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STAFF REPORT AND RECOMMENDATION

ON CONSISTENCY DETERMINATION

Consistency Determination No.	**CD-172-97**
Staff:	LJS-SF
File Date:	12/15/1997
45th Day:	1/29/1998
60th Day:	2/13/1998
Commission Meeting:	1/13/1998

FEDERAL AGENCY: Corps of Engineers

DEVELOPMENT LOCATION: Offshore of the Port of Los Angeles (Exhibits 1 and 2)

DEVELOPMENT DESCRIPTION: Constructing a rock reef using natural, hard-bottom materials dredged from the outer one-half mile of the main approach channel to the Port of Los Angeles, approximately three miles offshore. This project would modify previously-concurred with consistency determinations (CD-2-97 and CD-57-92) that provided for deepening the approach channel and disposing dredged materials at Pier 400, the Cabrillo shallow water habitat, and the LA-2 ocean disposal site.

SUBSTANTIVE FILE DOCUMENTS:

1. CD-002-97
2. CD-057-92

3. Port of Los Angeles master plan amendment No. 17 (April 1997)
4. Port of Los Angeles master plan amendment No. 15 (October 1996)
5. Port of Los Angeles master plan amendment No. 12 (April 1993)

EXECUTIVE SUMMARY

The Corps of Engineers proposes to modify its under-construction Deep Draft Navigation Improvement (DDNI) project located in the Port of Los Angeles (POLA) and San Pedro Bay. The Commission previously concurred with two Corps consistency determinations and three POLA port master plan amendments for DDNI-related channel deepening, landfill construction, and marine habitat mitigation projects. The Corps now proposes to modify the deepening of the outer one-half mile of the main approach channel (approximately three miles offshore) by disposing between 260-780,000 cubic yards of dredged, hard bottom materials at a 62-acre site just east of the approach channel, rather than at the LA-2 ocean disposal site. The purpose for the change in disposal sites is to relocate and conserve recently-discovered rock within the approach channel which serves as a natural reef and supports a recreational fishery within and adjacent to the approach channel.

The proposal is consistent with the marine resource policies of the California Coastal Management Program (CCMP; Sections 30230 and 30233 of the Coastal Act) because the project maintains marine resources, is an allowable dredging and fill activity, is the least environmentally damaging alternative for disposal of the dredged rock material, and will not generate significant adverse effects on marine habitat. The proposal is consistent with the recreational fishing policies of the CCMP (Sections 30220 and 30234.5 of the Coastal Act) because it recognizes the value of a recreational fishing area located within and adjacent to the main approach channel project site, and proposes to relocate rather than eliminate the rocky bottom material that supports a recreational fishery.

STAFF SUMMARY AND RECOMMENDATION:

I. Project Description.

The Los Angeles District of the U.S. Army Corps of Engineers (Corps) proposes to modify its under-construction Deep Draft Navigation Improvement (DDNI) project located in the Port of Los Angeles (POLA) and San Pedro Bay (Exhibits 1-3). The DDNI project involves deepening navigation channels, including the main approach channel extending from the San Pedro Breakwater seaward to the three-mile limit, and disposing the dredged material at the Port of Los Angeles' Pier 400 landfill, the expanded Cabrillo shallow water habitat, and/or the LA-2 ocean disposal site. The Commission concurred with two Corps of Engineers consistency determinations for the DDNI project and

subsequent modifications (CD-57-92 and CD-2-97, respectively), and has certified three POLA port master plan amendments (Nos. 12, 15, and 17) for landfill construction and marine habitat mitigation. In all these previous actions, the Commission found the channel deepening activities consistent with the marine resource, recreation, and commercial fishing policies of the California Coastal Management Program. Deepening the approach channel to -63 feet mean lower low water (MLLW) was completed in September 1997, and further deepening to the DDNI project depth of -81 feet MLLW commenced immediately thereafter and is scheduled for completion in January 2000.

The Corps now proposes to modify the DDNI project by constructing a reef from between 260-780,000 cubic yards of natural, hard-bottom material to be dredged from the outer end of the main approach channel to the Port of Los Angeles (rather than disposing the materials at LA-2) in order to avoid potential adverse impacts to sportfishing (Exhibits 4 and 5). The Supplemental Environmental Assessment (SEA) for the proposed DDNI project modification states that:

> *In early August* [1997], *the Sportfishing Association of California (SAC) met with the Corps and POLA to discuss concerns regarding dredge operations at the outer approach channel to Pier 400 in or near the area known as Horseshoe Kelp (Figure 5). This area supports successful sportfishing catch including the approved approach channel where there are areas of high relief and hard substrate. The SAC requested the Corps and POLA to examine the possibility of either relocating the approach channel to avoid areas of hard bottom or relocate the rock material to be dredged to neighboring areas, allowing the new areas to serve as reefs to the benefit of their industry, rather than disposing of it at LA-2. Due to safety issues, a channel realignment was determined not feasible. Hence, the Corps, POLA and SAC have been investigating the potential for relocating dredge material to nearby sites which mutually benefit all interested parties.*
>
> *Following the initial meeting, a task force was formed with the goal of determining the physical and administrative/regulatory feasibility of constructing reef structure(s) using rock to be dredged from the outer approach channel. Participants included the Corps, POLA, EPA, National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), California Coastal Commission (CCC), SAC, and Anglers Unlimited of Southern California.*
>
> *This group met on two occasions (i.e., August 27, 1997 and October 29, 1997) and generally concluded that use of the rock material from the Outer Approach Channel, approximately 200,000 to 600,000 cubic meters (cm)* [260,000 to 780,000 cubic yards], *as reef structure will be a beneficial use since it will conserve local sportfishing opportunities and capacity at LA-2 for other fine-grain dredge material.*

As a result of these meetings, the following siting criteria for material disposal were identified:

- *The location(s) must be in close proximity to areas having some existing relief and historical value for sportfishing.*
- *The site location must be within the local jurisdiction (within approximately three miles of the San Pedro Breakwater) to allow for CDFG management. (The CDFG will eventually adopt and manage the reefs.)*
- *The area(s) should preferably be of a size to allow for future expansion with the addition of suitable reef materials at the discretion of CDFG.*
- *The bottom topography in the proposed disposal area(s) must be flat (i.e., not include areas of existing rocky relief or of high biological value).*
- *The bottom must be firm so rock material will not sink into bottom sediments. Material disposal must include predominantly rock of two feet in diameter (although some smaller material is anticipated), with the goal of insuring that interstitial spaces be maintained in reef structure.*

Based on these criteria, the SAC proposed general areas that may be suitable for the establishment of artificial reef modules. The overall sites are shown on Figure 6 (i.e., "A" and "B"). Each site is approximately 62 acres (250,000 square meters).

On November 8, 9, and 10, 1997, a bathymetric survey was conducted in the areas proposed by the SAC to confirm the bottom topography meets requirements stated above.

On November 20, 1997, a sidescan and magnetometer survey was conducted to identify the potential for cultural resources to be located in the proposed reef siting areas (for additional information see Section 3.5 and Appendix D).

On November 25, 1997, a marine biological survey was conducted to inventory and assess overall biological resources and productivity in the proposed siting areas (for additional information see Section 3.2 and Appendix E).

The SEA then summarizes the selection of the reef disposal site and reef construction activities:

Reef Site A. *Based on preliminary analyses, Site A appears to be a suitable site. Site A is approximately 62 acres in size and shown in Figure 9. To further assess the suitability of this area additional surveys were conducted for the evaluation. Surveys included bathymetry, magnetometer and sidescan sonar (cultural), and biological reconnaissances. From a cultural basis, the site is acceptable (Appendix D). From*

a bathymetric and marine biological basis, the site was determined not feasible based on survey findings. The area was surveyed by CDFG and MEC Consultants (1997) on November 25, 1997. Survey findings (Appendix E) indicate the area consists of an equal mix of sand and rock and is characterized as having moderate rock relief (about 10 feet in height). This site contains a lot of existing natural reef material, which has been determined to be of high value for biological resources (Parker, CDFG, personal communication, December 10, 1997). Based on CDFG recommendations (Appendix F), this site was eliminated from further consideration.

Reef Site B. *Based on preliminary analyses, Site B appears to be a suitable site. Site B, approximately 62 acres in size, is shown in Figure 10. This site was assessed also for suitability, based on bathymetry, magnetometer and sidescan sonar (cultural) and biological reconnaissance surveys. Of the total area surveyed, approximately 60 acres have been determined suitable for the placement of reef modules. A potential cultural resource anomaly (probable shipwreck) was detected during the survey (Appendix D), and it will be avoided. Hence, a 165 foot (50 meter) buffer will be provided around the structure to protect the site. From a bathymetric and marine biological basis, the site is acceptable too (Appendices G and F). This site is characterized by a mix of sand and cobble, with limited rock relief.*

Reef Sites A and B. *Based on preliminary analyses, Site A is not an acceptable site, based on existing fishery values, while Site B appears to be a suitable site.*

. . .

Construction activities associated with the proposed reef modules will remain essentially unchanged from other Stage 2 elements. General activities associated with the construction aspects of the authorized project are presented in the SFEIS for the Stage 2 (Corps 1996) and are generally summarized below for the reef modules.

As dredging occurs outside the breakwaters, it can be conducted with diesel hopper, hydraulic/cutterhead, and/or clamshell dredges. It is anticipated that a clamshell with a hopper dredge will be used for the construction of the reef modules. The clamshell dredge will be used to place material in the hopper. Then, a decision will be made to either transport the material to the proposed reef site ("B") or LA-2. (Material will be considered appropriate for placement at Site B if it consists of clean rock of two feet (or greater) in diameter and is unsuitable structural fill; it is estimated that 200,000 to 600,000 cm [260,000 to 780,000 cubic yards] *of material may be transported to Site B.) For disposal at Site B, the hoppers will be opened and material released. The hopper load is estimated to cover a footprint of approximately 100 feet by 300 feet, with a maximum pile height of 3 feet (Shak, Corps, personal communication, December 10, 1997). A reef module will consist of*

two to three hopper loads. Based on recommendations from CDFG (Parker, personal communication, December 10, 1997), reef modules shall be placed so that a distance of at least one open module exists between each created module.

Dredging at the outer approach channel near Horseshoe Kelp and construction of one or more reef modules at Reef Site B using suitable dredged rock is scheduled to occur between January and May 1998.

II. Status of Local Coastal Program.

The standard of review for federal consistency determinations is the policies of Chapter 3 of the Coastal Act, and not the Local Coastal Program (LCP) of the affected area. If the Commission certified the LCP and incorporated it into the CCMP, the LCP can provide guidance in applying Chapter 3 policies in light of local circumstances. If the Commission has not incorporated the LCP into the CCMP, it cannot guide the Commission's decision, but it can provide background information. The Commission has NOT INCORPORATED the City of Los Angeles LCP into the CCMP.

III. Federal Agency's Consistency Determination.

The Corps of Engineers has determined the project to be consistent to the maximum extent practicable with the California Coastal Management Program.

IV. Staff Recommendation:

The staff recommends that the Commission adopt the following motion:

MOTION. I move that the Commission concur with the Corps of Engineers' consistency determination.

The staff recommends a YES vote on this motion. A majority vote in the affirmative will result in adoption of the following resolution:

Concurrence

The Commission hereby **concurs with** the consistency determination made by the Corps of Engineers for the proposed project, finding that the project is consistent to the maximum extent practicable with the California Coastal Management Program.

VI. Findings and Declarations:

The Commission finds and declares as follows:

A. Marine Resources. Section 30230 of the Coastal Act provides that:

> *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 30233 of the Coastal Act provides in part that:

> *(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*
>
> *(l) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities. . . .*

The Corps of Engineers' consistency determination examines how the proposed disposal of dredged rock to relocate a reef from the approach channel to an adjacent site is consistent with the above-referenced marine resource policies:

> *General marine biological losses to be incurred at the dredge site (outside the harbor) are presented in Section 4D of the DDNI FEIS/FEIR. As habitat will remain deep water habitat, only short term impacts are expected. It is expected that species utilizing rocky substrate located in the approach channel to be dredged will relocate in nearby rocky habitats. Impacts have been determined to be insignificant. Disposal impacts at LA-2 have been determined to be insignificant, pursuant to the SFEIS.*
>
> *Although marine biological impacts have been determined to be insignificant, the Corps has been recently informed that a portion of the channel to be dredged is heavily utilized by sport fisherman (Section 30220). The sport fisherman have indicated the area of impact currently provides good habitat for calico bass, sandbass, white sea bass, sculpin, barracuda, and bonito. The habitat is characterized by low relief, rocky substrate. Due to the potential loss of fishery opportunities, the Corps and POLA have been coordinating these issues with a local task force to develop a plan that provides additional sport fishing*

opportunities; the Corps will construct one or more reef modules at Site B (Figure 6 of the attached SEA).

Based on the task forces' agreement, the proposed site should ideally be situated near existing biologically productive reefs on a firm, flat, barren, sandy bottom. By locating the proposed reef modules near existing reefs, reef colonization is anticipated to occur more rapidly than by placing the structure on a barren area of sandy flats and the overall rocky habitat will be greater in size than existing conditions, allowing for more species diversity and abundance. To site the reefs, a marine biological survey was conducted to characterize the overall area (MEC 1997). The proposed site ("B") has been characterized with little or no relief and near existing biologically productive reefs. (A habitat and species profile are provided in Appendix E of the attached SEA.)

. . .

It is anticipated that over time, the long term fishery resources will not be significantly different than they currently are due to the implementation of this project. The POLA will monitor the site by diver transect within one year of project construction to assess overall fish utilization.

Reinitiation of Section 7 of the Endangered Species Act (ESA) is not required for Stage 2 modifications. Measures outlined in the Biological Opinion (BO) on the DDNI project will be implemented during construction. If construction activities significantly change from what is described in the SEA and the BO is determined invalid, reinitiation will be required.

. . .

By creating the proposed reef modules, it appears that disposal of rock at the proposed reef site may result in a beneficial use of dredge material (i.e., providing additional capacity for fine-grain materials to be disposed at LA-2) and an improvement over the original project design (i.e., providing additional sportfishing opportunities).

Disposal will have impacts on marine habitats that are unavoidable. Although topographic changes will be permanent (rock will be placed to create low relief (modules ranging in height between 6 and 10 feet) mounds), they are not expected to result in significant impacts on the oceanographic regime (i.e., water circulation/sediment patterns). As rock is placed, water quality impacts will likely occur during construction in the form of turbidity plumes extending down current from the placement sites. Although turbidity is expected to be minimal, as material

will consist of predominantly rock, some turbidity will occur as a result from any fine-grain material present with the rock. The turbidity plume may extend between 500 and 1,000 feet from the placement site; it will sink with time and distance from the point of origin (Moffat & Nichol 1995, Corps 1992 and 1995). If activities occur under intense wave conditions (which are not anticipated), turbidity may extend 4,000 feet from the placement site. High wave action will tend to increase mixing and dilution of the plume while currents, some induced by wind, will elongate the plume. The extent of the plume will depend on factors such as composition (grain size) of the sediments dredged in each load and the time interval between the end of hopper filling and disposal. Material placement is not expected to reduce DO concentrations to below 5 mg/l. Release of nutrients, metals, and organic chemicals from the settling dredged material is expected to have negligible impacts on water quality considering the relatively low concentrations of these substances found in the sediments to be dredged. Impacts on water quality are expected to be intermittent over disposal, localized to the vicinity of the proposed reef sites, and not significant because dredging/disposal activities will be conducted subject to the controls of the Section 401 permit stipulations required for Stage 2 (Appendix D of the attached SEA) and the Section 404(b)(1) Analysis (Appendix E of the attached SEA). Long-term exceedances of water quality limits are not expected and impacts on marine life will be insignificant. Although oceanographic and water quality impacts will be adverse during construction, they are not expected to be significant and do not require additional measures.

The Commission previously concurred with dredging to deepen the approach channel and with disposal of the dredged material at Pier 400 and the Cabrillo shallow water habitat (both in the Port of Los Angeles) and at the LA-2 ocean disposal site. The Commission found that these activities were consistent with Sections 30230 and 30233(a)(1) and (b) of the Coastal Act in that the approach channel is a port facility, the disposal sites are designated for such activity, and the dredging and disposal operations were designed to protect marine resources. The proposed modification to the disposal component of the DDNI project does not affect the Commission's previous allowable use findings for the DDNI project dredging and disposal. The Corps is now proposing a beneficial reuse of approximately 260-780,000 cubic yards of dredged rock from the approach channel. Rather than dispose the material at LA-2, the rock will be used to create one or more reef modules. The Commission must therefore determine whether this new disposal option is consistent with Sections 30230 and 30233 of the Coastal Act.

The Commission concurs with the conclusion reached by Corps and the Port of Los Angeles that the beneficial reuse of the natural rocky material at the outer end of the approach channel to create one or more reef modules is preferable to disposing it at the LA-2 deep-water disposal site. Over the years, the Commission has consistently urged

the Corps and the Port to minimize the volume of dredged material taken to LA-2, in part to minimize potential adverse impacts on recreational and commercial fishing and to encourage beneficial reuse of dredged sediments. By implementing the proposed modification, impacts to marine resources from deepening the approach channel will be minimized (beyond the environmental commitments previously agreed to by the Corps and the Port as a part of the DDNI project) with the transportation of the rock materials to Reef Site B, east of the approach channel. Rock disposal here will improve the original DDNI project design by protecting recreational fishing opportunities in the area and by minimizing disposal at LA-2. The Port of Los Angeles has agreed to monitor the reef site one year after construction to assess fish utilization; that report will be provided to the Commission.

The California Department of Fish and Game supports placing dredged rock material at Site B and stated in a December 12, 1997, letter to Commission staff (Exhibit 6) that:

> *Given the presence of natural reefs and scattered rock substrate in the general vicinity, new reefs placed on these sites should be colonized and begin developing communities similar to natural reefs relatively quickly.*

The elimination of the rock reef in the approach channel represents an adverse impact to marine habitat, but that impact is not considered significant given that: (1) the areal extent of rock reef outside of the approach channel which will remain undisturbed greatly exceeds the rock area within the channel, and (2) the volume of rock to be relocated from the approach channel to the adjacent disposal site will create a reef area equal to or greater than the reef area in the approach channel, as the volume of rock to be dredged includes rock presently below the ocean floor. The disposal of dredged rock at Reef Site B will generate temporary, minor adverse impacts on water quality due to turbidity plumes, and there will be a permanent loss of sandy bottom habitat at the sites of the approximately 0.5 to 0.75-acre reef modules. However, the relocated rock reefs (the exact number of which will be determined by the volume of rock uncovered by the deepening of the approach channel to -81 feet MLLW) will continue to provide a more diverse and valuable habitat type, and the loss of sandy bottom habitat is not a significant nor adverse impact. Therefore, the Commission finds that the proposed modification to the DDNI project is consistent with Chapter 30230 of the Coastal Act.

The proposed project modification involves the placement of rock in the marine environment, and must therefore meet the three tests of Section 30233(a) of the Coastal Act. The first test identifies allowable uses for filling of the marine environment, and Section 30233(a)(1) allows filling for expanded port facilities. The Port of Los Angeles' main navigation approach channel, located between the San Pedro Breakwater and the three-mile limit, is a port facility, and the Commission previously determined in CD-2-97 and CD-57-92 that deepening the approach channel and disposing of 1.5 million cubic

yards of dredged material at the LA-2 ocean disposal site were allowable uses under Section 30233(a)(1). The Commission determines that the project modification to dispose approximately 260-780,000 cubic yards of rock dredged from the approach channel: (1) does not change the fact that the previously-approved dredging and disposal operation is designed to expand a port facility, and (2) is likewise an allowable use under Section 30233(a)(1).

The second test of Section 30233(a) requires the Commission to determine that the proposed filling is the least damaging feasible alternative. In its 1996 Final Supplemental Environmental Assessment for modifications to the Stage 2 DDNI project (concurred with by the Commission in CD-2-97), the Corps submitted the following list of alternatives for dredge material disposal for the DDNI project:

- No Action
- Beach Nourishment
- Shallow Water Habitat Expansion
- POLA Borrow Pits
- Sidecasting
- LA-2 Ocean Disposal Site

When the presence of the rocky bottom materials, and their importance to the recreational fishery, was confirmed earlier this year, the Corps developed two other disposal alternatives: Reef Site A (west of the approach channel) and Reef Site B (east of the approach channel), each of which is approximately 62 acres in size. After a reconnaissance dive survey, it was determined that Reef Site A was not a suitable disposal site due to the presence of natural rock reef material of high biological value. Disposing the dredged rock at this site would likely result in adverse impacts to existing rock reefs. Reef Site B was found to be a mix of sand and cobble, with limited rock relief. Disposing dredged rock at this site to create 0.5 to 0.75-acre reef modules at one or more locations will complement the existing reefs in Site A and at other locations in the immediate vicinity, and is a beneficial reuse of dredged material that otherwise would be lost to the LA-2 deepwater site. The Commission finds that disposal of the dredged rock from the approach channel to create rock reef modules is the least damaging feasible alternative for this disposal component of dredged materials associated with the DDNI project.

The final test of Section 30233(a) requires the Commission to consider mitigation for adverse impacts to the marine environment. The proposed project modification does not require mitigation because it will not generate significant, adverse effects on marine resources. The project involves the disposal/relocation of dredged rock materials from the POLA main approach channel to a 75 to 95-foot-deep site east of the channel to create one or more rock reefs, rather than at the LA-2 ocean disposal site. As a result, the

project modification will avoid significant adverse impacts to the marine environment by providing naturally-occurring hard substrate for benthic recolonization and support of fish communities. The areal extent of rock reefs and hard-bottom materials on either side of the approach channel will continue to support the existing recreational fishery during the period of recolonization. Therefore, the Commission finds that the project will not significantly affect marine resources and no additional mitigation is necessary. In conclusion, the project is consistent with the allowable use, alternative, and mitigation tests of Section 30233(a), and the Commission finds that the project is consistent with the marine resource policies of the CCMP.

B. Recreational Fishing. Section 30220 of the Coastal Act provides that:

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

Section 30234.5 provides that:

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

The Commission previously determined in CD-57-92 and CD-2-97 that the dredging and disposal operations associated with the DDNI project were consistent with the recreational and commercial fishing policies of the CCMP. While DDNI project dredging and disposal operations would generate adverse impacts on marine resources and habitat at and adjacent to project locations, the impacts on recreational and commercial fishing were determined to be minor and temporary. However, in August 1997 the Corps notified the Commission about new information regarding recreational fishing activities at the outer end of the approach channel. The Corps' consistency determination states that:

> *The Corps has been recently informed that a portion of the approach channel to be dredged (i.e., the area known as Horseshoe Kelp) is heavily utilized by sport fisherman (Section 30230 below). Hence, the Corps and POLA have been working together with an inter-agency task force to assess potential effects on sport fishing opportunities/catch successes. To minimize potential effects on the sport fishing industry, the Corps will provide additional opportunities by constructing one or more reef modules at Reef Site B (Figure 6 and Section 2.2.2 of the attached SEA). Although temporary impacts may occur on the sports fishing industry over construction, the reef modules are expected to colonize quickly by species utilizing neighboring rocky habitats; no long term fishing impacts are anticipated (Section 30230 below).*

The SEA additionally states that:

> *During construction, it is anticipated that species utilizing rocky substrate located in the channel to be dredged will relocate to neighboring rocky habitats. It is expected these fish (and other species) will be available for catch at neighboring systems. It is likely that local recreation sports fishermen will fish other local reefs during construction and while the new reefs colonize. Because other fishing opportunities will be available and fish will likely relocate to neighboring rocky communities, short term recreation impacts are not considered significant. As the reef is expected to colonize quickly by species utilizing neighboring rocky habitats, no long term impacts are anticipated (Section 3.2).*

The Sportfishing Association of California met with the Corps and the Port of Los Angeles to discuss alternatives to deepening that portion of the approach channel that contained high relief and hard substrate, and to identify a feasible solution that would conserve the fishery habitat while allowing the under-construction DDNI project to remain on schedule. The Corps and the Port demonstrated that relocating or realigning the approach channel to avoid the rock reef areas were not feasible alternatives. Relocating the rock materials from the approach channel to a nearby site for reuse as a reef rather than disposing them at the LA-2 deepwater site soon became the focus of efforts to further minimize the impact of deepening the approach channel on recreational fishing. The Corps, Port of Los Angeles, U.S. EPA, National Marine Fisheries Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, Sportfishing Alliance of California, Anglers Unlimited of Southern California, and Coastal Commission staff worked together to develop a feasible dredging, relocation, and construction plan for the rocky materials located at the end of the approach channel.

The Commission finds that the proposal to create one or more rock reefs at Reef Site B using the natural, hard-bottom materials dredged from the approach channel will minimize impacts to recreational fishing from this component of the DDNI project. Adverse effects on the water column due to increased turbidity during and after dredging and disposal to relocate the reef will be temporary and not significant, and relocation of the rocky materials from the approach channel will not generate significant adverse affects on marine habitat at the Reef Site B disposal area. The areal extent of rock reef outside of the approach channel will continue to support the recreational fishery during and after the relocation of the rock within the approach channel. The proposal, a modification to the previously-concurred-with DDNI project, serves to complement the environmental commitments made by the Corps to minimize project impacts on marine resources and recreational activities within and adjacent to DDNI project sites, in this case the outer one-half mile of the main approach channel to the Port of Los Angeles. In conclusion, the Commission finds that the project modification recognizes and protects fishing activities and is consistent with the recreational fishing policies of the CCMP.

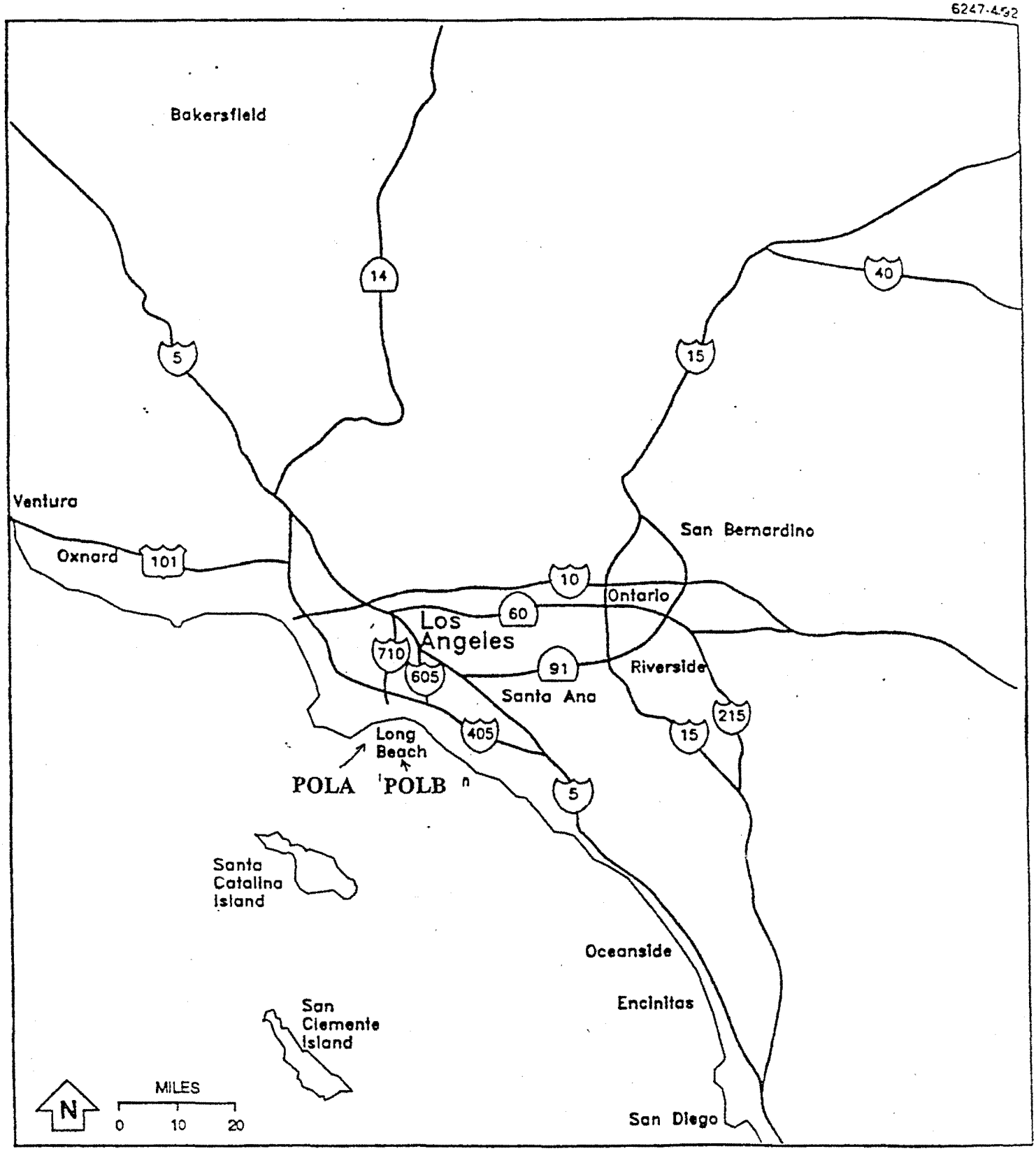


FIGURE 1
PROJECT AREA AND VICINITY

EXHIBIT NO. 1
APPLICATION NO.
CD-172-97
California Coastal Commission

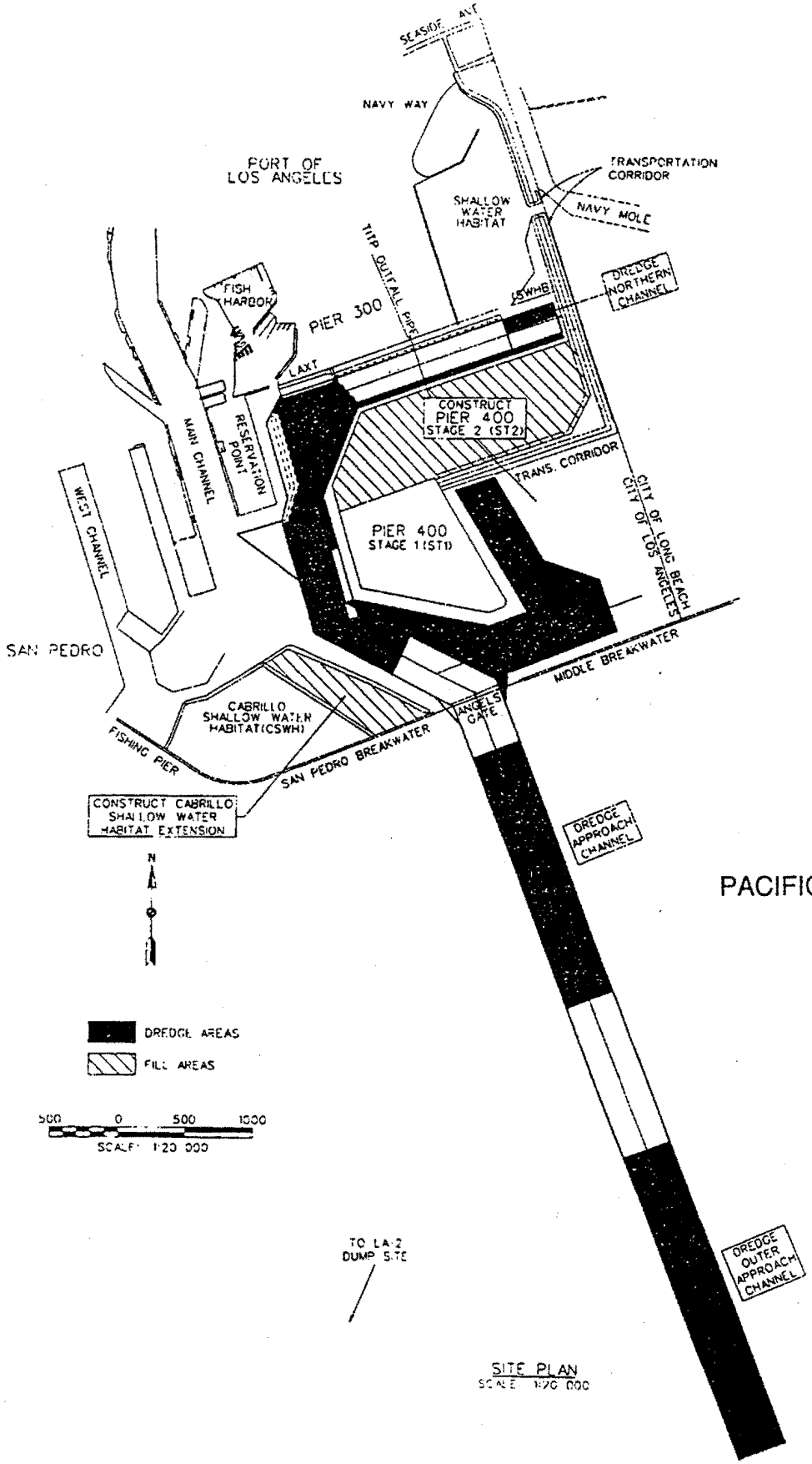
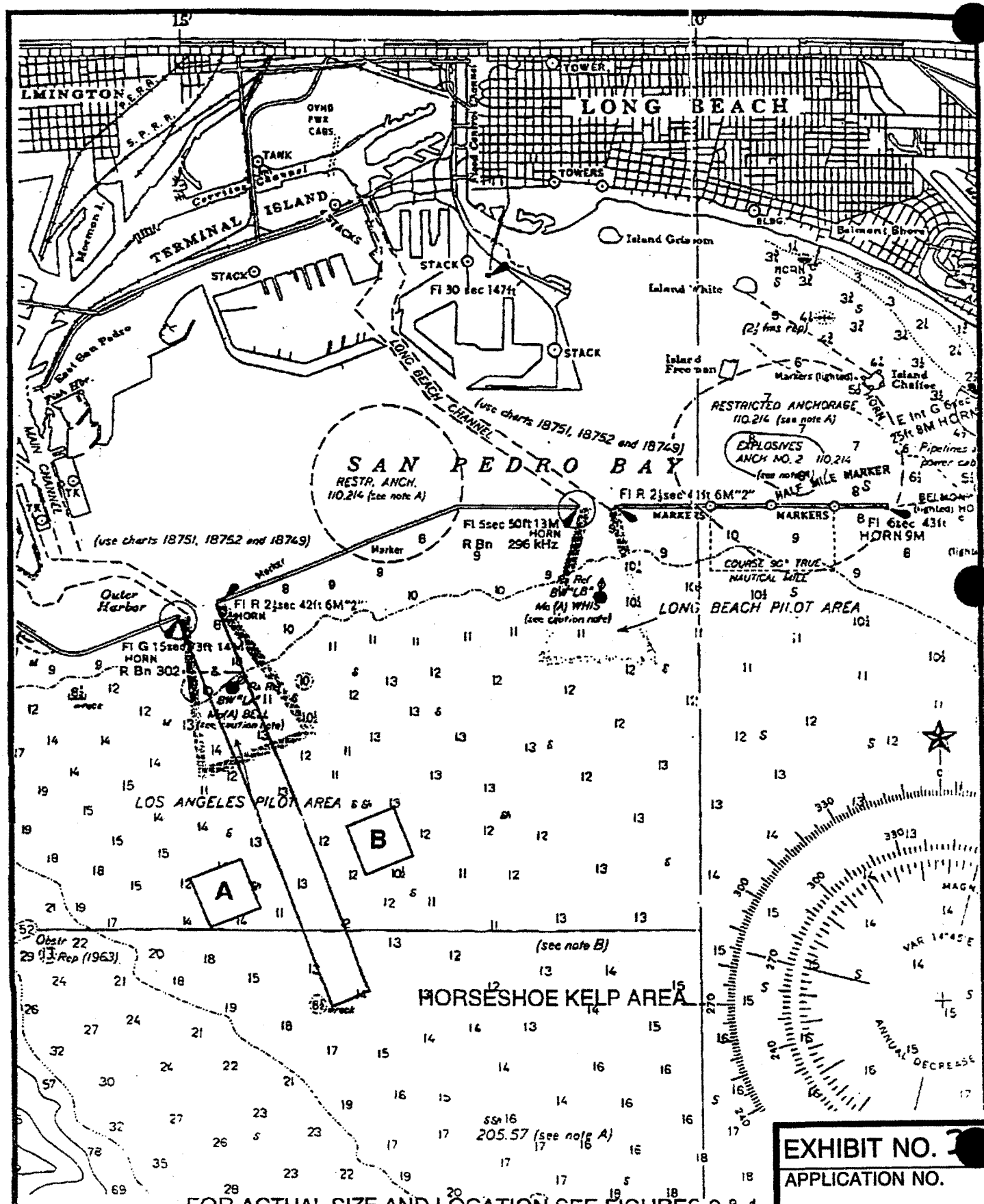


FIGURE 5. PIER 400 STAGE 2 APPROACH CHANI

EXHIBIT NO. 2
APPLICATION NO.
CD-172-97



FOR ACTUAL SIZE AND LOCATION SEE FIGURES 9 & 1

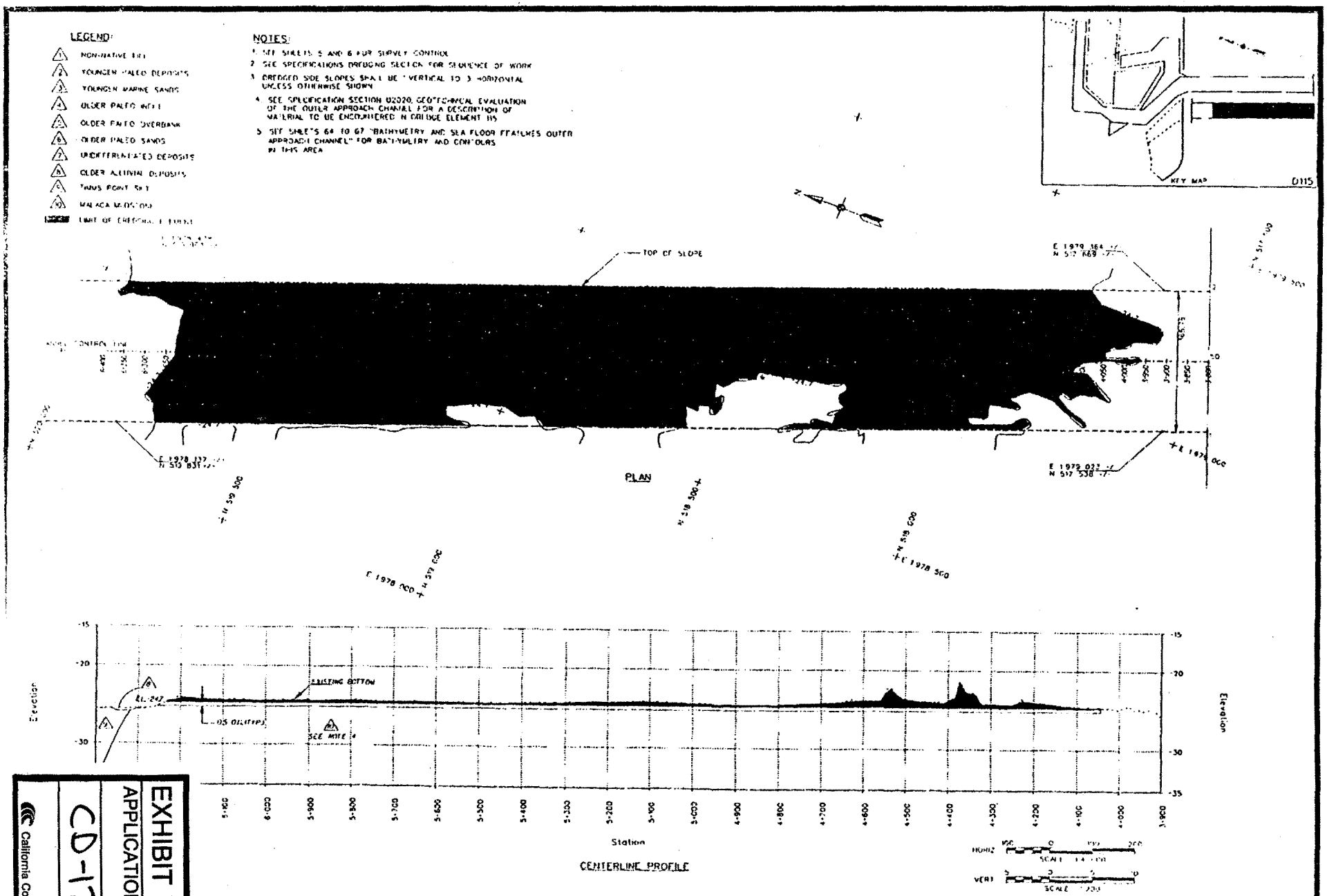
FIGURE 6. PROPOSED REEF LOCATIONS.

EXHIBIT NO. 3

APPLICATION NO.

CD-172-97

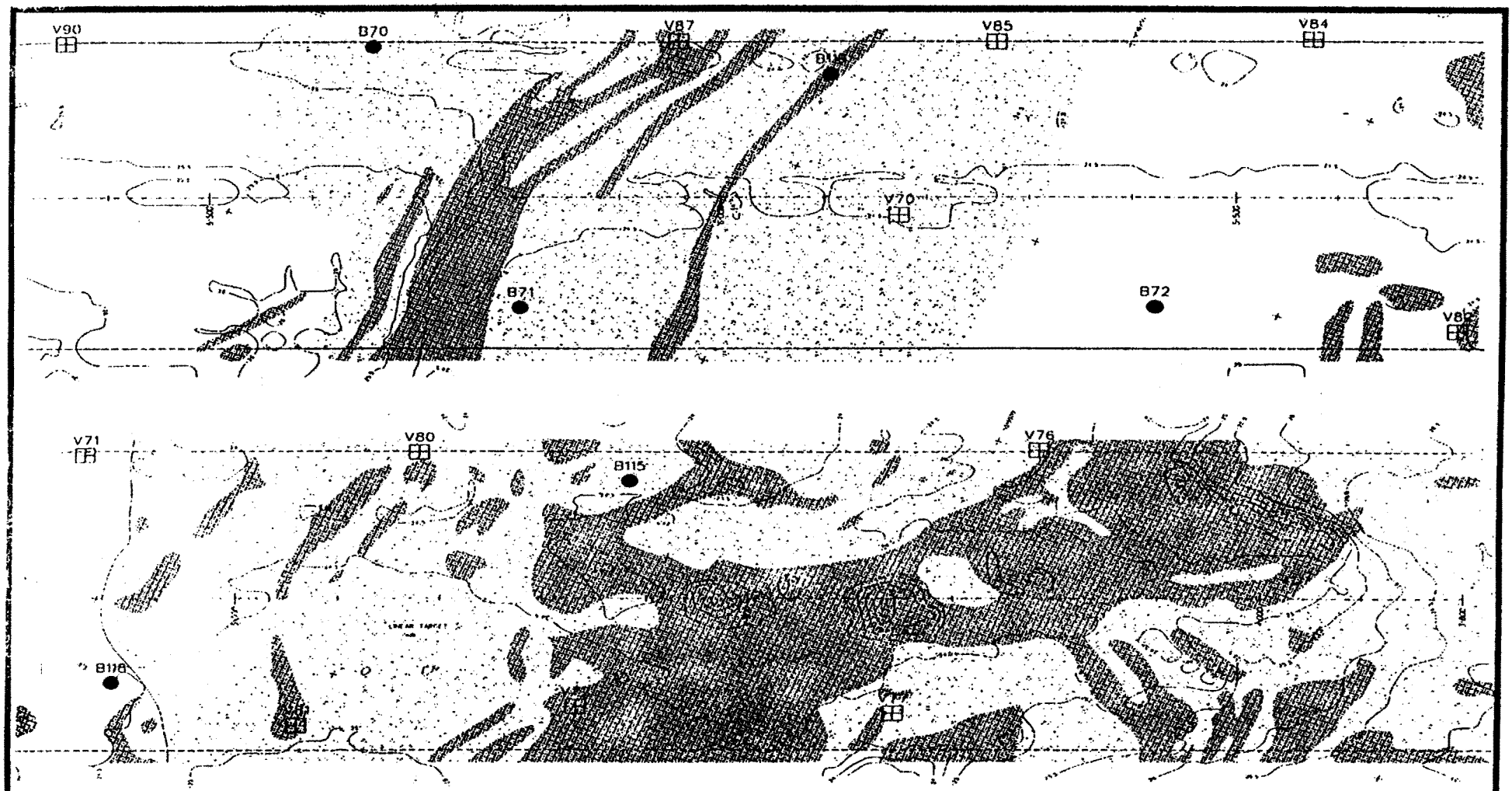
California Coastal Commission



E 7. BOTTOM PROFILE AND CENTERLINE PLOT OF OUTER APPROACH AREA.

EXHIBIT NO. 4
APPLICATION NO.
CD-172-97

California Coastal Commission



LEGEND

ROCKY

SCATTERED ROCK

BORING LOCATION

VIBRATORY CORE LOCATION

NOTES

1. HORIZONTAL DATUM IS REFERENCED TO WORLD GEODETIC SYSTEM OF 1984 (WGS84), HIGH PRECISION GEODETIC NETWORK (HPGN).
2. BATHYMETRIC CONTOURS ARE IN METERS REFERENCED TO MLLW AT 0.5 METER INTERVALS
3. SEE SHEET 85 FOR SOURCE OF SEAFLOOR FEATURES INTERPRETATION AND LOCATION OF BORING AND VIBRATORY CORE LOGS AND TEST RESULTS NOTES.
4. SEE SPECIFICATION SECTION 02030, GEOTECHNICAL EVALUATION OF THE OUTER APPROACH CHANNEL FOR A DESCRIPTION OF MATERIAL TO BE ENCOUNTERED IN DREDGE ELEMENT 115.

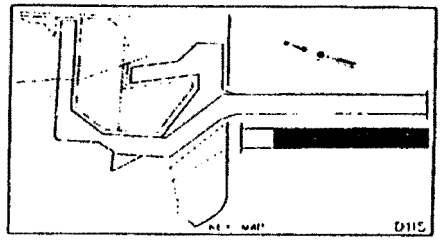


FIGURE 8. DETAILS OF BOTTOM TOPOGRAPHY IN OUTER APPROACH CHANNEL.

STATE OF CALIFORNIA-THE RESOURCES AGENCY PETE WILSON, Governor

DEPARTMENT OF FISH AND GAME

Marine Resources Division
Southern Operations
330 Golden Shore, Suite 50
Long Beach, CA 90802
(562) 590-5129

Post-it® Fax Note 7671	Date 12/12	# of pages ▶ 2
To Russ Kaiser	From Dave Parker	
Co./Dept. C.O.E.	Co. CDFG	
Phone #	Phone # (562) 590-5129	
Fax # (213) 452-4204	Fax # Sorry for delay!	

December 12, 1997

Mr. Larry Simone
California Coastal Commission
Energy and Ocean Resources Division
45 Fremont St., Suite 2000
San Francisco, CA 94105

Dear Mr. Simone:

On November 25, 1997 the Department of Fish and Game's Artificial Reef Project staff participated in dive surveys, with divers from Marine Ecological Consultants (MEC) contracted by the Port of Los Angeles (POLA), of two sites in the Horseshoe Kelp area proposed for placement of dredged rock from a POLA channel deepening project. The purpose of these surveys was to qualitatively assess the sites' physical and biological characteristics as they relate to suitability as new reef sites. Site A was to the west and site B to the east of the entrance channel which will be dredged. These two sites had been chosen based on prior side-scan sonar surveys and input from commercial passenger fishing vessel (CPFV) operators. Three transects, one each at two diagonal corners and in the center, were conducted at each site. Detailed observations are contained in a report prepared for POLA by MEC.

Substrate characteristics of the two sites differ significantly. Site A contains a series of rock strata forming numerous low relief reef outcrops separated by bands of coarse sand, shell debris and small cobble. Site B consists predominantly of coarse sand and shell debris with only scattered cobble and a few larger rocks and small boulders. Sand depths at both sites are relatively shallow at one half meter, or less, and should provide good support for new reefs. Fish, invertebrate, and algal biota are dominated by those species associated with rock substrate and are more abundant at Site A with its numerous reefs than Site B which contains only scattered cobble and rocks.

Based on the results of these dive surveys, we recommend that Site B, with its predominantly sandy substrate, be selected

EXHIBIT NO. 6
APPLICATION NO.
CD-172-97

for placement of appropriate dredged rock material to form new reefs. Site A should not be used due to the presence of numerous natural reefs which would likely be damaged or covered by placement of large quantities of new rock. It is possible that other sites in the vicinity of Site A might be acceptable, pending similar surveys, if a need for a site in the area west of the channel still exists. Given the presence of natural reefs and scattered rock substrate in the general vicinity, new reefs placed on these sites should be colonized and begin developing communities similar to natural reefs relatively quickly.

I hope that this recommendation will assist you in the required permit modifications for this project. If you should have any questions or need more information, please contact me at the above number.

Sincerely,

David O. Parker
Senior Biologist,
Marine Region

cc: Ralph Appy, POLA
Russ Kaiser, COE

EX. 6, CONT.