STATE OF CALIFORNIA – THE RESOURCES AGENCY

GRAY DAVIS, *Governor*

CALIFORNIA COASTAL COMMISSION
45 FREMONT STREET, SUITE 2000
N FRANCISCO, CA 94105-2219
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RECORD PACKET COPY

Th 5c

May 24, 2001

TO: Coastal Commissioners and Interested Parties

FROM: Peter Douglas, Executive Director
Mark Delaplaine, Federal Consistency Supervisor

SUBJECT: National Marine Fisheries Service (NMFS) Seawater Intake System for fisheries research laboratory at Terrace Point, Santa Cruz, Negative Determination ND-50-01, Reviewed as modifications to Consistency Determination CD-50-98.

I. BACKGROUND:

On April 12, 1998, the Commission concurred in the National Marine Fisheries Service's (NMFS') consistency determination for a 53,400 square foot, fisheries research laboratory complex at Terrace Point in the western area of the City of Santa Cruz (CD-50-98). Appendix A summarizes the Commission's action. The seawater system to serve the lab was not one of the areas generating particular controversy during this review. The major issues were the need for an adequate buffer from agricultural lands, infrastructure and growth-inducement planning issues, and overall development plans for Terrace Point, which at the time was owned by Wells Fargo Bank, but which since has been acquired by the University of California, Santa Cruz (UCSC).

At the time of the Commission's review the seawater intake system for the lab had only been partially designed and had been described as including: (1) a seawater intake pipe at the East Sea Cave (near the West Sea Cave that already contained an existing, Long Marine Lab (LML) seawater intake); (2) a vertical, 8-foot diameter concrete caisson (including a platform and pump); and (3) above-ground seawater storage tanks as shown in Attachment 5. This second seawater system at Terrace Point was proposed for two main reasons: (1) to assure an adequate supply to meet the sustained seawater demands of the three facilities using seawater (LML, the proposed NMFS Santa Cruz Laboratory, and the California Department of Fish and Game Marine Wildlife Veterinarian Care and Research Center); and (2) to also help assure a continuous supply when one of the seawater intakes is shut down for periodic maintenance. NMFS noted at that time:

> *The proposed construction of additional seawater facilities would include placement of additional water storage tanks in the immediate vicinity of the two existing LML storage tanks. At this point design of the proposed new seawater facilities has not commenced. It is estimated approximately 60,000 gallons of water storage would be necessary. Initially, NOAA envisioned an additional pair of storage tanks similar to and in the immediate vicinity of the existing LML tanks. Though the Commission approved the existing LML tanks, comments received at NOAA's public meeting for the project's draft EA suggested that the appearance of these tanks was not appreciated by the neighboring residents. NOAA will design its water storage at LML in light of these concerns, and will work on a low-profile storage system that will minimize visibility.*

In reliance in part on this commitment to design a low-profile seawater intake and storage system, the Commission found the activity consistent with the view protection and other applicable Coastal Act policies. In accordance with this commitment, NMFS recently completed and submitted to the Commission staff for its review plans for a low-profile design for the system.

The intake system is located on land owned by UCSC. In the past few months, the Commission staff has met with NMFS and UCSC staff to determine the most appropriate layout and configuration for the system. The Commission staff was initially concerned that the seawater storage facilities were proposed too close to the bluff edge, within an area that was undergoing Commission and University planning efforts to be formally opened up for additional public access, and in a scenic blufftop area where such industrial facilities may detract from coastal views if not appropriately sited. In addition, as UCSC is currently preparing an LRDP for Commission review, the staff was concerned that the scope of the proposed project at this location might prejudice future LRDP planning options here. NMFS redesigned the facility in response to Commission staff comments and located it further inland and further west of McAllister Rd. (the access route to the bluff edge) (Attachment 4). The plan was worked out in consultation with UCSC staff[1], and the primary changes consist of relocating the seawater intake lines and caisson, and re-siting and partially undergrounding the storage tank and pump facilities (a change which also necessitates relocation of the existing man-made berm that separates LML from Younger Lagoon to the west). More specifically, the project includes:

1. a 10 ft. diameter steel caisson approximately 85 ft. in depth with a below grade concrete pumphouse;

2. four directionally drilled intake pipelines from the caisson below water level through the bluff face to the ocean;

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1 NMFS' project plans also contain several future changes UCSC anticipates implementing. These changes are not proposed as a part of this action. These "future plans" include reserving an area closer to McAllister Rd. for a future additional UCSC seawater storage facility, reserving areas for a future pool and future filter pad expansion, relocating several existing mobile caretaker units on the site, and relocating fences. Each of these future plans and projects would require future Commission review through an LRDP and/or CDP application.

3. an at grade 50 by 32 ft. concrete slab with four 4 ft. diameter by 14 ft. long sand filters and associated piping;

4. a 150,000 gallon, 56 ft. diameter, 12 ft. tall concrete seawater storage reservoir constructed 6-8 ft. above grade into surrounding earth berming (the berm screens the facility from the west side of Younger Lagoon);

5. a below grade concrete pumphouse with four distribution pumps and associated piping;

6. infrastructure utilities to connect the new system with the existing seawater distribution system;

7. temporary relocation of caretaker facilities to accommodate the construction activities;

8. relocation of existing fences; and

9. excavation and relocation of approximately 3,800 cubic yards of berm material, which will be relocated to the new berm location approximately 60 ft. to the west.

NMFS also notes that while it would own and construct the system, it would be operated and maintained by UCSC (with NOAA proportionally paying for operational and maintenance expenses based upon seawater usage).

II. PROCEDURES:

In part because of the connection between NMFS' proposal and future UCSC plans, and the fact that UCSC is in the process of planning a Long Range Land Use Development Plan (LRDP) for the Terrace Point property, some elements of which have generated local controversy, the Commission staff determined this matter should be reviewed by means of a public hearing (and possible Commission input) on a draft administrative negative determination letter prior to finalizing, executing, and transmitting the letter.

Section 930.45 of the federal consistency regulations provides that:

> *(a) Federal and State agencies shall cooperate in their efforts to monitor Federally approved activities in order to make certain that such activities continue to be undertaken in a manner consistent, to the maximum extent practicable, with the State's management program.*
>
> *(b) The State agency may request that the Federal agency take appropriate remedial action following a serious disagreement resulting from a Federal agency activity, including those activities where the State agency's concurrence was presumed, which was: (1) Previously determined to be consistent to the maximum extent practicable with the management program, but which the State agency later maintains is being conducted or is having an effect on any coastal use or resource substantially different*

> *than originally described and, as a result, is no longer consistent to the maximum extent practicable with the enforceable policies of the management program; ....*

Under section 930.45 the issue before the Commission is whether the proposed project, as modified, continues to be consistent to the maximum extent practicable with the California Coastal Management Program. This memo contains the staff's summary and analysis of NMFS' revised submittal. The memo is followed by a draft Negative Determination Concurrence letter, which the Executive Director would sign after the hearing unless the Commission determines such an administrative concurrence is not warranted.

III. SCENIC COASTAL VIEWS:

As originally proposed, NMFS seawater intake system would have included tall, highly visible seawater storage tanks. As redesigned, the tanks would be partially below grade level and would be further screened by the berm proposed for relocation. They would not be visible from Younger Lagoon, from Highway 1, or from Natural Bridges State Beach. They would be visible from the bluff at the end of McAllister Rd., which is expected to be formally opened up in the near future to public access as a result of permit requirements (see below). Nevertheless, this visual impact has been minimized by siting the facilities primarily underground, relocating the existing berm, and the proximity of similar coastal-dependent Long Marine Lab facilities.

The berm relocation would not involve alteration of natural landforms, as the existing berm is a manmade feature. Furthermore, there are tradeoffs associated with relocating (or not relocating) the berm: while relocating entails some degree of earthwork, to the extent project fencing is minimized, it also opens up several coastal views and enables the seawater storage tank to be located further from the primary access emphasis area. The relocated berm would be revegetated with drought-resistant, native plants, and the landscaping plan includes monitoring to assure revegetation success (the plans are being reviewed as well by the Younger Lagoon Reserve Coordinator).

Concerns over potential future UCSC activities in the immediate project area will undergo further Long Range Land Use Development Plan (LRDP) processes; approval of the NMFS project is not meant to suggest any predisposition to authorize any UCSC activities. NMFS has also agreed to submit revised fencing plans (addressing fencing design, heights and locations) for Commission staff review and approval, with the goal of minimizing the visual intrusion of the fencing to the greatest degree possible (i.e., by relocating the fence proposed on the east side of the existing berm as far west as possible, but still accommodating engineering constraints, such as need for maintenance equipment to access the facilities); by limiting the fence height as much as possible; by using aesthetically appropriate fencing materials and design; by providing see-through fencing at the bluff edge; etc.). This commitment will improve visual access and helps avoid any possible inference that "future facilities" shown on NMFS' submitted plans are being considered at this time.[2] As modified,

2 In addition, through a separate process, UCSC is working with the Commission on an interim access plan to improve the access amenities in this area.

the project does not raise any new visual resource concerns that would alter the Commission's previous conclusion that the project is consistent with the visual resource protection policy (Section 30251) of the Coastal Act.

IV. SHORELINE EROSION:

The proposed storage tanks are located nearer to the bluff edge than the originally proposed above-ground storage tanks. However, according to information submitted by the University, the erosion rate along this portion of the coast is relatively low (roughly 2 inches or less/yr.) The facilities have been intentionally set back a sufficient distance (roughly 40 feet) from the bluff edge so that they not only will not be subject to shoreline erosion processes, but also will allow an accessway/buffer on top of the bluff to be maintained with at least a 10 ft. width seaward of the relocated berm for the life of the project. NMFS reconfirms a previous commitment that it would not in any event seek a shoreline structure to protect this facility (and UCSC has recorded easements that prevent shoreline structures). Therefore, as modified, the project does not raise any new shoreline erosion resource concerns that would alter the Commission's previous conclusion that the project is consistent with the applicable policies of the Coastal Act (including the requirement of Section 30253(2) that new development not generate the need for new shoreline protection devices).

V. FUTURE PLANS FOR PUBLIC ACCESS:

By relocating the berm and installing the seawater intake further to the west, an area heretofore occupied by the manmade berm and the University's caretaker's quarters will be opened up. The Commission notes that an appropriate use of this area could be for additional public access. Although this area remains blocked to public access currently, the University is currently developing plans in consultation with Commission staff to open and improve the overlook at the end of McAllister Way for public viewing and interpretation. These changes underway (i.e., opening up the overlook area by removing fencing and developing an overlook with interpretative panels) were required by the Commission by their conditioned approvals of both the adjacent LML Marine Discovery Center (CDP 3-97-050) and Center for Ocean Health (CDP 3-83-076-A13) currently under construction. The redesigned NMFS seawater intake project allows for additional space in this currently blocked and condensed area within which to provide and enhance opportunities for public access viewing, facilities (e.g., benches, picnic tables, etc.), interpretation of working Lab facilities, and the overall sense of public space consistent with Coastal Act direction to preserve such lands for Coastal Act priority uses. The above-described condition compliance process, in conjunction with the proposed shifting of the redesigned NMFS project to the west, should result in a much enhanced public viewshed and access area. The amenities in this area can be further enhanced if accompanied by the existing UCSC bluff revegetation effort ongoing seaward of the Discovery Center, and by interpretative materials and facilities that could be provided.

In addition, as described in the shoreline erosion section above, adequate space will remain seaward of the relocated berm to allow for a path to provide access to and/or around Younger Lagoon and the beach seaward of the lagoon. The retention of this adequate space protects planning options in the event the Commission determines that the Lagoon and/or beach area

should be opened to public access in the future. (The Lagoon and beach were placed off-limits to public access in 1981.) Adequate space will also remain to develop a second overlook seaward of the relocated berm in the future. The Commission is tentatively scheduled to review the issue of continued beach and lagoon closure, and lagoon overlook sites, at its July 2001 meeting in Santa Rosa. By preserving adequate space for such public access features seaward of the relocated berm, the redesigned NMFS project does not predispose or prejudice this future Commission decision.

As modified, the project does not raise any new public access concerns that would alter the Commission's previous conclusion that the project is consistent with the public access and recreation policies of the Coastal Act.

VI. CONCLUSION:

NMFS has submitted specific plans for its seawater intake and storage system, which had not been fully designed when the Commission concurred in NMFS' consistency determination for the fisheries research laboratory. With additional commitments from NMFS regarding berm revegetation plans, and an agreement for submittal of revised fence plans for Commission staff review to assure the fence enhances access and visual amenities, the Commission staff has concluded that the modified project will be carried out in a manner that remains consistent to the maximum extent practicable with the California Coastal Management Program.

Attachments:

1. Draft Executive Director Negative Determination Concurrence Letter – ND-50-01
2. Summary of original Commission action on CD-50-98
3. Location maps and existing Terrace Point Facilities and plans for: NMFS Fisheries Lab, Long Marine Lab, and Discovery Center
4. Currently Proposed Seawater Intake System
5. Originally Proposed Seawater Intake System

G: LU/FC/Staff Reports/2001/CD-50-98 NMFS Seawater as ND.doc

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DRAFT

June 2001

Mark Eberling
National Marine Fisheries Service
National Oceanic and Atmospheric Administration
Western Administrative Support Center
Facilities and Logistics Division
7600 Sand Point Way, N.E.
Seattle, WA 98115-0070

RE: **ND-50-01** Negative Determination, National Marine Fisheries Service (NMFS) Seawater Intake System for fisheries research laboratory at Terrace Point, Santa Cruz, Reviewed as modifications to Consistency Determination CD-50-98

Dear Mr. Eberling:

The Coastal Commission staff has received the above-referenced negative determination for the redesign of the National Marine Fisheries Service's Seawater Intake System at Terrace Point in Santa Cruz. On April 12, 1998, the Commission concurred in the National Marine Fisheries Service's (NMFS') consistency determination for a 53,400 square foot, fisheries research laboratory complex at Terrace Point in the western area of the City of Santa Cruz (CD-50-99). Through that review the Commission determined the research lab to be consistent with the California Coastal Management Program.

Initially, NMFS had envisioned an additional pair of storage tanks similar to and in the immediate vicinity of the existing Long Marine Lab. However, in response to public comments during NOAA's public meeting for the project's draft Environmental Assessment, NMFS agreed to redesign the water storage system using a low-profile storage system to minimize visibility, and in the consistency review process both NMFS and the Commission understood and acknowledged that the seawater intake system would be redesigned with a lower profile design. With NMFS' commitment to design a low-profile seawater intake and storage system, the Commission found the fisheries research lab consistent with the view protection and other applicable Coastal Act policies. In accordance with this commitment, NMFS recently completed and submitted to the Commission staff for its review plans for a low-profile design for the system.

The plan was worked out in consultation with UCSC staff, and the primary changes consist of relocating the seawater intake lines and caisson, and re-siting the underground storage tank (a change which also necessitates relocation of the existing man-made berm that separates LML from Younger Lagoon to the west). More specifically, the project includes:

Attachment 1

1. a 10 ft. diameter steel caisson approximately 85 ft. in depth with a below grade concrete pumphouse;

2. four directionally drilled intake pipelines from the caisson below water level through the bluff face to the ocean;

3. an at grade 50 by 32 ft. concrete slab with four 4 ft. diameter by 14 ft. long sand filters and associated piping;

4. a 150,000 gallon, 56 ft. diameter, 12 ft. tall concrete seawater storage reservoir constructed 6-8 ft. above grade into surrounding earth berming (the berm screens the facility from the west side of Younger Lagoon);

5. a below grade concrete pumphouse with four distribution pumps and associated piping;

6. infrastructure utilities to connect the new system with the existing seawater distribution system;

7. temporary relocation of caretaker facilities to accommodate the construction activities;

8. relocation of existing fences; and

9. excavation and relocation of approximately 3,800 cubic yards of berm material, which will be relocated to the new berm location approximately 60 ft. to the west.

As originally proposed, NMFS seawater intake system would have included tall, highly visible seawater storage tanks. As redesigned, the tanks would be below grade level and would be further screened by the berm proposed for relocation. They would not be visible from Younger Lagoon, from Highway 1, or from Natural Bridges State Beach. They would be visible from the bluff at the end of McAllister Rd., which is expected to be opened up in the near future to public access. Nevertheless, this visual impact has been minimized by siting the facilities primarily underground, relocating the existing berm, and the proximity of similar coastal-dependent Long Marine Lab facilities. The berm relocation would not involve alteration of natural landforms, as the existing berm is a manmade feature. Furthermore, there are tradeoffs associated with relocating (or not relocating) the berm: while relocating entails some degree of earthwork, it also opens up several coastal views and enables the seawater storage tank to be located further from the primary access emphasis area. The relocated berm would be revegetated with drought-resistant, native plants, and the landscaping plan includes monitoring to assure revegetation success. As modified, the project does not raise any new view protection, public access and recreation, shoreline erosion, or other coastal resource concerns that would alter the Commission's previous conclusion that the project is consistent with the Coastal Act.

Under the federal consistency regulations (Section 930.45(b)(1)) the State agency may request that a Federal agency take appropriate remedial action for an activity which was previously determined to be consistent to the maximum extent practicable with the management program, but which the State agency later maintains is being conducted or is having an effect on any coastal use or resource substantially different than originally described and, as a result, is no longer consistent to the maximum extent practicable with the enforceable policies of the management program.

With the additional commitments from NMFS regarding berm revegetation plans, and an agreement for submittal of revised fence plans for Commission staff review to assure the fence is designed and located in a manner that enhances access and visual amenities, the Commission staff has concluded that the modified project will be carried out in a manner that remains consistent to the maximum extent practicable with the California Coastal Management Program. We therefore **concur** with your negative determination made pursuant to Section 15 CFR 930.45(b)(1) of the NOAA implementing regulations. Please contact Mark Delaplaine at (415) 904-5289 if you have any questions.

Sincerely,

PETER M. DOUGLAS
Executive Director

cc: Santa Cruz District Office
California Department of Water Resources
Governors Washington D.C. Office

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Attachment 2

CD-50-98 EXECUTIVE SUMMARY

The National Marine Fisheries Service (NMFS) has submitted a consistency determination for the construction of a fisheries research laboratory at Terrace Point in the City of Santa Cruz. NMFS proposes to relocate the staff and operations of the existing NMFS Tiburon Laboratory (and a limited number of the staff of the Protected Species Division of the NMFS Southwest Region in the Santa Rosa) to the proposed NMFS Santa Cruz Laboratory. The existing Tiburon Laboratory would be closed. Research at the proposed Santa Cruz Laboratory would provide information on marine, estuarine, and anadromous fish populations and their habitats to support and improve the nation's ability to conserve and manage these resources. The geographic area of operations covers the eastern Pacific ocean, with most research conducted in Central and Northern California. A wide variety of field and laboratory studies will be conducted on economically and ecologically important fisheries with emphasis on groundfish, sensitive coastal and estuarine fish, and species protected by legislation such as the Endangered Species Act. Research will also be conducted on the influence of environmental factors on resources, such as contaminant effects, habitat quality, ecosystem health, and larger scale climatic and oceanographic changes. In addition to research staff, management staff at the proposed Santa Cruz Laboratory would deal with issues and problems relating to the regulation of environmental and natural resource laws, and the impacts of human activities on aquatic habitats and protected species.

The project is a coastal-dependent research facility, one of the highest priority uses under the Coastal Act, and one whose research will assist the Commission's ability to better protect marine and other coastal resources. Nevertheless the project's infrastructure needs (i.e., road access, and water and sewer lines) have raised important local coastal planning issues. As the Commission took care to assure in approving the nearby Long Marine Lab expansion and adjacent Dept. of Fish and Game oiled wildlife rescue facility, in the absence of further planning efforts the utilities to the site need to be carefully managed to assure they do not undermine efforts to enable the City of Santa Cruz to develop land use policies and standards that conform to the requirements of the Coastal Act. The project site is within Terrace Point, an area that has been "white-holed" (i.e., is an area of deferred certification under the City's Local Coastal Program (LCP)). NMFS is unable to wait for completion of this plan, due to funding and timing considerations. NMFS' submittal at this time raises the issue of whether NMFS' infrastructure proposal will prejudice preparation by the City of approvable LCP policies and standards for the Terrace Point property and prematurely commit the area to a particular development pattern, thereby lessening the flexibility to maximize coastal resource protection in the area.

Based on this concern the Commission staff has requested that NMFS use existing authorized infrastructure alignments (i.e., the existing road and the water line alignment shown on Exhibit 7) to serve the project with road and utility access. In response, NMFS has agreed to use the existing road (Delaware/McAllister Rd, shown on Exhibits 3 & 7), pending completion of the planning process for Terrace Point, and thus does not propose a new road to its facility that might prejudice the completion of the LCP planning process. However NMFS also proposes to route its proposed water and sewer lines through other than existing authorized alignments. Nevertheless NMFS is able to agree, similarly to what the Commission requested in authorizing the UC/Long Marine Lab expansion, that the utility easement would be "relocatable." With this commitment, combined with the commitment to utilize the existing road (Exhibit 3) for access, pending completion of LCP planning for this area which should resolve the issue of the appropriate location, if any, for new roads, the project will avoid prejudice to the planning process under the Coastal Act, and will retain the City's and Commission's ability to fully protect the Terrace Point property in a manner consistent with Chapter 3 of the Coastal Act.

The project is a high priority use under the Coastal Act, will not adversely affect agriculture, scenic public views, water quality, environmentally sensitive habitat, and wetlands, is not growth-inducing, and would not cause adverse cumulative impacts on coastal resources, and is consistent with Sections 30222, 30222.5, 30255, 30241, 30242, 30230, 30231 30240, 30251, 30250 and 30254 of the Coastal Act.

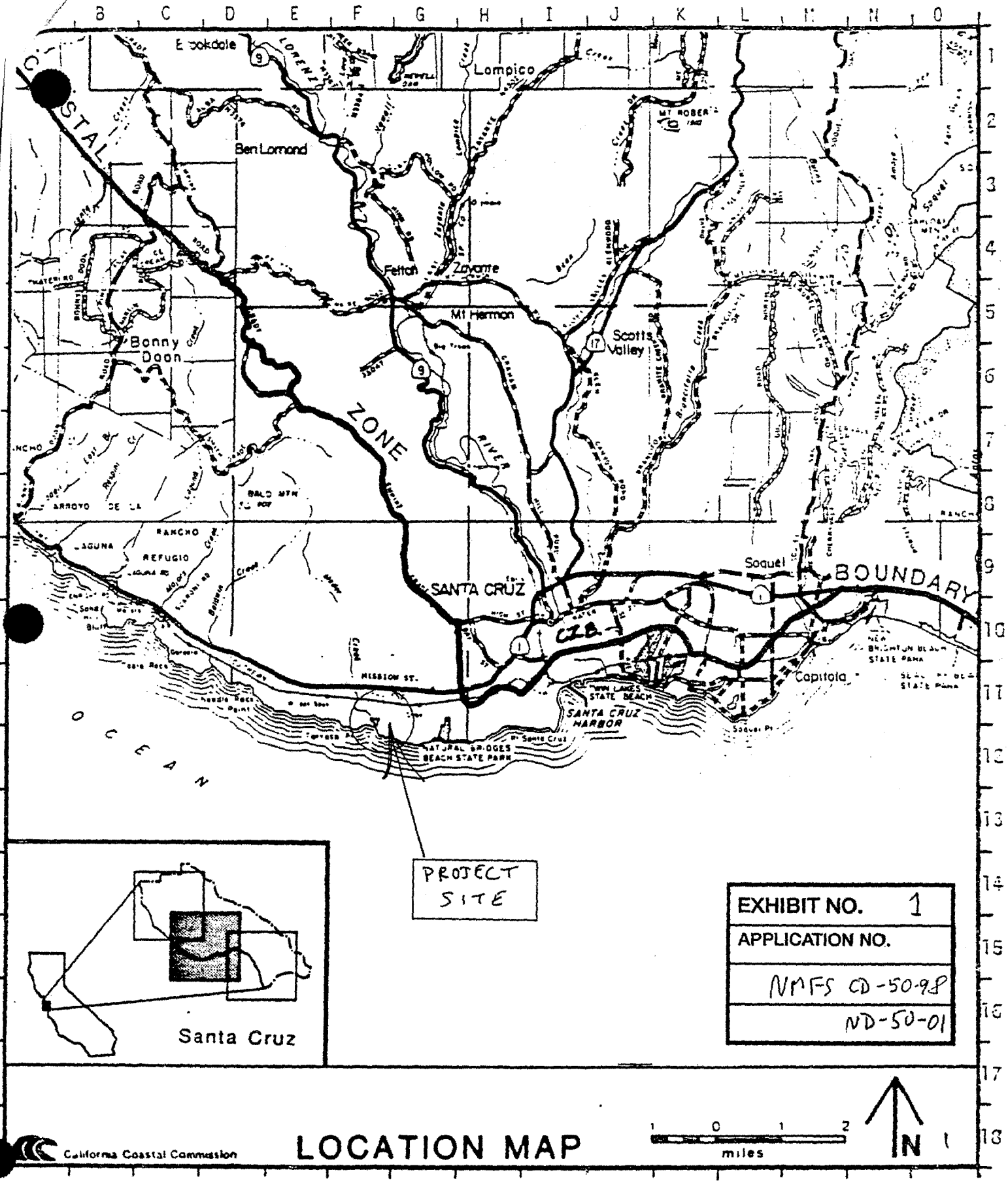
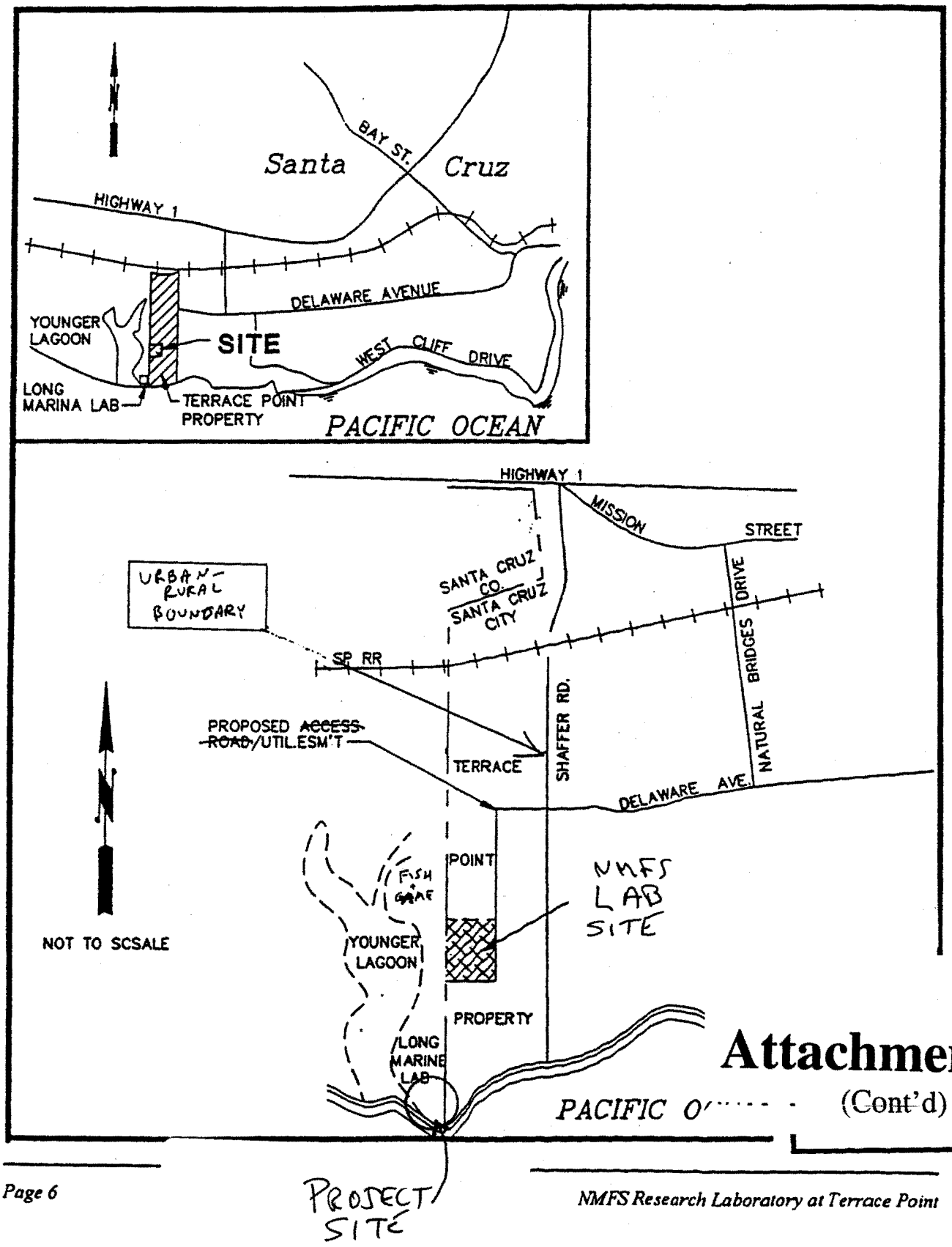


EXHIBIT NO. 1
APPLICATION NO.
NMFS CD-50-98
ND-50-01

County of Santa Cruz

ATTACHMENT 3

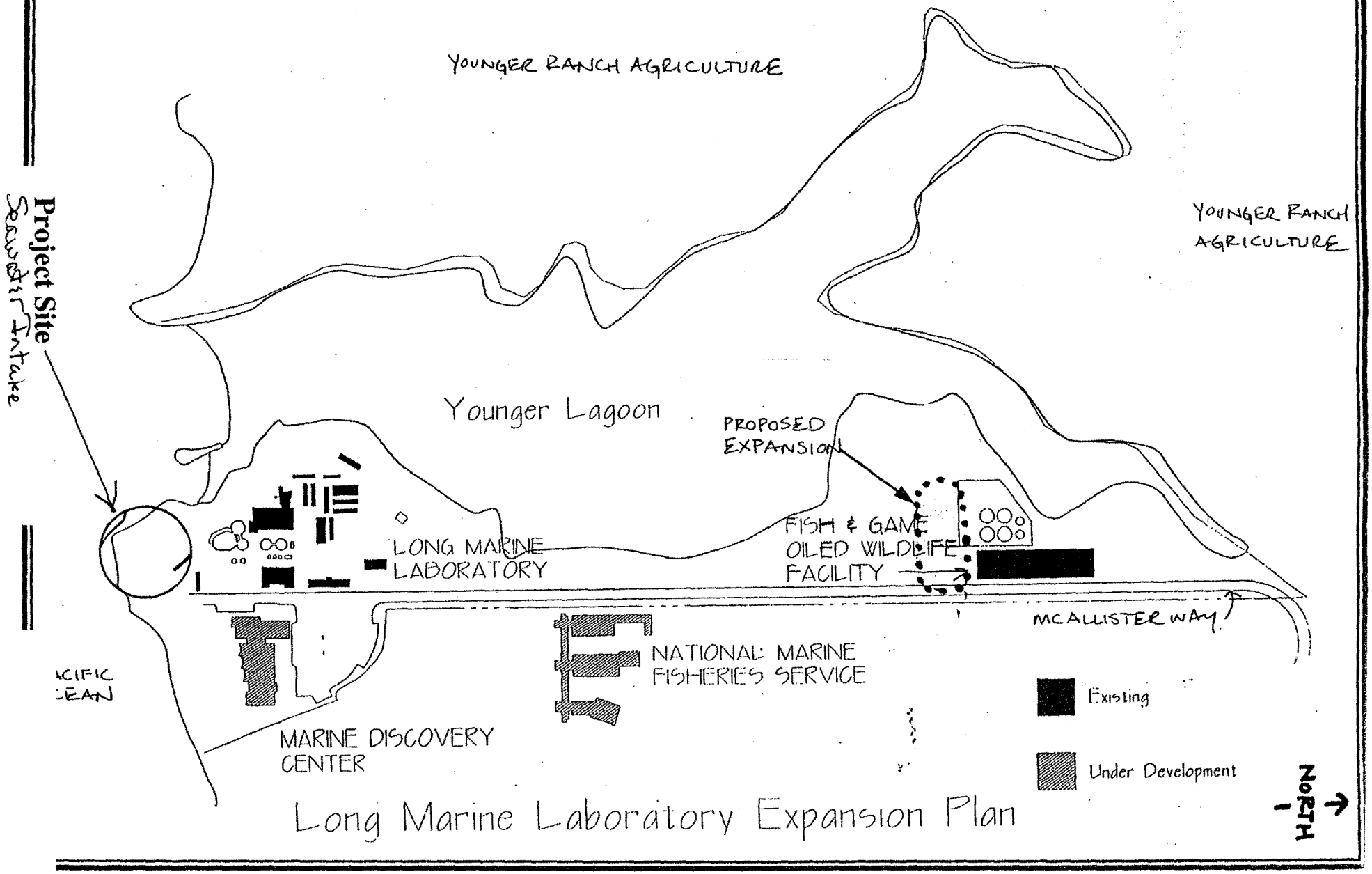
Figure 1 Project Vicinity Map



Attachment 3

(Cont'd)

-SITE LOCATION AT LONG MARINE LAB



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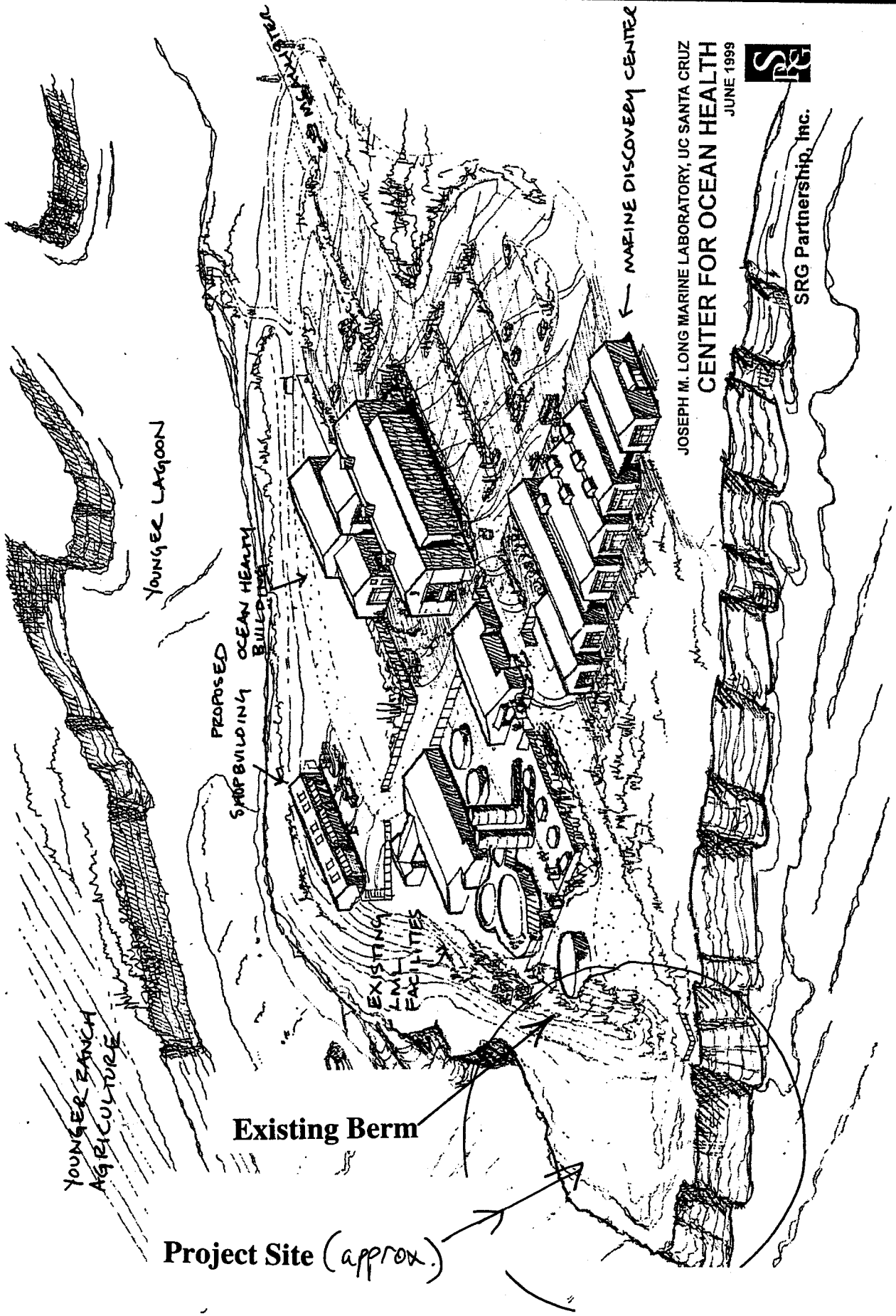

JOSEPH M. LONG MARINE LABORATORY, UC SANTA CRUZ
CENTER FOR OCEAN HEALTH
JUNE 1999
SRG Partnership, Inc.

Attachment 3
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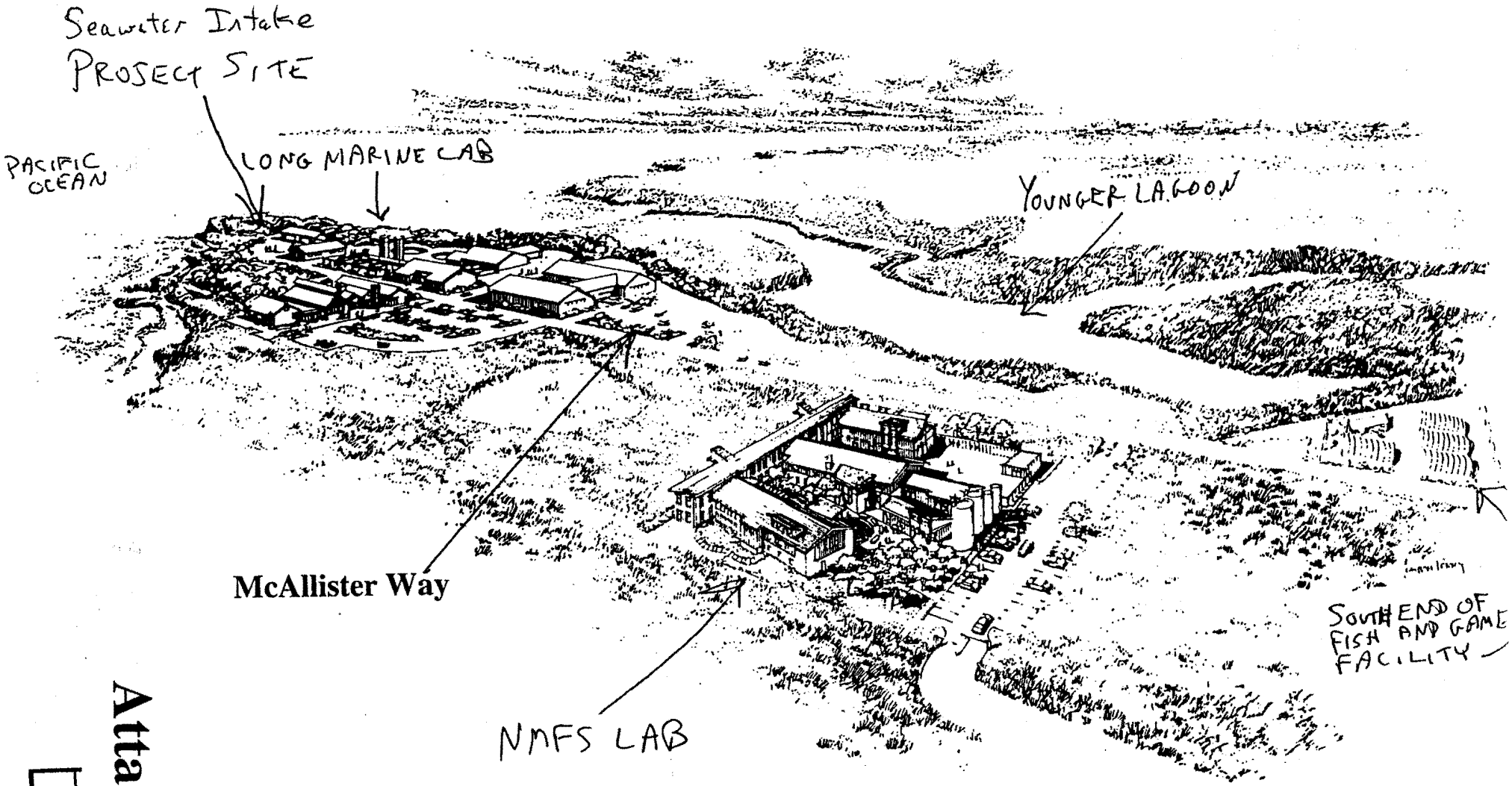

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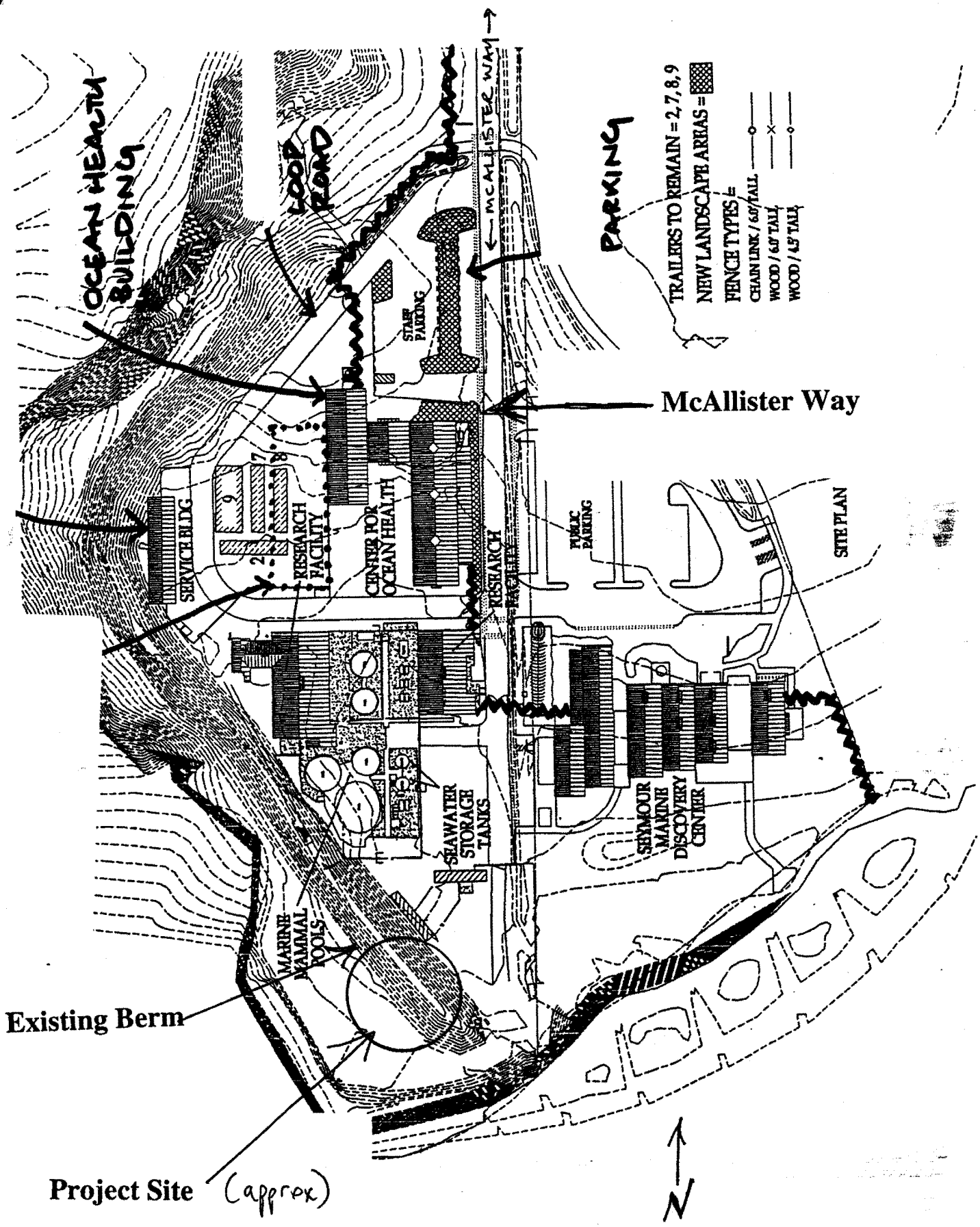

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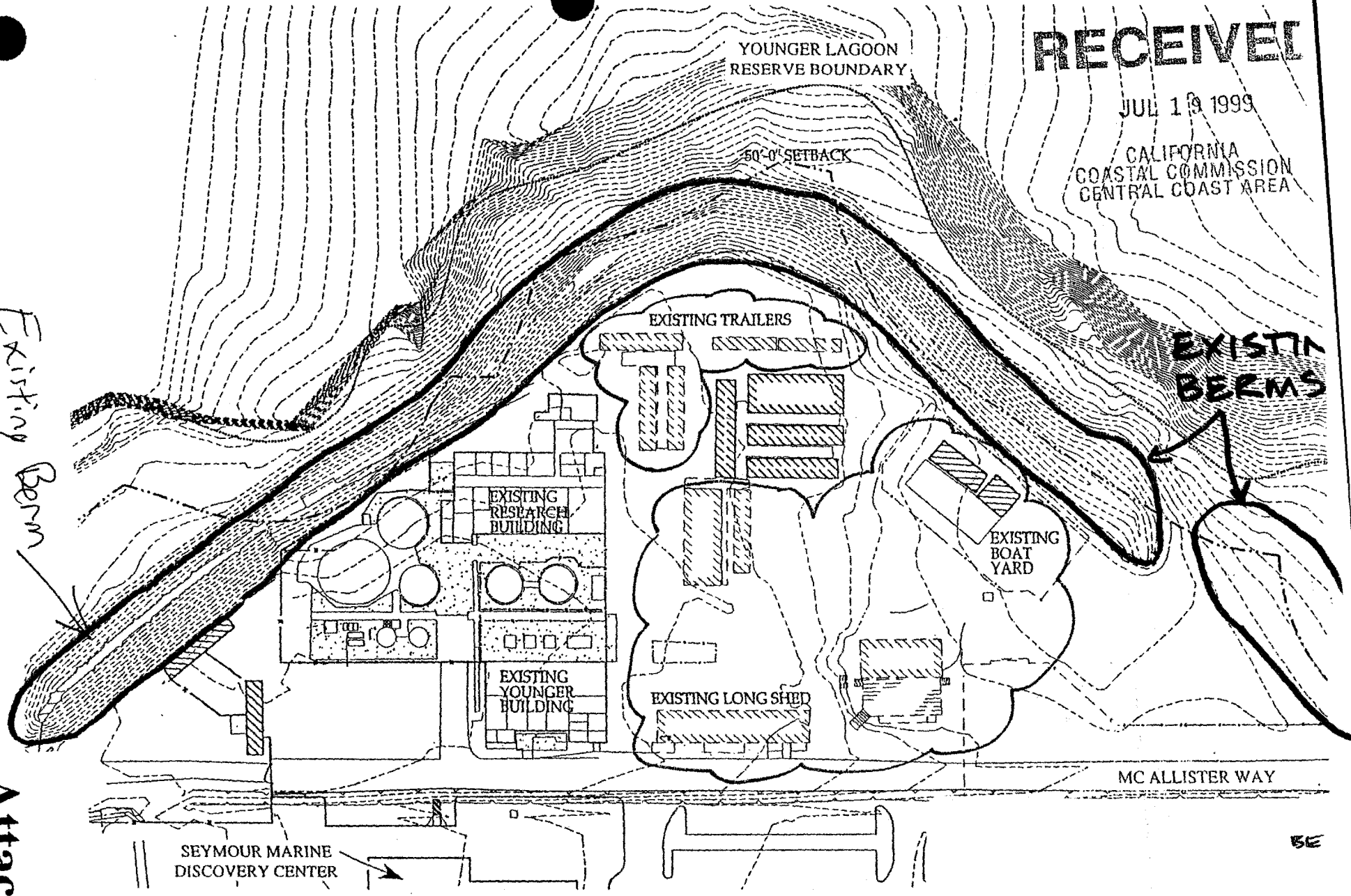


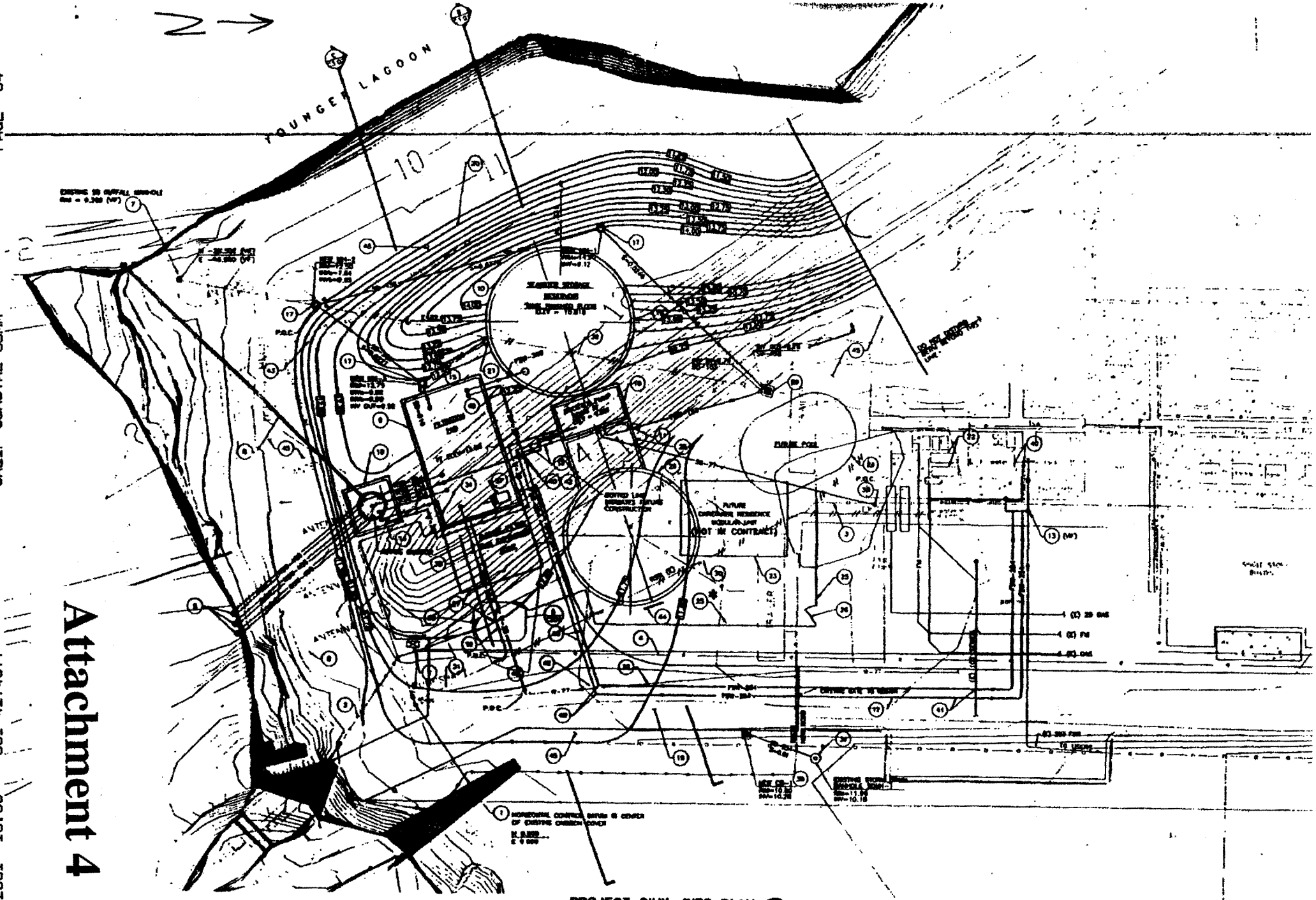
CENTER FOR OCEAN HEALTH SITE

Existing Project Site
(Source: SRG Partnership, Inc., 1999)

Figure 2

Attachment 3 (cont'd)

Attachment 4



PROJECT CIVIL SITE PLAN

SCALE 1:200

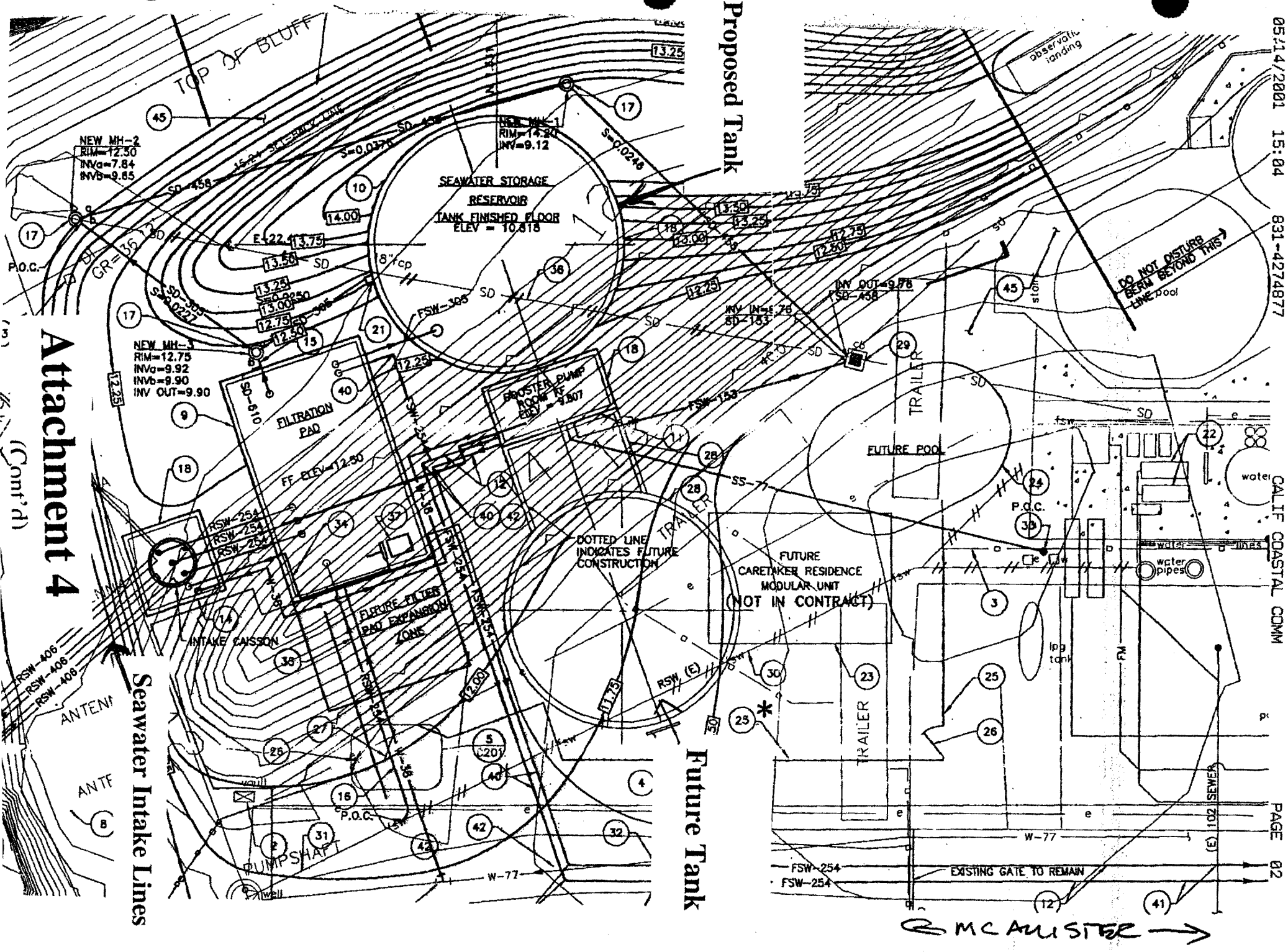
LEGEND

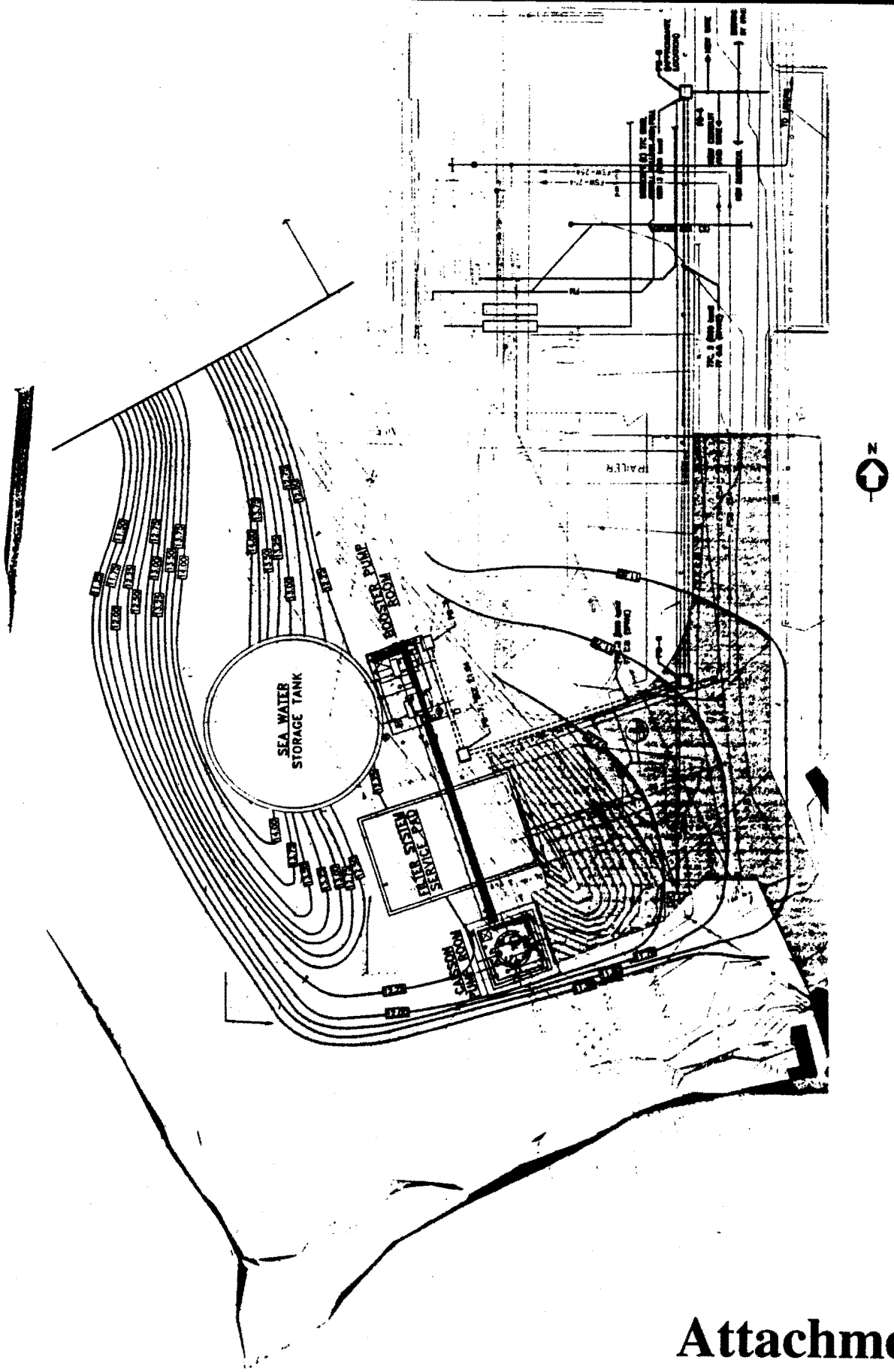
- NEW SANITARY SEWER LINE (DIA. = NOMINAL PIPE DIAMETER, MM)
- NEW FLUSHING SEA WATER PIPE LINE (DIA. = NOMINAL PIPE DIAMETER, MM)
- NEW [redacted] WATER LINES (DIA. = NOMINAL PIPE DIAMETER, MM)
- [redacted] LINE (DIA. = NOMINAL PIPE DIAMETER, MM)
- [redacted] LINE (DIA. = NOMINAL PIPE DIAMETER, MM)
- [redacted] LINE (DIA. = NOMINAL PIPE DIAMETER, MM)
- [redacted] WITH ELEVATION INDICATED IN METERS
- EXISTING RAW SEA WATER LINE (DIA. = NOMINAL PIPE DIAMETER, MM)

PROJECT SITE PLAN NOTES

1. EXISTING SEWAGE SPRAY SYSTEM CAISSON. SET CENTER OF EXISTING CAISSON AS PROJECT HORIZONTAL CONTROL DATUM—NORTHING—EASTING—0.00
2. EXISTING SEWAGE SUPPLY PUMP CONTROLLER AND [redacted] SUPPLY CABINET.
3. EXISTING FENCE TO REMAIN.
4. EXISTING ELECTRICAL POWER AND CONTROLS [redacted]
17. 3 NEW STORM DRAIN MANHOLES. (1 ON RELOCATED STORM DRAIN LINE). SEE [redacted]
19. ESTABLISH NEW GENERAL ELEVATIONS PER CONTOURS. CAISSON PUMP ROOM, BOOSTER PUMP ROOM AND STORAGE TANK FLOOR WILL BE BELOW GRADE. SEE SHEETS C1.02 AND C1.03 FOR DRAWING INFORMATION
20. NEW GRAVEL ACCESS ROAD.
21. [redacted]
32. EXISTING 77 DOMESTIC WATER LINE TO EXISTING CAISSON. VERIFY EXACT LOCATION AND DEPTH IN FIELD.
33. POINT OF CONNECTION TO [redacted] SANITARY SEWER. VERIFY EXACT LOCATION AND [redacted] IN FIELD.
34. NEW 52 COMPRESSED AIR LINE [redacted] COMPRESSOR ON FILTRATION PAD TO AIRLIFT POINT OF CONNECTION IN NEW CAISSON

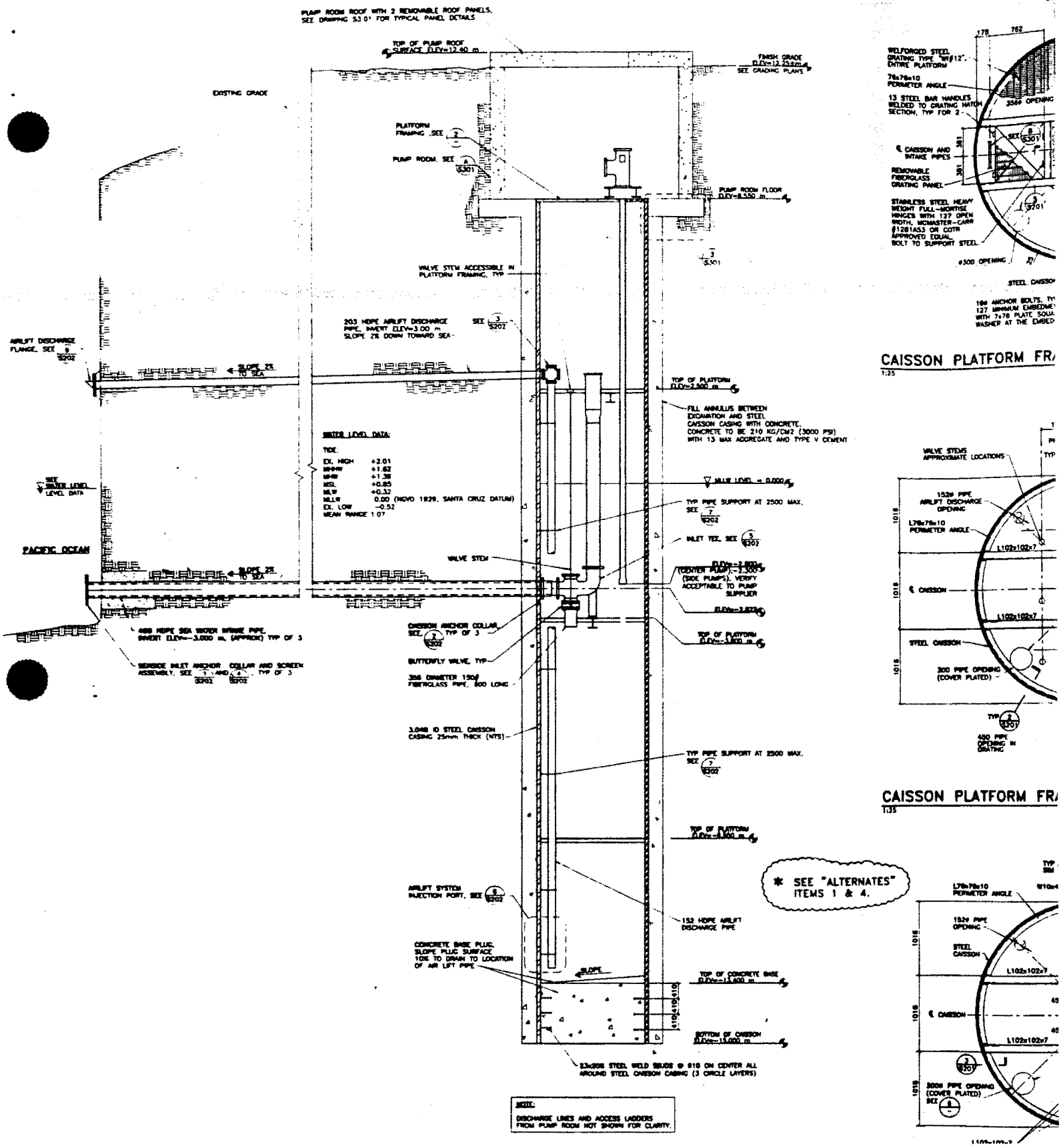
Attachment 4 (Cont'd)





Attachment 4

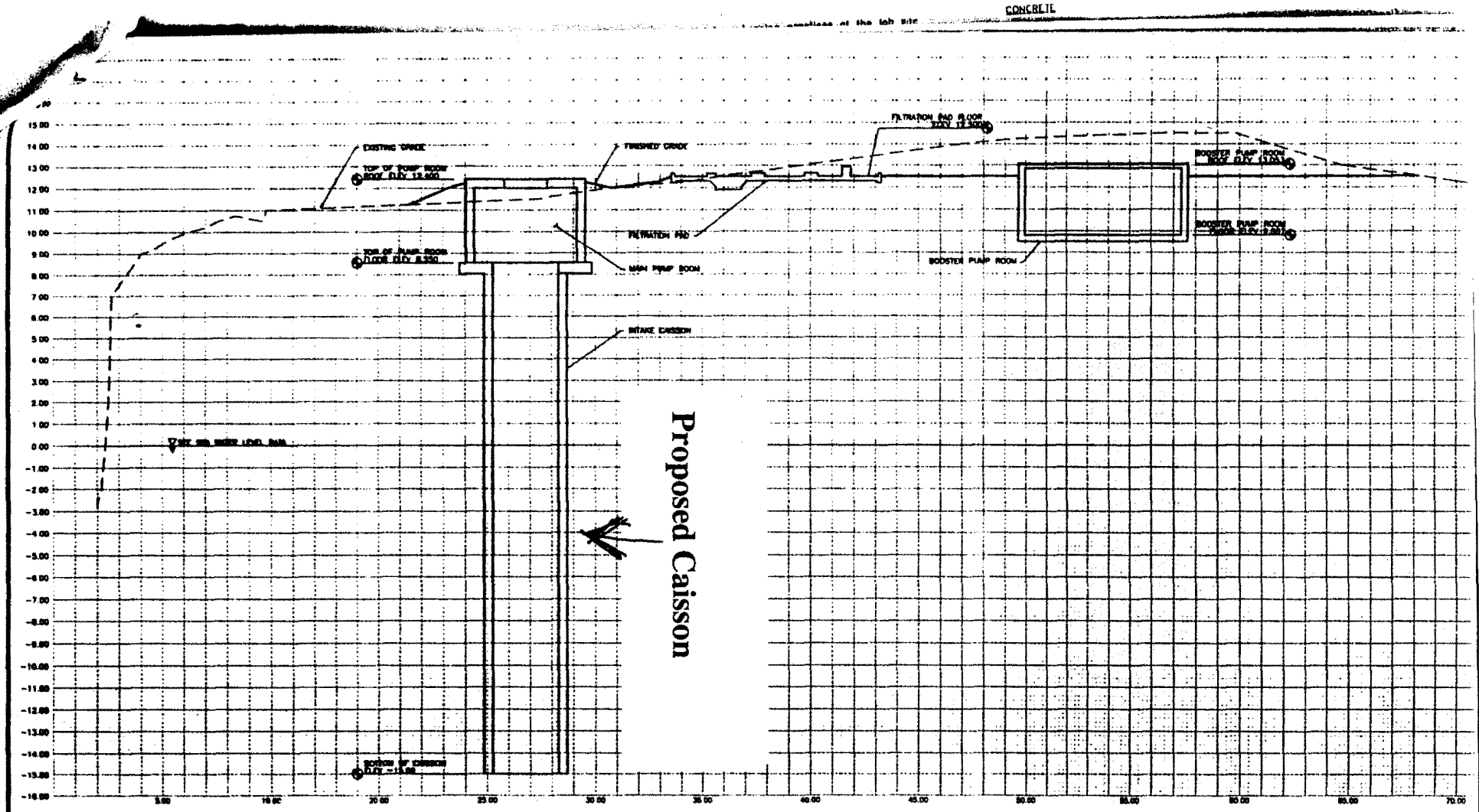
(cont'd.)



SECTION THROUGH SEAWATER INTAKE CAISSON AND PIPING
NTS

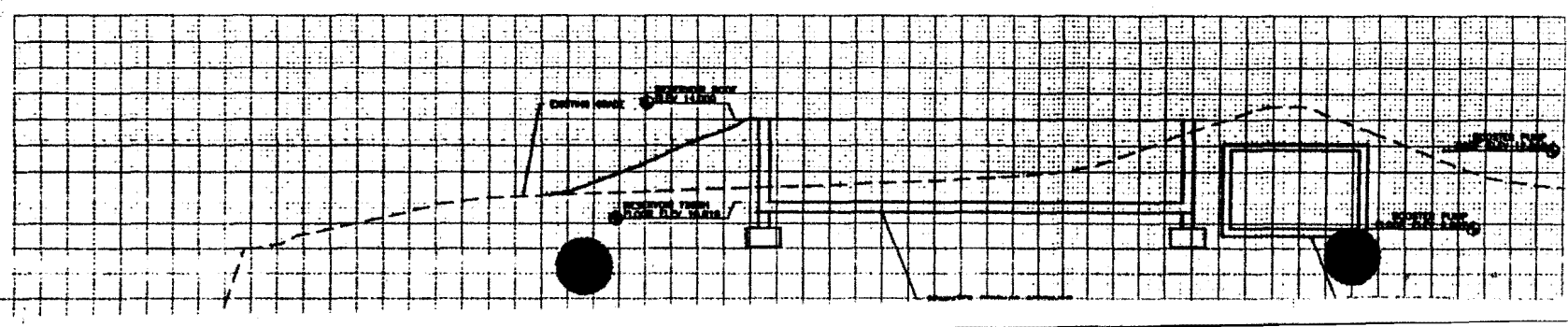
Attachment 4

(cont'd.)

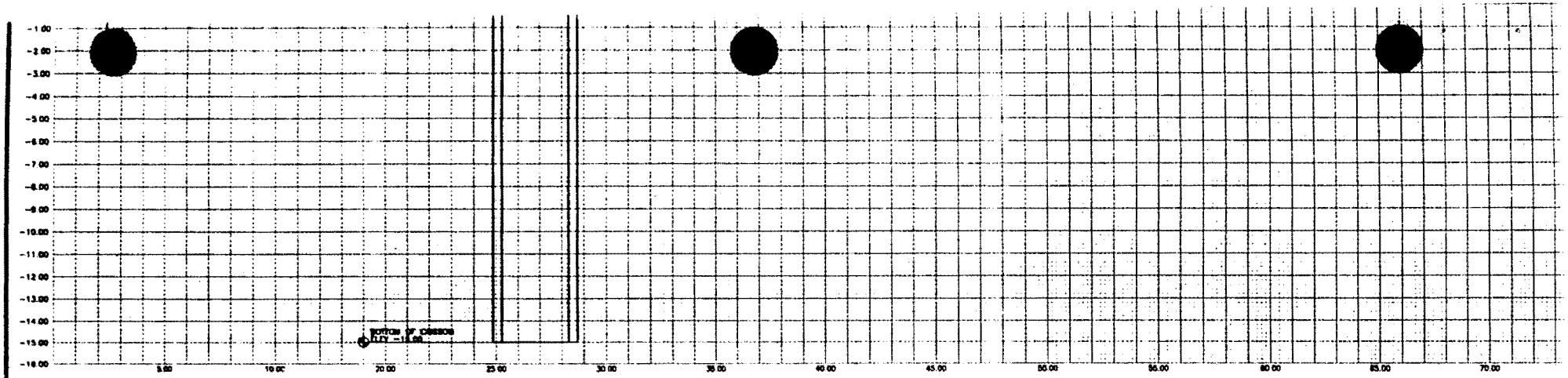


SECTION
1:100

A



Attachment 4
(cont'd.)



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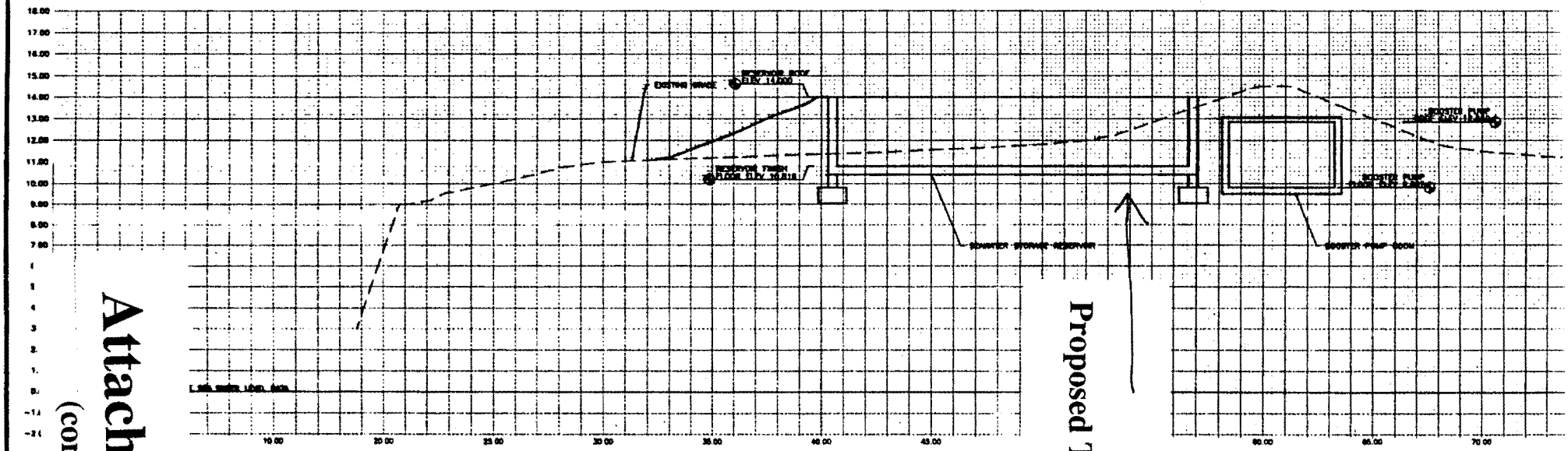
A



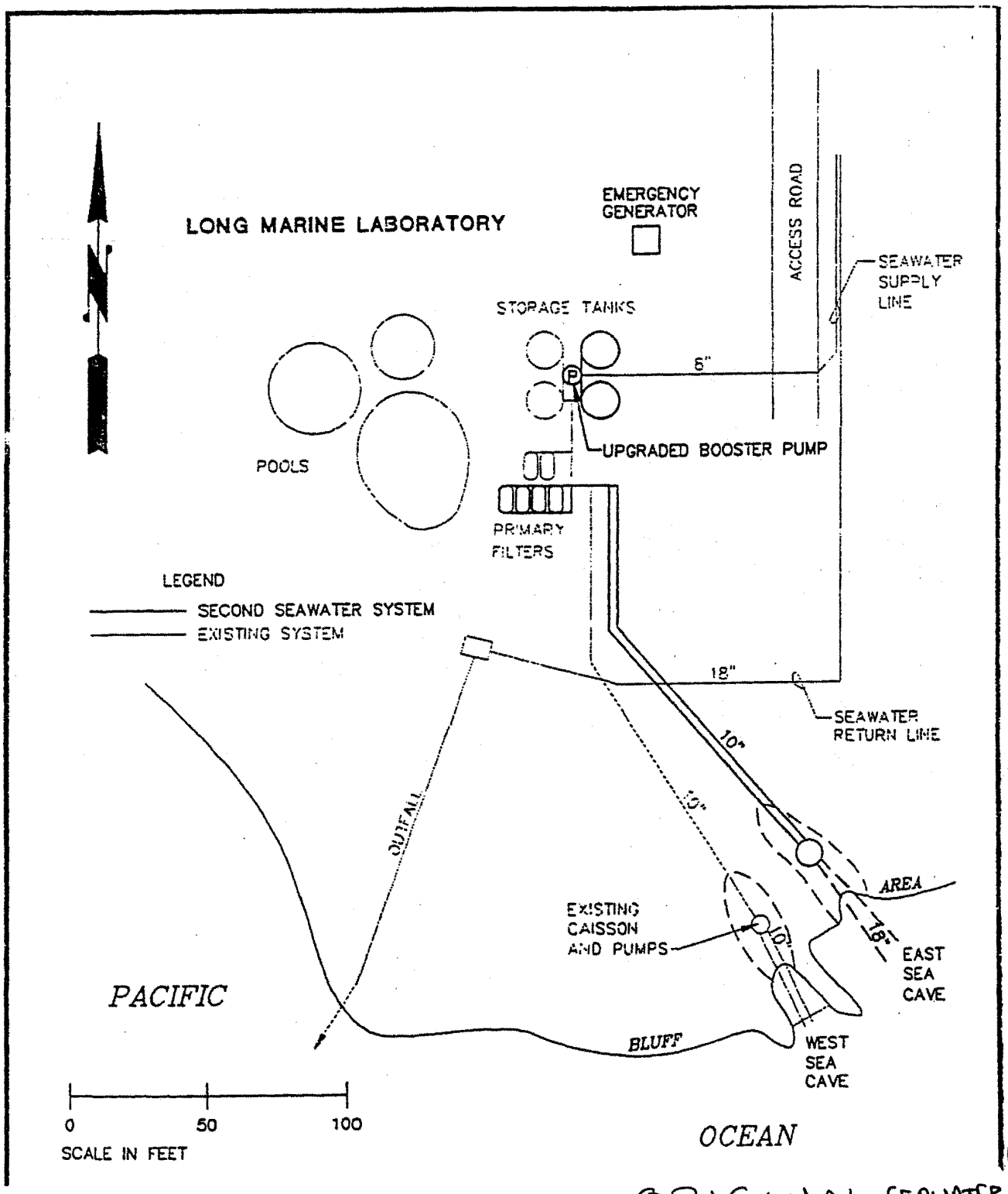
SECTION
1:100

B

Proposed Tank

Attachment 4
(cont'd.)

Figure 3 Seawater System



- ORIGINAL SEAWATER PROPOSAL - CD-50-98

Attachment 5