

CALIFORNIA COASTAL COMMISSION

SOUTH CENTRAL COAST AREA
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 Commission Action:

**STAFF REPORT: REGULAR CALENDAR**

APPLICATION NO.: 4-06-086

APPLICANT: Ventura Port District

AGENT: Richard Parsons

PROJECT LOCATION: Ventura Harbor, City of San Buenaventura; Beach deposition sites in the cities of San Buenaventura and Oxnard (Ventura County)

PROJECT DESCRIPTION: Implement a Maintenance Dredging Program in the outer and inner areas of Ventura Harbor through April 15, 2016. Maintenance dredging of the *Inner Harbor*, to design depths, would entail up to 100,000 cu. yds. of material to be dredged annually from the navigation channels, berthing areas, and sand traps within the harbor and deposited: (1) within surf zone near the mouth of the Santa Clara River, (2) three interior depressions within the interior of the harbor; and/or (3) in the 4,000 feet of nearshore area off of McGrath State Beach. In addition, up to 2,500 cu. yds. of fine-grained material would be dredged from the mouth of the Arundell Barranca and/or the Olivas Park storm drain with deposition outside of the coastal zone.

Maintenance dredging of the *Outer Harbor*, to design depths, would entail up to 600,000 cu. yds. of material to be removed annually from the entrance channel and offshore sand traps and deposited: (1) within the surf zone along 10,000 feet of beach extending southward from the harbor's south jetty, including South Beach, the area near the Santa Clara River mouth, and McGrath State Beach; (2) within the surf zone north of the harbor entrance in Cells 1 and 2 of the Pierpont Groin Field; (3) in the 4,000 feet of nearshore area off of McGrath State Beach; and/or (4) the 1,000 feet of nearshore area off of San Buenaventura State Beach south of the Ventura Pier.

Dredging would be accomplished by means of hydraulic dredging with pipeline deposition into designated *surf zone areas* or alternately by means of clamshell or hopper dredging with deposition in the *nearshore* waters. Dredging at the mouth of the Arundell Barranca and/or the Olivas Park storm drain would be accomplished by a shore-based clamshell. The dredging and deposition period will run from after Labor Day in September to Memorial Day in May of the following year, subject to timing constraints for resource protection.

SUMMARY OF STAFF RECOMMENDATION

Staff recommends **approval** of the proposed project with seventeen (17) special conditions regarding: (1) timing and implementation of project operations, (2) dredging and disposal operation plan, (3) sediment analysis, (4) dredge spoil compatibility, (5) nearshore disposal project monitoring, (6) shoreline monitoring program; (7) *Caulerpa* surveys and monitoring; (8) sensitive species surveys and monitoring; (9) operations and maintenance responsibilities; (10) operation staging; (11) agency coordination; (12) public access program; (13) required approvals; (14) snowy plover and least tern monitoring; (15) water quality monitoring; (16) assumption of risk; and (17) project term.

While the Cities of San Buenaventura and Oxnard have certified local coastal programs, the proposed project will be conducted in areas that are subject to the retained coastal development permit authority of the Coastal Commission. Thus, the applicable standard of review is the Chapter 3 policies of the Coastal Act.

APPROVALS RECEIVED: Ventura County Air Pollution Control District Permit to Operation through March 31, 2007 (dated May 24, 2006); California Department of Parks and Recreation Right of Entry Permit through March 31, 2006 (dated January 3, 2006); U.S. Army Corps of Engineers, Department of the Army Permit 945048100-TW through November 22, 2005 (11/22/00); Letter re: extension of Department of the Army Permit 945048100-TW effectiveness to February 15, 2016, U.S. Army Corps of Engineers, November 18, 2005; California Regional Water Quality Control Board Waste Discharge Requirements Order No. R-4-2003-0097, Ventura Port District Maintenance Dredging through June 30, 2008 (dated July 10, 2003); State Lands Commission Amendment to Lease PRC 2881.9 (August 19, 1992); California Coastal Commission Negative Determination ND-036-04 dated June 22, 2004.

SUBSTANTIVE FILE DOCUMENTS: Draft Recovery Plan for the Pacific Coast Population of Western Snowy Plover (USFWS, May 2001); Disturbance to Wintering Western Snowy Plovers (Lafferty, 2001, Biological Conservation, No. 101, pg 315-325); Ventura Harbor U.S. Army Corps of Engineers Dredging, January 2003, California Least Tern & Western Snowy Plover Monitoring Report, Bowland & Associates, May 30, 2003; Ventura Harbor U.S. Army Corps of Engineers Dredging, June 2004, Western Snowy Plover Monitoring Report, Bowland & Associates, June 8, 2004; Ventura Harbor U.S. Army Corps of Engineers Dredging, California Least Tern & Western Snowy Plover 2005 Monitoring Report, Bowland & Associates, June 28, 2006; Ventura Harbor U.S. Army Corps of Engineers Dredging, Western Snowy Plover & California Least Tern 2006 Monitoring Report, Bowland & Associates, July 2005; Final Report, Sampling and Analysis, Ventura Harbor Sediment Investigation (Applied Environmental Technologies, Inc. (July 1, 2002); Final Report, Sampling and Analysis, Ventura Harbor Sediment Investigation (Applied Environmental Technologies, Inc. (August 19, 2005); Final Environmental Assessment for Ventura Harbor Six-Year Maintenance Dredging Program (U.S. Army Corps of Engineers, August 2004); Consistency Determinations

CD-64-98 (Six-year maintenance dredging program), CD-35-92 (Harbor improvement plan modifications), CD-53-91 (Six-year dredging plan modification), CD-17-89 (Harbor Improvement Plan), CD-42-88 (Maintenance dredging and surf zone disposal), CD-51-86 (Maintenance dredging and beach disposal); Coastal Development Permit (CDP) No. 4-83-257 (Ventura Port District), as amended; CDP No. 4-01-143 (Ventura Port District); CDP No. 4-02-074 (BEACON).

I. STAFF RECOMMENDATION

MOTION: *I move that the Commission approve Coastal Development Permit No. 4-06-086 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 and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. 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

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. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
3. **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.

4. **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. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

1. **Timing and Implementation of Project Operations**

All dredging operations, including operation of equipment, spoil disposal, placement or removal of disposal pipelines, or other construction, maintenance, material removal, or activities involving mechanized equipment shall be prohibited:

- (a) Within 100 yards of, and on the entire beach seaward of, the Least Tern nesting areas, identified annually by the Department of Fish and Game, or the State Park Resource Protection Area from March 15 through August 31 to avoid disturbance during the breeding season of the Least Tern.
- (b) In the nearshore disposal area off of McGrath State Beach from March 15 through August 31 to protect the least tern's foraging ability, or in any other location where least terns forage if least terns are present, as documented in the surveys conducted pursuant to Special Condition Eight (8) and Special Condition Fourteen (14).
- (c) On any part of the beach and shorefront in the project area from the Friday prior to Memorial Day in May through Labor Day in September to avoid impact on public recreational use of the beach.
- (d) On any part of the beach in those portions of the project area where California grunion (of any life stage, including eggs) are present during any run periods and corresponding egg incubation periods, as documented by the surveys conducted pursuant to Special Condition Five (5). In the event that sediment needs to be placed below the high tide line from March 14 to August 31, the applicant shall submit evidence, for the review and approval of the Executive Director, that surveys for grunion have been conducted pursuant to Special Condition Eight (8) at the project site and that no grunion were found. No work shall occur below the high tide line between March 14 and August 31 without the authorization of the Executive Director.
- (e) Within federally designated critical habitat of the Western Snowy Plover from March 1 through September 30 to avoid adverse effects to nesting Western Snowy Plovers, or in any other area where snowy plovers may be, if they are present, as documented by the surveys conducted pursuant to Special Condition Eight (8) and Special Condition Fourteen (14).

2. Dredging and Disposal Operation Plan

The applicant shall submit a dredging and disposal operation plan within thirty (30) days, but no later than two (2) weeks, prior to each dredging operation for the review and approval by the Executive Director. The plan shall include at a minimum:

- (a) Site map showing the area of the Ventura Harbor to be dredged and receiver site(s). Nearshore disposal areas shall be plotted in latitude and longitude coordinates. All maps shall be drawn to scale.
- (b) Detailed description of the dredging operation, including the method of dredging and disposal, volume of dredged spoils to be removed, and volume to be deposited at the receiver site(s).
- (c) Description (e.g., size, type, capacity) of equipment to be used, including bin capacity when hopper and/or clamshell dredging is utilized.
- (d) Schedule of the dredging operation's proposed beginning and ending dates.
- (e) Results of a grain size and chemical analysis, pursuant to Special Condition Three (3).
- (f) Evidence that local agencies were apprised of the availability of sand resources and the target destination for the current year's dredging operation.
- (g) Explanation of receiver site(s) priority.
- (h) All relevant monitoring reports required pursuant to this permit.
- (i) Debris management plan to prevent disposal of solid debris at receiver site(s). The debris management plan shall include: sources and expected types of debris, debris separation and retrieval methods, and debris disposal methods.

3. Sediment Analysis

A. Prior to the issuance of the coastal development permit and prior to the commencement of work each subsequent year, an engineer(s) or environmental professional(s), with appropriate qualifications acceptable to the Executive Director, shall prepare a Sampling and Analysis Plan and conduct testing at each source site for the review and approval of the Executive Director. The Sampling and Analysis Plan shall be consistent with the following:

- (1) Sampling Frequency –Samples shall be collected throughout the source area, with one (1) sample per 0.5 acres, and a minimum of five (5) samples per source site for contaminant testing and a minimum of three (3) samples per source site for all other sediment testing. For the source site samples, the boring depth shall extend approximately one-foot (1-ft) below the anticipated excavation depth.
- (2) Grain Size -- Physical analysis shall be conducted on representative samples of each source material that shall be used for placement on beaches. The material shall be analyzed for consistency with the U.S. Army Corps of

Engineers (ACOE) / Environmental Protection Agency (EPA), State Water Resources Control Board and California Regional Water Quality Control Board (RWQCB) criteria for beach replenishment.

- (3) Contaminants -- Chemical analysis shall be conducted on representative samples of each source material. The material shall be analyzed for consistency with EPA, ACOE, State Water Resources Control Board and RWQCB requirements for beach replenishment. At a minimum, the chemical analysis shall be conducted consistent with the joint EPA/Corps *Inland Testing Manual*. If the ACOE / EPA, State Water Resources Board or RWQCB determine that the sediment exceeds any contaminant threshold levels, the materials shall not be placed on the project sites.
- B. The analysis shall include confirmation by the U.S. Army Corps of Engineers and California Regional Water Quality Control Board that the material proposed for beach replenishment meets the minimum criteria necessary for placement on the sandy beach. Source material that does not meet the applicable physical and chemical standards for beach replenishment shall not be used for shoreline disposal/beach replenishment purposes. In the event that dredged material is not suitable for disposal on the sandy beach or within the intertidal zone, the applicant shall provide evidence to the Executive Director of the location of the disposal site for all dredged material prior to removal of the material from the project site. Should the dumpsite be located in the Coastal Zone, a coastal development permit shall be required.

4. Dredge Spoil Compatibility

- A. The dredged material shall meet all applicable federal and state beach nourishment or dredge spoil discharge requirements and comply with the grain size requirements for the locations as cited below.
- B. Dredged material meeting EPA and Regional Water Quality Control Board criteria for beach replenishment, and for which an average of 91% or more of the material is coarse grained (retained on a Standard U.S. Sieve Size No. 200), may be deposited in the following locations, in accordance with project plans shown in Exhibits 3 through 8:
- (1) Nearshore area south of San Buenaventura pier;
 - (2) Cells 1 and 2 of the Pierpont Groin Field;
 - (3) South Beach;
 - (4) Surf zone Santa Clara River;
 - (5) Surf zone at McGrath State Beach;
 - (6) Nearshore area at McGrath State Beach; and/or
 - (7) Surfer's Point, provided that (1) a detailed site plan is approved pursuant to Special Condition Two and (2) evidence is submitted, for the review and

approval of the Executive Director, illustrating that there would be no adverse impacts to coastal resources at this site.

- C. Finer sands and silts meeting applicable federal and state dredge spoil discharge requirements, and for which an average of 90% or less of the material is coarse grained (retained on a Standard U.S. Sieve Size No. 200), may be deposited in the following locations, in accordance with project plans shown in Exhibits 3 through 5:
- (1) Inner Harbor Depressions;
 - (2) Surf zone of the Santa Clara River no closer than 300 feet from the Santa Clara River and only while the River is flowing at 100 cubic feet per second as measured at USGS Montalvo Station in the vicinity of Victoria Avenue bridge; and/or
 - (3) Nearshore area at McGrath State Beach.
- D. Fine-grained material dredged from the mouth of the Arundell Barranca and/or the Olivas Park storm drain must be deposited outside of the coastal zone.
- E. Dredged material that does not meet the physical or chemical standards for beach replenishment or spoil discharge shall not be discharged at any of the deposition sites. At such time, the applicant shall identify an alternate location suitable to accept contaminated sediment. Should the dumpsite be located in the Coastal Zone, a coastal development permit shall be required.

5. Nearshore Disposal Project Monitoring

Maintenance dredging may be conducted using a clamshell or hopper dredge with nearshore disposal off of McGrath State Beach as shown in Exhibit 4. Upcoast nearshore disposal may also be conducted pursuant to the beach nourishment agreement with the City of San Buenaventura, off San Buenaventura State Beach downcoast of the Ventura Pier as shown in Exhibit 7. To evaluate the appropriateness of nearshore disposal at these two locations and its effectiveness in beach nourishment, the nearshore alternative shall be subject to the review and approval of the Executive Director based on the following monitoring report:

- (a) The applicant shall measure and document the response of adjacent shorelines to the placed berm and the prevailing environmental conditions, and document the dispersion and migration of the berm itself. The monitoring program parameters shall correspond to the Maintenance Dredging Monitoring Plan For Nearshore Disposal (Exhibit 11), including pre- and post- dredge surveys of the beach profiles and bathymetry. A baseline survey of the nearshore project area shall take place no earlier than four (4) weeks prior to any dredging operation. As described in the Monitoring Program, data shall be collected for a period of one year, a minimum of quarterly, after any disposal operation at a nearshore site. Monitoring results shall be provided to the Executive Director following completion of the first year of the program. Subsequent utilization of the nearshore method shall require Executive Director review and approval, and shall be contingent upon the monitoring program

demonstrating that no adverse impacts to downcoast shoreline sand supply result from this method. The Executive Director's consideration will include impacts to recreational uses including surfing and swimming. Modifications to the monitoring program specified in Exhibit 11 are subject to review and approval of the Executive Director.

- (b) The Executive Director may waive the full year post-dredging monitoring requirement, if the applicant submits evidence, subject to the Executive Director's review and approval, which shows that the nearshore berm has completely dispersed.

6. Shoreline Monitoring Program

A. The applicant shall conduct an annual shoreline monitoring program to document shoreline changes in the project vicinity. Documentation shall include but not be limited to:

- (1) Annual beach profiles shall be provided by the applicant for the term of the project. The profiles shall be taken (1) by October 15 of each year and (2) in January of each year or immediately after completion of any dredging operation. The profiles shall be at the twelve locations utilized in the baseline survey (example provided in Exhibit 12) and shall be conducted in a manner consistent with the profile surveys conducted annually since 1989. In addition to the baseline survey locations, a minimum of two beach profiles shall be performed in the vicinity of the McGrath State Beach deposition site. A minimum of two beach profiles shall be performed in the vicinity of the Surfer's Point deposition site, for any year the deposition site is utilized. Minimum and maximum tide levels at the time of profile survey shall be noted on the profiles.
- (2) An indication of beach width and sand volume changes to the beaches within the area profiles. This shoreline analysis shall include the deposition area along McGrath State Beach. The shoreline analysis shall include the Surfer's Point receiver site for any year the deposition site is utilized. The applicant shall utilize aerial photographs, to the extent feasible, to prepare the summary of beach width and sand volume changes.
- (3) Data detailing the annual quantity and placement of dredged material.

B. The monitoring information shall be submitted to the Executive Director by July 1 of each year as well as to other public and federal, state, and local entities who wish to obtain such information. At a minimum, the annual reports shall be furnished to the Executive Director of the Commission, the Cities of Ventura and Oxnard, the Army Corps of Engineers (Los Angeles District) and BEACON.

7. Caulerpa Surveys and Monitoring

A. Not earlier than 90 days nor later than 30 days prior to commencement or re-commencement of any development authorized under this coastal development

permit, the applicant shall undertake a survey of the project area and a buffer area at least 35 feet beyond the project area to determine the presence of the invasive alga *Caulerpa taxifolia*. The survey shall include a visual examination of the substrate and inspection of dredging equipment.

- B. The survey protocol shall be prepared in consultation with the Regional Water Quality Control Board, the California Department of Fish and Game, and the National Marine Fisheries Service.
- C. Within two (2) weeks of completion of the survey, the applicant shall submit the results of the survey:
 - (1) for the review and approval of the Executive Director; and
 - (2) to the Surveillance Subcommittee to the Southern California Caulerpa Action Team (SCCAT). The SCCAT Surveillance Subcommittee may be contacted through William Paznokas, California Department of Fish & Game (858/467-4218) or Robert Hoffman, National Marine Fisheries Service (562/980-4043).
- D. Unless the Executive Director otherwise determines, if the survey identifies any *Caulerpa taxifolia* within the project area, the applicant shall submit to the Commission an application for a new coastal development permit or an amendment to this permit authorizing measures formulated to avoid, minimize and otherwise mitigate impacts that the proposed development might have resulting from the dispersal of *Caulerpa taxifolia* in the project area. The applicant shall: 1) refrain from commencement of the project until a valid permit or amendment is obtained, and 2) upon authorization of the permit or amendment, implement the approved mitigation measures in the manner and within the timeframe(s) specified in the approval.

8. Sensitive Species Surveys and Monitoring

- A. The applicant shall retain the services of a qualified biologist or environmental resources specialist with appropriate qualifications acceptable to the Executive Director, prior to commencement of dredging or discharge activities. The environmental resource specialist shall conduct a survey of the project site, to determine presence and behavior of sensitive species, one day prior to commencement of installation or removal of the discharge pipeline, or any grading activities on the beach. In the event that any sensitive wildlife species (including but not limited to California least tern, western snowy plover, California grunion) exhibit reproductive or nesting behavior, the environmental specialist shall require the applicant to cease work, and shall immediately notify the Executive Director and local resource agencies. Project activities shall resume only upon written approval of the Executive Director.
- B. The applicant shall retain the services of a qualified biologist or environmental resources specialist with appropriate qualifications acceptable to the Executive

Director, prior to any dredging or discharge activities from March through August. The environmental resource specialist shall conduct a survey of the project site, to determine presence of California grunion during the seasonally predicted run period and egg incubation period, as identified by the California Department of Fish and Game. If any grunion spawning activity and/or if grunion are present in or adjacent to the project site in any life stage, no construction, maintenance, or any grading and grooming activities on the beach or other project activities shall occur until the next predicted run in which no grunion are observed. Surveys shall be conducted for all seasonally predicted run periods in which material is proposed to be placed at any of the above sites. If material is in the process of being placed, the material shall be graded and groomed to contours that will enhance the habitat for grunion prior to the run period. Furthermore, placement activities shall cease in order to determine whether grunion are using the beach during the following run period. The resource specialist shall provide inspection reports after each grunion run observed and shall provide copies of such reports to the Executive Director and to the California Department of Fish and Game.

- C. The applicant shall submit documentation, prepared by the biologist or environmental specialist, which indicates the results of each pre-construction survey, including if any sensitive species were observed and associated behaviors or activities. Location of any nests observed shall be mapped.
- D. The environmental specialist shall be present during the installation and removal of the discharge pipeline, and during grading of the beach. The environmental resource specialist shall require the applicant to cease work should any breach in permit compliance occur or if any unforeseen sensitive habitat issues arise. The biological monitor(s) shall immediately notify the Executive Director if activities outside of the scope of Coastal Development Permit 4-06-086 occur or if habitat is removed or impacted beyond the scope of the work indicated in Coastal Development Permit 4-06-086. If significant impacts or damage occur to sensitive wildlife species, the applicant shall be required to submit a revised, or supplemental program to adequately mitigate such impacts. The revised, or supplemental, program shall be processed as an amendment to this coastal development permit.

9. Operational Responsibilities

It shall be the applicant's responsibility to assure that the following occurs concurrent with, and after completion of, all project operations:

- (a) At the completion of each year's dredging and deposition, but prior to the timing restrictions specified in Special Condition One (1) above, the sand deposited on the beach shall be graded to natural beach contours to restore the dynamic shoreline habitat and to facilitate recreational use.
- (b) All pipeline operations and vehicle traffic shall be limited to the 50-foot wide corridor along the proposed pipeline route.

- (c) All vehicle traffic associated with placement of the pipeline, including the movement of sections of the pipeline, must be preceded by a designated individual walking ahead of the equipment being moved to ensure that no snowy plovers or other sensitive species are at risk from vehicle or equipment movement.
- (d) No pipes or any other equipment shall be stored on the beach consistent with timing constraints identified pursuant to Special Condition One (1).
- (e) The disposal pipeline, access routes, and equipment corridor shall not cross or disturb sand dunes and shall minimize crossings or disturbance of the wrack zone. Wrack shall be separated and retained, to the maximum extent feasible, in areas where discharge operations will result in the loss or disturbance of wrack. Wrack shall be moved to the side during discharge operations, pipeline placement, and other project activities, and replaced in its original location/configuration, to the maximum extent feasible, at the completion of project operations where possible.
- (f) At no time shall disposal or associated activities interfere with the breaching or retention of flow within the Santa Clara River estuary in such a way as to cause or threaten flooding on adjacent lands.

10. Operation Staging

- A. At least two (2) weeks prior to commencement of any dredging operation, the applicant shall submit to the Executive Director for review and approval, final staging plans that include the following:
 - (1) A map of the location of the project construction headquarter(s).
 - (2) Site plans for all construction staging areas and access routes, including stockpile areas for pipe and the access corridor necessary for placement of the pipeline.
 - (3) Special staging and parking needs for heavy equipment.
- B. The plan shall be consistent with the following criteria:
 - 1. Staging areas shall be used only during active construction operations and will not be used to store materials or equipment between operations.
 - 2. The applicant shall not store any construction materials or waste where it will be or could potentially be subject to wave erosion and dispersion. In addition, no machinery shall be placed, stored or otherwise located in the intertidal zone at any time, except for the minimum necessary to implement the project.
 - 3. Construction equipment shall not be cleaned on the beach or in the beach parking lots.

4. Construction debris and sediment shall be properly contained and secured on site with BMPs to prevent the unintended transport of sediment and other debris into coastal waters by wind, rain or tracking.
 5. Construction debris and sediment shall be removed from construction areas as necessary to prevent the accumulation of sediment and other debris which may be discharged into coastal waters. Any and all debris resulting from construction activities shall be removed from the project site within 24 hours. Debris shall be disposed at a debris disposal site outside of the coastal zone or at a location within the coastal zone authorized to receive such material.
 6. The applicant shall be responsible for removing all unsuitable material or debris within the area of placement should the material be found to be unsuitable for any reason, at any time, when unsuitable material/debris can reasonably be associated with the placement material. Debris shall be disposed at a debris disposal site outside of the coastal zone or at a location within the coastal zone authorized to receive such material.
 7. Stockpiled materials shall be located as far from stream areas on the designated site(s) as feasible and in no event shall materials be stockpiled less than 30 ft. in distance from the top edge of a stream bank.
 8. Temporary erosion control measures, such as sand bag barriers, silt fencing; and/or swales, shall be implemented for all stockpiled material. These temporary erosion control measures shall be required at the site(s) prior to or concurrent with the initial grading operations and shall be monitored and maintained until all stockpiled fill has been removed from the project site. Successful implementation of erosion control measures will ensure that the material is completely stabilized and held on site.
- C. The applicant shall undertake the development in accordance with the approved plans. Any proposed changes to the approved plans shall be reported to the Executive Director. No change to the program shall occur without a Commission-approved amendment to the permit unless the Executive Director determines that no such amendment is required.

11. Agency Coordination

Within sixty (60) days, and no less than four (4) weeks, prior to commencement of each dredging operation, the applicant shall provide notice to local agencies and any other known interested parties of the volume and quality of shoal material, which meets beach replenishment requirements as specified in Special Condition Four, to be extracted and the reason(s) for prioritization of the target site(s). Those parties that shall receive notice include, but are not limited to, the cities of San Buenaventura and Oxnard, California Parks and Recreation, Army Corp of Engineers, Regional Water Quality Board, BEACON, and the Executive Director of the Coastal Commission. If any party requests to use the dredged material which meets beach replenishment requirements as specified in Special Condition Four at Surfer's Point, and if the Executive Director

determines that the proposed beach nourishment will not have adverse impacts on coastal resources and that these materials are not more appropriate at alternative disposal sites, the applicant shall make the dredged material available to that party, for transport and use for beach nourishment at Surfer's Point, at that party's expense.

12. Public Access Program

Prior to issuance of this coastal development permit, the applicant shall submit, for review and approval of the Executive Director, a report which describes the methods (including signs, fencing, posting of security guards, etc.) by which safe public access to or around the beach deposition sites and/or staging areas shall be maintained during dredging and discharge operations.

13. Required Approvals

Prior to commencement of any sediment management activities authorized by this coastal development permit, the applicant shall provide evidence to the Executive Director of receipt of all necessary State and Federal permits including the U.S. Army Corps of Engineers, the California State Lands Commission, and the California Regional Water Quality Control Board.

14. Snowy Plover and Least Tern Monitoring

A. A biologist(s) or environmental specialist(s) with appropriate qualifications acceptable to the Executive Director shall conduct a survey(s) of western snowy plover and California least tern in all shorefront portions of the project area, from the northernmost point at the Pierpont Groinfield deposition site to the southern terminus of McGrath State Beach property. Survey(s) shall commence at least two (2) weeks prior to any dredging activities and extend at least two (2) weeks after the final dredging activity is completed. Prior to the commencement of the survey(s), the biologist(s) or environmental specialist(s) shall submit a survey methodology report for the review and approval of the Executive Director. The report shall include, at a minimum, an illustration of monitoring sites/transects, survey dates and time, names of surveyors, and survey protocol. The survey(s) shall be conducted a minimum of twice weekly and shall be designed to assess the abundance, distribution, behavior, and any disturbances to snowy plovers and least terns foraging, roosting, or nesting in the survey area. If any snowy plover or least tern exhibits reproductive or nesting behavior, then the environmental specialist shall require the applicant to cease work, and shall immediately notify the Executive Director and local resource agencies. Project activities shall resume only upon written approval of the Executive Director.

The applicant shall submit a western snowy plover and California least tern monitoring report to the Executive Director for review and approval by July 1 of each year. The monitoring report shall be prepared by a qualified biologist and shall at a minimum include, but not be limited to, the following components: 1) population and trend analysis; 2) analysis and illustration of population density and spatial distribution before, during, and after each dredging operation; 3) documentation of

all known incidents of snowy plover and least tern disturbance (including incidents resulting in mortality, citing the probable cause of mortality) including dates, times, location, degree of plover disturbance (e.g., plover behavior such as moving, running, or flying from a disturbance or other actions such as elevating wings), source of disturbance (e.g., pedestrians, vehicles, dogs on or off leash, equestrians, predation, spills, dredging operations and support activities including pipeline installation and removal and any beach grading or grooming activities, or vandalism of unknown origin), length of time of disturbance, level of disturbance (i.e., how many plovers made to fly or move and how far plovers were displaced), and the approximate distance between the source and plovers which resulted in the disturbance; 4) analysis of any other activities with the potential to impact the species' population in the project area, such as use patterns (e.g., public recreation), weather patterns, and habitat changes; and 5) conclusions regarding the impact of the dredging operations on the snowy plover and least tern populations and habitat. If the Executive Director determines that adverse impacts have occurred to the species' population or habitat as a result of the dredging operations, the Executive Director shall provide written notice to the applicant of such determination. The applicant shall cease work, and shall immediately notify local resource agencies. The applicant shall be required to submit a revised, or supplemental program to adequately mitigate such impacts. The revised, or supplemental, program shall be processed as an amendment to this coastal development permit. Project activities shall resume only upon written approval of the Executive Director.

15. Water Quality Monitoring

The applicant shall conduct a water quality monitoring program which will analyze potential adverse impacts of the near-shore and offshore marine environment resulting from disposal of dredged materials into the intertidal zone. The monitoring program will be conducted each time dredged materials are deposited into or graded near the intertidal zone and will contain the following components:

- (a) The applicant shall retain the services of a qualified biologist(s) or environmental resources specialist(s) with appropriate qualifications acceptable to the Executive Director. The environmental resource specialist shall monitor and document the turbidity of coastal waters during all project construction activities. The extent of turbidity plumes shall be recorded/mapped by the monitor. Monitoring of turbidity shall occur during and immediately after placement of sediment on the beach or in the intertidal zone. If the monitoring of the discharge and beach nourishment projects indicate that turbidity attributed to the replenishment projects are not completely diminished immediately following construction (1-2 days), then the rate of placement of sand will be modified so that large, long lasting turbidity plumes are no longer created. In such cases, construction methods shall be modified to reduce levels, by such means as: use of coarser beach nourishment material, avoidance of periods of high surf/high tides, and monitoring.

- (b) The applicant shall retain the services of a qualified oceanography and geology consultant, with appropriate qualifications acceptable to the Executive Director, to monitor and prepare a report on comparative sediment volumes of sediment quantities deposited during dredging activities with sediment quantities transported during natural storm events.

The applicant shall provide for review of the Executive Director, the water quality monitoring reports described above within one year of issuance of the coastal development permit and each subsequent year that dredging activities occur thereafter for the duration of the proposed project. Should the water quality monitoring program yield results that indicate sediment disposal into the intertidal zone causes a significant adverse impact on water quality or the marine environment the applicant is required to submit, for review and approval by the Executive Director, a mitigation plan exploring feasible alternatives, mitigation measures, and/or alternative disposal locations for sediment disposal in the intertidal zone prior to any future deposition activities in the intertidal zone. Should the mitigation plan identify mitigation measures and/or project alternatives to minimize water quality impacts which results in a substantial change in the proposed development approved by the Commission, an amendment to the permit or a new coastal permit shall be required.

16. Assumption of Risk

By acceptance of Coastal Development Permit 4-05-155, the applicant acknowledges and agrees (i) that the project site may be subject to hazards from erosion and flooding; (ii) to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

17. Project Term

All development approved pursuant to this coastal development permit shall be completed by April 15, 2016.

IV. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares:

A. Project Description

Ventura Harbor is a man-made commercial and recreational harbor located in the southwest portion of the City of San Buenaventura, Ventura County (Exhibit 1). The

harbor can be classified into two zones: (1) the Outer Harbor Zone includes the federally maintained entrance channel, offshore sand traps, and associated protective structures and (2) the Inner Harbor Zone consists of the navigation channels, berthing areas, and sand traps within the interior of the harbor. The entrance channel is comprised of two rubble-mound jetties, a detached rubble-mound breakwater, sand trap, and the south beach groin. The inner harbor has approximately 200 commercial berths and 1,600 recreational berths, and it provides ocean access for an attached private marina.

The applicant proposes to implement an annual Maintenance Dredging Program in the outer and inner areas of Ventura Harbor through April 15, 2016 (Exhibits 3-9). The maintenance dredging is necessary to remove accumulated sediment from the marina bottom and entrance channel to secure the minimum depth required for navigational safety and the continued use of recreational facilities. Maintenance dredging of the inner harbor, to design depths, would entail up to 100,000 cu. yds. of material to be dredged annually from the navigation channels, berthing areas, and sand traps within the harbor and deposited: (1) within surf zone of the mouth of the Santa Clara River, (2) three interior depressions within the interior of the harbor; and/or (3) in the 4,000 feet of nearshore area off of McGrath State Beach. In addition, up to 2,500 cu. yds. of fine-grained material would be dredged from the mouth of the Arundell Barranca and/or the Olivas Park storm drain with deposition outside of the coastal zone.

Maintenance dredging of the outer harbor, to design depths, would entail up to 600,000 cu. yds. of material to be removed annually from the entrance channel and offshore sand traps and deposited: (1) within the surf zone along 10,000 feet of beach extending southward from the harbor's south jetty, including South Beach, the area near the Santa Clara River mouth, and McGrath State Beach; (2) within the surf zone north of the harbor entrance in Cells 1 and 2 of the Pierpont Groin Field; (3) in the 4,000 feet of nearshore area off of McGrath State Beach; and/or (4) the 1,000 feet of nearshore area off of San Buenaventura State Beach.

Dredging would be accomplished by means of a cutterhead hydraulic pipeline dredge with deposition into designated surf zone areas or, alternately, by means of clamshell or hopper dredging with deposition in the nearshore waters. Mechanical dredges such as the clamshell type may occasionally be needed for small, shoaled areas. One or more dredge types may be used during the dredging operation. Dredging at the mouth of the Arundell Barranca and/or the Olivas Park storm drain would be accomplished by a shore-based clamshell.

Dredging and deposition would take place in the project area between Labor Day in September to the Friday prior to Memorial Day in May of the following year; however, the dredging operations are subject to sensitive resources timing restrictions. As with historical operations, dredging would typically take place between November and January. Dredging is usually accomplished on a 24-hour per day, 7 days per week basis. However, equipment failures and malfunctions are common.

Past dredging of the harbor has been accomplished almost entirely by means of hydraulic dredging. This method requires the placement of pipeline, up to 3 ft. in diameter, from the dredge in the harbor to the deposition sites. The route of the discharge pipeline is shown in Exhibit 2 through 6. As proposed, the pipeline route avoids the sand dunes and least tern sites at South Beach and the dunes at McGrath State Beach. Upon completion of each dredging cycle, the pipe is removed from the beach.

A total of seven sites (2 nearshore sites, 4 surf zone sites, and the inner harbor sites) have been identified to receive material from the proposed dredging project. The approximate locations of these sites are shown in Exhibit 1. After surf zone disposal, mounds would be graded to obtain the desired beach profile. Material from the inner harbor and outer harbor are appropriate for disposal at different locations due to the finer nature of the sediment obtained from the inner harbor (see Table 1). The receiver sites are described in more detail below.

Table 1. Sites identified as potential receiver sites for inner and outer harbor dredged material.

Site	Outer Harbor (Coarse grained sediment)	Inner Harbor (Finer sands and silts)
Nearshore San Buenaventura State Beach	X	
Surf zone Cells 1 & 2 of Pierpont Groin Field	X	
Inner Harbor Depression Areas		X
Surf zone South Beach	X	
Surf zone Santa Clara River	X	X
Surf zone McGrath State Beach	X	
Nearshore McGrath State Beach	X	X
Surfer's Point, Ventura ¹	X	

Nearshore waters off of San Buenaventura State Beach (Exhibit 7). The nearshore deposition area off of San Buenaventura Beach is situated just to the east of the Ventura Pier, and approximately 2 miles upcoast of the Ventura Harbor. Dredged material from the outer harbor would be deposited as a nearshore berm in shallow water, at a depth of minus 15 ft. to minus 30 ft. below the Mean Lower Low Water (MLLW). The berm would be oriented parallel to the shoreline, extending about 1,000 ft. southerly from the Ventura Pier. Deposition at this site would be accomplished via hopper or clamshell dredging.

This area is offshore of the federally designated critical habitat for the western snowy plover. In addition, there are sand dunes along portions of this State Beach. These resources would not be impacted by the offshore deposition since no equipment, or pipeline, would be required on shore. Deposition at this site has not been utilized in the past, pursuant to CDP 4-83-257 or CDP 4-01-143.

¹ As allowed by Special Condition Four (4)

Surf zone at Cells One (1) and Two (2) of the Pierpont Groin Field (Exhibit 6). Cells 1 and 2 of the Pierpont Groin Field are located in between the three southernmost groins along the beach in the Pierpont Community, roughly from the terminus of Shellburn Lane to the northern boundary of Marina Park (Exhibit 1). This site is located between ¼-mile and ¾-mile upcoast of Ventura Harbor. Dredged material from the outer harbor would be deposited into the surf zone by means of hydraulic dredging and pipeline deposition. Sand dunes are in the vicinity but not located in the project area. This area is identified as critical habitat for the federal-threatened western snowy plover. This is discussed in further detail in Section E, Environmentally Sensitive Resources. The last time material was placed on the Pierpont beaches, pursuant to CDP 4-83-257, was in 1991. It is unlikely that this site will be used for regular disposal however, since any materials deposited at Pierpont beach would be immediately redeposited in the sand trap area, due to the prevailing direction of littoral transport (Parsons, 2001). This may in turn require additional dredging of the federal transport area, reducing the effectiveness of the program. The City has an agreement with the ACOE to operate and maintain the Pierpont beach area at their own expense. Disposal at this site must be in accordance with this agreement.

Surf zone at South Beach (Exhibits 2 and 3). This site is located immediately downcoast of the Ventura Harbor along the south peninsula, immediately south of the south jetty. Dredged material from the outer harbor would be deposited into the surf zone by means of hydraulic dredging and pipeline deposition. The proposed pipeline route (Exhibits 2 through 6) avoids the sand dunes aligning the back beach and the least tern site identified north of the Santa Clara River. A portion of this site is within the federally designated critical habitat for the western snowy plover. This is discussed in further detail in Section E, Environmentally Sensitive Resources.

This disposal site is considered as an option in case disposal cannot occur on McGrath State Beach (e.g., if flows from the Santa Clara River compromises the placement of pipeline across the river) or if the site is undernourished and supplemental material is needed to help protect against erosion. In the early and mid-1980s, the dredged material from the outer harbor was deposited on the beach just to the south of the harbor entrance and north of the Santa Clara River due to shoreline recession which at that time was threatening portions of Spinnaker Drive.

Surf zone near the mouth of the Santa Clara River (Exhibit 5). This site is located approximately 4,500 feet downcoast of Ventura Harbor, near the mouth of the Santa Clara River. Dredged materials from the inner or outer harbor would be deposited into the surf zone via hydraulic dredging and pipeline deposition. The dredged material from the Inner Harbor, which contains approximately 40% fine-grained material, would be deposited in the surf zone in the vicinity of the mouth of the Santa Clara River where it mixes with similar grain size material carried by the river. The dredged material would be conducted below the mean high water line along the 2,500 feet of beach at the mouth of the Santa Clara River with the actual discharge point being at least 300 feet away (north or south) from the location at which the river flows into the ocean. There are occasions when high flows in the Santa Clara River make it infeasible to maintain the

discharge pipeline across the mouth of the river, in which case the deposition activity would take place to the north of the river mouth. Discharge of material would only occur near the mouth of the Santa Clara River when the river flow, as measured at the USGS Montalvo Station, in the vicinity of the Victoria Avenue bridge, is 100 cu. feet per second or greater.

Least tern nesting sites have been identified to the north and south of the river channel. In addition, the area is designated as critical habitat for the federal threatened western snowy plover. When deposited to the south of the main river channel, the pipeline corridor crosses the Santa Clara River mouth on the protected, backside of the sand spit at the mouth of the river. The route is placed to avoid the least tern nesting sites. These issues are discussed in further detail in Section E, Environmentally Sensitive Resources.

Surf zone at McGrath State Beach (Exhibit 4). This site is located more than a mile downcoast of Ventura Harbor, on California Department of Parks and Recreation property within the city limits of Oxnard. The site extends from approximately 300 feet south of the Santa Clara River to approximately where Gonzales Road would reach the ocean if it extended to the west. Dredged material from the outer harbor would be deposited in the surf zone by means of hydraulic dredging and pipeline deposition. This location is within federally designated critical habitat for the western snowy plover. In addition, a sand dune system is situated along the upper beach area. These would not be impacted since the pipeline route avoids this sensitive habitat. Sensitive species issues at this site are discussed in further detail in Section E, Environmentally Sensitive Resources.

This location is the primary receiver site for material from the outer harbor. In recent years, the dredged material from the federal areas, which is more than 95% sand, has been deposited into the surf zone at the McGrath State Beach.

Nearshore waters off of McGrath State Beach (Exhibit 4). The nearshore deposition area off of McGrath State Beach is situated more than a mile downcoast of the Ventura Harbor. Deposition at this site would be accomplished via hopper or clamshell dredging. The dredged material from the inner or outer harbor would be deposited as a nearshore berm in shallow water, at a depth of minus 15 ft. to minus 30 ft. below the Mean Lower Low Water (MLLW). The berm would be oriented parallel to the shoreline, beginning about 500 feet south of the mouth of the Santa Clara River, extending approximately 4,300 feet to the south. The width of the berm would be approximately 900 ft. The berm of sediment created by this process would dissipate within several months, as the material moves with the littoral transport system, becoming available for beach replenishment.

This area is offshore of the federally designated critical habitat for the western snowy plover. In addition, there are sand dunes along portions of this State Beach. These resources would not be impacted by the offshore deposition since no equipment, or pipeline, would be required on shore.

Inner Harbor Depressions (Exhibit 3). Three low areas have been identified within the harbor which may need periodic nourishment. Dredged material from the inner harbor may be deposited within these depressions on the harbor bottom using a hydraulic pipeline placed in the bottom portion of the pits to minimize turbidity. No sensitive habitats or fisheries are known to exist in the mapped harbor areas which would receive approximately 50,000 cu. yds of inner harbor dredged material. These are areas of high, chronic disturbance and do not contain significant, sensitive populations or habitats.

Surfer's Point. This deposition site has not been proposed as receiver site by the applicant. However, it has been specifically identified by the Beach Erosion Authority for Clean Oceans and Nourishment (BEACON) as one of six regional sites suitable for the placement of material in order to renourish denuded littoral cells, control erosion, and provide recreational benefits. BEACON is a joint powers agency which deals with coastal erosion and beach problems in the south central coast. In March 2005, the Commission approved BEACON's proposal the annual placement of a maximum of 116,500 cu. yds. of sand at Surfer's Point, just north of the dredging project area (CDP No. 4-02-074).

In recognition of the local importance of sand supply on coastal access and recreation, and given that this location is within a feasible range of the dredging operation, Special Condition Four (4) of this permit gives the applicant the option to provide dredged material to this location, where the sediment meets the beach replenishment requirements provided in CDP No. 4-02-074, and if evidence can be submitted which shows that there would be no adverse impacts to coastal resources. Additional explanation of this site is provided in more detail in Section D, Coastal Access and Recreation.

This site is located more than 2½ miles upcoast of the Ventura Harbor, between the Ventura Pier to the east and the Ventura River to the west. As authorized by CDP No. 4-02-074, deposition of material with high fines content and volumes less than 20,000 cu. yds. could occur below the Mean High Tide Line; beach compatible material could be placed as a beach berm. The site is characterized by cobble with a sand cover, and receives heavy use, primarily by surfers due to direct exposure to ocean swell. Recreational activities include surfing, windsurfing, sunbathing, swimming, walking, and biking. CDP No. 4-02-074 identifies a 1,680 foot long beach fill area (Exhibit 8). The Ventura River mouth, along the west boundary of the site is environmentally sensitive habitat that has been known to support tidewater goby, southern steelhead, and arroyo chub. In addition, the California brown pelican commonly feeds in the nearshore waters off of Surfer's point, as well as several other bird species of special concern. The project is not anticipated to directly impact western snowy plover, least tern, or grunion since the cobble environment is not considered suitable habitat for those species.

B. Background

The harbor was constructed in 1963 with major structural modifications to the harbor entrance built in 1972 (addition of the detached breakwater and sand trap) and 1994 (spur groin was added to the north jetty and south beach groin). The Commission approved dredging operations in the Ventura Harbor and shoreline deposition locations under Coastal Development Permit 4-83-257 as amended (a total of eleven amendments have been approved), granted to the Ventura Port District as local sponsor and through various federal consistency determinations granted to the Army Corps of Engineers as federal sponsor. Responsibility for maintenance dredging of the harbor is divided between the Port District and U.S. Army Corps of Engineers (ACOE). The Port District dredges the inner harbor areas and the ACOE maintains the outer harbor.

Maintenance dredging of the outer harbor area occurs on an annual basis and is usually, but not always, performed by a U.S. Army Corps of Engineers' (ACOE) contractor operating within the federal project boundaries, as depicted in Exhibit 2. Under federal Consistency Determination CD-64-98, the Commission approved the ACOE's Six-year Maintenance Dredging Program in 1998. In recent years, the dredged material from the outer harbor, which is more than 95% sand, has been deposited in the surf zone at McGrath State Beach. The applicant has asserted that this would continue to be the primary deposition site in the near future

The responsibility for maintenance dredging of the inner harbor (Exhibits 2 and 3) is retained solely by the Ventura Port District. The Port District has been dredging the Harbor under Commission permit since 1983 (CDP 4-83-257, as amended). During that time, some portions of the inner harbor have been dredged almost every year. The Port District has often coordinated the inner harbor dredging with the same ACOE contractor to be accomplished before or after the dredging of the federal area.

CDP 4-83-257 was amended in 1986, 1989, 1992, and 1995 to extend the permit for additional three-year terms. In 1995, the permit was amended to allow a five-year extension. The permit was not extended upon expiration in 2000 in order to complete a comprehensive evaluation of the potential impacts of the project, given the significant changes in environmental data and regulation (e.g., the designation of portions of the project area as critical habitat for the western snowy plover). Subsequently, the Commission issued CDP No. 4-01-143 with sixteen special conditions intended to ensure protection of sensitive resources, coastal waters, and coastal access and recreation. The term of CDP No. 4-01-143 extended through April 15, 2006. As part of the subject permit application, the applicant proposes to implement the dredging project through April 15, 2016. The project term will expire upon that date, as stated in **Special Condition Sixteen (16)**.

C. Diking, Filling, Dredging Open Coastal Waters

Section 30233 of the Coastal Act states in 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.

(8)(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.

Section 30233 of the Coastal Act states that diking, filling, and dredging of coastal waters may be permitted for coastal-dependent industries, and for maintaining or restoring previously dredged depths where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects. Section 30233 of the Coastal Act also mandates that dredging and disposal operations shall be carried-out to avoid disruption of marine and wildlife habitats, and that suitable dredge sediments shall be deposited for beach replenishment.

The Port District proposes to annually dredge and dispose up to 700,000 cubic yards of material from the Ventura Harbor after Labor Day in September to the Friday before Memorial Day in May of the following year, subject to timing constraints for resource protection (See Section E, Marine and Environmentally Sensitive Habitat Areas). The Ventura Harbor has historically been dredged on an annual basis. The proposed dredging is necessary to maintain and restore previously dredged navigation channels, sand traps, and berths. The Commission has previously authorized similar dredging and disposal in the manner proposed by the applicant, in its review of past Army Corps of Engineers (ACOE) consistency determinations (CD-64-98, CD-54-94, CD-53-91, CD-42-88, CD-51-86, CD-30-85, and CD-2-83) for the federally maintained entrance and by coastal development permit (CDP 4-83-257, as amended on eleven occasions since 1983, and CDP 4-01-143) for both the inner harbor and outer harbor areas.

Section 30233(a) of the Coastal Act imposes a three-part test on dredging and filling projects (1) the allowable use test; (2) an alternatives test; and (3) a mitigation test. As the Commission has found in reviewing the dredging cases listed in the previous paragraph, Ventura Harbor maintenance dredging with beach disposal at each of the seven receiver sites complies with these tests because (1) maintenance dredging of existing channels is an allowable use under Section 30233(a)(2) of the Coastal Act; (2)

when the material is suitable for beach disposal, and when habitat and access issues have adequately addressed (as described in Sections D and E), there is no less damaging feasible alternative; and (3) with the avoidance, monitoring, and mitigation measures addressing environmentally sensitive habitat and sensitive species needs (discussed in Section E), temporary disruption of the marine environment from dredging and disposal does not trigger the need for additional mitigation.

1. Dredge Spoil Compatibility

The applicant submitted an analysis of the physical and chemical characteristics of the material to be dredged. The *Final Report, Sampling and Analysis, Ventura Harbor Sediment Investigation* (Applied Environmental Technologies, Inc., August 19, 2005) found that the Ventura Harbor generally consists of saturated silty clay. The consultants also encountered fine to coarse grain sand during their investigation of the inner harbor. The sediment grain size analysis indicated that an average of approximately 32% of the material in the core samples was coarse grained (retained in a Standard U.S. Sieve Size No. 200). Samples taken in alternate locations of the Ventura Harbor in 2002, indicated that portions of the harbor averaged approximately 31% coarse grain material (retained in a Standard U.S. Sieve Size No. 200) (*Final Report, Sampling and Analysis, Ventura Harbor Sediment Investigation*, Applied Environmental Technologies, Inc., August 19, 2005). The analysis concluded that:

It is the conclusion of this report that the sediment in the Ventura Harbor (approximately 68 percent silts and clays) is comparable with sediments regularly discharged by the Santa Clara River (79 percent silts and clays). Additionally, it is the conclusion of the report that the sediments dredged from the Ventura Harbor could be discharged near the river mouth without causing a long-term alteration of the grain size distributions in the area of the river mouth.

Therefore sediments dredged from the interior harbor are physically suitable for surf zone or nearshore deposition at the river mouth location, and within the depression at the interior of the harbor. Physical testing performed in the federally maintained entrance channel re-established the compatibility of this littoral material with the proposed disposal sites, and confirmed that it is comprised primarily of sand. It has been assumed that the material dredged is comprised of recent seasonal input from the littoral system, and would consist primarily of clean sand.

Chemical analysis of the inner harbor sediments have been conducted every three years by the applicant. The tests indicated that the chemical concentrations measured in the sediments are not environmentally significant and are comparable to the concentrations detected in the offshore samples. The analysis concluded that the inner harbor sample falls within the range of those of the proposed deposition sites near the mouth of the Santa Clara River and within the three depressions within the interior of the harbor. The consultant further found that:

It is our opinion that no impacts due to metals would occur from discharge of dredged materials from the Ventura Harbor to the marine environment offshore of the Santa Clara River... Additionally, it is our opinion that no significant impact would occur from the disposal of Ventura Harbor sediments to waters offshore the Santa Clara River mouth or to authorized depressions on the harbor bottom.

Therefore, relative to chemical concentrations the sediments proposed for deposition are suitable for surf zone or nearshore deposition near the mouth of the Santa Clara River, and within the low spots identified within the Harbor. However, these conditions may be altered by a number of episodic factors, including heavy rainfall events or potential chemical spills within the harbor. To ensure that future shoal material dredged is physically and chemically compatible with the proposed deposition sites, the Commission finds it necessary to require **Special Condition Three (3)** which requires the applicant to continue to test the physical and chemical characteristics of representative samples of the dredging area(s) and to submit the results for the review and approval of the Executive Director. Special Condition 3 requires that physical (grain size) analysis of a representative sample of outer harbor sediment be conducted during the dredging operations to ensure that it meets criteria for beach replenishment. Physical analysis of outer harbor sediment has historically taken place concurrent with dredging of the Ventura Harbor and has re-established the compatibility of the littoral sediment with the deposition sites. It is assumed that the material dredged however, will comprise recent seasonal input from the littoral system, and would consist primarily of clean sand. **Special Condition Three (3)** requires the applicant to notify the Executive Director if the samples indicate that the dredged material no longer meets the physical standards for beach replenishment as described in **Special Condition Four (4)**. Chemical analysis for the outer harbor sediment has not been historically conducted because it is assumed that the material dredged will consist of recent seasonal input from the littoral system, comprised primarily of clean sand (ACOE Final Environmental Assessment, August 1998). The results of the chemical analysis for the inner harbor have served as an indicator of the sediment quality in the surrounding area. These chemical analyses have demonstrated that the sediments to be dredged from the inner harbor do not contain elevated levels of trace metals or organic contaminants (RWQCB, Waste Discharge Requirements, July 19, 2003).

In addition **Special Condition Three (3)** requires the applicant to continue to analyze the chemical and physical qualities of inner harbor sediment, consistent with EPA and Regional Water Quality Control Board requirements. Pursuant to **Special Condition Three (3)**, inner harbor sediment quality analyses shall be conducted a minimum of every three years, unless the EPA or RWQCB determine that the sediment exceeds any contaminant threshold levels. If sediment samples exhibit elevated levels of any contaminant, sampling will be conducted prior to any dredging event for all subsequent years of the subject permit. The results of all grain size and chemical analysis shall be included in the Dredging and Disposal Operations Plan required pursuant to **Special Condition Two (2)**, submitted no later than two (2) weeks prior to the dredging event.

Special Condition Three (3) further requires that the analysis shall include confirmation by the U.S. Army Corps of Engineers and California Regional Water Quality Control Board that the dredged material meets the minimum criteria necessary for placement on the sandy beach or within the intertidal zone. In addition, **Special Condition Thirteen (13)** requires that the applicant submit current evidence to the Executive Director that all State and Federal permits necessary for the proposed project including the U.S. Army Corps of Engineers, the California State Lands Commission, and the California Regional Water Quality Control Board have been obtained.

The dredged material must comply with all applicable federal and state beach replenishment or dredge spoils discharge requirements to be disposed at any of the proposed receiver sites. In addition, to EPA requirements, the California Regional Water Quality Control Board (RWQCB) regulates discharges to land and water. The recent Waste Discharge Requirements provided by the Regional Water Quality Control Board for this project approved periodic maintenance dredging and deposition for beach replenishment, but provided that (Order No. R4-2003-0097):

The Port may dispose of dredged material for beach replenishment purposes below the Mean Higher High Water level provided that it meets the following conditions: a) the dredged material is composed of predominantly sand in which an average of 91% or greater of the material is retained on a Standard U.S. Sieve Size No. 200; b) the dredged material does not contain elevated concentrations of trace metals or trace organics.

The Port may dispose of dredged material in the surf zone within 300 feet of the mouth of the Santa Clara River provided that it meets the following conditions: a) the river is flowing at a rate of 100 cubic feet per second or greater; b) the dredged material is composed of predominantly fine-grained sediments, in which an average of 90% or less of the material is retained on a Standard U.S. Sieve Size No. 200; c) the dredged material does not contain elevated concentrations of trace metals or trace organics.

The discharger may dispose of material dredged from the inner harbor in any of the three identified deposition areas within the harbor provided that it meets the following conditions: a) the dredged material is composed of predominantly fine-grained sediments, in which an average of 90% or less of the material is retained on a Standard U.S. Sieve Size No. 200; c) the dredged material does not contain elevated concentrations of trace metals or trace organics.

Consistent with these requirements, **Special Condition Four (4)**, dredge spoil compatibility, cites the grain size criteria for each receiver site. This includes the Surfer's Point receiver site identified by staff and discussed in further detail Section D, Coastal Access and Recreation. Based on the Commission's findings on CDP No. 4-02-074, which authorizes the placement of a maximum of 116,500 cu. yds. of sand at Surfer's Point, dredged material placed below the mean high tide line at Surfer's Point would need to consist predominantly of sand containing an average of 75% coarse grained material (retained on a U.S. Sieve Size No. 200). Dredged material containing an

average of 90% coarse grained material (retained on a U.S. Sieve Size No. 200) could be deposited as a beach berm. Any dredged material deposited at the Surfer's Point receiver site would need to meet these grain size criteria as well as other beach replenishment requirements provided in CDP No. 4-02-074, as specified in **Special Condition Four (4)**. Those materials that do not meet state and federal requirements for surf zone or nearshore deposition shall be disposed of as identified in the debris management plan, consistent with the requirements of **Special Condition Two (2)**, the Dredging and Disposal Operation Plan, or in an alternate location licensed to accept such materials as described in **Special Condition Four (4)**. In addition, fine grained material dredged from the mouth of Arundell Barranca and the Olivas Park storm drain must be disposed of at a location outside of the Coastal Zone. The Commission finds **Special Conditions Two (2)** and **Four (4)** are necessary to ensure proper disposal of solid debris and dredged material unsuitable for placement into the marine environment.

The proposed dredging program will serve to achieve and maintain identified ideal dredging depths and replenish local beaches which will accommodate the coastal-dependent uses that the project area provides. The proposed design depths provide parameters under which dredging and deposition will occur, while the actual amount of material moved will vary annually depending on storm occurrence, natural sediment accumulation, funding, permitting, and permit restrictions on timing and location of the proposed operations.

For the reason set forth above, the Commission finds that the proposed project, as conditioned, is consistent with Section 30233 of the Coastal Act.

D. Coastal Access and Recreation

Coastal Act Section 30210 states that:

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

Coastal Act Section 30211 states:

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

Coastal Act Section 30212(a) provides that in new shoreline development projects, access to the shoreline and along the coast shall be provided except in specified circumstances, where:

(1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources.

(2) adequate access exists nearby, or,

(3) agriculture would be adversely affected. Dedicated access shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

Section 30220 of the Coastal states:

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

Section 30224 of the Coastal Act states:

Increased recreational boating uses of coastal waters shall be encouraged, in accordance with this division, by developing dry storage areas, increasing public launch 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.

The proposed project involves a ten-year annual dredging project which includes dredging, and disposal of the Ventura Harbor and nearby beaches to the north and south. The proposed project will maintain the harbor and beach areas for their associated boating and recreational uses, which will therefore continue to accommodate coastal-dependent and public recreational opportunities supported by the provisions of the Coastal Act.

The project site includes the Ventura Harbor and seven deposition sites from the Ventura Pier, south to Pierpont Community beaches, the interior of the Ventura Harbor, south beach, the mouth of the Santa Clara River, to the southern project terminus along McGrath State Beach. The project area is actively used by the public for recreational purposes, such as boating, surfing, sunbathing, walking, and other forms of passive recreation. The project involves dredging and disposal of dredged sediment, and establishment of staging areas for such operations, on beaches that are popular recreation areas as well as ocean access points for swimming, kayaking, surfing and other uses of coastal waters.

1. Water Oriented Recreation

Sections 30220 and 30224 of the Coastal Act mandate that coastal areas suited for water-oriented recreational activities shall be protected and recreational boating uses of coastal waters shall be encouraged.

The Ventura Harbor and local area beaches provide a variety of coastal-dependent commercial and recreational resources including boating, fishing, sunbathing, kayaking, swimming, and surfing. Maintenance dredging of Ventura Harbor is an on-going activity required to maintain the entrance and navigational channels, provide safe navigation for maritime traffic, and minimize risks of hazardous shoaling conditions within the harbor. Dredged materials are used for beach replenishment to maintain nearby beaches for recreational use, shoreline protection for existing development, and reintroduction of sediment, which would otherwise remain trapped in the protected harbor, into the littoral current for replenishment of down coast beaches.

The proposed project involves dredging and disposal to achieve identified design depths to achieve the ideal harbor configuration. The Commission notes that dredging of the harbor is necessary to maintain safe navigation for commercial and recreational boating and therefore, the proposed project will serve to protect boating uses of coastal waters. The proposed project will also protect and maintain adjacent beaches for recreational use through beach nourishment. The Commission finds that the proposed project will serve to maintain and possibly enhance recreational boating use of the Ventura Harbor, and that the proposed project will maintain adjacent beaches for recreational access.

For the above reasons, the Commission finds that the proposed project will support water-oriented recreational opportunities and recreational boating uses of coastal waters, and is therefore consistent with Sections 30220 and 30224 of the Coastal Act.

2. Public Access and Recreation

Coastal Act Sections 30210, 30211, and 30212 mandate that maximum public access and recreational opportunities be provided to allow use of dry sand and rocky coastal beaches and that development not interfere with the public's right to access the sea, consistent with the need to protect public safety, private property and natural resources. All projects requiring a coastal development permit must be reviewed for compliance with the public access provisions of Chapter 3 of the Coastal Act.

The dredging operation may encompass up to a 30-foot wide corridor, $\frac{3}{4}$ -mile in length to the north (Pierpont Groin deposition site) and 2 miles in length to the south (McGrath State Beach deposition site), as a result of the placement of pipeline on the beach (see pipeline route in Exhibits 2 through 6). As proposed, the pipeline would be partially, and temporarily, buried during the dredging operation in order to allow continued access over the pipeline. However, in past instances, the pipeline has been unburied by storm and wave action. This may serve as a temporary impediment to access during the proposed operation. However, use of these areas is of a much more limited nature during these heavy weather episodes, and the obstacle created by the pipeline is generally surmountable in some areas. Furthermore, the pipeline is removed from the project site immediately at the conclusion of the dredging operation. Finally, the project is only undertaken in the off-peak beach use season. To ensure that this responsibility is undertaken, **Special Condition Nine (9)** makes it the applicant's responsibility to assure that no pipes or any other equipment are stored on the beach from the Friday before Memorial Day through Labor Day of each year, and as constrained by other

sensitive resources timing restrictions described in **Special Condition One (1)**. In addition, **Special Condition Nine (9)** requires the applicant to ensure that the beach is graded and groomed to natural beach contours to facilitate recreational use, at the completion of each year's dredging and deposition.

At least some portion of the Ventura Harbor is anticipated to be dredged annually. Sediment management operations will require a few weeks to months of dredging, sediment disposal, and beach grooming work annually. The operations will typically occur 24 hours per day, 7 days per week to ensure the project is completed as quickly as possible. Based on the proposed annual maximum cubic yard limitations, dredging and disposal operations could involve up to three to four months of work in any given year, however the average time is estimated to be two months per year. Beach disposal is generally localized to approximately 500 linear feet on the beach. Beach disposal and staging areas on beaches within the project site would temporarily displace beach area for public use, however, the remainder of beach areas surrounding the discharge and staging locations will be available for public access. The Commission finds that due to the extensive beaches in the project area open to the public, including San Buenaventura State Beach and McGrath State Beach, the displacement of beach users is minimal.

However, to ensure that maximum access is maintained for the public in the project area, **Special Condition One (1)** requires that all dredging operations, including operation of equipment, spoil disposal, placement or removal of disposal pipelines, or other construction, maintenance, material removal, or activities involving mechanized equipment be prohibited on any part of the beach and shorefront in the project area from the Friday before Memorial Day in May through Labor Day in September to avoid impact on public recreational use of the beach. In this way, scheduling operations outside of peak recreational seasons will serve to minimize potential impacts on public access.

To ensure that public access is safe-guarded in the project area, the Commission has required **Special Condition Two (2)** which calls for the applicant to submit an operations plan for dredging and disposal, for the review and approval of the Executive Director within thirty (30) days in advance, and in no case later than two (2) weeks prior, to each dredging operation. The operations plan shall include a detailed description of the proposed dredging operation including the proposed schedule, the type of dredging operation, approximate volume of material to be removed, the volume of material to be deposited at each receiver site, and the capacity of the equipment. **Special Condition Two (2)** specifically requires that local agencies be advised of the proposed deposition location(s) and amounts of material meeting beach replenishment criteria, as described in **Special Condition Eleven (11)**, Agency Coordination. The Commission finds that coordination with agencies, including the cities of San Buenaventura and Oxnard, California Parks and Recreation, Army Corp of Engineers, Regional Water Quality Board, and BEACON will allow interested parties to be involved in the prioritization of disposal sites to receive material that could serve to enhance shoreline sand supply, and thus access and recreation within the project vicinity. As conditioned, the proposed

project may serve to enhance recreational planning and available shoreline in the project vicinity as determined through local and regional agency input.

The Commission further finds that impacts to access may occur as a result of unanticipated impacts to shoreline and beach deposition activities. To address this issue, **Special Condition Six (6)** requires the implementation of a long-term Shoreline Monitoring Program to analyze changes to beach profiles, sand width, and volume in relation to the volume and location of deposition activities. Should nearshore deposition take place, additional monitoring is necessary to assess the impacts of the nearshore method on shoreline sand supply. Under the previous coastal permitting for this project, the applicant amended the dredging project to permanently incorporate the nearshore disposal sites, including a nearshore monitoring protocol. The Commission finds that a maintenance dredging monitoring plan for nearshore disposal, as provided in Exhibit 11, is necessary to measure and document the response of adjacent shorelines to the placed berm. This monitoring program would be applicable to all nearshore disposal sites. Therefore, the Commission is requiring the implementation of nearshore monitoring, as described in **Special Condition Five (5)**, including extensive pre- and post- dredge surveys to ensure that no adverse impacts to downcoast shoreline sand supply result from the method. Any modifications to the monitoring program specified in Exhibit 11 are subject to the review and approval of the Executive Director. The results of the survey shall be provided to the Executive Director for subsequent determination of the impact associated with this method of deposition to coastal resources.

The Commission notes that though ample beach area will remain available for public use during the proposed operations, establishing staging areas necessary to support the proposed operations in locations outside of heavily used beach areas will minimize interference with public access at the project site. Therefore, **Special Condition Ten (10)** requires the applicant to submit, for review and approval of the Executive Director, a report which describes the operation staging requirements, including the location of the project construction headquarters, all construction staging areas and access routes, and any special staging needs for heavy machinery, prior to the commencement of any dredging and discharge operations authorized by this coastal development permit to ensure that the operations are in substantial conformance with the public access policies of the Coastal Act.

Furthermore, to ensure the safety of recreational users of the project site, particularly recreational users of adjacent beaches where disposal operations will be occurring, and to reduce potential conflicts between the sediment management operations and recreational use of the areas, the Commission finds it necessary to require **Special Condition Twelve (12)**, the Public Access Program, for the subject permit. **Special Condition Twelve (12)** requires the applicant to implement a program of monitoring and safety measures, including installation of signs, fencing, and posting of security guards, by which safe public access to or around beach deposition sites will be maintained.

The Beach Erosion Authority for Clean Oceans and Nourishment (BEACON) is a California joint powers agency, which deals with coastal erosion and beach problems in the south central coast. In March 2005, the Commission approved BEACON's proposal for the annual placement of a maximum of 116,500 cu. yds. of sand at Surfer's Point, just north of the dredging project area (CDP No. 4-02-074).

In recognition of the local importance of sand supply on coastal access and recreation, and given that this location is within a feasible range of the dredging operation, **Special Condition Four (4)** of this permit gives the applicant the option to provide dredged material to this location, where the sediment meets the beach replenishment requirements provided in CDP No. 4-02-074. In addition, **Special Condition Two (2)**, the dredging and operation plan, requires the applicant to provide evidence, for the review and approval of the Executive Director, that the local authorities were notified of the volume and quality of shoal material which meets beach replenishment requirements as specified in **Special Condition Four (4)** to be extracted and the reason(s) for choosing the target site(s). To underscore the importance of Surfer's Point as a coastal resource of regional importance, **Special Condition Eleven (11)** specifically requires that dredged material, which meets beach replenishment criteria specified in **Special Condition Four (4)**, be made available for beach nourishment at Surfer's Point, should any party make such a request subject to transport agreement, and pursuant to the review and approval of the Executive Director.

The Commission finds that the proposed project, as conditioned, will not significantly impact recreational opportunities and public access at the project site, and therefore the project is consistent with Sections 30210, 30211, 30212, 30220, and 30224 of the Coastal Act.

E. Marine Resources and Environmentally Sensitive Habitat Area

Section 30230 of the Coastal Act states:

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

Section 30231 of the Coastal Act states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water

reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30233 of the Coastal Act states in 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:

Section 30240 of the Coastal Act states:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

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

Sections 30230 and 30231 of the Coastal Act mandate that marine resources and coastal water quality shall be maintained and where feasible restored, protection shall be given to areas and species of special significance, and that uses of the marine environment shall be carried out in a manner that will sustain biological productivity of coastal waters. Section 30233 of the Coastal Act states that diking, filling, and dredging of coastal waters may be permitted for coastal-dependent industries and for maintaining or restoring existing dredging depths where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects.

The proposed project involves dredging of open coastal waters and deposition of dredged sediment at nearby beaches. The habitats characteristic of the Ventura Harbor area are wetlands (salt and brackish marsh), deepwater marine and estuarine ecosystems (as defined by the U.S. Fish and Wildlife Service National Wetlands Inventory), and coastal strand habitat of sand beaches and dunes (as defined by Munz, 1974). The Commission notes that dredging and disposal in and near areas identified as providing habitat for sensitive wildlife species has the potential to adversely impact those species. Several sensitive species are present in the project area, some only seasonally, including the California brown pelican, western snowy plover, California least tern, steelhead trout, tidewater goby and California grunion. Little or no vegetation is found on the beach disposal sites since these are sandy beach locations subject to wave action. The pipeline route avoids the South Beach and McGrath State Beach sand dune habitat.

1. Marine Organisms

Dredging and disposal results in increased turbidity at the dredge and disposal site. Temporary adverse impacts to marine organisms in the harbor are expected from the dredging operations. Temporary increases in turbidity and suspended solids at the dredging site would decrease light penetration, causing a decline in primary productivity due to decreased photosynthesis by phytoplankton. Any appreciable turbidity increase may also cause clogging of gills and feeding apparatuses of fish and filter feeders. Mobile organisms would likely relocate to an undisturbed area.

Turbidity impacts are expected to be within 500 meters (1,640 feet) of the area excavated, with the maximum concentrations generally restricted to the lower water column, and decreasing rapidly with distance due to settling and dilution (ACOE 2004 citing LaSalle 1991). The impacts from dredging (i.e., increased turbidity, sedimentation, dissolved oxygen reduction, and mechanical abrasion to fish and shellfish) are expected to be local. Following dredging activities, fish and shellfish are expected to recolonize previously disturbed areas. As such, impacts from sediment re-suspension caused by dredging are anticipated to be short-term (ACOE 2004). In addition, the proposed deposition sites are located in areas which have naturally high levels of turbidity due to high wave energy and river outfall particularly during the winter season when dredging takes place. Nonetheless, dredging locations and amounts change each year, causing varying amounts of turbidity and associated impacts. Thus some uncertainty remains regarding the impact of the proposed project on water quality. Therefore, in order to ensure that increases in turbidity and suspended solids at the dredging and deposition sites do not significantly impact marine organisms, **Special Condition Fifteen (15)**, requires a qualified biologist or resource specialist to monitor turbidity during all project construction activities. If the monitoring indicates that turbidity attributed to the replenishment project is not completely diminished immediately following deposition activities (1-2 days), then the rate of placement of sand will be modified so that large, long lasting turbidity plumes are no longer created. In addition, **Special Condition Fifteen (15)** requires the applicant to compare deposition volumes with that normally delivered to the project site by winter storms.

2. Sensitive Species and Habitats

Several sensitive species are present in the project area, including the California brown pelican, western snowy plover, California least tern, steelhead trout, tidewater goby and California grunion. In addition, there are two sensitive habitats in the project area, the Santa Clara River estuary and sand dune habitats along South Beach and McGrath State Beach. Project activities, other than those discussed above under Section E(1) Marine Organisms, with the potential to adversely impact sensitive species or sensitive habitat, include (1) the installation, placement, and removal of the discharge pipeline; and (2) the post-dredging grading and grooming of the beach deposition site(s) to natural beach contours.

The discharge pipeline route extending south to the McGrath State Beach deposition area would cross beach areas identified as federally designated critical habitat of the

western snowy plover, cross the beach near California least tern nesting sites, and traverse near sand dune habitat. The pipeline route avoids the dune systems at South Beach and McGrath State Beach, and no equipment or deposition activities are proposed in this sensitive habitat. As provided under **Special Condition Nine (9)**, it is the applicant's responsibility to ensure that the pipeline does not cross or disturb sand dunes.

The placement of the pipeline is accomplished by means of heavy equipment dragging each pipeline segment to its connection. The installation and removal of the pipeline therefore requires an adjacent access corridor sufficient to handle this type of traffic. The pipeline is placed on top of the natural contour of the beach but is covered with sand to facilitate continued access over the conduit. This process creates considerable disturbance along the pipeline corridor during the approximately four to five days required for pipeline installation and one to two days needed for removal. The recontouring of the beach takes a matter of hours to complete at the deposition area. These activities occur over the course of the project, which may span up to three or four months, however the average time is estimated to be two months per year. Project staging, including the location of the pipeline and access corridor, may impact environmentally sensitive resources. To ensure that project staging is minimized and resource issues are addressed, the Commission requires the applicant to submit and an operation staging plan, pursuant to **Special Condition Ten (10)**, to the Executive Director for review and approval.

Post-dredging and deposition beach maintenance includes regrading the deposition site to natural beach contours. Furthermore, upon removal of the pipeline, the beach corridor may require regrading to remove any sand built up around the pipeline. In recognition of the potential of these project activities to impact sensitive biological resources in the project vicinity, **Special Condition Eight (8)** requires the applicant to retain a qualified biologist or environmental resource specialist to conduct a survey of the project site one day prior to the commencement of installation or removal of the discharge pipeline or any beach maintenance activities such as beach grading and grooming. The specialist shall also be present during these project activities. Should the monitor determine that sensitive species are present and are exhibiting nesting or other reproductive behaviors, the environmental specialist shall require the applicant to cease work, and shall immediately notify the Executive Director and local resource agencies. Project activities can resume upon written approval of the Executive Director. The monitor shall also have the authority to cease operations should any breach in permit compliance occur or if any unforeseen sensitive habitat issues arise. If significant impacts or damage occur to sensitive wildlife species, the applicant shall be required to submit a revised, or supplemental program to adequately mitigate such impacts. Specific requirements for protection of the western snowy plover and California least tern are described below.

Western Snowy Plover

The Pacific Coast population of western snowy plover (*Charadrius alexandrinus nivosus*) are small, sand colored shorebird that uses sandy beaches for nesting and roosting from southern Washington to Baja California. The snowy plover forages on invertebrates in the wet sand; amongst surf-cast kelp; on dry sandy areas above the high tide; on salt pans; on spoil sites; and along the edges of salt marshes, salt ponds, and lagoons (USFWS 20001). Plovers breed primarily above the high tideline on coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. They tend to be site faithful, with the majority of birds returning to the same nesting location in subsequent years (USFWS 2001 citing Warriner et al. 1986). The breeding season for snowy plovers along the Pacific coast extends from early March to mid-September. Nests are typically depressions in the sand lined with beach debris (e.g., pebbles, shell fragments, plant material) constructed by the male in flat, predominantly open areas with low vegetative cover. Eggs of the first clutch are usually laid by early April. The plover's eggs are speckled and are camouflaged with surrounding terrain. The chicks are precocial, walking within a few hours and feeding themselves within a day or so of hatch. Chicks are difficult to avoid because of their small size and camouflaged coloring. Often chicks crouch in vehicle tracks or footprints, making them vulnerable to being stepped on or driven over. For these reasons, the birds, nests, eggs, and chicks are difficult to see and subject to destruction.

The majority of California's wintering plovers roost and forage in loose flocks on sand spits and dune-backed beaches, with some occurring on urban and bluff-backed beaches, which are rarely used for nesting (USFWS 2001). Roosting plovers usually sit in small depressions in the sand, or in the lee of kelp, other debris, or small dunes (USFWS 2001 citing Page et al 1995). While some plovers remain in their coastal breeding areas year-round, others migrate south or north for the winter (USFWS 2001 citing Warriner et al 1986, Page et al. 1995, Powell et al. 1997). For instance, at Camp Pendleton in San Diego County, about 30% of nesting birds stayed during the winter (USFWS 2001 citing Powell et al. 1995, 1996, 1997).

The snowy plover was listed by the U.S. Fish and Wildlife Service (USFWS) as a threatened species in March 1993. Subsequently USFWS designated 180 miles of coastline in California, Oregon, and Washington as critical habitat in 1999. Critical habitat is a specific designation that identifies areas that are essential to conservation of an endangered species. The USFWS has released a *Draft Recovery Plan for the Pacific Coast Population of Western Snowy Plover* (May 2001). The Recovery Plan identifies a 4.9-mile stretch of beach at Mandalay Bay/Santa Clara River Mouth (Exhibit 13a) and a 2.4-mile stretch along San Buenaventura State Beach, immediately north of the Ventura Harbor, (Exhibit 13b) as two of six breeding and/or wintering sites located in Ventura County targeted for management. The Management Goal for the Mandalay Bay/Santa Clara River unit is 60 breeding adult plovers. The San Buenaventura State Beach unit is recognized as a site that supports primarily wintering and/or migrating snow plovers. The draft Recovery Plan does not provide a Management Goal in this area.

The dredging operation and proposed surf zone deposition are not expected to directly impact the snowy plover. However, activities accessory to the project, such as pipeline installation, pipeline removal, and other beach grading and grooming activities, have the potential to adversely impact snowy plover. During prior dredging events, the pipeline installation process has taken four to five days to complete. Removal of the pipeline occurs at a more rapid pace, taking approximately two days to remove, depending upon weather and river conditions. The recontouring of the beach takes a matter of hours to complete at the deposition area. These activities occur over the course of the project, which may span up to three to four months.

Staff notes that previous permitting for this project had allowed contingency measures in order to implement project activities after March 15. However, since those previous reviews, the USFWS has designated a majority of the project area as critical habitat (illustrated in Exhibit 13) and completed their Western Snowy Plover Draft Recovery Plan.

As identified in the Recovery Plan, dredging, disposal, and beach nourishment activities may have beneficial as well as detrimental effects to snowy plovers and habitat. Disturbances associated with dredging such as placement of pipes, disposal or dredged materials, or noise may affect wintering plovers. Alternately, the dredged material may provide important nesting habitat, or build up habitat as a result of beach nourishment. A recovery task that specifically addresses dredging states (USFWS, 2001, pg. 141):

1.2.5.2. Deposit dredged material to enhance and create nesting habitat, and evaluate impacts from beach nourishment activities. Near-shore (littoral drift) and on-shore disposal of dredged material seems to be beneficial for perpetuating high quality snowy plover nesting habitat and should be encouraged. However, monitoring of habitat characteristics before, during, and after projects is needed, particularly in cases of large operations occurring on sites where snowy plovers nest or are deemed likely to nest following the disposal operation. On-shore disposal of dredged material should be scheduled outside the nesting season and, where possible, during seasons when birds are not present. In addition, dredged material must be clean sand or gravel of an appropriate grain size and must be graded to a natural slope.

The draft Recovery Plan goes on to consider beach nourishment (pg. 141):

Beach nourishment activities should be carefully evaluated to weigh the probable adverse and beneficial effects on plovers and on other sensitive coastal dune species. Pre- and post-deposition beach profiles and faunal studies (including invertebrates) should be conducted to determine effects on habitat suitability for snowy plovers. Consideration should be given to whether the projected long-term benefits are likely to occur.

The Santa Clara River mouth and southward along McGrath Beach are known wintering and nesting areas for the western snowy plover. The Mandalay Bay/Santa Clara River

Mouth unit is recognized to support 9 to 70 breeding adult birds (USFWS 2001, pg. B-15). San Buenaventura State Beach is not known to support nesting snowy plovers. The recognized breeding season for snowy plovers in Ventura County is mid-March to late-September (USFWS, pers. comm. January 25, 2002). The USFWS draft Recovery Plan states that (page 9):

Earliest nests on the California coast occur during the first week of March in some years and by the third week of March in most years (Page et al. 1995a). Peak nesting is from mid-April to mid-June (Warriner et al. 1986, Powell et al. 1997). Hatching lasts from early April through mid-August, with chicks reaching fledging age approximately 1 month after hatching (Powell et al. 1997).

However, the most recent monitoring report submitted by the applicant (Ventura Harbor U.S. Army Corps of Engineers Dredging, California Least Tern & Western Snowy Plover 2006 Monitoring Report, Bowland & Associates, June 28, 2006) states:

Snowy plovers have nested as early as mid-March along this portion of the coast, and begin searching for suitable nest sites prior to that time. The discharge pipe was not removed from the area of the beach used by nesting plovers and least terns until March 13, 2006. In order to reduce potential adverse impacts to nesting activities, it is recommended that the removal of pipe during future dredging operations be concluded prior to March 1 of each year. It is important to note that it is specifically the installation and removal of pipe that has the potential to disrupt nesting activities; the actual dredging operation (pumping of spoil through the pipe and deposition of spoil into the surf zone) does not appear to have an adverse affect.

Thus, although the proposed surf zone deposition is not expected to impact the snowy plover, pipeline placement, and associated project activities have the potential to adversely impact snowy plover. In order to avoid any adverse impacts to nesting snowy plovers, the Commission requires the applicant, as provided in **Special Condition One (1)**, to restrict all project activities within federally designated critical habitat during the snowy plover breeding season from March 1 through September 30. This includes the storage of pipes on the beach in the critical habitat area. The Commission finds that **Special Condition Nine (9)** is necessary to assign the applicant responsibility to ensure that no pipes or other equipment are stored in western snowy plover critical habitat areas during the breeding season. Furthermore, **Special Condition Eight (8)** requires a biological survey to be conducted prior to commencement of pipeline movement, or other grading and grooming activities on the beach, and further requires a biological monitor to be present during the installation, removal, and other beach maintenance activities. If the surveyor or monitor find that any snowy plover is exhibiting reproductive or nesting behavior, the environmental specialist shall require the applicant to cease work, and shall immediately notify the Executive Director and local resource agencies. Work shall not re-commence except upon written approval of the Executive Director.

In addition to protection of breeding snowy plovers, the USFWS accords protection of wintering plover populations and habitat. Task 2 of the draft Recovery Plan provides a plan of action for protection of wintering plover populations as follows (pg. 156):

Monitor and manage wintering and migration areas to maximize snowy plover population and survival.

Task 3 of the Recovery Plan addresses habitat (pg. 160):

Develop mechanisms for long-term management and protection of snowy plovers and their breeding and wintering habitat.

Snowy plovers are found year around in the sandy beach portions of the project area, both north and south of the Ventura Harbor entrance. During the winter the birds use the area to rest and feed to build up the fat reserves needed for reproduction and survivorship. The USFWS (2001) estimates the wintering number of plovers at San Buenaventura State Beach to be between 26 and 47 and between 28 and 33 at Mandalay Bay/Santa Clara River Mouth. More recent monitoring reports for the area of dredging operations north of the Santa Clara River Mouth and along McGrath Beach submitted by the applicant () pursuant to the requirements of CDP No. 4-01-143 reported an average of 54.5 plovers during the 2003 dredging project, 33.5 plovers during the 2004 dredging project, 5.7 plovers during the 2005 dredging project, and 29.7 plovers during the 2006 dredging project. Variations in the number of birds present were in part attributable to variations in the timing of project operations, with fewer birds present later in the season. Other factors affecting plover numbers, according to the submitted reports, include storm events, increased use of the subject area by surfers, ruptures and displacement of the pipeline in the area of the Santa Clara River estuary bar, and an error in pipeline placement that resulted in the discharge of slurry onto the beach, and the subsequent erosion of an area of plover habitat. Although these project related impacts were the result of operator error or unanticipated events, normal project operations have the potential for impacts on snowy plover habitat. The 2006 monitoring report states:

The installation and removal of the discharge pipe necessary for the hydraulic dredging operation have the potential for adverse, long-term impact on western snowy plovers through alteration of the beaches that they depend on for all stages of their life cycle...Adverse impacts can occur through deposition of dredge spoils, re-contouring the beach surface after pipeline removal, burying driftwood and vegetation important in roosting, foraging, and beach morphology, and generally leaving the beach in a conditions that snowy plovers and least terns would not use for foraging, nesting, roosting, or raising young. Short-term impacts can occur through activity levels that cause snowy plovers to abandon the use of the area and or move to avoid vehicle traffic. Take of the species could occur by vehicle movement on the beach.

Potential impacts to snowy plovers were minimized through the following actions:

- ***The Contractor kept operations and vehicle traffic within 50 feet of the pipeline route to minimize disturbance of the natural condition of the beach.***
- ***All vehicle traffic, including the movement of sections of the pipeline, was preceded by an employee...slowly driving or walking ahead of the equipment being moved to insure that no snowy plovers were at risk from vehicle movement.***
- ***Upon completion of the dredging phase, the pipe from the discharge point to the north end of Surfer's Knoll was removed and the disturbed beach surface was returned to a natural contour.***

A major factor contributing to the high number of snowy plovers present during this year's operations was the limiting of all beach activities to the 50-foot wide corridor along the pipeline route. This reduced the percentage of the beach that was disturbed, leaving approximately 80% of the beach undisturbed. The slow, cautious movement of vehicles on the beach significantly reduced the disturbance of roosting plovers as compared to previous years.

The report concluded that

This year's dredging operations appear to have had a less than significant, short-term impact on wintering snowy plovers by temporarily disrupting the activity of birds using the beach. Snowy plovers were observed foraging and roosting quite near the stored pipe, along the 50-foot wide access corridor, and near the discharge point. The portion of the beach disturbed by operations was relatively small, thus the project had a less than significant long-term impact on either snowy plovers or least terns.

Thus the dredging and disposal activities have the potential to impact wintering plover through disturbances associated with pipeline installation, pipeline removal, vehicle operation, and grading and grooming of the deposition sites to restore natural beach contours. However, specific measures were taken during the most recent dredging operations to reduce impacts to temporary, less than significant levels. In addition, as discussed below, sufficient additional resting and feeding areas are abundant in the vicinity and the potential for the project to impact plovers is minimal due to the temporary nature of project disturbance and the species' ability to tolerate 'occasional' human activities.

Commission staff has previously consulted with USFWS to ascertain the risk of the proposed dredging operation to wintering plovers. The USFWS has found that this project would have no impact on plover mortality, either directly from project operations or indirectly by interfering with foraging or resting activities which would reduce the plovers' ability store up the fat reserves needed to survive (R. Farris, USFWS, pers. comm. 1/25/02). Though USFWS staff recognizes that the dredging activities that occur on the beach disturb (cause them to fly) wintering plovers, the pipeline placement, pipeline removal, and recontouring activities are classified as "occasional" disturbances (R. Farris, USFWS, pers. comm. 1/25/02). The level of physiological stress to plovers from the aforementioned dredging activities is not expected to contribute to a loss of

energy that would adversely impact reproduction or survivorship, as would be anticipated from repeated disturbances (R. Farris, USFWS pers. comm. 1/25/02). In addition, there is an expanse of wintering habitat both to the north (2.4 miles of coastline designated as critical habitat at San Buenaventura State Beach) and to the south (critical habitat spans nearly five miles in the Mandalay Bay/Santa Clara River Mouth) of the Ventura Harbor which is available for the temporary displacement of birds during the activities.

However, staff notes that specific plover population dynamics and disturbances have just begun to be documented, and furthermore, the draft Recovery Plan calls for the monitoring of wintering habitat. In this case, there is no conclusive data that the proposed activities will not have unidentified indirect effects to the plover population as a result of physiological stress created by undue flight responses. Furthermore, monitoring of snowy plovers under CDP No. 4-01-143 and analysis of monitoring results provides essential feedback that has resulted in the development of specific recommendations, such as those cited above, to reduce the potential impacts of the project on snowy plovers. Therefore, the Commission requires the applicant to continue monitoring of snowy plover abundance and distribution at wintering locations, commencing at least two (2) weeks prior to any dredging event, continuing throughout the dredging operation, and extending at least two (2) weeks after the final dredging activity has been completed as required by **Special Condition Fourteen (14)**. **Special Condition Fourteen (14)** requires the applicant to submit a snowy plover monitoring report to the Executive Director for review and approval by July 1 of each year which addresses plover population and trends; incidents of plover disturbance; and conclusions regarding the impact of the dredging operations on the plover population and habitat. If the Executive Director determines that adverse impacts have occurred to the plover population or habitat, the applicant shall cease work, and shall immediately notify local resource agencies. The applicant shall be required to submit a revised, or supplemental program to adequately mitigate such impacts. The revised, or supplemental, program shall be processed as an amendment to this coastal development permit. Project activities shall resume only upon written approval of the Executive Director.

In addition, **Special Condition Nine (9)** requires the applicant to implement the specific measures, including limiting operation to within 50 feet of the pipeline route, requiring a monitor to walk ahead of any vehicles on the beach, and restoration of natural beach contours following pipeline removal, recommended in the 2006 snowy plover monitoring report to reduce project impacts on the snowy plover.

Furthermore, the Commission finds that **Special Condition Ten (10)** is necessary to ensure that the staging areas are located in areas that minimize the interface of project activities with wintering snowy plovers. **Special Condition Ten (10)** requires the applicant to submit, for review and approval of the Executive Director, a report which describes the operation staging requirements, including the location of the project construction headquarters, all construction staging areas and access routes, and any

special staging needs for heavy machinery, prior to the commencement of any dredging and discharge operations authorized by this coastal development permit.

To ensure that the project is properly designed for the long-term protection of habitat, **Special Condition Four (4)** requires the dredged material to meet federal and state beach nourishment and spoil discharge criteria, including physical and chemical testing as described in **Special Condition Three (3)**. Additionally, **Special Conditions Five (5) and Six (6)** require pre- and post-dredging operation monitoring of the nearshore and shoreline project areas, including beach width and sand volume changes. This information will be important to assess the project and its potential to effect plover habitat. The project is limited term and will end on April 15, 2016, as described in **Special Condition Seventeen (17)**, effectively ten annual dredging seasons (2006-07, through 2015-16). Subsequent data from the monitoring program shall be used to assess the effectiveness of the program and will allow an adaptive management approach that preserves habitat for ensuing years. The beach replenishment sites are nearshore or on-shore of snowy plover habitat areas. To ensure that the deposition of dredged material does not create detrimental impacts to beach slope, or subsequently to natural processes of erosion such as the network of dunes, **Special Condition Nine (9)** requires the applicant to regrade the deposition area to natural beach contours, immediately upon completion of the dredging operation, and prior to the timing restrictions described in **Special Condition One (1)**. Furthermore, dune habitat will not be directly impacted by the project. As proposed by the applicant, and described in **Special Condition (9)**, neither the disposal pipeline or equipment corridor shall cross or disturb sand dunes.

California Least Tern

The California least tern (*Sterna antillarum browni*) are migratory shorebirds that spend the breeding season on beaches from central and southern California to Baja, Mexico. Winter areas for the U.S. breeding population are largely unknown but it is presumed that the birds spend their winters along the Pacific coast of Central America. Though the timing of migration varies, terns typically begin to arrive along the California coast in mid-April with the fall migration from breeding colonies starting as early as June and extending as late as mid-October.² Least terns typically migrate in small, loose groups, feeding en route in shallow water near land and resting on sandbars, beaches, pilings, and docks. The least tern forages on small surface fish such as anchovies and topmelts, captured from nearshore waters, estuaries, and river mouths near the breeding colonies.

Least terns nest in loose colonies in areas relatively free from human or predatory disturbance. Courtship may take place away from the nest colony, on a beach or exposed tidal flat. They tend to be site faithful, with the majority of birds returning to the same nesting location in subsequent years. Courtship period is usually 2 to 3 weeks in April and May with first eggs in California appearing in approximately mid-May. The

² Thompson et. al., *Least Tern*, The Birds of North America, No. 290 (1997).

breeding season for least terns along the California coast extends from April through August. California least terns are ground-nesting birds which nest in barren to sparsely vegetated sites near water, usually in association with river mouths or estuaries. Nests are shallow depressions in sand, soil, or pebble and are lined with beach debris (e.g., pebbles, shell fragments, plant material). The eggs are small, oval-shaped eggs, beige to olive in color with spots or splotches medium brown to black. Eggs are hatched after about 25 days. The chicks are semiprecocial, walking shortly after hatching but with the parents feeding chicks occasionally for up to several weeks after fledging. Chicks leave nest at about 2 days of age, and fledge at approximately 20 days. The population of California least tern has experienced a decline due to the loss of suitable nesting habitat, which has been degraded by high levels of human disturbance along the beach as well as by the effects of urbanization of the shoreline.

The California least tern was listed by the U.S. Fish and Wildlife Service as an endangered species in 1970 and by the California Department of Fish and Game in 1971. No critical habitat has been identified for this species, though a draft Recovery Plan was prepared in 1977 and revised in 1980 with a primary objective of increasing the population to a minimum of 1200 pairs distributed among colonies in at least 20 coastal wetland ecosystems. By 1992, their numbers had increased to approximately 2160 nesting pairs in 35 different colonies.

An established California least tern nesting colony is located on the north side of the mouth of the Santa Clara River, between the disposal sites at South Beach and McGrath State Beach. In addition terns may nest south of the Santa Clara River. The normal tern forage area is within an approximately two-mile radius of the nesting colony, including a majority of the proposed project area. Least terns are sight feeders, foraging upon small, nearshore fish within the project area. The designated nesting site is fenced annually by California Department of Fish and Game to protect the nesting terns from predators and human intrusion, but some least terns nest outside the fenced area. Least tern survey data conducted from 1997-2001, provided by Audubon Society to the California Department of Fish and Game, document the first least tern nests recorded at the Santa Clara River estuary site as early as April 27 and as late as June 4, with most nests in place between the last week of April and the first two weeks of May (R. Smith, Audubon, pers. comm. 2/14/02). The survey did not report the first arrival of least terns to the site, except in 2001 which reported arrival of the first least tern on May 18. Though no data has been supplied to Commission staff, the applicant has represented that the arrival of least terns may often occur in March or even as early as February (R. Parsons, pers. comm. 2/13/02). During the 1997-2001 time period, the terns have completed nesting by August 18 with the last of the juveniles departing by the second week of September (R. Smith, pers. comm. 2/14/02).

The 2006 Monitoring report submitted by the applicant (citation) states that

Least terns nest on the pipeline route, and elsewhere in the county, from March 15 to September 15 annually....Long-term impacts are...possible to California least terns since they nest on the beach involved in this work, although this species is not present during the dredging operation.

To ensure that dredge disposal or other project activities do not take place during the least tern nesting season, the Commission finds it necessary to require that these activities do not occur within 100 yards of, and on the entire beach seaward of, the least tern nesting areas identified annually by the California Department of Fish and Game from March 15 through September 1 as required by **Special Condition One (1)**. In addition, to protect least tern foraging areas from turbidity, **Special Condition One (1)** further requires the applicant to limit nearshore deposition activities at the McGrath State Beach nearshore receiver site, between September 1 and March 15, to protect the least tern's foraging ability. Additionally, due to the proximity of the pipeline route to least tern nesting sites, the Commission finds it necessary to require **Special Condition Nine (9)** which requires the pipeline to be removed from the area prior to April 1 of each year.

In addition, to ensure that the dredging does not impact any least terns that may arrive earlier than the recognized breeding season (March 15 through August 31), **Special Condition Eight (8)** requires a biological survey to be conducted prior to commencement of pipeline movement, or other grading and grooming activities on the beach, and further requires a biological monitor to be present during the installation, removal, and other beach maintenance activities. If the surveyor or monitor find that any least tern is exhibiting reproductive or nesting behavior, the environmental specialist shall require the applicant to cease work, and shall immediately notify the Executive Director and local resource agencies. Work shall not re-commence except upon written approval of the Executive Director. Though no data has been supplied, the applicant has asserted, based on incidental knowledge, that least terns may be present in the project area outside of the breeding season. The Commission finds that should there be any least terns utilizing the area as a migratory stop over, outside of the breeding season, which are not exhibiting reproductive behaviors, the applicant shall record their presence, distribution, and behavior as part of the snowy plover surveys, as required by **Special Condition Fourteen (14)**. The results of the survey shall be submitted with the results of the snowy plover monitoring report to the Executive Director for review and approval by July 1 of each year. This report shall include conclusions regarding the impact of the dredging operations to least terns. If the Executive Director determines that adverse impacts have occurred to the plover population or habitat, the applicant shall cease work, and shall immediately notify local resource agencies. The applicant shall be required to submit a revised, or supplemental program to adequately mitigate such impacts. The revised, or supplemental, program shall be processed as an amendment to this coastal development permit. Project activities shall resume only upon written approval of the Executive Director.

Furthermore, the Commission finds that **Special Condition Ten (10)** is necessary to ensure that the staging areas are located in areas that minimize the interface of project activities with least tern habitat. **Special Condition Ten (10)** requires the applicant to submit, for review and approval of the Executive Director, a report which describes the operation staging requirements, including the location of the project construction headquarters, all construction staging areas and access routes, and any special staging

needs for heavy machinery, prior to the commencement of any dredging and discharge operations authorized by this coastal development permit.

The dredging operation and proposed surf zone deposition are not expected to directly impact the least tern. However, activities accessory to the project, such as pipeline installation, pipeline removal, and other beach grading activities, have the potential to adversely impact least tern habitat. During prior dredging events, the pipeline installation process has taken four to five days to complete. Removal of the pipeline occurs at a more rapid pace, taking approximately two days to remove, depending upon weather and river conditions. The recontouring of the beach takes a matter of hours to complete at the deposition area. These activities occur over the course of the project, which may span up to three to four months.

To ensure that the project is properly designed for the long-term protection of least tern breeding and foraging habitat, **Special Condition Four (4)** requires the dredged material to meet federal and state beach nourishment and spoil discharge criteria, including physical and chemical testing as described in **Special Condition Three (3)**. Additionally, **Special Conditions Five (5) and Six (6)** require pre- and post-dredging operation monitoring of the nearshore and shoreline project areas, including beach width and sand volume changes. This information will be important to assess the project and its potential to affect habitat. The project is limited term and will end on April 15, 2016, as described in **Special Condition Seventeen (17)**, effectively ten annual dredging seasons (2006-07, through 2015-16). Subsequent data from the monitoring program shall be used to assess the effectiveness of the program and will allow an adaptive management approach that preserves habitat for ensuing years.

The beach replenishment sites are nearshore or on-shore of least tern habitat areas. To ensure that the deposition of dredged material does not create detrimental impacts to beach slope, or subsequently to natural processes of erosion such as the network of dunes, **Special Condition Nine (9)** requires the applicant to regrade the deposition area to natural beach contours, immediately upon completion of the dredging operation, and prior to the timing restrictions described in **Special Condition One (1)**. **Special Condition Nine (9)** also requires the applicant to ensure that during the placement and removal of pipeline, and all other times, that at no time shall disposal or associated activities interfere with the breaching or retention of flow within the Santa Clara River estuary in such a way as to cause or threaten flooding on adjacent lands. Furthermore, as proposed by the applicant, and described in **Special Condition Nine (9)**, neither the disposal pipeline or equipment corridor shall cross or disturb sand dunes.

Steelhead Trout

Noise, vibration, and altered water quality resulting from deposition activities near the mouth of the Santa Clara River could potentially interfere with steelhead migration likely to occur winter through summer months. During one of the past Ventura Harbor dredge sessions, an issue was raised concerning disposal of material adjacent to the mouth of the Santa Clara River, because the disposal occurred too close the river mouth,

potentially affecting spawning and juvenile steelhead trout and other sensitive habitat within the Santa Clara River estuary. As shown in the applicant's deposition plan, no disposal activities would occur within 300 feet of the river channel. This will ensure that fisheries and estuarine habitat associated with the Santa Clara River will not be adversely affected by the disposal.

In addition, the applicant only proposes to discharge dredged material into the surf zone near the mouth of the river in this area when the river flow is 100 cubic feet per second or greater. The California Department of Fish and Game and the U.S. Army Corps of Engineers have determined that 100 cubic feet per second is an adequate velocity to ensure that the turbidity associated with the dredging operation will be masked by the background turbidity of the Santa Clara River. In other words, the goal is to ensure that a "masking" background effect exists before adding the additional turbidity of the dredging operation, thereby ensuring that no independent, significant effects occur that would not otherwise have been naturally present. The Commission finds that the surf zone deposition near the mouth of the river, consistent with the aforementioned criteria, is protective of steelhead by ensuring that the mixing of sediment is discharged in a manner compatible with the natural discharge of the river. To ensure that this practice continues to be implemented to protect the resources in the Santa Clara River estuary including steelhead, **Special Condition Four (4)** stipulates that deposition may only occur in the surf zone near the mouth of the river 300 feet from the active river channel and when the river flow is 100 cubic feet per second or greater.

California Grunion

The California grunion is a small fish in the silversides family and is extremely unusual among fish in its spawning behavior. The grunion spawns on the sandy beaches in the project vicinity immediately following high tides from mid-March through August. The eggs are incubated in the sand until the following series of high tide conditions, when the eggs hatch and are washed into the sea. California grunion is a species of concern due to its unique spawning behavior, and carefully managed as a game species. Project activities within the intertidal zone may disturb adult grunion during the run period and/or may bury incubating grunion eggs. Therefore, the proposed dredging and discharge operations have the potential to significantly impact California grunion by dredging or depositing sediment within the intertidal zone during the seasonally predicted protected grunion run period and egg incubation period of March through August. In order to ensure that the proposed project will not have an adverse impact on California grunion, **Special Condition One (1)** states that no work shall be conducted on the beach and shorefront area while California grunion are present on the beach. **Special Condition One (1)** further stipulates that sediment shall not be placed on any beach below the high water line during the seasonally predicted run period and egg incubation period of California grunion, March 14 through August 31, unless specifically authorized by the Executive Director. Such authorization will be given only after the Executive Director has received evidence that a qualified resource specialist has conducted an appropriate survey for the presence of any adult grunion and/or live grunion eggs at the project site, as required by **Special Condition Eight (8)**. Furthermore, to ensure that the Executive

Director is notified of commencing dredging and discharge operations, and to ensure that all relevant monitoring information has been analyzed for potential impacts on sensitive wildlife species at the site, **Special Condition Two (2)** of the subject permit requires the applicant to submit a dredging and disposal operation plan describing the locations, staging areas, methods and timing of proposed operations, including all relevant monitoring reports, prior to commencement of any operations authorized by this coastal permit.

Tidewater Goby

The tidewater goby is a brackish water fish species adapted to both fresh and saltwater. This species has been recorded in both the Santa Clara and Ventura Rivers. The tidewater goby is not expected to be affected by the proposed project because disposal will not occur within or alter the sensitive riparian habitat or estuary area associated with the Santa Clara River. As proposed, dredging material would be conducted below the mean high water line along the 2,500 feet of beach near the mouth of the Santa Clara River, with the actual discharge point being at least 300 feet away from the location at which the river flows into the ocean. In addition, discharge of material would only occur within this area when the river flow is 100 cubic feet per second or greater. The Commission finds that the surf zone deposition at the mouth of the river, consistent with the aforementioned criteria, is protective of tidewater goby by ensuring that the mixing of sediment is discharged in a manner compatible with the natural discharge of the river. The California Department of Fish and Game and the U.S. Army Corps of Engineers have determined that 100 cubic feet per second is an adequate velocity to ensure that the turbidity associated with the dredging operation will be masked by the background turbidity of the Santa Clara River. In other words, the goal is to ensure that a “masking” background effect exists before adding the additional turbidity of the dredging operation, thereby ensure that no independent, significant effects occur that would not otherwise have been naturally present. To ensure that this practice continues to be implemented to protect the resources in the Santa Clara River estuary including tidewater goby, **Special Condition Four (4)** stipulates that deposition may only occur in the surf zone near the mouth of the river 300 feet from the active river channel and when the river flow is 100 cubic feet per second or greater.

California Brown Pelican

California brown pelicans are year-round “residents” of the harbor area. The pelicans are known to rest on structures in the Ventura Harbor and occasionally feed in the area to be dredged. However, sufficient additional resting and feeding areas are available in the vicinity. Therefore, potential project impacts on brown pelicans are minimal due to the temporary nature of project disturbance and the species’ tolerance of human activities.

The Commission notes that the proposed project, as conditioned, will minimize potential adverse impacts to sensitive wildlife species known to occur at the project site.

However, the proposed project may result in potential adverse impacts to previously unidentified sensitive species and the surrounding environment due to unintentional disturbance from the sediment management activities. Therefore, to ensure that all recommendations of the environmental consultant are properly implemented, and to ensure that any potential adverse effects to the beach and marine environment are minimized, **Special Condition Eight (8)** requires the applicant to submit, for review and approval of the Executive Director, evidence that the applicant has retained the services of a qualified environmental resource specialist to conduct a survey of the project site to determine whether any sensitive wildlife species are present and exhibiting reproductive or breeding behavior prior to commencement of dredging and discharge operations authorized by this coastal development permit. In the event that sensitive species are present and exhibiting reproductive behavior at the project site during the proposed operations, **Special Condition Eight (8)** also requires the environmental resource specialist to require the applicant to cease work and notify the Executive Director and local resource agencies. Project activities can resume upon written approval of the Executive Director.

The proposed project will involve dredging and sediment disposal in coastal waters. As described above, section 30233 of the Coastal Act provides that diking, filling, and dredging of coastal waters may be permitted for coastal-dependent industries and for maintaining or restoring dredged depths where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects. The Commission finds that the proposed project will serve to achieve and maintain identified dredging depths and beach replenishment for previously maintained areas, which will accommodate the coastal-dependent uses that the project area provides, specifically referenced under Section 30233 of the Coastal Act as allowable development requiring dredging and filling in coastal waters. The Commission also notes that the proposed project, as conditioned, will minimize potential adverse effects on the marine environment and sensitive wildlife species, consistent with the applicable policies of Sections 30230, 30231, 30232 and 30240 of the Coastal Act.

3. Caulerpa

Caulerpa taxifolia is a tropical green marine alga that is popular in the aquarium trade because of its attractive appearance and hardy nature. In 1984, this seaweed was introduced into the northern Mediterranean. From an initial infestation of about 1 square yard it grew to cover about 2 acres by 1989, and by 1997 blanketed about 10,000 acres along the coasts of France and Italy. Genetic studies demonstrated that those populations were from the same clone, possibly originating from a single introduction. This seaweed spreads asexually from fragments and creates a dense monoculture displacing native plant and animal species. In the Mediterranean, it grows on sand, mud and rock surfaces from the very shallow subtidal to about 250 ft depth. Because of toxins in its tissues, *C. taxifolia* is not eaten by herbivores in areas where it has invaded. The infestation in the Mediterranean has had serious negative economic and social consequences because of impacts to tourism, recreational diving, and commercial fishing.

Because of the grave risk *Caulerpa* poses to native habitats, in 1999 *C. taxifolia* was designated a prohibited species in the United States under the Federal Noxious Weed Act. However, its possession is still legal in California. In June 2000, *C. taxifolia* was discovered in Aqua Hedionda Lagoon in San Diego County, and in August of that year an infestation was discovered in Huntington Harbor in Orange County. Genetic studies show that this is the same clone as that released in the Mediterranean. Other infestations are likely. Although a tropical species, *C. taxifolia* has been shown to tolerate water temperatures down to at least 50° F. Although warmer southern California habitats are most vulnerable, until better information is available, it must be assumed that the whole California coast is at risk. All shallow marine habitats could be impacted.

In response to the threat that *Caulerpa taxifolia* poses to California's marine environment, the Southern California Caulerpa Action Team, SCCAT, was established to respond quickly and effectively to the discovery of *Caulerpa taxifolia* infestations in Southern California. The group consists of representatives from several state, federal, local and private entities. The goal of SCCAT is to completely eradicate all *C. taxifolia* infestations.

If *Caulerpa taxifolia* is present, any project that disturbs the bottom could cause its spread by dispersing viable tissue fragments. In order to assure that the proposed project does not cause the dispersal of *Caulerpa taxifolia*, the Commission requires **Special Condition Seven (7)**. **Special Condition Seven (7)** requires the applicant, prior to commencement of development, to survey the project area and dredging equipment for the presence of *C. taxifolia*. If *C. taxifolia* is present in the project area, no work may commence and the applicant shall seek an amendment or a new permit to address impacts related to the presence of the *C. taxifolia*, unless the Executive Director determines that no amendment or new permit is required.

For the reasons set forth above, the Commission finds that the proposed project, as conditioned, is consistent with Sections 30230, 30231, 30240, and 30233 of the Coastal Act.

4. Wrack

Wrack, the tangles of kelp and sea grass that wash up onto beaches and settle in large clumps along the tide line, are of particular importance for invertebrates, plants, and birds in the intertidal zone of the beach. A diverse macrofauna, including amphipods, isopods, and insects are found in wrack. According to one study at Southern California beaches, wrack associated macrofauna made up an average of greater than 37% of species on ungrouted beaches and comprised 25% or more of the total abundance on half of those beaches³. The presence and amount of wrack on beaches is, therefore,

³ Dugan, Jenifer E., et. Al. The Response of Macrofauna Communities and Shorebirds to Macrophyte Wrack Subsidies on Exposed Sandy Beaches of Southern California. Estuarine, Coastal and Shelf Science 58S pp. 133-148. 2003

directly correlated with the abundance and diversity of crustaceans and insects at beaches. The same study also showed reduced presence of western snowy plover and black-bellied plover at beaches in Ventura and Santa Barbara counties where wrack used to be removed regularly as part of beach grooming activities. The presence of wrack on beaches has also been proven to reduce wind driven sand transport at beaches by more than 90%⁴.

The proposed project includes the placement of dredged sediment within the surf zone at McGrath Beach, South Beach, and beach areas near the Santa Clara River mouth, the installation of discharge pipelines across these beaches, and temporary establishment of access routes for construction equipment. These activities have the potential to impact the wrack zone. Therefore, in order to avoid potential adverse impacts to sensitive habitat, **Special Condition Eleven (11)** requires the applicant to retain wrack on the beach to the maximum extent feasible during project activities, including stockpiling of wrack during discharge operations and replacement of the wrack in the same location/configuration at the completion of project operations where possible.

5. Conclusion

As described in detail above, the proposed project, as conditioned, will avoid or minimize impacts to environmentally sensitive habitat and species within the project area. As such, the Commission finds that the project, as conditioned, is consistent with Sections 30230, 30231, 30233, and 30240 of the Coastal Act.

F. Hazards and Shoreline Processes

Section 30253 of the Coastal Act states, in part:

New development shall:

(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

The proposed development is located in an area subject to tidal action. The tidal environment is dynamic and there are risks associated with development in such areas.

⁴ Dugan, Jenifer E. and David M. Hubbard. Effects of Beach Grooming on Coastal Strand and Dune Habitats at San Buenaventura State Beach. Draft Final Report to California Resources Agency, Department of Parks and Recreation, Channel Coast District. Jan. 4, 2003.

For instance, erosion has occurred at the subject beaches where deposition is proposed, and erosion is one form of potential geologic hazard. However, the applicant will not increase erosion hazards by discharging sediment in the surf zone or nearshore waters. As described above, testing and monitoring the replenishment material will ensure risks to life and health are minimized. Therefore, the proposed project minimizes this hazard consistent with Section 30253.

In addition to sediment deposition, the project involves hydraulic and clamshell dredging of the Ventura Harbor and adjacent offshore areas. These areas have been dredged since its construction in the mid-1960s. Nearby creeks and longshore currents transport sediment to these areas, filling in portions of the harbor. Maintenance dredging proposed by this project removes this accumulated sediment to ideal contours. These offshore contours have not changed significantly since the program was last permitted in 2002, under CDP 4-01-143. It is unlikely, therefore, that dredging activities would significantly contribute to erosion, geologic instability, or substantially alter natural landforms along bluffs or cliffs.

However, because there remains an inherent risk to development along the shoreline, **Special Condition Sixteen (16)** requires the applicant, by acceptance of this permit, to assume the risk of development and to indemnify and hold harmless the California Coastal Commission, its officers, agents and employees against any and all claims, demands, damages, costs, expenses of liability arising out of the acquisition, design, construction, operation, maintenance, existence, or failure of the permitted project. In this way, the applicant is notified that the Commission is not liable for damage as a result of approving the permit for development.

For the reasons set forth above, the Commission finds that the proposed project, as conditioned, is consistent with Section 30253 of the Coastal Act.

G. Local Coastal Program

The proposed project area lies within the limits of the City of Ventura and City of Oxnard, but falls within the Commission's area of retained original permit jurisdiction because it is located on state tidelands or is below the mean high-tide. The Commission has certified Local Coastal Programs for the City of Ventura and the City of Oxnard (Land Use Plan and Implementation Ordinances) which contain policies for regulating development and protection of coastal resources, including the protection of environmentally sensitive habitats, recreational and visitor serving facilities, coastal hazards, and public access.

H. California Environmental Quality Act (CEQA)

Section 13096(a) of the Commission's administrative regulations requires Commission approval of a Coastal Development Permit application to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements 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 that the activity may have on the environment.

The Commission incorporates its findings on Coastal Act consistency 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 discussed above, the proposed development, as conditioned, is consistent with the policies of the Coastal Act. Feasible mitigation measures which will minimize all adverse environmental impacts have been required as special conditions. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact that the activity may have on the environment. The Commission finds that, the proposed project, as conditioned, will not have any significant adverse effects on the environment, within the meaning of the California Environmental Quality Act of 1970. Therefore, the proposed project, as conditioned, has been adequately mitigated and is determined to be consistent with CEQA and the policies of the Coastal Act.

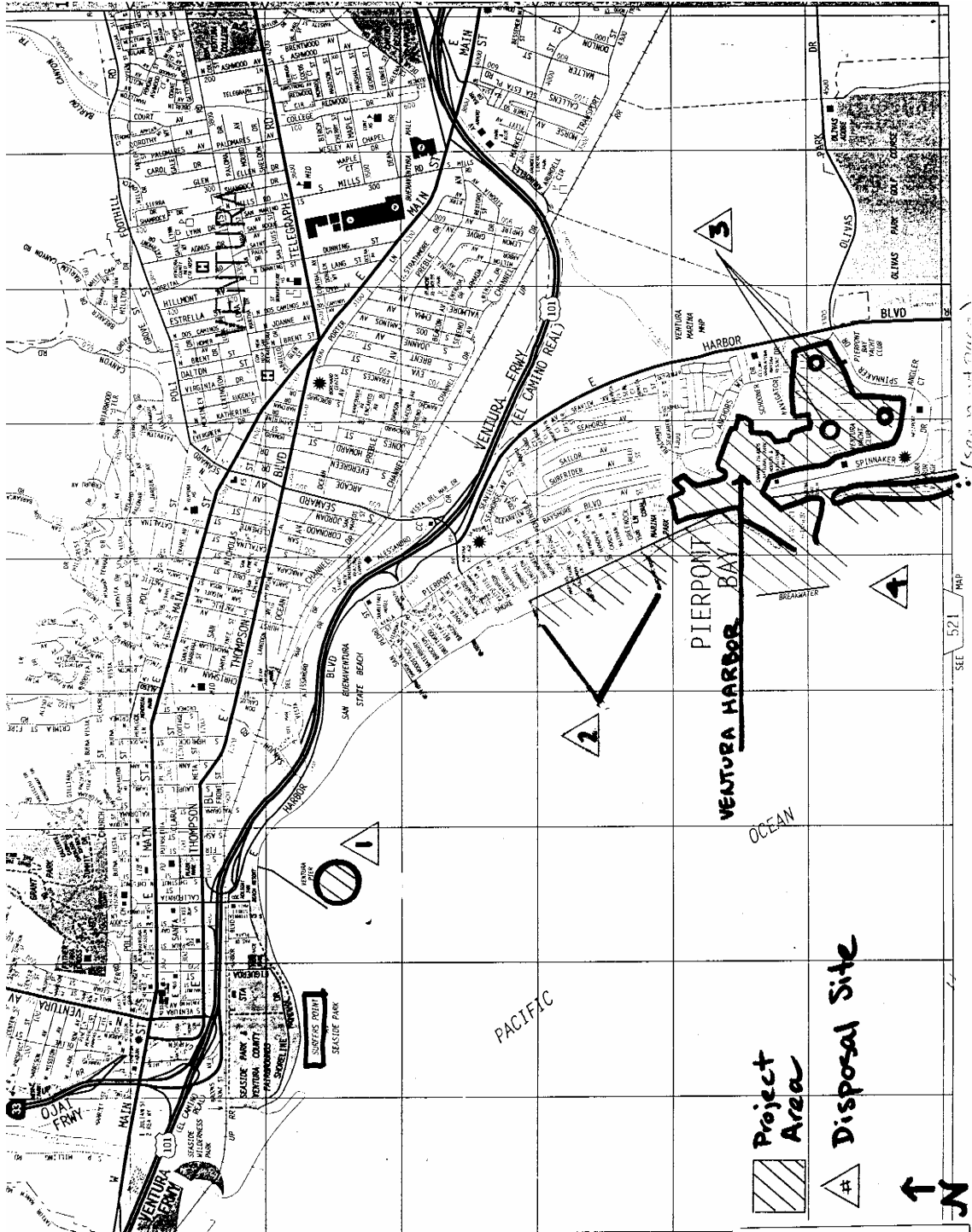


Exhibit 1a
 CDP No. 4-06-086
 Vicinity map (north)

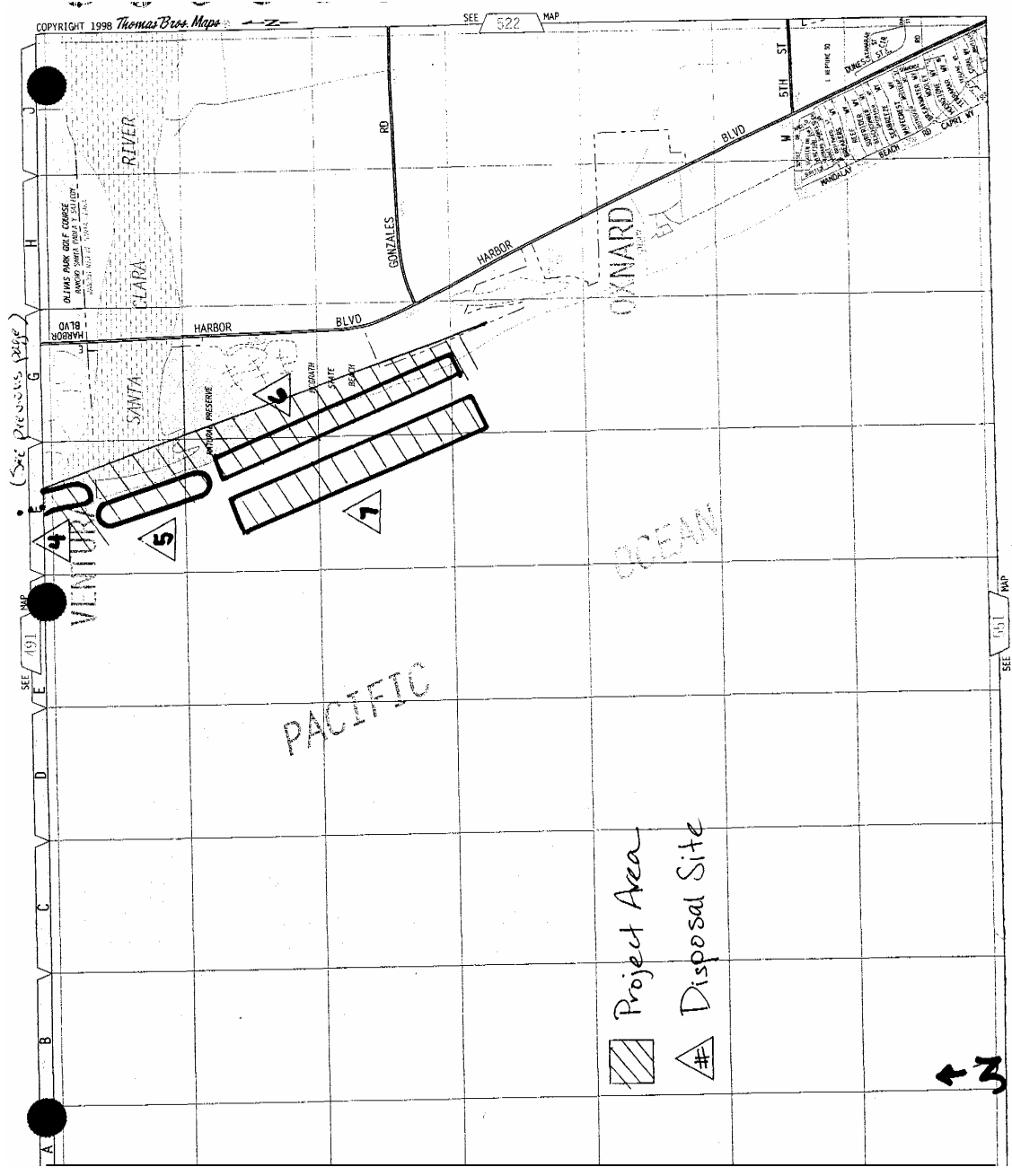


Exhibit 1b
 CDP No. 4-06-086
 Vicinity map (south)

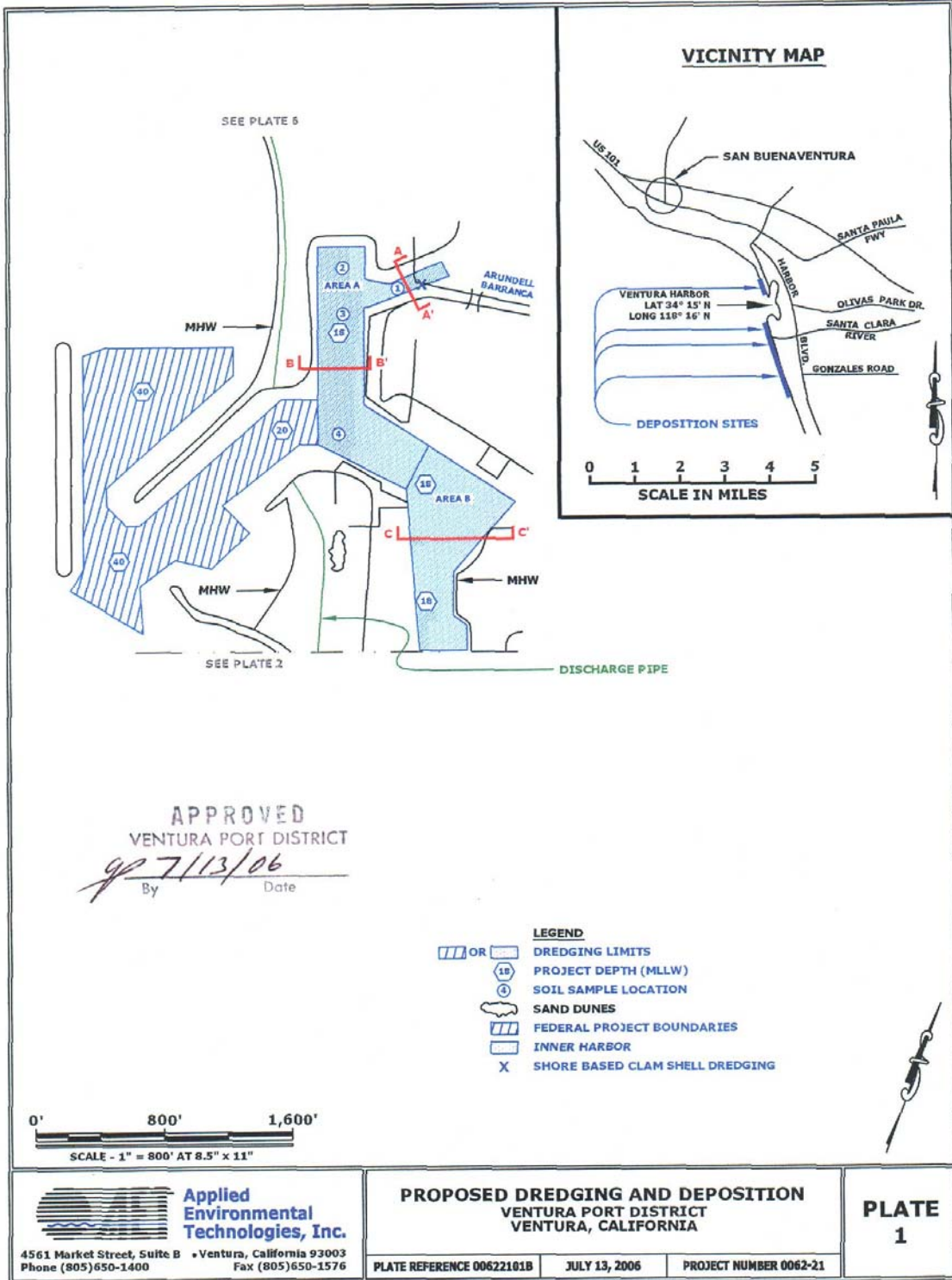


Exhibit 2
CDP No. 4-06-086
Proposed dredging areas, north harbor

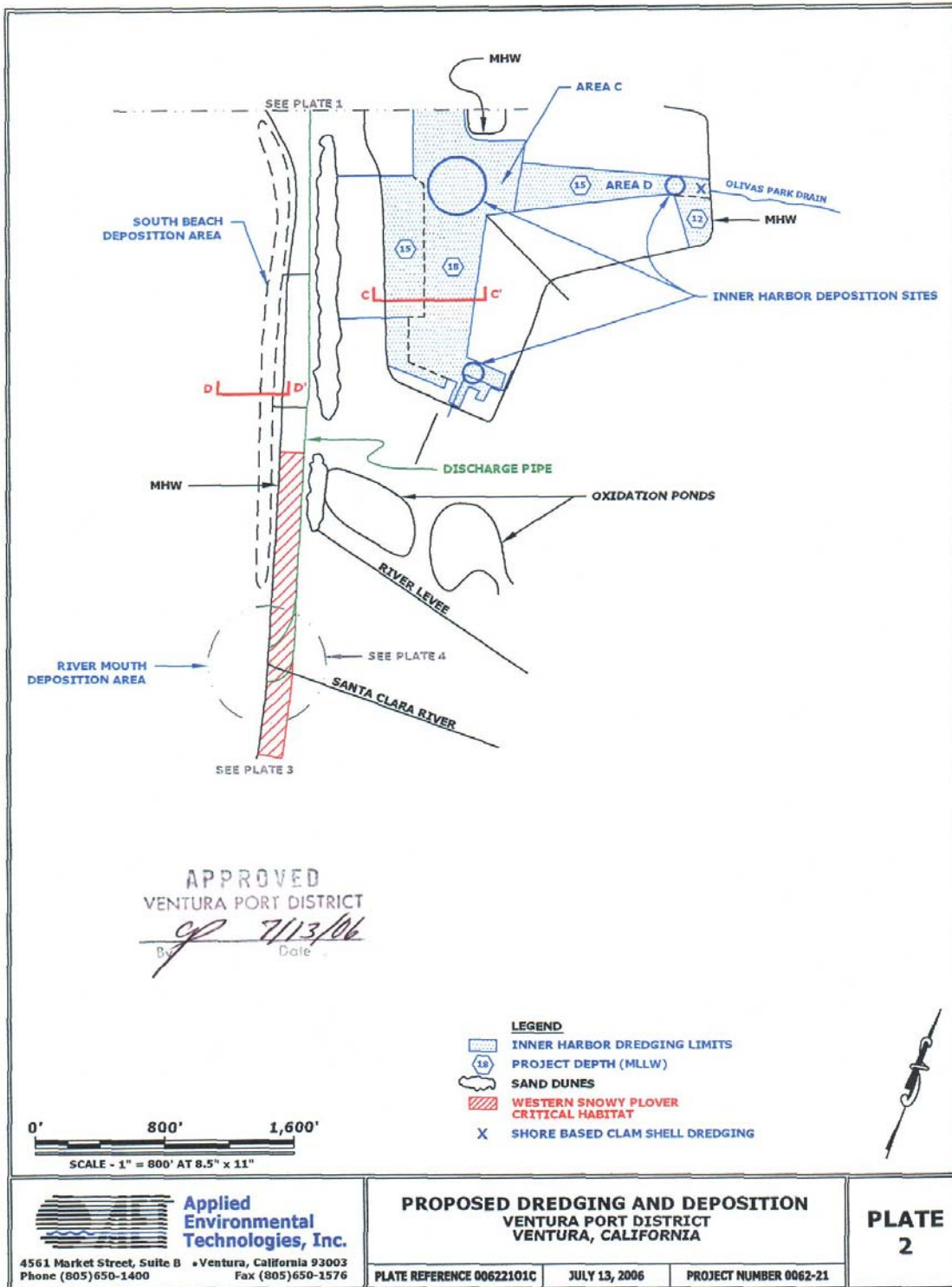


Exhibit 3
 CDP No. 4-06-086
 Proposed dredging and deposition areas,
 South harbor. South Beach. and Santa Clara River mouth

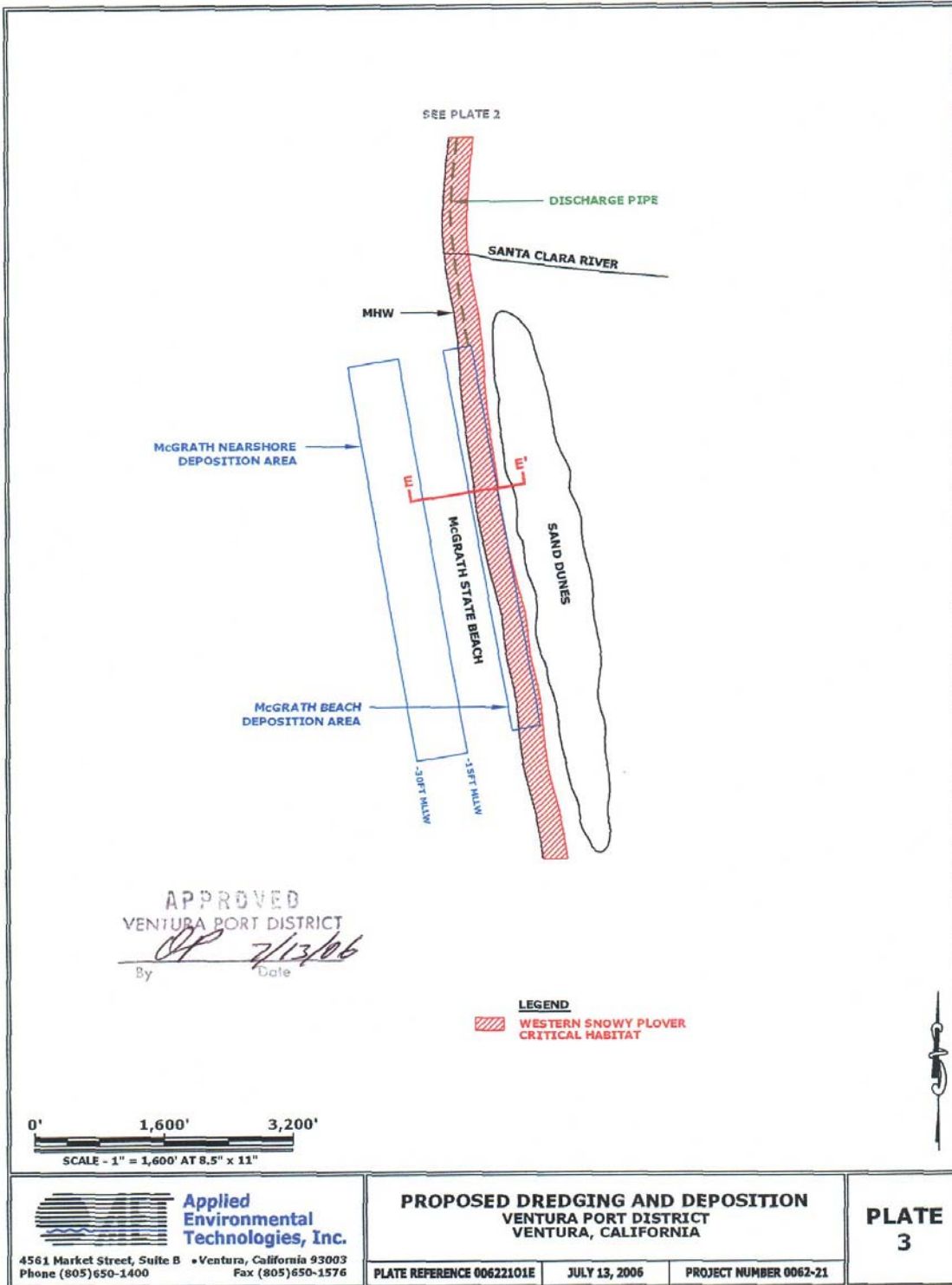
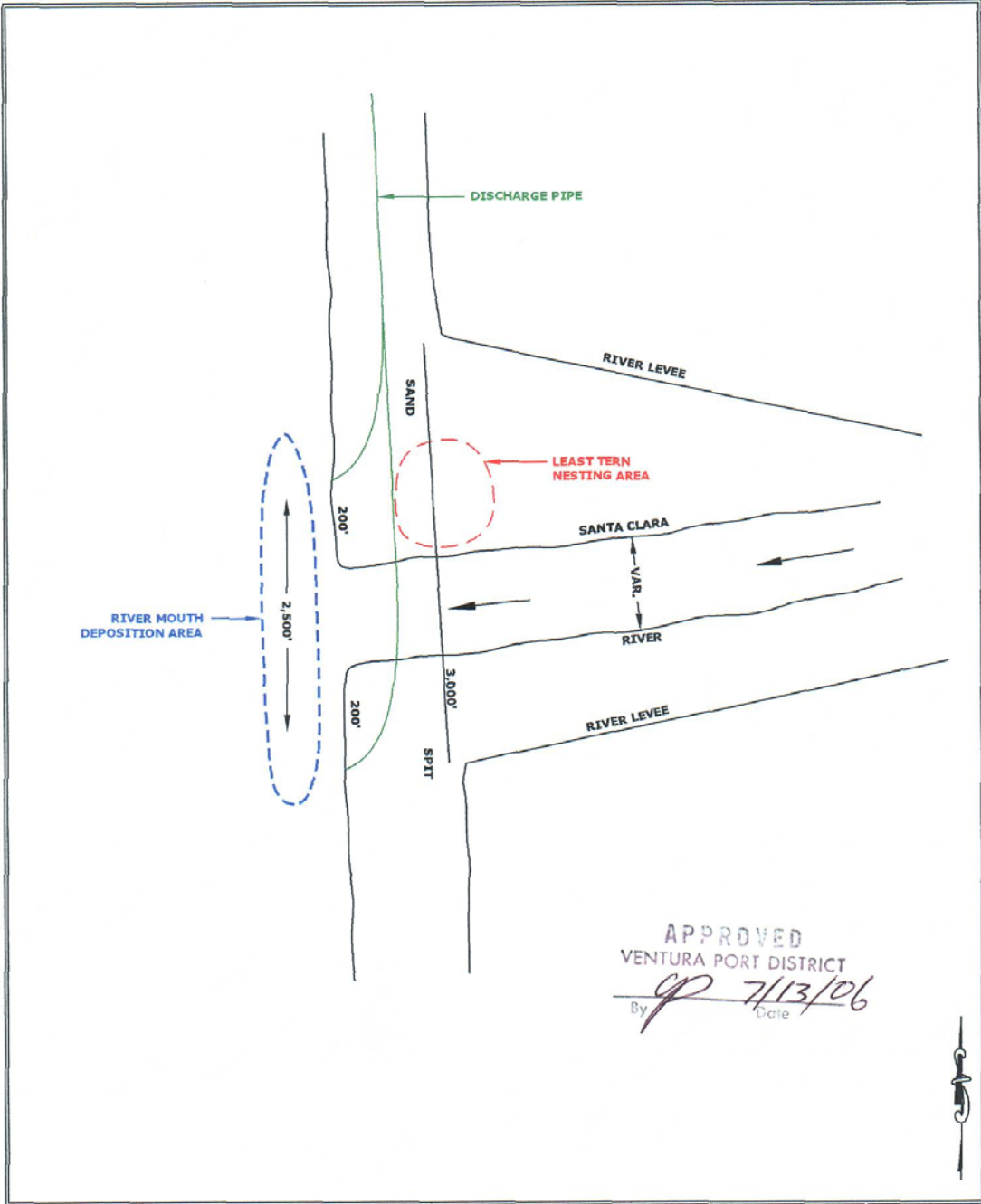


Exhibit 4
CDP No. 4-06-086
Proposed deposition areas,
McGrath State Beach



APPROVED
 VENTURA PORT DISTRICT
 By *JP* 7/13/06
 Date

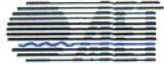
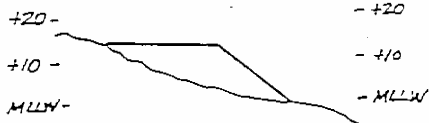
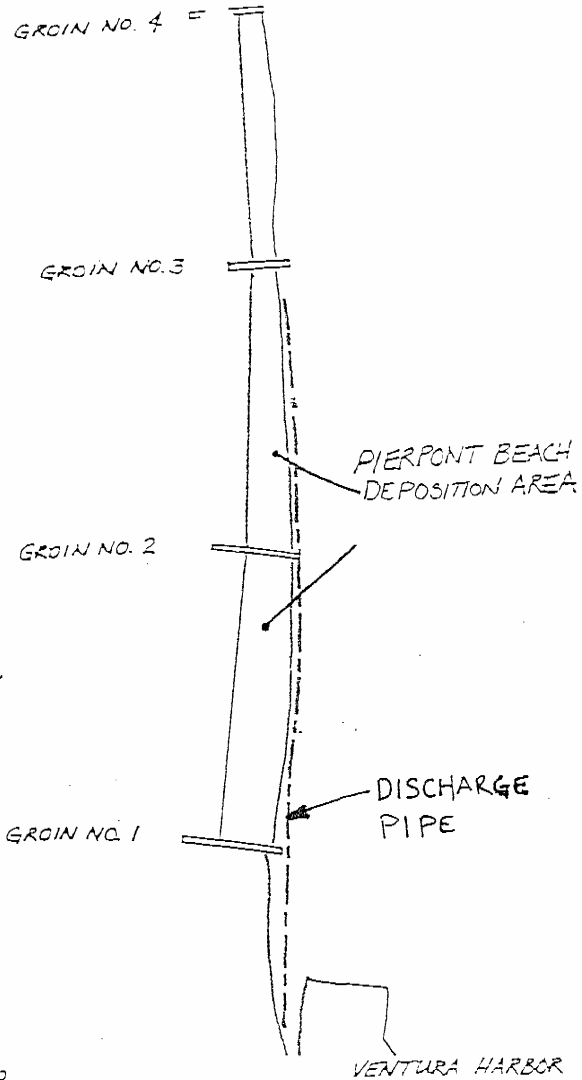
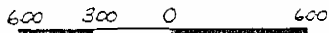
 <p>Applied Environmental Technologies, Inc. 4561 Market Street, Suite B • Ventura, California 93003 Phone (805)650-1400 Fax (805)650-1576</p>	PROPOSED DREDGING AND DEPOSITION VENTURA PORT DISTRICT VENTURA, CALIFORNIA		PLATE 4
	PLATE REFERENCE 00622101A	JULY 13, 2006	

Exhibit 5
 CDP No. 4-06-086
 Proposed deposition area,
 Santa Clara River mouth

APPROVED
 VENTURA PORT DISTRICT
 By ep Date 5/30/06



TYPICAL SECTION
 NO SCALE




 <p>Applied Environmental Technologies, Inc. 4840 Market Street, Suite B • Ventura, California 93003 Phone (805)650-1400 Fax (805)650-1576</p>	<p>PROPOSED DREDGING AND DEPOSITION VENTURA PORT DISTRICT VENTURA, CALIFORNIA</p>		<p>PLATE 6</p>
	<p>PLATE REFERENCE 00622101F</p>	<p>MAY 21, 2001</p>	

Exhibit 6
 CDP No. 4-06-086
 Proposed deposition area,
 Pierpoint groin fields

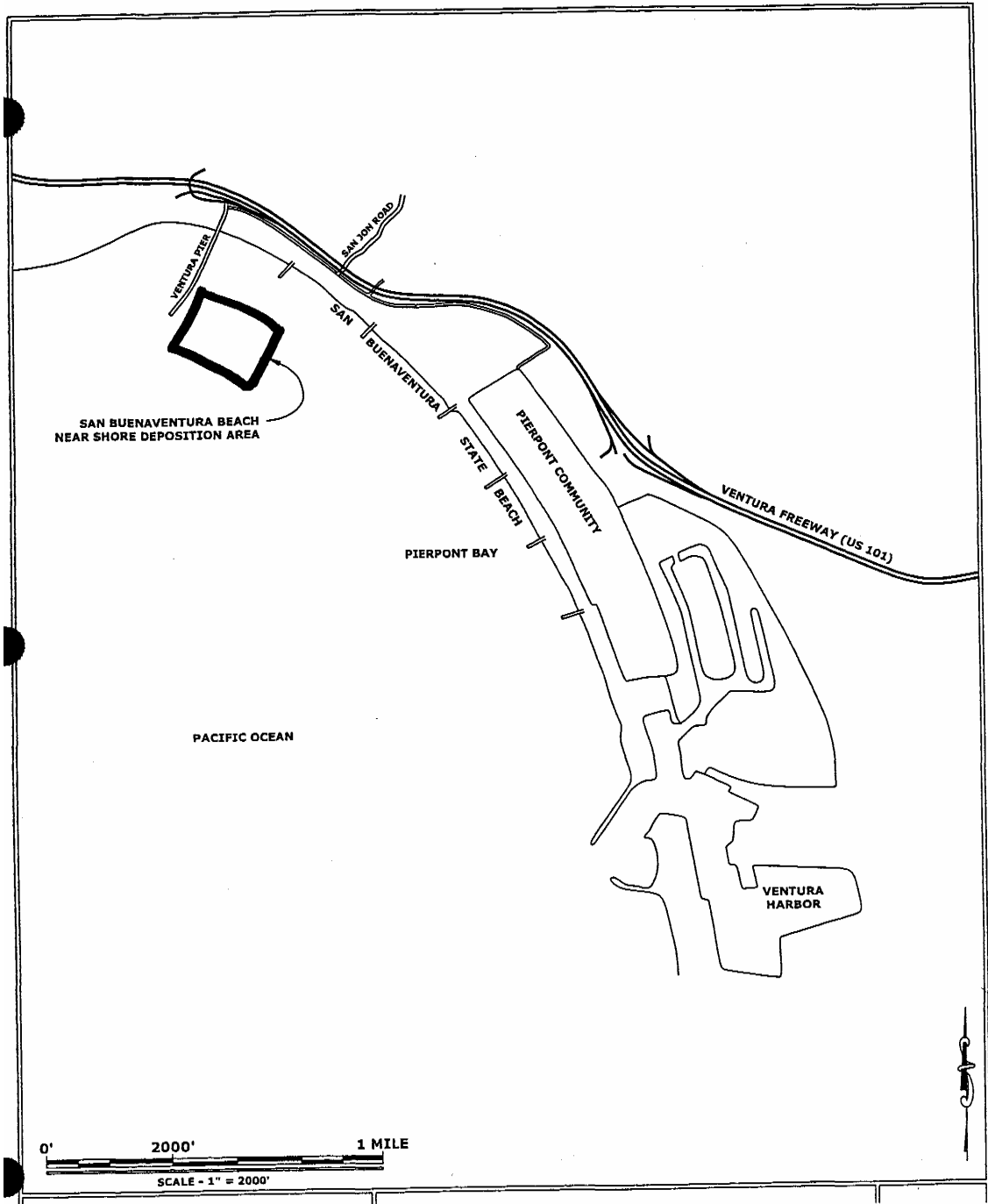


Exhibit 7
CDP No. 4-06-086
Proposed deposition area,
South of Ventura Pier

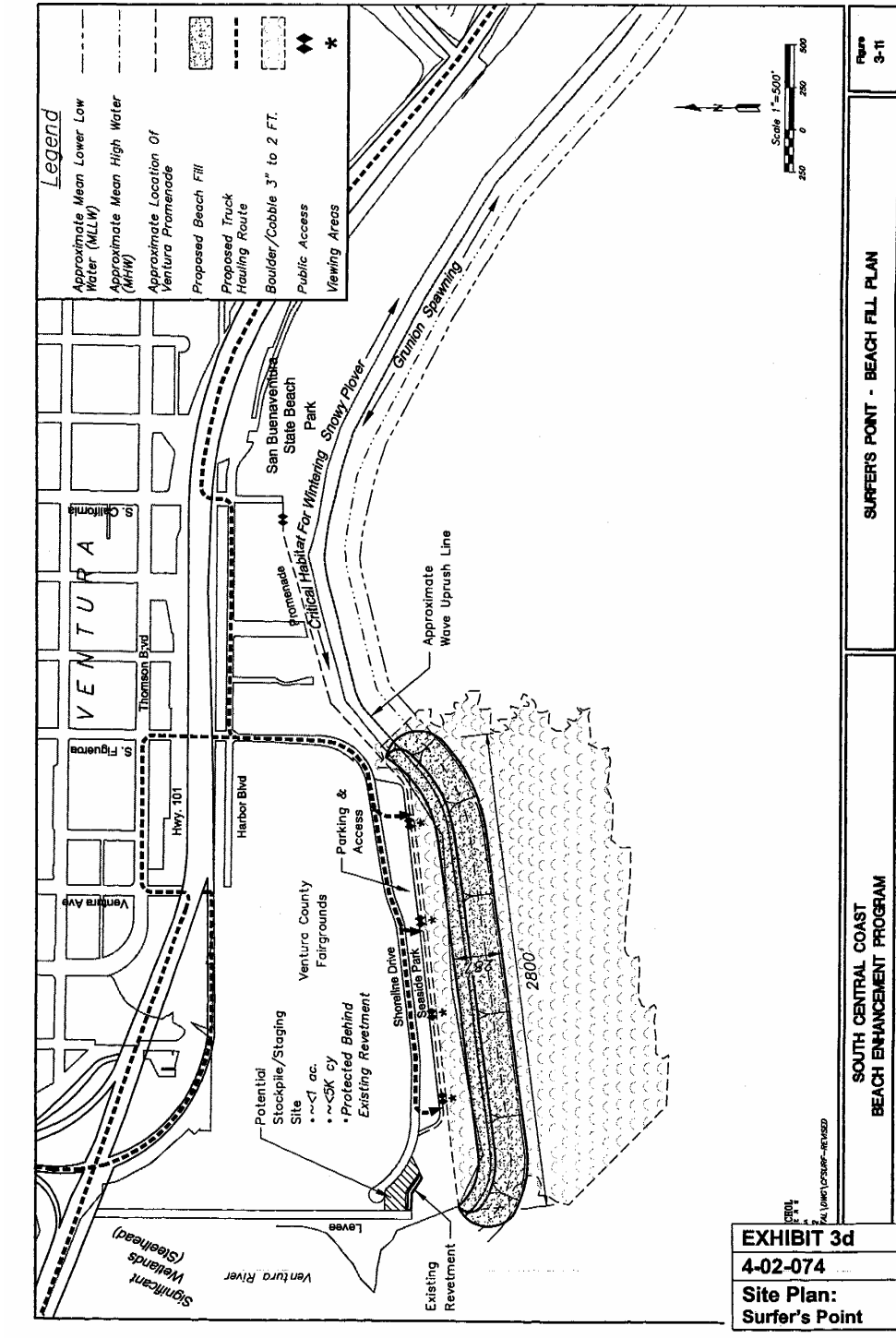
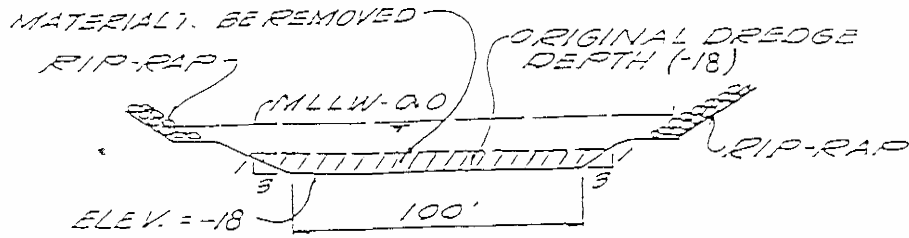
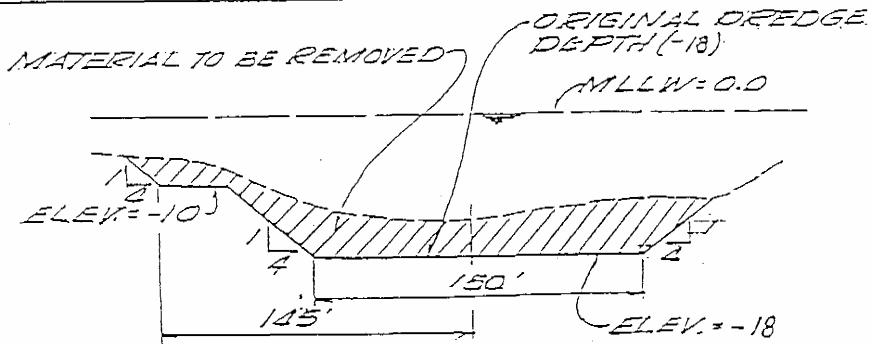


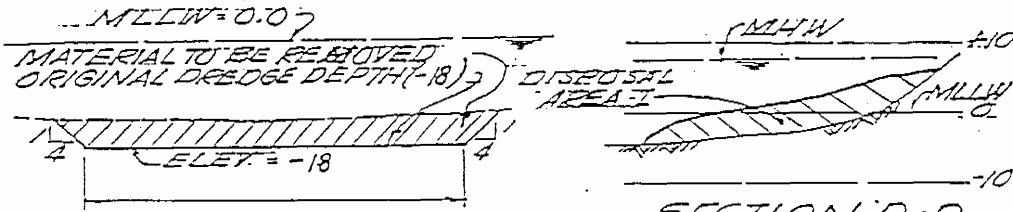
Exhibit 8
 CDP No. 4-06-086
 Approved sand nourishment areas,
 CDP No. 4-02-074 (BEACON)



SECTION A-A
NO SCALE

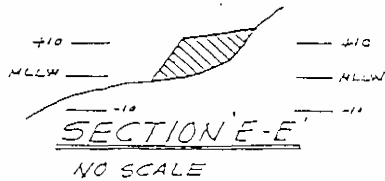


SECTION B-B'
NO SCALE



SECTION C-C'
NO SCALE

SECTION D-D
NO SCALE



SECTION E-E'
NO SCALE

APPROVED
VENTURA PORT DISTRICT
By *CP* Date 5/30/06



Applied Environmental Technologies, Inc.

4840 Market Street, Suite B • Ventura, California 93003
Phone (805)650-1400 Fax (805)650-1576

PROPOSED DREDGING AND DEPOSITION
VENTURA PORT DISTRICT
VENTURA, CALIFORNIA

PLATE REFERENCE 00622101D

MAY 21, 2001

PROJECT NUMBER 0062-21

PLATE 5

Exhibit 9
CDP No. 4-06-086
Proposed dredging sections

CALIFORNIA COASTAL COMMISSION

SOUTH CENTRAL COAST AREA
 99 SOUTH CALIFORNIA ST., SUITE 200
 VENTURA, CA 93001
 (805) 585-1800



Page 1 of 11

Date: April 26, 2002

Permit Application No. 4-01-143

COASTAL DEVELOPMENT PERMIT

On March 6, 2002, the California Coastal Commission granted to Ventura Port District, permit 4-01-143, subject to the attached Standard and Special Conditions, for development consisting of: Implement a Maintenance Dredging Program in the outer and inner areas of Ventura Harbor through April 15, 2006. Maintenance dredging of the *Inner Harbor*, to design depths, would entail up to 85,000 cu. yds. of material to be dredged annually from the navigation channels, berthing areas, and sand traps within the harbor and deposited: (1) within surf zone near the mouth of the Santa Clara River, (2) three interior depressions within the interior of the harbor; and/or (3) in the 4,000 feet of nearshore area off of McGrath State Beach.

Maintenance dredging of the *Outer Harbor*, to design depths, would entail up to 600,000 cu. yds. of material to be removed annually from the entrance channel and offshore sand traps and deposited: (1) within the surf zone along 10,000 feet of beach extending southward from the harbor's south jetty, including South Beach, the area near the Santa Clara River mouth, and McGrath State Beach; (2) within the surf zone north of the harbor entrance in Cells 1 and 2 of the Pierpont Groin Field; (3) in the 4,000 feet of nearshore area off of McGrath State Beach; and/or (4) the 1,000 feet of nearshore area off of San Buenaventura State Beach.

Dredging would be accomplished by means of hydraulic dredging with pipeline deposition into designated *surf zone areas* or alternately by means of clamshell or hopper dredging with deposition in the *nearshore* waters. The dredging and deposition period will run from after Labor Day in September to Memorial Day in May of the following year, subject to timing constraints for resource protection. This permit is more specifically described in the application on file in the Commission offices. Commission staff will not issue the CDP until the "prior to issuance" special conditions have been satisfied. This permit is more specifically described in the application on file in the Commission offices.

The development is within the coastal zone in Ventura County at Ventura Harbor, City of San Buenaventura; Beach deposition sites in the cities of San Buenaventura and Oxnard.

Issued on behalf of the California Coastal Commission by,

PETER DOUGLAS
 Executive Director

Shana Gray
 By: Shana Gray
 Coastal Planner

ACKNOWLEDGMENT:

The undersigned permittee acknowledges receipt of this permit and agrees to abide by all terms and conditions thereof.

The undersigned permittee acknowledges that Government Code Section 818.4 which states in pertinent part, that: "A public entity is not liable for injury caused by the issuance. . . of any permit. . ." applies to the issuance of this permit.

IMPORTANT: THIS PERMIT IS NOT VALID UNLESS AND UNTIL A COPY OF THE PERMIT WITH THE SIGNED ACKNOWLEDGEMENT HAS BEEN RETURNED TO THE COMMISSION OFFICE. 14 Cal. Admin. Code Section 13158(a).

5/10/02

 Date

[Signature]

 Permittee

Exhibit 10
 CDP No. 4-06-086
 CDP No. 4-01-143 (Ventura Port District)

COASTAL DEVELOPMENT PERMIT

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Permit Application No. 4-01-143

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 or 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.

SPECIAL CONDITIONS:

1. Timing of Operations

All dredging operations, including operation of equipment, spoil disposal, placement or removal of disposal pipelines, or other construction, maintenance, material removal, or activities involving mechanized equipment shall be prohibited:

- (a) Within 100 yards of, and on the entire beach seaward of, the Least Tern nesting areas, identified annually by the Department of Fish and Game, or the State Park Resource Protection Area from April 15 through August 31 to avoid disturbance during the breeding season of the Least Tern.
- (b) In the nearshore disposal area off of McGrath State Beach from April 15 through August 31 to protect the least tern's foraging ability.

COASTAL DEVELOPMENT PERMIT

Page 3 of 11
Permit Application No. 4-01-143

- (c) On any part of the beach and shorefront in the project area from Memorial Day in May through Labor Day in September to avoid impact on public recreational use of the beach.
- (d) On any part of the beach and shorefront in the project area from April 1 through August 31 to avoid impact on the spawning of the California Grunion.
- (e) Within federally designated critical habitat of the Western Snowy Plover from March 15 through September 30 to avoid adverse effects to nesting Western Snowy Plovers.

2. Dredging and Disposal Operation Plan

The applicant shall submit a dredging and disposal operation plan within thirty (30) days, but no later than two (2) weeks, prior to each dredging operation for the review and approval by the Executive Director. The plan shall include at a minimum:

- (a) Site map showing the area of the Ventura Harbor to be dredged and receiver site(s). Nearshore disposal areas shall be plotted in latitude and longitude coordinates. All maps shall be drawn to scale.
- (b) Detailed description of the dredging operation, including the method of dredging and disposal, volume of dredged spoils to be removed, and volume to be deposited at the receiver site(s).
- (c) Description (e.g., size, type, capacity) of equipment to be used, including bin capacity when hopper and/or clamshell dredging is utilized.
- (d) Schedule of the dredging operation's proposed beginning and ending dates.
- (e) Results of a grain size and chemical analysis, pursuant to Special Condition 3.
- (f) Evidence that local agencies were apprised of the availability of sand resources and the target destination for the current year's dredging operation.
- (g) Explanation of receiver site(s) priority.
- (h) Debris management plan to prevent disposal of solid debris at receiver site(s). The debris management plan shall include: sources and expected types of debris, debris separation and retrieval methods, and debris disposal methods.

3. Sediment Analysis

Physical (grain size) analysis shall be conducted of a representative sample of the sediments to be dredged from the Outer Harbor areas, consistent with the Environmental Protection Agency (EPA) and California Regional Water Quality Control Board (RWQCB) criteria for beach replenishment. Testing of Outer Harbor sediment shall be conducted upon initiation of the dredging operation. If sampling reveals that any sediment does not meet beach replenishment standards, the applicant shall cease work, and shall immediately notify the Executive Director and local resource agencies. Project activities shall resume only upon written approval of the Executive Director.

COASTAL DEVELOPMENT PERMIT

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Permit Application No. 4-01-143

Chemical and physical analysis shall be conducted of a representative sample of the sediments to be dredged from the Inner Harbor, consistent with the requirements of the joint EPA/Corps *Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. --Testing Manual* and CRWQCB waste discharge requirements. Re-testing of Inner Harbor sediment shall be conducted a minimum of three years from the date of the previous sediment sampling survey, where samples continue to meet EPA and CRWQCB guidelines. If the EPA or CRWQCB determine that the sediment exceeds any contaminant threshold levels, sampling shall commence at least six (6) weeks prior to any dredging event for all subsequent years. The results and analysis must be submitted for the review and approval of the Executive Director, at least two (2) weeks prior to any dredging operation.

4. Dredge Spoil Compatibility

- A. The dredged material shall meet all applicable federal and state beach nourishment or dredge spoil discharge requirements and comply with the grain size requirements for the locations as cited below.
- B. Dredged material meeting EPA and Regional Water Quality Control Board criteria for beach replenishment, and for which an average of 91% or more of the material is coarse grained (retained on a Standard U.S. Sieve Size No. 200), may be deposited in the following locations, in accordance with project plans shown in Exhibit 3:
 - (1) Nearshore area south of San Buenaventura pier;
 - (2) Cells 1 and 2 of the Pierpont Groin Field;
 - (3) South Beach;
 - (4) Surf zone Santa Clara River;
 - (5) Surf zone at McGrath State Beach;
 - (6) Nearshore area at McGrath State Beach; and/or
 - (7) Surfer's Point, provided that (1) a detailed site plan is approved pursuant to Special Condition Two and (2) evidence is submitted, for the review and approval of the Executive Director, illustrating that there would be no adverse impacts to coastal resources at this site.
- C. Finer sands and silts meeting applicable federal and state dredge spoil discharge requirements, and for which an average of 90% or less of the material is coarse grained (retained on a Standard U.S. Sieve Size No. 200), may be deposited in the following locations, in accordance with project plans shown in Exhibit 3:
 - (1) Inner Harbor Depressions;

COASTAL DEVELOPMENT PERMIT

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- (2) Surf zone of the Santa Clara River no closer than 200 feet from the Santa Clara River and only while the River is flowing at 100 cubic feet per second as measured at USGS Montalvo Station in the vicinity of Victoria Avenue bridge; and/or
 - (3) Nearshore area at McGrath State Beach.
- D. Dredged material that does not meet the physical or chemical standards for beach replenishment or spoil discharge shall not be discharged at any of the deposition sites. At such time, the applicant shall identify an alternate location suitable to accept contaminated sediment. Should the dumpsite be located in the Coastal Zone, a coastal development permit shall be required.

5. Nearshore Disposal Project Monitoring

Maintenance dredging may be conducted using a clamshell or hopper dredge with nearshore disposal off of McGrath State Beach as shown in Exhibits 3e. Upcoast nearshore disposal may also be conducted pursuant to the beach nourishment agreement with the City of San Buenaventura, off San Buenaventura State Beach downcoast of the Ventura Pier as shown in Exhibit 3a. To evaluate the appropriateness of nearshore disposal at these two locations and its effectiveness in beach nourishment, the nearshore alternative shall be subject to the review and approval of the Executive Director based on the following monitoring report:

- (a) The applicant shall measure and document the response of adjacent shorelines to the placed berm and the prevailing environmental conditions, and document the dispersion and migration of the berm itself. The monitoring program parameters shall correspond to the Maintenance Dredging Monitoring Plan For Nearshore Disposal (Exhibit 5), including pre- and post- dredge surveys of the beach profiles and bathymetry. A baseline survey of the nearshore project area shall take place no earlier than four (4) weeks prior to any dredging operation. As described in the Monitoring Program, data shall be collected for a period of one year, a minimum of quarterly, after any disposal operation at a nearshore site. Monitoring results shall be provided to the Executive Director following completion of the first year of the program. Subsequent utilization of the nearshore method shall require Executive Director review and approval, and shall be contingent upon the monitoring program demonstrating that no adverse impacts to downcoast shoreline sand supply result from this method. The Executive Director's consideration will include impacts to recreational uses including surfing and swimming. Modifications to the monitoring program specified in Exhibit 5 are subject to review and approval of the Executive Director.
- (b) The Executive Director may waive the full year post-dredging monitoring requirement, if the applicant submits evidence, subject to the Executive Director's review and approval, which shows that the nearshore berm has completely dispersed.

COASTAL DEVELOPMENT PERMIT

Page 6 of 11
Permit Application No. 4-01-143

6. Shoreline Monitoring Program

- A. The applicant shall conduct an annual shoreline monitoring program to document shoreline changes in the project vicinity. Documentation shall include but not be limited to:
- (1) Annual beach profiles shall be provided by the applicant for the term of the project. The profiles shall be taken (1) by October 15 of each year and (2) in January of each year or immediately after completion of any dredging operation. The profiles shall be at the twelve locations utilized in the baseline survey (example provided in Exhibit 6) and shall be conducted in a manner consistent with the profile surveys conducted annually since 1989. In addition to the baseline survey locations, a minimum of two beach profiles shall be performed in the vicinity of the McGrath State Beach deposition site. A minimum of two beach profiles shall be performed in the vicinity of the Surfer's Point deposition site, for any year the deposition site is utilized. Minimum and maximum tide levels at the time of profile survey shall be noted on the profiles.
 - (2) An indication of beach width and sand volume changes to the beaches within the area profiles. This shoreline analysis shall include the deposition area along McGrath State Beach. The shoreline analysis shall include the Surfer's Point receiver site for any year the deposition site is utilized. The applicant shall utilize aerial photographs, to the extent feasible, to prepare the summary of beach width and sand volume changes.
 - (3) Data detailing the annual quantity and placement of dredged material.
- B. The monitoring information shall be submitted to the Executive Director by July 1 of each year as well as to other public and federal, state, and local entities who wish to obtain such information. At a minimum, the annual reports shall be furnished to the Executive Director of the Commission, the Cities of Ventura and Oxnard, the Army Corps of Engineers (Los Angeles District) and BEACON.

7. Caulerpa Surveys and Monitoring

- A. Not earlier than 90 days nor later than 30 days prior to commencement or re-commencement of any development authorized under this coastal development permit, the applicant shall undertake a survey of the project area and a buffer area at least 10 meters beyond the project area to determine the presence of the invasive alga *Caulerpa taxifolia*. The survey shall include a visual examination of the substrate and inspection of dredging equipment.
- B. The survey protocol shall be prepared in consultation with the Regional Water Quality Control Board, the California Department of Fish and Game, and the National Marine Fisheries Service.
- C. Within two (2) weeks of completion of the survey, the applicant shall submit the results of the survey:

COASTAL DEVELOPMENT PERMIT

Page 7 of 11
Permit Application No. 4-01-143

- (1) for the review and approval of the Executive Director; and
 - (2) to the Surveillance Subcommittee to the Southern California Caulerpa Action Team (SCCAT). The SCCAT Surveillance Subcommittee may be contacted through William Paznokas, California Department of Fish & Game (858/467-4218) or Robert Hoffman, National Marine Fisheries Service (562/980-4043).
- D. Unless the Executive Director otherwise determines, if the survey identifies any *Caulerpa taxifolia* within the project area, the applicant shall submit to the Commission an application for an amendment to this permit authorizing measures formulated to avoid, minimize and otherwise mitigate impacts that the proposed development might have resulting from the dispersal of *Caulerpa taxifolia* in the project area. The applicant shall: 1) refrain from commencement of the project until the Commission acts on the amendment application, and 2) upon approval by the Commission of the amendment application, implement the approved mitigation measures in the manner and within the timeframe(s) specified in the Commission's approval.

8. Sensitive Species Surveys and Monitoring

- A. The applicant shall retain the services of a qualified biologist or environmental resources specialist with appropriate qualifications acceptable to the Executive Director. The environmental resource specialist shall conduct a survey of the project site, to determine presence and behavior of sensitive species, one day prior to commencement of installation or removal of the discharge pipeline, or any grading and grooming activities on the beach. In the event that any sensitive wildlife species (including but not limited to California least tern, western snowy plover, California grunion) exhibit reproductive or nesting behavior, the environmental specialist shall require the applicant to cease work, and shall immediately notify the Executive Director and local resource agencies. Project activities shall resume only upon written approval of the Executive Director.
- B. The environmental specialist shall be present during the installation and removal of the discharge pipeline, and during grading and grooming of the beach. The environmental resource specialist shall require the applicant to cease work should any breach in permit compliance occur or if any unforeseen sensitive habitat issues arise. The biological monitor(s) shall immediately notify the Executive Director if activities outside of the scope of Coastal Development Permit 4-01-143 occur or if habitat is removed or impacted beyond the scope of the work indicated in Coastal Development Permit 4-01-143. If significant impacts or damage occur to sensitive wildlife species, the applicant shall be required to submit a revised, or supplemental program to adequately mitigate such impacts. The revised, or supplemental, program shall be processed as an amendment to this coastal development permit.

COASTAL DEVELOPMENT PERMIT

Page 8 of 11
Permit Application No. 4-01-143

9. Operational Responsibilities

It shall be the applicant's responsibility to assure that the following occurs during project operations:

- (a) At the completion of each year's dredging and deposition, but prior to the timing restrictions specified in Special Condition 1 above, the sand deposited on the beach shall be graded and groomed to natural beach contours to restore the dynamic shoreline habitat and to facilitate recreational use.
- (b) No pipes or any other equipment shall be stored on the beach consistent with sensitive resource timing constraints identified pursuant to Special Condition 1.
- (c) The disposal pipeline, access routes, and equipment corridor shall not cross or disturb sand dunes.
- (d) At no time shall disposal or associated activities interfere with the breaching or retention of flow within the Santa Clara River estuary in such a way as to cause or threaten flooding on adjacent lands.

10. Operation Staging

- A. At least two (2) weeks prior to commencement of any dredging operation, the applicant shall submit to the Executive Director for review and approval, final staging plans that include the following:
 - (1) A map of the location of the project construction headquarter(s).
 - (2) Site plans for all construction staging areas and access routes, including stockpile areas for pipe and the access corridor necessary for placement of the pipeline.
 - (3) Special staging and parking needs for heavy equipment.
- B. The applicant shall undertake the development in accordance with the approved plans. Any proposed changes to the approved plans shall be reported to the Executive Director. No change to the program shall occur without a Commission-approved amendment to the permit unless the Executive Director determines that no such amendment is required.

11. Agency Coordination

Within sixty (60) days, and no less than four (4) weeks, prior to commencement of each dredging operation, the applicant shall provide notice to local agencies and any other known interested parties of the volume and quality of shoal material, which meets beach replenishment requirements as specified in Special Condition Four, to be extracted and the reason(s) for prioritization of the target site(s). Those parties that shall receive notice include, but are not limited to, the cities of San Buenaventura and Oxnard, California Parks and Recreation, Army Corp of Engineers, Regional Water Quality Board, BEACON, and the Executive Director of the Coastal Commission. If any party requests to use the dredged material which meets beach replenishment requirements as specified in Special Condition Four at Surfer's Point, and if the Executive Director determines that the proposed beach nourishment will not have adverse impacts on coastal resources and that these materials are not more appropriate at alternative disposal sites, the applicant shall make the dredged material available to that party, for transport and use for beach nourishment at Surfer's Point, at that party's expense.

COASTAL DEVELOPMENT PERMIT

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Permit Application No. 4-01-143

12. Public Access Program

At least two (2) weeks prior to commencement of any dredging and discharge operations authorized by this coastal development permit the applicant shall submit, for review and approval of the Executive Director, a report which describes the methods (including signs, fencing, posting of security guards, etc.) by which safe public access to or around the beach deposition sites and/or staging areas shall be maintained during dredging and discharge operations.

13. Regulatory Approvals

At least two (2) weeks prior to commencement of any dredging operation, the applicant shall provide to the Executive Director a list of all other required state or federal discretionary permits and associated expiration dates for the development herein approved. The applicant shall submit copies of the permits and inform the Executive Director of any changes to the project required by such permits. Such changes shall not be incorporated into the project until the applicant obtains a Commission-approved amendment to this coastal development permit, unless the Executive Director determines that no amendment is required.

14. Snowy Plover and Least Tern Monitoring

- A. A biologist(s) or environmental specialist(s) with appropriate qualifications acceptable to the Executive Director shall conduct a survey(s) of western snowy plover and California least tern in all shorefront portions of the project area, from the northernmost point at the Pierpont Groinfield deposition site to the southern terminus of McGrath State Beach property. Survey(s) shall commence at least two (2) weeks prior to any dredging activities and extend at least two (2) weeks after the final dredging activity is completed. Prior to the commencement of the survey(s), the biologist(s) or environmental specialist(s) shall submit a survey methodology report for the review and approval of the Executive Director. The report shall include, at a minimum, an illustration of monitoring sites/transects, survey dates and time, names of surveyors, and survey protocol. The survey(s) shall be conducted a minimum of twice weekly and shall be designed to assess the abundance, distribution, behavior, and any disturbances to snowy plovers and least terns foraging, roosting, or nesting in the survey area. If any snowy plover or least tern exhibits reproductive or nesting behavior, then the environmental specialist shall require the applicant to cease work, and shall immediately notify the Executive Director and local resource agencies. Project activities shall resume only upon written approval of the Executive Director.

COASTAL DEVELOPMENT PERMIT

Page 10 of 11
Permit Application No. 4-01-143

- B. The applicant shall submit a western snowy plover and California least tern monitoring report to the Executive Director for review and approval by July 1 of each year. The monitoring report shall be prepared by a qualified biologist and shall at a minimum include, but not be limited to, the following components: 1) population and trend analysis; 2) analysis and illustration of population density and spatial distribution before, during, and after each dredging operation; 3) documentation of all known incidents of snowy plover and least tern disturbance (including incidents resulting in mortality, citing the probable cause of mortality) including dates, times, location, degree of plover disturbance (e.g., plover behavior such as moving, running, or flying from a disturbance or other actions such as elevating wings), source of disturbance (e.g., pedestrians, vehicles, dogs on or off leash, equestrians, predation, spills, dredging operations and support activities including pipeline installation and removal and any beach grading or grooming activities, or vandalism of unknown origin), length of time of disturbance, level of disturbance (i.e., how many plovers made to fly or move and how far plovers were displaced), and the approximate distance between the source and plovers which resulted in the disturbance; 4) analysis of any other activities with the potential to impact the species' population in the project area, such as use patterns (e.g., public recreation), weather patterns, and habitat changes; and 5) conclusions regarding the impact of the dredging operations on the snowy plover and least tern populations and habitat. If the Executive Director determines that adverse impacts have occurred to the species' population or habitat as a result of the dredging operations, the Executive Director shall provide written notice to the applicant of such determination. The applicant shall cease work, and shall immediately notify local resource agencies. The applicant shall be required to submit a revised, or supplemental program to adequately mitigate such impacts. The revised, or supplemental, program shall be processed as an amendment to this coastal development permit. Project activities shall resume only upon written approval of the Executive Director.

15. Intertidal Monitoring

- A. A biologist(s) or environmental specialist(s) with appropriate qualifications acceptable to the Executive Director shall conduct a survey(s) of the sandy beach intertidal zone to characterize the potential prey species for foraging avifauna, particularly the western snowy plover, in the vicinity of the discharge location in the shoreline portions of the project area, from the northernmost point at the Pierpont Groinfield deposition site to the southern terminus of McGrath State Beach property. Survey(s) shall be conducted at least one (1) week prior to any dredging activities and approximately two (2) weeks and six (6) weeks after the final dredging activity is completed, consistent with the California Department of Parks and Recreation survey protocol used at McGrath State Beach as provided in Exhibit 11. Prior to the commencement of the survey(s), the biologist(s) or environmental specialist(s) shall submit a survey methodology report for the review and approval of the Executive Director. The report shall include, at a minimum, an illustration of monitoring sites/transects, survey dates and time, names of surveyors, and survey protocol. The survey(s) shall be designed to provide a biological characterization of the intertidal zone to focus on potential impacts of dredging on potential food sources for shorebirds, particularly western snowy plover.

COASTAL DEVELOPMENT PERMIT

Page 11 of 11
Permit Application No. 4-01-143

- B. The applicant shall submit an intertidal biological characterization report to the Executive Director for review and approval by July 1 of each year. The report shall be prepared by a qualified biologist and shall at a minimum include, but not be limited to, the following components: 1) intertidal species list; 2) analysis of species, abundance, and distribution of potential prey species for the western snowy plover; 3) documentation of all known incidents of disturbance (such as oil spills) including dates, times, location, and source of disturbance; 4) analysis of any other factors potentially affecting the subject intertidal community in the project area, such as use patterns (e.g., public recreation) or weather patterns; and 5) conclusions regarding the impact of the dredging operations on intertidal habitat. If the Executive Director determines that adverse impacts have occurred to the habitat as a result of the dredging operations, the Executive Director shall provide written notice to the applicant of such determination. The applicant shall cease work, and shall immediately notify local resource agencies. The applicant shall be required to submit a revised, or supplemental program to adequately mitigate such impacts. The revised, or supplemental, program shall be processed as an amendment to this coastal development permit. Project activities shall resume only upon written approval of the Executive Director.

16. Project Term

All development approved pursuant to 4-01-143 shall be completed by April 15, 2006.

DRAFT

**VENTURA HARBOR 1991 MAINTENANCE DREDGING
MONITORING PLAN FOR THE NEARSHORE DISPOSAL
SITE AT MCGRATH STATE BEACH, VENTURA, CA**

BACKGROUND

Harbor dredging at the Ventura Harbor will result an estimated 500,000 c.y. of sand and silty-sand materials. The option for nearshore disposal was elected for the two(2) years dredging maintenance period and the dredged material will be deposited in the nearshore site as indicated on the dredging plans. The nearshore disposal option resulted a government savings of about \$1.1 millions compared with beach disposal. The dredged material is compatible to beaches along the South Beach and McGrath Beach.

Construction of a nearshore berm in shallow water (between -15 ft. to -30 ft. MLLW) allows for economically disposing of materials while providing potential benefits for beaches. The nearshore berm forms a bar-like feature, that can dissipate incident wave energy by inducing wave breaking. As the berm disperses over time, it contributes quality sand to the nearshore system. The berm may also act as a partial block to the loss of beach materials to deeper water during storms. This concept has been successfully employed in connection with the dredging of the Mobile Harbor Navigation Project, the Fire Island Entrance Channel, and the San Diego Harbor Entrance Channel projects.

The proposed nearshore disposal site offshore the McGrath State Beach will have a shore parallel alignment, and is to be located as shown on the monitoring plan in water depths between -15 ft. and -30 ft (MLLW). The length of the berm parallel to the shoreline will be about 4300 ft. and its width about 900 ft. Its westernmost boundary is about 1500 ft. south of Santa Clara River.

PURPOSE

The monitoring program described below is intended to measure and document the response of adjacent shorelines to the placed berm and the prevailing environmental conditions, and to document the dispersion and migration of the berm itself. This response can be used to evaluate the appropriateness of nearshore disposal at Ventura Harbor, and of the effectiveness of the underwater berm as a method for beach nourishment. This program if approved will have a duration of (1) year and an option to continue for another year depending on the results of the first year monitoring and the availability of funds.

Exhibit 11
CDP No. 4-06-086
Nearshore monitoring program
(3 pages)

MONITORING PROGRAM

General. The monitoring program will consist of repetitive surveys and the measurement of environmental conditions.

Study Area. The study limits will extend parallel along the shoreline 0.8 mile beyond the limits of the placed underwater berm, and transversely to the shoreline and the nearshore zone to the -30 ft. (MLLW) depth contour.

Period of Performance. The field data will be collected over a period of one year with an option to continue for the second year if funds are available. The anticipated start of construction is January 1992. The prioritization of the data collection program that would be exercised as monitoring funds become available are indicated below

PRIORITY I:

Beach Profiles. Repetitive beach profiles will be taken at 36 range lines extending from the back of the Corps baseline to approximately to MLLW. The baseline will be reestablished and tied to existing Corps of Engineers monuments. Profiles will be spaced about 250 ft., 500 ft. and 1000 ft. as indicated on the monitoring plan and will be repeated over the monitoring period in accordance with the schedule listed in Table 1. The required vertical accuracy for beach profile is 0.1 ft.

Bathymetric Surveys. Soundings along the 36 ranges used for beach profiles will be performed in accordance with the schedule listed in Table 1. Continuous depth soundings will be taken with a fathometer approximately perpendicular to the shoreline covering the study limits from about the -40 ft. (MLLW) contour to as near as practical to the shoreline. Soundings will be reduced to MLLW datum and have an accuracy of +/- 0.5 ft. Horizontal control will be provided with an accurate electronic horizontal positioning system having a normal accuracy of +/- 3 meters.

All reasonable efforts will be made to perform the measurements of particular range on the same day and overlap the beach profile and bathymetric surveys to ensure closure between the surveys and the measurement of a continuous profile from the landward limit to the -40 ft. contour. The total length of each profile is expected to be approximately 3,600 ft.

PRIORITY II:

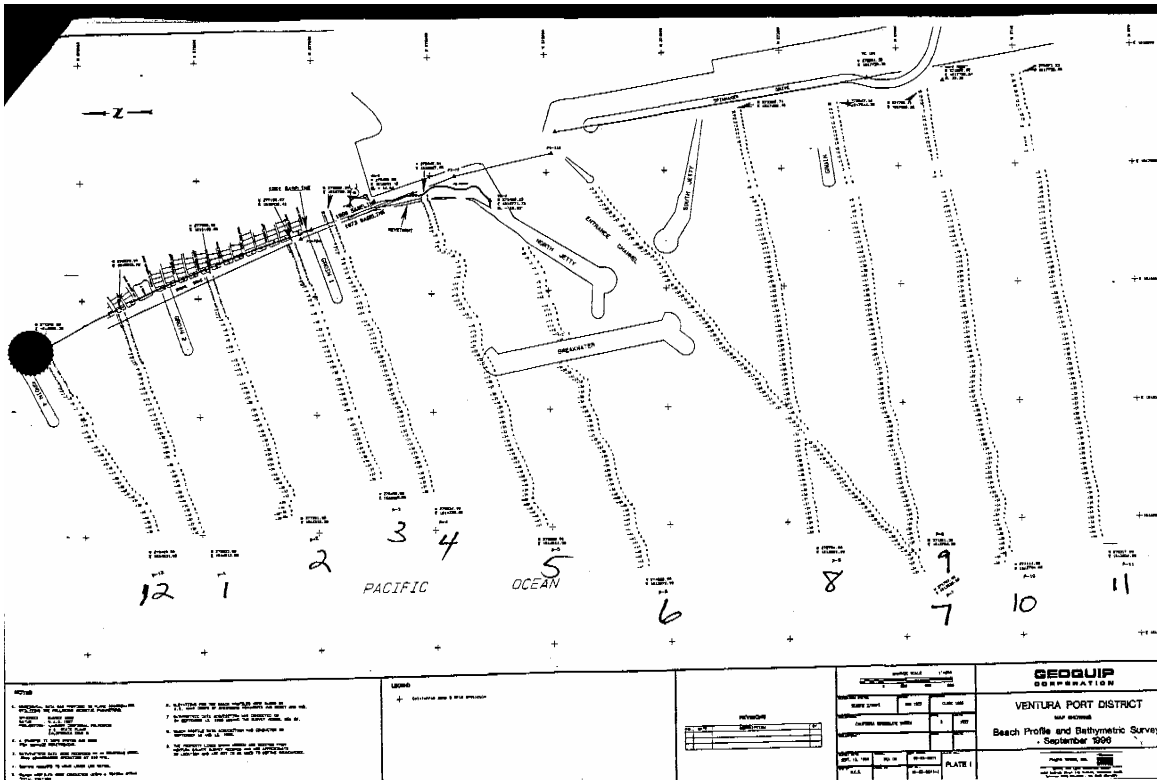
Wave and Current Measurements. A combined wave and current meter will be located approximately offshore of the center of the placed underwater berm. The gage will be deployed at the time of pre-construction survey and is to be located approximately in the -40 ft. (MLLW) water depth. Wave data will be measured over a one year deployment period, with data typically collected four times per day. Wave data will be collected to include measurement of wave periods as short as 5 seconds, and wave direction will be collected and referenced to true north. Current speed and direction will be collected concurrently with wave data. The current meter will be located approximately two feet above the sea bed.

PRIORITY III:

Sediment Sampling. Grab sediment sampling are anticipated to occur immediately after completion of the underwater berm and then at intervals with the schedule as shown in Table 1. Grab samples will be collected along each of the eleven (11) survey lines as shown on the monitoring plan, and is expected to consist of taking sediment samples perpendicular to the shore from the beach approximately to the -30 ft. (MLLW) water depth. Bottom samples will be taken at various depths.

PRIORITY IV:

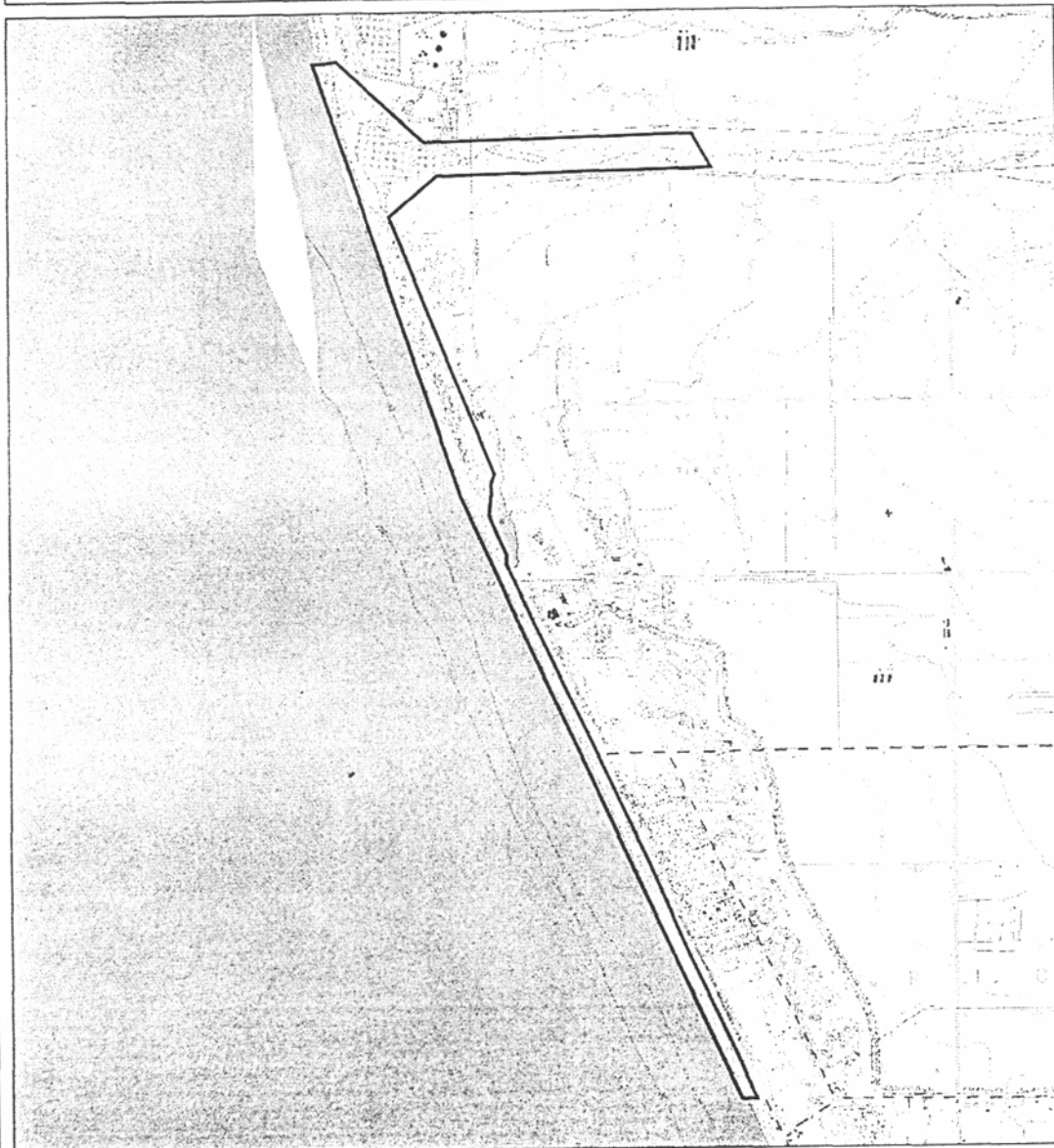
Aerial Photography. Vertical aerial photography will be taken of the study area during the monitoring program in accordance with the schedule listed in Table 1. The photography will cover approximately 2.5 miles of shoreline, and will be flown to produce 10-inch by 10-inch prints with a scale of 1:2400 and no less than 60 percent overlap between prints. Flight lines will be parallel to the shoreline.



● *Baseline Beach
 Profile Locations, 1-12*

Exhibit 12
 CDP No. 4-06-086
 Baseline beach profile sites

Figure L-120. Mandalay Bay/Santa Clara River Mouth (CA-96)



0.3 0 0.3 0.6 Miles



0.3 0 0.3 0.6 Kilometers



Exhibit 13a
CDP No. 4-06-086
Snowy plover critical habitat:
Mandalay Bay/Santa Clara River

Figure L-119. San Buenaventura Beach (CA-95)

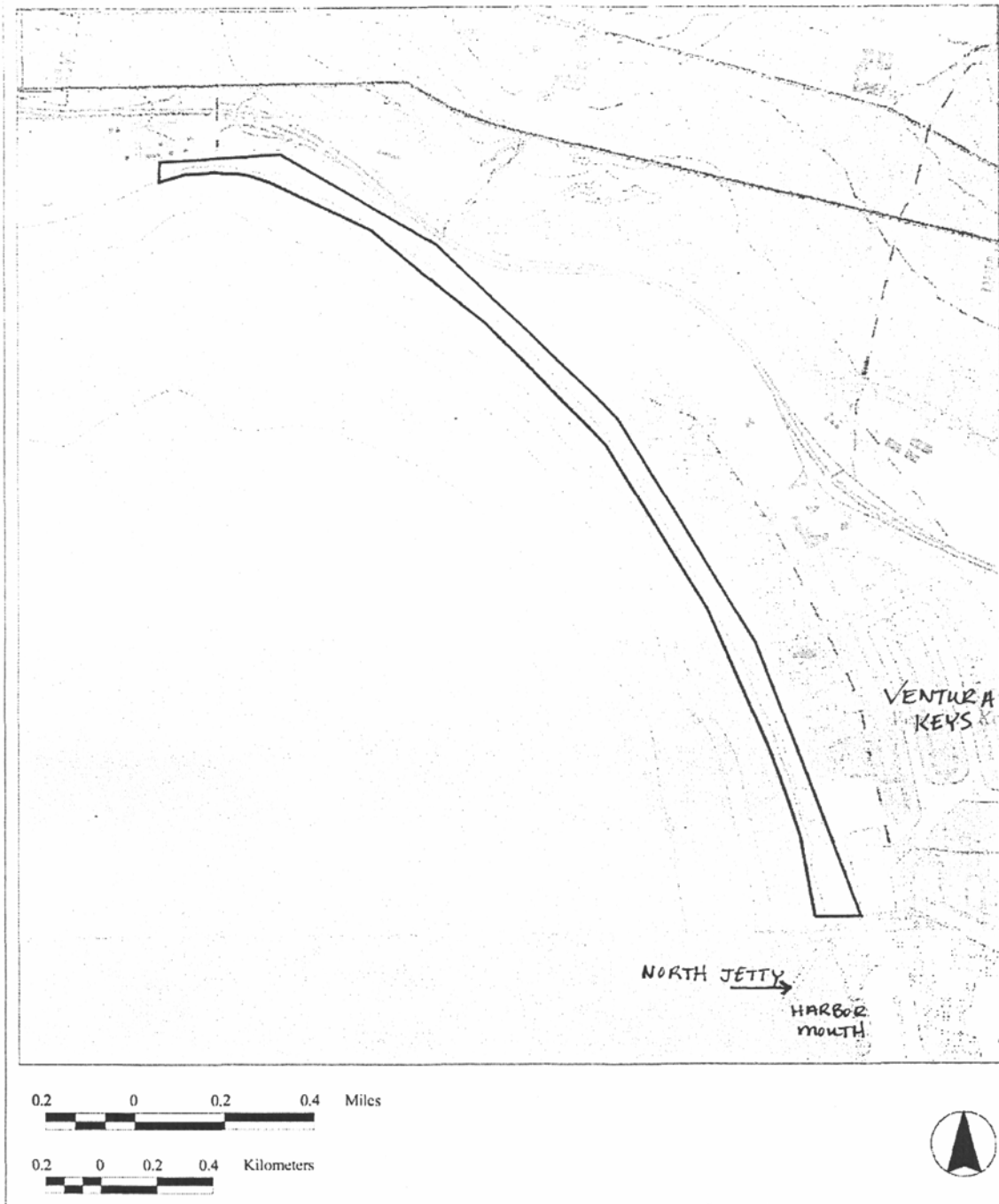


Exhibit 13b
CDP No. 4-06-086
Snowy plover critical habitat:
San Buenaventura State Beach