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CALIFORNIA COASTAL COMMISSION

South Coast Area Office
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Filed: 12/21/1999
 49th Day: 2/8/2000
 180th Day: 6/18/2000
 Staff: CP-LB
 Staff Report: 1/26/2000
 Hearing Date: Feb. 15-18, 2000
 Commission Action:

**RECORD PACKET COPY****STAFF REPORT: MATERIAL AMENDMENT****APPLICATION NUMBER:** 5-95-283-A1**APPLICANT:** City of Long Beach**AGENT:** Dennis Eschen, Superintendent of Planning & Development**PROJECT LOCATION:** On the beach south of Ocean Boulevard (8th Place to 72nd Place), City of Long Beach, Los Angeles County**LOCAL APPROVAL:** City of Long Beach Approval in Concept**DESCRIPTION OF PROJECT ORIGINALLY APPROVED ON FEBRUARY 8, 1996:**

Move approximately 200,000 cubic yards of beach sand from beach west of 55th Place to the peninsula beach between 59th Place and 72nd Place.

DESCRIPTION OF AMENDMENT REQUEST:

Amend permit to allow a one-time increase in the amount of beach sand (up to 120,000 cubic yards) to be moved for beach nourishment purposes prior to March 15, 2000.

SUMMARY OF STAFF RECOMMENDATION

The City has applied for this permit amendment in order to receive Commission approval to immediately fortify the most severely eroded sections of the beach before the March 15th deadline that protects spawning grunion and nesting California least terns. The City states that the need for the currently proposed beach nourishment is immediate. In order to address the City's future beach nourishment needs, the City is working with the Army Corps of Engineers and Commission staff to obtain new permits that would allow the City to implement a proposed five-year beach nourishment program. The City plans to submit a new coastal development permit application for the proposed five-year beach nourishment program by the end of the summer.

In this case, staff is recommending that the Commission grant a permit amendment for the proposed one-month beach nourishment program with the special conditions of the underlying permit and new special conditions to ensure conformance with the requirements of the resource agencies and to ensure that the permitted sand movement is completed prior to March 15, 2000. The permittee agrees with the recommendation.

STAFF NOTE:

The proposed project is located seaward of the adjudicated mean high tide line on publicly owned tidelands that the state has legislatively granted to the City of Long Beach. A coastal development permit is required from the Commission because the proposed development is located within the Commission's area of original jurisdiction. Pursuant to Section 30519 of the Coastal Act, any development located within the Commission's area of original jurisdiction requires a coastal development permit issued by the Commission. The Commission's standard of review for the proposed development is the Chapter 3 policies of the Coastal Act.

SUBSTANTIVE FILE DOCUMENTS:

1. City of Long Beach Certified Local Coastal Program, 7/22/80.
2. East Beach Stabilization Project, Final Report, by Tetra Tech, Inc., August 1991.
3. Technical Information in Support of Permit Application for Beach Sand Excavation and Nourishment, by City of Long Beach, September 30, 1999.
4. U.S. Army Corps of Engineers Permit Application No. 200000307-AOA.
5. Coastal Development Permit 5-95-283 (City of Long Beach).
6. Coastal Development Permit 5-94-102 (City of Long Beach).
7. Coastal Development Permit 5-91-695 (City of Long Beach) & amendment.
8. Coastal Development Permit 5-84-567 (City of Long Beach).
9. Coastal Development Permit 5-82-817 (City of Long Beach).
10. Coastal Development Permit 5-81-516 (City of Long Beach).
11. Coastal Development Permit P-80-7188 (City of Long Beach).
12. Coastal Development Permit P-79-4767 (City of Long Beach).

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution to **APPROVE** the permit amendment application with special conditions:

MOTION

"I move that the Commission approve with special conditions Coastal Development Permit Amendment 5-95-283-A1 per the staff recommendation as set forth below."

Staff recommends a **YES** vote which would result in the adoption of the following resolution and findings. An affirmative vote by a majority of the Commissioners present is needed to pass the motion.

I. **RESOLUTION: Approval with Conditions**

*The Commission hereby **GRANTS** an amendment to the permit, subject to the conditions below, for the proposed development on the grounds that the development and the amendment will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, is located between the sea and the first public road nearest the shoreline and is in conformance with the public access and public recreation policies of Chapter 3 of the Coastal Act, and will not have any significant adverse effects on the environment within the meaning of the California Environmental Quality Act.*

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 this permit is reported to the Commission. 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. **Compliance.** All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.
4. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
5. **Inspections.** The Commission staff shall be allowed to inspect the site and the project during its development, subject to 24-hour advance notice.
6. **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.
7. **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.

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III. Special Conditions of Amendment 5-95-283-A1

Note: All special conditions of the underlying coastal development permit still apply. This amendment does not alter the original special conditions of Coastal Development Permit 5-95-283 as approved by the Commission on February 8, 1996 (Appendix A).

1. Timing of Project

In order to reduce impacts on the grunion and the California least tern during the grunion breeding runs and the California least terns' nesting and foraging season, all sand movement permitted by this permit amendment shall be completed by March 15, 2000. This permit amendment does not permit the City to move any sand after March 15, 2000.

2. Conformance with the Requirements of the Resource Agencies

The permittee shall comply with all permit requirements and mitigation measures of the California Department of Fish and Game, Regional Water Quality Control Board, U.S. Army Corps of Engineers, and the U.S. Fish and Wildlife Service with respect to preservation and protection of water quality and marine environment. Any change in the approved project which are required by the above-stated agencies shall be submitted to the Executive Director in order to determine if the proposed change shall require a permit amendment pursuant to the requirements of the Coastal Act and the California Code of Regulations.

IV. Findings and Declarations

The Commission hereby finds and declares:

A. Project Description

The City of Long Beach proposes to move approximately 120,000 cubic yards of beach sand from the widest sections of the beach to the most severely eroded sections of the City's beach. The City proposes to complete the proposed sand movement before March 15, 2000 when the grunion spawning and California least tern nesting seasons commence. The sand source area is the wide beach situated between 20th and 55th Places (Exhibit #2). All proposed sand excavation and deposition would occur entirely on state tidelands that are administered by the City under the Long Beach Tidelands Trust agreement.

The beach areas that are in immediate need of sand nourishment are located at: 1) seaward of the public restroom at 8th Place (Exhibit #10); 2) seaward of the City Lifeguard stand at 12th Place (Exhibit #11); 3) seaward of the City Lifeguard Station and public

beach parking lot between 15th and 20th Places (Exhibit #12); and 4) the entire peninsula beach between 59th and 72nd Places (Exhibits #4&5). The City proposes to use scrapers, bulldozers and trucks to move the sand. Dry sand will be scraped from the beach surface and transported to the deposition site by trucks. As proposed, no sand excavation will occur within two hundred feet of Ocean Boulevard, and no sand will be excavated below the mean lower low water line (MLLW). The excavated sand is proposed will be placed in berms and seaward of the current waterline in order to extend the beach up to 150 feet further seaward than it currently exists.

The primary purpose of the proposed project is to protect public and private beachfront structures from damage caused by high tides and future storms. This amendment request would permit the City to immediately fortify the most severely eroded sections of the beach before the March 15th deadline that protects spawning grunion and nesting California least terns. The City's future beach nourishment needs would be addressed in a new coastal development permit application that the City plans to submit by the end of the summer. The City is currently working with the Army Corps of Engineers and Commission on a proposed five-year beach nourishment program.

B. Area History

Prior to 1900, the peninsula beach between 59th and 72nd Places (east beach) was wide and stable with an abundance of littoral sand supply from the Los Angeles, San Gabriel, and Santa Ana Rivers. Historically, the sand supply rate was naturally balanced with the rate of beach erosion. However, since 1900 the construction of the outer Los Angeles-Long Beach harbor breakwater, construction of dams and various flood control structures on the three rivers, filling of the Downtown Shoreline area, and construction of the Long Beach Marina Jetties has essentially eliminated all sources of natural sand supply. In addition, the construction of the Los Angeles-Long Beach harbor breakwater and the Alamitos Bay entrance channel jetties has created a wave exposure window which results in the continuing erosion of the east beach (Exhibit #3). Consequently, there is a now a shortage of beach sand in this area of erosion. The sand shortage, combined with the shoreline erosion pattern which consistently erodes away the beach at this area on the peninsula, has made it difficult for the City to maintain a wide beach in this area to protect the ocean front homes from high tides and southern storm waves. Similarly, the erosion of the beach is also threatening the beach bike path, a public beach parking lot, and the City Lifeguard structures that are situated on the beach between 8th and 20th Places.

The beach erosion is caused by two distinct modes of sediment transport. First is the continual, although mild, loss of sediment due to the longshore wave energy generated by the prevailing westerly winds. The second, but more significant cause of beach erosion, is due to occasional large southerly waves. The large southerly waves are more common in the summer when tropical storms off the west coast of mainland Mexico generate a large amount of wave energy which travels north to the south facing beaches in the Long Beach area. However, winter storms from the north can occasionally move far enough south to

generate southerly storm waves which can cause severe damage to the project area if the storm waves are large enough. These large southerly waves penetrate the gap between the east end of the harbor breakwater and the Alamitos Bay boating entrance jetties before directly attacking the east beach (Exhibit #3). Southerly waves also penetrate another gap in the harbor breakwater to cause beach erosion between 8th and 20th Places (Exhibit #1).

According to the City, much of the eroded beach sand is transported offshore and settles within the breakwater. However, large quantities of sand have also accreted on the beach areas situated between 20th and 55th Places (Exhibit #2). For example, sand accretion has increased the widths of the beaches near the Claremont and Granada Avenue boat launch ramps by about two hundred feet in the last decade. It is the areas of documented sand accretion that will provide the sand for the proposed project.

Because of the beach erosion problems, the east beach area has suffered wave damage on several occasions. To combat the problem, the City of Long Beach has performed periodic beach nourishment projects during the last forty years. Beach nourishment is a preferred method of protecting the beachfront homes because of the reduced impacts on marine habitats and public recreation. However, beach nourishment must be a continuing process because beach erosion continues as a natural process.

The City has recently indicated its interest in submitting an application for a five-year permit which would allow it to continue to excavate and move beach sand at regular intervals over a five-year period. As part of that future application, the Commission staff has requested that the City provide an analysis of any effects an ongoing sand excavation project may have on the source site. A condition of the underlying permit requires the City to monitor the source site during the term of this permit in order to provide additional information regarding the effects of sand excavation on the source site beach.

C. Marine Resources and Shoreline Protection

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 30233(b) of the Coastal Act states, in part:

- (b) Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.

Section 30235 of the Coastal Act states:

Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.

The proposed use of excavated beach sand for beach nourishment will partially mitigate the ongoing erosion of the beach and will help to protect existing structures along the beach. Section 30235 of the Coastal Act permits such activities to protect existing structures from erosion, but only if they are designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Section 30233(b) of the Coastal Act actually encourages beach replenishment. The project involves moving sand from the side section of beach, where sand has accreted, to the sections of beach where erosion is threatening structures. The proposed project is not expected to have any adverse impacts on local sand supply.

Section 30230 of the Coastal Act requires that marine resources be protected and that the use of the marine environment be carried out in a manner that will sustain the biological productivity of coastal waters. The proposed excavation of sand will not impact the marine environment because no excavation will occur below the mean lower low water line (MLLW). The deposition of the excavated beach sand, although occurring in an area which was formerly a beach, may impact the existing marine habitat. As the beach is restored to its former width of approximately two hundred feet, bottom habitat will be covered with sand and the surrounding area could be impacted by turbidity caused by suspended sediments. Therefore, mitigation measures are necessary to protect the biological productivity of the coastal waters.

The proposed project may also result in the marine habitat around the deposition area being adversely impacted by suspended sediments and turbid waters. In 1994, there was some debate about the necessity and effectiveness of silt curtains or other barriers for containing any suspended sediments and turbid waters which may have resulted from a previously approved project [Coastal Development Permit 5-94-102 (City of Long Beach)]. Silt curtains or other barriers are often used to contain suspended sediments and turbid waters. However, the City's engineer, Peter Gadd, stated that silt curtains cannot be effectively used in the surf zone because waves break them up. Furthermore, the engineer stated that the proposed project will not increase turbidity over natural levels because the transported sand material will contain less than two-percent fine-grained material. Fine-grained materials are usually responsible for turbid waters. Using on this information, the Commission previously found that silt curtains are not required for depositing sand in the

proposed location [Coastal Development Permit 5-94-102 (City of Long Beach)]. Therefore, silt curtains are not required as a condition of this permit.

However, mitigation measures are necessary because the deposition sites are grunion spawning areas. The waters in the area are also used as a feeding area for the endangered California least tern. In order to reduce the proposed development's impacts on spawning grunions and the least tern's feeding area during the birds' nesting season, the permit amendment is conditioned so that development is not permitted subsequent to March 15, 2000. The annual period between March 15 and September 1 is the primary grunion spawning season as well as the least tern's nesting season. The California Department of Fish and Game (P. Bontadelli, 9/14/88) and the U.S. Army Corps of Engineers (permit application #200000307-AOA.) have also prohibited beach replenishment activities during these times. In any case, the City has proposed to avoid the restricted time period that commences on March 15, 2000, and has agreed to apply for a new coastal development permit for all future beach nourishment activities that are proposed after March 15, 2000.

The marine environment will also be protected by conditioning the permit to ensure that all excavated sand is compatible with the existing beach sand at the deposition site. A qualified expert is required to inspect the excavated material to determine if the materials are suitable for deposition at the approved beach. The expert is required to use the sediment compatibility criteria contained in the Sand Compatibility, Beach Nourishment Operations letter by Peter E. Gadd of Coastal Frontiers Corporation, dated June 1, 1994 when determining the suitability of the excavated materials. An updated sand compatibility analysis will be required as part of any future coastal development permit application. In this case, the City asserts that all of the sand is compatible for the City's beach because the City's beach is the sand source. The existing special conditions of the underlying permit, however, are still applicable to the development permitted by this amendment (See Appendix A).

Therefore, only as conditioned does the Commission find the proposed project to be consistent with the marine resource and shoreline protection policies of the Coastal Act.

D. Recreation and Public Access

The proposed project is consistent with the following Coastal Act policies which encourage public access and recreational use of coastal areas.

Section 30210 of the Coastal Act states:

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.

Section 30213 of the Coastal Act states:

Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.

Section 30221 of the Coastal Act states:

Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

The proposed project will partially mitigate beach erosion and provide for the continuing and increased recreational use of the eroding beach areas by the public. The size of the beach in the deposition areas will be increased and will provide a larger area for public recreational use. The beach area where the sand will be excavated from will not be substantially reduced because the sand will be scraped from the surface. No excavation will occur below the mean lower low water line (MLLW).

The project will temporarily impact the use of some portions of the beach during the excavation, transportation and deposition of the sand. The City states that it is necessary to close some parts of the beach during the hours that heavy equipment is being used to excavate, transport and deposit sand (7:00 AM to 4:00 PM weekdays). The beach will be open before and after the work hours and during the weekends. In order to reduce such impacts on public access and recreation the permit is conditioned as follows:

On all days: Except for the portions of the beach where sand excavation, transportation or deposition is occurring, all beach areas and recreation facilities shall remain open and available for public use during the normal operating hours.

The bicycle path shall remain open and available for public use during the normal operating hours.

On weekends: All beach areas and recreation facilities shall remain open and available for public use during the normal operating hours.

On weekdays: Beach area closures shall be minimized and limited to areas immediately involved in sand excavation, transportation or deposition.

The permit is also conditioned to prohibit development during the least tern nesting season and grunion spawning season. These times correspond with the peak summer recreation season. In the case of this permit amendment, the Commission's approval permits sand

movement until March 15, 2000. This permit amendment does not permit the City to move any sand after March 15, 2000. Therefore, public access and recreation will not be impacted during the peak summer season.

The long-term benefits of beach nourishment offset the temporary reduction in beach use by providing a larger, more stable beach for public recreation. Further, as conditioned, the impacts of the proposed development on access and recreation have been minimized. Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Sections 30210, 30213 and 30221 of the Coastal Act.

E. Hazards

Section 30253(1) of the Coastal Act states:

New development shall:

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

The proposed development involves the nourishment of eroding beach areas. The purpose of the project is to widen the beach so that it provides more protection to existing structures from high tides and storm waves. On the peninsula, the east beach has recently eroded at a rate of six to sixty feet per year because of its exposure to southern waves (Exhibit #4). The City routinely renourishes the east beach with dredge spoils and builds berms to protect the adjacent structures from flooding due to high tides and storm waves.

In the area of proposed excavation there is a bike path and a public swimming pool complex. Ocean Boulevard and several public beach parking lots are also located in the vicinity. In order to ensure that the excavation does not reduce the width of the beach which protects these developments from high tides and storms, the approval of the permit is conditioned to prohibit the excavation of any sand within two hundred feet of Ocean Boulevard, any parking lot, or the Belmont Pool complex. Also, no sand shall be excavated within two hundred feet of the bicycle path except between the ends of Laverne Avenue and Granada Avenue where all sand excavation shall be set back at least one hundred feet from the bicycle path. Although the City has not proposed to move the waterline any closer to these developments, the buffers are necessary to protect the developments from possible erosion of the beach in the future.

Also, in order to document any effects that the proposed project may have on the source site, the permit is conditioned to require that the City monitor the excavation area before, during, and after the proposed movement of the beach sand, and submit to the Executive Director a monitoring report containing dated and scaled airphotos of the source site taken before, during, and after the excavation and movement of any beach sand. The monitoring

report shall also contain an analysis of any effects which the proposed project may have had on the source site. The information provided by the monitoring report will be used by Commission staff to determine the possible effects of any future sand movement projects near the site.

Finally, the Commission has routinely placed "assumption of risk" conditions on coastal development permit for projects in areas of erosion and/or flood hazards. The underlying permit has an "assumption of risk" condition because the site may be subject to extraordinary hazard from storms, waves and erosion. Therefore, the Commission required the applicant to waive any future claims of liability against the Commission or its successors in interest for damage from such hazards. As conditioned, the proposed project is consistent with Section 30253 of the Coastal Act.

F. Local Coastal Program

Section 30604(a) of the Coastal Act provides that the Commission shall issue a coastal development permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program (LCP) which conforms with Chapter 3 policies of the Coastal Act.

The City of Long Beach LCP was certified by the Commission on July 22, 1980. The certified LCP requires the City to repair beach erosion and develop a sand management plan (LCP, p. 63). The City has prepared a sand management plan which includes the movement of sand from one section of the beach to another. The proposed project complies with the policies of the certified LCP. However, because the project is located seaward of the former mean high tide line, in the Commission's area of original jurisdiction, the LCP is advisory in nature and may provide guidance. The standard of review for this project is the Coastal Act.

Approval of the project cannot prejudice the local government's ability to prepare a certifiable LCP because the City of Long Beach LCP was certified in 1980. The proposed project, as conditioned, is consistent with the policies of Chapter 3 of the Coastal Act, as required by Section 30604(a).

G. California Environmental Quality Act (CEQA)

Section 13096 of the California Code of 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.

Several alternative solutions to the City's beach erosion problem have been considered. The alternative projects include the construction of "hard" solutions such as T-shaped groins, permanent rock reefs, and an Alamitos bay entrance jetty extension. These alternatives would have significant adverse impacts on the environment.

The proposed project is a "soft" solution which, as conditioned, does not have significant impacts on the environment. Therefore, the Commission finds the proposed project, as conditioned, has been found consistent with the Chapter 3 policies of the Coastal Act. All adverse impacts have been minimized and there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact that the activity may have on the environment. Therefore, the Commission finds that the proposed project can be found consistent with the requirements of the Coastal Act to conform to CEQA.

End/cp

Appendix A

The following are the original special conditions of Coastal Development Permit 5-95-283 as approved by the Commission on February 8, 1996:

1. Assumption of Risk

Prior to issuance of the coastal development permit, the applicant shall submit a signed document which provides that: (a) the applicant understands that the site may be subject to extraordinary hazard from storms, waves and erosion and the applicant assumes the liability from such hazards; and (b) the applicant unconditionally waives any claim of liability on the part of the Commission and agrees to indemnify and hold harmless the Commission, its officers, agents and employees relative to the Commission's approval of the project for any damage due to such hazards.

2. Suitability of Materials

The City shall provide a qualified expert at the excavation site to inspect and monitor all excavated material proposed to be deposited at the approved deposition site. The inspector shall determine the geotechnical suitability of all excavated material using the sediment compatibility criteria contained in the Sand Compatibility, Beach Nourishment Operations letter by Peter E. Gadd of Coastal Frontiers Corporation, dated June 1, 1994. Only excavated material deemed "compatible" using the criteria contained in the letter may be deposited at the approved deposition site. All contracts involving the subject project shall include the above stated condition of approval.

3. Monitoring of the Source Site

The City shall monitor the excavation area before, during, and after the proposed movement of the beach sand in order to document any effects that the proposed project may have on the source site. Prior to June 1, 1997, the City shall submit to the Executive Director a monitoring report containing dated and scaled airphotos of the source site taken before, during, and after the excavation and movement of any beach sand. The monitoring report shall also contain an analysis of any effects which the proposed project may have had on the source site.

4. Belmont Pool and Bicycle Path Buffer

No sand shall be excavated within two hundred feet of Ocean Boulevard, any parking lot, or the Belmont Pool complex. No sand shall be excavated within two hundred feet of the bicycle path except between the ends of Laverne Avenue and Granada Avenue where all sand excavation shall be set back at least one hundred feet from the bicycle path.

5. Beach and Recreational Facility Closures

On weekends, all beach areas and recreation facilities shall remain open and available for public use during the normal operating hours. On weekdays, beach area closures shall be minimized and limited to areas immediately involved in sand excavation, transportation or deposition. On all days, except for the portions of the beach where sand excavation, transportation or deposition is occurring, all beach areas and recreation facilities shall remain open and available for public use during the normal operating hours. On all days, the bicycle path shall remain open and available for public use during the normal operating hours.

6. Timing of Project

No sand excavation or beach replenishment shall occur during the period commencing March 15 and ending September 1.

End/cp

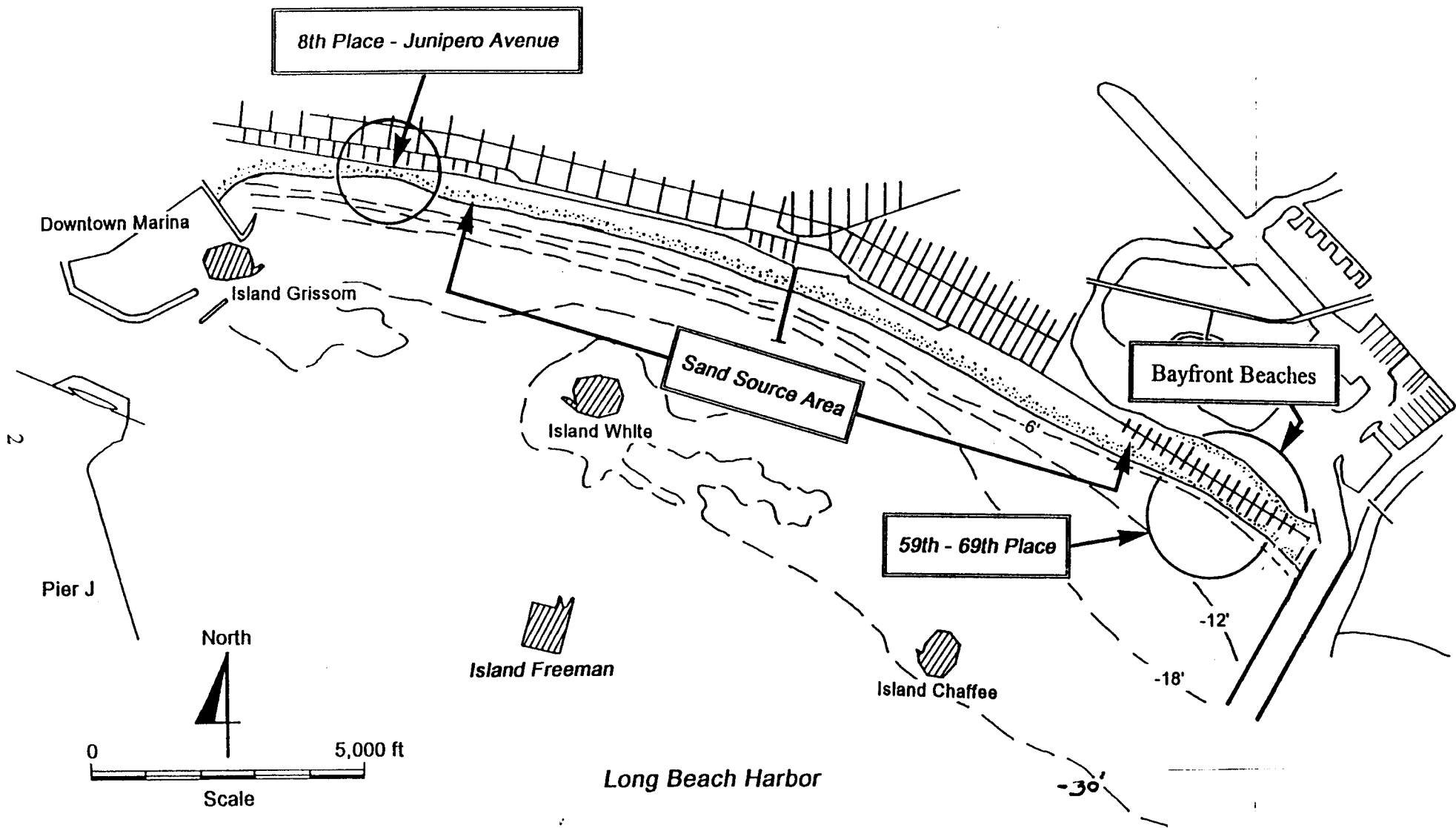


FIGURE 1
BEACH NOURISHMENT SOURCES AND PLACEMENT AREAS
LONG BEACH, CALIFORNIA

COASTAL COMMISSION

5-95-283-A1

EXHIBIT # 2

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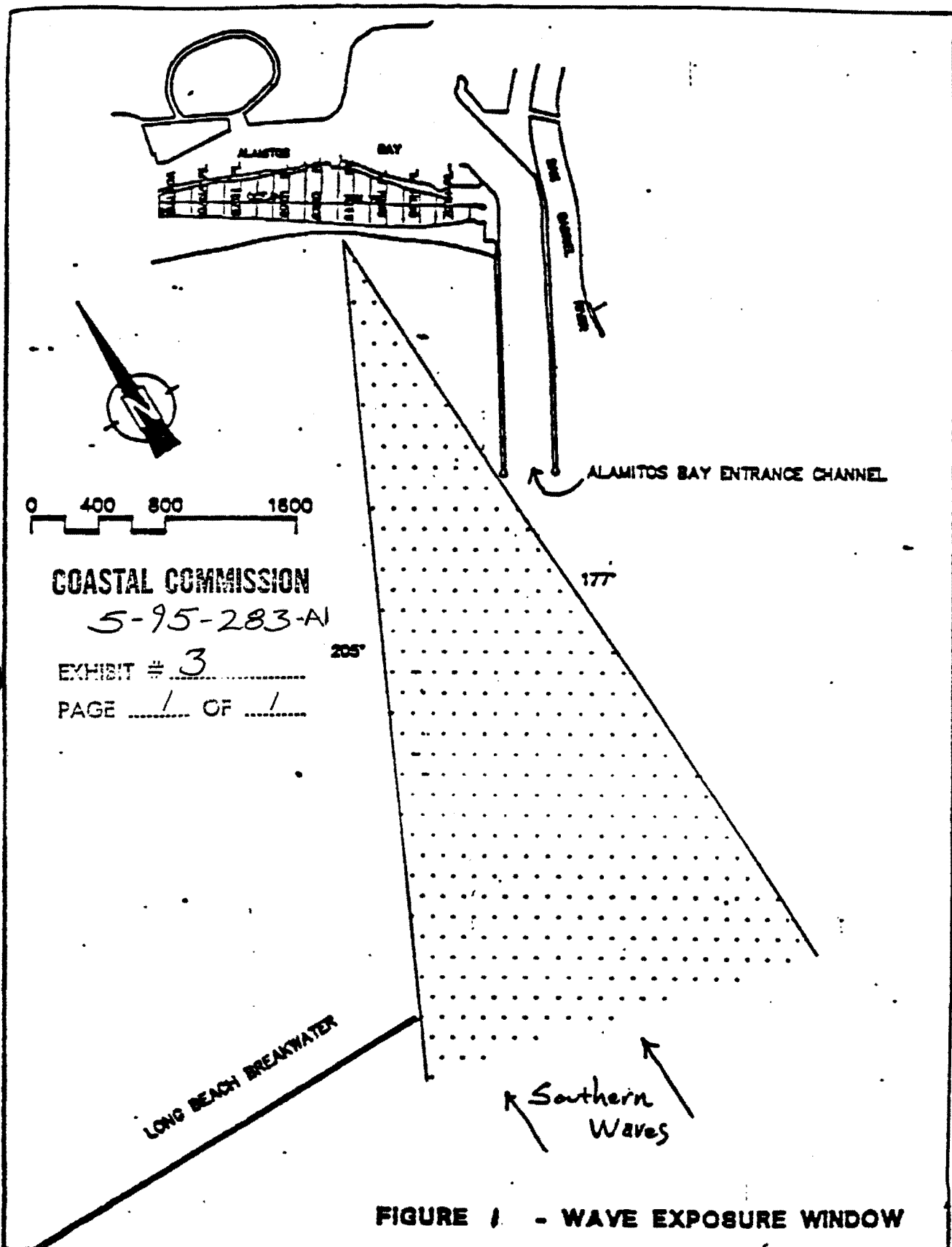


FIGURE 1 - WAVE EXPOSURE WINDOW

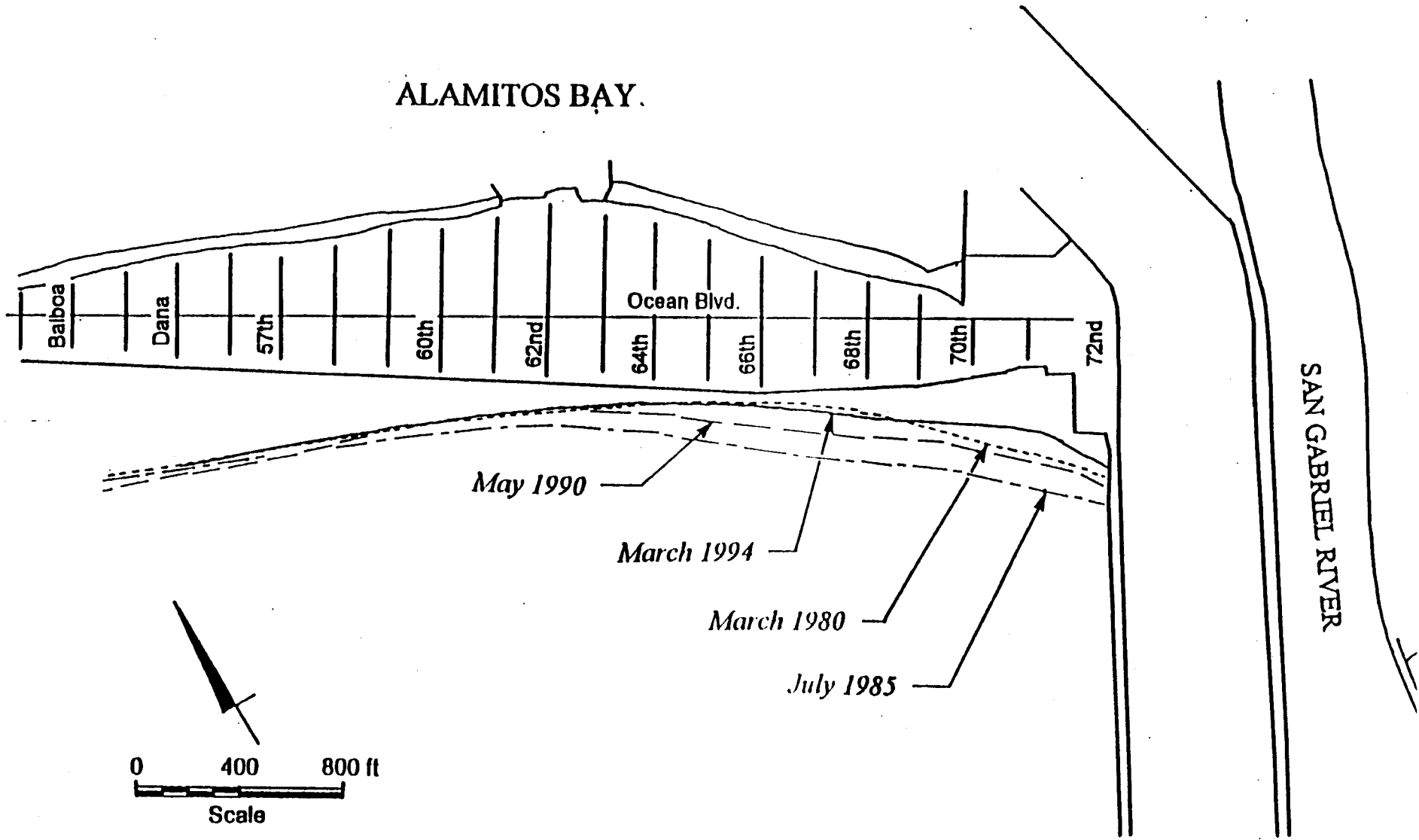
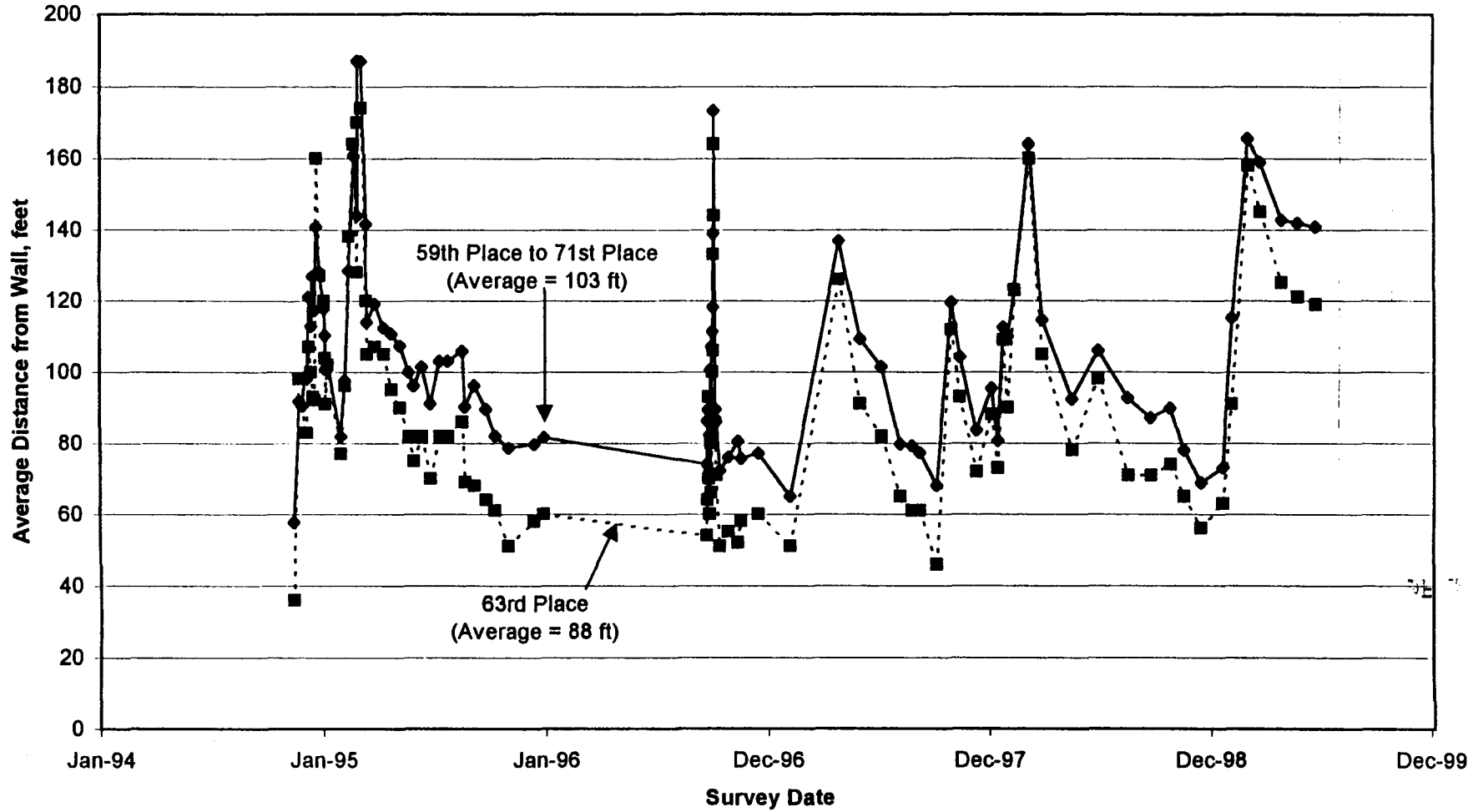


FIGURE 6: HISTORIC SHORELINE FLUCTUATIONS AT EAST BEACH, 1980-1994

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Figure 7
East Beach
Time History of Berm Position from Back Beach (Timber Seawall), 1994-1999



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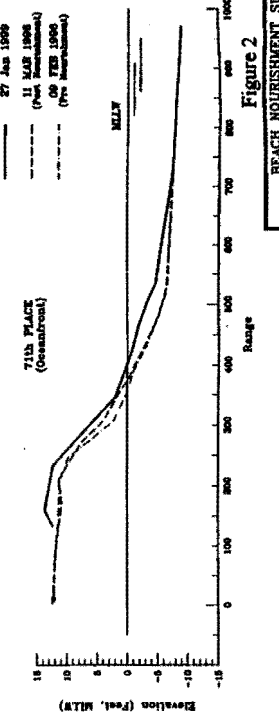
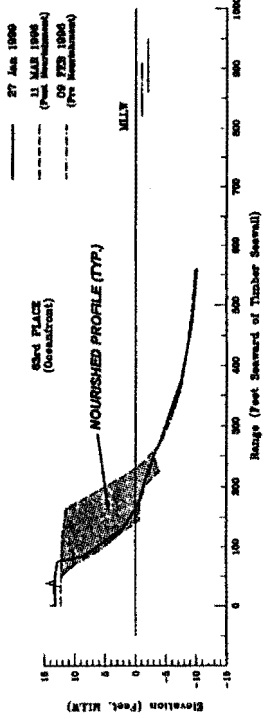
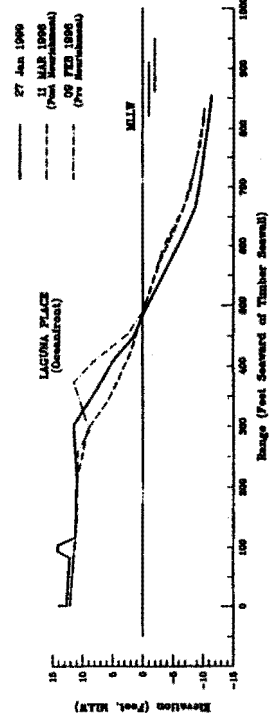
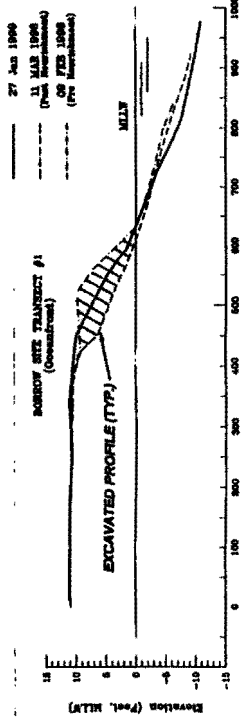


Figure 2

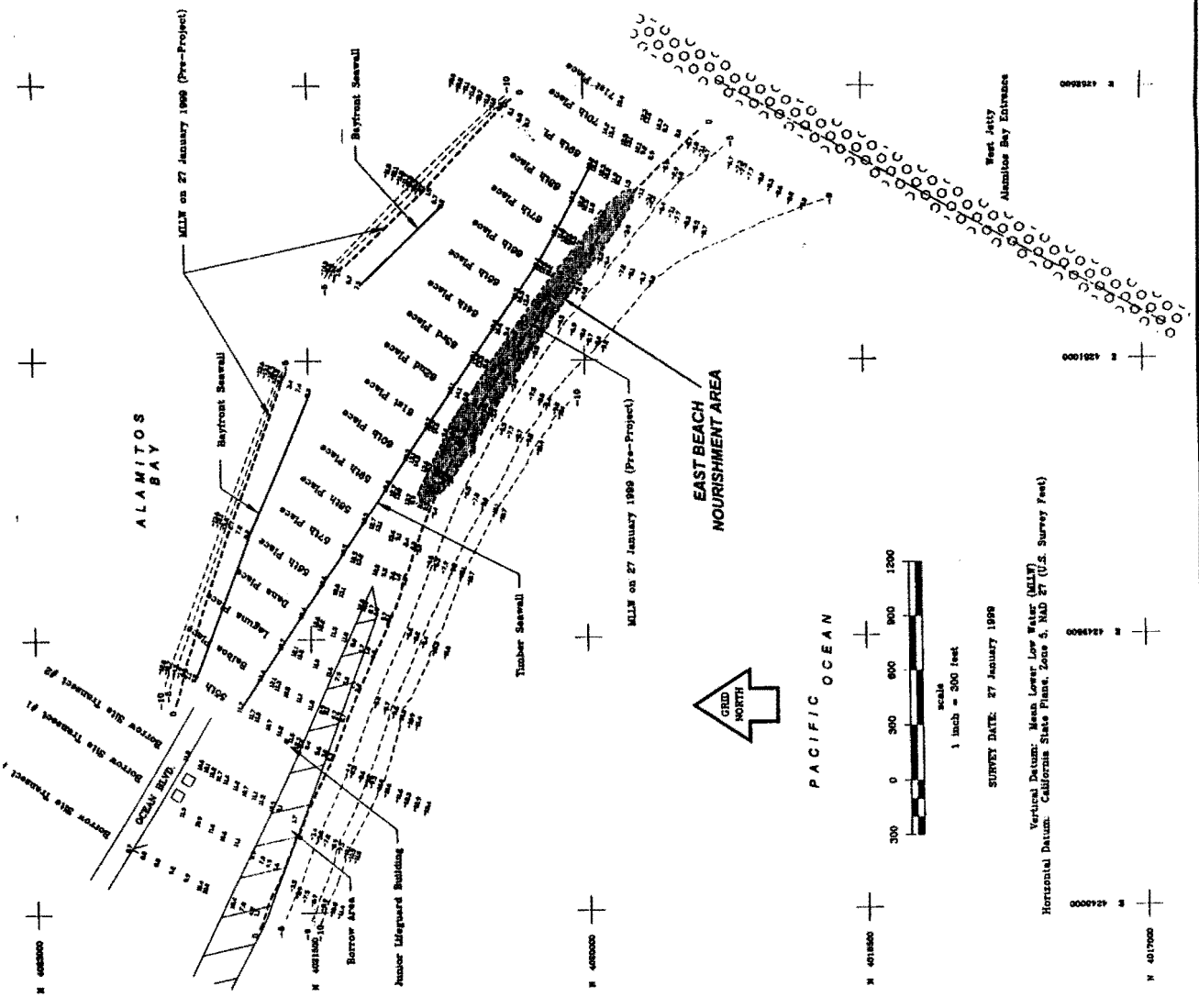
BEACH NOURISHMENT SURVEY	
DATE OF SURVEY	27 JAN 1989
PROJECT NO.	5-95-283-A1
CITY OF LONG BEACH	
COASTAL FRONTIERS CORPORATION	
Prepared by	DATE
Checked by	DATE
Approved by	DATE

COASTAL COMMISSION

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EXHIBIT # 5

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SURVEY DATE: 27 January 1989

Vertical Datum: Mean Lower Low Water (MLLW)
Horizontal Datum: California State Plane, Zone 5, MAD 87 (U.S. Survey Feet)

scale
1 inch = 300 feet

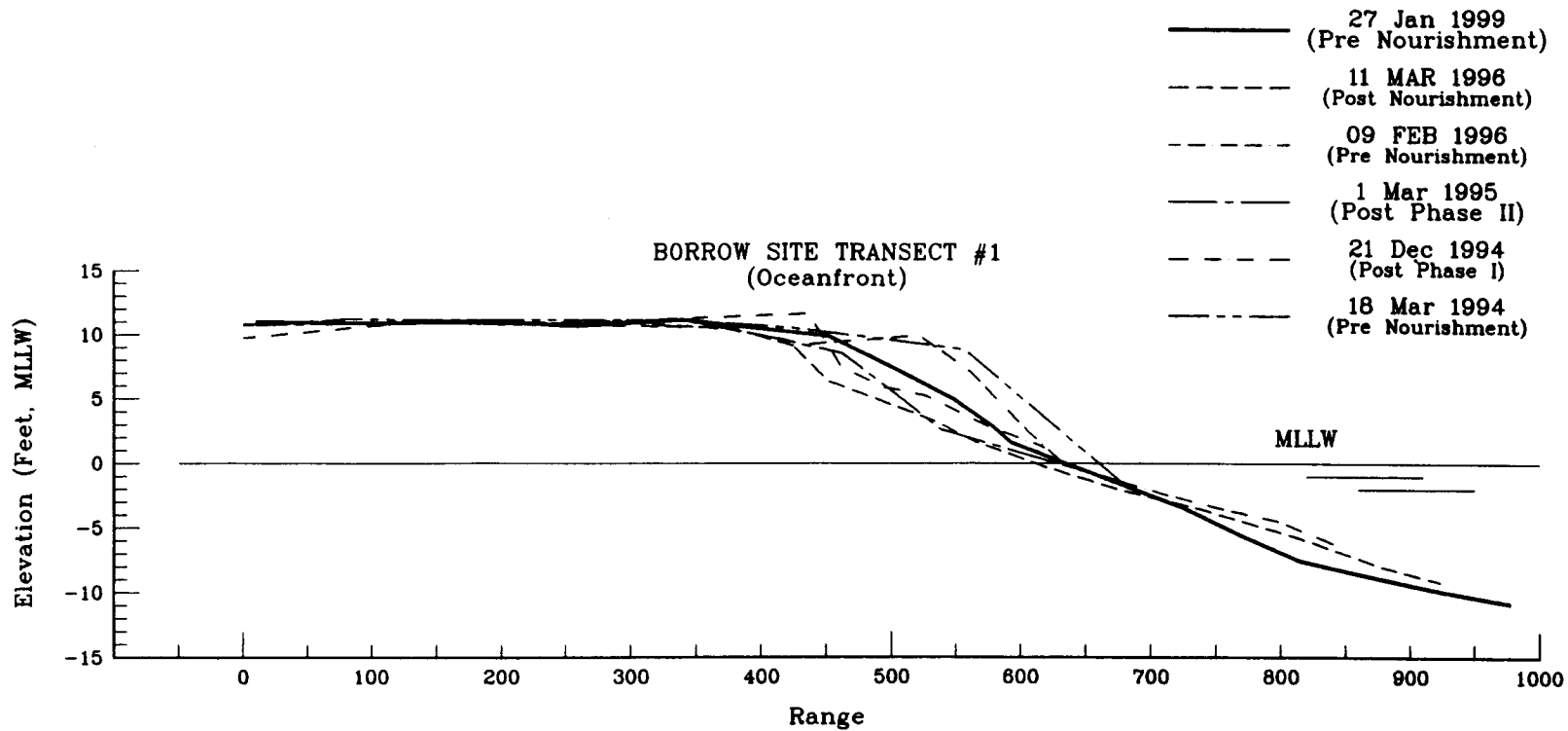


Figure 3: Borrow Site #1 Shore Profile History, 1994-1999

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EXHIBIT # 6

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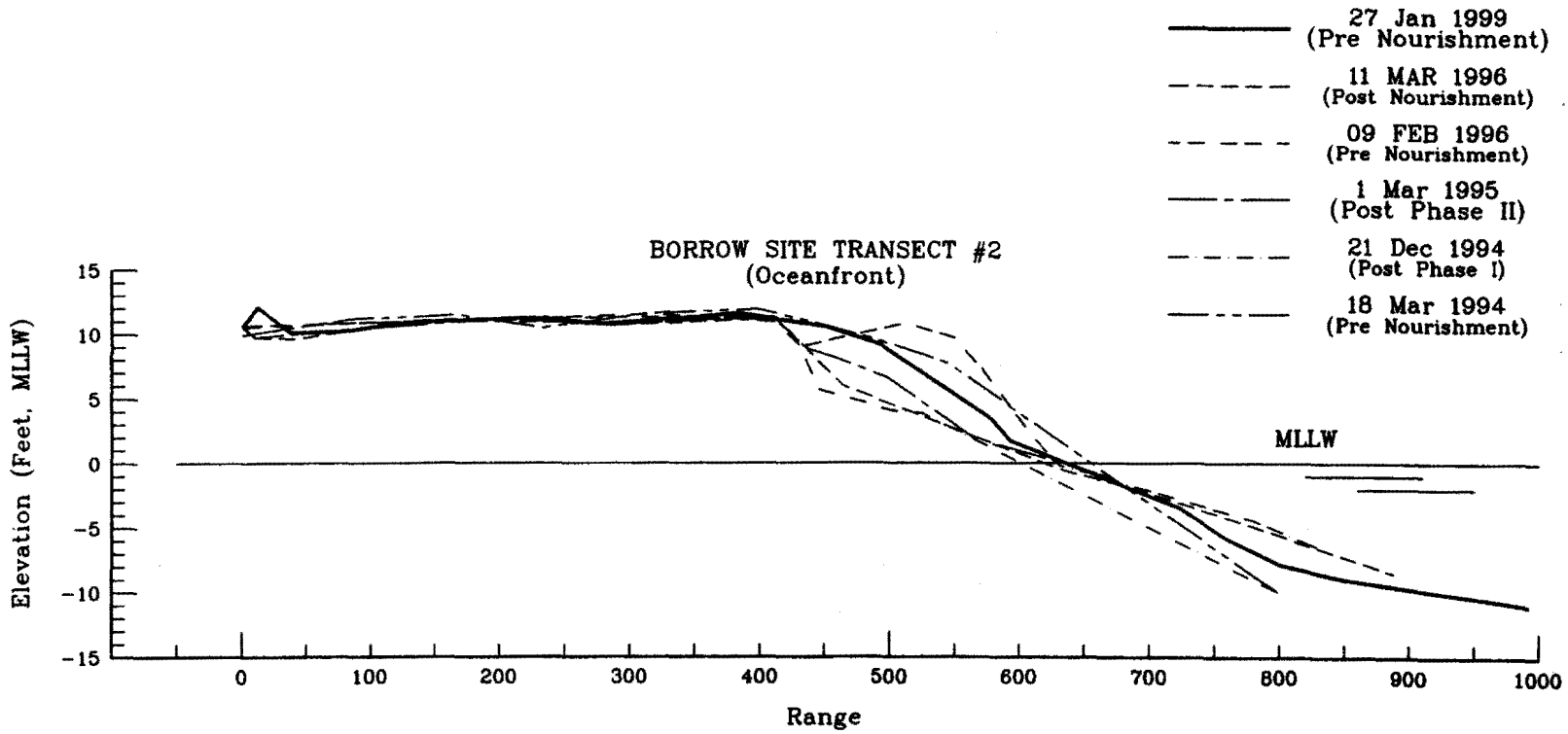


Figure 4: Borrow Site #2 Shore Profile History, 1994-1999

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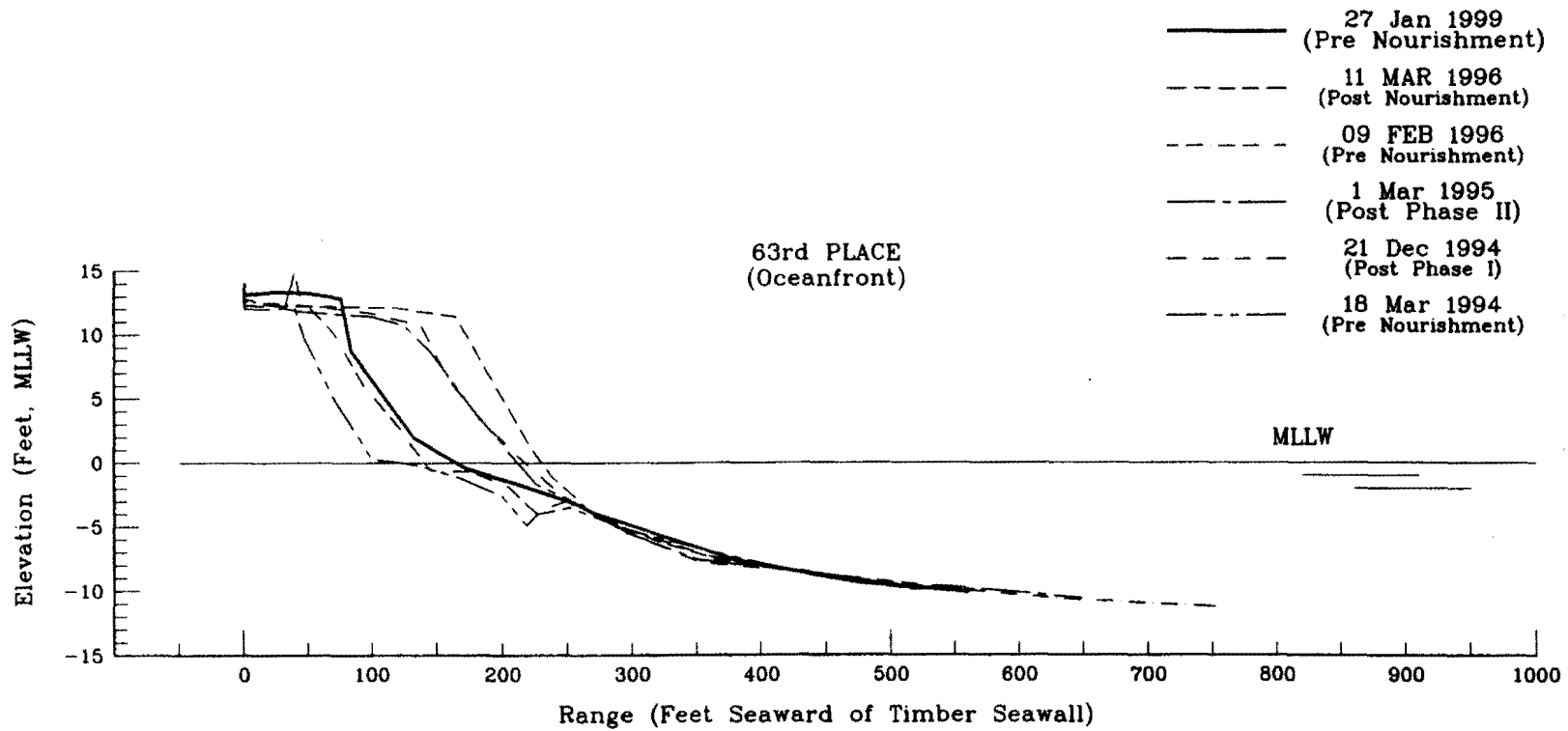


Figure 5: 63rd Place (Nourishment Site) Shore Profile History, 1994-1999

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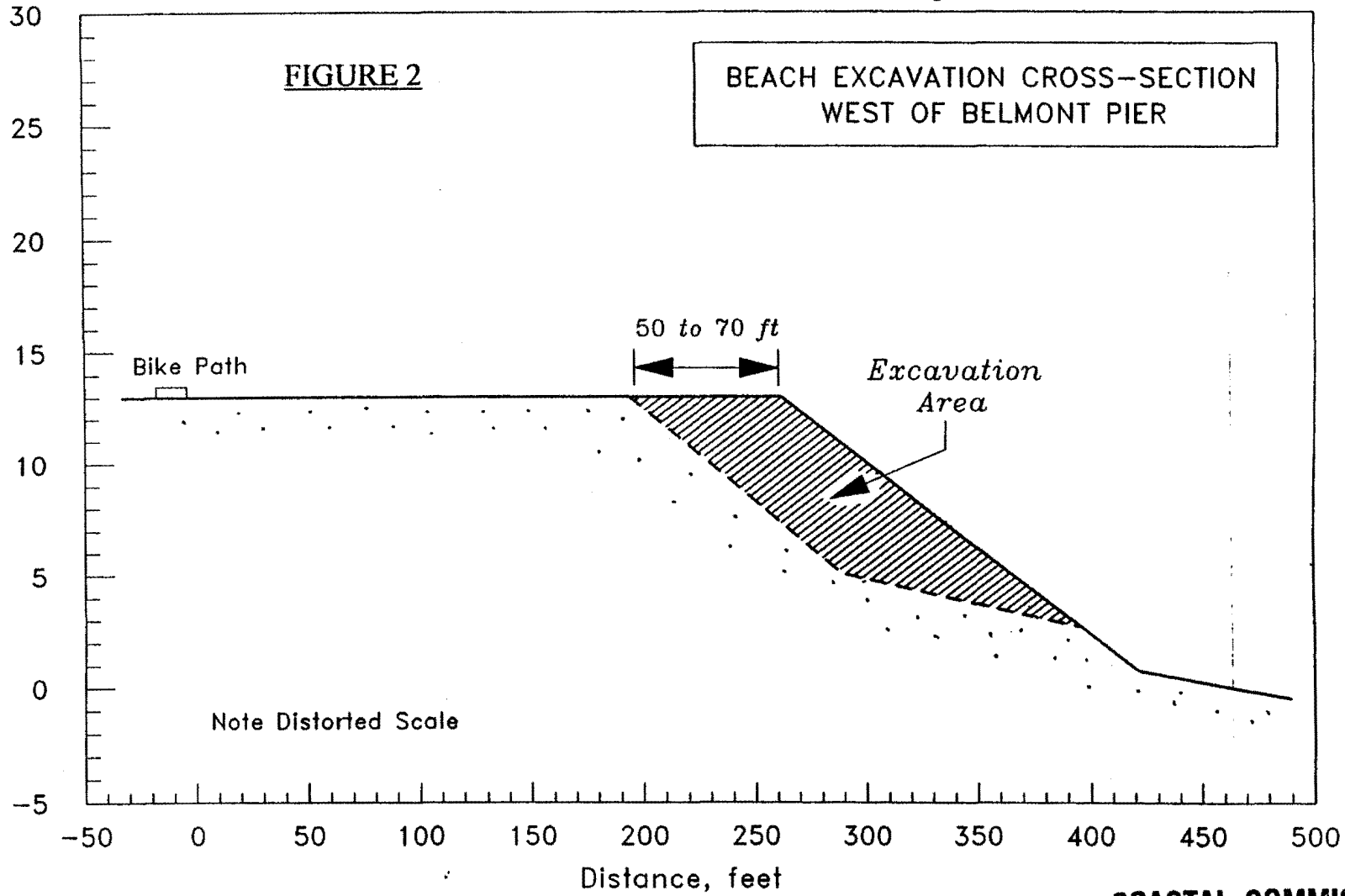
5-95-283-A1

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Elevation, ft (MLLW)

Figure 9



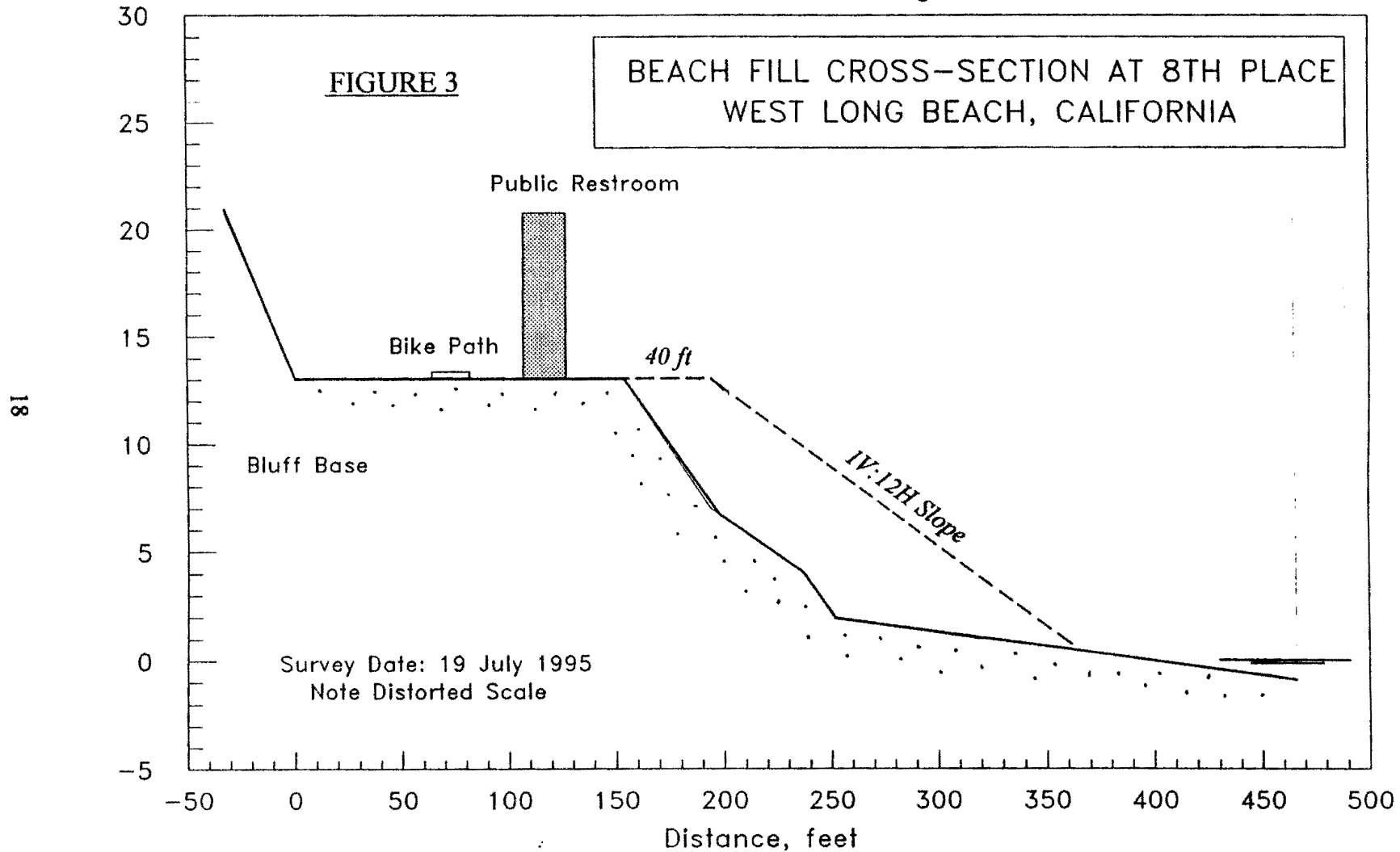
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Elevation, ft (MLLW)

Figure 10



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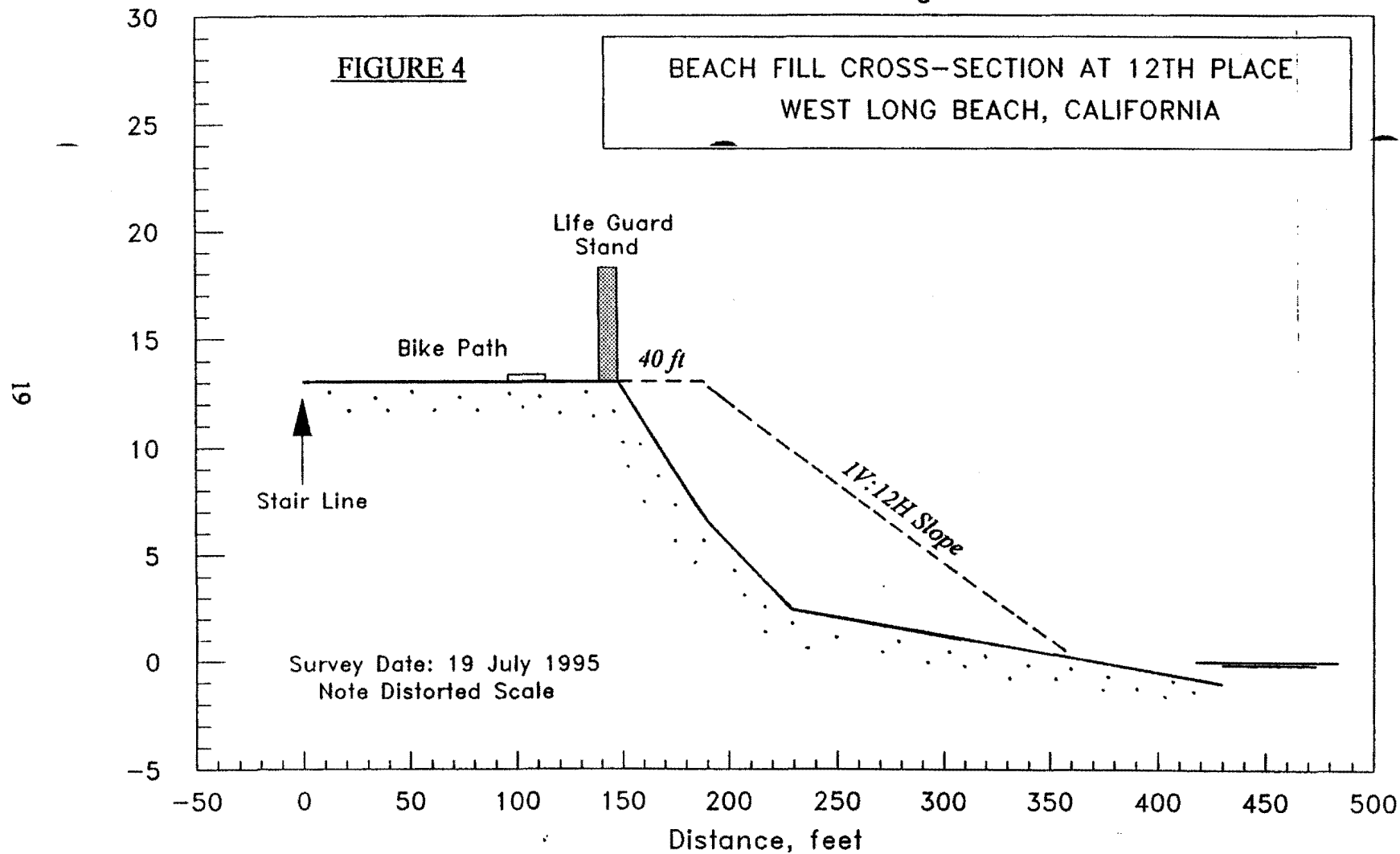
5-95-283-A1

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Elevation, ft (MLLW)

Figure 11



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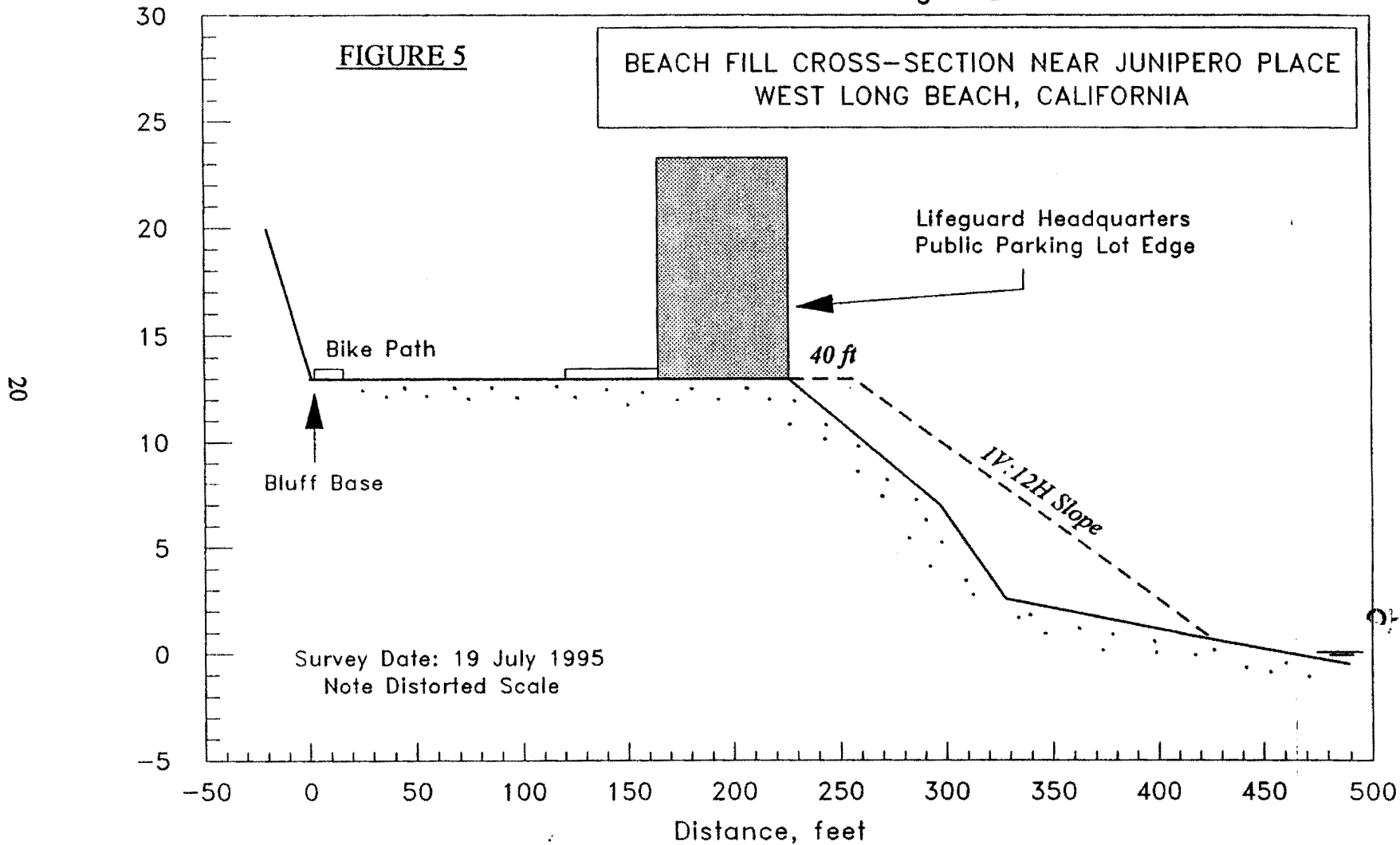
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Elevation, ft (MLLW)

Figure 12



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EXHIBIT # 12

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