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Staff:	Jim Baskin
Staff Report:	January 27, 2006
Hearing Date:	February 9, 2006
Commission Action:	

REVISED STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.:	**1-05-039**
APPLICANT:	**Humboldt Bay Harbor, Recreation, and Conservation District**
AGENT:	Pacific Affiliates
PROJECT LOCATION:	At the Woodley Island Marina within Humboldt Bay and along the ocean side of the Samoa Peninsula, Humboldt County.
PROJECT DESCRIPTION:	1) Maintenance dredging of approximately 120,000 cubic yards of material and dispose of the dredged material via slurry pipeline at a beach disposal site in the tidal zone along the ocean shoreline of the Samoa Peninsula; and 2) Repair of shoreline protective rock slope armament by replacing armor rock that has become dislodged into the berthing and docking areas to be dredged.
LOCAL APPROVALS RECEIVED:	1) Humboldt County Coastal Development Permit No. CDP-04-38, approved January 23, 1997 and Conditional Use Permit No. CUP-04-14 approved January 20, 2005; 2) Humboldt Bay Harbor, Recreation, and Conservation District Permit for District's

	dredging approved October 14, 2004; and 3) CEQA Negative Declaration approved October 14, 2004.
OTHER APPROVALS OBTAINED OR REQUIRED:	1) State Lands Commission Approval; 2) Regional Water Quality Control Board FCWA Section 401 Water Quality Certification No. 1A04140WNHU, issued August 26, 2005; 3) U.S. Army Corps of Engineers FCWA Section 404 Individual Permit No. 22216N, issued December 10, 1997, expires March 15, 2008; 4) U.S. Army Corps of Engineers Letter of Modification to FCWA Section 404 Individual Permit No. 22216N (pending); and 5) California Department of Fish and Game CESA Consistency Determination or Incidental Take Permit (pending).
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SUBSTANTIVE FILE DOCUMENTS:	1) County of Humboldt Local Coastal Program; 2) Coastal Development Permit Application No. 1-87-172, issued March 2, 1988; 3) Coastal Development Permit Application No. 1-96-060, issued November 25, 1997; 4) National Marine Fisheries FESA Section 7 Consultation and Biological Opinion, issued December 6, 2005; and 5) *Sampling Results Report for Dioxin/Furans, PCP, and PCB Testing*, Pacific Affiliates, Inc., December 2005.

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends that the Commission approve with conditions the coastal development permit application submitted by the Humboldt Bay Harbor, Recreation, and Conservation District (HBHRCD) for maintenance dredging at vessel berthing sites within the Woodley Island Marina with disposal of dredged material at a surf zone disposal site on the ocean side of the Samoa Peninsula.

The proposed maintenance dredging would be undertaken along and within the 335 individual berthing areas and docking slips of the Woodley Island Marina. The accumulated sediment would be dredged by use of a cutter head suction dredge and conveyed through a flexible plastic pipeline, assisted by in-line pumps, to a nearshore spoils disposal area in the ocean waters off of the North Spit of the Samoa Peninsula, one of two sea strand landforms that impounds the waters of Humboldt Bay.

The proposed project is similar to a previous maintenance dredging projects approved by the Commission in 1988 and 1998 involving suction dredging and surf zone spoils disposal. Based on: (1) physical compositional and biological assessments of the areas proposed for dredging; (2) the results of a monitoring study conducted of the surf zone disposal site used in 1988 and 1998; (3) data within the environmental review documentation prepared for the project; and (4) information generated by the applicants' consultants in response to letters commenting on the project by interested state and federal agencies, the staff has concluded that the proposed project will not have a significant impact on the environment and is consistent with the Coastal Act.

The Commission has considered the proposed project at two previous Commission meetings. The Commission opened the public hearing on Coastal Development Permit Application No. 1-04-061, the original permit application submitted for the proposed maintenance dredging project at its meeting on August 12, 2005. Following presentation of the staff recommendation and testimony from interested parties regarding the appropriateness for disposing of the dredged materials in the nearshore environment and generalized concerns regarding the structure of the testing of the sediments proposed for nearshore disposal, the Commission expressed concerns as to whether the potential water quality impacts of the project had been thoroughly examined. As the Commission was bound by the Permit Streamlining Act to take action on the application, and with the likelihood of a denial of the project based upon an absence of information substantiating the development's conformance with applicable Coastal Act water quality policies, at the Commission's behest, the applicant subsequently withdrew CDP Application No. 1-04-061 with the understanding that the application would be resubmitted and considered at a later hearing. Upon agreeing to withdraw and resubmit the application, the Commission directed the staff to conduct an in-house review of the chemical assessment of the sediments proposed for dredging.

On August 15, 2005, the applicant re-applied for an identical maintenance dredging project, renumbered as Coastal Development Permit Application No. 1-05-039, the subject of this permit hearing. In the period following the August hearing, the Commission's Water Quality Unit reviewed the chemical analysis of the sampled sediments proposed for dredging and considered the recommendations of the U.S. Environmental Protection Agency (USEPA) and the California Department of Fish and Game (CDFG) with regard to the appropriateness of nearshore disposing of these materials. Based on this review, Commission staff again concluded that the project would not significantly impact coastal resources and sustained its recommendation that

nearshore disposal of the spoils be authorized for the proposed maintenance dredging provided that adequate monitoring is performed to track the movement and dispersal of the dredged materials. The project was then scheduled for hearing at the Commission's September meeting in Eureka.

At the September hearing, numerous interested parties and local residents again voiced their concerns regarding the project's potential impacts to coast water quality and water-related recreational opportunities in proximity to the proposed disposal site. These presentations included citations of specific elevated levels of hazardous materials found in sediments located in the general locality of several of the proposed maintenance dredging, particularly polychlorinated dibenzoylated dioxins and furans (PCDDs/PCDFs), polychlorinated biphenyls (PCBs), and pentachlorophenol (PCP). Based upon this disclosed new information, the staff recommended that the hearing be continued until additional testing for these substances was conducted for the sediments proposed for dredging, lest its recommendation be changed to deny the project. The Commission subsequently continued the hearing and directed staff to schedule the hearing only when the testing had been completed and reviewed by the Water Quality Unit and the final biological opinion being prepared the National Marine Fisheries Service in consultation over the project's potential impacts on coho salmon had been released.

The Commission also directed staff to prepare responses to several other issue areas which had been raised at the September hearing, including: (1) if warranted by the results of the sediments testing, a human health-based risk assessment of the disposal of the sediments in the nearshore environment; (2) a discussion of other sediment testing that has been conducted on Humboldt Bay; (3) a comprehensive land disposal alternatives analysis; and (4) explanation of the seemingly contradictory recommendations of the U.S. Environmental Protection Agency and the California Department of Fish and Game to recommend approval of the project while voicing pointed concerns over the appropriateness of the materials for nearshore uncontained ocean disposal.

Since the September hearing, the applicants have conducted another round of sediment testing for PCDD/PCDF congeners and PCP, and re-testing for PCBs congeners pursuant to a sampling and assessment plan jointly approved by the Water Quality Unit and the staff of the USEPA's Dredging and Sediment Management Team. The results of this testing indicate that, based upon the relative low concentrations of chemical contaminants found in the testing samples, conducting additional human health-based risk assessments would not be indicated for the subject development. In addition, the review concluded that a corresponding low risk of human health and marine biological resources would result from the proposed disposal of dredged spoils materials into the surf zone environment. A detailed discussion of sediment test results, NMFS' consultation on salmon, and various other issues regarding project alternatives and other review agencies' positions, is presented in Protection of Marine and Estuarine Resources Findings Section IV.C. on pages 21 through 52. With regard to the other issues raised at the September

hearing, additional discussion of the project's potential impacts to coastal recreational opportunities is contained in Findings Section IV.F on pages 55 and 56.

On January 20, 2006, the applicant further amended the applicant to request that the term of the Commission's permit be extended to allow the subject maintenance dredging to be conducted over both the remaining portions of the November 2005 through March 2006 season and during a November 2006 through March 2007 timeframe (see Exhibit No. 3).

Interested parties continue to express their concerns that all potential impacts of the proposed nearshore spoils disposal, especially those related to marine biological resources, have been adequately reviewed and considered. In addition, concerns over degradation of coastal recreational opportunities, particularly water-related activities such as surfing and sea kayaking, continue to be voiced.

As regards potential health and ecological impacts, the Commission's water quality, coastal engineering, and biological technical services staff have reviewed the various technical materials relating to the application and have concluded that, with the attachment of the special conditions enumerated above, potential impacts to coastal resources and public health would be reduced to less than significant levels while providing for the maintenance necessary for protecting high priority docking and berthing facilities for commercial fishing and water-based coastal recreational uses. With respect to coastal access and water-related recreational opportunities, staff finds the project impacts to be temporary in nature with numerous alternative beach and ocean water locales available within relatively close proximity to the dredged sediment outfall site that could be utilized during the time the outfall area is affected by spoils disposal operations.

Neither the proposed dredging areas or the surf zone disposal site comprise sensitive habitat areas, although some benthic organisms located on the bay bottom of the marina would like become entrained in the dredge works and intertidal organisms would be temporarily affected by the disposal. The 1998 monitoring report indicated that species abundance and composition recovered to near pre-project levels within four months of deposition of material at the site.

The proposed project is consistent with the use limitations of Sections 30233 and 30231 of the Coastal Act for dredging and fill projects. The applicant currently has a valid permit from the U.S. Army Corps of Engineers to dispose at the beach through mid-March of 2008, based on the understanding that operational guidelines established at the time the permit was issued in 1997, especially those regarding the acceptability of nearshore slurry pipeline disposal, would be applied throughout the term of the permit. The applicant has been planning on this round of maintenance dredging based on the constraints of the existing Corps permit. If HOODS were to be found to be the only acceptable spoils disposal destination, the dredging could be delayed for several years while the applicant accrued the additional $2 million to undertake the project and secure

all necessary regulatory approvals. Such a protracted delay would have significant impacts on the commercial fishing fleet and recreational boaters moored at the City's docking facilities. Moreover, depending upon whether the dredged materials are disposed at the offshore HOODS facility or within the surf zone directly offshore, differing environmental impacts will result to marine and estuarine biological resources, respectively: Disposal within the nearshore environment will admittedly result in some increment increase in exposure of marine organisms to risks of smothering and/or bioaccumulation of chemical contaminants, and may reduce the desirability of coastal recreational activities in close proximity to the disposal site for some coastal visitors. Conversely, disposal at the HOODS facility would necessitate the use of more time-intensive and imprecise dredging methods which would result in elevated levels of suspended sediment in the waters of Humboldt Bay, with potentially adverse effects to biota and coastal users therein. Consequently, there is no clearly superior alternative between these two disposal options.

Staff believes that as: (1) dispersal of the dredged materials at the HOODS site is not a clearly environmentally less damaging alternative; (2) the applicant is a public agency with limited revenue generating abilities and fiscal reserves to secure the additional $2 million that would be needed for HOODs disposal; and (3) the pronounced need for conducting the maintenance dredging in a timely manner to avoid significant impacts to commercial fishing and recreational boating in light of the likely project delays associated with accruing additional revenue and securing revised permit authorizations that would result from requiring use of the principal alternative disposal site, hopper-dredge removal offshore to the Humboldt Open Ocean Disposal Site (HOODS), the proposed project as conditioned using a surf zone disposal method is the least environmentally damaging feasible alternative consistent with Section 30233 of the Coastal Act.

To ensure that the project is fully consistent with the Coastal Act and that Commission has sufficient information to evaluate future maintenance dredging projects within Humboldt Bay, staff recommends that the Commission attach six special conditions to the approval of the permit. Special Condition No. 1 requires the applicant, prior to issuance of the permit, to prepare, submit for the review and approval by the Executive Director, and implement a five-year monitoring program in the vicinity of the surf zone disposal site to assess impacts to survey the dispersal of the disposed sediments and assess the impacts of the dredged materials on epibenthic and littoral marine organisms. Special Condition No. 2 requires the applicant, prior to issuance of the permit, to similarly prepare, submit for the review and approval by the Executive Director, and implement a dredge spoils and hazardous materials spill contingency plan for responding to any accidental releases of dredge spoils and related pumping fuels and lubricants. Special Condition No. 3 requires the applicant, prior to commencement of the dredging activities, to provide a copy of any Letter of Modification to Federal Clean Water Act Section 404 Individual Permit No. 22216N as may be issued by the U.S. Army Corps of Engineers, for the Executive Director's review and determination as to whether a coastal

development permit amendment would be required. The condition further requires that the dredging not be commenced until any required permit amendment is obtained from the Commission. Special Condition No. 4 requires the applicant to conduct the proposed maintenance dredging pursuant to the terms and conditions contained in the final biological opinion issued for the National Marine Fisheries Service (NMFS), to obtain either an extension or a new opinion covering the proposed dredging during November 2006 through March 2007, and not to initiate any changes to the dredging if any future extension or modification to the opinion results in changes to the Corps' permit, until a coastal development permit amendment has been obtained from the Commission or the Executive Director determines that no amendment is necessary. Special Condition No. 5 requires the applicant to submit, for the review of the Executive Director, a copy of a consistency determination prepared by the California Department of Fish and Game pursuant to the California Endangered Species Act (CESA) regarding the conformance of NMFS' incidental take statement with the CESA or an Incidental Take Permit. Special Condition No. 6 requires that efforts be taken during the performance of repairs to the marina's rock slope protection to avoid the trampling of eelgrass beds during the replacement of dislodged revetment, including contractor training in the recognition and avoidance of eelgrass covered areas. Special Condition No. 7 requires the applicant to place and maintain the spoils disposal pipeline outfall at a location within the intertidal reach of the nearshore disposal site to assure that to the greatest degree practicable, spoils discharges directly enter ocean waters and minimize their accumulation or persistence on the adjoining beach areas. Direct discharging of dredged materials on exposed beach areas would be prohibited. Finally, Special Condition No. 8 requires the applicant to implement its proposal to mitigate for the incidental take of approximately 30 juvenile coho salmon mitigation through providing partial funding to a nearby coastal stream salmonid restoration project.

Staff believes that the project as conditioned is fully consistent with the Coastal Act.

The Motion to adopt the Staff Recommendation of Approval with Conditions is found on page 9.

STAFF NOTES:

1. Standard of Review

The portions of the proposed project being considered in Application No. 1-05-039 are located in tidelands, submerged areas, and lands subject to the public trust within the Commission's retained jurisdictional area. Therefore, the standard of review that the Commission must apply to the project is the Coastal Act.

2. Other Required Permits and Authorizations.

As noted above, the actual dredging activity is primarily regulated by the U.S. Army Corps of Engineers. In addition, the California Regional Water Quality Control Board regulates the discharges of materials into waters subject to the federal and state Clean Water Acts.

The Corps has consulted with the National Marine Fisheries Service (NMFS) for an interim review of the potential effects that the November 2005 through March 2006 round of maintenance dredging might have on salmonid fish species pursuant to Section 7 of the Federal Endangered Species Act and on other significant commercial species under the Magnuson-Stevens Fishery Conservation and Management Act. A final biological opinion regarding the project's potential impacts to coho salmon and the essential fish habitat was released on December 6, 2005 by the NMFS. Conducting the proposed maintenance dredging consistent with terms and conditions contained in the final opinion and in any Letter of Modification as issued by the Corps for the remaining portion of the November 2005 – March 2006 project module has been incorporated in special conditions recommended by staff. In addition, staff has included within the special condition a requirement that an extension to the consultation biological opinion, or a new opinion be secured before any of the proposed dredging during the November 2006 through March 2007 timeframe be undertaken.

As coho salmon are co-listed under the federal and state endangered species acts, the consistency of the NMFS action with the California Endangered Species Act is currently being reviewed by the California Department of Fish and Game pursuant to Section 2080.1 of the Fish and Game Code. Staff has included a special condition requiring that the consistency determination or an incidental take permit be secured from the CDFG prior to initiation of the maintenance dredging.

The project is also subject to the permit jurisdiction of two local agencies: (1) the Humboldt Bay Harbor, Recreation, and Conservation District (HBHRCD or "Harbor District") for the portions of the project situated at and below the Mean Higher High Water (MHHW) level (+6.52 feet $NAVD_{1988}$) within the waters of Humboldt Bay and the Mean High Water (MHW) elevation (+5.81 feet $NAVD_{1988}$) on Woodley Island; and (2) the County of Humboldt for the portions of the dredge spoils pipeline located outside of the incorporated boundaries of the City of Eureka.

On October 14, 2004, the HBHRCD adopted a mitigated negative declaration environmental review document and approved Permit No. 04-02 for the District to conduct maintenance dredging and nearshore disposal of materials from ten sites of the eleven proposed sites along the City's waterfront over a ten-year period.

On December 12, 2004, the State Lands Commission (SLC) issued a lease for dredge spoils disposal into sovereign state waters from the proposed dredging sites.

On January 20, 2005, the County of Humboldt Planning Commission conditionally approved Coastal Development Permit No. CDP-04-38 and Conditional Use Permit No. CUP-04-14 for the City's dredging and spoils disposal project.

Finally, on August 26, 2005, the Regional Board issued Federal Clean Water Act Section 401 Certification No. 1A04140WNHU for the proposed maintenance dredging (see Exhibit No. 10).

3. Relation to Application No. 1-05-040

Application No. 1-05-040 (City of Eureka) and Application No. 1-05-039 (Humboldt Bay Harbor, Recreation, and Conservation District) are both scheduled for consideration at the February 9, 2006 Commission meeting. The two applications are related in that the applications: (1) are for development that would be performed as one project by the same contractor; and (2) would share the same disposal site and disposal pipeline. Two separate applications were submitted because the areas to be dredged are administered by the two different public entities pursuant to two separate legislative grants of tidelands.

5. Commission Action Necessary

The Commission must act on the application at the February 9, 2006 meeting to meet the requirements of the Permit Streamlining Act unless the applicant grants an extension of time for Commission action.

I. MOTION, STAFF RECOMMENDATION AND RESOLUTION:

The staff recommends that the Commission adopt the following resolution:

Motion:

I move that the Commission approve Coastal Development Permit No. 1-05-039 pursuant to the staff recommendation.

Staff Recommendation of Approval:

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution to Approve the Permit:

The Commission hereby approves a coastal development permit for the proposed development 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: See Attachment A.

III. SPECIAL CONDITIONS:

1. Monitoring Report

A. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-05-039**, the applicant shall submit for the review and approval of the Executive Director a surf zone disposal monitoring plan that provides for monitoring over a five year period of: (1) the pattern and rate of dispersal of material deposited at the site; (2) sediment characteristics at the disposal site and at the control site; (3) the species composition and abundance of intertidal invertebrates in areas directly affected by the disposal of dredge spoils and at a control site near the disposal area over a three year period; and (4) the effects of the surf zone disposal on fisheries. Specific dispersal monitoring provisions shall include: (a) pre- and post-disposal aerial photographs; (b) hygrographic surveys, scanning sonar, fathometer soundings, or other similar bathymetric measurements; (c) turbidity or opacity measurements; and (d) sediment core samples of the immediate area of the dredge materials disposal site and extending offshore to a closure depth of -40 feet msl and three times the distance to the depth of closure laterally north and south of the disposal site along the adjoining ocean shoreline, taken at appropriate intervals to adequately monitor the movement and dispersal of discharged materials, and to characterize the composition of nearshore ocean sediments and epibenthic marine habitat. The plan shall provide for submittal of reports providing the required monitoring information before, during, and within four months after conclusion of the disposal operation, and yearly reports thereafter to be submitted by July 1 of each year.

B. In the event that the monitoring program reveals that the turbidity generated by the discharge exceeds 20% of the background levels of the receiving waters or persistent shoaling or beach deposition of dredged materials in concentrations that could cause significant adverse impacts to marine biological resources, coastal recreational activities, or navigation, the permittee shall prepare and submit, for the review and approval of the Executive Director, within 60 days of submittal of

the final monitoring report, a dredged materials remediation plan identifying corrective actions to be undertaken to restore the affected areas to their pre-disposal conditions. The plan shall identify appropriate remedial actions to be taken, including mechanical and hydraulic removal, *ex-situ* treatment, capping, *in-situ* remediation, or natural attenuation and continued monitoring efforts, if the disposed dredged materials fail to disperse, persist on the receiver beach and intertidal areas, or cause significant adverse impacts to marine organisms within the study area at the end of the initial five-year period. Specific actions shall also be identified to reduce the turbidity generated by the discharge of the dredged materials to less than 20% or less of the background levels of the receiving waters. The plan shall be processed as an amendment to the coastal development permit unless the Executive Director determines that no amendment is required.

C. The permittee shall undertake the dredging spoils transmission and nearshore disposal activities in accordance with the approved final plan. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

2. <u>Dredge Spoils Slurry /Hazardous Materials Spill Contingency Plan</u>

A. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-05-039**, the applicant shall submit for Executive Director approval a project-specific dredge spoils slurry monitoring and spill contingency plan that includes: (1) an estimate of a reasonable worst case release of dredge spoils, and pumping-related fuels and lubricants into coastal waters or wetlands that could result from project operations; (2) a clear protocol for monitoring and minimizing the risks of the transmission of dredge spoils through environmentally sensitive areas during maintenance dredging operations, including criteria for identifying an unanticipated slurry release and proposed transmission pipeline sealants or other repair materials; (3) a response and clean-up plan in the event of a spill or accidental discharge of dredge spoils and/or pump fuels and lubricants; (4) a list of all clean-up equipment that will be maintained on-site; (5) the designation of the onsite person who will have responsibility for implementing the plan; (6) a telephone contact list of all regulatory and public trustee agencies having authority over the development and/or the project site and its resources to be notified in the event of a spill or material release; and (7) a list of all conduit and pumping materials, fluids, additives, and sealants that will be used or might be used in the transmission and pumping of the dredge spoils, together with Material Safety Data Sheets for each of these materials.

B. The permittee shall undertake the dredge spoils disposal activities in accordance with the approved final plan. Any proposed changes to the approved final plans

shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

C. In the event that a spill or accidental discharge of dredge spoils or other fuel or lubricant fluids occurs during spoils disposal operations, all maintenance dredging and disposal activities shall cease and shall not recommence except as provided in subsection (D) hereof:

D. Following discovery of the spill or accidental discharge of dredge spoils or other fuel or lubricant fluids, the permittee shall submit to the Executive Director a revised project and restoration plan prepared by qualified professional(s) that provides for: (1) necessary revisions to the proposed project to avoid further spill or accidental discharge of spoils and/or fluids; and (2) restoration of the area(s) affected by the spill or accidental discharge to pre-project conditions. The revised project and restoration plan shall be consistent with any applicable requirements of the State and/or Regional Water Resources Control Board(s). The revised project and restoration plan shall be processed as an amendment to the coastal development permit. Maintenance dredging and disposal may not recommence until after an amendment to this permit is approved by the Commission.

3. Conformance with USACE Requirements

PRIOR TO COMMENCEMENT OF EACH SEASON'S OPERATIONS AUTHORIZED UNDER THIS PERMIT, the permittee shall submit to the Executive Director for review, a copy of the Letter of Modification to U.S. Army Corps of Engineers (USACE) Permit No. 22215N, or evidence that no other USACE permit or authorization is necessary for aquatic nearshore disposal of dredge spoils from the Woodley Island Marina for each season's operation. The applicant shall inform the Executive Director of any changes to the project required by the U.S. Army Corps of Engineers or the U.S. Environmental Protection Agency. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is required.

4. Final Biological Opinion

A. The permittees shall conduct the authorized maintenance dredging program consistent with the non-discretionary Terms and Conditions as set forth in the "Reasonable and Prudent Measures" section of the Section 7 Consultation and Final Biological Opinion, File No. 151422SWR2004AR9177, issued by the Southwest Region, National Marine Fisheries Service (NMFS) for the project on December 6, 2005. Specifically, the permittees shall conduct the maintenance

dredging pursuant to the following performance standards and reporting requirements:

(1) The cutter head suction dredge shall be no more than three (3) feet from the substrate during purging of the pipeline.
(2) The cutter head suction dredge shall not pump water during its descent prior to the beginning of dredging, or during ascent while moving between adjacent locations, especially within Woodley Island Marina.
(3) The plume of suspended sediment content within bay waters associated with dredging operations shall not exceed 200 mg/l beyond an area 1,000 feet abeam and 1,500 feet astern of the suction barge platform.
(4) A monitoring report shall be provided, with the date, time, dredge site, and location, and results, within 60 days following the completion of the project, to the Arcata Area Office Supervisor, National Marine Fisheries Service.
(5) Equipment and material necessary to repair a leak or contain a pipeline break shall be readily accessible, either aboard the dredge itself or at a nearby staging area.
(6) In the event of a pipeline leak, break, or spill, NMFS shall be notified by phone within 24 hours. A final summary report of any events shall be provided to NMFS within 60 month of project completion to the above contact. The report shall include the time and location of the leaks(s) or break(s), and estimated amount of sediment discharged from the pipeline.

B. **PRIOR TO COMMENCEMENT OF OPERATIONS AUTHORIZED UNDER THIS PERMIT FOR THE PERIOD OF NOVEMBER 1, 2006 THROUGH MARCH 31, 2007**, the applicant shall submit a copy of an extension to the Section 7 Consultation and Biological Opinion or a new biological opinion covering maintenance dredging during the November 2006 through March 2007 project timeframe.

C. Should the NMFS subsequently revise any of the terms and conditions of its biological opinion through term extensions or issuance of superseding opinions, the permittees shall inform the Executive Director of any changes to the project required by the U.S. Army Corps of Engineers as set forth in the revised biological opinion. Such changes shall not be incorporated into the project until the permittees obtain a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

5. <u>Conformance with California Department of Fish and Game</u>

PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-05-039, the applicant shall submit, for the review and approval of the Executive Director, a copy

of the consistency determination as may be prepared by the California Department of Fish and Game (CDFG) pursuant to Fish and Game Code 2080.1, in response to any incidental take permit for coho salmon (Oncorhynchus kisutch) issued by the National Marine Fisheries Service (NMFS) for the project. Alternately, the applicant shall submit, for the review and approval of the Executive Director, a copy of any Incidental Take Permit as may be issued by the CDFG pursuant to Fish and Game Code 2081 in-lieu of a consistency determination. The permittees shall inform the Executive Director of any changes to the project required by any Fish and Game Code Section 2081(b) Take Permit issued by the CDFG. Such changes shall not be incorporated into the project until the permittees obtain a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

6. Shoreline Protective Works Repair Responsibilities

Care shall be taken to avoid trampling, uprooting, or otherwise impacting areas of eelgrass (Zostera marina) during the extrication from the dredging areas and repositioning of dislodged rock slope protection materials back onto the marina shoreline revetment structures. Training as to the location and identification of eelgrass beds in the vicinity of the shoreline protective repair work shall be provided to the revetment repair contractors.

7. Spoils Disposal Outfall Placement

The spoils slurry pipeline outfall at the authorized nearshore disposal site shall be sited and maintained in a location within the intertidal reach such that all discharges from the pipeline are released directly into coastal waters. No discharge of dredged materials onto exposed beach areas adjacent to the surf zone disposal site is permitted.

8. Coho Salmon Incidental Take Mitigation

The applicant shall implement their proposal to partially fund the Rocky Gulch Salmonid Access and Habitat Restoration Project as proposed in their letter to Clyde David, U.S. Army Corps of Engineers dated January 11, 2006, attached to this staff report as pages 11 through 37 of Exhibit No. 4. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-05-0391**, the applicant shall provide the Executive Director with evidence from the California Department of Fish and Game that the proposed $15,000 in-lieu mitigation funding has been received and/or adequately secured to ensure its allocation to the subject restoration project.

IV. FINDINGS AND DECLARATIONS:

The Commission hereby finds and declares:

A. Project and Site Description.

The Humboldt Bar Harbor, Recreation, and Conservation District (HBHRCD) was created in 1970 by the California Legislature to serve the natural resource, recreational, shipping, and economic development management needs of Humboldt Bay and the smaller fishing ports to the north and south (i.e., Trinidad, Shelter Cove). The District functions as the Port Authority for the Port of Humboldt Bay and operates Humboldt County's largest marina, Woodley Island Marina.

The applicant proposes to maintenance dredge a total of approximately 120,000 cubic yards of material from the Woodley Island Marina boat basin in Humboldt Bay (see Exhibit Nos. 1-3). The dredging would be performed as a slurry via a pipeline to a beach disposal site on the ocean side of the Samoa Peninsula, the landmass that forms the western boundary of Humboldt Bay. The dredging would be performed at the same time as a maintenance dredging project along the Eureka waterfront by the City of Eureka (being considered concurrently under Coastal Development Permit Application No. 1-05-040). The two projects would be performed by the same contractor and would share the same disposal pipeline and disposal site.

1. Proposed Dredging Site

The proposed 120,000 cubic yards dredging would restore the marina to its original design depth of –14.0 Mean Lower Low Water (MLLW) and –10.0 MLLW. The 335-berth marina was constructed in 1978, and is used by both commercial fishermen and recreational boaters. The dredging would be performed within the berthing areas and fairways of the marina over a total area of approximately 16.15 acres. The maximum cut (depth of material) is approximately six feet. The marina would continue to operate during the dredging work to ensure commercial and recreational access to coastal waters.

2. Proposed Method of Dredging and Spoils Disposal

The proposed cutter head suction pipeline dredging method involves use of a hollow suction pipe which extends to the bay floor. The pipe contains a rotating cutter head, which can be swept back and forth across the work area and can be extended into confined areas such as boat slips and under dock faces, etc. As material is loosened by the cutter, it is drawn up the suction pipe to the surface where the suction pipe is joined to a closed flexible pipeline for pumping to the disposal site. The material drawn up by the suction dredge consists of approximately 20% sediment and 80% bay water.

The dredge is a pontoon-mounted crane that lowers a dredge boom, containing a cutter head coupled with a suction pipe, to the bottom. As the cutter head rotates and loosens the bottom material, the material is drawn directly up the suction pipe to the surface and the slurry of sediment and water is then pumped through a

floating semi-flexible disposal pipeline, assisted by land based booster pumps for pipeline transfer to the designated disposal area in the surf zone of the Samoa Peninsula.

The slurry pipeline would consist of a 12-inch-diameter fused flexible plastic line. The suction pipe, with a pumping rate of 15-20 feet-per-second, would remove approximately 200 cubic yards of solid material per hour depending on site conditions and dredging operators, and dispose of the material at a similar rate. Unless maintenance or repair is necessary, the dredge is expected to operate 24-hours a day, six to seven days per week. The pipeline is inspected regularly and maintained to insure integrity and prevent leaks or breaks. The dredge and the shore-based booster pumps rely on diesel engines and generate the noise and exhaust roughly equivalent to that of a semi-tractor truck when operational. In order to purge the pipeline of any accumulated sediment, the cutter head would be lifted off the bottom twice a day, and water from the water column would be drawn into the cutter head for approximately twenty minutes.

The pipeline is floated across open water areas and weighted and submerged where crossing navigable waters. Placement of the pipeline in the water would be from a slow moving barge, and the pipeline would be routed through an existing carrier pipes and overland to the approximately 20 acre beach disposal site. The total length of the pipeline is 21,400 feet (4.5 miles), with approximately 6,000 feet overland, and the remaining 15,400 feet in Humboldt Bay.

The line would extend on floats from the dredging location to the State Route 255 (SR 255) right-of-way; SR 255 is the highway that crosses Humboldt Bay between Woodley Island and the Samoa Peninsula in a series of bridges. The pipeline would be placed along the shoulder of the right-of-way where the highway crosses Woodley and Indian Island at ground level, and placed in the water in the shadows of the bridges where the highway crosses water. In tidal locations, the pipeline would be floated into position at high tide to avoid unnecessary disturbance to the mudflats. Where the line would cross navigable waters, weight would be attached to submerge the line and permit the normal passage of vessels. Buoys and lights would be installed to prevent navigational hazards. A *Notice to Mariners* would also be filed with the U.S. Coast Guard for the duration of the project, advising marine travelers of the location of the pipeline and dredging activities. Once the pipeline reaches the Samoa Peninsula, the line would cross under the Northwestern Pacific Railroad and New Navy Base Road through existing carrier pipes and then continues across the dunes of the North Spit via off-road vehicle trails to the surf zone disposal site. The slurry material is pumped through the pipeline to the disposal site under pressure from several in-line booster pumps.

Once the dredge and crew arrive in Humboldt Bay, mobilization of the spoils line, booster pumps and dredge is expected to take 10 to 15 days. Dredging would commence once the pipeline had been installed, on or about March 1, 2006 and would continue until March 31, 2006. The applicant has amended the project description to request that after the seasonal closure for coho salmon migrations beginning on April 1, 2006, maintenance dredging operations be allowed to resumed on November 1, 2006 through March 2007 for completing any remaining dredging not conducted during the compressed spring 2006 timeframe.

3. Proposed Disposal Site

The location of the surf zone disposal site is shown on Exhibit No. 4. The pipeline would discharge the dredged material directly into the surf zone. The disposal site would be posted at several locations and barricades and lighting would be provided and maintained through the project to further inform users of the Peninsula of the temporary project activities occurring there. The sediment to be dredged consists of typically fine-grained material composed of approximately 15% sand, 45% silt, and 40% clays. By comparison, the composition of the beach adjoining the disposal area is approximately 95% sand content. The applicant anticipates that most of the sub-sand material will disperse as suspended sediment along the large Eel River basin shelf area offshore. According to the applicant, this shelf area also absorbs an estimated average annual sediment load of approximately 24,698,370 cubic yards discharged by the Eel and Mad River systems. The Eel River represents one of the largest suspended sediment sources in the world. The proposed dredging and dispersal would occur during the winter months, between November and mid-March, when ocean turbidity from the river discharges is at a natural seasonal maximum, to minimize the sedimentation impact on the ocean. The applicant expects that most of the material discharged to the surf zone disposal site would be dispersed offshore as part of cyclical process of erosion of the winter beach. Some of the material that erodes away would likely be deposited again at the site as part of the natural spring beach build up, but the applicant indicates that all of the material should leave the site within two years.

The Samoa Peninsula surf disposal site has been used thrice previously for dredge material disposal. In 1977, the Corps of Engineers disposed of approximately 1.8 million cubic yards of material from the North Bay Channel Deepening project at this location. In 1988, the site was also used for the disposal of 131,000 cubic yards of material from a maintenance dredging project at the Wood1ey Island Marina. The Coastal Commission approved the maintenance dredging and surf zone disposal under Coastal Development Permit No. 1-87-172. Subsequently in 1998, pursuant to Coastal Development Permit Nos. 1-96-060 and 1-96-061, 226,238 cubic yards of dredged spoils from the City waterfront and the Wood1ey Island Marina were disposed at the Samoa Peninsula surf disposal site.

The proposed maintenance dredging project is only one of several dredging projects performed or proposed for Humboldt Bay. The proposed maintenance dredging project is separate from the annual Humboldt Bay maintenance dredging project performed by the U.S. Army Corps of Engineers. The proposed maintenance dredging project is also separate from the annual Humboldt Bay Channel maintenance dredging projects also performed by the Corps. Between 1982 and 2004, the Bay Channel maintenance project removed approximately 802,000 cubic yards per year. The material from the Corps dredging projects has been and will continue to be disposed of at the "Humboldt Open Ocean Disposal Site (HOODS).

4. Shoreline Protective Structural Repairs

Concurrently with the dredging of the berthing areas, repairs will also be made to the revetment armoring that lines the marina shoreline. As a result of high tides and storm surge, some of the 500-lb quarry stone riprap along an approximately 100-foot-long run of the rock slope revetment have become dislodged and fallen into the adjacent berthing areas to be dredged. During the course of the suction dredging the stones will be unearthed and a land-based excavator or other mechanized heavy equipment capable of lifting a ¼-ton rock at a boom length will extricate the rocks from the silted in area and replace them back into the rock slope works.

5. Coho Salmon Incidental Take Mitigation

As mitigation for the thirty individual juvenile coho salmon that are anticipated to be lost by entrainment into the cutter-suction dredging intake during sediment excavation operations, the applicant has proposed in-lieu mitigation funding of the Rocky Gulch Salmonid Access and Habitat Restoration Project being undertaken on Rocky Gulch, a small, first-order watercourse draining into Arcata Bay. This project entails a variety of in-stream restoration activities for improving access into and habitat conditions within this coastal watershed. Specific work to be performed includes replacing tide gates to allow for unimpeded fish passage, increasing tidal marsh areas for juvenile salmonid rearing habitat, widening the channel and overflow floodplain to better contain winter floods and protect adjoining grazing uses, revegetated creek reaches with native vegetation, and replace culverts that currently bar fish access upstream to spawning areas (see Coastal Development Permit No. 1-05-009). Based upon consultation with and concurrence of the California Department of Fish and Game, the applicant would provide partial funding for the Rocky Creek project in the amount of $15,000 to be used by the CDFG at its sole discretion for performing the associated stream restoration work.

The entire project except for a portion of the pipeline would be located within the Commission's retained jurisdictional area. The segment of pipeline that extends over the Samoa Peninsula from the bay to the mean high tide line of the surf zone disposal site is located within the coast permit jurisdiction of Humboldt County. The County approved a coastal development permit (CDP-04-37) and a coastal use permit (CUP-04-13) on January 20, 2005. The County permits required avoidance and mitigation of potential disturbance to sensitive rare plants, including the Menzies wallflower (Erysimum menziesii) and beach layia (Layia carnosa). The coastal development permit was not appealed to the Commission.

B. Need for Dredging and Dredge Spoils Disposal.

The proposed dredging and related nearshore disposal of dredged materials would support the continued use of berthing areas within Humboldt Bay for recreational boaters and commercial fishermen. The Coastal Act contains strong policy language supporting marina uses, including those which require dredging. Section 30220 provides that:

> *Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.*

Section 30224 provides that:

> *Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, by developing dry storage areas, increasing public launching facilities, providing additional berthing space in existing harbors, limiting non-water-dependent land uses that congest access corridors and preclude boating support facilities, 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.*

Section 30234 provides, in part that:

> *Facilities serving the commercial fishing and recreational boating industries shall be protected and. where feasible, upgraded…*

Section 30255 provides that:

> *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.*

In December 2005, the Woodley Island Marina served as homeport to 260 vessels, of these 102 were classified as commercial fishing vessels and 152 as recreational boats. In addition, the 87-foot U.S. Coast Guard Coastal Patrol Boat *Barracuda* (WPB-87301), the only port security and search and rescue vessel of this size between Crescent City and Bodega Bay, 44-foot Humboldt County Sheriff Marine Patrol Vessel, and the 64-foot ocean-going tug *M/V Koos King* (WRC7731), the sole pilot boat on Humboldt Bay equipped for transporting bar pilots and guiding large commercial ships and hazardous cargoes across the notoriously treacherous Humboldt Bay entrance bar, are also stationed at Woodley Island. Based upon 2004 economic data, 19,300,000 pounds of fish were landed at District and City docks and quays, representing some$12,900,000 in market valuation.

Currently, many of the "slips" within the marina have aggraded with sediment to the point where docked vessels lay on exposed bay muds during normal low tide periods. Based on present conditions at the marina and berthing areas, any further delays in maintenance dredging can result in a number of impacts, either directly to these vessels, to the city and District harbor facilities, or regionally to the Port of Humboldt Bay. These impacts can be categorized as follows:

- Physical damage to vessels and injury to crew members.
- Delays in fishing operations – loss of competitiveness with other port fleets.
- Loss of income due to delays in shipping and landing catches.
- Physical damage to public marina facilities.
- Loss of income to local governments that supply marina services.
- Environmental damage due to damage to marina facilities and/or vessels.
- Loss of life and property due to damaged vessels or delays in transiting the bay's entrance.
- Loss or diminished capability of local law enforcement, port security and search and rescue and environmental response.
- Loss or diminished commercial maritime shipping.

The proposed maintenance dredging and nearshore dredged material disposal project would support the continued use of the Woodley Island Marina for these priority uses. Without the dredging and the disposal of the dredged materials, the berthing areas and slips of the marina would continue to fill with sediment and would no longer be usable for mooring vessels. Adequate mooring facilities that do not similarly need maintenance dredging and the disposal of the dredged materials are not available elsewhere within Humboldt Bay.

Based upon the important functions the harbor docking and berthing facilities provide for commercial fishing and shipping, recreational boating, and essential public services, the Commission has determined that a need exists for dredging of the project areas. Therefore, the Commission finds that the proposed dredging and the disposal of the

dredged materials would support recreational boating and commercial fishing, consistent with Sections 30220, 30224, 30234, and 30255 of the Coastal Act.

C. Protection of Marine and Estuarine Resources.

A number of Coastal Act policies address the protection of marine resources from the impacts of dredging and dredge spoils fill projects. These policies include, among others, Section 30231 and 30233.

Section 30231 of the Coastal Act provides as follows, in applicable part:

> *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...*

Section 30233(a) provides as follows, in applicable part:

> *(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:*
>
> *(1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
>
> *(2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
>
> *(3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.*

(4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

(5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

(6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

(7) Restoration purposes.

(8) Nature study, aquaculture, or similar resource dependent activities.

(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 long shore current systems.

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. [Emphases added.]

The above policies set forth a number of different limitations on what development may be allowed in wetlands and other water bodies within the coastal zone. For analysis purposes, the limitations can be grouped into five general categories or tests. These tests are:

- That the purpose of the fill is for one of eight uses allowed under Section 30233;
- That feasible mitigation measures have been provided to minimize adverse environmental effects;
- That the project has no feasible less environmentally damaging alternative;
- That the biological productivity and functional capacity of the habitat shall be maintained and enhanced where feasible; and
- That dredge spoils suitable for beach replenishment be transported to appropriate beaches or into suitable long shore current systems.

1. Permissible Use for Dredge Spoils Disposal in Coastal Waters.

The first test set forth by the Coastal Act policies that address the protection of marine and estuarine resources is that any proposed dredging or fill project must be for an allowable purpose under Section 30233 of the Coastal Act. The proposed project involves maintenance dredging.

Section 30233(2) allows dredging for maintaining existing, or restoring previously dredged depths in existing vessel berthing and mooring areas, and launching ramps. The proposed dredging is limited to areas that have been previously dredged to the same elevation for vessel berthing and mooring. Therefore, the Commission finds that the proposed dredging, and its associated pipeline installation and beach disposal, are consistent with the use limitations of Section 30233, as the dredging is for the maintenance of existing vessel berthing and mooring areas.

2. Feasible Mitigation Measures

The second test set forth by Section 30231 and 30233 of the Coastal Act is that feasible mitigation measures have been provided to minimize adverse environmental effects. The Commission must examine the potential impacts of the project on marine and estuarine resources for the non-exempt portions of the project within its jurisdictional area (i.e., excluding the project portions within the County of Humboldt's permitting jurisdiction.) The project could have ten potential adverse effects on such resources, including: (1) the removal of habitat at the dredging sites; (2) the entrainment of juvenile salmonids into the suction dredge pipeline during line flushing maintenance; (3) increasing turbidity levels at the dredge site; (4) increasing turbidity levels during installation and removal of the dredge spoils pipeline; (5) the covering of estuarine intertidal habitat along the route of the dredge spoils pipeline within Humboldt Bay; (6) accidental releases of the dredge spoils slurry and/or pumping-related fuels or lubricants; (7) disturbing marine intertidal habitat at the dredged material disposal site; (8) degrading water quality at the nearshore dredged materials disposal site; (9) impacts to terrestrial environmental habitat; and (10) release of hydrogen sulfide. None of these impacts, however, have been determined to be significant.

(1) Removal of Habitat at Dredging Sites.

The site of the proposed dredging within the Woodley Island Marina basin provides soft bottom habitat that may be habitat for a variety of benthic organisms. In addition, sparse clumps of eelgrass have materialized sporadically along the slope of the marina since the previous dredging was performed in 1998. The proposed dredging would remove much of this soft bottom habitat area. However, the impact is not judged to be significant for several reasons. Firstly, when the marina was created in 1978, the eelgrass and soft bottom habitat that was removed by excavating the marina basin was reestablished elsewhere in Humboldt Bay as a mitigation measure. At the time, it was recognized that

the marina would require periodic maintenance dredging and the mitigation was required to ensure that creation of the marina and its subsequent maintenance dredging would not result in a net loss of habitat. Secondly, as occurred after the 1988 and 1998 maintenance dredging projects, the site can be expected to be re-colonized by the flora and fauna that would be temporarily displaced by the project. These organisms grow in sufficient abundance in areas adjacent to the marina that a ready source of colonizers exists to replace the organisms that are lost.

(2) Entrainment of Juvenile Salmonids

The U.S. Army Corps of Engineers initiated a formal Section 7 consultation pursuant to the federal Endangered Species Act (FESA) of 1973, as amended (16 USC. 1531 et seq.) with the National Marine Fisheries Service (NMFS) regarding potential impacts from the proposed cooperative maintenance dredging project. Humboldt Bay is a component of the designated critical habitat for the Southern Oregon/Northern California Coastal (SONCC) evolutionary significant unit of coho salmon (Oncorhynchus kisutch) and is suitable migration habitat for the SONCC coho, Northern California (NC) steelhead (Oncorhynchus mykiss), and California Coastal (CC) Chinook salmon (Oncorhynchus tshawytscha). The site may also be suitable rearing habitat for Chinook salmon.

A biological opinion was subsequently prepared and issued by NMFS on December 6, 2005. Because the maintenance dredging would be conducted within a timeframe concurrent with the out-migration of coho salmon (Oncorhynchus kisutch) of the Southern Oregon/Northern California Coast (SONCC) Evolutionarily Significant Unit (ESU), the staff of NMFS have indicated to the Commission staff that the agency expects approximately 30 individual SONCC coho salmon smolts to be exposed to risks of potential entrainment by the dredge. In addition, larval stage Pacific herring (Clupea pallasi) and Dungeness crab (Cancer magister) are expected to be entrained as well. Exposure of these individuals would be limited to late February and March, and limited primarily to within and in the vicinity of Woodley Island.

To minimize the risks of entrainment of these species, NMFS staff recommend that the periodic flushing of the pipeline: (1) be undertaken at a depth of three feet from the bay bottom; and (2) water intake from the middle or surface of the water column be prohibited. NMFS staff have stated that these dredge operational measures would reduce the potential risks of entrainment of these environmentally sensitive species to a less than significant level.

As discussed in Project Description Finings Section IV.A, to mitigate for the anticipated loss of approximately 30 individual juvenile SONCC coho salmon, the applicant has included as part of its amended project description (see Exhibit No. 4) a mitigation proposal to provide funding in the amount of $15,000 for the Rocky Gulch Salmonid Access and Habitat Restoration Project.

To assure that the potential entrainment of juvenile salmonids and other estuarine species is minimized and that the proposed mitigation for the loss of 30 coho salmon is provided,

the Commission attaches Special Condition Nos. 4 and 8. Special Condition No. 4 sets forth as project performance standards the above-listed criteria for flushing the dredge spoils slurry pipeline recommended by NMFS for minimizing entrainment of estuarine organisms. Special Condition No. 8 requires the applicant to implement the coho salmon mitigation proposal as proposed.

(3) Temporary Increase of Turbidity at Dredge Sites.

As the proposed dredging would disturb sediments at the dredging locations, a temporary change in turbidity in the immediate areas of the dredging is expected. Increased turbidity can have deleterious effects on the estuarine habitat, burying eelgrass and other vegetation and disturbing the spawning, feeding, and other activities of fish and other fauna. However, the proposed project would minimize turbidity impacts and reduce them to a level of insignificance through: (1) the use of a suction dredge which creates much less turbidity than other forms of dredging; (2) the use of a pipeline to transport the dredge material to the disposal site as opposed to other forms of transferring the material, such as the use of a hopper barge; and (3) timing the project to occur in the winter months when natural turbidity is high due to increased local river flows.

(4) Temporary Increase of Turbidity During Installation and Removal of the Dredge Spoils Pipeline.

The proposed installation and removal of the dredge spoils transmission pipeline could disturb sediments within the mudflat areas along the pipeline's route. Increased turbidity can have deleterious effects on the estuarine habitat, burying eelgrass and other vegetation and disturbing the spawning, feeding, and other activities of fish and other fauna within the water column and along the bay bottom. However, as discussed in the biological opinion issued by NMFS, the proposed project would minimize turbidity impacts and reduce them to a level of insignificance through: (a) avoiding mudflats to the greatest extent practicable during installation of the dredge disposal line; (b) installing and removing the pipeline during high tide when these sensitive areas are inundated to assure that no vessel propellers, anchors or dredging equipment are dragged over the mudflats.

(5) Covering of Habitat Along the Dredge Spoils Pipeline within Humboldt Bay.

The routes of the proposed dredge spoils pipeline through Humboldt Bay provide soft bottom habitat that may be habitat for a variety of benthic organisms. In addition, sparse clumps of eelgrass have materialized sporadically in various berthing areas since the previous dredging was performed. The placement of the pipeline may temporarily disturb some of this soft bottom habitat area. However, the impact is not judged to be significant. The loss of the sparse patches currently existing along the pipeline routes would not result in a significant loss of biological productivity. In addition, the pipeline routes can be expected to be re-colonized by the flora and fauna that would be temporarily displaced

by the project. These organisms grow in sufficient abundance in areas adjacent to the pipeline routes that a ready source of colonizers exists to replace the organisms that are lost.

(6) Accidental Release of Dredge Spoils Slurry or Hazardous Materials.

The project entails the transmission of a dredge spoils slurry through a 12-inch diameter flexible pipeline over a distance of 21,400 feet (4.5 miles), with approximately 6,000 feet of the pipeline crossing overland, and the remaining 15,400 feet traversing the waters of Humboldt Bay. If a rupture should occur in the slurry transmission pipeline, an uncontrolled release of highly turbid water and sediment into environmentally sensitive habitat area within the bay, estuarine or marine wetlands, or upland areas could result with potentially deleterious effects to the plant and animals that utilize these areas as habitat.

Additionally, re-fueling or lubricating motorized equipment (i.e., the in-line booster pumps) during the course of maintenance dredging activities is anticipated. An accidental spill of pump fuel or lubricants could adversely affect the environmentally sensitive resources within the project area and the water quality of the adjoining estuarine and marine environments. Special Condition No. 2 requires the applicant to undertake the proposed development consistent with an approved Dredge Spoils Slurry / Hazardous Materials Spill Contingency Plan. This plan is to include pipeline monitoring and leak response provisions and water quality best management practices for the prevention of hazardous material spills and provisions for prompt containment and clean-up of any spills which may inadvertently occur. As conditioned, potential adverse impacts from accidental dredge spoils slurry or fuel or oil spills to land and marine resources will be reduced to less-than-significant levels.

(7) Disturbance of Habitat at the Nearshore Disposal Site.

The surf zone disposal site is inhabited primarily by intertidal invertebrate fauna, including motile, burrowing crustaceans and polycheate worms. As noted previously, the site was used for the similar disposal of approximately 226,238 cubic yards of dredged material in 1998. A monitoring study was conducted prior to, during, and just after this last episode of dredged material disposal. The monitoring report stated that prior to the last use of the area for dredged material disposal, in overall species richness, Samoa Beach was intermediate between local semi-protected sandy beaches and sandy beaches exposed to extreme wave conditions. In both pre- and post-discharge periods, the beach fauna was dominated in species composition and numerically by the burrowing isopod Excirolana linguifrons and the burrowing marine worm Euzonus williamsi. The abundance of E. linguifrons and E. williamsi appears to have been much less in 1988 than was collected in 1998. The abundance of other sand beach animals was comparable in 1988 and 1998. By the August sampling period in 1998, the level of faunal similarity approximated that found in the pre-discharge sampling. The reappearance of mole crabs

(Emerita analoga) in August samples at all three transects and its abundance at the discharge transect indicates that little residual biological effect of dredge spoils could be detected at the discharge point. The material to be discharged from the proposed project would temporarily bury this habitat, until wave and tidal action disperses the material to the offshore shelf. Impacts to the habitat are expected to be similar to the impacts that occurred in 1998. According to the 1998 monitoring study, the habitat area recovered rapidly:

> Based on the present study, negative effects of temporary discharge of dredge spoils on intertidal fauna of Samoa Beach were localized and transitory, primarily affecting the abundance of characteristic beach species in the immediate vicinity of the disposal outfall. Within 1 month following the end of disposal operations, most species characteristic of this beach were present at the outfall site, although at reduced densities. Approximately 4 months following termination of beach disposal, populations at the Disposal Site had recovered to levels comparable to those at the Control Site.

Thus, based on the result of the 1998 monitoring report, the impacts of the proposed discharge of dredged material on the surf zone habitat can be expected to be temporary and insignificant.

(8) Water Quality at the Nearshore Disposal Site.

Physical Suitability of Dredged Materials for Nearshore Disposal

Several members of the public have opined that as the sand content of the dredged materials proposed for nearshore ocean disposal are far less than 80%, the materials would not be suitable for nearshore disposal from the standpoint of the protection of water quality (see Exhibit No. 12). In addition, staff from the California Department of Fish and Game (CDFG) and the U.S. Environmental Protection Agency have expressed reservations as to the appropriateness of disposing of the subject dredged materials in the nearshore environment given the high fines content of the dredge spoils as compared to the composition of sediments in proximity to the discharge area. However, the Commission notes that neither the U.S. Army Corps of Engineers (USACE or "Corps") or the U.S. Environmental Protection Agency (USEPA) have established a firm prohibition on the nearshore disposal of dredged sediments containing less than 80% sand. To the contrary, as discussed in the Coastal Sediment Management Workgroup's 2003 work plan:

> It appears that there is a widespread misperception, within both regulatory agencies and the regulated community, that an 80/20 coarse-to-fines 'rule-of-thumb' ratio is an inviolate rule prohibiting the use of dredged material containing more than 20% fines…

> The U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (EPA) share regulatory responsibility for all discharges of dredged material in waters of the United States under Section 404 of the Clean Water Act (CWA)… Officials with both agencies agree that the 80/20 ratio is a 'rule of thumb' only and that there is no statutory authority for its enforcement nor any known definitive studies or research from which a 20% cut-off was selected. Instead, it represents a national consensus value based on experience that such sediments are unlikely to be contaminated to an extent that would cause environmental damage…
>
> Both agencies also recognize that there is significant flexibility in allowing material with higher percentages of fines provided it meets the requirements of the 404(b)(1) guidelines that dredged material be demonstrated to be compatible with the receiving beach… The 404(b)(1) guidelines allow for site-specific determinations regarding compatibility of dredged-sediment grain sizes with receiving beaches. Dredge or fill discharges must satisfy the requirements of Sec 230.10 of the guidelines which, among other things, mandate that 1) the discharge site must be the least environmentally damaging alternative, 2) discharge will not result in significant degradation of ecosystems based on factual determinations, and 3) that all practicable means must be employed to minimize for adverse environmental impacts.

Thus, provided that the sediments are shown to not have contaminants in concentrations that would result in significant human health risks or ecological degradation, that no other environmentally less damaging alternative disposal site exists, and that all practicable mitigation measures have been employed, unconfined aquatic disposal of dredged materials containing greater than a 20% fines content into the nearshore environment, even for purposes of incidental beach nourishment may be authorized. Both the CDFG and USEPA have stated that, notwithstanding their concerns over the high fines content of the bay sediments, these agencies will not formally object to the proposed nearshore disposal of the dredged materials being undertaken under the USACE's existing FCWA Section 404 permit. However, both agencies have also stated that the applicant must investigate other disposal options, including but not limited to offshore disposal at the HOODS facility or landfill disposal, for any future maintenance dredging to be conducted under subsequent Corps authorizations after the current CWA §404 permit expires in March 2008.

Contaminant-related Potential Impacts

Many of the sediments in coastal waters, particularly those deposited in areas where extensive industrial processes are occurring or have been undertaken in the past, are contaminated by chemical pollutants. Some of these pollutants, such as the pesticide

dichlorodiphenyltrichloroethane (DDT) and the industrial chemicals known as polychlorinated biphenyls (PCBs), were released into the environment long ago. The use of DDT and PCBs in the United States was banned in the 1970s, but these compounds linger in the environment for many years. As is typical of dredging projects throughout the California coast, the sediments and associated contaminants within Humboldt Bay originate upstream and the contamination was not directly caused by current or past practices of the applicant-agency responsible for maintaining navigable channel or harbor depths.

Dioxin is the popular name for the family of chlorinated organic compounds comprised of Polychlorinated Dibenzo Dioxins (PCDD) and Polychlorinated Dibenzo Furans (PCDF). Dioxin/furans (PCDD/PCDF) form from the incomplete combustion of organic compounds, contain chlorine, and are introduced into the land and water environments through a variety of means, including chemical spills, process water effluent discharges and stack air emissions. Eighty percent of on-going dioxin/furans production is associated with trash barrel buring, land application of sewage sludge, coal-fired utilities, residential wood burning, metal smelting, and diesel truck emissions. Given these common origins and induction pathways, dioxin/furans have been detected globally in variable concentrations. Levels of PCDD/PCDF are elevated in industrial settings such as ports. Local point-sources of dioxin/furans on Humboldt Bay encountered in bay sediments include past pulp mill air discharges and runoff-entrained wood preservative chemicals from timber products processing facilities.

PCDD/PCDF's have been shown to bioaccumulate in humans and wildlife due to their lipophilic properties. Excessive exposure to dioxin may cause a severe form of persistent acne, known as chloracne. To date, this is the only clinically-established direct result of dioxin exposure at levels below the lethal dose. Other possible effects linked to long-term exposure include, developmental abnormalities in the enamel of children's teeth, damage to immunological systems, endometriosis, teratogenic birth defects, complications of diabetes, and in laboratory animals, increased rates of liver and lung cancer.

Past Sediment Testing for and Assessments of Contaminated Sediments

Pacific Affiliates initially submitted on behalf of the applicant a Sediment Sampling Plan that was approved by the USEPA and the Corps on December 7, 2004. Analytical requirements for this project were recommended by the USEPA's Dredging and Sediment Management Team and the Corps. The guidelines were set forth in the Inland Testing Manual for Tier II Sediment Physical and Chemical evaluation. The sampling was conformed to the strict guidelines set by the USEPA. The composite sampling methods were instructed by the USEPA and were followed and recorded in the Sediment Analysis Plan.

Between January 19 and February 7, 2005 core samples were collected from 11 sites along the Eureka waterfront and from the beach disposal site. Representative samples were collected at the proposed dredge project depths for each site. Samples were

submitted to ToxScan Labs for the required analysis. The analysis included testing for grain size, percent solids, total mercury, total organic carbon (TOC), total petroleum hydrocarbons (TPH), total volatile solids (TVS), metals, semi-volatile organics, PCBs and speciated butyltins in sediment. The results from the 2005 testing were compared to the testing results conducted between August 6th and August 13th, 1996 in order to determine changes in the quality of the sediment over time.

Seven core samples from four of the Eureka waterfront sites were combined in the 2005 testing to form one composite sample (as instructed by the EPA), while in 1996 two of the sites were tested individually (J Street and Bonnie Gool Guest Dock) and the remaining two sites were not tested (Adorni Dock and the Samoa Bridge Launch Ramp). I street Dock and Coast Seafoods Dock were only tested in 2005.

Five sampling sites along the Eureka waterfront and Woodley Island Marina were identical in sampling locations in 1996 and 2005. Therefore, these sites were chosen for comparison. The result indicated that most sampled compound concentrations have decreased over time in those locations. Mercury concentrations decreased at all marina sampling locations. Metal and TVS concentrations also decreased at all sampling locations except at F Street Dock where no change was noted. TPH concentration decreased at four of the sites. Testing results for TOC showed decrease or no change in concentrations since 1996. At all sampling sites except for Commercial Street Dock, the concentrations of most semi-volatile organic compounds decreased. PCBs were not detected at any site except at Landing Dock where Arcolor 1254 was found at levels of 0.016 mg/kg. Speciated butyltins group were detected at Coast Seafoods Dock and the I Street Dock at levels of less than 10 µg/kg.

USACE staff has not raised any concerns in regards to the suitability of the dredge spoils for near shore ocean disposal. In the Corps request for formal Section 7 consultation from the National Marine Fisheries dated February 8, 2005 it was stated that, "Water quality impacts associated with the disposal of dredged material at the spit would be short-term, localized and minor. The City of Eureka sites contained low concentration of Cr and Nickel in the range of 50-60 mg/kg. The Corps also stated that, "Concentration of PAH were not significantly elevated. PCBs were not detectable at a detection of 0.01 mg/kg. Chloro pesticides have not been tested in the berth, given the paucity of agriculture in the area and the fact that previous testing (detection limit 2µg/kg) in the Federal channel did not detect pesticides; there is no reason to expect significant presence. The Federal channel maintenance material characterization of 1995 through 2001 was similar in character and did not detect Dioxin." Based upon the testing results of 2005, no significant change was noticed in the quality of the sediment at the dredging sites.

As part of their FCWA Section 401 certification for the proposed maintenance dredging project (see Exhibit No. 10), the North Coast Regional Water Quality Control Board found, provided specific conditions were applied to the maintenance program, the

proposed dredging would comply with the applicable provisions of sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 ("Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act [33 USC Subsection 1341 (a)(1)], and with other applicable requirements of State law. The attached conditions require that:

- Best Management Practices be employed for turbidity control, including the use of a cutter-suction dredge and ocean disposal within the surf zone during the time of year when background turbidity levels are expected to be high and dissipation of the spoils slurry is expected to be rapid.

- Sediment from Coast Seafood's dock area not be dredged and discharged to surface waters without prior written approval from the USEPA and Regional Water Board.

- No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete washings, oil or petroleum products, or other organic or earthen material from any construction or associated activity of whatever nature, other than that authorized by this permit, be allowed to enter into or be placed where it may be washed by rainfall into waters of the State. When operations are completed, any excess material or debris, including concrete washings, shall be removed from the work area and disposed of properly. No rubbish shall be deposited within 150 feet of the high water mark of any stream.

- Fueling, lubrication, maintenance, operation, and storage of vehicles and equipment not result in a discharge or a threatened discharge to waters of the United States. At no time shall the applicant use any vehicle or equipment which leaks any substance that may impact water quality. Staging and storage areas for vehicles and equipment must be located outside of waters of the United States.

- Project activities comply with provisions in the North Coast Region Water Quality Control Plan (Basin Plan).

- Creation of pollution, contamination, or nuisance, as defined by Section 13050 of the California Water Code, is prohibited.

- The suspended sediment load of surface waters in Humboldt Bay or the Pacific Ocean not be altered in such a manner as to cause a nuisance or adversely affect beneficial uses.

- Dredging and sediment disposal activities not cause the turbidity of Humboldt Bay to be increased more than 20 percent above naturally occurring background levels.

- The project site be subject to visitation and assessments by Regional Water Board staff to document compliance with the certification.

- A copy of this permit be provided to the Contractor and all subcontractors conducting the work, and be in their possession at the work site.

- Aerial photos of the surf zone disposal location and the shoreline from the mouth of the Eel River to the mouth of the Mad River be taken before, during, and after the project to provide visual evidence of the effects of the discharge and the natural ocean water conditions along the shoreline. Aerial photos of this stretch of shoreline shall be taken within one week prior to discharge, within two weeks after discharge begins, approximately mid way through the project and within two weeks after the discharge ends. A report containing the aerial photos shall be submitted to the Regional Board within 30 days of the end of the project.

- If, at any time, an unauthorized discharge to surface waters occurs, or any water quality problem arises, the project be ceased immediately and the Regional Water Board be notified promptly.

Supplemental Testing for Chemical Contaminants

Notwithstanding these past agency findings and recommendations, numerous concerns were raised in testimony at the September 14, 2005 hearing regarding the presence of dioxin/furans "hotspots" subsequently detected at various locations in the vicinity of the proposed maintenance dredging sites, and the past legacy of Humboldt Bay as an industrialized port where extensive timber products processing involving the treatment of lumber with the carcinogenic and endocrinic disrupting compound pentachlorophenol (PCP or "penta") as a wood preservative. Based on these comments, the Commission continued the project hearing to allow for the applicant to test for dioxin/furans and PCP, and to reassess whether the testing for PCBs conducted in early 2005 that had been based on composite sampling had accurately characterized the presence and concentrations of these compounds within the bay sediments.

Between November 4th and November 14th, 2005, fifty-five sediment core samples from the then-proposed eleven Eureka Waterfront moorage facilities and Woodley Island Marina slated for maintenance dredging pursuant to a Sampling Analysis Plan co-approved by the USEPA and Commission's Water Quality Unit. Composite samples from all twelve sites slated for dredging were tested for PCDD/PCDF and PCP. Three of the sites, Coast Seafoods Dock, Fisherman's Terminal and 'F' Street Dock, were also re-tested for polychlorinated biphenyls (PCBs). Additionally, the beach area adjacent to the proposed nearshore disposal site was tested for dioxins/furans, PCBs, PCP, and grain size distribution (see Exhibit No. 10).

In his review of the subsequent chemical analysis of the sediments proposed for dredging (see Exhibit No. 13), Brian Ross, a staff member of the U.S Environmental Protection

Agency's Dredging and Sediment Management Team, found with respect to the dredged materials originating from the City dredging areas:

> EPA has reviewed the December 12, 2005 "Sampling Results Report for Dioxin/Furan, PCB, and PCP Testing" prepared by Pacific Affiliates, Inc. for the City of Eureka… from 11 City waterfront facilities, and to dispose of the dredged material in the intertidal and nearshore zone of Samoa Spit.
>
> We are pleased to note that dioxin and furan levels in the Woodley Island Marina and City of Eureka waterfront facilities, while detectable, were quite low. The Coast Seafoods dock, whose sediments have already been excluded from aquatic disposal, had the highest levels (overall 2,3,7,8-TCDD TEQs of 6.99 to 7.70 parts per trillion). The remaining dredging sites had overall TEQs ranging from 1.78 to 4.57 pptr (mean TEQ of 2.86 pptr, median of 2.69 pptr and an average 95 % Upper Confidence Limit of 3.08 pptr). In comparison, there were no detected levels of individual dioxin or furan compounds at the beach disposal site. (The beach still showed an overall TEQ of 1.3 to 1.54 pptr, since overall TEQ calculations assume non-detected compounds are present at % their detection limit.)

Placing the testing results in a statewide perspective, Mr. Ross continues on to state:

> Although the dredged material samples had TEQs slightly higher than the beach disposal site, they were nevertheless low. For example, EPA's Environmental Monitoring and assessment Program (EMAP) conducted a dioxin survey that involved extensive sediment sampling throughout San Francisco Bay in 2000 (Pedersen et al., 2001). This survey found mean and median TEQs of 5 pptr and 2 pptr, respectively, from 56 stations. This 2-5 pptr TEQ range effectively represents the background for dioxins and furans in San Francisco Bay sediments, and compares with a US sediment background TEQ of 5.3 pptr measured from 11 non-source impacted sites throughout the US (EPA, 2003).
>
> The dioxin/furan levels in sediments from the proposed Eureka area project are consistent with both the San Francisco Bay sediment background and the US sediment background. In addition, the dioxin/furan levels in these Eureka area project sediments are generally below EPA Region 9's most conservative relevant screening value: the residential Preliminary Remediation Goal (PRG) of 3.9 pptr TEQ. The residential PRG is based on significant and long-term exposure of children to soils. EPA Region 9 toxicologist Dr. Sophia Serda confirms that the residential PRG is an appropriate and conservative screening value in this case.

Mr. Ross follows on to include a series of question and answers to specific inquiries regarding human health exposure concerns and the significance of the introduction of dioxin/furans/ through a volatilization and aerosolization pathways as had been prepared by Dr. Serda:

> Issue: Are there any life long risks that can be caused by short-term exposure - e.g. six hours per day for 24 days - to dioxin from sediment particles discharged to the surf zone?
>
> Response: The exposure from these parameters would be much lower than any residential impacts already reflected in the PRG.
>
> Issue: Does the cancer toxicity value adequately constrain the human health risk in terms of immunotoxicity endpoints? Reproductive toxicity endpoints?
>
> Response: Per Linda Bimbaum, yes. Using the residential PRG would be protective of the immunotoxicity and reproductive endpoints.
>
> Issue: Does dioxin volatilize from sediment particles as they are discharged to the surf zone?
>
> Response: For dioxin, potential volatilization is a very minor pathway and does not drive the risk.
>
> Issue: Does aerosolization of dioxin from the sediment particles occur as they discharged from the surf zone?
>
> Response: For dioxin exposure to any sediment aerosolization would be similar to the inhalation of soil particles, an exposure pathway that is already reflected in the PRG values.

With regard to potential impacts to marine biological organisms and the need for further human health-based risk assessments, Mr. Ross went on to state:

> Although the residential PRG is an appropriate and conservative screening value, it is based on human health risk. Ecological impacts are not specifically addressed. There are few directly relevant data that can be brought to bear on this point. However, we note that aquatic organisms are now and will continue to be exposed to these background levels of dioxins and furans, whether dredging and aquatic discharge occurs or not. Upon discharge, we would expect dispersion to very quickly result in orders of magnitude reductions of the dioxin/furan concentration carried by the

> plume, such that exposure will be rapidly reduced with both time and distance.
>
> We therefore do not expect there to be a significant human health or ecologica1 risk associated with beach or nearshore discharge of the dioxin/furan levels in the proposed sediments, although a quantitative risk assessment is not possible with the existing information. Such a risk assessment would generally be appropriate where higher dioxin levels are present and where exposure conditions are substantially greater. Of course, disposal at the Humboldt Open Ocean Disposal Site (HOODS) would even further reduce any potential exposure. The HOODS location was chosen specifically to avoid high value aquatic habitats, fishery areas, or human use areas to the maximum extent possible. Furthermore it is a depositional area, so project sediments discharged at HOODS would not disperse as far and would soon be buried by greater volumes of (generally even cleaner) material from ongoing federal channel maintenance dredging, further reducing exposure.

In conclusion, Mr. Ross states:

> EPA does not believe that a significant human health or ecological risk is associated with discharge at Samoa Spit of dioxins and furans at the concentrations found in the Eureka area project dredged material. In fact, EPA continues to believe that for this project impacts are more likely to result from the physical placement of inappropriately fine material on the beach and in the nearshore zone. EPA would find all this material (with the exception of that from Coast Seafoods dock) to be suitable for ocean disposal at HOODS, and in future years we expect the fine material dredged from the Eureka area facilities will be disposed there.

Jack Gregg PhD of the Commission's Water Quality Unit technical staff has also reviewed the results of the supplemental sediment testing (see Exhibit No. 14). Dr. Gregg presents a chronology of the review efforts undertaken since the September continuance and, with respect to analysis of the sediment testing results, risk thresholds, baselines for comparison, and the significance of human and ecological risks, reiterates many of the same points presented by the USEPA cited above.

In regard to how the sediments sampled at the dock and marina locations compare with the residential preliminary remediation goals for residential settings, Dr Gregg observes:

> Although a few of the sample locations exceeded the PRG of 3.9 pptr, Table 1 shows that the Woodley Island Marina samples, representing 60% of the sediment volume to be dredged, average less than 2 pptr using the conservative "overall" TEQ estimation method. Since the sediments will

> be mixed with bay water during the dredging process and then further dispersed in the surf zone during discharge, potential human exposure will be much less than considered in the PRGs. Although proper operation of the discharge pipe should ensure that no dredged material is discharged on the beach, even direct contact with the dredged material would be short term and thus less exposure than considered in development of the PRG screening values. Table 2 shows comparison of the PCP and dioxin levels with the USEPA Region IX Preliminary Remediation Goals (PRGs) for residential soils as a conservative assessment of human health risk.
>
> Although there are not federal or state standards for exposure of dioxins to marine organisms, these sediments are below the level where the federal government or the states of Washington or New York would consider bioaccumulation to cause a significant adverse impact (Table 3), even if the material was disposed at a non-dispersive site. Under the surf zone dispersive disposal alternative, marine organisms will be exposed to significantly lower concentrations of dioxins since they will be exposed to the dredged material after it has been mixed with large amounts of cleaner sediment and water. The dredged material will be mixed with bay water during the dredging process and further mixed in the wave zone. During winter months the many millions of cubic meters (24 million per year on average) are discharged from the Eel and Mad Rivers into the ocean waters near Humboldt Bay. As the fine-grained sediment from the dredging project settle to the bottom they will be only a small proportion of the total sediment and will be indistinguishable from background conditions. The USEPA staff concluded in the January 12th memo that they "do not expect there to be a significant human health or ecological risk associated with beach or nearshore discharge".

In his conclusion, Dr, Gregg stated:

> The fact that none of the sediments to be dredged (except perhaps at the Coast Seafood docks) were noticeably elevated indicates that that no potential onshore hotspots are having a significant impact on the quality of the sediments to be dredged. The levels found in the areas to be dredged under these permits (which will now exclude the Coast Seafoods dredging) are on average below the conservative human health screening value (USEPA Preliminary Remediation Goal for residential soils of 3.9 pptr TEQ) and below the threshold where bioaccumulation testing is required. Based on these low levels of contaminants and the proposed discharge into the surf zone during the winter storm season when the fine-grained sediments will be dispersed widely over the Eel River Shelf, there is no significant adverse environmental or health risk of surf zone disposal of these sediments and I would recommend allowing this project to proceed with surf zone disposal.

A chief assumption forming the base of the foregoing analysis is that the contaminated sediments would be further diluted and rapidly dispersed in the high energy environment of the surf zone into which they would be discharged. To ensure that the dredged materials being discharged into the nearshore environment receive the maximum possible amount of dilution and dispersal possible, the Commission attaches Special Condition No. 7. Special Condition No. 7 requires the applicant to install and maintain the spoils slurry pipeline outfall at a location within the intertidal reach of the disposal site in a manner that the dredged materials are discharged directly into ocean waters. Discharging dredged materials onto exposed beach areas is prohibited.

In addition, notwithstanding the conclusions reached by the USEPA, North Coast Regional Water Quality Control Board, and Commission's water quality unit staff regarding the low risk of impacts to coastal resources and human health associated with the proposed nearshore disposal of the dredged bay sediments, the full effects of the beach disposal of dredged materials with physical and chemical compositions differing from that of the receiving beach and sub-tidal area remain, to some degree, unknown. Of particular concern is the lack of monitoring that has been performed outside of the immediate discharge area with respect to the persistence of the dredged materials and any effects such lingering deposits may have on marine biological resources. This concern appears repeatedly in the various comments from the reviewing agencies:

> EPA continues to object to surfzone placement of material from any of these facilities based on the inappropriately fine-grained nature of the sediments. On this basis, we expect to object to any extension or reissuance of the existing permit once it expires, particularly given the availability of the Humboldt Open Ocean Disposal Site (HOODS) just offshore of Humboldt Harbor. We strongly urge the City of Eureka and the Humboldt Bay Harbor, Recreation and Conservation District to begin taking appropriate steps now, financial and otherwise, to plan to use HOODS or other alternatives to nearshore discharge of fine grained sediment by the time maintenance dredging of these facilities is needed again. – Brian Ross, USEPA

> The dredge spoils that will be discharged in this project are 85% silt and clay an only 15% sand, yet the receiving beach is 95% sand. The Department does not believe that a beach composed of 95% sand is suitable for placement of dredge spoils with 85% fines due to the potential adverse effects on benthic habitat, fish, and wildlife. Therefore, the Department recommends that the nearshore subtidal habitat be monitored, in addition to the intertidal habitat, for substrate changes. Aerial photography and water quality monitoring for suspended solids would be helpful to show where the plume is traveling. In addition, the Department recommends that the applicants' (*sic*) begin planning for other methods of

> disposal for future dredging events. The Humboldt Open Ocean Disposal Site (HOODS) was designed and approved to accept fine-grain sediments and has the capacity to received these sediments. Upland disposal is another option which could be pursued. – Vicky Frey, CDFG
>
> CDF&G staff and USEPA staff have indicated that the applicants may proceed with the project, including shoreline disposal, but that the sediment may not be suitable for beach disposal in the future mainly due to the small grain size and the lack of studies to evaluate the effects of disposal on the near shore sea floor habitat. These agencies have stated that they will object to any future projects involving shoreline disposal. CDF&G staff suggested that the applicants should either begin working now on identifying alternative methods for sediment disposal from future projects, or else plan to use the designated Humboldt Open Ocean Disposal Site in the future. This may be the last opportunity for the applicants to thoroughly study the effects of this type of disposal. If the applicants intend to pursue shoreline disposal for future projects, Regional Water Board staff recommend that the applicants work with USEPA and CDF&G to develop a plan to monitor and study the discharge and near shore subtidal habitat during implementation of this project. – Dean Pratt, NCRWQCB

To monitor the effects of the dredged materials on coastal resources, the applicant has proposed to perform pre- and post-disposal aerial photography of the area between the Eel and Mad Rivers, in conformance with the requirements of by the North Coast Regional Water Quality Control Board as set forth in their FCWA Section 401 certification. However, given the difficulties commonly encountered with interpretation of aerial photographs of aquatic areas, especially when the intent is to track the extent and movement of exotic materials which may closely resemble in-situ shoreline materials, the Commission does not believe that monitoring the dispersal of dredged materials solely by photogrammetry would constitute an adequate monitoring program. Accordingly, the Commission attaches Special Condition No. 1. Special Condition No. 1 requires the applicant, prior to issuance of the coastal development permit for the maintenance dredging to submit, for the Executive Director's review and approval, a comprehensive monitoring plan that, in addition to aerial photography of the disposal site vicinity, includes bathymetric surveying, sediment core sampling, and measurements of turbidity generated by the release of the sediments into ocean waters. The plan is also to identify remediative measures to be taken if the dredged materials persist or accumulate near the discharge area or if the turbidity exceeds 20% of naturally occurring background levels.

9) Project Impacts on Terrestrial Biological Resources

The Commission notes that with regard to potential biological impacts to the land based portion of the project, the placement, use, and removal of the portion of the pipeline that

would cross the Samoa Peninsula could have potential impacts on certain rare or endangered species. However, except for the area below the mean high tide line, the segment of the pipeline crossing the Samoa Peninsula is entirely within the coastal permit jurisdiction of the County of Humboldt. The County has approved a separate coastal development permit for this portion of the overall project. Therefore, the "project" before the Commission does not include the portion of the overall project that crosses the Samoa Peninsula.

Nonetheless, the County and the lead agency determined that the environmental effects of the pipeline on the terrestrial habitat of the Samoa Peninsula would not be significant. The pipeline would cross through areas where beach layia (Layia carnosa) is growing. Beach layia is a federally listed endangered species. In addition, the Western snowy plover (Charadrius alexandrinus nivosus) has been known to nest in the spring along portions of the upper beach areas of the Samoa Peninsula. However, the project as proposed would minimize impacts to these species and reduce them to a level of insignificance. The pipeline would be routed along old trails to avoid the beach layia and would be placed by hand in sensitive areas to minimize disturbance from construction. In addition, a qualified biologist would be present before and during laying of the pipeline to identify and evaluate the status of the beach layia populations in order to avoid the plants and minimize impacts to beach layia seedlings. A field survey and biological assessment of snowy plovers conducted by Mad River Biologists concluded that the proposed outfall area was not suitable habitat for the Western Snowy Plover given the narrow band of possible nesting area along the top of the wave slope and presence of debris and predators and "For these reasons, placement and removal of the pipeline should have no significant effect on the Western Snowy Plover." The County approved the coastal development permit with conditions requiring that the proposed mitigation measures to protect beach layia be implemented by the applicants.

(10) Introduction of Hydrogen Sulfide.

A final potential impact of the project involves the introduction of hydrogen sulfide during dredging extraction. Hydrogen sulfide (H_2S) is a metabolic byproduct of the anaerobic breakdown of organic material within bay sediments. Hydrogen sulfide is an extremely toxic and irritating gas. Hydrogen sulfide is regulated by Occupational Safety and Hazards Administration (OSHA) and has a permissible exposure limit of 20 parts per million (ppm) ceiling concentration and a peak exposure limit of 50 (ppm) for no more than 10 minutes if no other measurable exposure occurs. Inhalation of concentrations of 500-1000 (ppm) will cause rapid unconsciousness and death through respiratory paralysis and asphyxiation. The human health risks of exposure to H_2S are highest in enclosed spaces rather than in an open-air setting. Toxicity of H_2S to plants and animals varies greatly by organism.

The human olfactory mechanism is capable of detecting the presence of hydrogen sulfide gas in quantities as low as two parts per billion (ppb). Levels of hydrogen sulfide detected in the immediate proximity of dredge discharge lines used at the Santa Cruz Harbor,

similar to that proposed by the District and City, have been measured at less than eight ppb. This concentration is far below the acceptable level of concentration determined safe for an individual working eight hours per day under constant exposure to hydrogen sulfide gas.

The use of a suction dredging, in place of other methodologies, such as hopper, dragline, or clam-shell dredging, would minimize the amount of sediment disturbance and introduction of H_2S into bay waters. The concentrations of H_2S within the dredged materials would be further diluted by the introduction of seawater to create the dredge spoils slurry and by the initial mixing with ocean waters upon their discharge. No further mitigation would be required to reduce the potentially significant adverse impacts of hydrogen sulfide exposure of humans, and fish and wildlife to less than significant levels.

Conclusion

Therefore, the Commission finds that the development as proposed and conditioned includes mitigation measures, where feasible, to minimize significant adverse environmental effects of the project consistent with Section 30233.

3. Project Alternatives.

The third test set forth by the Commission's dredging and fill policies is that the proposed dredging or fill project must have no feasible less environmentally damaging alternative. Although the Commission determines that the proposed project will have no significant impacts, the Commission has also considered the various identified alternatives, and determines that none of them provides a feasible less environmentally damaging alternative. Section 30108 of the Coastal Act defines "feasible" as, "*capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.*" Emphasis added.]

A total of seven possible alternatives have been identified, including: (a) utilizing alternative dredging methodologies to cutter-suction / pipeline slurry dredging, including hopper-barge or clam-shell bucket dredging techniques; (b) conducting the dredging at other times of the year; (c) disposing of the dredged material at the offshore HOODS disposal site; (d) disposing of the dredged material at upland disposal sites; (e) use of an interim "knock-down bathymetric grading; (f) extending the spoils slurry outfall offshore to the closure depth; and (g) the "no project" alternative.

a. Alternatives to Cutter-suction Dredging Technique

Four dredging methodologies to the proposed cutter-suction / slurry pipeline dredging technique have been identified. These include: (1) hopper dredging; (2) a combination of cutter-suction dredging using scows and tugs to transport the material to the HOODS site; (3) the use of the Federal Hopper Dredge; and (4) mechanical "clamshell" bucket dredging. For the following reasons, all of these

techniques are not appropriate for the proposed project as they would either be infeasible to perform or result in greater environmental damage.

Hopper Dredges - are self-propelled dredging vessels whose hull forms the bin in which the sediments are pumped. Drag arms, fitted with a suction pump are attached near the front of the hull. During operation, the drag arm, or arms are lowered to the desired depth and trail along the dredge. As the drag arms loosen bottom sediments, the pump sucks the loosened sediments into the hollow drag arms and deposits them in the ship's hold. When the dredge reaches the disposal site, the bottom of the holds open and the dredged sediments are released. The U.S. Army Corps of Engineers (USACE) uses this type of dredge during the maintenance dredging of the Humboldt Bay shipping channels.

Hopper dredges are typically large vessels that are not suited for precision dredging work in confined areas such as marinas where dredging around and under structures and obstructions is necessary. Hopper dredging has been assessed as being practicable for a small part of the overall cooperative project area, representing approximately fifteen percent (15%) of the estimated sediment volume, comprising those sites with unobstructed wharf frontage.

The use of the hopper dredge for this project would result in more significant environmental impacts than when using a cutter-suction pipeline dredge. The hopper dredge generates a significant volume of suspended sediment at the dredge site as the hopper is filling with solids. Dredged sediment is suctioned into the hopper of the dredge along with substantial volume of water. As the hopper fills, the accompanying water, laden with the finer suspended sediment, overflows the hopper into the water body from which it is dredged. Furthermore, dredge hoppers are commonly purposely filled past the point when the hull overflows to partially decant the spoils to increase the load of sediment in the hull As a result water column turbidity significantly increases and areas on the bay bottom are subject to covering effects associated with the re-deposition of dredged solids. The turbidity levels will vary during dredging according to the physical characteristics of the sediment. The finer the sediment the more turbidity increases. When turbidity increases, dissolved oxygen (DO) levels tend to decline in the vicinity of such dredging operations, potentially compromising aquatic species survival in the area affected by the sediment plume.

Given the anticipated length of the cooperative project (approximately 90 days), and that the dredging sites are situated in close proximity to one another along a defined reach of channel, the increased suspended sediment levels within the channel and adjacent sensitive intertidal areas of Humboldt Bay for the duration of the project would result in greater environmental damage to the water quality of Humboldt Bay, both directly and cumulatively, than that result from the use of the proposed cutter-suction dredging method. Thus, while the potential less than significant impacts associated with disposal of dredged materials in the nearshore environment would be avoided, impacts to the estuarine environment of

Humboldt Bay would be significantly increased. Therefore, the use of the hopper dredging technique is not a feasible less environmentally damaging alternative.

Cutter Suction Dredging / Hopper Barge Disposal at HOODS Site - Effectively dredging the Eureka waterfront properties and the Woodley Island Marina utilizing a hopper-dredge for the transport of sediments to HOODS would require that the hopper dredge work in tandem with a small cutter-suction pipeline dredge. The smaller cutter-suction dredge would conduct the actual dredging and pump the sediments through a pipeline to the hold of the hopper dredge. When full, the hopper dredge would then disconnect from the cutter-suction pipeline dredge and make the 18-mile, two-hour round trip to the HOODS. During sediment transport to HOODS, dredging operations within the bay would be halted.

Dredging by this method would produce significantly more turbidity at the dredge sites than if dredged strictly by the cutter suction pipeline method, as the hopper dredge would be decanting the entire time sediment is being pumped into the hold. Based upon dredging records from the preceding 1987 and 1997 dredging episodes, the cutter suction dredge pumped at approximately twenty five percent (25%) solids to seventy five percent (75%) water. Given this ratio, it would necessitate approximately four (4) hopper volumes of pumped slurry to fill the hopper with one volume of dredge solids. This would result in the discharge of three to four hopper volumes containing suspended sediments into Humboldt Bay, which would not occur during the cutter-suction pipeline method proposed for the project.

The combined cutter-suction / hopper barge option was investigated in past maintenance dredging proposals developed by the applicant. In a letter to the applicant's agent dated April 10, 1997, Veron Scovell, president of Nehalem River Dredging noted, "Recently, we completed a project where we pumped from a cutter-suction dredge to hopper barges, and by tug transported the sediment to an off-shore disposal site. The amount of non-productive time spent mooring the barges, connecting and disconnecting the spoils line from the barges added considerable cost to the project. The barge and tug expense for transport of dredged spoils to the disposal site also added considerable costs. Pumping the slurry to the barges generated an enormous sediment cloud during dredging operations when the water flowed from the overflow portal."

In addition, hopper disposal is generally not as efficient or as cost effective as pipeline transfer, inasmuch as the dredge cannot operate while the barge is in transit to the disposal site. The length of time to conduct the maintenance dredging would be significantly extended unless multiple barges area employed. Additionally, the barge(s) are typically not self-propelled, requiring the employment of tugs for transport, further congesting bay areas adjoining the dredge sites.

Thus, for the reasons set forth above, using a combination of cutter-suction and hopper barge dredging methodologies would not represent a feasible less environmentally damaging alternative.

Cooperative Dredging Using USACE Hopper Dredge - Another alternative technique considered the prospect of having the USACE hopper dredges do the maintenance dredging on these dredge sites immediately adjacent to the Eureka inner and outer channel as part of the Corps' annual channel maintenance dredging project. The sites that would be available for this method would include Bonnie Goo1 Guest Dock, Adorni Dock, I Street, J Street, F Street, Fisherman's Terminal, Coast Seafoods Dock, Commercial Street Dock and Dock B. Upon contacting Corps representatives, it was discovered that the USACE is prohibited from doing projects where they compete with private companies and they are similarly restrained from getting as close to structures as is needed for this project. Therefore, utilizing USACE dredging vessels to maintain several of the dredge sites is not an feasible alternative.

Mechanical "Clamshell" Dredging - is a mechanical dredging method used to remove sediment of varying density through the direct application of mechanical force to loosen and excavate sediment. The clamshell method can be economical for small jobs due to the economics of mobilization; however, there are practical and environmental concerns with large-scale applications. This method also does not allow efficient and uniform removal of material. It is difficult and not applicable to use this method in close quarters such as boat slips; this method cannot be used to dredge beneath slips and docks.

Clamshell method uses a clamshell bucket, which may vary in size, but usually has a capacity of about 4.5 cubic yards. The bucket is operated by a crane stationed on barge platform. The open bucket is lowered to the ocean floor and then closed, retaining sediment. The retained sediment is then raised to the surface and transferred to either a receiving vessel, another scow or barge, a hopper barge, or, if operating near dock access, to trucks for transport to disposal sites. Trucks may also be used to transport dredged sediment to upland confined disposal area. During the lifting of the bucket load of sediment from the bay waters and into the transport vessel or vehicle, turbid water and some sediments, in varying amounts depending upon the specific type of bucket used, will drain out of the clutches of the bucket and re-enter bay waters, raising the suspended sediment levels in the water column above the dredged area.

To effectively dredge the Woodley Island Marina and the City of Eureka waterfront sites by clamshell bucket dredging, the floats and utility systems would need to be removed to obtain access to the sediments beneath these semi-permanent structures. The floats of Woodley Island Marina, the larger of the two marina facilities, contains water, electrical, phone, and saver (bilge line) services

provided in separate conduits. Dismantling and reconstructing the twenty-eight-year-old facility and its utility system would necessitate building code upgrades of fire, water and electrical services. The cost to the owner would be approximately $620,000, equivalent to re-constructing the entire marina, including the re-installation of the float system, at current prices, less then the material expense of the floats. Thus, this methodology also appears to be both economically infeasible and involve greater environmental risks. Therefore, use of clamshell bucket dredging methodology is not a feasible less environmentally damaging alternative.

b. Conducting Maintenance Dredging in Other Seasons

The winter/spring time period was previously prescribed by the NCRWQB for historically related projects within Humboldt Bay. The winter dredge period effectively reduces turbidity impacts at the dredge sites, especially within the Eureka Inner Reach Channel of Humboldt Bay (project area) where of turbid runoff from the uplands of the Freshwater Creek and Ryan Slough watersheds predominates, The minor quantity of suspended sediment generated within the Eureka Inner Channel by the cutter-suction pipeline dredge would not be detectable over the diminished background water quality for a good portion of the rainy season. While summer ocean conditions may provide a safer and easier round trip to the HOODS site, dredging within the Eureka Inner Reach Channel during the summer and fall would result in noticeable water quality effects and interfere with endangered species fish migration.

The timing of maintenance dredging on Humboldt Bay is also dependent upon the migration periods of endangered species fish from major tributaries such as Jacoby and Freshwater Creeks, to the Pacific Ocean through north Humboldt Bay. Migration of coho salmon smolts (Oncorhynchus kisutch) generally commences in April. West Coast coho smolts typically leave freshwater in the spring (April to June) and re-enter freshwater when sexually mature from September to November. To date, the National Marine Fisheries Service (NMFS) has permitted dredging only between November 1, 2005 and March 31, 2006. In accordance to Section 7 of the Endangered Species Act (ESA) of 1973, a change in the timing of the maintenance dredging would require that NMFS extend the dredging window into these critical periods of smolt migration. Therefore, performing the dredging during different seasons other than winter/spring is not a feasible less environmentally damaging alternative.

c. Disposal at Offshore HOODS Disposa1 Site.

As noted previously, the federal government has designated an offshore disposal site for dredged material known as the “HOODS” disposal site. The site is between three and four miles offshore of Humboldt Bay, beyond sovereign state lands in federal waters. The Commission concurred with a Coastal Zone

Management Act consistency determination made by the U.S. Environmental Protection Agency for designation of the site in 1995 (CD-72-95). Over 800,000 cubic yards of dredged material is disposed of annually at the site, mostly from maintenance dredging of Humboldt Bay navigational channels performed by the U.S. Army Corps of Engineers.

A possible alternative to the proposed project that would avoid even the temporary impacts on habitat at the surf zone disposal site would be to dispose of the dredged material at the HOODS site. During the 1998 maintenance dredging project three state and federal agencies commented to the Corps of Engineers in response to the Corps' public notice of its consideration of federal permits for the project that this alternative should be used to avoid impacts to habitat at the surf disposal zone. The Commission acknowledges the concerns raised by the commenting agencies. However, the Commission finds that discharging the dredged materials into the nearshore environment would not have appreciably greater adverse impacts than dispatching the spoils to the offshore HOODS disposal site even though each disposal alternative has unique and different sets of environmental impacts to marine and estuarine biological resources. As explained by the applicants' consultants in response to the 1998 reviewing agency comments and under the various dredging methodology sub-alternatives discussion above, use of the HOODS disposal site would actually increase turbidity impacts in and around the dredging areas.

Turbidity would be increased near the dredging area because a different method of transferring the dredged material to the disposal site would have to be used. Given the three to four mile distance to the HOODS site across open ocean waters, a pipeline obviously cannot be used to discharge dredged material at the HOODS site and the use of vessels must be relied upon.

Use of a suction dredged is required given the close quarters within the mooring areas where the dredge must operate. The water content of the material dredged with the suction dredge approaches 80%. While the high proportion of water in the slurry material does not present a problem for transferring the dredged material to the disposal site through a contained pipelined, the high water volume does present a problem for transferring the dredged material by barge or hopper dredger to an offshore disposal site. When using hoppers or barged to transport the dredged material, a large proportion of the 80% water volume of the dredged material must be decanted and the resulting water discharged during vessel loading to accommodate the solids (20%). This decanting would take place in or near the dredge area to allow for efficient filling of the vessels. Significant turbidity can be expected to result from the discharge of the supernatant water, which contains significant amounts of sediment. In fine-grained material (only approximately 15% is coarse sandy material), the degree of turbidity will be greater than if the material had a more sandy composition.

The primary reason the Harbor District and the City of Eureka chose not to propose disposal of the dredged material from the maintenance dredging proposed under coastal permit applications 1-96-60 and 1-96-61 at the HOODS site is the comparative costs of these options. Based on cost estimates provided to the HBHRCD by dredging companies, the proposed project with surf zone disposal would cost approximately $2 million. The cost of disposing of the material at the HOODS site would nearly double the total cost to $3.8 million.

In addition to the added cost, the time delay that would be involved in implementing the HOODS disposal alternative make this alternative infeasible. The applicant is a public entity without substantial financial reserves and would need to secure grant funding, special appropriations of legislative bodies, or obtain a voter-ratified bonding measure or increase to their current ad valorem property tax rate. As noted previously, large numbers of commercial, public, and recreational vessels who moor in the berths to be dredged are adversely affected by the accumulation of sediment in their berths that makes access difficult and increases the risk of damage to these vessels. The added year or two that would be needed to secure the additional funding necessary for HOODS disposal would greatly exacerbate the berthing problems. Accordingly, use of the HOODS disposal site is not a feasible alternative for conducting this project in the necessary time-frame.

d. Disposal at Upland Disposal Sites.

Dredged materials have previously been deposited at an upland disposal site on the Samoa Peninsula known as the "Superbowl" site (see Exhibit No. 3), adjacent to the Old Eureka Airport/Samoa Dragstrip. The 60-acre site was used for disposal of sediments in the North Bay Channel Improvement Project of 1978-79 and for other projects in the late 1970s. The site reportedly has capacity available, and the dredged material could be piped to the disposal site, thus avoiding turbidity impacts at the dredge site as the proposed project would.

However, since the Superbowl site was last used, portions of the site have transformed into freshwater marsh habitat and sensitive plant species have colonized portions of the site. These areas are considered to be environmentally sensitive habitat areas, and are protected by the Coastal Act. Use of the site for the proposed project would likely result in significant disturbance of the habitat through filling atop established freshwater wetlands and the effects that the decanting of saltwater within the dredge spoils would have on Menzie's Wallflower (Erysium menziessii) located on the west and northeast dunes adjacent to the site and populations of beach layia (Layia carnosa). As the habitat values at the surf zone disposal site and the potential impacts to marine resources associated with the introduction of the dredged materials into the littoral ocean

environmental are considered to be less than significant, and the impacts of the use of the surf zone disposal site would be temporary, the Commission finds that the alternative of using the Superbowl for dredge disposal is not an environmentally less damaging alternative.

With respect to other past disposal sites, the former L-P upland disposal site, now owned by the applicant agency, is located southwest of the intersection of State Route 255 and New Navy Base Road has been used for numerous maintenance dredging operations at L-P's Samoa facilities and other North Bay dredging projects. However, the North Coast Regional Water Quality Control Board (NCRWQCB) rescinded the waste discharge requirements for this site on June 28, 2001. In addition, this site has limited capacity that is not large enough to accept the material to be dredged as part of the proposed project. Therefore, the Commission finds that he alternative of using the form L-P upland disposal site is not a feasible less environmentally damaging alternative. The site may have enough capacity for disposal of dredge spoils from individual berthing docks, and may be suitable for accepting dredged material that has elevated levels of contaminants that would render them inappropriate for unconfined aquatic disposal, including the HOODS facility. Permits to re-open the LP upland dredge disposal site are required from the NCRWQCB and Humboldt County. The applicant agency is currently working to obtain permits from these agencies to reopen this site.

In 2003, the applicant agency had several discussions with the City of Arcata about the possibility of using the maintenance dredge materials as part of Arcata's McDaniel Wetland Restoration Project. A large quantity of fill material will be required for impounding and bringing portions of the restoration area up to elevation suitable for the reestablishment of saltmarsh. Although Arcata is considering the utilization of dredge spoils as fill in the project, the McDaniel Slough project is still within its initial environmental review phase with permitting for project yet to be secured. Thus, due to the significant differences in the timelines for these two projects, the McDaniel Slough project site was dismissed as a feasible upland disposal site.

No other upland properties are known to exist within a reasonable distance from the dredging sites that: (a) would have adequate capacity to receive the volume of dredge materials that would originate from the City and District docking and marina facilities; (b) would not result in greater environmental impacts to coastal resources; or (c) have owners willing to either sell or allow the District and City to conduct landfill dredge material disposal on their properties. Therefore, the Commission finds that the use of an upland disposal site is not a feasible less environmentally damaging alternative.

e. <u>"Knock-down" Bathymetric Grading</u>

The applicants also explored, as an interim measure, the use of "knock-down" bathymetric grading. This technique involves redistributing shoaled sediments within the dredging prism of the dock or marina area, whereas in regular dredging, shoaled sediments are completely removed. Knock-down dredging is performed by dragging an I-beam towed by a boat across a shoal in order to redistribute the shoaled material within the project area, or by excavating shoaled material with a clamshell bucket and releasing the material near the bottom elsewhere within the project area. The knock-down technique is usually used to supplement routine maintenance dredging when time constraints may not allow for regular maintenance dredging or when a shoal threatening navigation covers a small area that is otherwise at or below its permitted depth. Use of the "knock-down method is restricted to the physical bounds of a designated berthing area and to be feasible requires that their be significant bathymetric differential within area

The USACE has indicated that only 1,000 cubic yards would be authorized for knock-down. Additionally, NMFS staff has voiced concerns over the potential environmental impacts of this methodology, including the effects increased turbidity on essential fish habitat and on migrating adult fish due to the timing of the dredging and requested additional information on sediment concentrations and settling times in order to evaluate the impacts of this alternative. It is possible that depending on the amount of sediment to be knocked down, locations and durations of the activity, the knock-down technique may not have adverse effects and if so, a concurrence letter could be prepared by NMFS. If however, the effects were deemed significant, NMFS may need to revise its biological opinion or issue a new opinion. Because of the time implications associated with securing revision or new biological reviews, and the fact that the action would only be an interim measure that would not result in longstanding deepening of the dock and marina areas, the Commission finds that knock-down bathymetric grading as a project option is not a feasible less environmentally damaging alternative.

f. Deepwater Extension of Spoils Pipeline Outfall.

Another potential project alternative would entail the extension of the dredged materials pipeline outfall from its proposed location within the upper subtidal ocean waters to the "depth of closure," the depth of water at which sediments will be transported to deposition in offshore depths rather than to be cyclically returned onto the beach and/or transported laterally along the shoreline by longshore currents. For Northern California, the depth of closure has been estimated to be an approximately 40-foot depth of water.

The option to extend the discharge line further out beyond the breaker zone to further ensure littoral cell dispersal of the sediments would be difficult to implement due to the added complications associated with in maintaining the pipeline and the cost associated with constructing a temporary structure to support the pipeline. The wintertime surf zone represents a high-energy environment that makes it very difficult to maintain a pipeline in place. The proposed outfall location that has historically been used on the beach slope itself requires continual maintenance during disposal operations due to the beach erosion that occurs during high energy storms.

The costs of constructing a temporary structure to hold the pipeline in place and off of the ocean surface would be significant and would be likely more environmentally damaging. Such a structure in the surf zone would require ongoing monitoring, maintenance, and repair that would be expose dredging personnel to hazardous surf conditions.

In addition, such temporary discharge pipeline extensions have been unsuccessfully attempted in the past. During work at the Louisiana-Pacific Corporation's Samoa Pulp Mill to extend the permanent outfall line when a temporary flexible pipeline was being used to convey process effluent, L/P attempted to place the pipeline, beyond the surf zone. Despite the pipeline being substantially larger in diameter and longer then the pipeline being used for the maintenance dredging project, and arguably more stable, the plastic pipeline became repeatedly twisted and kinked in the surf surge, resulting in a significant losses to its discharge capacity. As a result, the effort was subsequently aborted.

Moreover, based on biological and physical monitoring of the Samoa Beach disposal site conducted between 1998 and 2002 following the last dredging episode, the mixing and dispersal of the fine materials was determined to be effectively accomplished by the deposition of the material in the near shore zone. Because of these turbulent conditions, the fine particles remain in suspension and do not settle in the nearshore surf zone. During the winter storm season, the wave energy prism is very wide and extends beyond the surf zone to deep waters. Once the materials reach deeper waters, turbulent conditions are reduced and the fine particles are allowed to settle out of suspension within the water column. Photographs taken during the 1998 episode indicate that significant sorting of the spoils occurs, with the larger, heavier sand fragments settle in the near shore zone and fine material being transported offshore. Thus, extension of the spoils pipeline outfall to deeper water areas is not a feasible less environmentally damaging feasible alternative.

g. <u>The No Project Alternative</u>.

The no project alternative would entail that no maintenance dredging of the accumulated sediments within the Woodley Island Marina be undertaken. With no dredging, there would be no impacts from dredging and no impacts from disposal. However, without maintenance dredging, the berthing areas would eventually silt in to the point that they could no longer be used for commercial fishing vessels or recreational boating, except by the shallowest draft vessels. The berthing areas would likely be forced to close, and the boaters who currently use the site would be displaced. As there are limited mooring facilities in Humboldt Bay, many of these users would be forced to leave this region of the coast. Such a result would be contrary to policies of the Coastal Act. As discussed previously, commercial fishing and recreational boating are given high priority under the Coastal Act and the Coastal Act policies call for the protection of these uses and the facilities needed to continue these uses. Therefore, the Commission finds that the no project alternative is not a feasible less environmentally damaging alternative.

Conclusion

The Commission finds that there are unique and different sets of impacts associated with the various dredging alternatives, and certain alternatives, specifically those involving disposal of the dredged materials other than in the nearshore ocean environment would arguably result in an incremental reduction in risks to biological resources that utilize littoral areas for habitat. However, as discussed in other findings, the proposed discharge of the dredged material in the nearshore environment would not result in a significant adverse impact to water quality, biological resources, coastal access, or other coastal resources. When the differing impacts of the disposal site alternatives are considered in light of the urgent need for maintenance dredging at the project site, the protracted timeline associated with implementing these alternatives, and the fiscal limitations of public agencies and the added costs associated with the alternatives, none of the identified alternatives can be found to be a feasible less environmentally damaging alternative to the proposed development.

4. Maintenance and Enhancement of Estuarine and Marine Habitat Values

The fourth general limitation set by Sections 30231 and 30233 on dredging and fill projects is that any proposed dredging or fill project must maintain and enhance the biological capacity of the habitat, where feasible.

As discussed above, although the project as proposed would have adverse impacts on habitat at both the dredging and disposal sites, the impacts will not be significant. By avoiding significant impacts to coastal resources, the project will maintain the biological productivity and functional capacity of the habitat. However, there will be a continuing need for maintenance dredging of the bay in the future. Based on past dredging patterns, maintenance dredging will likely be required at roughly ten-year intervals. Therefore, the

Commission finds that it is necessary for the impacts of the proposed surf disposal to be monitored to ensure that if unexpected impacts were to occur, the results could be used during the evaluation of future dredging projects by the Commission and other agencies. Consideration of the information provided by a monitoring report would help ensure that such future projects are conducted in a manner that will maintain and enhance the biological capacity of the habitat.

The Commission notes that it has relied, in part, on information provided by the 1998 monitoring report prepared after the last episode of surf zone dredge material disposal in its evaluation of the current permit application. Accordingly, the Commission attaches Special Condition No. 1 which requires that prior to issuance of the permit, the applicant submit a surf zone disposal monitoring plan for the review and approval of the Executive Director. The plan must provide for monitoring over a five year period of: (1) the pattern and rate of dispersal of material deposited at the site (2) sediment characteristics at the disposal site and at the control site; (3) the species composition and abundance of intertidal invertebrates in areas directly affected by the disposal of dredge spoils and at a control site near the disposal area over a three year period; and (4) the effects of the surf zone disposal on fisheries.

As conditioned, the Commission finds that the proposed project is consistent with the requirements of Sections 30231 and 30233 of the Coastal Act that any proposed dredging or fill project must maintain and enhance the biological productivity and functional capacity of the habitat, where feasible.

5. Use of Dredged Material for Beach Replenishment

The fifth test set forth above is that dredge spoils suitable for beach replenishment be transported to appropriate beaches or into suitable long shore current systems. One of the concerns of any dredging project is the loss of sand to the particular longshore current cell and the possible resulting downcoast erosion. When possible, sandy dredge spoils should be disposed in a location that will ensure downcoast disposal.

The sediment to be dredged consists of typically fine-grained material composed of approximately 15% sand, 45% silt, and 40% clays. Only the sand portion of the material is suitable for beach nourishment, and given the small component of sand in the dredged material, the applicants do not claim that the project can be characterized as a beach nourishment project. Nevertheless, given the proposed location and timing the project to be conducted during the winter months when a high background level of turbidity exists along the open ocean shoreline, the proposed disposal site is an appropriate beach for beach replenishment. As the site is within the surf zone, the material would be discharged where the sand component may enter the long shore current system, although the beach in question is not in a sand-starved condition.

Furthermore, the site is sufficiently far from the mouth of Humboldt Bay that discharges at the site would not contribute to a mounding or shoaling problem within a navigational area. Therefore, the Commission finds that the small component of the material to be dredged that is suitable for beach nourishment will be transported to an appropriate beach consistent with the sand supply requirements of Section 30233 of the Coastal Act.

D. Permit Authority, Extraordinary Methods of Repair and Maintenance, Shoreline Protection Structures.

Coastal Act Section 30610(d) generally exempts from Coastal Act permitting requirements the repair or maintenance of structures that does not result in an addition to, or enlargement or expansion of the structure being repaired or maintained. However, the Commission retains authority to review certain extraordinary methods of repair and maintenance of existing structures that involve a risk of substantial adverse environmental impact as enumerated in Section 13252 of the Commission regulations. Section 30610 of the Coastal Act provides, in relevant part:

> *Notwithstanding any other provision of this division, no coastal development permit shall be required pursuant to this chapter for the following types of development and in the following areas: . . .*
>
> *(d) Repair or maintenance activities that do not result in an addition to, or enlargement or expansion of, the object of those repair or maintenance activities; provided, however, that if the commission determines that certain extraordinary methods of repair and maintenance involve a risk of substantial adverse environmental impact, it shall, by regulation, require that a permit be obtained pursuant to this chapter.* [Emphasis added.]

Section 13252 of the Commission regulations provides, in relevant part:

> *(a) For purposes of Public Resources Code section 30610(d), the following extraordinary methods of repair and maintenance shall require a coastal development permit because they involve a risk of substantial adverse environmental impact:…*
>
> *(3) Any repair or maintenance to facilities or structures or work located in an environmentally sensitive habitat area, any sand area, within 50 feet of the edge of a coastal bluff or environmentally sensitive habitat area, or within 20 feet of coastal waters or streams that include:*
>
> *(A) The placement or removal, whether temporary or permanent, of rip-rap, rocks, sand or other beach materials or any other forms of solid materials;*

> *(B) The presence, whether temporary or permanent, of mechanized equipment or construction materials.*
>
> *All repair and maintenance activities governed by the above provisions shall be subject to the permit regulations promulgated pursuant to the Coastal Act.…*[Emphases added]

The rock slope revetment repair portion of the proposed project is a repair and maintenance project because it does not involve an addition to or enlargement of the levee. The approximately 100-foot linear portion of the levee to be repaired is only a small portion of the shoreline protective works that extends for more than a 1,750 lineal feet along the shoreline of the Woodley Island Marina. Although certain types of repair projects are exempt from CDP requirements, Section 13252 of the regulations requires a coastal development permit for extraordinary methods of repair and maintenance enumerated in the regulation. The proposed rock slope revetment repair involves the removal of dislodged riprap from an environmentally sensitive habitat area (Humboldt Bay) and related replacement of these materials onto a shoreline protective structure that is situated within 20 feet of the coastal waters of Humboldt Bay, utilizing mechanized equipment. The proposed repair project therefore requires a coastal development permit under Sections 13252(a)(3)(A) and (B) of the Commission's administrative regulations.

In considering a permit application for a repair or maintenance project pursuant to the above-cited authority, the Commission reviews whether the proposed method of repair or maintenance is consistent with the Chapter 3 policies of the Coastal Act. The Commission's evaluation of such repair and maintenance projects does not extend to an evaluation of the conformity with the Coastal Act of the underlying existing development.

Although not located within the berthing and docking locations proposed for dredging, eelgrass (Zostera marina) beds occupy an approximately 50 to 100 square-foot area near the westernmost slips of the marina. These patches of eelgrass could be impacted by the proposed rock slope revetment repairs if materials or personnel were to enter the area and either trample, crush, or up-root the plants during repositioning of the dislodged shoreline protective materials.

To minimize the potential adverse effects to eelgrass from this portion of the project the Commission attaches Special Condition No. 3. Special Condition No. 3 requires that care be taken to avoid trampling or uprooting areas of eelgrass during the repair and maintenance work. In addition, the special condition includes provisions for training contractor personnel as to the presence and identification of eelgrass outcroppings within the vicinity of the subject shoreline protective works repair. These measures would reduce potential cumulative impacts to the estuarine resources of Humboldt Bay associated with the rock slope revetment repair.

E. Public Access.

Coastal Act Section 30210 requires that maximum public access opportunities be provided when consistent with public safety, private property rights, and natural resource protection. Coastal Act Section 30211 requires that development not interfere with the public's right of access to the sea where acquired through use. Coastal Act Section 30212 requires that public access from the nearest public roadway to the shoreline and along the coast be provided in new development projects, except in certain instances, as when adequate access exists nearby. In applying Sections 30210, 30211, and 30212, the Commission is limited by the need to show that any denial of a permit application based on those sections, or any decision to grant a permit subject to special conditions requiring public access, is necessary to avoid or offset a project's adverse impact on existing or potential public access.

The objectives of the project to ensure that vessels can continue to use berthing areas at the Woodley Island Marina for mooring will help maintain recreational boating as a form of public access to Humboldt Bay and the ocean. In addition, as the project would have a duration of only a few months, as all portions of the disposal pipeline and the dredging area itself would be sufficiently marked to warn boaters of its presence, and all portions of the line crossing navigational channels would be submerged to the bottom where they would not block vessel passage, the project will have no significant effect on vessel access during project construction. Similarly, as the portion of the pipeline that crosses the Samoa Peninsula and the disposal site would also be marked and lighted during the several months of the winter that the project would be undertaken and would not preclude passage up and down the peninsula by public access users, the project will have no significant impact on public access use of the Samoa Peninsula. Furthermore, as the dredging would only maintain the existing mooring and maneuvering areas, the proposed project will not create new vessel mooring opportunities that could draw more people to the waterfront and create more demand for public access.

Therefore, for the reasons indicated above, the proposed project will not have any significant adverse effect on public access. The Commission finds that the proposed project, which does not include any new provision for shoreline public access, is consistent with the public access policies of the Coastal Act.

F. Water-oriented Recreational Activities.

In addition to the provisions of Sections 30224 and 30233(a)(2) for enhancing and maintaining facilities for recreational boating use, the policies of the Coastal Act also extend to other recreational uses of coastal waters and oceanfront lands. Section 30220 states that, "*Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses*." Further, Section 30221 reads, "*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."

As further described in Project and Site Description Findings Section IV.A.3, the proposed nearshore disposal of the dredged bay sediments would be at a location on the open strand of the North Spit of Humboldt Bay situated west-southwest of the intersection of Highway 255 and New Navy Base Road (see Exhibit No. 4). This site lies in the vicinity of two locally popular recreational sites, the so-called "Power Poles" surfing spot and Samoa Beach, located approximately 2,000 feet to the south-southwest of the proposed spoils slurry pipeline discharge point. Samoa Beach is one of three day-use coastal access facilities developed along the ocean side of the Samoa Peninsula, improved with 25 off-street parking areas. This facility is used by local residents as well as residents of other nearby communities for beach walking, picnicking, surf fishing, and other similar recreational pursuits. No specific data has been collected for the areas adjoining the proposed nearshore disposal site with respect to recreational use levels.

At the project's September 14, 2005 hearing, numerous speakers commented about the potential impacts the nearshore disposal of dredged materials could have on the quality of recreational opportunities in areas surrounding the proposed spoils outfall. Several commenters raised concerns over: (1) the potential health risks to persons engaged in water-related recreational activities, including surfing, surf fishing, sea kayaking, and dog walking in and along the ocean waters in proximity to the pipeline outfall; and (2) the desirability of recreating in those water and beach areas in the presence of the discharge from an aesthetic standpoint.

With regard to impacts to coastal recreation, especially water-oriented activities, the Commission acknowledges that the discharging of dredged materials into the ocean waters at the proposed disposal site would affect the desirability of recreating in those water and beach areas due to the presence of elevated suspended sediment content, detectable concentrations of hydrogen sulfide, discoloration of the water column, and for some the presence of the pipeline and/or the knowledge that dredged materials are being discharged into the nearshore area. However, the Commission notes that: (1) as no significant risks to human health have been found to likely result from exposure to the dredged materials as discussed in detail in Water Quality at the Nearshore Disposal Site Findings Section IV.C.2(8); (2) alternative sites exist in relative proximity nearby where these activities could be pursued; and (3) the discharge of dredged materials is temporary and of relatively short-term duration occurring over a period of about four months out of an approximately seven- to ten-year maintenance cycle. Therefore, the Commission finds that no significant adverse impacts to water-oriented coastal recreational opportunities will not result from the development as conditionally approved and the project as conditioned is consistent with Sections 30220 and 30221 of the Coastal Act.

G. <u>Visual Resources</u>.

Section 30251 of the Coastal Act requires that the scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance, and requires in applicable part that permitted development be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, and to be visually compatible with the character of surrounding areas. Furthermore, Section 30240(b) of the Coastal Act states that development in areas adjacent to 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 recreation areas.

Maintenance dredging and related spoils disposal operations present a temporary intrusion into visual resource areas and occur generally along the disposal line within Humboldt Bay, or in proximity to the spoils disposal outfall on the North Spit of the Samoa Peninsula. The bay is generally visible from numerous public viewing areas. These include the Eureka waterfront itself, the A.M. Bistrin Memorial Bridge crossing of State Route 255 over Humboldt Bay, and along the bay shorelines of Indian Island and the Samoa Peninsula. In addition the dredge spoils disposal outfall would be visible from the open ocean and sandy beach areas in the immediate vicinity of the discharge line. In terms of scenic areas of importance, the City of Eureka and the County of Humboldt LCPs both designate views of Humboldt Bay and the Pacific Ocean from specified viewing points as visual resource areas.

The project elements that would occur within the public viewshed include: (1) the dredge platform itself, along with any floating sections of pipe; (2) sections of flexible pipe placed across land segments to transport sediment for nearshore disposal, and (3) the ocean beach portions of the pipeline. However, views of these facilities would not result in a significant impairment of scenic resources, for the following reasons: (1) the presence of the dredge would simply blend in with other vessels already visible and should not be counted as an adverse impact, and (2) the surface-lain flexible piping for transporting dredge spoils slurry would be similarly temporary and vary in locale, depending on the particular disposal destination of the dredged materials.

Therefore, given its temporary and transient nature, and the fact that the proposed dredging and disposal activity would not significantly alter scenic public views within and along the shorelines of Humboldt Bay along the route of the dredge spoils transmission pipeline or along the open ocean shoreline in proximity to the dredge spoils pipeline outfall, the Commission finds that this project is consistent with Sections 30251 and 30240(b) of the Coastal Act.

H. U.S. Army Corps of Engineers Review.

The project is within and adjacent to a navigable waterway and is subject to review by the U.S. Army Corps of Engineers (Corps). Pursuant to the Federal Coastal Zone Management Act, any permit issued by a federal agency for activities that affect the

coastal zone must be consistent with the coastal zone management program for that state. Under agreements between the Coastal Commission and the U.S. Army Corps of Engineers, the Corps will not issue a permit until the Coastal Commission approves a federal consistency certification for the project or approves a permit.

On December 10, 1997, pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, the U.S. Army Corps of Engineers (Corps) issued Permit No. 22215N to the Harbor District. The permit, which expires on March 15, 2008, is for maintenance dredging of accumulated sediment in the Outer and Inner Reaches of the Eureka Channel in Humboldt Bay, and for surf disposal of dredged material in the Pacific Ocean off the Samoa Peninsula, Humboldt County, California. The first dredging episode took place in 1998, and permitted the District to excavate and dispose of 67,155 cubic yards (cy) of dredged materials. Although SONCC coho salmon was listed as threatened at the time the permit was issued, the Corps did not consult NMFS. However, a special condition of each permit required completion of Section 7 Endangered Species Act (ESA) consultation, prior to authorization of any additional dredging episode. As discussed in the following finding, a final biological opinion regarding the project's potential impacts to coho salmon and the essential fish habitat was released on December 6, 2005 by the NMFS for the November 2005 – March 2006 project timeline (see Exhibit No. 11). An extension to the opinion or a new opinion covering the project's November 2006-March 2007 timeframe must be secured before the proposed dredging for that time period can be authorized by the Corps. Based upon the recommendations received from NMFS as contained in the biological opinion, the terms and conditions of Permit No. 22215N may be changed through a Letter of Modification Issued by the Corps.

To ensure that the dredging activities ultimately approved by the Corps is the same as the project authorized herein, the Commission attaches Special Condition No. 3 which requires the applicant to demonstrate that it has all necessary approvals from the U.S. Army Corps of Engineers for that season's dredging operations prior to commencing dredging each season. The applicant is required to inform the Executive Director of any changes to the project by the Corps and not implement the changes until the applicant obtains a coastal development permit amendment.

I. <u>Consultations by National Marine Fisheries Service</u>.

Pursuant to Section 7 of the Federal Endangered Species Act (16 USC 1531) and the Magnuson-Stevens Fishery Conservation and Management Act (50 CFR 600), the U.S. Army Corps of Engineers Federal Clean Water Act Section 404 individual permit is subject to prerequisite and interim consultations with the National Marine Fisheries Service (NMFS) regarding the project's potential environmental effects on fisheries. A final biological opinion regarding the project's potential impacts to coho salmon and the essential fish habitat was released on December 6, 2005 by the NMFS for the November 2005 – March 2006 project timeline (see Exhibit No. 11). An extension to the opinion or

a new opinion covering the project's November 2006-March 2007 timeframe must be secured before the proposed dredging for that time period can be authorized by the Corps.

To ensure that project incorporates operational procedures and restrictions identified by NMFS as necessary for minimizing the take of coho salmon to incidental levels, the Commission attaches Special Condition No. 5. Furthermore, to ensure that any extended or superseding biological opinion issued by NMFS addresses the same project operational procedures and restrictions authorized herein, the Commission includes within Special Condition No. 5 a requirement that the applicant submit, for the review of the Executive Director, a copy of the extended or revised final biological opinion issued for the dredging project, and notification of any project changes required by the Corps in response to the recommendations within the final opinion. The Executive Director would determine whether an amendment to the coastal development permit would be required before the November 2006-March 2007 dredging work could commence.

J. Compliance with California Endangered Species Act.

SONCC coho salmon are also listed on the California Endangered Species Act as "threatened." As set forth in Section 2080.1 of the California Fish and Game Code, for any threatened or endangered species co-listed under both the Federal Endangered Species Act and the California Endangered Species Act, for which the responsible federal resource agency has issued an incidental take statement or permit, the California Department of Fish and Game (CDFG) is directed to conduct a consistency review of that federal agency's action with CESA. To assure that the Commission is apprised of the results of such a consistency review, Special Condition No. 6 has been attached to the permit's approval requiring that, prior to issuance of the subject coastal development permit, the permittee provide a copy of the CDFG's determination. Alternately, if the CDFG is compelled to issue a take permit pursuant to CESA, the applicant shall similarly submit a copy of the state incidental take permit project and the project shall not commence until the Executive Director has reviewed the take permit to determine whether an amendment to the coastal development permit is required.

K. California Environmental Quality Act.

Section 13096 of the Commission's administrative regulations requires Commission approval of coastal development permit applications to be supported by a finding showing the application, as modified by any conditions of approval, to be consistent with any applicable requirement of the California Environmental Quality Act (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 effect the proposed development may have on the environment.

The Commission incorporates its findings on conformity with the Chapter 3 policies of the Coastal Act at this point as if set forth in full. These findings address and respond to all public comments regarding potential significant adverse environmental effects of the project that were received prior to preparation of the staff report. As specifically discussed in these above findings, which are hereby incorporated by reference, mitigation measures that will minimize or avoid all significant adverse environmental impacts have been required. As conditioned, there are no other feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impacts which the activity may have on the environment. Therefore, the Commission finds that the proposed project can be found to be consistent with the requirements of the Coastal Act to conform to CEQA.

V. EXHIBITS

1. Regional Location Map
2. Vicinity Map
3. Mid-Humboldt Bay Maintenance Dredging Overview Map
4. Project Narrative and Site Plan
5. Woodley Island Marina Bathymetric Survey
6. Woodley Island Marina Maintenance Dredging Cross-sections
7. Dredge Spoils Pipeline Route Map
8. Dredge Spoils Nearshore Disposal Site Map
9. Executive Summary – 1998 Dredge Spoils Disposal Site Monitoring Report
10. Excerpts, *Sampling Results Report for Dioxin/Furans, PCP, and PCB Testing*, Pacific Affiliates, Inc., December 2005
11. Excerpts, NMFS' FESA Section 7 Consultation Biological Opinion
12. Review Agency Correspondence
13. Memo from Brian Ross, USEPA Region 9 Dredging and Sediment Management Team
14. Memo from Jack Gregg PhD, CCC Water Quality Unit
15. General Correspondence

ATTACHMENT NO. 1

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.