

**CALIFORNIA COASTAL COMMISSION**

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## RECORD PACKET COPY

### STAFF REPORT: REGULAR CALENDAR

**APPLICATION NO.:** 4-02-074

**APPLICANT:** Beach Erosion Authority for Clean Oceans and Nourishment (BEACON)

**AGENT:** Chris Webb, Moffatt & Nichol Engineers

**PROJECT LOCATION:** Five beach deposition sites in Santa Barbara and Ventura Counties: (1) Goleta Beach, Santa Barbara County, (2) Ash Avenue, City of Carpinteria, (3) Oil Piers, Ventura County, (4) Surfer's Point, City of Ventura, and (5) Hueneme Beach, City of Port Hueneme.

**PROJECT DESCRIPTION:** Implement a five-year opportunistic beach replenishment project involving a maximum of approximately 791,500 cu. yds. of beach quality material per year on five beaches, delivered by truck, rail, dredge, or conveyor and placed by conventional earth moving equipment (e.g. bulldozer), and pre- and post-monitoring of biological and shoreline impacts.

#### SUMMARY OF STAFF RECOMMENDATION:

The applicant proposes to implement a five-year program to obtain and place a maximum of 791,500 million cubic yards of suitable beach replenishment material at five separate beach fill sites within Santa Barbara and Ventura Counties. This is a programmatic project allowing for "opportunistic" beach replenishment material (i.e., material that becomes available as a surplus from construction projects) to be placed at a deposition site provided that it meets physical and chemical criteria. The design of each placement will be specific to the site (e.g., length of beach, maximum height above MLLW, and maximum width of beach fill will vary from site to site) and will depend on the proposed parameters for each design concept, including maximum annual volume of material, maximum-fine grained material, timing of placement, and the maximum design footprint.

Staff recommends **approval** of the proposed project with fifteen special conditions regarding: (1) revised project description and project plans; (2) timing of operations, (3) sediment analysis, (4) source compatibility, (5) operations and maintenance responsibilities, (6) stockpile sites, (7) public access program, (8) sensitive species surveys, (9) on-site monitoring, (10) *Caulerpa* surveys, (11) long-term shoreline monitoring, (12) long-term biological monitoring, (13) project notification reports, (14) separate approval of source material, and (15) permit expiration. The motion and resolution to approve this project is on **page 4** of the staff report.

## Table of Contents

<b>I.</b>	<b>STAFF RECOMMENDATION .....</b>	<b>4</b>
<b>II.</b>	<b>STANDARD CONDITIONS .....</b>	<b>4</b>
<b>III.</b>	<b>SPECIAL CONDITIONS .....</b>	<b>5</b>
	1. <i>Revised Project &amp; Project Plans</i> .....	5
	2. <i>Timing of Operations</i> .....	5
	3. <i>Sediment Analysis</i> .....	6
	4. <i>Source Compatibility</i> .....	8
	5. <i>Operations &amp; Maintenance Responsibilities</i> .....	9
	6. <i>Stockpile Sites</i> .....	10
	7. <i>Public Access Program</i> .....	10
	8. <i>Sensitive Species Pre-Construction Surveys</i> .....	10
	9. <i>On-Site Monitor</i> .....	11
	10. <i>Caulerpa Surveys and Monitoring</i> .....	13
	11. <i>Long-Term Shoreline Monitoring Program</i> .....	13
	12. <i>Long-Term Biological Monitoring Program</i> .....	15
	13. <i>Project Notification Report</i> .....	17
	14. <i>Approval of Excavation/Dredging Site</i> .....	19
	15. <i>Scope and Term of Permit Approval</i> .....	19
<b>IV.</b>	<b>FINDINGS AND DECLARATIONS .....</b>	<b>19</b>
	A. <b>TERMINOLOGY .....</b>	<b>19</b>
	B. <b>PROJECT DESCRIPTION .....</b>	<b>20</b>
	1. <i>Project Parameters and Design</i> .....	20
	2. <i>Source Material</i> .....	23
	3. <i>Stockpile Sites</i> .....	24
	4. <i>Post-Deposition Activities</i> .....	25
	5. <i>Modification of Goleta Slough, Carpinteria Estero, Ventura River Mouth</i> .....	26
	C. <b>PURPOSE AND BACKGROUND .....</b>	<b>26</b>
	1. <i>BEACON</i> .....	26
	2. <i>Local Approvals</i> .....	26
	3. <i>Commission History</i> .....	26
	D. <b>COASTAL ACCESS AND RECREATION .....</b>	<b>28</b>
	E. <b>MARINE RESOURCES AND ENVIRONMENTALLY SENSITIVE HABITAT AREA .....</b>	<b>32</b>
	1. <i>Marine Resources</i> .....	34
	2. <i>Sensitive Species</i> .....	39
	3. <i>Caulerpa</i> .....	42
	F. <b>HAZARDS .....</b>	<b>43</b>
	G. <b>LOCAL COASTAL PROGRAM .....</b>	<b>44</b>
	H. <b>CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) .....</b>	<b>44</b>

## Exhibits

- Exhibit 1. Regional Maps
- Exhibit 2. Vicinity Maps
- Exhibit 3. Site Plans
- Exhibit 4. Cross-Sections for Typical Beach Berm Design
- Exhibit 5. Snowy Plover Critical Habitat
- Exhibit 6. Minimum Criteria Acceptability Example Checklist
- Exhibit 7. Example Project Notification Report
- Exhibit 8. Summary of Existing Conditions
- Exhibit 9. Monitoring Program

**APPROVALS RECEIVED:** City of Ventura, Planning Commission Resolution No. 8045 Granting an Administrative Coastal Development Permit (January 26, 2004); County of Santa Barbara, Planning Commission Development Plan No. 02DVP-00000-00029 granting approval of a final Development Plan and modification of zone district requirements to authorize beach nourishment activities (May 7, 2003); City of Carpinteria Planning Commission Resolution No. PC-03-041 Approving a Development Plan Coastal Development Permit No. 03-1075-CDP to Allow a Five-Year Sand Replenishment Program at Carpinteria Beach Between Linden and Ash Avenues (September 2, 2003); City of Port Hueneme City Council Resolution No. 3297 Approving a Planned Development Permit for the South Coast Beach Enhancement Program (Case Number PHPD-772) (April 3, 2002).

**SUBSTANTIVE FILE DOCUMENTS:** Essential Fish Habitat Assessment for the BEACON Goleta Beach Demonstration Project (Chambers Group, Inc. Dec 2001); Addendum to the EIR / Environmental Assessment for the BEACON Beach Nourishment Demonstration Project (Chambers Group, Nov 2001); 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); Final Addendum to the EIR / Environmental Assessment for the BEACON Beach Nourishment Demonstration Project (Chambers Group, Oct 2000); Final Report Sediment Sampling and Analysis, Goleta Beach Demonstration Project, Offshore Goleta, California (AET, Inc. Aug 2001); Final Environmental Impact Report / Environmental Assessment for the BEACON Beach Nourishment Demonstration Project, Technical Appendices (Chambers Group, Inc., Sep 1992); Final Environmental Impact / Environmental Assessment for the BEACON Beach Nourishment Demonstration Project (Chambers Group, Inc. Sep 1992).

## I. STAFF RECOMMENDATION

**MOTION:** *I move that the Commission approve Coastal Development Permit No. 4-02-074 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. **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. 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. Revised Project & Project Plans

- A. Prior to issuance of the coastal development permit, the applicant shall submit, for the review and approval of the Executive Director, two (2) sets of final revised project plans. The revised final project plans and project description shall reflect the following:
- (1) Consistent with the City of Ventura's Administrative Coastal Development Permit, construction shall occur on the beach in stages only at the Surfer's Point Project Site. A maximum 250-foot long section of the beach will be closed at any one time during construction. All other portions of the beach will remain open during construction.
  - (2) The proposed Surfer's Point stockpile site, located between the public bicycle path and the revetment, shall be eliminated from the project plans. If a new stockpile site is proposed within the coastal zone, a coastal development permit or permit amendment, as applicable, shall be obtained from the local government and/or Coastal Commission.
  - (3) Cobble shall not be placed at any site, including Surfer's Point.

#### 2. Timing of Operations

- A. Project activities may occur Monday through Friday, excluding state holidays. No work shall occur on Saturday or Sunday.
- B. All construction operations, including operation of equipment, material placement, placement or removal of equipment or facilities, restricting public access, beach regarding/grooming, or other activities *shall be prohibited*:
- (1) At All Sites: From the Friday prior to Memorial Day in May through Labor Day in September to avoid impacts on public recreational use of the beach and other public amenities in the project vicinity.
  - (2) At the Goleta Beach Project Site:
    - (a) On any part of the beach and shorefront in the project area when 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 Eight (8)**, to avoid impact on the spawning of the California Grunion.
    - (b) On any part of the beach and shorefront in the project area when Western Snowy Plover are present, as identified by the surveys conducted pursuant to **Special Condition Eight (8)**, to avoid adverse effects to Western Snowy Plovers.

- (c) On any part of the beach and shorefront in the project area when Beldings Savannah Sparrow are present, as identified by the surveys conducted pursuant to **Special Condition Eight (8)**, to avoid adverse effects to Beldings Savannah Sparrow.
- (3) At the Ash Avenue Project Site:
- (a) On any part of the beach and shorefront in the project area when 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 Eight (8)**, to avoid impact on the spawning of the California Grunion.
- (b) On any part of the beach and shorefront in the project area when Western Snowy Plover are present, as identified by the surveys conducted pursuant to **Special Condition Eight (8)**, to avoid adverse effects to Western Snowy Plovers.
- (4) At the Oil Piers Project Site:
- (a) On any part of the beach and shorefront in the project area when 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 Eight (8)**, to avoid impact on the spawning of the California Grunion.
- (5) At the Hueneme Beach Project Site:
- (a) On any part of the beach and shorefront in the project area when 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 Eight (8)**, to avoid impact on the spawning of the California Grunion.
- (b) On any part of the beach and shorefront in the project area when Western Snowy Plover are present, as identified by the surveys conducted pursuant to **Special Condition Eight (8)**, to avoid adverse effects to Western Snowy Plovers.

### 3. Sediment Analysis

- A. 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 and receiver site consistent with the following:
- (1) Sampling Frequency – Samples shall be collected from both the receiver sites and the source sites. For the receiver sites, samples shall be collected along transects that are approximately perpendicular to the shoreline, with one (1) transect per each 0.5 miles of receiver beach length, and a minimum of two (2) transects for each receiver site. For the receiver site transects, samples shall be collected at every 6-foot change in elevation from the highest portion of the backshore to the seaward limit of sediment movement (depth of closure). For the source sites, 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 proposed for placement at any of the five deposition sites and on samples from each transect of the receiver beach. 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 proposed for placement at any of the five deposition sites. 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 at any of the five project sites.
  - (4) Color --- Color classification shall be conducted on representative samples of each source material proposed for placement at any of the five deposition sites. The color shall reasonably match the color of the receiving beach after reworking by wave action.
  - (5) Particle Shape -- Particle shape classification shall be conducted on representative samples of each source material proposed for placement at any of the five deposition sites. For beach replenishment, the source material shall consist of a minimum of 90% rounded particles (i.e., maximum of 10% angular particles).
  - (6) Debris Content -- A visual inspection of the source location shall be conducted to determine the presence and types of debris such as trash, wood, or vegetation. The amount of debris within the material shall be estimated, as a percentage of the total amount of source material. Prior to placement of opportunistic sand at any beach receiver site, all such debris material shall be separated from the sand material (by mechanical screening, manual removal or other means) and taken to a proper disposal site authorized to receive such material.
  - (7) Compactability -- Chemical and visual inspections of the source location shall be conducted to determine the presence of elements such as iron oxides which can compact to form a hardpan surface. Source material with compactable material shall be considered for placement below the mean high tide only.
- B. The results and analysis of the testing shall be submitted for the review and approval of the Executive Director, concurrent with the Project Notification Report required by **Special Condition Thirteen (13)**. 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. The analysis shall include the minimum criteria checklist, substantially in conformance with the chart attached as Exhibit 6.

#### 4. Source Compatibility

- A. Source material meeting all applicable federal and state beach nourishment requirements (including those listed in **Special Condition Three**), and for which an average of 75% or more of the material is coarse grained (retained on a Standard U.S. Sieve Size No. 200), may be deposited below the mean high tide in the following locations, in conformance with deposition site plans shown in Exhibit 3:
- (1) Goleta Beach
  - (2) Ash Avenue
  - (3) Oil Piers
  - (4) Surfer's Point
  - (5) Hueneme Beach
- B. Source material meeting all applicable federal and state beach nourishment requirements (including those listed in **Special Condition Three**), and for which an average of 75% or more of the material is coarse grained (retained on a Standard U.S. Sieve Size No. 200), may be deposited as a sand dike in the following locations, in conformance with deposition site plans shown in Exhibit 3:
- (1) Goleta Beach
  - (2) Ash Avenue
  - (3) Oil Piers
- C. Source material meeting all applicable federal and state beach nourishment requirements (including those listed in **Special Condition Three**), and for which an average of 90% or more of the material is coarse grained (retained on a Standard U.S. Sieve Size No. 200), may be deposited as a beach berm in the following locations, in conformance with deposition site plans shown in Exhibit 3:
- (1) Goleta Beach
  - (2) Ash Avenue
  - (3) Oil Piers
  - (4) Surfer's Point
  - (5) Hueneme Beach
- D. Of the coarse grained material (retained on a Standard U.S. Sieve Size No. 200), no more than five percent shall consist of gravel or pebble-sized material (2 mm – 64 mm). Cobble-sized material or larger (>64 mm) shall not be placed at any of the beach deposition sites at anytime. To achieve the desired gradation of material, the source may be screened out or mechanically sorted.



- E. Source material that does not meet the applicable physical, chemical, color, particle shape, debris, and/or compactability standards for beach replenishment shall not be placed at any of the five project sites through the Opportunistic Permit Process.

**5. Operations & Maintenance Responsibilities**

- A. It shall be the applicant's responsibility to assure that the following occurs concurrent with, and after completion of, all project operations:
- (1) At the completion of the annual beach replenishment operation, and a minimum of one month prior to Memorial Day in May, the sand deposited on the beach shall be graded and groomed to natural beach contours to restore the shoreline habitat and to facilitate recreational use.
  - (2) The applicant shall monitor for vertical scarping along the shorefront which may occur as waves rework the seaward edge of the replenishment project area. The applicant shall grade the beach to natural beach contours to avoid hazardous drop off conditions, consistent with the timing constraints listed in Special Condition Two.
  - (3) Staging areas shall be used only during active construction operations and will not be used to store materials or equipment between operations.
  - (4) 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.
  - (5) Construction equipment shall not be cleaned on the beach or in the beach parking lots.
  - (6) 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.
  - (7) 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.
  - (8) 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.
- B. The above responsibilities shall be reflected in the Project Notification Report, required under **Special Condition Thirteen (13)**.

## 6. Stockpile Sites

- A. Permanent stockpiling of material at any of the stockpile sites subject to this permit shall not be allowed. The stockpile sites must be cleared and returned to their pre-construction condition with no remaining equipment, silt fencing, or construction equipment remaining on-site within one week of the end of each project.
- B. 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.
- C. 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.

## 7. Public Access Program

- A. The applicant shall submit, concurrent with the Project Notification Report, for the 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 all project operations. Where public paths or bikeways shall be closed during active operations, a person(s) shall be on-site to detour traffic.
- B. The applicant shall submit, concurrent with the Project Notification Report, for the review and approval of the Executive Director, plans for staging and storage of equipment. Public parking areas shall not be used for staging or storage of equipment and materials, unless there is no feasible alternative. Where use of public parking spaces is unavoidable, the minimum number of public parking spaces (on and off-street) that are required at each receiver site for the staging of equipment, machinery and employee parking shall be used. At each site, the number of public parking spaces utilized shall be the minimum necessary to implement the project.
- C. The applicant shall post each construction site with a notice indicating the expected dates of construction and/or beach closures.

## 8. Sensitive Species Pre-Construction Surveys

- A. The applicant shall retain the services of a qualified biologist or environmental resources specialist with appropriate qualifications acceptable to the Executive Director, when material is proposed to be placed at Goleta Beach, Ash Avenue, or Hueneme Beach. 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 the annual activities within the project site(s). In the event that any sensitive wildlife species (including but not limited to California least tern, western snowy plover, California grunion, Beldings savannah sparrow) 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, when material is proposed to be placed at Goleta Beach, Ash Avenue, Oil Piers, or Hueneme Beach. 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 lifestage, 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.

## 9. On-Site Monitor

- A. Turbidity. 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 beach fill placement. If the monitoring of the beach fill project indicates that turbidity attributed to the replenishment project is 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. Grain Size & Debris: The applicant shall retain the services of a qualified engineer, soil scientist or resource specialist, with appropriate qualifications acceptable to the Executive Director. The grain size/debris monitor shall be present whenever sand is being placed on the beach. The monitor shall, through grab samples, visual

inspection or other methods, insure that the delivered material is within the acceptable size ranges for nourishment material. If the material is not sand or is not within the acceptable size range, the monitor shall halt the placement of sand on the beach. The monitor shall also examine the material to determine presence of debris. If any debris or non-sand material is detected, the specific beach replenishment project that was using that sand material shall be halted at that site. The specific beach replenishment project shall not continue until an updated analysis of the composition of the sand material is approved by the Executive Director. Prior to resuming operations, all debris shall be removed to the maximum feasible extent.

- C. Biology. The applicant shall retain the services of a qualified biologist or environmental resources specialist with appropriate qualifications acceptable to the Executive Director. The environmental specialist shall be present during all placement activities, including construction, maintenance, or any grading and grooming activities on the beach, when material is proposed to be placed at Goleta Beach, Ash Avenue, or Hueneme Beach. Prior to initiation of daily project activities at the aforementioned sites, the resource specialist shall examine the beach area to preclude impacts to sensitive species. Project activities, including construction, reconstruction, maintenance, other placement activities, or grading or grooming of the beach, shall not occur until any sensitive species (e.g., western snowy plovers, Belding's savannah sparrows, etc.) have left the project area or its vicinity. In the event that any sensitive wildlife species (including but not limited to western snowy plover, Belding's savannah sparrow, California grunion, steelhead trout) 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. The monitor(s) shall require the applicant to cease work should any breach in permit compliance occur or if any unforeseen sensitive habitat issues arise. The monitor(s) shall immediately notify the Executive Director if activities outside of the scope of Coastal Development Permit 4-02-074. 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.
- D. The applicant shall provide the environmental monitors' qualifications for review by the Executive Director concurrent with the Project Notification Report (**Special Condition Thirteen (13)**). Prior to commencement of any specific placement project, the applicant shall submit the contact information of all monitors with a description of their duties and their on-site schedule.
- E. Proposed changes to the project may require a permit amendment or new permit. Any proposed changes to the approved program 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.

## 10. Caulerpa Surveys and Monitoring

- A. Not earlier than 90 days nor later than 30 days prior to placement of any dredged material from estuarine habitats, including but not limited to Goleta Slough, Carpinteria Marsh, Mugu Lagoon, lower Callegus Creek and Ormond Slough, at any beach replenishment site, 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), Robert Hoffman, National Marine Fisheries Service (562/980-4043), or their designated replacements.
- D. Unless the Executive Director otherwise determines, if the survey identifies any *Caulerpa taxifolia* within the project area, the applicant shall submit 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.

## 11. Long-Term Shoreline Monitoring Program

- A. Prior to issuance of the coastal development permit, the applicant shall submit to the Executive Director for review and written approval, a final report for a long-term shoreline monitoring program at each site, that is in substantial conformance with the revised "Implementation Guidelines and Compliance Protocol" (Moffatt & Nichol, December 2004; Exhibit 9). The program shall outline the procedure for the necessary surveys, report preparation and submittal, and the skills and qualifications for all personnel and shall incorporate the following:
  - (1) The monitoring program shall record detailed project information regarding the implementation of the annual project activities including, but not limited to, the date, length of time of construction, quantity, location, method of construction, source of material, weather conditions, and any issues or complaints regarding the project received by the public.

- (2) The monitoring program shall document the available public access during project implementation, timing of access, and any other restrictions to public access in the project area, and shall include any access issues or complaints raised by the public.
  - (3) The monitoring program shall include shoreline surveys immediately prior to annual construction, immediately following construction, 3 months after construction, and two semi-annual beach profiles, one in the spring and one in the fall after completion of construction. Profiles and monitoring shall be done by a licensed civil engineer or surveyor, in conformance with the guidance provided in the "Implementation Guidelines and Compliance Protocol" (Moffatt & Nichol, December 2004). The monitoring report shall provide plots that overlay all available profiles for each of profile location. The second semi-annual beach profile may be adjusted to coincide with the following year's beach profile requirements, where feasible.
  - (4) The monitoring program shall: quantify the volumetric change in the beach for each survey period, using the pre-project condition as the baseline; analyze the seasonal and interannual changes in width and length of dry beach, subaerial and nearshore slope, offshore extent of nourished toe, and overall volume of sand in the profile; estimate the rate and extent of transport of material up- and down-coast from the receiver sites; compare actual changes to the shoreline changes that were anticipated during the design phase of this project; determine the time period over which the beach benefits related to the project can be identified as distinct from background conditions; and qualify any abnormal wave and current conditions that could account for changes to the beach outside what was anticipated. The report shall utilize aerial photographs, to the extent feasible, to prepare the summary of beach width and sand volume changes.
  - (5) The monitoring program shall include cumulative data detailing the annual quantity and placement of material, including interaction of the replenishment project with other beach replenishment projects or other shoreline projects that occur in the project area.
  - (6) The monitoring program shall specify the criteria that would indicate the program's effectiveness/success in meeting its three stated goals: (1) renourishing the Santa Barbara Littoral Cell, (2) improving protection to coastal structures, and (3) enhancing recreational opportunities.
- B. The applicant shall submit, on an annual basis, a written report indicating the results of the long-term monitoring program. The annual monitoring report shall include conclusions regarding the level of success of the annual sand replenishment project(s). The report shall include a brief history of the previous years' effort, if any, and shall also include photographs taken from pre-designated sites (annotated to a copy of the site plans) to track changes in shoreline conditions.
- C. Monitoring reports shall be prepared by a licensed civil engineer, geologist or engineering geologist with expertise in coastal processes. These reports shall be submitted annually to the Executive Director, the first report within 2 months of completion of the second semi-annual beach profile (the spring or fall after

completion of construction). All later reports shall be submitted within 2 months of the subsequent annual survey cycle.

- D. The applicant shall undertake the development in accordance with the approved monitoring program. Any proposed changes to the approved program 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.

## **12. Long-Term Biological Monitoring Program**

- A. Prior to issuance of the coastal development permit, the applicant shall submit to the Executive Director for review and written approval, a final report for a long-term biological monitoring program at each site, that is in substantial conformance with Section 3.2.3 of the final "Implementation Guidelines and Compliance Protocol" (Moffatt & Nichol, February 2005; Exhibit 9) which describes the annual monitoring plans. The program shall outline the procedure for the necessary surveys, report preparation and submittal, and the skills and qualifications for all personnel and shall incorporate the following:

- (1) The monitoring program shall include surveys of kelp, surfgrass, eelgrass, and reef habitat, as applicable to the proposed site, approximately one month prior to annual construction as well as 3 months, 6 months, and 1 year after completion of annual construction. The one-year monitoring survey may be adjusted to coincide with the following year's survey requirements, where feasible.
- (2) The monitoring program shall include visual surveys of applicable slough, marsh, river, or creek mouth openings as described in Section 3.2.3 at the following intervals: one month prior to annual construction, during construction, immediately post-construction, and 3 and 6 months after completion of annual construction.
- (3) The monitoring program shall include visual surveys of turbidity plumes during all individual construction operations and during any grading or grooming of the beach that results in material being deposited into the ocean. Additionally, turbidity shall be monitored immediately after completion of individual construction to determine the length of time required for the turbidity plume to disperse.
- (4) The monitoring program shall specify the criteria that would indicate the program's effectiveness/success in avoiding adverse impacts to biological resources. The criteria shall be specific enough to provide a mechanism to determine when/how a project results in adverse impacts to biological resources at each site and a mechanism for making adjustments to future replenishment projects.
- (5) The monitoring program shall consider potential impacts to previously unidentified or new resources (e.g., potential reef habitat proposed at Oil Piers) in the project vicinity. If the beach replenishment operations could potentially

impact such resources, the monitoring program shall be revised to assess impacts to those resources.

- B. The Executive Director may waive the remainder of the year-long post construction biological monitoring requirements if the applicant submits evidence, subject to the Executive Director's review and approval, which shows that no adverse impacts have occurred as a result of the project and that the project material has dispersed in a manner which does not have the potential to impact nearshore or offshore biological resources in the future. The applicant may not discontinue the remainder of the post-construction monitoring without written approval from the Executive Director.
- C. The applicant shall submit, on an annual basis, a written report prepared by a biologist or other qualified environmental professional acceptable to the Executive Director, indicating the results of the long-term monitoring program. The monitoring report shall further include, but not be limited to, the following information:
- (1) The annual monitoring report shall include conclusions regarding the level of success of the sand replenishment project(s) and the current year's impacts on biological resources.
  - (2) The report shall include a brief history of the previous years' effort, if any, and an analysis of the total impact to biological resources.
  - (3) The monitoring report shall document detailed project information regarding the implementation of the annual project activities including, but not limited to, the date, length of time of construction, quantity, location, method of construction, source of material, weather conditions, and any unusual events that resulted in, or potentially could have resulted in, adverse impacts to biological resources.
  - (4) The monitoring report shall include a discussion of the range of turbidity plumes and any recommendations to reduce turbidity related to project activities; any incidents during construction where turbidity control measures were implemented; and conclusions regarding turbidity impact upon biological resources.
- D. If the Executive Director determines that adverse impacts have occurred to marine habitat, the Executive Director shall provide written notice to the applicant of such determination. The applicant shall cease work at the subject project site, 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.
- E. The applicant shall undertake the development in accordance with the approved monitoring program. Any proposed changes to the approved program 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.



### 13. Project Notification Report

- A. The applicant shall submit a Project Notification Report that provides, at a minimum, the information required by the South Central Coast Beach Enhancement Program (SCCBEP) Project Notification Report model attached to this staff report as Exhibit 7. In addition, the project notification shall include:
- (1) Section 2.5, *Debris Management*, shall include a description of pebbles, cobble, gravel, or other large rock materials within the source and methods of screening, retrieval, and disposal.
  - (2) A new subsection under Section 3, *Transportation and Placement*, shall be added under the heading of Equipment. This subsection shall describe the equipment to be used to implement the project (e.g., size, type, capacity); a map of the location of the project construction headquarter(s); site plans for all construction staging areas and access routes; and special staging and parking needs for heavy equipment.
  - (3) A new subsection under Section 3, *Transportation and Placement*, shall be added under the heading of *Stockpiling*. This subsection shall describe estimated quantity of material to be stockpiled, the location of stockpiling, and the dates and duration of stockpiling.
  - (4) Subsection 3.1, *Site Location and Timing*, shall include planned phasing, or sequence of construction.
  - (5) Subsection 3.3, *Beach Placement Method*, shall include the design of the replenishment material (below mean high tide line, sand berm, or sand dike) and associated engineering plans.
  - (6) Section 4, *Public Notification Process*, shall be revised to include a requirement that the applicant include a list of local hearing dates and copies of all the local hearing notices. This section shall also indicate that all written correspondence received by the local government and/or BEACON regarding the project and minutes of the hearing(s) will be included with the completed Project Notification Report that is submitted to the Commission.
  - (7) Section 4, *Public Notification Process*, shall be revised to include a requirement that public notification include posting each construction site with a notice indicating the expected dates of construction and/or beach closures and appropriate BEACON and/or local government contact information.
  - (8) Subsection 5.1, *Pre-Construction Monitoring*, shall be revised to include a statement that if pre-construction monitoring identifies potential impacts to coastal resources not identified and addressed in Coastal Development Permit 4-02-074, the specific replenishment project for which the pre-construction monitoring was being conducted shall be suspended and the monitoring results reported to the Executive Director. In that case, no work on the specific replenishment project at issue shall occur without a new permit or amendment to the subject permit.
  - (9) A new Section 8, *Special Requirements*, shall be added to the Project Notification Report consistent with the following:

- (a) Timing of Executive Director Approval: The Executive Director of the Coastal Commission shall review the completed Project Notification Report within 30 days of receipt of the materials unless there are unusual circumstances. Within this time period, the Executive Director shall provide a written response of 1) approval of the specific sand replenishment project proposed; or 2) a requirement that the project receive a new, separate coastal development permit; or 3) request for additional information; or 4) a statement that additional time to review the project will be necessary and an indication of the anticipated response date. A failure of the Executive Director to respond within 30 days will not result in the specific project being deemed approved; written approval from the Executive Director is required prior to initiation of any work.
- (b) Other Permits: Prior to commencement of construction on any specific beach replenishment project, the applicant shall provide to the Executive Director copies of all other required local, state or federal discretionary permit, and required leases from the California State Lands Commission, for the development. The applicant shall inform the Executive Director of any changes to the development required by such permits. Such changes shall not be incorporated into any beach replenishment project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally requirement.
- (c) U.S. Army Corps of Engineers Permit: Prior to commencement of construction on any specific beach replenishment project, the applicant shall provide to the Executive Director a copy of a U.S. Army Corps of Engineers (ACOE) permit, or letter of permission, or evidence that no ACOE permit is necessary for the project. The applicant shall inform the Executive Director of any changes to the project required by the ACOE. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to Coastal Development Permit 4-02-074, unless the Executive Director determines that no amendment is legally required.
- (d) Authorizations: Prior to commencement of construction of any specific beach replenishment project, the applicant shall provide evidence to the Executive Director that all authorizations to use the stockpile sites have been obtained, including owner authorizations, leases, and/or other third party agreements.
- (e) Assumption of Risk, Waiver of Liability and Indemnity: By acceptance of Coastal Development Permit 4-02-074 at its implementation at the site listed in this completed Project Notification Report, the applicant acknowledges and agrees (i) that the 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.

- B. The applicant shall comply with the submittal requirements within, and undertake the development in accordance with the revisions to the model Project Notification Report. 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

#### **14. Approval of Excavation/Dredging Site**

The subject permit is only for sand replenishment projects and does not authorize any specific source material. Development proposals that may be involved in obtaining the sand source such as, but not limited to, non-exempt grading, new construction or dredging (including dredging equipment, pipelines and/or conveyors), if located within the coastal zone, shall require a valid coastal development permit from the appropriate local government or Coastal Commission or its successor agency, or evidence that no coastal development permit is required, prior to placement.

#### **15. Scope and Term of Permit Approval**

The development authorized by this coastal development permit is limited to beach replenishment projects that are consistent with the project description provided in the Implementation Guidelines and Compliance Protocol (December 2004) submitted by the applicant, and which are not superceded by the conditions of this permit. The parameters defined within the project description include, but are not limited to, the placement sites, maximum annual quantities of beach nourishment, placement design parameters, seasonal limitations, and methods of delivery. The authorization for continuing development pursuant to this permit shall expire 5 years from the date of Commission approval.

## **IV. FINDINGS AND DECLARATIONS**

The Commission hereby finds and declares:

### **A. TERMINOLOGY**

"Deposition Site," "Placement Site," "Project Site," "Receiver Site" refer to the proposed beach replenishment sites: Goleta Beach, Ash Avenue, Oil Piers, Surfers Point, and Hueneme Beach (Exhibit 3).

"Fine-grained Material" or "Fines" refers to sediment that is less than 0.074 mm in size (i.e., will not be retained on a Standard U.S. Sieve Size No. 200).

"Opportunistic Beach Fill" or "Source Material" refers to material that becomes available as a surplus from construction projects, and is therefore available at little to no cost compared to the cost of material commonly used for beach enhancement or nourishment. Examples of opportunistic beach fill sources include flood control debris

basins, river and slough sediments, landslide material, decommissioned dams, and material from miscellaneous construction activities.

## **B. PROJECT DESCRIPTION**

The applicant proposes to implement a five-year program to obtain and place a maximum of 791,500 million cubic yards of suitable beach replenishment material at five separate beach fill sites within Santa Barbara and Ventura Counties. The two sites located in Santa Barbara County are: (1) Goleta Beach site, located within Goleta Beach County Park in unincorporated Santa Barbara and (2) Ash Avenue site encompassing Carpinteria City Beach within the City of Carpinteria and extending north of Carpinteria City Beach into unincorporated Santa Barbara County (Exhibits 1a, 2a, 2b). The remaining three sites are located within Ventura County, including: (1) Oil Piers site, located in north Ventura County; (2) Surfer's Point at the northern limits of the City of Ventura; and (3) Hueneme Beach site east of the Port Hueneme Harbor entrance in the City of Port Hueneme (Exhibits 1b, 2c, 2d, 2e).

### **1. Project Parameters and Design**

For each site, dependent upon site characteristics, project parameters were developed including the maximum annual volume of material to be placed at the site, the beach fill length, the maximum percentage of fine-grained material to be placed at the site, the method of placement, the timing of placement activities, and the potential sand sources. See Table 1, below, for project parameters at each site. Though each site has a proposed maximum annual volume of placement material, the applicant proposes to limit the deposition in the first year of the program to small quantities (maximum of 35,000 cu. yds. at any one site).

The proposed annual volume of sediment at Goleta Beach is 100,000 cu. yds., along a 2,200-ft. stretch of beach, with winter placement (September 15 through March 15), and up to 25% fine-grained material. The proposed annual volume of sediment at Ash Avenue is 50,000 cu. yds., along a 1,200-ft. stretch of beach, with winter placement (September 15 through March 15), and up to 25% fines. The proposed annual volume of sediment at Oil Piers is 275,000 cu. yds, along a 4,000-ft. stretch of beach, with one-third of the sediment placed in the summer months (March 15 - September 15), and two-thirds in the winter months (September 15 through March 15), and up to 35% fines. The proposed annual volume of sediment at Surfer's Point is 116,500 cu. yds., along a 1,680-ft. stretch of beach, with one-third of the sediment placed in the summer months (March 15 - September 15), and two-thirds in the winter months (September 15 through March 15), and to 35% fines. The proposed annual volume of sediment at Hueneme Beach is 250,000 cu. yds., along a 4,400-ft. stretch of beach, with winter placement (September 15 through March 15), and up to 35% fines. Site plans are shown in Exhibit 3.

Table 1. General Project Parameters by Deposition Site.

Deposition Site (length in ft)	Max. Annual Volume (cu. yds)	Potential Sand Sources	Type	Method of Placement	Timing of Placement	Max. Fine Grained Material
Goleta Beach (2,200)	100,000	Flood Control Debris Basins Goleta Slough Caltrans landslide material Misc. upland construction	Sand	Below MHT; Beach Berm; Sand Dike	Fall/Winter (15 Sep –15 Mar); Max.15-week placement period	25%
Ash Avenue (1,200)	50,000	Flood Control Debris Basins Carpinteria Marsh Caltrans landslide material Misc. upland construction	Sand	Below MHT; Beach Berm; Sand Dike	Fall/Winter (15 Sep –15 Mar); Max. 15-week placement period	25%
Oil Piers (4,000)	275,000	Flood Control Debris Basins Caltrans landslide material Misc. upland construction	Sand	Below MHT; Beach Berm; Sand Dike	2/3 in Fall/ Winter (15 Sep-15 Mar) and 1/3 in Spring /Summer (15 Mar-15 Sep) Max. 15-week placement period winter; Max.7-week placement period summer	35%
Surfer's Point (1,680)	105,000	Flood Control Debris Basins Matilija Dam Decommissioning Ventura River Misc. upland construction	Sand	Below MHT; Beach Berm	2/3 in Winter (15 Sep-15 Mar) and 1/3 in Spring/ Summer (15 Mar-15 Sep) Max. 15-week placement period winter; Max.7-week placement period summer	35%
Hueneme Beach (4,400)	250,000	Flood Control Debris Basins Port Construction Activities Mugu Lagoon Ormond Slough Callegus Creek Caltrans landslide material Misc. upland construction	Sand	Below HMT; Beach Berm	Fall/Winter (15 Sep –15 Mar) Max. 20-week placement period	35%

Depending on the site, the method of placement may be in the form of *mean high tide placement*, *beach berm placement*, or in the form of a *sand dike*. Though the design of each placement method will be specific to the site (e.g., the maximum height above MLLW and the maximum width of beach fill will vary from site to site), the general design concepts are described below. The parameters for each design concept, including maximum annual volume of material and the maximum design footprint, for each deposition site is detailed in Table 2, below.

**Below Mean High Tide Placement.** Beach fill would be placed below the mean high tide line if the material is darker colored and finer grained than the existing beach sand. Sand would be delivered to the beach and pushed by bulldozers to the water's edge. At low tide, the material would be pushed as far seaward as possible and left in a low berm below the existing berm so that it can be reworked by waves during the following rising tide. The fines would be gradually winnowed out of the material by waves and currents, carried offshore, and sand will be left behind. This design concept is proposed at all five deposition sites.

**Beach Berm Placement.** Beach fill may be placed as a layer over the existing beach as a berm. The berm would be formed as a level surface extending a select distance from the back of the beach moving toward the ocean, then sloping gradually (e.g., 10:1 slope at most sites) to the water. The elevation, width, length, and slope of the berm will vary for each sand placement opportunity, depending upon the quality of material to be

placed and its qualities. The *Implementation Guidelines* (Moffatt & Nichol Engineers, February 2005) state that only pure beach sand can be placed over the existing level beach as a level berm layer. This design concept is proposed at all five deposition sites and typical sections are shown in Exhibit 4.

Table 2. Design Parameters by Deposition Site.

Site	Max. Annual Vol. of Material (cu yds)	Timing of Placement (Winter/Summer)	Max. Length of Time of Construction	Max Design Footprint (sq. ft.)	Design Criteria <sup>1</sup>	Maximum Seaward Extent from Baseline <sup>2</sup> (ft)
<b><u>Goleta Beach</u></b>						
Below MHT	75,000	Winter	12 wks	22,000	A	120
Beach Berm	100,000	Winter	15 wks	550,000	B	240
Sand Dike	20,000	Winter	4 wks	66,000	C	30
<b><u>Ash Avenue</u></b>						
Below MHT	50,000	Winter	7.5 wks	12,000	A	220
Beach Berm	50,000	Winter	7.5 wks	360,000	B	300
Sand Dike	20,000	Winter	4 wks	60,000	C	50
<b><u>Oil Piers</u></b>						
Below MHT	150,000	$\frac{2}{3}$ Winter - $\frac{1}{3}$ Summer	15 wks Winter - 7 wks Summer	40,000	A	150
Beach Berm	275,000	$\frac{2}{3}$ Winter - $\frac{1}{3}$ Summer	15 wks Winter - 7 wks Summer	1,200,000	B	300
Sand Dike	60,000	$\frac{2}{3}$ Winter - $\frac{1}{3}$ Summer	15 wks Winter - 7 wks Summer	120,000	C	30
<b><u>Surfers Point</u></b>						
Below MHT	85,000	$\frac{2}{3}$ Winter - $\frac{1}{3}$ Summer	12 wks Winter - 7 wks Summer	16,800	A	50
Beach Berm	116,000	$\frac{2}{3}$ Winter - $\frac{1}{3}$ Summer	15 wks Winter - 7 wks Summer	470,400	B	285
<b><u>Hueneme Beach</u></b>						
Below MHT	175,000	Winter	20 wks	44,000	A	200
Beach Berm	250,000	Winter	20 wks	1,320,000	B	300

1. Criteria determining which design will be implemented:
  - A. Source material with high fines content and relatively smaller quantity (e.g., <20,000 cy) will be placed Below the MHT line.
  - B. Source material that is beach compatible will be placed as a Beach Berm.
  - C. Source material with larger quantity (e.g., >20,000 cy), and high fines content will be placed as a Sand Dike along the back of the beach, with any remaining volume to be placed below the MHT line.
2. Baseline = Existing Back Beach Reference

*Sand Dike Along Back of the Beach.* Sand could also be placed as a dike along the back beach or revetment. The sand dike concept could be constructed if BEACON chose to apply the sand to the sea more gradually than would otherwise occur to reduce turbidity or if the County desires to use the material to create a winter dike at this site. The material would be piled up along the back portion of the beach. The dike would be narrower and longer than the beach berm concept. This design scenario would be used where material is high in fines content and the turbidity needs to be more controlled. Instead of transporting the material to a stockpile site until oceanic conditions are such that turbidity is not as great of an issue and transporting the material back to the beach, the material would be placed as a sand dike along the back of the beach where it will be introduced to the water slowly and only with high tides. This design concept is proposed at Goleta Beach, Ash Avenue, and Oil Piers.

The proposed placement and spreading of sand on the beach sites will require heavy equipment such as dump trucks, scrapers, and dozers on the beach.

## 2. Source Material

Potential sand sources include flood control debris basins, river and slough sediments, landslide material, decommissioned dams, and material from miscellaneous construction activities within Santa Barbara or Ventura Counties. The source material must meet specified criteria including chemical testing, sediment grain size, color, particle shape, debris, and compactability / moldability (see Section E(1) Sediment Compatibility, below). The subject permit is only for sand replenishment projects and does not authorize any specific source material; this will be approved through separate permit approvals. However, the applicant has submitted a list of the potential types of sources that may meet the source compatibility material and therefore could be placed at each site (see Table 3 below).

Table 3. Potential Sand Sources and Estimated Volumes (from Mitigated Negative Declaration, March 2001)

Deposition Site	Potential Sand Sources	Transport Method	Volume (cubic yards)
Goleta Beach	Flood Control Debris Basins	Truck	125,000 <sup>1</sup>
	Goleta Slough	Dredge	25,000-200,000 <sup>2</sup>
	Caltrans landslide material	Truck	10,000-100,000 <sup>3</sup>
	Misc. upland construction	Truck	Unknown
Ash Avenue	Flood Control Debris Basins	Truck	125,000 <sup>1</sup>
	Carpinteria Marsh	Dredge/Truck/Conveyor	10,000-40,000 <sup>2</sup>
	Caltrans landslide material	Truck/Rail	10,000-100,000 <sup>3</sup>
	Misc. upland construction	Truck	Unknown
Oil Piers	Flood Control Debris Basins	Truck/Conveyor	225,000 <sup>1</sup>
	Caltrans landslide material	Truck/Conveyor	200,000-250,000 <sup>3</sup>
	Misc. upland construction	Truck/Conveyor/Rail	Unknown
Surfer's Point	Flood Control Debris Basins	Truck	225,000
	Matilija Dam Decommissioning	Truck	Up to 6,000,000 <sup>4</sup>
	Ventura River	Truck	Unknown
	Misc. upland construction	Truck	Unknown
Oxnard Shores	Flood Control Debris Basins	Truck	225,000 <sup>1</sup>
	Santa Clara River	Truck/Conveyor	Unknown

Deposition Site	Potential Sand Sources	Transport Method	Volume (cubic yards)
	Callegus Creek	Truck	300,000 <sup>5</sup>
	Misc. upland construction	Truck	Unknown
Hueneme Beach	Flood Control Debris Basins	Truck/Conveyor	225,000 <sup>1</sup>
	Port Construction Activities	Truck/Conveyor	Unknown
	Mugu Lagoon	Truck	Unknown
	Ormond Slough	Dredge/Truck	Unknown
	Callegus Creek	Truck	300,000 <sup>5</sup>
	Caltrans landslide material	Truck/Rail	200,000-250,000 <sup>3</sup>
	Misc. upland construction	Truck	Unknown

1. Maximum debris basin capacity in each respective county, multiplied by 20 percent (the percent of material, believed to be of beach quality). Not based on any specific period of time.  
2. Historic dredge volume, project occurs every three to four years.  
3. Average yearly volume.  
4. Estimated total volume (one-time volume).  
5. Average volume removed from Callegus Creek every four to five years.

Depending on the source, the material would be transported via by truck, rail, dredge, or conveyor. The exact transportation method and route would require approval via a separate coastal development permit, either from the Commission or local government as applicable, concurrent with the approval of the source material itself.

### 3. Stockpile Sites

The applicant has proposed a stockpile site for each deposition site. Of these stockpile sites, Goleta Beach, Oil Piers and Surfer's Point stockpile sites are subject to this permit. Ash Avenue and Hueneme Beach stockpile sites have coastal development permits from the local government. Each site will stockpile material for only one site – the corresponding closest beach fill site. Where feasible, stockpile sites are immediately adjacent to the beach fill site. The applicant has proposed timing of use of the stockpile sites as shown in Table 4. The maximum height of any stockpile site will be 10 feet. Stockpile sites will be protected from erosion by installing silt fencing and/or haybales along their perimeter to keep sand on-site. Stockpiles are only envisioned for short-term use (days or weeks rather than months). If rain is forecast to occur during the time stockpiles exist, the piles may also be covered with plastic to prevent direct rain impact.

Goleta Beach Stockpile Area. An approximately 20-acre stockpile site has been identified approximately ½ mile inland of Goleta Beach along Atascadero Creek to hold material for later use at the Goleta Beach deposition site. The maximum holding capacity of the stockpile site would be approximately 40,000 cubic yards of material. The proposed stockpile site is a Santa Barbara County Flood Control District easement and is used periodically for dredging/desilting of Atascadero Creek. The applicant would need to provide authorization from the Flood Control District for use of this site.

Ash Avenue Stockpile Area. The applicant reports that a potential stockpile for this beach fill site is located approximately two miles north of the Ash Avenue Beach Fill Site, at the Santa Monica Creek Debris Basin. It is approximately one acre and could accommodate up to 20,000 cubic yards of material. This site is not within the coastal zone.



Table 4. Stockpile Site Characteristics.

Deposition Site	Stockpile Site	Max. Capacity (cu. yds)	Size (acres)	Use	Timing of Stockpile	Jurisdiction	Max. Height of Stockpile
Goleta Beach	Atascadero Creek	40,000	20	Stockpile Only	Sept. 15 to March 15	Coastal Commission	10 feet
Ash Avenue	Santa Monica Debris Basin	20,000	1	Stockpile Only	Sept. 15 to March 15	Santa Barbara County	10 feet
Oil Piers	Caltrans Site	80,000	4	Stockpile and Staging	Apr. 1 to Oct. 31	Coastal Commission	10 feet
Surfer's Point	South of Shoreline Drive	< 5,000	<1	Stockpile and Staging	All year – exposed to direct wave action Nov – Apr	City of Ventura	10 feet
Hueneme Beach	Lighthouse Promenade	40,000	3	Stockpile and Staging	Sept. 15 to March 15	City of Port Hueneme	10 feet

Oil Piers Stockpile Areas. The stockpile site at Oil Piers is presently leased to Caltrans by the State Lands Commission, also for storage and stockpile purposes. This site is immediately north of Highway 101, inland of the Oil Piers deposition site. The total stockpile site area is approximately 4 acres with a maximum capacity of 80,000 cubic yards of material. There are timing constraints for the Oil Piers sites because CalTrans uses these sites for their equipment storage.

Surfer's Point Stockpile Areas. The applicant indicates there is one potential stockpile and staging area at Surfers Point. It is less than one acre with a maximum capacity not more than 5,000 cubic yards of material. The material submitted by the applicant indicates that the proposed stockpile site is exposed to direct wave action November through April, and would not be used when their consultants predict wave exposure.

Hueneme Beach Stockpile Area. The applicant has identified an approximately 3-acre stockpile site with the capacity to hold approximately 40,000 cubic yards of material. This site is within the permit jurisdiction of the City of Port Hueneme and has already been issued a permit for such use.

#### **4. Post-Deposition Activities**

For each design concept, the post-construction beach fill profile will be steeper than the pre-construction beach profile, but will naturally evolve toward an equilibrium average nearshore slope which is a function of sediment and wave characteristics. While the concept designs proposed specify that construction profiles are approximately 15:1 or 10:1, the beach fill will naturally disperse over a wider portion of the beach and nearshore zone resulting in a flatter profile. As a result of this dynamic process, the applicant will periodically re-grade the post-construction beach fill when necessary to

minimize scarping. Bulldozers could be used to reduce a vertical scarp, which may form as waves rework the seaward edge of the beach fill slope.

#### **5. Modification of Goleta Slough, Carpinteria Estero, Ventura River Mouth**

The applicant asserts that the mouth of the Goleta Slough, Carpinteria Estero and Ventura River are frequently open, but close on a consistent basis (approximately 50% of the year) by sand delivered by ocean currents. Currently only the Goleta Slough mouth is maintained by the local Flood Control District, who reopens it adjacent to Goleta Beach Park shortly after it closes. Neither Ventura River nor Carpinteria Creek are maintained. Goleta Slough mouth is opened approximately 2-3 times per year, generally in the spring through fall under permits issued from regulatory agencies. For this program, BEACON will be visually monitoring the mouths after a placement and if the mouth closes within six months following a placement and can reasonably attributed to placement activities, then BEACON will remove material as necessary until the inlet area has stabilized.

### **C. PURPOSE AND BACKGROUND**

#### **1. BEACON**

The Beach Erosion Authority for Clean Oceans and Nourishment (BEACON) is a joint powers authority consisting of local governments as members, including the Counties of Santa Barbara and Ventura, and all coastal cities within those counties. BEACON is proposing the subject program, also known as the South Central Coast Beach Enhancement Program (SCCBEP), to pursue opportunities for obtaining suitable material for placement at five beach sites. The stated purpose of the program is to renourish a denuded littoral cell, erosion control, and provide recreational benefits.

#### **2. Local Approvals**

The County of Santa Barbara, City of Carpinteria, City of Ventura, and City of Port Hueneme have approved the subject replenishment activities at the Goleta Beach, Ash Avenue, Surfer's Point, and Hueneme Beach sites, respectively, with numerous special conditions, including timing, use of staging and stockpile areas, and maintaining public access. The State Lands Commission maintains jurisdiction for activities at the Oil Piers site and would need to provide authorization for replenishment activities.

#### **3. Commission History**

The Goleta Beach, Ash Avenue, and Surfer's Point deposition sites have been subject to past Commission action with regard to beach replenishment and shoreline protection. The most extensive experience has been at Goleta Beach. Coastal Development Permit (CDP) 4-02-054 (BEACON) approved a one-time beach nourishment demonstration program at Goleta Beach utilizing up to 150,000 cubic yards of sand from the West Beach area of Santa Barbara Harbor and placing it within a 2,200 foot long by 400 foot wide beach fill deposition site at Goleta Beach County

Park. Coastal Development Permit (CDP) 4-02-128 (Santa Barbara County Parks) approved construction of a temporary winter sand berm, annually for three years, expiring memorial day 2005. Coastal Development Permit (CDP) 4-01-136 (Santa Barbara County Parks) approved construction of a temporary sand berm for the winter season from 2001-2002. Coastal Development Permit (CDP) 4-00-193 (Santa Barbara County Parks) approved the construction of a temporary sand berm for the winter season from 2000 to 2001, similar to the 2001-2002 project. Further, prior to the construction of the previous temporary sand berm under CDP 4-00-193, an approximately 1,000 feet long rock revetment was placed on the site by Santa Barbara County Department of Parks & Recreation in February 2000 as an emergency measure to prevent further erosion of the improved areas of the park pursuant to Emergency Permit 00-EMP-002, which was issued by Santa Barbara County. This action by the County was appealed by two members of the Commission. Prior to the Commission's determination of whether a substantial issue was raised by the appeal, the County submitted CDP Application 4-00-118 for removal of the previously constructed rock revetment. The rock revetment installed in 2000 was removed; however, a new rock revetment was placed on the beach in late 2002 pursuant to an Emergency Permit. In addition, there remains a smaller rock revetment on the subject site in front of a parking area and another rock revetment buried beneath the sand in the area of the pier. According to staff from the Santa Barbara County Department of Parks & Recreation, the rock revetment by the pier at the east end of the park was constructed in approximately 1950 with additional work performed in 1961. Staff from the Santa Barbara County Department of Parks & Recreation have also stated that it appears that the rock revetment that exists in front of a parking area at the western end of the park was installed between 1985 and 1986 without the benefit of a coastal development permit, although the County approved a permit for the parking area in 1984. In order to resolve this violation the County has submitted a coastal development permit application which is incomplete pending completion of the study required under CDP 4-02-251. To undertake a comprehensive solution to shoreline erosion at the park, staff from Santa Barbara County Department of Parks & Recreation have prepared a long-term alternatives analysis for the subject site, which recommends that these existing revetments be retained and re-engineering to protect Park infrastructure. Under CDP 4-02-251 (Santa Barbara County), the County was authorized to retain the riprap revetment, for a limited term of thirty (30) months from the date of Commission approval (1/14/04), provided that substantial studies of the impacts of the revetment, and of alternatives, are successfully completed within the prescribed period of time.

The Ash Avenue project site has also been subject to past Commission action. Coastal Development Permit 4-01-155 (City of Carpinteria) approved construction of a temporary winter sand berm, annually for four years, expiring Memorial Day 2005. CDP 4-95-207 was issued by the Commission for the same project in 1995 for a limited duration of time not to exceed 5 years. CDP 4-95-207 was issued subject to special conditions including a requirement that the City submit, as part of any future application for construction of a sand berm a detailed technical report prepared by a qualified engineer to evaluate long-term solutions and alternatives to the sand berm including, but not limited to, dune enhancement, beach nourishment, use of sand from alternative suitable sources, and participation in a regional sand supply mitigation program.

The Surfer's Point project site has also been the subject of past Commission action with regard to placement of cobble. In August 2000, the Commission approved placement of approximately 8,000 cu. yds. of cobble along 450 feet of shoreline at Surfer's Point, including the intertidal area, pursuant to CDP 4-00-158. The cobble was authorized to be spread four to eight feet thick and fifty to seventy feet wide. CDP 4-00-158 was subject to one amendment which extended the area for cobble nourishment an additional 200 feet eastward of and contiguous with the original location. In January 2005, the Commission approved the placement of an additional 1,400 cubic yards of gravel, boulder, and cobble (GBC) along 400 feet of shoreline, including the intertidal area. This project included approximately 270 cubic yards of lighter colored GBC which would serve as tracer material intended to help monitor GBC movement. The GBC would be spread in a blanket approximately 0.1 to 3.5 feet thick and approximately seventy feet wide.

#### **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 Sections 30210 and 30211 mandate that maximum public access and recreational opportunities be provided and that development not interfere with the public's right to access the coast.

The proposed project implements a five-year opportunistic beach replenishment project involving a maximum of approximately 791,500 cu. yds. of beach quality material per year on five beaches. The project includes beach grooming and maintenance of the placed material by conventional earth moving equipment (e.g. bulldozer). Similar activities would occur at each site, Goleta Beach, Carpinteria Beach, Oil Piers, Surfer's Point, and Hueneme Beach. All of the deposition sites are actively used by the public for recreational purposes.

In general, beach replenishment activities are beneficial by maintaining beaches for recreational use, providing shoreline protection for existing development, and reintroducing sediment into the littoral current for replenishment of down coast beaches. The proposed project is intended to protect and maintain beaches for recreational use through beach nourishment; however, the construction operations will have temporary adverse impacts to public access at each of the sites.

The placement of suitable beach replenishment material, and establishment of staging areas for such operations, is proposed on beaches that are popular recreation areas as well as ocean access points for sunbathing, walking, swimming, kayaking, surfing and other uses of coastal waters and beaches. The Mitigated Negative Declaration indicates that maintaining recreational uses of the beach is a high priority, with one of the program's goals to enhance recreational opportunities. To address the issue of public access, the applicant proposes to limit placement activities at each site as shown in Table 5 below.

Table 5. Proposed Timing Constraints.

Site	Timing of Placement	Daily Timing*
Goleta Beach	Fall/Winter (15 Sep –15 Mar); Max. 15-week placement period	10 hours/day Monday-Saturday
Ash Avenue	Fall/Winter (15 Sep –15 Mar); Max. 15-week placement period	6 hours/day (9 a.m. – 3 p.m.) Monday – Friday
Oil Piers	2/3 in Fall/ Winter (15 Sep-15 Mar) and 1/3 in Spring /Summer (15 Mar-15 Sep) Max. 15-week placement period winter; Max.7-week placement period summer	10 hours/day Monday-Saturday
Surfer's Point	2/3 in Winter (15 Sep-15 Mar) and 1/3 in Spring/ Summer (15 Mar-15 Sep) Max. 15-week placement period winter; Max.7-week placement period summer	6 hours/day Monday – Friday
Hueneme Beach	Fall/Winter (15 Sep –15 Mar) Max. 20-week placement period	10 hours/day Monday –Saturday

\*No night construction (past sundown) would occur.

As a result of the extensive public use of each site combined with the intrusive nature of the deposition activities, public access will be temporarily impeded by the proposed project and will result in some adverse effects to the public's ability to access the sandy beach since beachgoers would be required to avoid the nourishment areas during placement and grading, as well as staging areas. Though construction within the project site would temporarily displace beach area for public use, the remainder of the surrounding beach area would be available for public access. Under no circumstances would the entire beach be off-limits to the public.

The applicant proposes summer placement activities at Oil Piers and Surfer's Point, in addition to the typical winter placement. Notably, the City of Ventura's coastal development permit prohibits project activities between Memorial Day and Labor Day, though the applicant has not amended the project description to reflect that time constraint. At the other three sites (Goleta Beach, Ash Avenue, and Hueneme Beach), at least partial access is maintained during the winter months when visitor use is low, and summer placement is not proposed.

Placement activities will result in turbidity impacts that have the potential to degrade the water quality during construction of the proposed project, impacting recreation at the receiver sites. The turbidity would in turn, impact the quality of recreation experiences such as jet skiing, scuba diving, and fishing. Though the applicant proposes closures in segments (and an entire beach would not be closed at any time), the quality of visitor experiences at the site while placement activities are occurring would be significantly impacted. Placement activities will require the presence of heavy machinery on the

beach, resulting in noise and potentially the transport of source material by wind action to areas where people are congregating. In addition, there may be a loss in public parking as a result of employee parking needs and/or staging requirements. These factors work together to discourage public use of the beach during construction operations.

The Commission notes that avoiding construction during high-use periods would reduce adverse impacts to public access. The peak recreational use of these sites is during the summer season, between Memorial Day and Labor Day. As discussed above, most of the proposed placement activities would occur in the off-season. However, year-around construction is proposed at Surfer's Point and Oil Piers. This would adversely impact public access and recreation at the beaches as described above. Therefore, to ensure that public access is maximized as required by Section 30210 of the Coastal Act, **Special Condition Two (2)** requires that all construction operations, including any restrictions on public access, be prohibited 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 peak public recreational use of the beach.

Furthermore, though the winter season is the appropriate time of year to implement project activities, given the mild climate, even during the proposed winter placement (September 15 to March 15), each of these sites may attract extensive public visitorship on any given weekend. Because these beaches are subject to higher levels of public use during weekends, placement activities during these times would result in significant adverse impacts to public access. Therefore, to ensure that maximum access is maintained for the public in the project area consistent with Coastal Act Section 30210, **Special Condition Two (2)** requires that all construction operations, including any restrictions on public access, be prohibited on any part of the beach and shorefront in the project area on Saturdays and Sundays, thereby removing the potential for construction-related disturbances to conflict with weekend visitor activities. In this way, scheduling operations outside of peak recreational times will serve to minimize potential impacts on public access.

Additionally, to ensure compatibility between the City of Ventura's local approval and ensure that the project is implemented in stages as proposed to protect public access, the Commission finds that **Special Condition One (1)** is necessary to revise the project description and project plans to allow a maximum 250-foot long section of the beach at Surfer's Point to be closed at any one time during construction. All other portions of the beach will remain open during construction.

Furthermore, to ensure the safety of recreational users of the project site and to ensure that the interruption to public access of the project site is minimized, the Commission requires the applicant to submit a public access plan, pursuant to **Special Condition Seven (7)**, to the Executive Director for review and approval. Special Condition 7 requires a description of the methods (including signs, fencing, posting or security guards, etc.) by which safe public access to and around the receiver sites and staging areas shall be maintained during and after beach deposition activities. The public access plan shall provide that public parking areas shall not be used for staging or storage of equipment and materials, unless there is no feasible alternative. Where use

of public parking spaces is unavoidable, the minimum number of public parking spaces (on and off-street) that are required at each receiver site for the staging of equipment, machinery and employee parking shall be used. Because each individual beach fill project is unpredictable until a source is obtained, and therefore each individual beach fill project will have different design parameters and constraints, the public access plan shall be specific to the proposed nourishment project and shall be submitted concurrent with the Project Notification Report, as required by **Special Condition Thirteen (13)**. The Project Notification Report, pursuant to Special Condition 13 further requires background information on the public notification process and requires that the applicant post each construction site with a notice indicating the expected dates of construction and/or beach closures.

Public access and recreational use of the beach may also be impacted as a result of vertical scarps that may form as waves rework the seaward edge of the beach fill slope. The applicant proposes to periodically regrade the post-construction beach fill when necessary to minimize scarping. To ensure that this responsibility is undertaken, **Special Condition Five (5)** makes it the applicant's responsibility to ensure that the beach is graded and groomed to natural beach contours, consistent with the timing restrictions listed in Special Condition 2, to facilitate recreational use of the beach. Special Condition 5 also requires that any sand dike formations that are created at Goleta Beach, Ash Avenue or Oil Piers, must be graded and groomed to natural beach contours at the completion of the annual beach replenishment operation, and a minimum of one month prior to Memorial Day in May. The Commission further finds, through Special Condition 5, that public access shall be protected by limiting use of staging areas to only those times during active construction operations.

The Commission has supported the concept of beach replenishment and approved numerous coastal development permits for specific replenishment projects. In addition, the Commission recently approved a similar programmatic "opportunistic" beach replenishment project in the City of San Clemente (CDP No. 5-02-142). Though beach replenishment projects can be beneficial for many reasons, the placement of foreign material on any beach has the potential to adversely impact public access, water quality, and other sensitive onshore and offshore resources. Thus, such projects must be implemented with the utmost oversight and precision to avoid adverse impacts to coastal resources.

The Commission finds that the proposed project is a new trial program that proposes to use "opportunistic" sediment to renourish the beaches in two counties, crossing five separate local government jurisdictions. In addition, the applicant is requesting a significant volume of opportunistic material on an annual basis. This is an ambitious program, and because of its trial nature must be monitored carefully to assess the success of the program to meet its goals as well as avoid impacts to coastal resources. To address this issue, **Special Condition Eleven (11)** 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. The Shoreline Monitoring Program shall include information regarding the success of the placement activities in relation to maintaining public access, including any complaints that may have been received. The results of the monitoring shall be submitted to the

Executive Director on an annual basis, with conclusions regarding the level of success of the annual sand replenishment project(s). The report shall include a brief history of the previous years' effort, if any, and shall also include photographs taken from pre-designated sites (annotated to a copy of the site plans) to track changes in shoreline conditions.

The Commission finds that the proposed project will serve to maintain beaches for recreational access, and that the proposed project, as conditioned, will not significantly impact recreational opportunities and public access at the project site. Therefore the project is consistent with Sections 30210 and 30211 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 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 30240 of the Coastal Act requires that environmentally sensitive



habitat areas (ESHA) be protected and that development be sited and designed to prevent impacts to such areas.

The Coastal Act policies identified above require the Commission to address impacts on marine resources by considering the timing of deposition of the material on the beach, the composition of the material, the location of the receiver beach, and the presence of environmentally sensitive resources. Development in areas adjacent to sensitive marine habitat areas and parks and recreation areas such as beaches must be sited and designed to prevent impacts which would significantly degrade those areas, and must be compatible with the continuance of those habitat and recreation areas. The restoration of beaches is a permitted use in open coastal waters under Section 30233; however, the project must be the least environmentally damaging alternative, and any impacts must be mitigated. Table 6, below, was submitted by the applicant to provide baseline resource conditions for each deposition site, including presence of onshore and offshore biological resources.

Table 6. General Existing Conditions of Beach Profiles and Biology (*Implementation Guidelines and Compliance Protocol, Moffatt & Nichol, February 2005, pg. 9*).

		CONDITIONS AT EACH SITE				
		GOLETA BEACH	ASH AVENUE	OIL PIERS	SURFER'S POINT	HUENEME BEACH
PARAMETER						
<b>BEACH PROFILE</b>		<i>BASED ON NOVEMBER 2003 SURVEYS</i>				
Mean Sea Level (MSL) Shoreline Position* - distance from back beach marker to MSL		222 ft.	224 ft.	114 ft.	185 ft.	573 ft.
Beach Slope at MSL		-0.062 ft./ft.	-0.063 ft./ft.	-0.042 ft./ft.	-0.057 ft./ft.	-0.044 ft./ft.
Highest Beach Elevation (at back beach marker relative to MSL)		12 ft.	7 ft.	6 ft.	13 ft.	12 ft.
Seasonal Disappearance?		Yes	During severe winters	No	Yes	Yes
<b>BIOLOGY</b>		<i>BASED ON SUMMER/FALL 2000 SURVEYS &amp; SITE VISITS</i>				
Presence of Kelp Beds?		Yes - good condition	Yes - good condition	Yes - moderate condition	No	No
Distance to Kelp Beds/Reefs		1,700 ft. downcoast, kelp on outfall pipe 700 ft offshore	600 ft. offshore of upcoast end	1,000 ft. offshore of downcoast end	Not applicable (n/a)	n/a
Presence of Eelgrass Beds?		Yes - good condition	No	No	No	No
Offshore Distance to Eelgrass		Potentially about 1,500 ft.	n/a	n/a	n/a	n/a
Significant Rocky Intertidal Habitat?		Yes - good condition; 1,500 ft. upcoast	Yes - good condition; 1,500 ft. downcoast	Yes - good condition; 1,200 ft. upcoast	No (26,000 ft. upcoast)	No (24,000 ft. downcoast)
Presence of High-Relief Sub-tidal Rock Habitat?		Yes	Yes	No	No	No
Presence of Grunion ?		Yes	Yes	Yes	No	Yes
Distance to Least Tern Colony		Over 35 miles	Approx. 17 miles	Approx. 13 miles	Approx. 3.5 miles	Approx. 2,500 ft downcoast
Snowy Plover Critical Habitat		Wintering habitat 12,000 ft. upcoast	Winter habitat downcoast	Wintering habitat 25,000 ft. upcoast	Winter habitat 500 ft. downcoast	Nesting and winter habitat along downcoast end of beach
<b>CREEK AND LAGOON MOUTHS</b>						
Open or Closed Status		Closes seasonally; reopened by the SBCFCD.	Marsh mouth always open; creek mouth seasonally closed.	n/a	Closes seasonally; spring tides reopen it.	n/a

\* This is not necessarily the actual sandy beach width; e.g. in some cases, the back beach marker is within the parking lot at the back of the beach.

Deposition of material onto the beach can affect marine life through the direct burial of organisms on the beach and in the nearshore environment, by the secondary

movement of beach fill material within the littoral drift zone that could bury reefs and organisms, and by increasing turbidity in adjacent waters, which could adversely affect the growth of kelp and impact the ability of shorebirds to find food in offshore waters.

The applicant has proposed designated stockpile sites to temporarily hold material while the project operations are underway. The Commission notes that excavated materials that are placed in stockpiles are subject to increased erosion and potential adverse effects to adjacent streams and wetland areas from re-sedimentation and increased turbidity. The Commission also notes that additional landform alteration would result if the excavated material were to be retained on site. Therefore, in order to ensure that dredged material will not be permanently stockpiled on site and that erosion and re-sedimentation of the streams on site are minimized during any temporary stockpiling activities, **Special Condition Six (6)** also requires that any stockpiled materials shall be located as far from the stream or wetland areas on site as feasible and in no event shall materials be stockpiled less than 30 ft. in distance from the top edge of a stream bank or wetland. Temporary erosion control measures (such as sand bag barriers, silt fencing; swales, etc.) shall be implemented in the event that temporary stockpiling of material is required. These temporary erosion control measures shall be monitored and maintained until all stockpiled fill has been removed from the project site. The stockpile sites must be cleared and returned to their pre-construction condition with no remaining equipment, silt fencing, or construction equipment remaining on-site within one week of the end of each project. Additionally, **Special Condition Thirteen (13)** requires that each time a source material is proposed to be stockpiled, the Project Notification Report shall describe the estimated quantity of material to be stockpiled, the location of stockpiling, and the dates and duration of stockpiling.

## **1. Marine Resources**

The placement of source material on the beach results in increased turbidity at the deposition site. Temporary adverse impacts to marine organisms are expected from the operations. Temporary increases in turbidity and suspended solids 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 anticipated to have the maximum concentrations generally restricted to the lower water column, and decreasing rapidly with distance due to settling and dilution. The impacts of beach fill placement activities (i.e., increased turbidity, sedimentation, dissolved oxygen reduction, burial of organisms) are expected to be local. Following deposition activities, organisms are expected to recolonize previously disturbed areas. As such, impacts from sediment re-suspension caused by the project are anticipated to be short-term. In addition, the proposed deposition sites are primarily located in areas that are considered to have naturally high levels of turbidity due to high wave energy and river outfall particularly during the winter season when operations would take place. Therefore, the Commission finds that the temporary increased turbidity resulting from deposition will not result in significant adverse impacts to marine organisms or habitat.

BEACON proposes to monitor turbidity at each of the sites throughout construction to assess the effect on ocean water clarity from the project. The applicant maintains that the turbidity "condition should be short-lived and should diminish immediately after construction is complete." Turbidity will be mapped each day and photographed. To ensure that this critical information regarding potential impacts to marine resources is recorded and reported to the Executive Director for consideration of future project approvals, **Special Condition Nine (9)** requires a qualified resource specialist to monitor turbidity during all project construction activities. If the monitoring of the beach fill project indicates that turbidity attributed to the replenishment project is 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.

The *composition* (i.e., grain size) of the sand replenishment material can also affect the marine environment. For instance, material with higher fine-grained material content will contribute to higher rates of turbidity (see above discussion of turbidity impacts) and will have higher likelihood of containing contaminants. In general, the higher the amount of coarse grained sand, the lower the turbidity and associated risks to offshore resources and productivity. As a result, the grain-size of the material is an important design characteristic of the project.

As stated previously, this permit does not authorize any specific source material. Instead, the applicant has identified a list of potential sand sources which include flood control debris basins, river and slough sediments, landslide material, decommissioned dams, and material from miscellaneous construction activities within Santa Barbara or Ventura Counties. The applicant proposes that all future source material be assessed and/or tested to meet specified criteria including sediment grain size, chemical testing, color, particle shape, debris, and compactability / moldability. To ensure that this testing is implemented consistent with protection of marine and sensitive resources pursuant to Sections 30230, 30231, and 30240, the Commission details the testing requirements in **Special Condition Three (3)**.

In this case, the applicant proposes a maximum 25% fine-grained content for Goleta Beach and Ash Avenue, whereas Oil Piers, Surfer's Point and Hueneme Beach would receive as much as 35% fine-grained material. As stated in the *Implementation Guidelines* (Moffatt & Nichol Engineers, February 2005), the applicant is proposing a higher fine-grained content than that generally approved in order to allow more flexibility in obtaining material:

*This [proposed] fraction of sand to silts/clays is higher than formerly allowed by resource agencies. The current requirement is that the percentage of silts and clays not be more than 10% of that on the receiving beach at the time of placement (letter from the U.S. EPA, 2002). Both the U.S. EPA and U.S. Army Corps of Engineers (USACE) that regulate beach fill material quality have indicated a willingness to consider project-specific exceptions to this guideline. BEACON proposes to exceed the former requirement in this pilot program, and to carefully monitor projects to identify potential impacts. All*

***activities, including sampling and analysis of materials, will be in conformance with the Inland Testing Manual (ITM) of the USACE 1998)...***

As recognized by the applicant, allowing up to 35% fines in the deposition material is unprecedented. This amount is unproven with regard to its potential impacts to shoreline resources. For instance, the applicant is requesting for potentially up to 15 consecutive weeks of material placement activities (or up to 20 consecutive weeks at Oil Piers), and it is unclear to what extent the system has the ability to recover from this level of temporal activities. It is speculated that the system is able to recover from this type of project by comparison of sediment/turbidity events from nearby streams or rivers. However, notably, these types of events are generally episodic allowing for intermediate recovery by, for example, organisms that were buried. Another concern with regard to the high fine content is the potential presence of contaminants. The higher the fine content in the material, the higher the probability for contaminants to be present, given that contaminants can adhere better to smaller particles.

Furthermore, the proposed project is a large-scale, five-year program that is experimental in nature. The applicant recognizes that such a program requires monitoring performance reviews and adaptation to ensure that the project is successful from a technical standpoint as well as a biological standpoint. In this case, the sudden deposition of material within the littoral system containing such an unusually high percentage of fines would result in potential adverse impacts to offshore habitat from increased turbidity and siltation. Because the project and potential impacts are in the early investigational stages, the Commission finds that a more conservative percentage of fine-grained material is most protective of resources until a proven track record can be demonstrated. Therefore, in order to ensure that biological productivity of coastal waters and the offshore environment is maintained, the Commission finds that a maximum of 25% fine-grained material shall be placed at any of the deposition sites, as provided in **Special Condition Four (4)**. Even at 25%, the fines content is higher than most beach nourishment projects that the Commission has considered in the past. However, given the restrictions on placement timing, material testing, and the monitoring program in combination with the requirement that the applicant obtain the Executive Director's approval for any individual sand source, the Commission finds that in this case, allowing up to 25% fines would be consistent with Sections 30230, 30231, and 30240 of the Coastal Act.

The applicant has stated that only "pure beach sand" would be placed over the existing level beach as a level berm layer. Therefore, where material will be placed in the form of a level berm layer, a maximum of 10% fine-grained material shall be placed at any of the deposition sites, as detailed in Special Condition 4.

Special Condition 4 also addresses the placement of coarse-grained material at the deposition sites. Using the Wentworth Classification, cobble-sized material or larger (>64 mm; approx. = 2.5 in) shall not be placed at any of the beach deposition sites at anytime. And though it is recognized that there may be occasional deposits of coarse grained material that is gravel or pebble-sized material (2 mm – 64 mm), Special Condition 4 requires that of the coarse grained material (retained on a Standard U.S. Sieve Size No. 200), no more than five percent shall consist of gravel or pebble-sized

material. To achieve the desired gradation of material, the source may be screened out or mechanically sorted, or alternately, the source shall not be deposited at the site.

As proposed the project description does not include placement of cobble material at any of the sites; however, in the recently updated *Implementation Guidelines* (Moffatt & Nichol Engineers, February 2005), the Surfer's Point beach fill site notes that the "annual volume of material proposed for this site is approximately 116,500 cy of primarily sandy material, rather than cobble." It is unclear what "primarily" sand refers to or which classification system is being referenced with regard to the size of "cobble." However, as described above pursuant to Special Condition 4, cobble shall not be placed at any of the deposition sites. Additionally, to ensure clarity of this rule, **Special Condition One (1)** requires revised project description and plans which specifically state that cobble shall not be placed at Surfer's Point.

Debris such as trash, wood, or vegetation could also be present within the source material, especially material generated from flood control debris basins and creek desilting. In such cases, the applicant proposes to screen out the debris. Screening can be done by mechanically sifting the material through a coarse mesh to catch debris at the site, using conventional earthmoving equipment. The applicant has stated that visual inspection of the source location would be adequate to identify whether debris screening is necessary. To ensure that this task is undertaken consistent with the applicant's proposal, **Special Condition Three (3)** requires that a visual inspection be conducted for each source of material. The amount of debris within the material shall be estimated, as a percentage of the total amount of source material. Pursuant to Special Condition 3, all such material shall be retrieved and taken to a proper disposal site authorized to receive such material. The estimate and the methods of retrieval shall be reflected in the Project Notification Report, pursuant to **Special Condition Thirteen (13)**. Furthermore, to ensure that the visual inspection was successful, and to ensure that debris shall not be placed on the beach, **Special Condition Nine (9)** requires an on-site monitor, with qualifications acceptable to the Executive Director, to be present during all operations when sand is being placed on the beach to assess grain size and debris content. The monitor shall, through grab samples, visual inspection or other methods, insure that the delivered material is within the acceptable size ranges for nourishment material. If the material is not sand or is not within the acceptable size range, the monitor shall halt the placement of sand on the beach. The monitor shall also examine the material to determine presence of debris. If any debris or non-sand material is detected, the specific beach replenishment project that was using that sand material shall be halted at that site. The specific beach replenishment project shall not continue until an updated analysis of the composition of the sand material is approved by the Executive Director. Prior to resuming operations, all debris shall be removed to the maximum feasible extent.

In addition to the grain size testing, the applicant provides that all potential placement material would be required to meet specific criteria to ensure that only clean, compatible sediment would be placed on the receiver beaches. The criteria proposed are outlined in the EPA/ACOE *Inland Testing Manual* (ITM). This manual was specifically developed for dredging projects but the methodology has been extrapolated for testing of other upland source material. The ITM, however, does not require chemical testing when

there is "reasons to believe" contamination does not exist. The determination of whether there is reason to believe contamination exists is based solely on a literature search. Although a literature search can be an important tool in locating some contaminated sites, such a search would not identify all potential contaminated sites. Additionally, depending upon upland uses, it is possible that contaminants accumulated in trapped sediments could be introduced into the marine environment. The normal breakdown of such materials is bypassed when the materials are directly placed on the beach, and plants and wildlife are more likely to be adversely affected.

The potential for any, even unintentional, placement of contaminated sediment on the beach is contrary to Coastal Act Sections 30230, 30231, and 30240 and could have serious consequences to public health and safety given the extensive recreational use of these beaches. Therefore, the Commission requires that representative samples of each and every source of material proposed to be placed at the receiver sites undergo chemical testing as well as physical testing, pursuant to **Special Condition Three (3)**. Special Condition 3 requires the applicant to continue to analyze the chemical characteristics, consistent with EPA and Regional Water Quality Control Board requirements. Pursuant to Special Condition 3, samples shall be conducted at a minimum of five sampling locations at the location of the source. If the EPA or RWQCB determine that the sediment exceeds any contaminant threshold levels, the material shall not be placed at any of the deposition sites.

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 pursuant to **Special Condition Thirteen (13)**. The Project Notification Report requisite for each source must include current evidence that all local, 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. Note, though the documentation submitted by the applicant indicates that the Regional General Permit (RGP) shall apply to the individual source material, discussion with Army Corps staff indicated that this would only be for suitable beach material that meets all of the standards in the RGP, including the rule that the percentage of silts and clays not be more than 10% of that on the receiving beach. As conditioned above, the source material may have up to 25% fines pursuant to this permit.

The marine environment could also be adversely impacted as a result of the implementation of project activities by unintentionally introducing sediment, debris, or chemicals with hazardous properties. To ensure that construction material, debris, or other waste associated with project activities does not enter the water, the Commission finds **Special Condition Five (5)** is necessary to define the applicant's responsibility ensure proper disposal of solid debris and material unsuitable for placement into the marine environment. As provided under Special Condition 5, it is the applicant's responsibility to ensure that the no construction materials, debris or other waste is placed or stored where it could be subject to wave erosion and dispersion. Furthermore, Special Condition 5 assigns responsibility to the applicant that any and all construction debris, sediment, or trash shall be properly contained and removed from construction

areas within 24 hours. Further, construction equipment shall not be cleaned on the beach or in the beach parking lots.

## **2. Sensitive Species**

The deposition of beach fill within the designated project sites, which have been identified as providing habitat for sensitive wildlife species, has the potential to adversely impact those species. Sensitive species are present at each of the project sites, with the exception of the Surfer's Point deposition site. Species present in the project areas and vicinity include western snowy plover, Beldings savannah sparrow, steelhead and California grunion. The project is proposed within designated critical habitat of the western snowy plover at Goleta Beach and Hueneme Beach, and is proposed immediately adjacent of critical habitat at Ash Avenue (Exhibit 5). No vegetation is found on the beach disposal sites since these are sandy beach locations subject to wave action.

The applicant has provided baseline biological resources information in its Final Mitigated Negative Declaration for the South Central Coast Beach Enhancement Program (Chambers Group, 2001). Additionally, the applicant has proposed a biological and shoreline monitoring program (Exhibit 9) to evaluate any changes to the biological resources as a result of the project. Depending on the sensitivity of the resources at each site, the applicant has proposed a variety of project parameters such as placement location, timing, method of placement, volume, and maximum fine-grained content to minimize potential impacts.

To ensure that individual projects are protective of sensitive species, **Special Condition Two (2)** clarifies the sensitive species timing constraints at each site. Due to the proximity to critical habitat and the potential to impact western snowy plover, any placement activities at Goleta Beach, Ash Avenue, and Hueneme Beach are prohibited on any part of the beach or shorefront when snowy plover are present. This shall be determined pursuant to **Special Conditions Eight (8) and Nine (9)** which require the applicant to retain a qualified biologist or environmental resource specialist to conduct a survey of the project site prior to commencement to evaluate whether sensitive species exhibit nesting or reproductive behavior and also be present on-site during all placement activities, including construction, maintenance, or any grading and grooming activities on the beach. Project activities, including construction, reconstruction, maintenance, other placement activities, or grading or grooming of the beach, shall not occur until any sensitive species have left the project area or its vicinity. In the event that any sensitive wildlife species 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.

Similar to the timing and survey requirements above, **Special Condition Two (2)** requires that any placement activities at Goleta Beach are prohibited on any part of the beach or shorefront when Beldings savannah sparrow are present. This is also accomplished pursuant to **Special Conditions Eight (8) and Nine (9)** which require the applicant to retain a qualified biologist or environmental resource specialist to conduct a

survey of the project site prior to commencement to evaluate whether sensitive species exhibit nesting or reproductive behavior and also be present on-site during all placement activities, including construction, maintenance, or any grading and grooming activities on the beach.

Furthermore, in order to ensure that placement activities, including construction, maintenance, or any grading and grooming activities on the beach, do not adversely affect California grunion spawning events, **Special Condition Two (2)** provides that project activities shall not be allowed on any part of the beach and shoreline when California grunion are present during any run periods and corresponding egg incubation periods. The seasonally predicted protected grunion run period and egg incubation period extends April through August. To ascertain presence of California grunion, **Special Condition Eight (8)**, the applicant shall retain a qualified biologist or environmental resource specialist to conduct a survey of the Goleta Beach, Ash Avenue, Oil Piers, and Hueneme Beach project sites, 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 lifestage, 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.

**Special Condition Nine (9)** requires the specialist to be present during all project activities at Goleta Beach, Ash Avenue, and Hueneme Beach. The monitor shall 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. The revised, or supplemental, program shall be processed as an amendment to 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 Condition Eleven (11)** requires pre- and post-construction monitoring of the shoreline project areas, including beach width and sand volume changes. This information will be important to assess the project and its potential to affect plover habitat as well as evaluate the overall success of the project to meet its goals. The project is limited term and expires five years from the date of Commission approval, as described in **Special Condition Fifteen (15)**. 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 any ensuing years. Three beach replenishment sites are within critical 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, **Special Condition Five (5)** requires the applicant to regrade the deposition area to natural beach contours when vertical scarps occur and prior to Memorial Day when the material is placed in the form of a sand dike, consistent with the timing restrictions described in **Special Condition Two (2)**.

Additionally, as stated above, the applicant is proposing to implement a long-term biological monitoring program. Consistent with this proposal, **Special Condition Twelve (12)** details the requirements of a Long-term Biological Monitoring Program in substantial conformance with Section 3.2.3 of the final "Implementation Guidelines and Compliance Protocol" (Moffatt & Nichol, February 2005; Exhibit 9). The program shall include specific requirements for turbidity monitoring, creek or slough mouth monitoring, and kelp, surfgrass, eelgrass, and reef habitat, as applicable to the proposed site. The monitoring program shall specifically identify the criteria that would indicate the program's effectiveness/success in avoiding adverse impacts to biological resources. The criteria shall be specific enough to provide a mechanism to determine when/how a project results in adverse impacts to biological resources at each site and a mechanism for making adjustments to future replenishment projects.

**Special Condition Thirteen (13)** requires the submittal of any required authorizations or discretionary permits from other agencies. In particular, the project is currently undergoing review by the Army Corps of Engineers, State Water Resources Control Board, and State Lands Commission. Should any project modifications be required as a result of other permits, an amendment to this permit may be necessary. **Special Condition Fourteen (14)** notifies the applicant that the subject permit does not cover the development that provides the sand source for beach replenishment, such as dredging or new construction. Those projects must receive separate coastal development permits when the source is obtained in the coastal zone.

However, the Commission is concerned that, as proposed, the new projects submitted under the subject permit would be automatically approved 30 days after submittal of a New Project Submittal Package. As proposed and conditioned, adequate information will be available to the Executive Director to analyze and evaluate new beach sand replenishment projects within the parameters of the proposed permit. Beach replenishment is an important part of the preservation and enhancement of coastal resources, and the Executive Director will endeavor to review new projects within 30 days of receiving a New Project Submittal Package. However, because there may be circumstances under which it may take longer than 30 days to respond to the City, **Special Condition Thirteen (13)** states that the Executive Director will review the New Project Submittal Package within 30 days of receipt of the Package unless there are unusual circumstances. Within this time period, the executive director shall provide a written response of 1) approval of the project; or, 2) a requirement that the project receive a new, separate coastal development permit; or 3) a request for additional information; or 4) a statement that additional time to review the project will be necessary and an indication of the anticipated response date. Written approval from the Executive

Director is required prior to the initiation of any work. Thus, as conditioned, the Commission can be assured that no new beach replenishment will occur without the review and approval of the Executive Director.

### 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 Ten (10)**. Special Condition 10 requires the applicant, prior to placement of any dredged material from estuarine habitats, including but not limited to Goleta Slough, Carpinteria Marsh, Mugu Lagoon, lower Callegus Creek and Ormond Slough, at any beach replenishment site, to undertake a survey of the project area and any associated 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.

## F. HAZARDS

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. For instance, erosion has occurred at the subject beaches where beach nourishment is proposed, and erosion is one form of potential geologic hazard. However, the applicant will not increase erosion hazards by increasing the size of beaches beyond pre-existing conditions, and increasing the beach size may decrease risks to property. 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.

Another potential hazard is associated with the Surfer's Point stockpile site. The applicant has indicated that the potential stockpile and staging area at Surfers Point is exposed to direct wave action November through April, and would not be used when their consultants predict wave exposure. The site is less than one acre with a maximum capacity not more than 5,000 cubic yards of material. Though an alternative stockpile site evaluation was not provided, the applicant asserts that this is the only feasible stockpile location in the area. Given that the other stockpile sites are located up to two miles from the deposition site, it is not clear that there are no other feasible alternative locations. In any event, the applicant has stated that the project could still be carried out, but the material would need to be taken directly from the source site to the deposition site. Given the risk of dispersal, contrary to the proposed project parameters, as a result of direct wave action to the stockpiled material, **Special Condition One (1)** requires the applicant to eliminate this stockpile site from the project description and project plans. It is not consistent with the protection of resources to allow stockpiling of material within the wave uprush zone.

Because there remains an inherent risk to development along the shoreline, **Special Condition Thirteen (13)** requires the applicant to submit a signed document which shall 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.

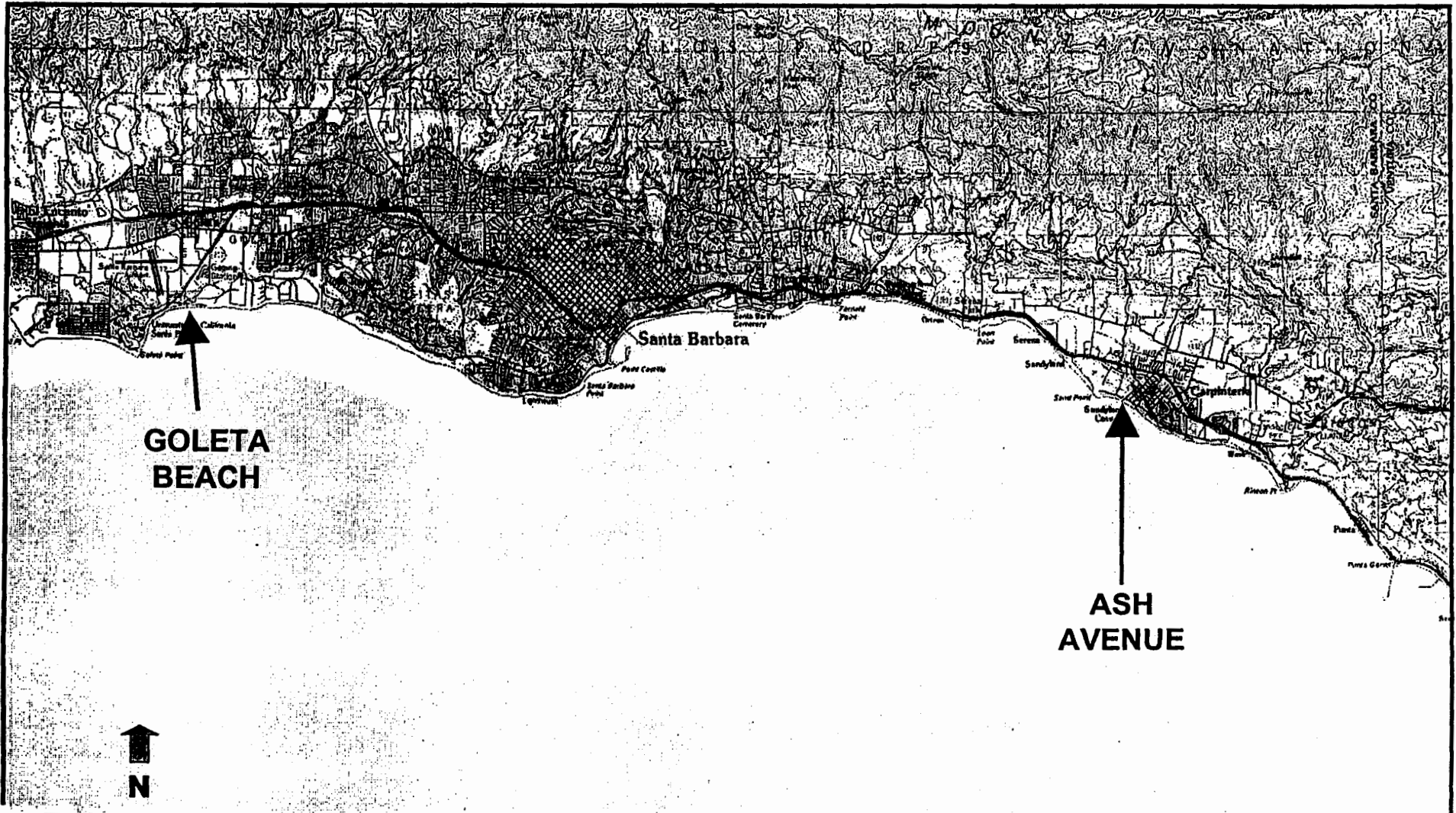
## **G. LOCAL COASTAL PROGRAM**

The proposed project sites are located within the County of Santa Barbara, City of Carpinteria, County of Ventura, City of Ventura, and City of Port Hueneme limits, but fall 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 a Local Coastal Program (Land Use Plan and Implementation Ordinances) for each of the subject local governments. The LCPs 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 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, which the activity may have on the environment.

The Commission finds that, the proposed project, as conditioned will not have 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.



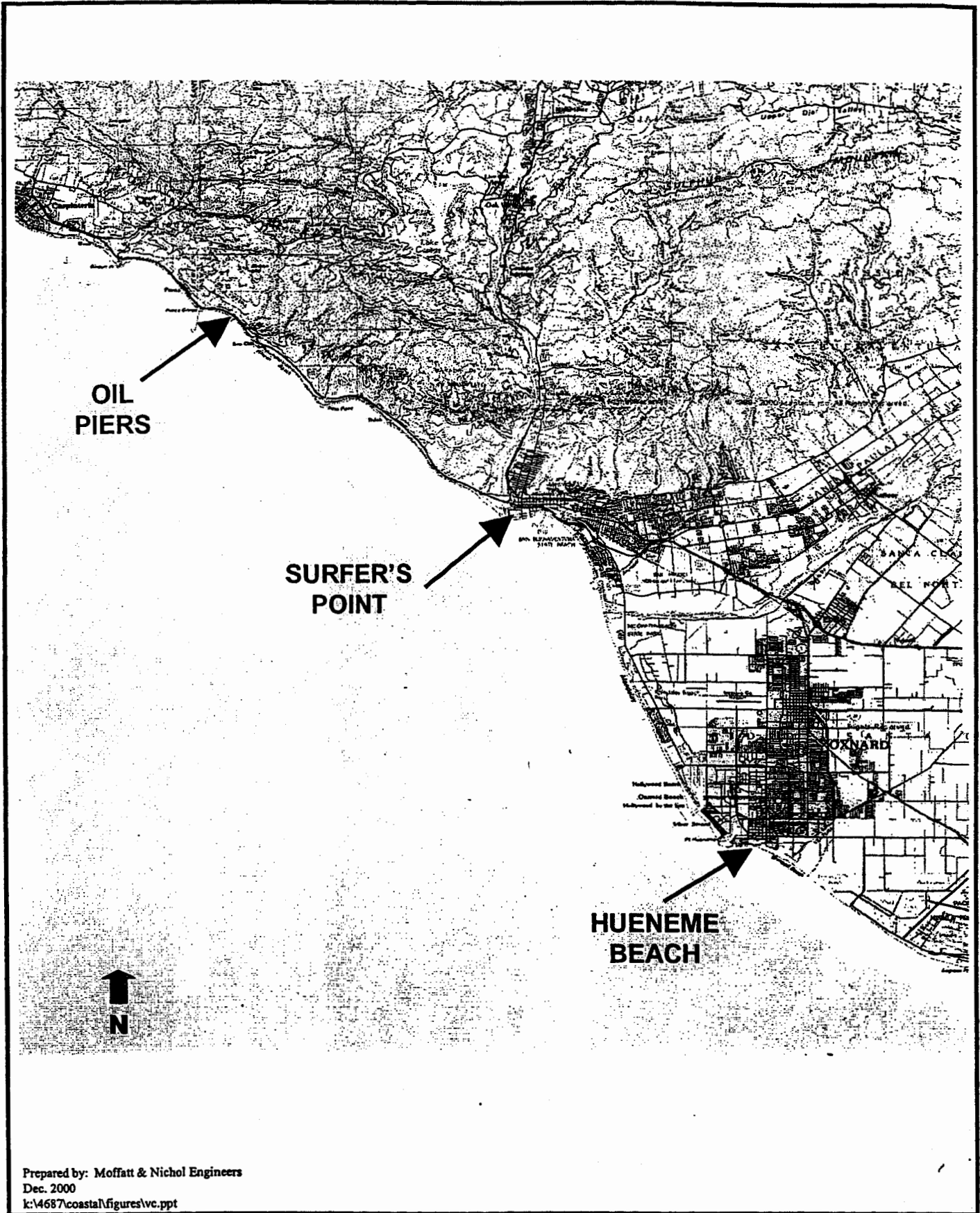
Prepared by: Moffatt & Nichol Engineers  
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**EXHIBIT 1a**  
**4-02-074**  
**Regional Map: Santa**  
**Barbara County**

**SOUTH CENTRAL COAST BEACH**  
**ENHANCEMENT PROGRAM**

Locations of Proposed Beach Fill Sites in Santa Barbara County

Figure  
 1-1



**SOUTH CENTRAL COAST BEACH  
ENHANCEMENT PROGRAM**

**Locations of Proposed Beach F  
in Ventura County**

<b>EXHIBIT 1b</b>
<b>4-02-074</b>
<b>Regional Map: Ventura County</b>

994

SEE 984 MAP

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SEE 995 MAP

SUBSISTO

MAP 996  
SEE 996 MAP

CATHEDRAL OAKS RD  
93117

GOLETA

SANTA BARBARA

93111

SANTA BARBARA COUNTY

93110

93106

PROJECT SITE

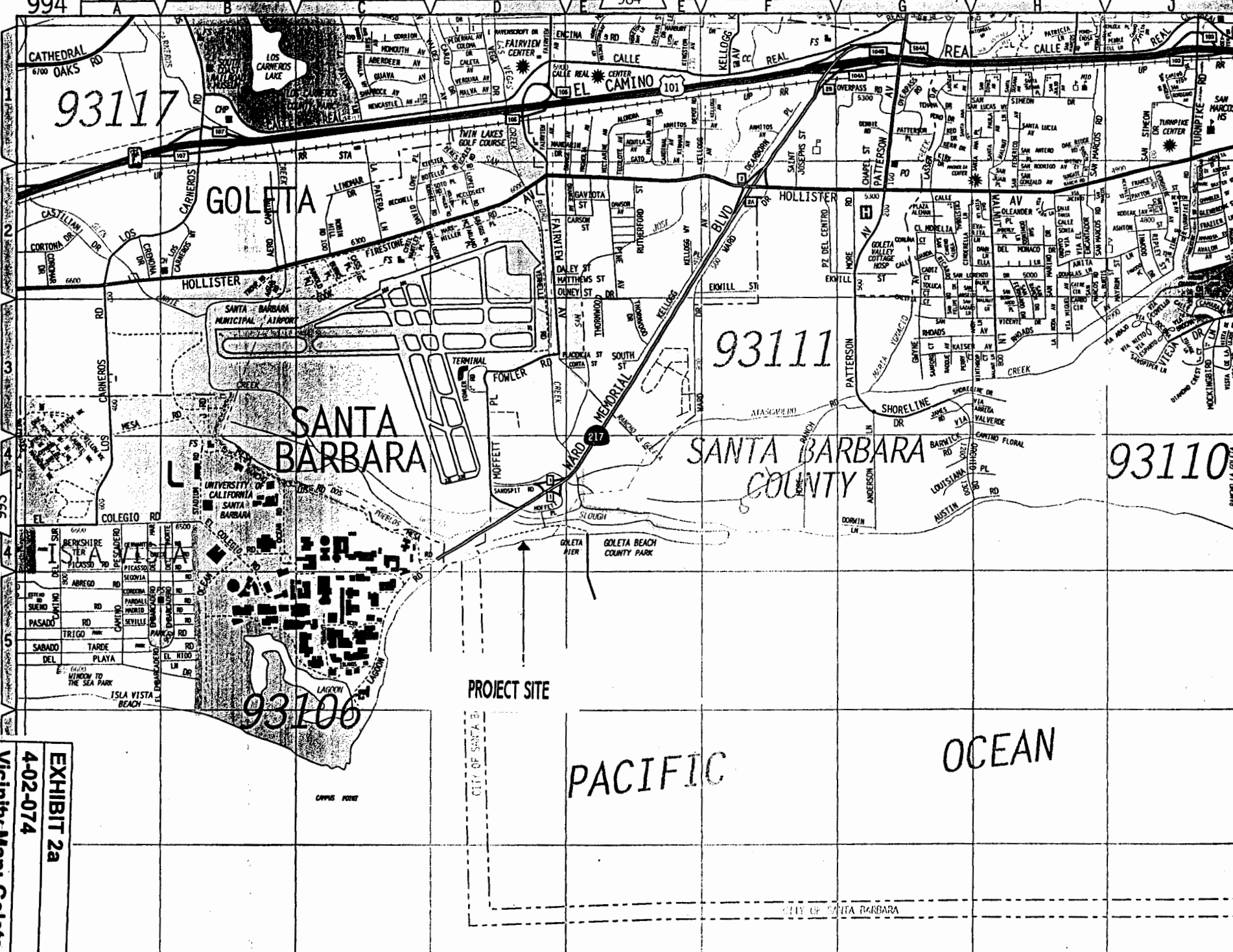
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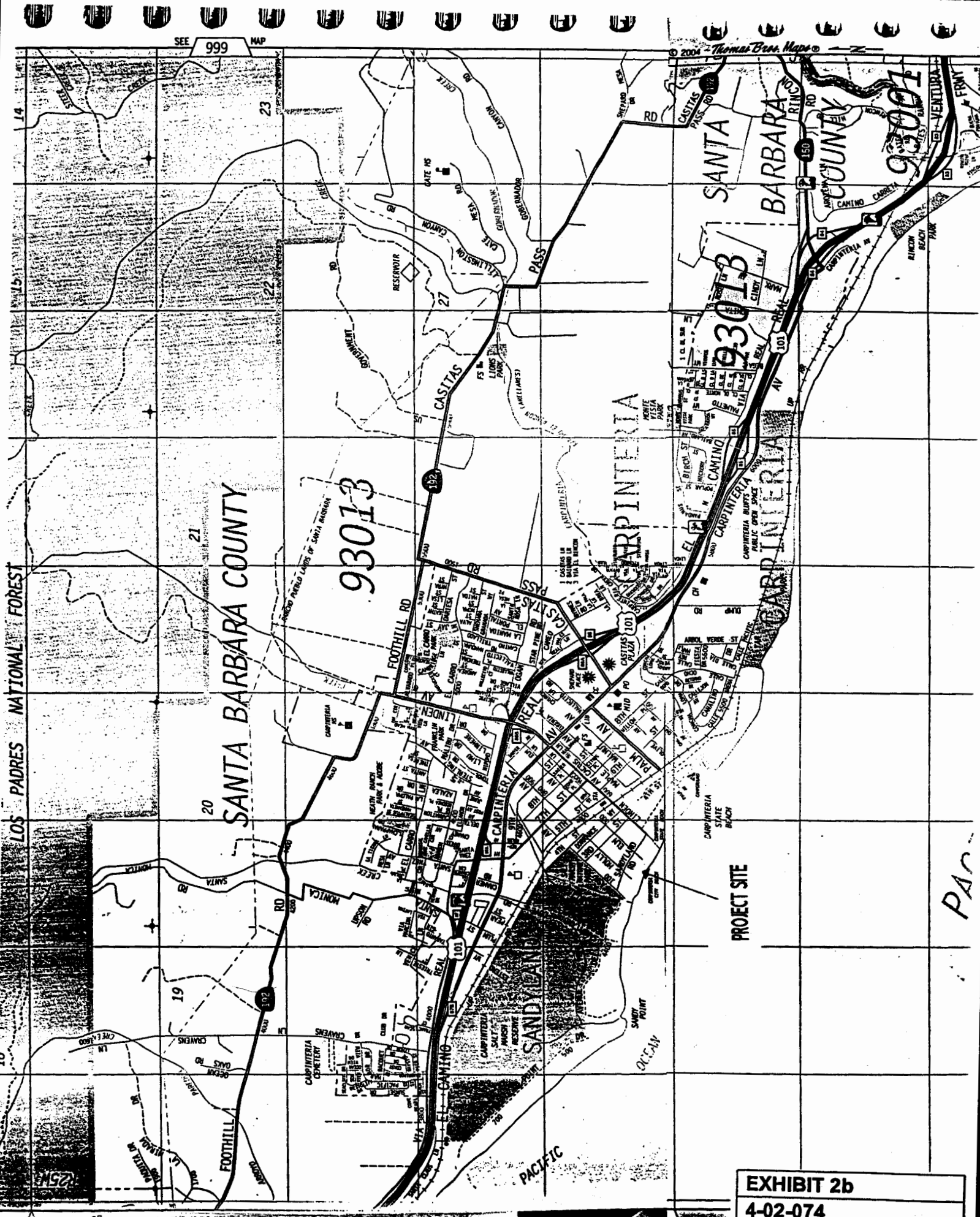
OCEAN

CITY OF SANTA B

CITY OF SANTA BARBARA

EXHIBIT 2a  
4-02-074  
Vicinity Map: Goleta Beach





**EXHIBIT 2b**  
**4-02-074**  
**Vicinity Map: Ash Avenue**

LOS PADRES NATIONAL FOREST

SANTA BARBARA COUNTY

93013

CARPINTERIA

SANTA BARBARA COUNTY

PROJECT SITE

PACIFIC

SEE MAP 999

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93001

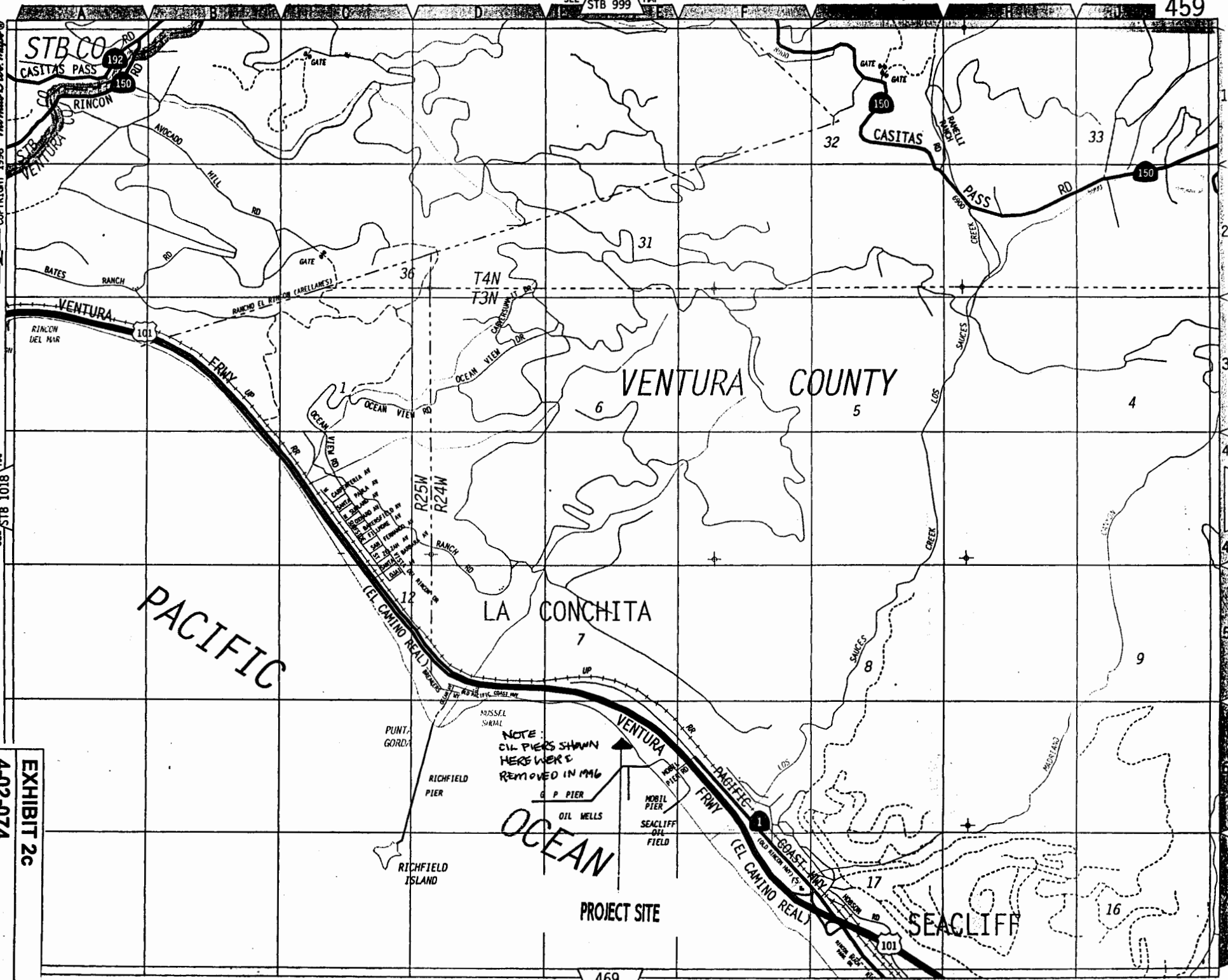
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1" = 1 MILE



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SEE STB 1018 MAP

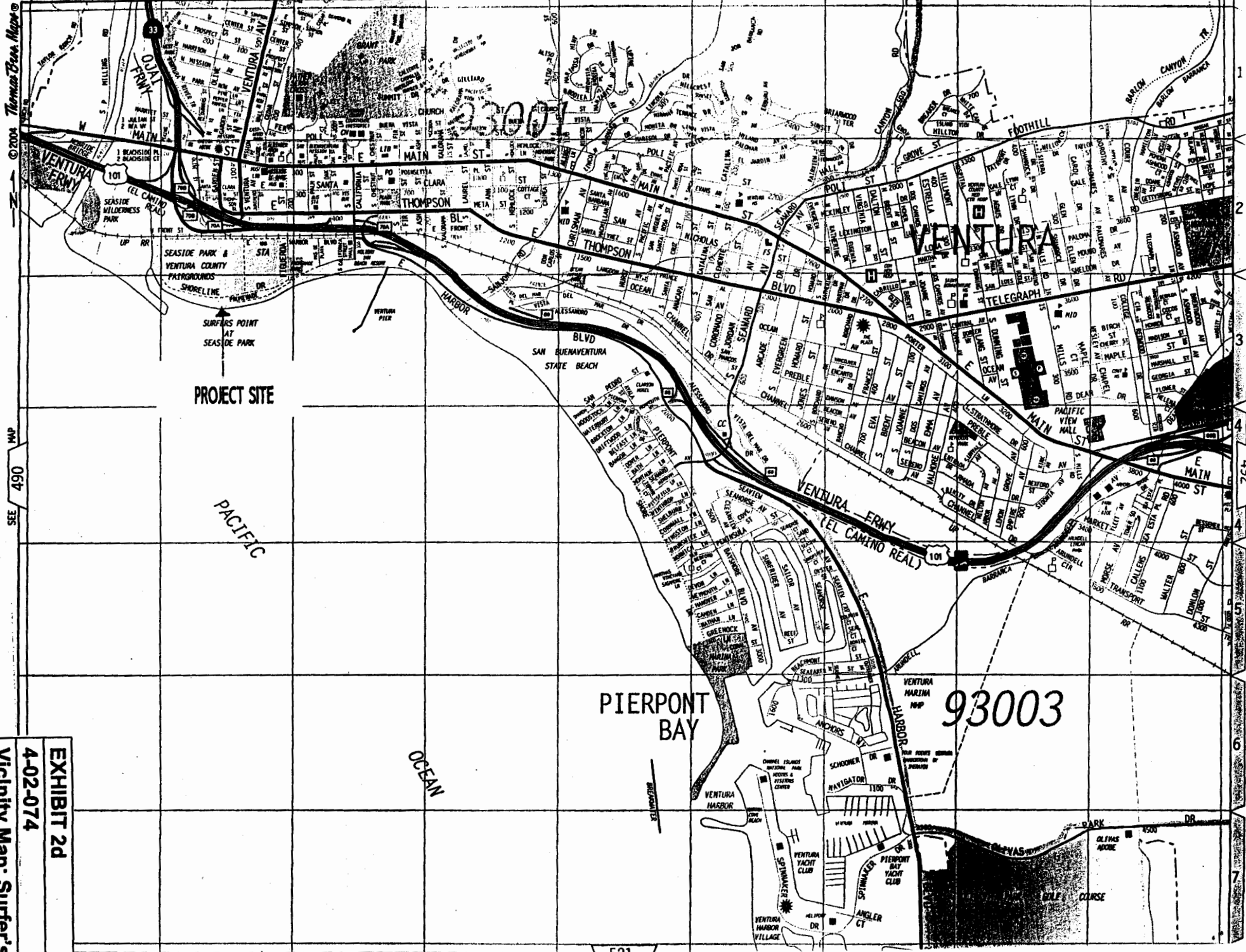


**EXHIBIT 2c**  
**4-02-074**  
**Vicinity Map: Oil Piers**

NOTE:  
 OIL PIERS SHOWN  
 HERE WERE  
 REMOVED IN 1966

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SEE 490 MAP



PROJECT SITE

SURFERS POINT AT SEASIDE PARK

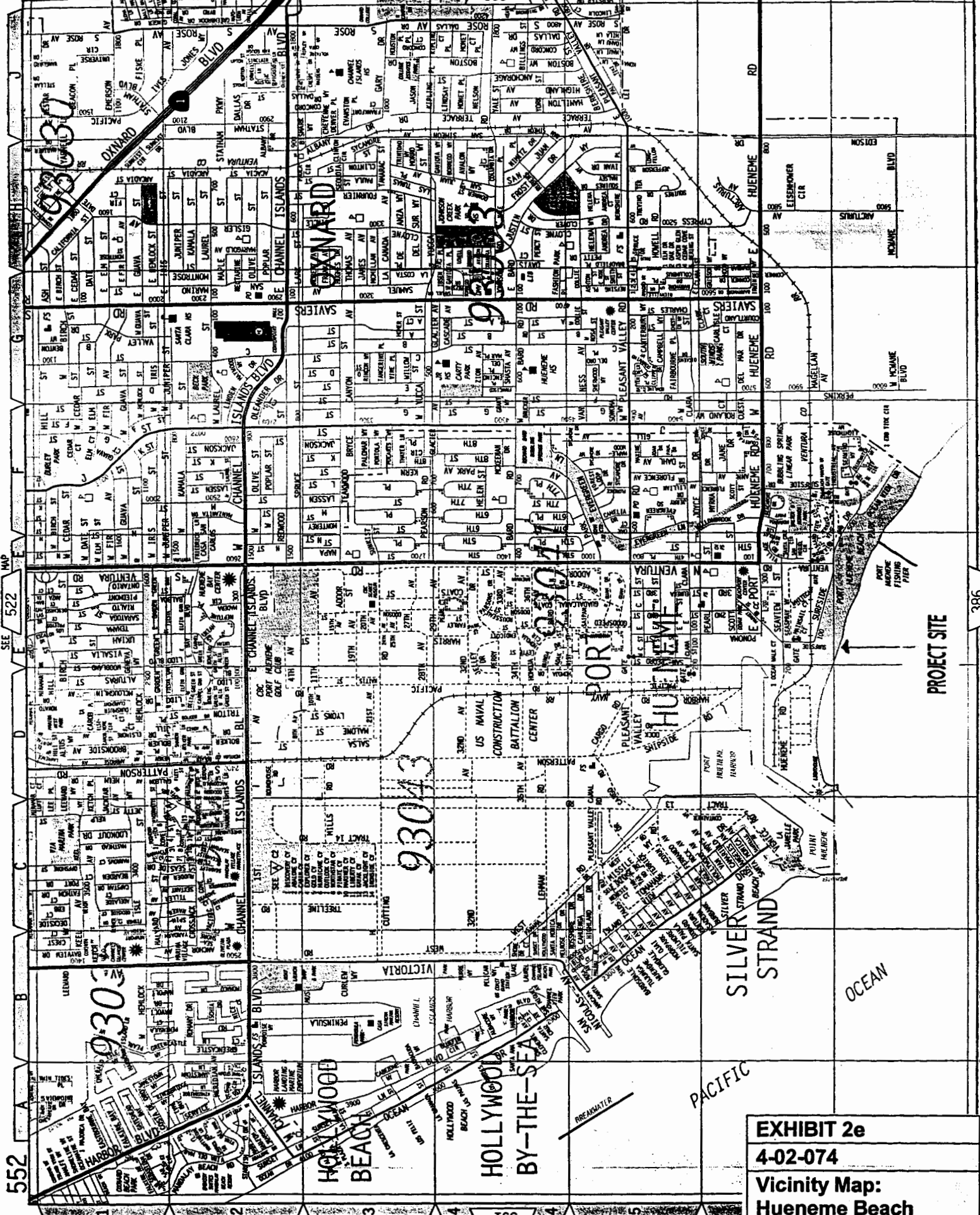
PACIFIC

PIERPONT BAY

93003

OCEAN

EXHIBIT 2d  
 4-02-074  
 Vicinity Map: Surfer's Point



552

**EXHIBIT 2e**  
**4-02-074**  
**Vicinity Map:**  
**Hueneme Beach**

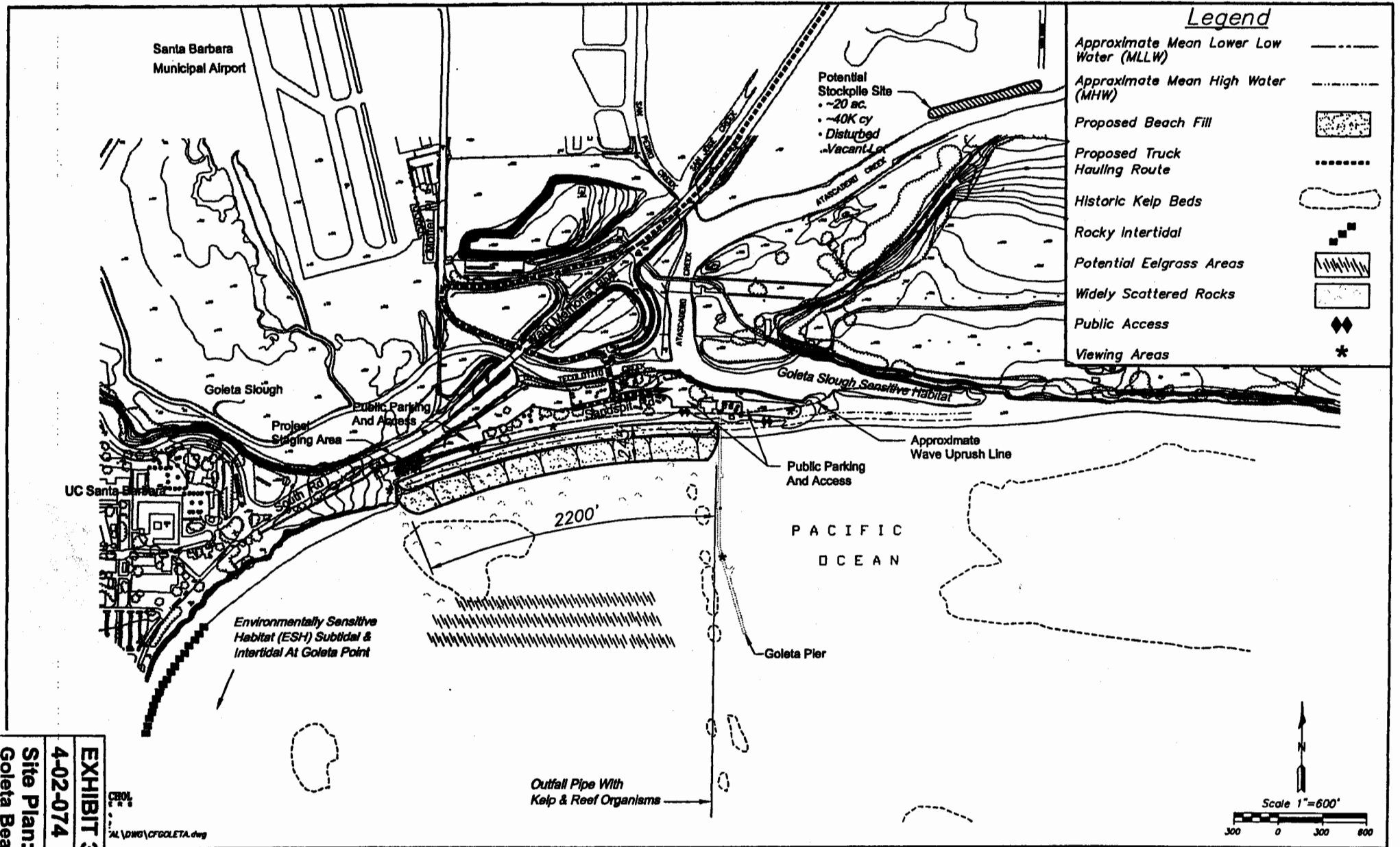


EXHIBIT 3a  
 4-02-074  
 Site Plan:  
 Goleta Beach

SOUTH CENTRAL COAST  
 BEACH ENHANCEMENT PROGRAM

GOLETA BEACH - BEACH FILL PLAN

Figure  
 3-2

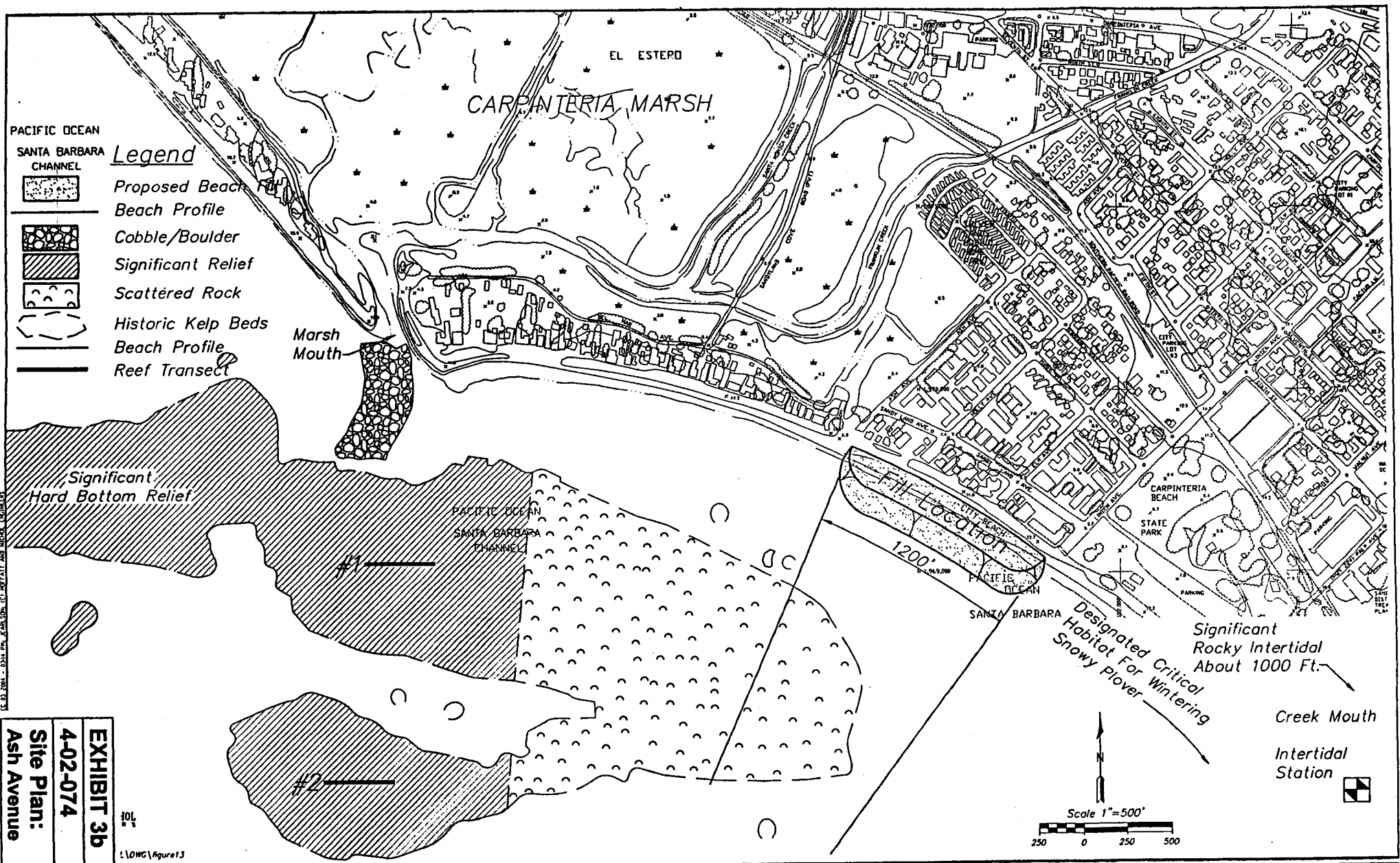


EXHIBIT 3b  
4-02-074  
Site Plan:  
Ash Avenue

SOUTH CENTRAL COAST  
BEACH ENHANCEMENT PROGRAM

ASH AVENUE - MONITORING PLAN

Figure  
13

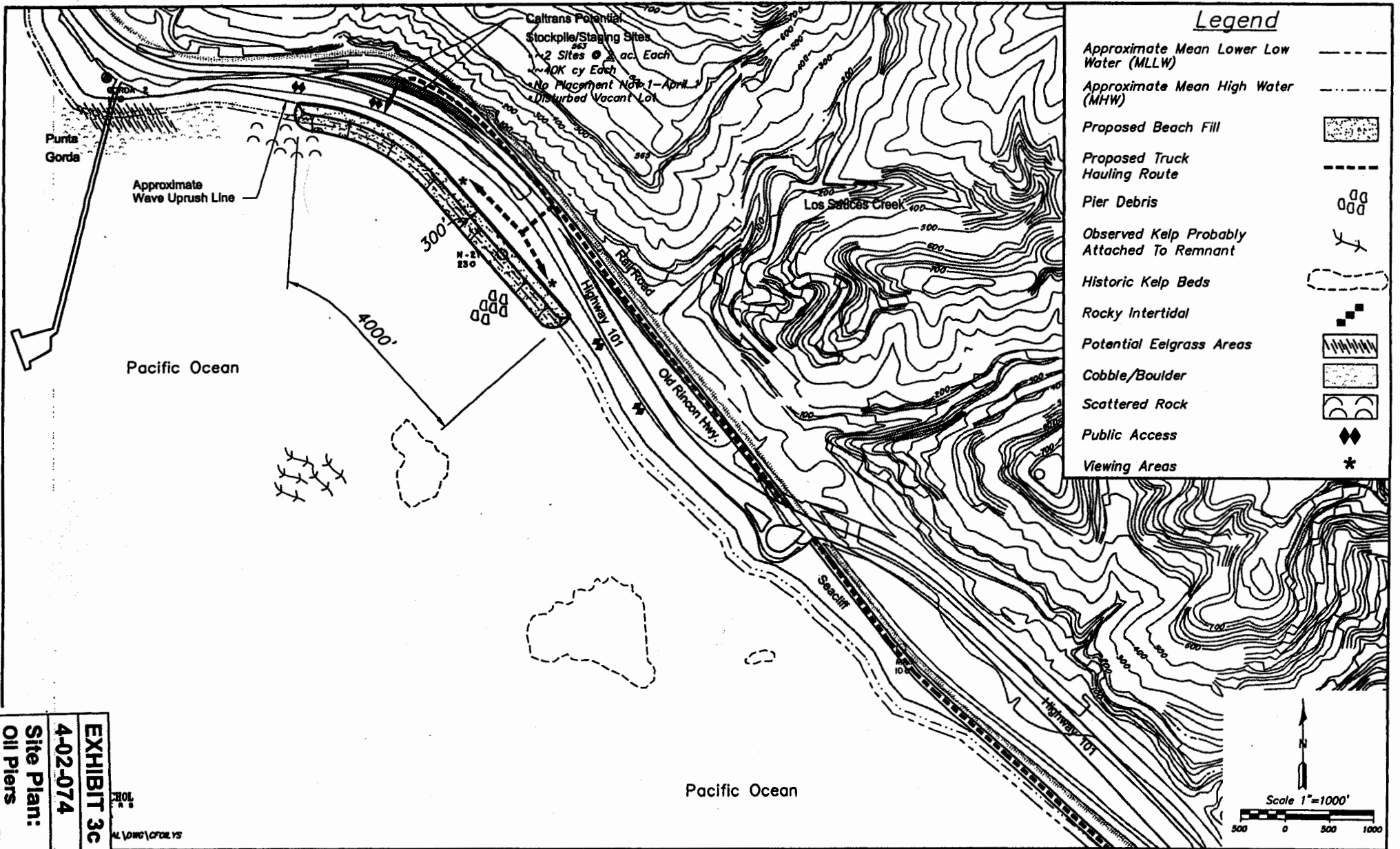
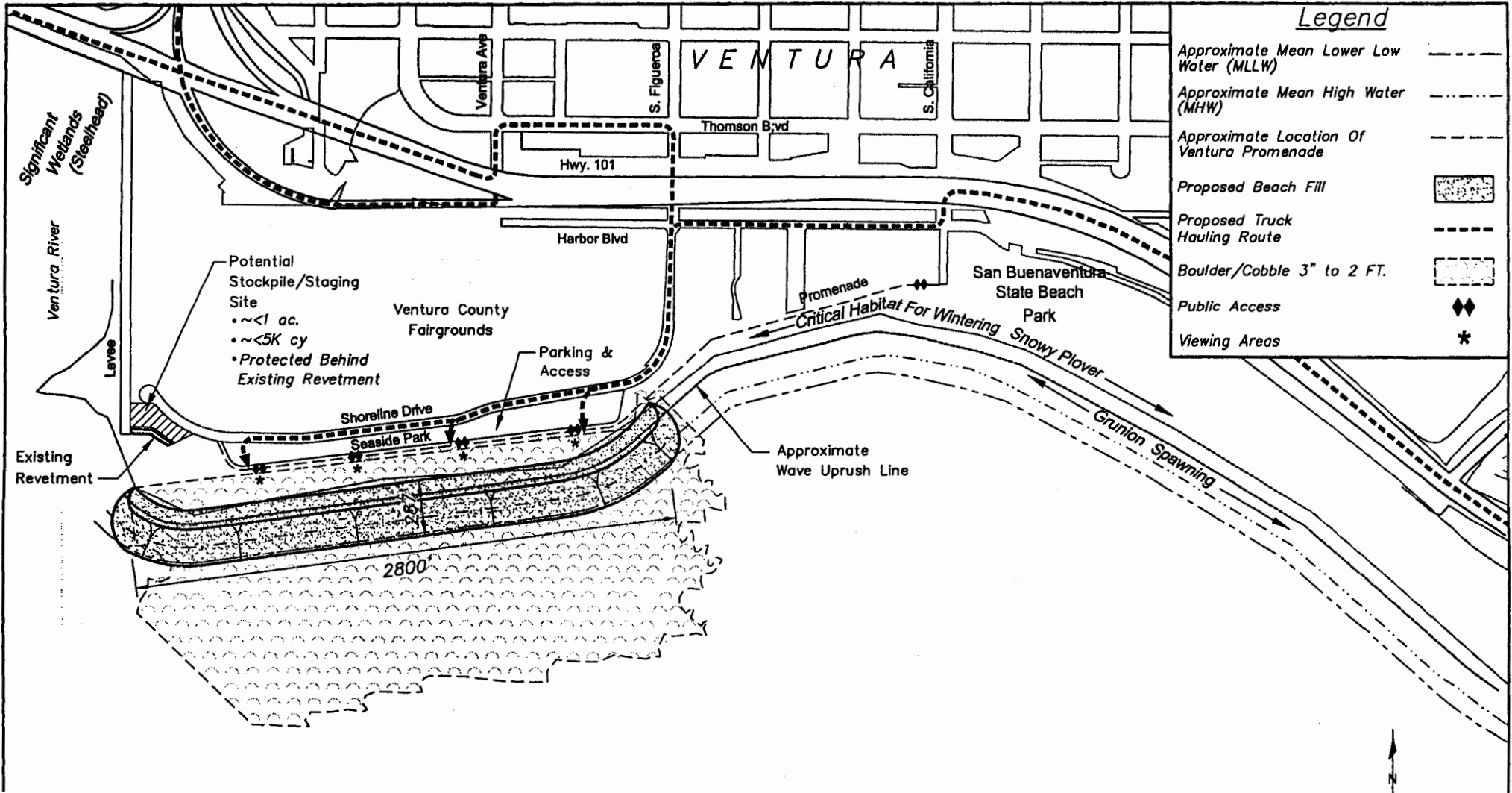


EXHIBIT 3c  
 4-02-074  
 Site Plan:  
 Oil Piers

SOUTH CENTRAL COAST  
 BEACH ENHANCEMENT PROGRAM

OIL PIERS - BEACH FILL PLAN

Figure  
 3-8



**Legend**

Approximate Mean Lower Low Water (MLLW)	- - - - -
Approximate Mean High Water (MHW)	- · - · -
Approximate Location Of Ventura Promenade	- - - - -
Proposed Beach Fill	[Stippled Area]
Proposed Truck Hauling Route	- - - - -
Boulder/Cobble 3" to 2 FT.	[Dotted Area]
Public Access	◆ ◆
Viewing Areas	*

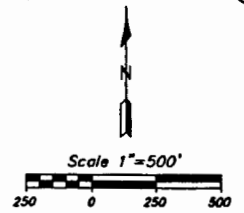
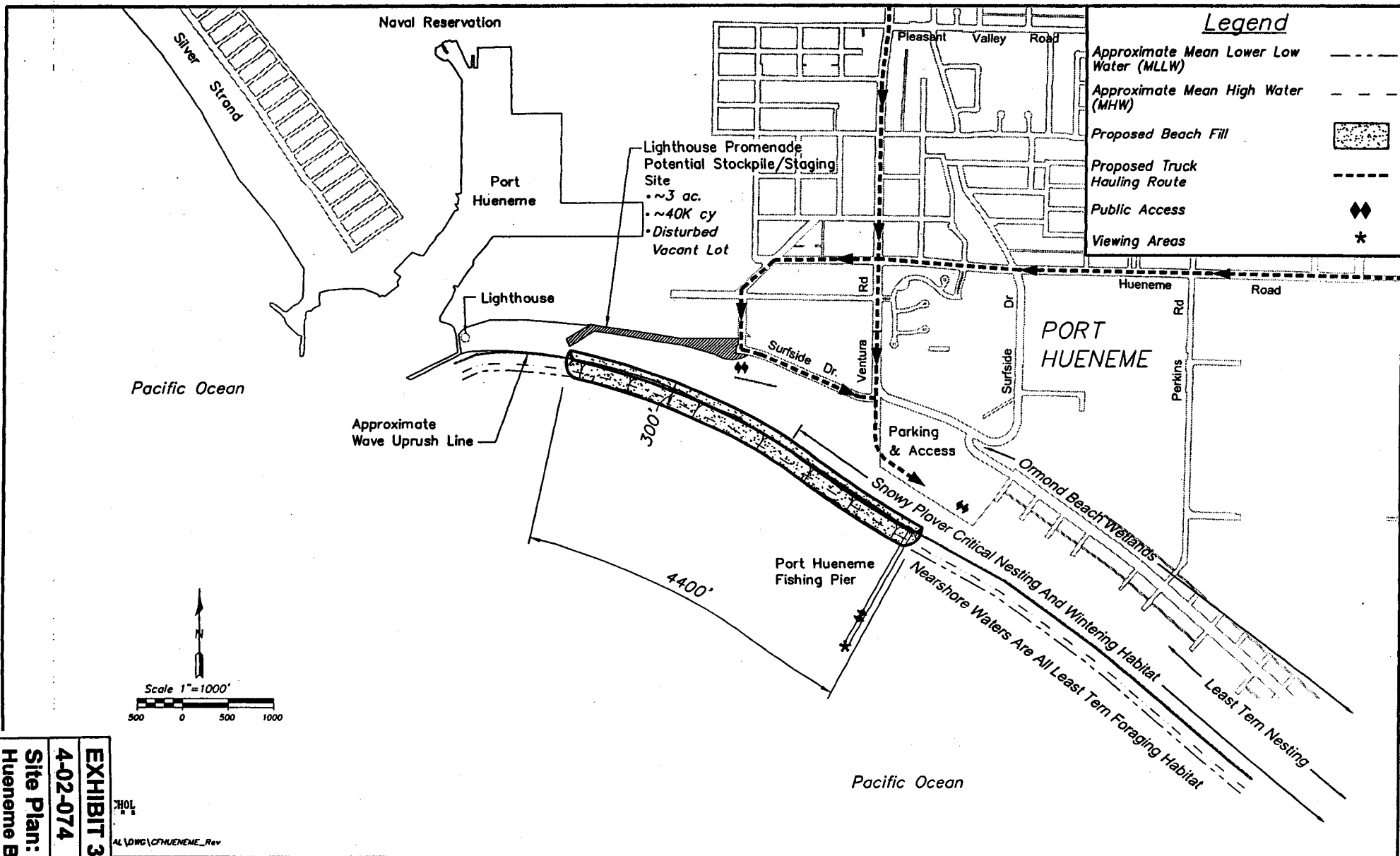


EXHIBIT 3d  
4-02-074  
Site Plan:  
Surfer's Point

SOUTH CENTRAL COAST  
BEACH ENHANCEMENT PROGRAM

SURFER'S POINT - BEACH FILL PLAN

Figure  
3-11



**Legend**

- Approximate Mean Lower Low Water (MLLW)
- Approximate Mean High Water (MHW)
- Proposed Beach Fill
- Proposed Truck Hauling Route
- Public Access
- Viewing Areas

Scale 1" = 1000'

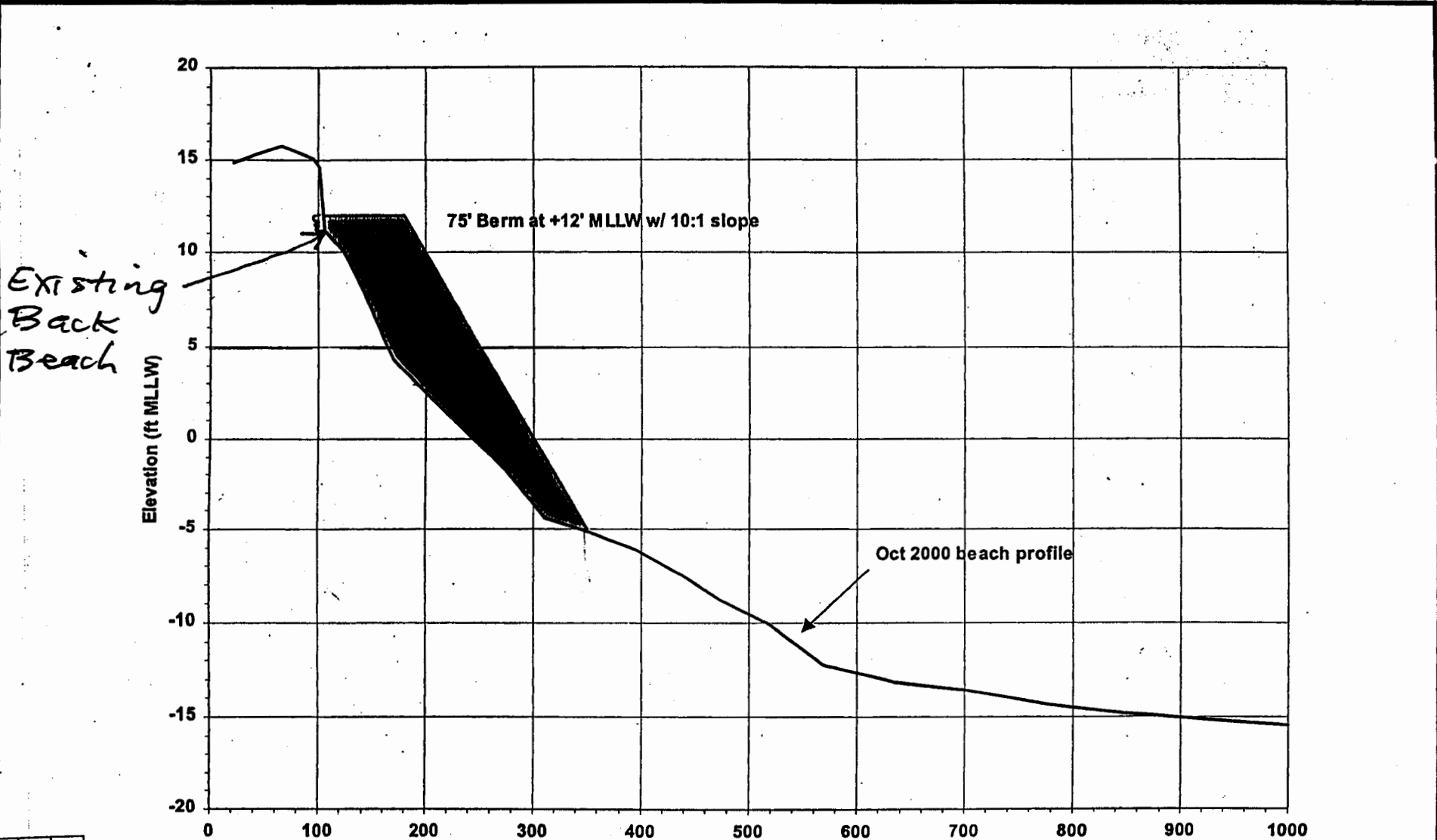
**EXHIBIT 3e**  
**4-02-074**  
**Site Plan:**  
**Huenebe Beach**

SOUTH CENTRAL COAST  
 BEACH ENHANCEMENT PROGRAM

HUENEBE BEACH - BEACH FILL PLAN

Figure  
 3-17





Existing Back Beach

75' Berm at +12' MLLW w/ 10:1 slope

Oct 2000 beach profile

EXHIBIT 4a  
 4-02-074  
 Beach Fill Section:  
 Goleta Beach

Moffatt & Nichol Engineers  
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**SOUTH CENTRAL COAST BEACH  
 ENHANCEMENT PROGRAM**

**Goleta Beach Typical Section Of Beach Berm Design**

**Figure  
 3-3**

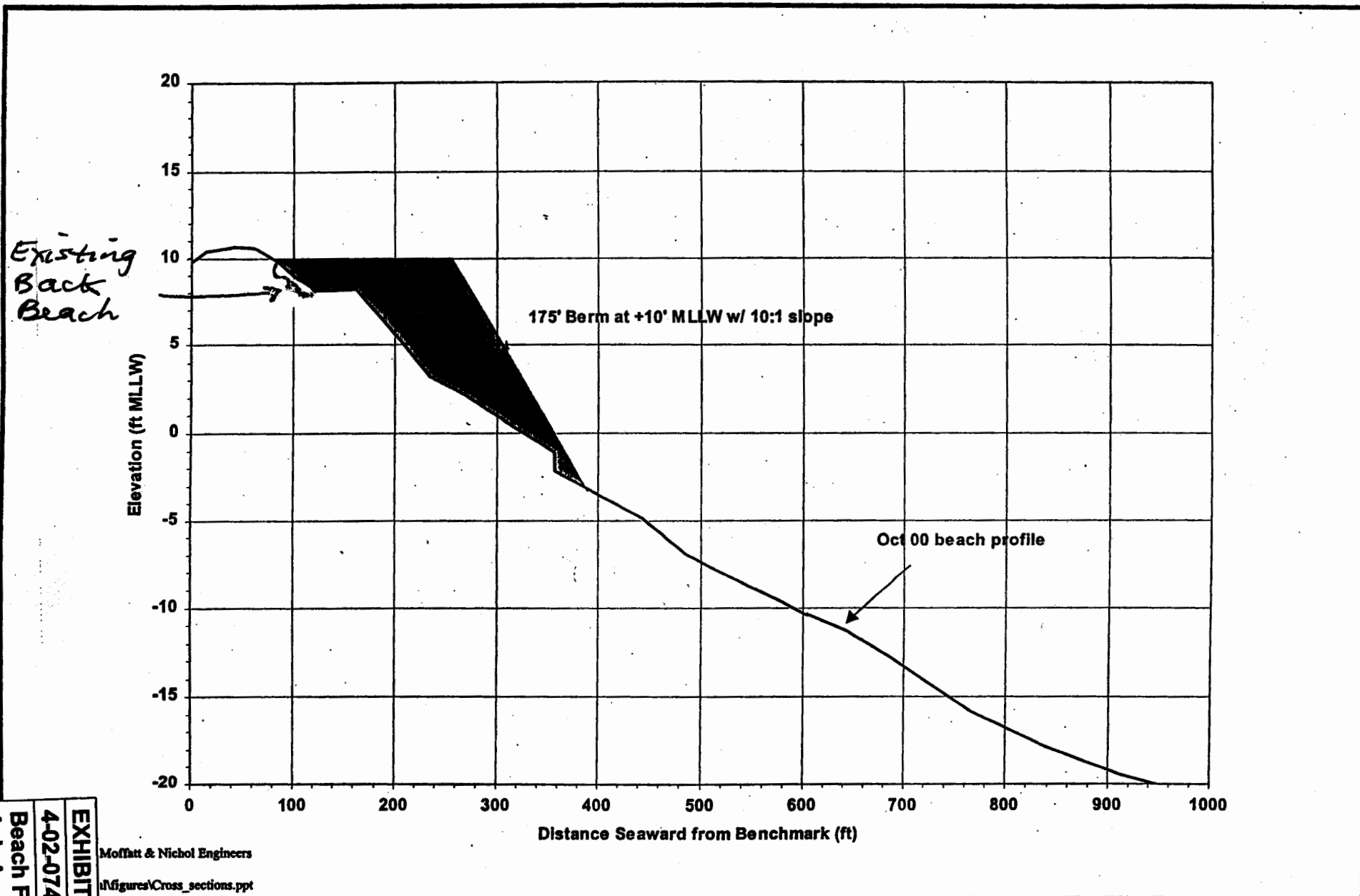


EXHIBIT 4b  
4-02-074  
Beach Fill Section:  
Ash Avenue

Moffatt & Nichol Engineers  
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**SOUTH CENTRAL COAST BEACH  
ENHANCEMENT PROGRAM**

**Ash Avenue Typical Section Of Beach Berm Design**

**Figure  
3-6**

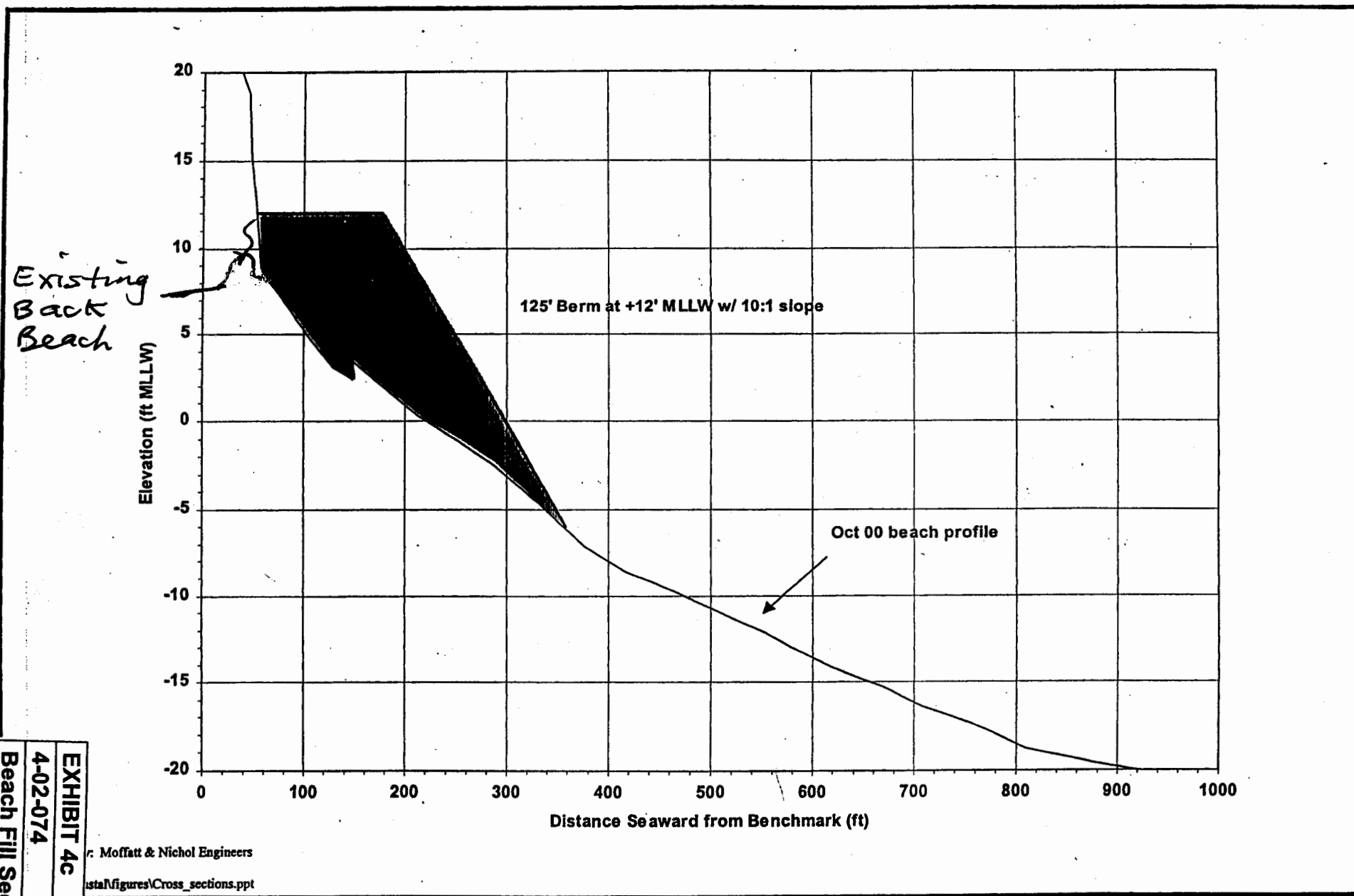


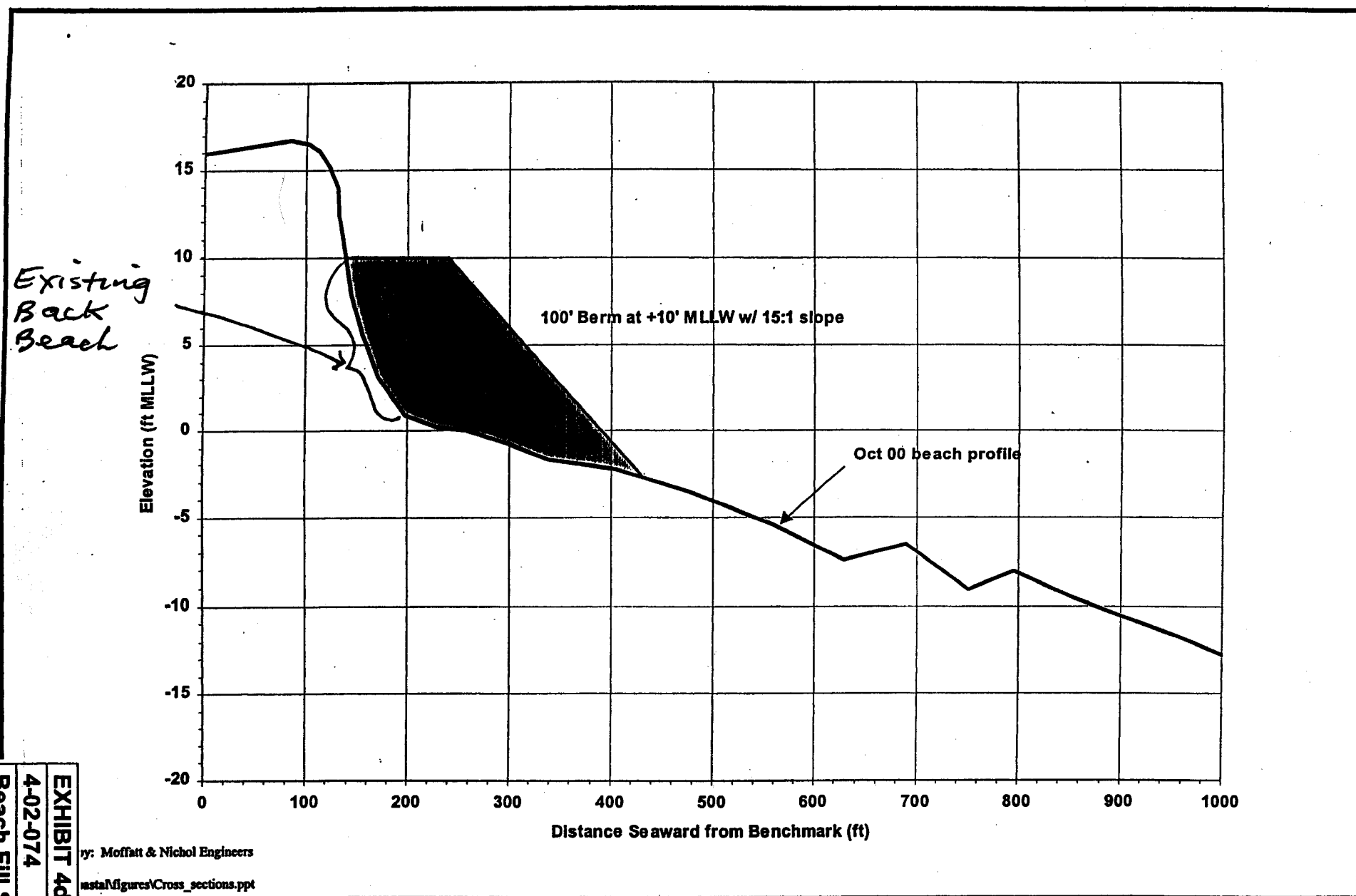
EXHIBIT 4c  
4-02-074  
Beach Fill Section:  
Oil Piers

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**SOUTH CENTRAL COAST BEACH  
ENHANCEMENT PROGRAM**

**Oil Piers Typical Section Of Beach Berm Design**

**Figure  
3-9**



by: Moffatt & Nichol Engineers  
meta\figures\Cross\_sections.ppt

EXHIBIT 4d  
4-02-074  
Beach Fill Section:  
Surfer's Point

**SOUTH CENTRAL COAST BEACH  
ENHANCEMENT PROGRAM**

Surfer's Point Typical Section Of Beach Berm Design

Figure  
3-12

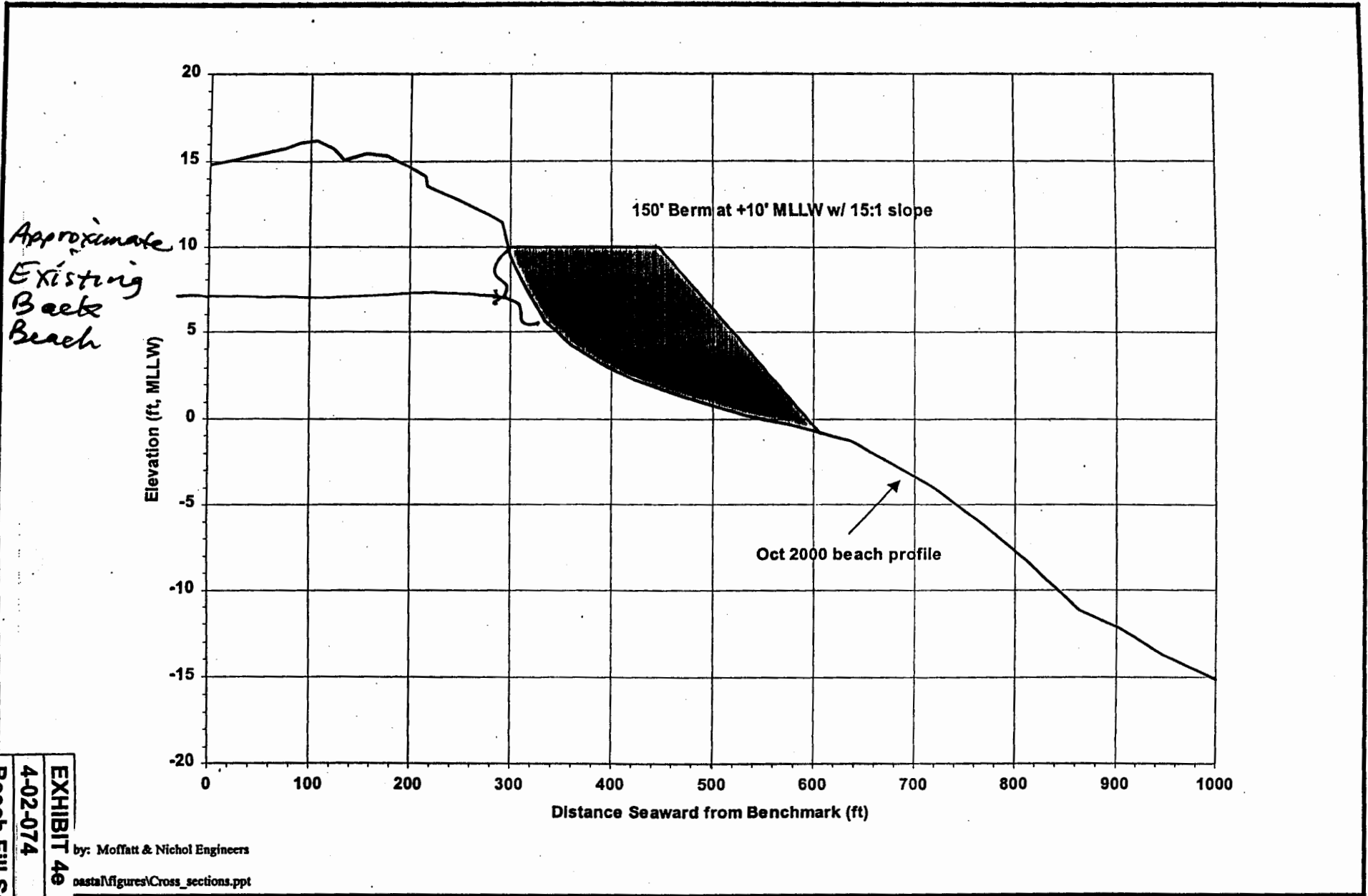


EXHIBIT 4e  
4-02-074  
Beach Fill Section:  
Hueneme Beach

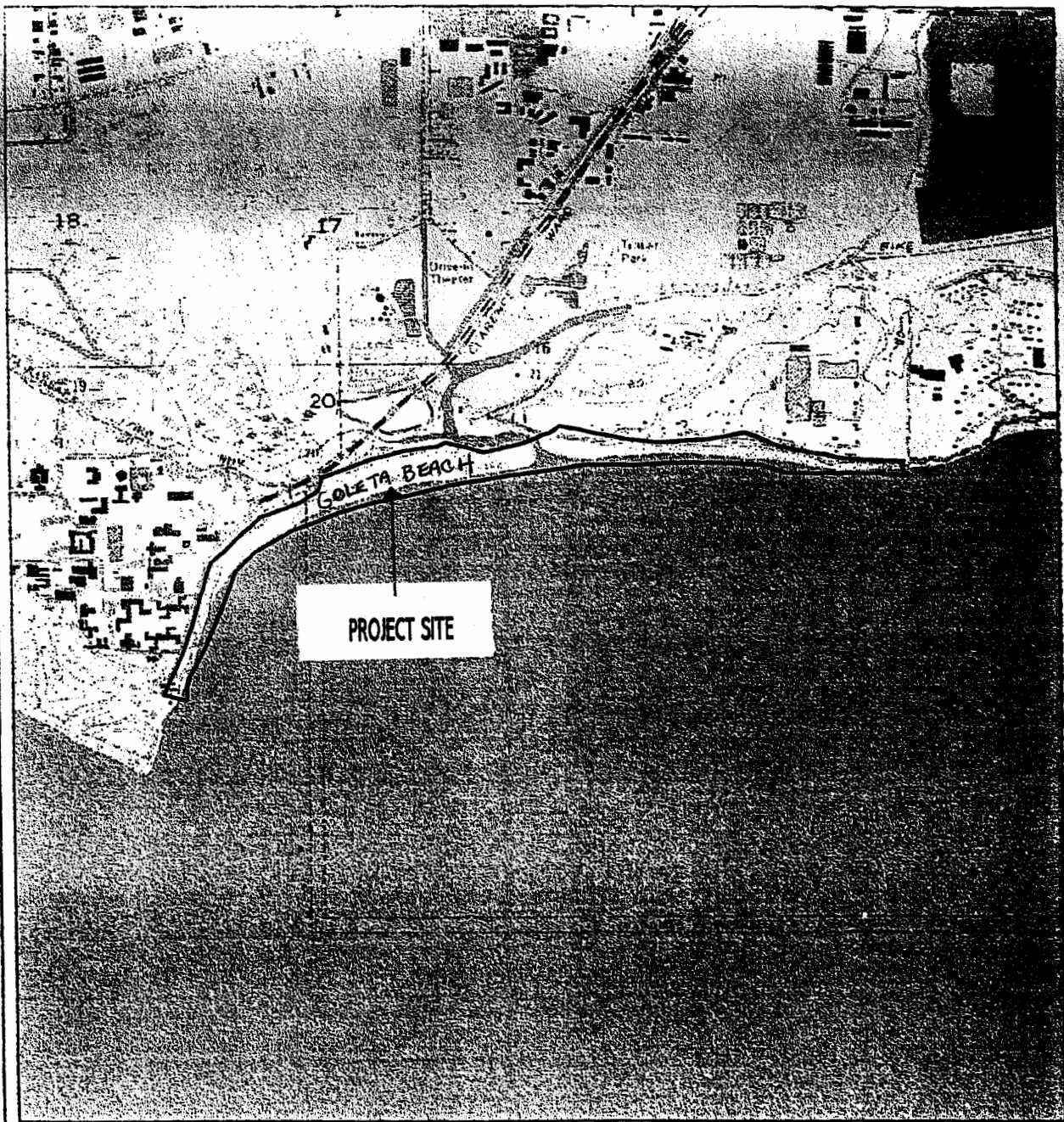
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**SOUTH CENTRAL COAST BEACH  
ENHANCEMENT PROGRAM**

**Hueneme Beach Typical Section Of Beach Berm Design**

**Figure  
3-18**

Figure L-113. Goleta Beach (CA-89)

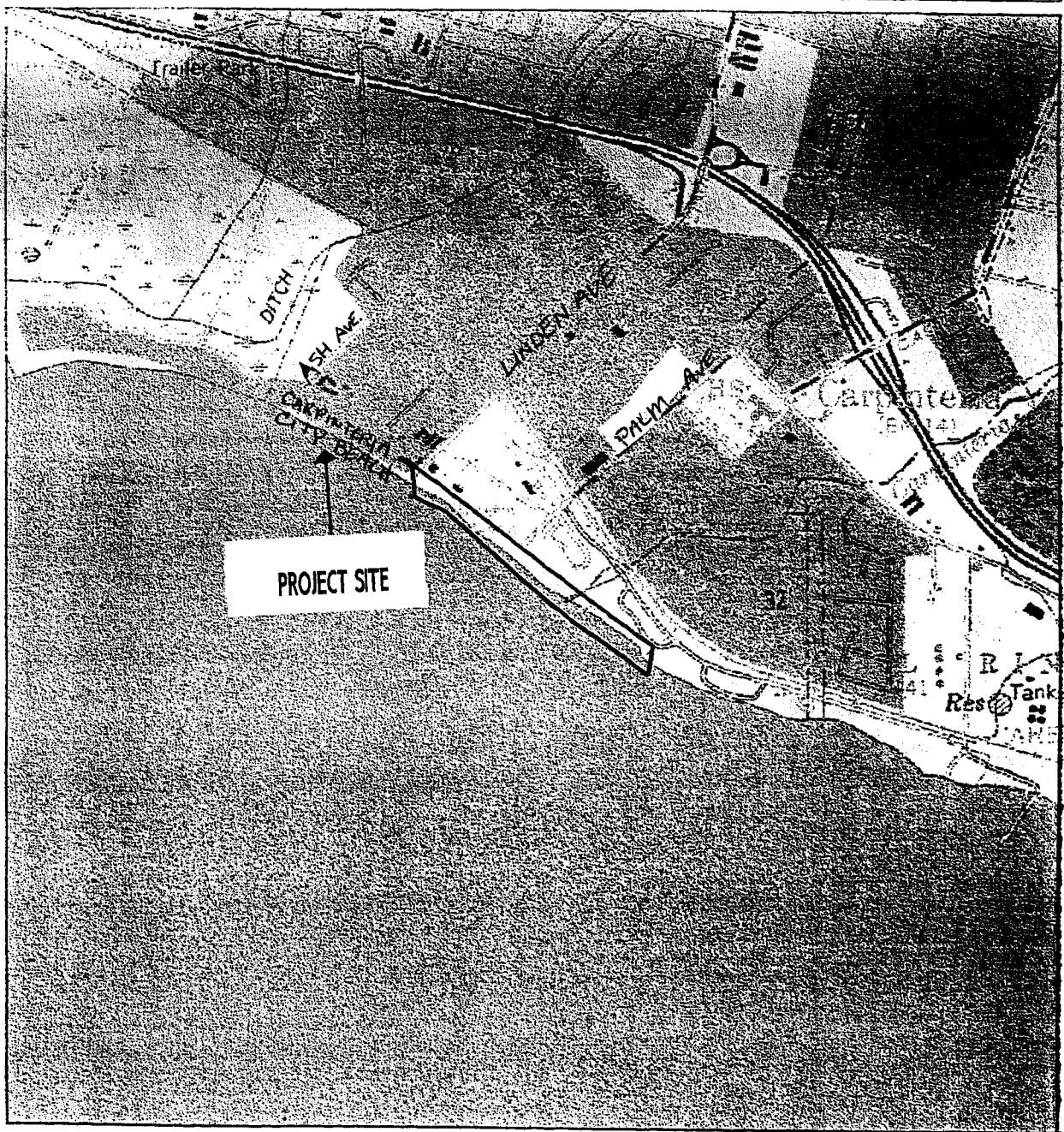


0.2 0 0.2 0.4 Miles

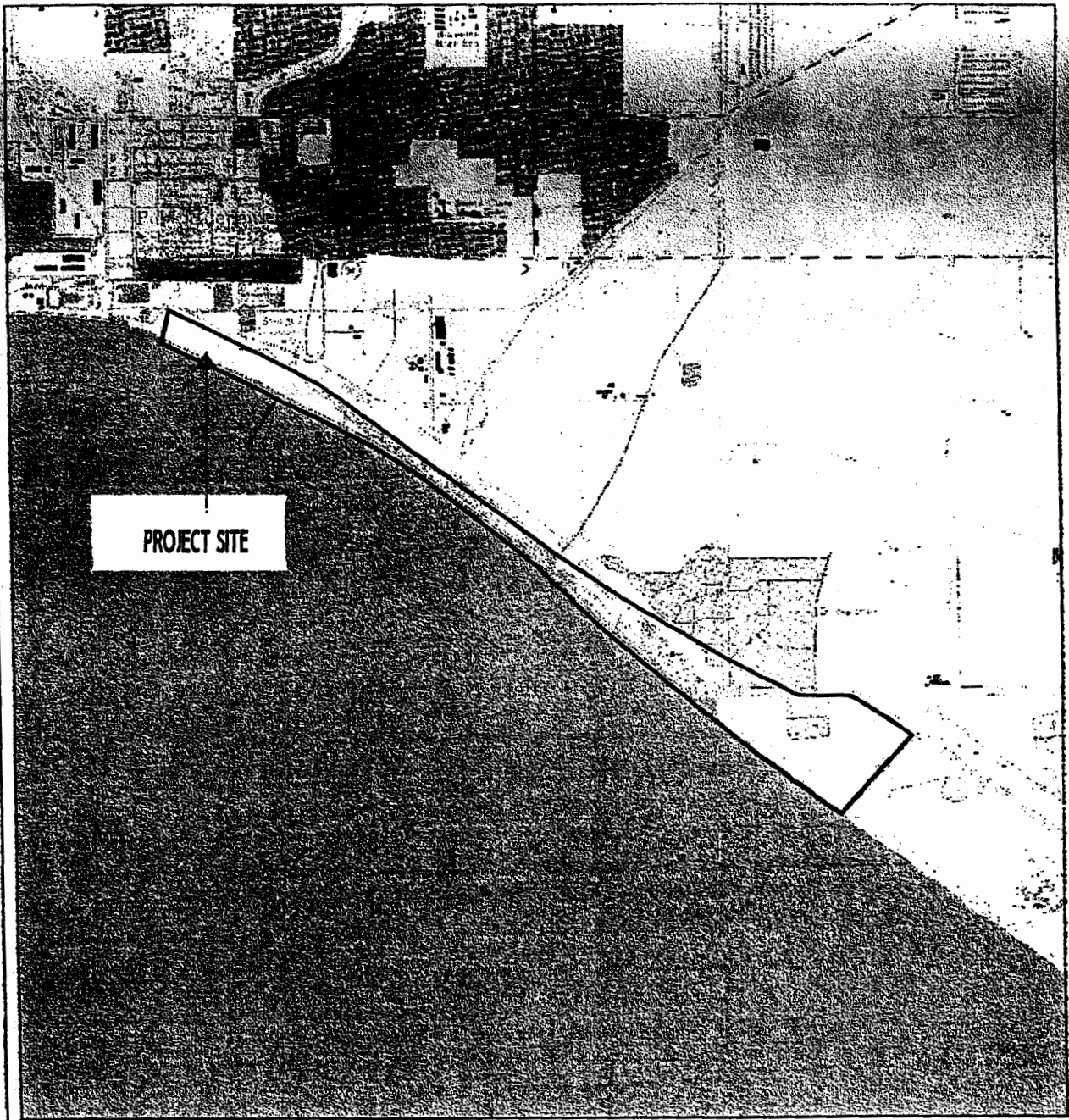
0.2 0 0.2 0.4 Kilometers



Figure L-115. Carpinteria Beach (CA-91)



**Figure L-122. Ormond Beach (CA-98)**



0.3 0 0.3 0.6 Miles

0.3 0 0.3 0.6 Kilometers





## TABLE 1. - EXAMPLE CHECKLIST

DRAFT CITY OF SAN CLEMENTE

MINIMUM CRITERIA ACCEPTABILITY CHECKLIST

Name:	
Job Title:	
Date:	

SOURCE SITE AND MATERIAL				
1) Location of Potential Source Material:				
2) Indicate Quantity of Material (Total at site/Net available for possible beach placement)			Do Not Know	N/A
3) Has any Grainsize testing of Material been done? If yes, describe results below. If no, see ASSESSMENT.	Yes	No	Do Not Know	N/A
a) Locations/depths of borings or samples:				
b) Grainsize (median, D50, D85, D15, %fines):				
4) Has any Chemistry testing of Material been done? If yes, describe results below. If no, see ASSESSMENT.	Yes	No	Do Not Know	N/A
a) Locations/depths of borings or samples:				
b) Chemical constituents present:				
5) Any Previous or Available Geotechnical Data	Yes	No	Do Not Know	N/A
If yes, provide details and source				
6) Any Previous or Available Phase1 Site Assessment Data	Yes	No	Do Not Know	N/A
If yes, provide details and source				
7) Physical Inspection of Site:	Yes	No	Do Not Know	N/A
Date:				
Observations:				
8) Physical Inspection of Sediment Sample:	Yes	No	Do Not Know	N/A
Date:				
Observations:				
9) Does material contain debris?	Yes	No	Do Not Know	N/A
10) Does material contain large rocks or boulders?	Yes	No	Do Not Know	N/A
11) Timing of Source Availability:			Do Not Know	N/A
12) Where will other excess material at site be distributed?			Do Not Know	N/A
13) List all available technical information about the source location and material:				

	Agree	Dis-Agree	Do Not Know	N/A	Basis for Decision
<b>GENERAL MATERIAL CHARACTERIZATION</b>					
1) material is primarily sand, gravel and/or inert material,					
2) sediments are from locations far removed from sources of contaminants (based on agency judgment),					
3) sediments were deposited in pre-industrial times,					
4) sediments were NOT exposed to modern sources of pollution.					
5) sediments are NOT from agricultural areas.					

<b>EXHIBIT 6</b>
<b>4-02-074</b>
<b>Minimum Criteria for Sediment Acceptability</b>

TABLE 1 - EXAMPLE CHECKLIST (continued)

	Yes	No	Do Not Know	N/A	Basis for Decision
<b>POSSIBLE POLLUTANTS MAY BE PRESENT IF:</b>					
The material was known to be exposed to:					
1) urban and agricultural runoff,					
2) sewer overflows/bypassing,					
3) industrial and municipal wastewater discharges,					
4) previous dredged or fill discharges,					
5) landfill leachate/groundwater discharges,					
6) spills of oil or chemicals,					
7) releases from Superfund and other hazardous waste site					
8) illegal discharges,					
9) air deposition,					
10) biological production (detritus),					
11) mineral deposits.					

<b>DESCRIBE SITE FACTORS IN ASSESSMENT OF POTENTIAL CONTAMINANTS</b>					
1) bathymetry:					
2) water current patterns:					
3) tributary flows:					
4) watershed hydrology and land uses:					
5) sediment and soil types:					
6) sediment deposition rates:					

	Yes	No	Do Not Know	N/A	Basis for Decision
<b>ASSESSMENT</b>					
Based on the checklist and assessment of factors listed above, does the City determine that the material requires further GRAINSIZE testing?					
Based on the checklist and assessment of factors listed above, does the City determine that the material requires further CHEMICAL testing?					
A Sampling & Analysis Plan (SAP) is REQUIRED for approval from the Corps of Engineers to determine compatibility. The SAP can include previous data, if available. BEFORE any further testing is conducted, a SAP shall be prepared and submit to the Corps for approval.					

	Yes	No	Do Not Know	N/A	Basis for Decision
<b>GRAINSIZE</b>					
Does the material fall within the Level I City review requirement, as specified in Table 3.1 of the Technical Report San Clemente Beach Replenishment Program Criteria and Concept Design?					
<b>COLOR</b>					
Is the material similar in color to existing beach sand after exposure to the marine environment?					
<b>PARTICLE SHAPE</b>					
Based on visual inspection, are material grains primarily rounded in shape without sharp points or jagged edges?					
<b>CONCLUSION</b>					
BASED ON RESULTS OF THIS CHECKLIST ASSESSMENT, DOES THIS MATERIAL QUALIFY TO BE CONSIDERED AS OPPORTUNISTIC BEACH FILL? IF YES, CONTACT THE PLANNING AND ENGINEERING DIRECTORS AND PROVIDE ALL SUPPORTING TECHNICAL INFORMATION?					

# SOUTH CENTRAL COAST BEACH ENHANCEMENT PROGRAM PROJECT NOTIFICATION REPORT

## 1. Introduction

Provide the basic program outline. Specify the permit conditions (USACE, CCC, State Water Resources Control Board, RWQCBs, and SLC). This Project Notification Report will request agency concurrence and a Notice to Proceed from the USACE.

Proposed Project Limits

Placement Site	Maximum Annual Quantity (CY)	Maximum Project Length (ft)	Placement Scenarios	Season	Maximum Percent Fines Allowed	Trucking (Volumes and Timing)				By Rail (Volumes and Timing)			
						CY Per Season	CY Per Week	No. of Weeks	No. Days per Week	CY Per Season	CY Per Week	No. of Weeks	No. Days per Week
Goleta Beach	100,000	2,200	a) Berm b) MHT c) Dike	Fall/Winter (Sept 15 - Mar 15)	25%	100,000	6,667	15	6	-	-	-	-
Ash Avenue Beach	50,000	1,200	a) MHT b) Dike	Fall/Winter (Sept 15 - Mar 15)	25%	50,000	3,333	15	5	-	-	-	-
Oil Piers Beach	275,000	4,000	a) Berm b) MHT c) Dike	Fall/Winter (Sept 15 - Mar 15)	35%	183,300	12,220	15	6	(1)	-	-	-
				Spring/Summer (Mar 15 - Sept 15)	35%	91,700	13,100	7	6	(1)	-	-	-
Surfer's Point	116,500	1,680	a) Berm b) MHT	Fall/Winter (Sept 15 - Mar 15)	35%	76,500	5,100	15	5	-	-	-	-
				Spring/Summer (Mar 15 - Sept 15)	35%	40,000	5,714	7	5	-	-	-	-
Hueneme Beach	250,000	4,400	a) Berm b) MHT	Fall/Winter (Sept 15 - Mar 15)	35%	250,000	12,500	20	6	(1)	-	-	-

(1) Material is to be transported to the site by either truck OR rail.

## 2. Source Material

### 2.1. General Site Location

Include maps, figures, and text description of site location and surrounding areas.

### 2.2. Specific Location of Source Material at Site

Describe where on the site the source material is found

### 2.3. Volume of Material (Total volume and volume proposed for beach placement)

Describe total volume of material available at site and volume that is being proposed for beach nourishment. The disposal method of excess material will be described in this section.

<b>EXHIBIT 7</b>
<b>4-02-074</b>
<b>Project Notification Report</b>

#### ***2.4. Material Testing***

Present the Sampling and Analysis Plan that was prepared for and approved by the USACE as part of their permit conditions. The results will be provided, which will include any chemistry and grain size testing. Figures and tables will be provided.

#### ***2.5. Debris Management***

Describe general content of material with regard to debris. This will include a description of the kinds of debris found in the source material, methods for screening, separating, and/or retrieving the debris, and disposal methods.

### **3. Transportation and Placement**

#### ***3.1. Site Location and Timing***

Describe which beach site will be used and the timing of project. Include projected schedule.

#### ***3.2. Transportation Method***

Describe how the material will get to the beach site (truck or train). Outline trucking routes and provide figures, if needed. Indicate how many trucks/trains and frequency. Specify a traffic control plan from the contractor.

#### ***3.3. Beach Placement Method***

Describe the placement method, including any equipment that may be needed to construct the project. Outline specific public access closures or restrictions. Outline project BMPs, such as flagmen, perimeter fencing, etc. that are proposed.

#### ***3.4. Contractor Information***

Include Contractor name, address, contact information, etc.

### **4. Public Notification Process**

This section will outline how the public is being notified of the overall program and this specific project. Proposed public noticing methods may include Community/Neighborhood Workshops, City Council Meetings, Chamber of Commerce/Downtown Business Association articles, City Publications, Newspaper Articles, Signage, Public Television, or Water Billing notices.

### **5. Project Monitoring**

This section will outline the pre-, during, and post-construction monitoring plan for the project. This section will also include the reporting protocols for the monitoring efforts as outlined in the CCC, SWRCB, RWQCB, USACE, and SLC permit requirements.

#### ***5.1. Pre-Construction monitoring***

Describe all pre-construction monitoring and that will be conducted. This will include biological monitoring and physical monitoring (pre-fill profiles and surfing conditions).

The description will include what will be monitored, procedures for the monitoring, frequency, who will conduct the monitoring and their qualifications. Figures representing areas, transects, etc., will be included in the pre-construction monitoring.

**5.2. Construction Monitoring**

Describe what monitoring will be conducted during construction, including biological and physical monitoring. This will include monitoring protocol and contingency operations for monitoring of turbidity, sedimentation, surfing effects, and biology at the proposed discharge site and adjacent nearshore and offshore areas. Monitoring personnel will be identified and their qualifications will be provided.

**5.3. Post-Construction Monitoring**

Describe what monitoring will be conducted after construction, including biological and physical monitoring. This will include monitoring protocol and contingency operations for monitoring of sedimentation, biology and effects to surfing at the proposed discharge site and adjacent nearshore and offshore areas. Monitoring personnel will be identified and their qualifications will be provided.

**6. Previous Projects at SCCBEP Sites**

This section will provide a table outlining each placement site and any beach fills that have occurred.

Site	Dates of Placement	Volume (CY)	Total Volume to Date (CY)	Placement Method	Fill Length	Width (if applicable)	%fines
Goleta Beach							
Ash Ave.							
Surfer's Point							
Oil Piers							
Hueneme Beach							

**7. Submittals**

This section will outline what submittals are required and when the resource agencies can expect them. This will include notification of any violations to the resource agencies.

**7.1. Post Discharge Report**

Post-Discharge Report will be compiled and submitted to the resource agencies which will include all of the information collected by BEACON for an individual project, including all preparation testing, volume of material placed at the site, transportation and construction details, finalized project schedule, and monitoring results. An assessment of the project effects, both beneficial and adverse will be presented at the end of every year. This analysis will serve as the basis for any modifications that can be made to optimize the program.

**TABLE 2. - GENERAL EXISTING CONDITIONS OF  
BEACH PROFILES AND BIOLOGY**

		CONDITIONS AT EACH SITE				
		GOLETA BEACH	ASH AVENUE	OIL PIERS	SURFER'S POINT	HUENEME BEACH
PARAMETER						
<b>BEACH PROFILE</b>		<i>BASED ON NOVEMBER 2003 SURVEYS</i>				
Mean Sea Level (MSL) Shoreline Position* - distance from back beach marker to MSL		222 ft.	224 ft.	114 ft.	185 ft.	573 ft.
Beach Slope at MSL		-0.062 ft./ft.	-0.063 ft./ft.	-0.042 ft./ft.	-0.057 ft./ft.	-0.044 ft./ft.
Highest Beach Elevation (at back beach marker relative to MSL)		12 ft.	7 ft.	6 ft.	13 ft.	12 ft.
Seasonal Disappearance?		Yes	During severe winters	No	Yes	Yes
<b>BIOLOGY</b>		<i>BASED ON SUMMER/FALL 2000 SURVEYS &amp; SITE VISITS</i>				
Presence of Kelp Beds?		Yes - good condition	Yes - good condition	Yes - moderate condition	No	No
Distance to Kelp Beds/Reefs		1,700 ft. downcoast, kelp on outfall pipe 700 ft offshore	600 ft. offshore of upcoast end	1,000 ft. offshore of downcoast end	Not applicable (n/a)	n/a
Presence of Eelgrass Beds?		Yes - good condition	No	No	No	No
Offshore Distance to Eelgrass		Potentially about 1,500 ft.	n/a	n/a	n/a	n/a
Significant Rocky Intertidal Habitat?		Yes - good condition; 1,500 ft. upcoast	Yes - good condition; 1,500 ft. downcoast	Yes - good condition; 1,200 ft. upcoast	No (26,000 ft. upcoast)	No (24,000 ft. downcoast)
Presence of High-Relief Sub-tidal Rock Habitat?		Yes	Yes	No	No	No
Presence of Grunion ?		Yes	Yes	Yes	No	Yes
Distance to Least Tern Colony		Over 35 miles	Approx. 17 miles	Approx. 13 miles	Approx. 3.5 miles	Approx. 2,500 ft downcoast
Snowy Plover Critical Habitat		Wintering habitat 12,000 ft. upcoast	Winter habitat downcoast	Wintering habitat 25,000 ft. upcoast	Winter habitat 500 ft. downcoast	Nesting and winter habitat along downcoast end of beach
<b>CREEK AND LAGOON MOUTHS</b>						
Open or Closed Status		Closes seasonally; reopened by the SBCFCD.	Marsh mouth always open; creek mouth seasonally closed.	n/a	Closes seasonally; spring tides reopen it.	n/a

\* This is not necessarily the actual sandy beach width; e.g. in some cases, the back beach marker is within the parking lot at the back of the beach.

Note: The condition of kelp, eelgrass, and rock intertidal habitat is qualified as good, moderate, or poor based on observations of conditions and counts of density. These descriptors are defined as:  
**Good Condition** – nearly entirely healthy aquatic vegetation being present in that growth is long, dense and expanding;  
**Moderate Condition** – relatively healthy aquatic vegetation being present in that growth is long, and dense, but subareas exist that are not as well developed and are actually in visibly poorer physical condition than the most vibrant plants;  
**Poor Condition** – plants are not visibly healthy and under duress and growth is patchy and short with dead areas.

<b>EXHIBIT 8</b>
<b>4-02-074</b>
<b>Existing Conditions</b>

### 3.2.3 Monitoring

Each site will be monitored individually, and results will be analyzed for each site and for the region cumulatively to identify any effects. Monitoring will occur one month prior to project implementation to update the current baseline information provided in this manual, and post-project monitoring will be carried out for the lifetime of the permit if measurable effects occur. For each project site, the timing or season(s) of pre-project monitoring survey(s) will be consistent with post-project monitoring survey(s), and the appropriate number of season(s) to be covered during these two distinct project-time frames will be carefully evaluated by BEACON. A more detailed description of the monitoring strategies that would be implemented for each project site will be included in the project proponent's (or consultants) pre-project notification (section 3.1.2, BEACON Responsibilities) and reporting (section 3.3.4) to the regulatory agencies. Monitoring for each site is described below. Goleta Beach and Ash Avenue Beach will be monitored extensively due to their biological sensitivity so their plans are more detailed than those for other sites. The remaining sites will also be monitored for verification of project effects and their plans are also included below.

Separate control sites will not be established. Rather, some measure of control will be gained by qualitatively monitoring SCCBEP sites nearest to a site(s) actively being nourished and monitored during a particular time period. Observations at adjacent sites will be made of approximate areas and locations of sensitive habitat and sand cover, and mapped on basemaps. This will provide information to understand whether changes observed at that site(s) are also occurring at other sites over a larger area due to background coastal processes independent of the nourishment activity. This approach assumes that opportunistic beach fill projects will likely be relatively scarce initially as shown through experience so monitoring of separate control sites should not be necessary. However, if opportunities occur at each site relatively frequently, this approach could be modified to include separate control sites if appropriate as determined by BEACON and the agencies.

As with the previous section of this plan, this section presents specific information of project monitoring at each site. The subsections for each site are intended to be used as stand-alone requirements pertaining to particular sites for BEACON and local agency staff reference. As such, certain information presented herein is redundant from site to site.

**Goleta Beach** - Monitoring will occur for beach profiles and nearshore biology consisting of kelp, eelgrass, surfgrass habitats, the open or closed condition of the slough mouth, and turbidity. Grunion will not be monitored because the project will occur in fall and winter months that are outside of the grunion season.

**Beach Profiles** - Beach profiles will be monitored to quantify sand accretion or loss at Goleta Beach and immediately downcoast of Goleta Slough mouth. A licensed surveyor experienced with the survey methods and the specific project site will survey the beach profiles. Four profiles exist that will be used for this study. The tasks include:

1. Re-establish four beach profile transects (one at the upcoast end of the beach near the bluff, one toward the middle of the beach near the restroom and one at the downcoast end of the beach near the pier) and one 500 feet downcoast of Goleta Slough mouth. The attached figure shows the profile locations.
2. Record beach and seabed elevation along the profiles from the back of the beach out to the depth of closure (estimated to be approximately -40 feet relative to mean lower low water, or MLLW). Survey equipment to be used includes:
  - a) Standard survey equipment (level, Global Positioning System or GPS, and rod) for work on land; and
  - b) A survey boat with a fathometer and GPS for work on the water to tie into the land profile.
3. Reduce data for interpretation and reporting.

Biology - Biology will be monitored to quantify changes to kelp, surfgrass, eelgrass habitats, and the slough mouth for project effects. BEACON will not monitor bird foraging on the beach, as it is not considered a potential adverse impact. UCSB staff presently monitors bird foraging on the beach as a separate project and it is assumed that this monitoring will continue. If available, BEACON staff and consultants will review those data to identify any potential project effects as a value-added measure, but not as a mandatory monitoring requirement.

Divers will scuba dive at two of UCSB's pre-established, permanent biology transects in the two kelp beds closest to, and east of Goleta Pier. One additional permanent transect exists in the second kelp bed farther east of the Pier, and another one exists in the intertidal zone near the seal haul-out site east of the Pier. These monitoring sites are also the ones used to monitor BEACON's Goleta Beach Demonstration Project. Divers will estimate conditions of kelp and surfgrass, except the intertidal transect which will be used to only monitor surfgrass. They will also utilize three existing transects in eelgrass beds both east and west of Goleta Pier to estimate changes. The SBCFCD staff will monitor the slough mouth for possible closures. Tasks are specified below and monitoring areas are shown in Figure 12.

Kelp and Surfgrass - The divers will access the kelp beds using a work boat launched from Santa Barbara Harbor. The locations of each of UCSB's two biology transects are documented by UCSB staff using GPS. The transects exist and are monitored by UCSB and provide long-term data. The permanent transects are in the subtidal zone in the kelp bed closest to, and east (downcoast) of the Pier. They are 130 feet long and marked at every meter. One additional subtidal transect exists in the kelp bed farther from and east of the Pier. One additional monitoring station exists in the intertidal zone at the seal haul-out site east of the Pier. It will be accessed from the beach at low tide. The attached figure also shows the locations of the kelp and surfgrass transects, and the additional intertidal monitoring station. Divers will perform the following tasks for both kelp and surfgrass:

1. Measure Kelp



- a) Two divers will observe and quantify conditions along the transect in a one meter swath to each side, at note conditions at each meter along the transect (1 meter square measurement areas are called quadrats);
- b) The divers will document the number and age of species of kelp, the percent sand cover, and the holdfast diameter of giant kelp; and
- c) Divers will observe the general condition, such as if it appears to be healthy or not.

## 2. Measure Surfgrass (If Present)

- a) Divers will estimate the percent of sand cover with the same quadrats as described above;
- b) Divers will estimate the depth of sand cover;
- c) Divers will estimate the cover of surfgrass; and
- d) They will observe the general condition of the surfgrass, such as if it appears healthy or not.

Eelgrass - Eelgrass will be monitored along a series of three permanent baseline biology transects within the eelgrass beds both east and west of Goleta Pier. The approximate locations of the proposed baseline transects are shown in the attached figure. The existing area of eelgrass east of the pier is oriented toward the southeast at an angle to shore, between depths of 20 to 40 feet, MLLW. A former eelgrass bed documented by BEACON in the 1992 EIR existed west of the Pier as a 500-foot-long band oriented parallel to shore between water depths of 20 to 25 feet, MLLW.

Two baseline transects that are each 330 feet long are east of the Pier and oriented perpendicular to shore to provide representative coverage. One baseline transect represents eelgrass in shallow water between depths of 20 to 25 feet, MLLW, and the other represents eelgrass in deeper water between depths of 35° to 40 feet, MLLW. A third baseline transect exists west (upcoast) of the Pier. It is also 330 feet long, but oriented parallel to shore. It is located at a water depth of approximately 20 feet, MLLW.

The divers will select ten random locations along the baselines to quantify eelgrass along 30 feet by 6 foot transects perpendicular to the baseline. If the eelgrass is patchy they will count plant densities within each of the ten transects. If the eelgrass is very dense (and there are too many plants to count), they will establish a system of measurement subareas that are 0.1 square yard in area (approximately the size of a clip board) within which to estimate eelgrass densities. The divers will randomly establish twenty 0.1 square yard quadrats along each 30 foot by 6 foot transect to count dense eelgrass shoots and estimate percent cover. If eelgrass is both dense and patchy, the divers will determine the appropriate method on-site and may perform both methods along the same baseline transect.

Monitoring methods will be determined from field evaluation within one month prior to the start of construction. Methods will be consistent with post-project methods to enable direct comparison of quantitative changes suitable for statistical analyses and graphing. Permanent baseline transects will be re-located and marked in the field at that time, while

random transects will be located on each individual monitoring event. In summary, divers will perform the following tasks for eelgrass:

1. Select ten randomly-located transects to count eelgrass. If patchy, counts will occur along the entire transect. If dense, ten randomly-located 0.1 square yard quadrats will be establish along either side of the transect to count eelgrass;
2. Observe and quantify conditions;
3. Count the number of plants and the percent cover calculated either along each transect or within each quadrat; and
4. Observe the general condition, whether it appears healthy or not.

Goleta Slough Mouth - Monitoring of Goleta Slough mouth will be to observe if the mouth is closed by sedimentation from the project. SBCFCD staff will monitor the condition of the slough mouth during and immediately after construction, and for six months after construction. If the mouth closes more than three times in the dry season of any calendar year after a project, BEACON will remove material as necessary until the inlet area has stabilized. The SBCFCD presently maintains the slough mouth under an existing permit. All activities will be performed to meet conditions of the existing permit.

Turbidity - Turbidity will be monitored visually by County staff (as was done for the Goleta Beach Demonstration Project) throughout construction to qualify the effect on ocean water clarity from the project. Conditions in the area are typically fairly clear, with occasional storms causing turbidity. The project will also cause turbidity, but the condition should be short-lived and should diminish immediately after construction is complete. Turbidity will be monitored by an observer from a vantage point noting the extent of turbid conditions. The observer will map the area of turbidity each day and photograph it. A map will be created by the observer, and they will document all other pertinent environmental conditions such as waves, wind, and weather. Turbidity should be minor because the material quality is mostly sand and cobble, with very little silt.

Monitoring Frequency - Monitoring will occur during up to six different events ranging over time from pre- to post-construction as described below.

1. Pre-Project Baseline Monitoring – Surveys of beach profiles and nearshore biology will occur within one month prior to construction to observe and document the baseline condition of biology.
2. Construction Monitoring – Turbidity will be monitored throughout construction to qualify the effect on ocean water clarity from the project.
3. Post-Construction Monitoring – Monitoring will occur immediately after construction to quantify initial project conditions consisting of:
  - a) Beach profiling will occur at four locations as performed before construction.
  - b) Kelp, surfgrass and eelgrass will be monitored immediately after construction for impacts using the methods described above.

4. Longer-Term Post-Project Monitoring – Monitoring will continue after construction to quantify project effects. The frequency of longer-term monitoring can vary depending on analysis of previous monitoring results of previous dives, and every effort should be made to minimize the number of monitoring events to reduced effort and public costs. Monitoring could be reduced or ended if no impacts were measured and all resource agencies concurred in writing that further monitoring was not necessary. The concept outlined below is only an example of a possible scenario, and could be modified during the monitoring period. For example, three monitoring events are specified below for biology. Depending on the results of monitoring data, fewer events might be necessary and should be considered by the agencies.
  - a) Beach profiles will be recorded over one year after construction. They are typically recorded in fall and spring seasons to determine changes and account for the natural seasonality of the west coast. A total of four long-term monitoring events will occur: 1) one in the first fall or spring season after construction; and 2) one in the second fall or spring season after construction. The intent will be to quantify sand volume changes along Goleta Beach and determine the duration and extent of project effects.
  - b) Kelp, surfgrass and eelgrass habitat will be monitored at intervals of three months, six months, and one year after construction to document impacts from the project using the same methods specified above.

**Ash Avenue Beach** – This site will also be monitored for beach profiles and nearshore biology consisting of kelp, eelgrass, surfgrass habitats, the open or closed condition of the Carpinteria marsh and Carpinteria creek mouths, and turbidity.

**Beach Activities** - Beach profiles will be monitored to quantify sand accretion or loss at Ash Avenue Beach and immediately downcoast of Carpinteria Marsh mouth. A licensed surveyor experienced with the survey methods and the specific project site will survey the beach profiles. They have established two existing profiles that will be used for this study. The tasks include the following and monitoring is shown in Figure 13:

1. Re-establish two beach profile transects. The attached figure shows the profile locations.
2. Record beach and seabed elevation along the profiles from the back of the beach out to the depth of closure (estimated to be approximately -40 feet relative to MLLW). Survey equipment to be used includes:
  - a) Standard survey equipment (level, Global Positioning System or GPS, and rod) for work on land; and
  - b) A survey boat with a fathometer and GPS for work on the water to tie into the land profile.
3. Reduce data for interpretation and reporting.

Biology - Biology will be monitored and any effects to kelp and surfgrass habitats, and the marsh and creek mouths for project effects. Grunion will not be monitored because the project will occur in fall and winter months only that are outside of the grunion season.

Qualified biologists will scuba dive at UCSB's pre-established, permanent biology transects at Carpinteria reef offshore of the site, at nearshore areas between the beach and reef, and at the intertidal area downcoast of the site. They will estimate conditions of kelp and surfgrass. They will monitor the marsh mouth. Tasks are specified below. ▽

Kelp and Surfgrass - The divers will access the kelp beds using a work boat launched nearby. The locations of UCSB's biology transects are documented by UCSB staff using GPS. The transects exist and are monitored by UCSB and provide long-term data. The permanent transects are in the subtidal zone in the reef offshore of the beach. The attached figure also shows the locations of the kelp and surfgrass transects. Divers will perform the following tasks for both kelp and surfgrass:

1. Measure Kelp

- a) Two divers will observe conditions along the transect in a one meter swath to each side, at note conditions at each meter along the transect (1 yard square measurement areas are called quadrats);
- b) The divers will document the approximate number and age of species of kelp, the percent sand cover, and the holdfast diameter of giant kelp; and
- c) Divers will observe the general condition, such as if it appears to be healthy or not.

2. Measure Surfgrass (If Present)

- a) Divers will estimate the percent of sand cover with the same quadrats as described above;
- b) Divers will estimate the depth of sand cover;
- c) Divers will estimate the cover of surfgrass; and
- d) They will observe the general condition of the surfgrass, such as if it appears healthy or not.

Resources present on the intertidal reef will be observed by the biologists at low tide by walking along the site. They will observe conditions of surfgrass, kelp and mussels, and the presence of any seals and document their abundance and condition.

Carpinteria Marsh and Carpinteria Creek Mouths - Monitoring of the openings to Carpinteria Marsh and Carpinteria Creek will be to observe if the mouths are closed by sedimentation from the project. BEACON will monitor the condition of the mouths during and immediately after construction, and for six months after construction. If the mouths close, BEACON will remove material as necessary until the inlet areas have stabilized.

Turbidity - Turbidity will be monitored throughout construction to qualify the effect on ocean water clarity from the project. Conditions in the area are typically very clear, with occasional storms causing turbidity. The project will also cause turbidity, but the condition should be short-lived and should diminish immediately after construction is complete. Turbidity will be monitored by an observer from a vantage point noting the extent of turbid conditions. The observer will map the area of turbidity each day and photograph it. A map will be created by the observer, and they will document all other pertinent environmental conditions such as waves, wind, and weather. Turbidity should be minor because the material quality is mostly sand and cobble, with very little silt.

Monitoring Frequency - Monitoring will occur during up to four different events ranging over time from pre- to post-construction as described below.

1. Pre-Project Baseline Monitoring – Surveys of beach profiles and nearshore biology will occur within one month prior to construction to observe and document the baseline condition of biology.
2. Construction Monitoring – Turbidity will be observed during construction to document project effects on a daily basis.
3. Post-Construction Monitoring – Beach profile monitoring will occur immediately after construction to quantify initial project conditions. Beach profiling will occur at three locations as performed before construction.
4. Longer-Term Post-Project Monitoring – Monitoring will continue after construction to quantify project effects. Five monitoring events are specified below for biology and four for beach profiles.
  - a) Beach profiles will be recorded for one year after construction to quantify sand volume changes along Ash Avenue Beach. They are typically recorded in fall and spring seasons to determine changes and account for the natural seasonality of the west coast.
  - b) Kelp and surfgrass habitat will be monitored at intervals of three months, six months, and one year after construction to document impacts from the project using the same methods specified above.

**Oil Piers Beach** – This site will also be monitored for beach profiles, grunion and turbidity.

Beach Profiles - Beach profiles will be monitored to quantify sand accretion or loss at Oil Piers Beach. A licensed surveyor experienced with the survey methods and the specific project site will survey the beach profiles. They have established one existing profile that will be used for this study, and they will establish one new profile. Monitoring sites are shown in Figure 14 and the tasks include:

1. Establish two beach profile transects (one within the fill footprint and another at the downcoast end of the fill). The attached figure shows the profile locations.
2. Record beach and seabed elevation along the profiles from the back of the beach out to the depth of closure (estimated to be approximately -40 feet relative to MLLW). Survey equipment to be used includes:

- a) Standard survey equipment (level, Global Positioning System or GPS, and rod) for work on land; and
  - b) A survey boat with a fathometer and GPS for work on the water to tie into the land profile.
3. Reduce data for interpretation and reporting.

Biology - Grunion - Although grunion have been observed at Oil Piers Beach in recent years, the beach is now significantly depleted and may not provide sufficient sandy area for grunion spawning. Therefore the likelihood of grunion spawning is much lower than in the past. This project will actually improve grunion spawning by adding sand to the beach. As a precaution, grunion will be monitored before construction, and if present, during construction. No post-construction monitoring is required for grunion.

Grunion spawn from March 1st to August 30<sup>th</sup> during middle-of-the-night spring high tides at or above approximately mean higher high water (MHHW) on the beach. The eggs incubate then hatch after approximately two weeks, when the juvenile fish return to the sea during the subsequent spring high tide. The presence of grunion at this site should never result in a halt to construction, due to the availability of a larger sandy area for spawning immediately upcoast of La Conchita Point. The project shall be allowed to proceed with minor modifications as needed to accommodate limited spawning.

A grunion monitor will be present one time two to three weeks prior to construction during a predicted grunion run (according to the grunion calendar produced by the California Department of Fish and Game), and immediately prior to construction to observe grunion. If grunion are not present during predicted runs, no further monitoring will occur.

If grunions are present during predicted runs, beach nourishment will be avoided until the spawning season is over.

Turbidity - Turbidity will be monitored throughout construction to qualify the effect on ocean water clarity from the project. Conditions in the area are typically clear, with occasional storms causing turbidity. The project will also cause turbidity, but the condition should be short-lived and should diminish immediately after construction is complete. Turbidity will be monitored by an observer from a vantage point noting the extent of turbid conditions. The observer will map the area of turbidity each day and photograph it. A map will be created by the observer, and they will document all other pertinent environmental conditions such as waves, wind, and weather. Turbidity should be minor because the material quality is mostly sand and cobble, with very little silt.

Monitoring Frequency - Monitoring will occur over time from pre- to post-construction as described below.

1. Pre-Project Baseline Monitoring – Surveys of beach profiles and for the presence of grunion will occur within one month prior to construction to observe and document the baseline condition.

2. Construction Monitoring – Turbidity will be observed during construction to document project effects on a daily basis. Grunion monitoring will also occur if they are present.
3. Post-Construction Monitoring – Beach profile monitoring will occur immediately after construction to quantify initial project conditions. Beach profiling will occur at three locations as performed before construction.
4. Longer-Term Post-Project Monitoring – Monitoring will continue after construction to quantify project effects. Five monitoring events are specified below for beach profiles.
  - a) Beach profiles will be recorded for one year after construction. They are typically recorded in fall and spring seasons to determine changes and account for the natural seasonality of the west coast. Monitoring will occur after construction to quantify sand volume changes along Oil Piers Beach.

**Surfer's Point** – This site will also be monitored for beach profiles, the open or closed condition of the Ventura River mouth, and turbidity.

Beach Profiles - Beach profiles will be monitored to quantify sand accretion or loss at Surfer's Point and immediately downcoast. A licensed surveyor experienced with the survey methods and the specific project site will survey the beach profiles. They have established one existing profile that will be used for this study, and they will establish one new profile. The monitoring plan is shown in Figure 15 and the tasks include:

1. Establish two beach profile transects (one at the historic transect location and another within the fill footprint). The attached figure shows the profile locations.
2. Record beach and seabed elevation along the profiles from the back of the beach out to the depth of closure (estimated to be approximately -40 feet relative to MLLW). Survey equipment to be used includes:
  - a) Standard survey equipment (level, Global Positioning System or GPS, and rod) for work on land; and
  - b) A survey boat with a fathometer and GPS for work on the water to tie into the land profile.
3. Reduce data for interpretation and reporting.

Ventura River Mouth - Monitoring of the Ventura River mouth will be to observe if the mouth is closed by sedimentation from the project. BEACON will monitor the condition of the mouth during and immediately after construction, and for six months after construction. If the mouth closes, BEACON will remove material as necessary until the inlet area has stabilized.

Turbidity - Turbidity will be monitored throughout construction to qualify the effect on ocean water clarity from the project. Conditions in the area are typically fairly clear, with occasional runoff or storms causing turbidity. The project will also cause turbidity, but the condition should be short-lived and should diminish immediately after construction is complete. Turbidity will be monitored by an observer from a vantage point noting the

extent of turbid conditions. The observer will map the area of turbidity each day and photograph it. A map will be created by the observer, and they will document all other pertinent environmental conditions such as waves, wind, and weather. Turbidity should be minor because the material quality is mostly sand and cobble, with very little silt.

Monitoring Frequency - Monitoring will occur over time from pre- to post-construction as described below.

1. Pre-Project Baseline Monitoring – Surveys of beach profiles will occur within one month prior to construction to observe and document the baseline condition.
2. Construction Monitoring – Turbidity will be observed during construction to document project effects on a daily basis.
3. Post-Construction Monitoring – Beach profile monitoring will occur immediately after construction to quantify initial project conditions. Beach profiling will occur at three locations as performed before construction. The River mouth will also be monitored to identify any closures associated with the project.
4. Longer-Term Post-Project Monitoring – Monitoring will continue after construction to quantify project effects. Monitoring events are specified below for beach profiles.
  - a) Beach profiles will be recorded for one year after construction. They are typically recorded in fall and spring seasons to determine changes and account for the natural seasonality of the west coast. Monitoring will occur after construction to quantify sand volume changes along the beach.

**Hueneme Beach** – This site will also be monitored for beach profiles and turbidity.

Beach Profiles - Beach profiles will be monitored to quantify sand accretion or loss at Hueneme Beach. A licensed surveyor experienced with the survey methods and the specific project site will survey the beach profiles. They have established two existing profiles that will be used for this study. The monitoring plan is shown in Figure 16 and the tasks include:

1. Re-establish two beach profile transects (at the historic transect locations). The attached figure shows the profile locations.
2. Record beach and seabed elevation along the profiles from the back of the beach out to the depth of closure (estimated to be approximately –40 feet relative to MLLW). Survey equipment to be used includes:
  - a) Standard survey equipment (level, Global Positioning System or GPS, and rod) for work on land; and
  - b) A survey boat with a fathometer and GPS for work on the water to tie into the land profile.
3. Reduce data for interpretation and reporting.

Turbidity - Turbidity will be monitored throughout construction to qualify the effect on ocean water clarity from the project. Conditions in the area are typically fairly clear, with occasional storms causing turbidity. The project will also cause turbidity, but the



condition should be short-lived and should diminish immediately after construction is complete. Turbidity will be monitored by an observer from a vantage point noting the extent of turbid conditions. The observer will map the area of turbidity each day and photograph it. A map will be created by the observer, and they will document all other pertinent environmental conditions such as waves, wind, and weather. Turbidity should be minor because the material quality is mostly sand and cobble, with very little silt.

Monitoring Frequency - Monitoring will occur over time from pre- to post-construction as described below.

1. Pre-Project Baseline Monitoring – Surveys of beach profiles will occur within one month prior to construction to observe and document the baseline condition.
2. Construction Monitoring – Turbidity will be observed during construction to document project effects on a daily basis.
3. Post-Construction Monitoring – Beach profile monitoring will occur immediately after construction to quantify initial project conditions. Beach profiling will occur at three locations as performed before construction.
4. Longer-Term Post-Project Monitoring – Monitoring will continue after construction to quantify project effects. Monitoring events are specified below for beach profiles.
  - a) Beach profiles will be recorded for one year after construction. They are typically recorded in fall and spring seasons to determine changes and account for the natural seasonality of the west coast. Monitoring will occur after construction to quantify sand volume changes along the beach.

### **3.3.4 Reporting**

Annual monitoring reports will be submitted to the agencies, including a letter indicating if no project occurs (with baseline conditions included). Project-specific monitoring reports will be submitted to all permitting agencies more frequently, at the end of each monitoring episode (at one month and six months after construction, and at one year after construction is complete to be included in annual reports). Reports and data will also be posted on BEACON's website.

