
FINAL INTEGRATED FEASIBILITY REPORT AND ENVIRONMENTAL IMPACT STATEMENT / ENVIRONMENTAL IMPACT REPORT (EIS/EIR)

APPENDIX D: 404(b)(1) EVALUATION

PORT OF LONG BEACH DEEP DRAFT NAVIGATION STUDY Los Angeles County, California

October 2021



US Army Corps
of Engineers®



Port of
LONG BEACH
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**THE EVALUATION OF THE EFFECTS OF THE DISCHARGE OF
DREDGED OR FILL MATERIAL
INTO THE WATERS OF THE UNITED STATES
IN SUPPORT OF THE INTEGRATED FEASIBILITY REPORT FOR
PORT OF LONG BEACH DEEP DRAFT NAVIGATION STUDY
LONG BEACH, CALIFORNIA**

INTRODUCTION. The following evaluation is provided in accordance with Section 404(b)(1) of the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500) as amended by the Clean Water Act of 1977 (Public Law 95-217). Its intent is to succinctly state and evaluate information regarding the effects of discharge of dredged or fill material into the waters of the U.S. As such, it is not meant to stand-alone and relies heavily upon information provided in the environmental document to which it is attached. Citation in brackets [] refer to expanded discussion found in the Final Integrated Feasibility Report (Final IFR), to which the reader should refer for details.

I. Project Description [1.1]

- a. Location: [1.6] The Port of Long Beach is located in the city of Long Beach in the central portion of San Pedro Bay.
- b. General Description: [1.2; 9.1] The proposed project is part of a continued effort to improve navigational efficiency and vessel safety throughout the Port of Long Beach (POLB).

The combination of measures for container vessels (constructing the Pier J Approach Channel and Turning Basin, and deepening the West Basin Channel to a new depth of -55' MLLW) and liquid bulk vessels (deepening the Approach Channel to -80' MLLW, and widening portions of the Main Channel to match the currently authorized depth in the Main Channel of -76' MLLW) represents the General Navigation Features of the Recommended Plan (Alternative 3). Local Service Features (LSF) to be constructed by the POLB to fully realize benefits from the General Navigation Features include dredging of the Pier J Basin, berth dredging at J266-270, and structural improvement on the Pier J breakwaters at the entrance of the Pier J Slip necessary to accommodate deepening of the Pier J Slip and Approach Channel to -55' MLLW. LSF require a Department of the Army permit; the USACE Regulatory Division will utilize this IFR when evaluating the permit application.

Total dredging is approximately 7,329,000 cubic yards (cy). Table 1 displays the approximate dredging volumes by location.

Table 1 Dredging Volume by Location

Dredge Location	Dredge Depth (ft MLLW)	Dredge Quantity (CY)
Approach Channel	-80	2,600,000
Main Channel Widening	-76	1,065,000
West Basin	-55	717,000
Pier J Approach	-55	2,673,000
Pier J Basin (Port Responsibility)	-55	337,000
Total Dredge Volume:		7,392,000

Dredged material would be placed in a nearshore placement site (i.e., Surfside Borrow Site Nearshore Placement Area) and disposed of at the United States Environmental Protection Agency-designated LA-2 and LA-3 ocean-dredged material disposal sites (ODMDS). The nearshore placement site, approximately 5 miles from the project, can accommodate about 2.5 million cubic yards (mcy) of dredged material. LA-2 and LA-3, approximately 9 miles and 22 miles, respectively, from the project site, in Federal waters, have an annual disposal volume limit of 1.0 and 2.5 mcy, respectively, from all sources. It is assumed that 0.9 mcy for LA-2 and 2.2 mcy for LA-3 is available for use by this project each year. The approximate duration of the Recommended Plan is approximately 28 months. Placement of dredged material from the Approach Channel at the nearshore placement site would occur over the first 5 months of dredging and would place approximately 2,500,000 cy. Dredging of the remaining areas would begin at the same time extending over the full duration of 28 months. For the General Navigation Features approximately 2,400,000 cy would be placed at the LA-2 ODMDS; approximately 2,155,000 cy would be placed at the LA-3 ODMDS (refer to Table 2). Disposal at the two ODMDS are outside the Clean Water Act authority and will not be addressed further in this Evaluation. Dredging for ocean disposal will be done by a clamshell dredge. Corps regulations at 33 CFR 323.2(d)(3) exempts from coverage of CWA Section 404 the movement of sediments caused by navigational dredging, with the following provision: “(3) Section 404 authorization is not required for the following:...(ii) incidental movement of dredged material occurring during normal dredging operations, defined as dredging for navigation in navigable waters of the United States, as that term is defined in 33 CFR part 322; with proper authorization from the Congress or the Corps pursuant to 33 CFR part 322; however, this exception is not applicable to dredging activities in wetlands, as that term is defined at Section 323.3(r) of this Chapter.” Corps dredging using this equipment results in the incidental movement of dredged material during normal dredging operations and is therefore exempt from coverage under CWA section 404 and will not be addressed further in this Evaluation. This discharge of dredged material into the nearshore placement area would come from the Approach Channel and the Evaluation below will be confined to this area. Corps dredging in these areas will be done by a hopper dredge, which discharges dredged material from overflow operations that generates more than incidental movement of dredged material occurring during normal dredging operations. This Evaluation addresses dredged material discharged into navigable waters from overflow hopper dredging and discharges of fill material generated by placement of dredged material at the Surfside Borrow Site Nearshore Placement Area.

Table 2 Approximate Construction Equipment, Disposal Location, and Duration

Yr	Dredge Location	Dredge Quantity (CY)	Dredge Material Disposal Location	Dredge Disposal Location Capacity (CY)	Dredge Type	Dredge Rate (CY/day)	Dredging Days Required (days)
1	Approach Channel	2,600,000	Nearshore	2,500,000	Hopper	17,500	143
			LA2	100,000	Hopper	15,100	7
	Main Channel Widening	1,065,000	LA2	800,000	Clamshell	6,000	133
			LA3	265,000	Clamshell	6,000	44
	West Basin	717,000	LA3	717,000	Clamshell	6,000	120
Pier J Basin	258,000	LA3	258,000	Clamshell	6,000	43	
2	Pier J Basin	79,000	LA2	79,000	Clamshell	6,000	13
	Pier J Approach	1,994,000	LA2	821,000	Clamshell	6,000	137
			LA3	1,173,000	Clamshell	6,000	196
3	Pier J Approach	679,000	LA2	679,000	Clamshell	6,000	113

c. Basic and Overall Project Purpose. [1.4] The basic project purpose is navigation. The overall project purpose is to increase transportation efficiencies, during the period of analysis, for container and liquid bulk vessels operating in the POLB, for both the current and future fleet, and to improve conditions for vessel operations and safety, including reducing constraints of harbor pilot operating practices.

d. General Description of Dredged or Fill Material: [3.1 & 3.3, Appendix C]

(1) General Characteristics of Material (grain size, soil type): A sediment sampling program was conducted in 2018 to support maintenance dredging in the Approach Channel. While the areas and depths do not correspond to the proposed deepening in the Approach Channel, results provide information that is expected to be similar to or worse than what we expect to find in the proposed deepening area. That is because most of the deepening will entail dredging of virgin sediments that have never been dredged before with the underlying assumption that these sediments are clean. POLB Approach Channel locations were sampled and identified as being silty sand. The weighted average composite sand content for the dredge area as a whole was 55%. Overall analyte concentrations in the POLB Approach Channel area composite sample were below detection limits or low compared to the National Oceanic Atmospheric Administration (NOAA) effects-based screening values, which measures toxicity in marine sediment, and LA-2 reference concentrations. The only

- constituents detected above NOAA effects range low (ERL) values were total DDT (dichlorodiphenyltrichloroethane) and 4,4'-DDE (dichlorodiphenyldichloroethylene), which were also elevated above ERL values in the LA-2 reference sample. There were no sample values that exceeded a NOAA effects range medium (ERM value). Low levels of metals and some PAH (polycyclic aromatic hydrocarbons) compounds were the only other constituents reported above a laboratory reporting limit. None of the sediments were toxic based on bioassay testing. Sediments were determined to be suitable for ocean disposal. Based on these results, the sediments in the deepening area should be compatible with the nearshore placement site and contaminants levels should represent minimal threat to the marine benthic environment.
- (2) Quantity of Material: An unquantifiable amount of dredged material from overflow operations of the hopper dredge while dredging the Approach Channel and approximately 2,500,000 cy of sediments dredged from the Approach Channel would be placed in the Surfside Borrow Site Nearshore Placement Area.
 - (3) Source Material: Approach Channel of Port of Long Beach harbor.
- e. Description of the Proposed Discharge Site:
- (1) Suitable dredged material would be discharged back into the Approach Channel due to overflow operations from the hopper dredge, and suitable dredged material would be placed in the nearshore area of the Surfside Borrow Site Nearshore Placement Area. The characteristic habitat type subject to impact by dredge material discharge in the nearshore is open-coast sandy beach. The site is a borrow pit created by historic beach fill projects at Surfside and Sunset Beach for purposes of storm damage reduction. Current bottom elevations in the pit range from -55' to -65' MLLW in an area averaging -35' to -50' MLLW. Proposed fill depths would result in a final depth of no shallower than approximately -45' MLLW across the site.
 - (2) Size (acres): Overflow operations could occur within the approximately 800 acres of the Approach Channel. Suitable dredged material would be placed in approximately 195 acres of the Surfside Borrow Site Nearshore Placement Area.
 - (3) Type of Site (confined, unconfined, open water): Both the Surfside Borrow Site Nearshore Placement Area and the Entrance Channel consist of unconfined, open water.
 - (4) Types of Habitat: nearshore placement site is offshore of a typical southern California sandy beach. Bottom type is poorly graded, fine to medium sands. The borrow pit is expected to harbor a degraded benthic community, as shown in other nearby borrow pits, as a result of reduced water circulation and lowered dissolved oxygen levels.
- f. Description of Disposal Method: [9.1] Material would be dredged and either discharged due to overflow operations by the hopper dredge while dredging or transported via hopper dredge for placement in the Surfside Borrow Site Nearshore Placement Area.

II. Factual Determinations

a. Physical Substrate Determinations

(1) Substrate Elevation and Slope.

Current bottom elevations in the Surfside Borrow Site Nearshore Placement Area range from -55' to -65' MLLW. The area is relatively flat with stable side slopes that have existed since the borrow pit was dredged in 2009. Burial from overflow operations in the Approach Channel would likely be a thin layer that would result in negligible changes to elevation and slope. The Recommended Plan is expected to fill in the borrow site to match surrounding bathymetry.

(2) Sediment Type.

Geotechnical studies indicate that the sediment consists primarily of poorly graded, fine to medium sands. Suitable sediments are expected to be compatible with existing borrow site materials, a sediment testing program would be conducted during the PED Phase to ensure compatibility. Sediment placed from overflow would be the same as already present in the Approach Channel having just been dredged from there.

(3) Dredged Material Movement.

Suitable dredged material would be placed into the Surfside Borrow Site Nearshore Placement Area. The area experiences low levels of sand movement, as evidenced by the continued existence of the borrow pits ten years after sand borrowed was placed on nearby beaches. Sediments are not expected to move but are expected to restore pre-borrow bathymetry. Sediments resulting from overflow would be returned to the bottom and experience the same conditions of movement as they are currently undergoing.

(4) Physical Effects on Benthos (burial, changes in sediment type, etc.).

Temporary, short-term adverse impacts would occur. The overflow operations and placement activities would bury benthic organisms. Burial from overflow operations would likely be a thin layer of sediments with organisms able to burrow back to the surface, reducing or eliminating benthic mortality. Recolonization at both sites would be expected to occur quickly. Minor turbidity levels may exist in the immediate vicinity of the dredging area and placement operations that may result in minor, temporary reductions in dissolved oxygen.

(5) Other Effects. The resulting bathymetry is expected to support a more diverse, populous community that would be equivalent to the surrounding area.

(6) Actions Taken to Minimize Impacts (Subpart H).

Needed: YES NO

Monitoring of water quality to control turbidity and to monitor for possible resuspension of contaminants during dredging and disposal would occur. If turbidity exceeds set standards and/or dissolved oxygen fall below a set standard of 5 mg/l, dredging or disposal would be evaluated and modifications made to get back into compliance.

If needed, Taken: YES NO

A water quality monitoring plan will be part of the construction contract and will be coordinated with the Regional Water Quality Control Board, Los Angeles Region.

b. Water Circulation, Fluctuation, and Salinity Determinations

- (1) Water (refer to 40 CFR sections 230.11(b), 230.22 Water, and 230.25 Salinity Gradients; test specified in Subpart G may be required). Consider effects on salinity, water chemistry, clarity, odor, taste, dissolved gas levels, nutrients, eutrophication, others.

Overflow operations and placement of dredged material in the nearshore area of the Surfside Borrow Site Nearshore Placement Area is not expected to significantly affect water circulation, fluctuation, and/or salinity. Only clean, compatible sands from the project would be used for the nearshore placement. These sands are not a source of contaminants. Minor turbidity levels may exist in the immediate vicinity of the dredging area and placement operations that may result in minor, temporary reductions in dissolved oxygen. Sands will not be a source of nutrients; thus, eutrophication is not expected to result. Water used to entrain sands would be sea water as is water in the Approach Channel or adjacent to nearshore placement, thus there will be no effect on salinity levels.

- (2) Current Patterns and Circulation (consider items in sections 230.11(b), and 230.23), Current Flow, and Water Circulation.

Overflow operations and placement of dredged material in the nearshore area is not expected to significantly affect circulation. Overflow operations and placement of material would result in minor, localized changes to circulation patterns within the area. However, long-term beneficial effects to current patterns or circulation are anticipated to occur.

- (3) Normal Water Level Fluctuations (tides, river stage, etc.) (consider items in sections 230.11(b) and 230.24)

Overflow operations and placement of dredged material in the nearshore area is not expected to have a significant impact on normal water level fluctuations. There would be no change to tidal elevations, which is determined by access to the open ocean, which would not be changed.

- (4) Salinity Gradients (consider items in sections 230.11(b) and 230.25)

Overflow operations and placement of dredged material in the nearshore area is not expected to have any impact on normal water salinity nor is it expected to create salinity gradients. Sands and water used to entrain sands would be sea water as is water in the Approach Channel or adjacent to the Surfside Borrow Site Nearshore Placement Area, thus there will be no creation of salinity gradients.

- (5) Actions That Will Be Taken to Minimize Impacts (refer to Subpart H)

Needed: YES NO

If needed, Taken: YES NO

All dredging and nearshore placement operations would be monitored for effects on water quality, including turbidity, temperature, salinity, dissolved oxygen, and pH; monthly water samples will be taken and analyzed for total dissolved solids and total reportable petroleum hydrocarbons (TRPH). Best management practices, such as modifying the dredging operation and the use of silt curtains (if feasible) would be implemented if turbidity and/or dissolved oxygen exceeds water quality criteria.

c. Suspended Particulate/Turbidity Determinations

- (1) Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Disposal Site (consider items in sections 230.11(c) and 230.21)

Placement of sediments generally results in negligible impacts to water quality from turbidity. Impacts would be temporary and adverse, but not significant. This is expected to be highly localized and visually indistinguishable from normal turbidity levels. The area is expected to return to background after dredging and placement ceases. Water quality monitoring during dredging and placement will allow USACE to modify operations (such as by slowing rate of discharge) until any water quality problems abate.

- (2) Effects (degree and duration) on Chemical and Physical Properties of the Water Column (consider environmental values in section 230.21, as appropriate)

Only clean, sandy sediment would be placed in the nearshore area. Minor turbidity levels may exist in the immediate vicinity of the dredging area and placement operations that may result in minor, temporary reductions in dissolved oxygen.

- (3) Effects on Biota (consider environmental values in sections 230.21, as appropriate).

Biota buried during overflow operations or disposal are expected to recover over the short term. Burial is likely to be under a thin layer of sediment with benthic organisms able to maintain their position relative to the water-sediment interface. Filling in the borrow pit is expected to result in improved benthic communities due to increased water circulation and higher levels of dissolved oxygen. Impacts will be temporary and adverse, but not significant.

- (4) Actions taken to Minimize Impacts (Subpart H)

Needed: YES NO

If needed, Taken: YES NO

Monitoring of water quality to control turbidity during placement would occur. If turbidity exceeds set standards and/or dissolved oxygen exceeds water quality criteria, dredging and disposal would be evaluated and modifications made to get back into compliance.

A water quality monitoring plan will be part of the construction contract and will be coordinated with the Regional Water Quality Control Board, Los Angeles Region.

- d. Contaminant Determinations (consider requirements in section 230.11(d)): The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material. (Check only those appropriate.)

(1) Physical characteristics

(2) Hydrography in relation to known or anticipated sources of contaminants

(3) Results from previous testing of the material or similar material in the vicinity of the proposed project

(4) Known, significant sources of contaminants (e.g. pesticides) from land runoff or percolation

(5) Spill records for petroleum products or designated (Section 311 of the CWA) hazardous substances

- (6) Other public records of significant introduction of contaminants from industries, municipalities, or other sources
- (7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man- induced discharge activities
- (8) Other sources (specify) X

An evaluation of historic sediment testing indicates that the proposed dredged material is not a carrier of contaminants and that levels of contaminants are substantively similar in the extraction and placement sites and are not likely to be constraints.

e. Aquatic Ecosystem and Organism Determinations (use evaluation and testing procedures in Subpart G, as appropriate)

(1) Plankton, Benthos and Nekton

Hopper dredge overflow operations and disposal operations would result in short-term turbidity impacts that would affect plankton in the area. Organisms could stifle in the immediate vicinity as these small organisms are impacted by turbidity. However, these effects would be small in both area and time and the plankton would be expected to recover quickly once disposal is completed. Benthic organisms would be buried by overflow operations and nearshore placement, but the areas would be minor in area and would quickly recolonize. Larger organisms in the nekton would be expected to avoid dredging and disposal operations and would not be impacted.

(2) Food Web

Impacts to the bottom of the food chain (plankton and nekton) would be short term and occur in a small area. Recovery would be quick once dredging and disposal operations are concluded.

(3) Special Aquatic Sites

There are no special aquatic sites in the project area.

(4) Threatened & Endangered Species

There would be no effect to any listed threatened or endangered species or to their designated critical habitat. The federally listed endangered California least tern (*Sternula antillarum browni*) is a migratory bird. California least terns predominately nest on coastal foredunes and other sites with gravelly or sandy substrate and sparse vegetation. Because terns would abandon nests if disturbed, they require nest areas

relatively free of human disturbance and predators. The historical habitat of the California least tern has been significantly reduced and modified by human activities including marine and industrial development and residential development along beaches. This loss of habitat has resulted in small isolated breeding colonies that are vulnerable to local extirpation. Primary threats to California least tern populations include increased predation and recreation-related disturbances. California least terns arrive and move through the harbor area in late April and utilize nest areas in Los Angeles County from mid-May through August. Although nesting does not occur in the vicinity of the Surfside Borrow Site Nearshore Placement Area, other areas in the region provide suitable habitat. These areas include Pier 400 in the Port of Los Angeles to the west. California least terns have been observed foraging San Pedro Bay and could forage in waters of the placement area during the breeding season. Because the placement area is routinely subject to elevated noise and activity of workers and equipment associated with common commercial and military practices, short-term project-related disturbances are not expected to affect the foraging and nesting of least terns.

(5) Other fish and wildlife:

Marine mammals would not be affected by hopper dredge overflow operations or placement activities. Birds would generally avoid the dredging and placement sites, although placement could attract birds to the benthic organisms coming out of the hopper dredge as an alternate food source. Benthic organisms would be buried, but populations are expected to recover quickly, particularly since the bottom elevations at the nearshore placement site would be raised to match the surrounding bottom eliminating the current borrow pit improving habitat characteristics for a normal benthic habitat than currently exists at the site.

(6) Actions to Minimize Impacts (refer to Subpart H)

Needed: YES NO

Monitor and control turbidity at the hopper dredge and Surfside Borrow Site Nearshore Placement Area to minimize impacts to plankton and nekton.

f. Proposed Disposal Site Determinations

(1) Mixing Zone Determination (consider factors in section 230.11(f)(2))

Is the mixing zone for each disposal site confined to the smallest practicable zone?
 YES NO

Sediments do not require a mixing zone in order to remain in compliance with water quality standards. As such, the mixing zone is considered to be the smallest practicable.

(2) Determination of Compliance with Applicable Water Quality Standards (present the standards and rationale for compliance or non-compliance with each standard)

The Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan) adopted by the Los Angeles Regional Water Quality Control Board has established water quality standards, consisting of a combination of beneficial uses and their corresponding water quality objectives for inland surface waters and enclosed bays and estuaries, including the nearshore placement site. The State Board's Water Quality Control Plan for Ocean Waters of California (Ocean Plan), Water Quality Control Plan for Enclosed Bays and Estuaries of California, and the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan) and any revision thereto, shall also apply to all ocean waters of the Region, with the Basin Plan applying in cases of differing objectives. The applicable objective and the rationale for compliance is discussed below. In addition, in a letter of support received on April 23, 2021, the Los Angeles Regional Water Quality Control Board agreed that the Recommended Plan was not expected to compromise water quality standards.

Preliminary sediment testing performed during the feasibility study indicates that the sediment is free from contaminants. Further testing will occur during PED, prior to the placement of material, and only contaminant free, physically compatible material would be placed in the aquatic environment. All testing will be coordinated with the SC-DMMT. Placement of material at the receiver site would result in short-term elevated turbidity levels and suspended sediment concentrations, but no appreciable long-term changes in other water quality parameters, including dissolved oxygen, pH, nutrients, or chemical contaminants. Factors considered in this assessment include the relatively localized nature of the expected turbidity plumes for the majority of the disposal/placement period and rapid diluting capacity of the receiving environment. Water quality monitoring would be required as part of the overall project. If monitoring indicated that suspended particulate concentrations outside the zone of initial dilution exceeded permissible limits, dredging and placement operations would be modified to reduce turbidity to permissible levels. Therefore, impacts to water quality would not violate water quality objectives or compromise beneficial uses listed in the Basin Plan. USACE will continue to coordinate with the Regional Water Quality Control Board during construction to minimize impacts to water quality.

(3) Potential Effects on Human Use Characteristic

(a) Municipal and Private Water Supply (refer to section 230.50)

There are no municipal or private water supply resources (i.e. aquifers, pipelines) in the Approach Channel or nearshore areas. Overflow operations and placement of dredged material in the nearshore area would have no effect on municipal or private water supplies or water conservation.

(b) Recreational and Commercial Fisheries (refer to section 230.51)

The harbor and nearshore areas are not subject to commercial fishing. Recreational fishing would move to avoid the hopper dredge overflow activities and placement activities and to follow fish out of these areas.

(c) Water Related Recreation (refer to section 230.52)

Construction equipment would be required to maintain ocean access for all uses. During dredging and placement activities, proper advanced notice to mariners would occur and navigational traffic would not be allowed within the dredge area or nearshore placement discharge area. The displacement of recreational boating would be temporary and short-term. However, dredging and the nearshore placement activities would not significantly impact surfing conditions or other water sports once completed. The currents are not expected to change in magnitude or direction. Therefore, the overflow operations and nearshore placement activities are not expected to measurably change currents or change surfing in any discernible way. To minimize navigation impacts and threats to vessel safety, all floating equipment would be equipped with markings and lightings in accordance with the U.S. Coast Guard regulations. The location and schedule of the work would be published in the U.S. Coast Guard Local Notice to Mariners

In the long term, the nearshore placement would create a uniform benthic environment filling in the existing borrow pit, enhancing the benthic community.

(d) Aesthetics (refer to section 230.53)

Minor, short term effects during hopper dredge overflow operations during dredging and nearshore placement are anticipated. During hopper dredging and nearshore placement activities, the visual character of the Approach Channel and nearshore placement site would be affected by the hopper dredge; however, overflow activities and nearshore placement is temporary, and as such, would not result in permanent effects to the visual character of the Approach Channel or nearshore placement site. Overflow operations would not result in any visible change to the Approach Channel. Placement of dredged material in the borrow pit would not result in any visible changes to the nearshore area.

(e) Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves (refer to section 230.54)

Hopper dredge overflow operations and nearshore placement activities would not have any effect on national and historic monuments, national seashores, wild and scenic rivers, wilderness areas or research sites.

- (f) Determination of Cumulative Effects on the Aquatic Ecosystem (consider requirements in section 230.11 (g))

Cumulative effects were determined to be less than significant, refer to section 6 of the IFR.

- (g) Determination of Secondary Effects on the Aquatic Ecosystem (consider requirements in section 230.11(h))

Secondary effects of the discharge of dredged material would be negligible. Areas outside the direct impact would have only negligible turbidity effects from hopper dredged overflow operations and nearshore disposal. Turbidity levels would be low and in the immediate vicinity of the overflow operations and nearshore disposal operations. Impacts of the federal action are all temporary construction impacts. Movement of sand downcoast would be indistinguishable from natural sand movement.

III. Findings of Compliance or Non-Compliance with the Restrictions on Discharge

- a. Adaptation of the Section 404(b)(1) Guidelines to this Evaluation

No significant adaptations of the guidelines were made relative to this evaluation.

- b. Evaluation of Availability of Practicable Alternatives to the Proposed Discharge Site Which Would Have Less Adverse Impact on the Aquatic Ecosystem:

The practicable alternatives to the Recommended Plan are Alternatives 2, 4, and 5, which are discussed in the IFR/EIS. Under the Guidelines, we are to consider whether any of these practicable alternatives are less environmentally harmful than the Recommended Plan. All practicable alternatives to the Recommended Plan include disposal of 2.5 mcv of dredged material at the Surfside Borrow Site Nearshore Placement Area, which is the same as the Recommended Plan. Because there is no significant or easily identifiable difference in impact, the alternatives to the Recommended Plan need not be considered to have less adverse impact than what is proposed under the Recommended Plan. See 45 Fed Reg. 85340, December 24, 1980. Therefore, there are no practicable alternatives to the proposed discharges which would have less adverse impact on the aquatic environment. Therefore, the Recommended Plan is the least environmentally damaging practicable alternative.

- c. Compliance with Applicable State Water Quality Standards

The proposed project meets State of California water quality standards.

d. Compliance with Applicable Toxic Effluent Standard or Prohibition Under Section 307 of the Clean Water Act

No toxic materials/wastes are expected to be produced or introduced into the environment by nearshore placement.

e. Compliance with Endangered Species Act of 1973

As discussed above, the USACE has determined that overflow operations from the hopper dredge and placement of dredged material into the nearshore placement area would not have an effect on any species Federally-listed as threatened or endangered nor any designated critical habitat. Consultation pursuant to Section 7 of this Act is not required.

f. Compliance with Specified Protection Measures for Marine Sanctuaries Designated by the Marine Protection, Research, and Sanctuaries Act of 1972

No sanctuaries as designated by the Marine Protection, Research and Sanctuaries Act of 1972 would be affected by the hopper dredge overflow operations or nearshore placement activities.

g. Evaluation of Extent of Degradation of the Waters of the United States

(1) Significant Adverse Effects on Human Health and Welfare

(a) Municipal and Private Water Supplies

Hopper dredge overflow operations and nearshore placement activities would have no significant adverse effects on municipal and private water supplies.

(b) Recreational and Commercial Fisheries

Hopper dredge overflow operations and nearshore placement activities will have minor, short-term impacts, but no significant adverse effects on recreational fisheries. The Approach Channel and nearshore areas are not subject to commercial fishing. Recreational fishing would move to avoid the dredging and disposal activities and to follow fish out of these areas. To minimize navigation impacts and threats to vessel safety, all floating equipment would be equipped with markings and lightings in accordance with the U.S. Coast Guard regulations. The location and schedule of the work would be published in the U.S. Coast Guard Local Notice to Mariners.

(c) Plankton

Hopper dredge overflow operations and disposal operations would result in short-term turbidity impacts that would affect plankton in the area. Organisms could stifle in the immediate vicinity as these small organisms are impacted by turbidity. However, these effects would be small in both area and time and the plankton would be expected to recover quickly once dredging and disposal is completed.

(d) Fish

Larger organisms in the nekton would be expected to avoid dredging and disposal operations and would not be impacted.

(e) Shellfish

Benthic organisms, including shellfish, would be buried by overflow operations and nearshore disposal, but the areas would be minor in area and would quickly recolonize.

(f) Wildlife

Marine mammals would not be affected by overflow operations or nearshore disposal. Birds would generally avoid the dredging and nearshore disposal, although nearshore placement could attract birds to the benthic organisms coming out of the hopper dredge as an alternate food source.

(g) Special Aquatic Sites

There are no special aquatic sites in the project area.

- (2) Significant Adverse Effects on Life Stages of Aquatic Life and Other Wildlife Dependent on Aquatic Ecosystems: Any adverse effects would be short-term and insignificant. Refer to section 5 of the Final IFR.
- (3) Significant Adverse Effects on Aquatic Ecosystem Diversity, Productivity and Stability: Any adverse effects would be short-term and less than significant. Refer to section 5 of the Final IFR.
- (4) Significant Adverse Effects on Recreational, Aesthetic, and Economic Values: Any adverse effects would be short-term and less than significant. Refer to section 5 of the Final IFR.

h. Appropriate and Practicable Steps Taken to Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem

Specific environmental commitments are outlined in the analysis above and in the attached Final IFR. All appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem.

i. On the Basis of the Guidelines, the Proposed Disposal Site(s) for the Discharge of Dredged or Fill Material (specify which) is:

_____ (1) Specified as complying with the requirements of these guidelines; or,

 X (2) Specified as complying with the requirements of these guidelines, with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects on the aquatic ecosystem; or,

_____ (3) Specified as failing to comply with the requirements of these guidelines.

Prepared by: Larry Smith

Date: _____