount of sediment that makes its way into the creek system and ultimately the north harbor by an estimated 1,800 cy/year. Additionally, prior to completion of the Plan, the RCD oversaw the completion of a number of other projects that reduced the amount of sediment entering the creek by about 600 cy/year.

that at least some (and possibly extensive) maintenance dredging would still be required.<sup>16</sup>

Section 30234 of the Coastal Act provides that facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Section 30234.5 states that the economic, commercial, and recreational importance of fishing activities shall be recognized and protected. Commercial and recreational boating and fishing are coastal-dependent priority uses that cannot function without sufficient Harbor depths. Hence, the maintenance of adequate berthing and navigational depths in the Harbor is essential, as is the temporary installation of the offshore dredge disposal pipeline and the beach/surf line pipeline, which allow the Port District to maintain necessary depths.

The proposed dredging activities are thus integral to the continuation of coastal-dependent uses in the Harbor. By extension, they are prioritized under the Coastal Act. Accordingly, the proposed project is consistent with the land use priorities of the Coastal Act.

#### **D. AIR QUALITY**

Section 30253(3) of the Coastal Act states:

*30253. New development shall:*

*(3) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development.*

Hydrogen sulfide is a colorless, flammable gas which at low concentrations smells like rotten eggs. The gas is produced in nature primarily during the decomposition of dead plant and animal matter by anaerobic sulfur bacteria. Because it is heavier than air, hydrogen sulfide can accumulate in low-lying areas and in enclosed spaces. In entrance channel sediments, hydrogen sulfide is produced by decaying seaweed. When sandy entrance channel material is placed onto the beach or into the surf zone for beach replenishment, the gas is released. Some entrance channel sediments contain low concentrations of seaweeds and thus produce little or no hydrogen sulfide odor when placed into the beach zone; other entrance channel sediments may contain high concentrations of seaweeds, resulting in the release of higher amounts of hydrogen sulfide during dredging operations.

The odor of hydrogen sulfide has been a major challenge for the Harbor. In past years, some beach users and Harbor neighbors have said it was overwhelming. Common complaints included nose and throat irritation, cough, and signs of inflammation. Nausea had also been reported in some cases. The California state ambient air quality standard for hydrogen sulfide is 30 parts per billion (ppb) averaged over an hour (i.e., the average of a number of readings taken over an hour-long period must not exceed 30 ppb). Although high levels of hydrogen sulfide can be irritating

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<sup>16</sup> Both the upcoast sand trap and extended jetty alternatives were analyzed in the 2011 Options Study. The former received low ratings primarily because it was not clear that sediment dredged from the trap area, which would be disposed of in an offshore location about a mile east of the trap, would provide any nourishment to Harbor and Twin Lakes Beaches. Annual dredging and the associated expenses would still be required (only the location would change), and nuisance-level hydrogen sulfide emissions might continue to occur, but without the public access and recreation opportunities and infrastructure protection provided by the existing broad beaches. Extending the jetty was also not expected to eliminate the need for maintenance dredging.

and cause a variety of health effects, irritation and respiratory effects are not expected to occur below 30 ppb.

The offshore disposal pipeline now in use by the Port District was originally installed to mitigate odors associated with dredging operations. When hydrogen sulfide is released in water, the gas dissolves and no odor is released. Continuous use of the offshore pipeline was not feasible, however,<sup>17</sup> and, in the past, public complaints continued along with beach and nearshore disposal. In 2003, the Air District responded by developing a protocol for limiting hydrogen sulfide emissions at the Harbor.<sup>18</sup> The protocol was later amended to include triggers for mandatory shutdowns of dredging and beach disposal, among other control measures (**Exhibit 5**).

As discussed above, the Port District also investigated and adopted two modifications identified in the Options Study to further reduce nuisance level hydrogen sulfide odors. First, it installed a degassing eductor on the dredge to strip hydrogen sulfide from sediments before they are deposited on the beach or in the surf zone. Second, it changed the manner in which the dredge snorkel is positioned and repositioned on the channel floor to reduce the likelihood of continuous dredging from seaweed-rich areas.<sup>19</sup> The Port District also replaced its *Seabright* dredge with a new \$4.8 million dredge, the *Twin Lakes*. In addition to being generally cleaner than the *Seabright* in terms of diesel emissions, the *Twin Lakes* was designed and built for use with the degassing eductor, and the device's efficacy improved when it was deployed on the new dredge. The Port District also developed Protocol Avoidance Measures (PAM) to avoid exceeding hydrogen sulfide thresholds that trigger a forced shutdown under the Air District protocols. PAM has been increasingly effective in reducing mandatory shutdowns and odor complaints since its implementation in the 2012-2013 dredge season.<sup>20</sup>

In sum, the Air District's hydrogen sulfide protocol requirements, along with additional measures implemented by the Port District, have reduced air quality impacts from dredging. In the event that the hydrogen sulfide protocol is further amended during the term of this permit, **Special Condition 3** requires the Port District to submit the amended protocol to the Executive Director for review and approval. With this condition, the proposed project is consistent with Coastal Act Section 30253(3), which requires that the proposed dredging project be consistent

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<sup>17</sup> The offshore pipeline has at times been plugged by sand effluent; in other cases the disposal point has become perennially shallow, resulting in shoaling that encroaches into the federal navigation channel and causes dredged material to reenter the entrance channel after disposal. Correcting problems with the offshore pipeline often requires work in dangerous conditions, rendering continuous use of this disposal method infeasible

<sup>18</sup> The protocol originally required use of a hydrogen sulfide monitor during periods of onshore winds, a wind instrument to gauge wind direction, conspicuous signage to advise the public of the dredge disposal operation and to warn of the possibility of associated odors, and maintenance of a detailed log of all odor complaints received from the public.

<sup>19</sup> This change is adapted from the "cutter head sweep" modification identified in the Options Study. Cutter heads are typically used for sweep dredging, however they are not suitable for use in the Harbor entrance channel. The snorkel head used by the Port District was designed for Harbor conditions, and it cannot "sweep" in the manner that the cutter head can. However, it can be repositioned more frequently during dredging to achieve the intended effect of cutter head sweeping.

<sup>20</sup> PAM also indirectly reduces the need for tractor operations by eliminating the need to reposition pipeline following a protocol shutdown.



with the requirements of the Air District and State Air Resources Board.

## **E. MARINE RESOURCES**

### **Appropriateness of Dredging**

Coastal Act Section 30233(a) allows for the dredging of harbor waters in order to maintain depths necessary for navigation where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects:

*30233(a). The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following: .... (2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps ....*

The proposed project represents a comprehensive program of operations and maintenance activities designed to maintain and improve navigation channels and berthing areas for recreational boating and commercial fishing and is therefore an allowable use under Coastal Act Section 30233(a)(2). As discussed above, no feasible alternatives to ongoing dredging have been identified. Additionally, and as described in more detail below, the environmental impacts of the dredging program as conditioned are expected to be temporary and generally less than significant.

### **Beach Replenishment**

Coastal Act Section 30233(b) specifies that dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable longshore current systems, and requires that dredge spoils be disposed of in a manner that avoids significant disruption to habitats and water circulation:

*30233(b). Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable longshore current systems....*

The proposed project will make large volumes of sandy sediments available for beach replenishment, either by way of the Santa Cruz Littoral Cell (for sediments disposed of through the offshore disposal pipeline) or via direct disposal on Harbor Beach and Twin Lakes State Beach. Studies in the Santa Cruz area have shown that the larger, sandy sediments travel in the littoral drift or are deposited on beaches, while fine clay and silt sediments are transported offshore to the continental shelf, where they are deposited along a midshelf mudbelt. Thus, the Commission anticipates that any sandy material present in the inner harbor sediment will become available for beach replenishment, while the remaining fine-grain material will be transported offshore. The project therefore is consistent with section 30233(b) of the Coastal Act.

## Water Quality

Coastal Act Section 30232 requires that development protect against the spillage of hazardous substances:

*30232. Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.*

To date, prior to each dredge episode, the suitability of the proposed dredged material for disposal in any of the proposed aquatic locations has been evaluated by an interagency group consisting of representatives from ACOE, EPA, the RWQCB, the Commission, and the Sanctuary. Advisory to this interagency group are the U.S. Fish & Wildlife Service (FWS), the National Marine Fisheries Service (NMFS), and the California Department of Fish and Wildlife (CDFW). The group has considered chemical and biological testing results, as well as physical grain size analyses, in relation to standards established by the EPA and ACOE.<sup>21</sup> After reviewing test results, the group then tries to reach a consensus opinion as to whether or not the proposed dredged material is suitable for aquatic disposal.

This process would continue under this CDP, as required under **Special Conditions 4 through 6**. **Special Condition 5** requires that testing of dredged material be done per the requirements of ACOE, EPA, and the RWQCB. **Special Conditions 4 and 6** specifically require that the Port District submit dredge plans for each dredging season, and provide evidence that ACOE, EPA, the RWQCB, and the Sanctuary reviewed and approved the dredging operations or that no such approval is required.

Some water quality impacts are expected from dredging and disposal, however these are not related to hazardous substances. Specifically, additional total suspended solids in the water column are expected to increase turbidity near the dredging and disposal sites. Increased turbidity in turn decreases dissolved oxygen levels in the water column, which could impact sea life (see “Biological Resources” section below). The pre-dredge ambient water quality condition is expected to return shortly after each dredging episode, however. This expectation is supported by the findings of three previous demonstration projects that measured turbidity before and after nearshore disposal of fine-grain sediments from the Harbor.<sup>22</sup> The associated monitoring programs concluded that these projects resulted in no significant impacts to the marine environment. The Commission did not require additional monitoring for the disposal of fine-

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<sup>21</sup> Since chemical contaminants are much more likely to adhere to fine-grain sediments than larger sand grains, testing of sandy entrance channel sediments has generally occurred on a rotational basis. All inner harbor sediments proposed for unconfined aquatic disposal (either through the offshore pipeline or at a federal offshore disposal site known as SF-14 (and which the Port District has not used to date)) have and would continue to be subject to yearly physical and chemical testing, as well as periodic biological testing. The EPA and ACOE’s testing standards are outlined in the 1998 publication “Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. – Testing Manual” (also known as the Inland Testing Manual or ITM).

<sup>22</sup> The demonstration projects were conducted in 2001, 2005, and 2009, and the adopted staff report for CDP 3-10-023 includes a summary of the results of each project (see pp. 26-27). Generally, the turbidity effect of dredging was found to be minor relative to natural sources (e.g., storm events; discharge from the San Lorenzo River), or no effect was detected.

grain material through the offshore pipeline in CDP 3-10-023 because the amount and rate of fine sediment disposal allowed by that permit (which would continue under the proposed project) was similar to what was released in demonstration projects in which monitoring did not identify significant adverse resource impacts. The effects of dredging on biological productivity and resources are discussed below in greater detail.

Therefore, as conditioned, the project includes measures to ensure that hazardous materials do not enter the waters of the Harbor or the nearshore environment. Thus the proposed project will be in conformance with Section 30232 of the Coastal Act.

### **Biological Resources**

Sections 30230 and 30231 of the Coastal Act protect biological resources and state:

*30230. Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

*30231. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

The Santa Cruz Harbor is connected to the Sanctuary, which encompasses over 5,300 square miles of protected marine waters and includes a diverse complex of marine habitats including deep sea, open ocean, kelp forests, sandy beaches, rocky seashore, estuaries and sloughs. These habitats support a variety of marine life including more than 345 species of fish, 94 species of seabirds, 26 species of marine mammals, 450 species of algae and one of the world's most diverse invertebrate populations. Some marine mammals, fish and seabirds make use of the urban aquatic and terrestrial environments provided in the Harbor, as well. However, except for the coastal salt marsh and brackish marsh habitat areas of Arana Creek to the north, the Harbor is essentially devoid of the estuarine habitat that existed on the site prior to 1962. It is a manmade environment surrounded entirely by urban development.

Impacts to biological resources from dredging and disposal are anticipated to be similar to those associated with previously permitted dredging activities. The primary impact to biological resources resulting from dredging occurs through the disturbance, transport, and destruction of benthic organisms on and in the material to be dredged. However, re-colonization by these organisms would occur over time. While, dredged material disposal may induce turbidity and cause lower dissolved oxygen levels, which may cause stress on planktonic larvae and filter feeder organisms (e.g., worms and shellfish), such stress would be temporary. Only entrance channel material that is greater than 80% sand would be eligible for disposal onto the beach or

into the surf zone, so impacts to the organisms that inhabit the interstitial spaces between sand grains from fine particles would be minimal.

The removal of sediment from dredge areas could have short-term, adverse impacts on fish and fish habitats by temporarily increasing the total suspended sediments in the water column and possibly decreasing dissolved oxygen levels during dredge operations. However, as proposed, dredging will be conducted using a hydraulic dredge, which removes and transports dredged material as liquid slurry, thereby minimizing disturbance and re-suspension of sediments at the dredge site. **Special Condition 2** places timing limitations on dredge activities in the inner harbor to avoid impacts to salmonids, consistent with the requirements of NMFS. These measures will minimize adverse environmental impacts to marine and wildlife habitats and water circulation during dredging, consistent with Coastal Act requirements.<sup>23</sup>

Kelp beds occur less than 1 kilometer east of the nearshore disposal site off of Blacks Point, within the path of transported sediment. Due to the concern that the disposal of dredged silt and clay sediment may negatively affect kelp beds and at the request of NMFS, the Port District previously conducted a three-year baseline study of the kelp forests in the dredge disposal area.<sup>24</sup> Scuba surveys conducted annually 2008-10 showed no significant decrease in abundance or density among control and impact sites, and a Commission staff ecologist concurred with ACOE prior to the approval of CDP 3-10-023 that further monitoring was not warranted. The permit was therefore not conditioned to require additional kelp studies.

As part of a demonstration dredging project conducted in early 2005, the RWQCB required the Port District to conduct a study on the sand crab, *Emerita analoga*, to determine if dredging and disposal of fine-grain inner harbor sediments into the nearshore environment would result in cumulative effects to this species; however no impacts were found.

In summary, the Port District and various permitting agencies have thoroughly investigated impacts to biological resources from dredging, and the effects of the proposed program are expected to be similar to those associated with previously permitted annual and demonstration dredging episodes. Thus, the proposed project, as conditioned, is consistent with Sections 30230 and 30231 of the Coastal Act regarding protection of species of special importance and maintenance of the biological productivity of coastal waters.

### **Public Access/Recreation**

Coastal Act Section 30604(c) requires that every coastal development permit issued for new development between the nearest public road and the sea “shall include a specific finding that the development is in conformity with the public access and recreation policies of [Coastal Act] Chapter 3.” The proposed project is located seaward of the first through public road.

Coastal Act Sections 30210 through 30214, as well as Sections 30221 and 30224, specifically

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<sup>23</sup> For detailed discussion of potential impacts to special status fish occurring or known to have occurred historically in the project area, see the adopted staff report for CDP 3-10-023, pp. 29-30. Generally, these species are either not thought to be present in the areas affected by the dredge program, or NMFS has concluded that dredging methods and timing will minimize impacts to a less than significant level.

<sup>24</sup> *Santa Cruz Port District Kelp Monitoring, Habitat Assessment and Aerial Photography Analysis Final Report 2008-10* by Sandoval and Associates Consulting Services, LLC. January 24, 2011.

protect public access and recreation. In particular:

**30210.** *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

**30211.** *Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

**30212(a).** *Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects....*

**30213.** *Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.*

**30214(a).** *The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case....*

**30221.** *Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.*

**30224.** *Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, [...] providing harbors of refuge, and by providing for new boating facilities in natural harbors, new protected water areas, and in areas dredged from dry land.*

In addition, Coastal Act Section 30240(b) requires that development not interfere with recreational areas:

**30240(b).** *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

The Coastal Act requires public recreational access opportunities to be maximized, including lower cost visitor facilities and water-oriented activities (like recreational boating), and protects areas near and at the shoreline for this purpose. The Harbor provides public access and recreational opportunities of regional and statewide significance. These include boat launching, berthing for commercial vessels and recreational boats, boat repair areas, marine-related retail/commercial businesses, sailing programs, yacht club and boat sales. The proposed dredging project will strongly benefit public access and recreation by maintaining adequate water depths in the harbor's navigation channels. In addition, the vast majority of the dredged material will be

composed of sand, which will become available for beach replenishment.

The dredge season is limited to primarily the fall and winter months of the year, not including weekends<sup>25</sup> (see **Special Condition 2**). Thus, there are no public access impacts from dredging and disposal activities during the peak visitor times of the year (i.e. Memorial Day through Labor Day or on weekends during the dredge season). The beach remains open to the public during the entire dredge season.

As discussed above, dredging and disposal of entrance channel sediments onto the dry beach and into the surf zone do cause some adverse impacts to public access. First, the 16-inch-diameter above-ground pipeline used to transport suitable dredge spoils to the dry beach zone or the surf zone at times creates a modest impediment to pedestrian travel along or to Harbor Beach/Twin Lakes State Beach. In order to minimize the impacts of the pipeline on public access, **Special Condition 7** requires that, when not in use during the dredging season, the flexible pipeline will be pulled away from the surf line and placed at the base of the small bluff fronting East Cliff Drive.

Secondly, sandy entrance channel dredged material that is disposed of directly on the dry beach or in the surf zone can also create temporary impacts to beachgoers. These sediments are pumped from the pipeline as a liquid mixture of water and insoluble sand material, creating a zone of slurry on the beach or in the surf zone that renders those areas temporarily unusable by the public. When disposing of dredged materials directly on the beach, the Port District cuts a channel in the sand with the use of a tractor to drain the water off the slurry into the ocean, and the disposal area typically returns to a dry and sandy state by the following day. Dredge disposal into the surf zone or through the offshore pipeline causes a temporary disturbance to swimmers or surfers, but again the impacts are temporary: Since most of the dredging takes place in the fall and winter months, high energy ocean conditions quickly disperse the sediments. At times the dredged materials form a sandbar that attracts surfers, providing enhanced recreational access.

Thirdly, the Port District operates a tractor on the beach to position the discharge pipeline on the beach and in the surf zone, and to distribute dredged material in a manner that matches natural beach contours. The tractors temporarily disrupt coastal access for pedestrians, swimmers, and surfers, and prompt noise-related complaints. To mitigate these impacts, the Port District's Dredging Operations Manual (see **Exhibit 3**) includes precautions for and restrictions on tractor use, including limiting use of the tractor in the wet zone to a maximum depth of 1½ feet of water,<sup>26</sup> and restricting beach contouring operations to the minimum necessary. A "spotter" must be present to advise the tractor operator of hazards and to advise beach visitors to avoid the tractor. The Port District also experimented with two tools for reducing the impacts of tractor operations on public access. It acquired a rubber-tired loader, which is quieter than a traditional tractor; however the loader proved less efficient in moving beach pipeline, resulting in an overall increase in tractor operations. The Port District also experimented with using a diffuser to discharge sediment on the beach; however the device did not spread dredged materials broadly

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<sup>25</sup> The Port District typically performs dredging and disposal operations Monday through Thursday, and only performs these activities on Fridays if absolutely necessary to maintain an open entrance channel.

<sup>26</sup> To minimize potential impacts to water quality, the tractor uses a biodegradable hydraulic fluid. The maximum depth may be momentarily exceeded due to wave action.

enough to significantly reduce beach grooming, and a neighbor complained about the visual impact of the operation. Ultimately the Port District pulled the rubber-tired tractor from future service and ceased use of the diffuser.<sup>27</sup>

Many of the above public access impacts could be avoided by discharging the sandy entrance channel sediment exclusively or almost exclusively through the offshore pipeline. However (and as discussed above), operation of the offshore pipeline has proven problematic for a number of reasons, and it cannot be relied on for continuous use. The Port District has analyzed other designs for offshore disposal, including a buried pipeline that daylight on a trestle over the surf zone. This system would carry high installation and maintenance costs and cause significant impacts to beach aesthetics and public access, however. It is also unlikely that it could be permitted in the Sanctuary. For all these reasons, disposing of sandy entrance channel sediments *exclusively* through the offshore pipeline does not seem to be a feasible alternative to the current system of onshore, surf zone, and offshore disposal of such sediments.

While the negative effects of on- and near-shore sediment disposal and beach grooming are difficult, if not impossible, to entirely avoid, CDP 3-10-023 included several special conditions intended to mitigate these impacts to a less-than-significant level, and these conditions would be retained for the proposed project. **Special Condition 7** ensures that the permanent portion of the offshore pipeline will continue to be buried until approximately the mean high water line during the dredge season, and that it will be completely buried when not in regular active use (i.e. during the non-dredging season). **Special Condition 2** requires removal of the temporary portion of the offshore pipeline by May 15<sup>th</sup> of each year.

The Port District periodically receives requests from State Parks and the Santa Cruz County Public Works Department during periods of extremely high surf or ocean swells to move beach sand (with the use of a tractor) to form a berm to protect State Parks' restrooms (which are directly adjacent to East Cliff Drive) and East Cliff Drive itself (and the utilities within the right-of-way) from flooding. **Special Condition 8** requires the Port District to notify the Executive Director when such a request is received, and ensure that the tractor operations and amount of sand relocated to these areas are the minimum amount necessary to protect this public infrastructure from imminent threat of flooding.

In conclusion, beach and nearshore sediment disposal does cause some impacts to public access during the dredge season. The Port District has explored alternatives that might reduce these impacts, but each has been found to have considerable downsides, and many would ultimately hinder public access as well. These disposal activities are therefore a critical and unavoidable component of the dredge program, which is essential to support commercial and recreational boating access, and also provides public access through beach replenishment. The public access impacts from beach and nearshore disposal are relatively minor and limited in duration, and the permit is conditioned to minimize any possible continuous barrier effects from the pipelines. Moreover, the overall purpose of the dredging program (to maintain adequate water depths in the

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<sup>27</sup> In addition to the rubber-tired loader and diffuser, which were acquired primarily for the purpose of reducing tractor operations on the beach, the Port District's efforts to reduce dredging-related emissions of hydrogen sulfide (discussed above in the "Air Quality" section) indirectly affect tractor operations by reducing the need to switch between onshore and offshore disposal (which requires pipeline handling).

harbor's navigation channels) is inherently public access-oriented. Thus, the project self-mitigates for the temporary public access impacts caused by the near-shore sediment disposal. Considered with the proposed conditions regarding timing of the near-shore sediment disposal as discussed above, the project's public access impacts are mitigated to a less-than-significant level. Therefore, the proposed project as conditioned would preserve public access and recreational opportunities and is consistent with the above-cited public access and recreational policies of the Coastal Act.

## **F. OTHER**

As described above, the proposed project would allow the maintenance dredging program that has been underway in the Santa Cruz Harbor for the past five years to continue for the next ten years. Aside from the extended permit term and the removal of a condition requiring one-time actions that the Port District has satisfactorily completed, the only change in the proposed project relative to CDP 3-10-023 is new language in **Special Condition 2(a)** that allows the Port District to extend the dredging season into the month of May when additional dredging is required by conditions in the Harbor. To receive an extension, the Port District must make a written request to the Executive Director and provide evidence of receipt of written approval from all other permitting agencies. In order to ensure that dredging and disposal operations do not impact public use of the beach during the high-demand Memorial Day weekend, **Special Condition 2(a)** also stipulates that the extended dredge activities must conclude before that time. The intent of this condition is to avoid the need for dredging under emergency permits, which must subsequently be approved by the Commission.<sup>28</sup>

Finally, Coastal Act Section 30620(c)(1) authorizes the Commission to require Applicants to reimburse the Commission for expenses incurred in processing CDP applications.<sup>29</sup> Thus, the Commission is authorized to require reimbursement for expenses incurred in defending its action on the pending CDP application in the event that the Commission's action is challenged by a party other than the Applicant. Therefore, consistent with Section 30620(c), the Commission imposes **Special Condition 9** requiring reimbursement for any costs and attorneys' fees that the Commission incurs in connection with the defense of any action brought by a party other than the Applicant challenging the approval or issuance of this permit.

## **G. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)**

Section 13096 of Title 14 of the California Code of Regulations requires that a specific finding be made in conjunction with coastal development permit applications showing the application to be consistent with any applicable requirements of CEQA. Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse

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<sup>28</sup> As part of this application, the Port District is seeking authorization for ECDPs 3-12-016-G and G-3-16-0040, which were issued during the term of CDP 3-10-023 and the previous permit, CDP 3-05-065, in years when high sediment conditions required that dredging continue into May. This CDP approval authorizes the work done under these ECDPs.

<sup>29</sup> See also California Code of Regulations Title 14 Section 13055(g).



effect that the activity may have on the environment.

The Santa Cruz Port District, acting as lead CEQA agency, found the proposed project to be categorically exempt per CEQA Section 15304(g) (maintenance dredging). The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of Resources as being the functional equivalent of environmental review under CEQA (14 CCR § 15251(c)). The Commission has reviewed the relevant coastal resource issues with the proposed project, and has identified appropriate and necessary modifications to address adverse impacts to such coastal resources. All above findings are incorporated herein in their entirety by reference.

As such, there are no additional feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse environmental effects which approval of the proposed project, as conditioned, would have on the environment within the meaning of CEQA. Thus, if so conditioned, the proposed project will not result in any significant environmental effects for which feasible mitigation measures have not been employed consistent with CEQA Section 21080.5(d)(2)(A).

#### **APPENDIX A – SUBSTANTIVE FILE DOCUMENTS<sup>30</sup>**

- CDP File 3-10-023
- CDP File G-3-16-0040

#### **APPENDIX B – STAFF CONTACT WITH AGENCIES AND GROUPS**

- Santa Cruz Port District
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- Central Coast Regional Water Quality Control Board
- Monterey Bay National Marine Sanctuary
- Monterey Bay Unified Air Pollution Control District

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<sup>30</sup> These documents are available for review in the Commission's Central Coast District office.