2.0 PROJECT DESCRIPTION

2.1 ENVIRONMENTAL SETTING

2.1.1 Geographic Setting

The SONGS Unit 1 site is located in southern California, approximately 60 miles (97 km) south of Los Angeles, 50 miles (80 km) north of San Diego, and 5 miles (8 km) south of downtown San Clemente (Figure 2-1). SONGS Unit 1 is immediately west of Interstate 5 (I-5) in a coastal setting adjacent to the Pacific Ocean on the northern portion of MCB Camp Pendleton. The onshore Unit 1 power plant includes an 11-acre parcel developed by the Applicant under a lease with MCB Camp Pendleton. The Applicant has a separate Agreement with the CSLC (PRC 3193.1) for a 7.5-acre (3-ha) area in the nearshore and offshore areas for a 100-foot-wide (30.5-m) right-of-way easement that extends southwest from the mean lower low water (MLLW) line at the SONGS Unit 1 site to approximately 3,200 feet (975 m) offshore (see Figure 2-2).

Including Units 2 and 3, the SONGS power plant and related electrical transmission lines are prominent features in the coastal setting of MCB Camp Pendleton. However, the offshore cooling water conduits that are the subject of this EIR are buried beneath the seafloor and are not visible in the coastal environment from either the shoreline or the ocean surface. The only project features visible in the local setting are the buoys at the ocean surface that mark the location of each of the terminal structures at the end of the two offshore conduits.

2.1.2 Historic Setting

Many commercial electric power plants have been previously built in California. These facilities were constructed near the Pacific Ocean in proximity to the large volume of ocean water used for cooling. The power plants used oil and/or natural gas to heat water into the steam that drove their turbine-generators, and ocean water was utilized to condense the used steam back into a liquid phase for reuse in the plant. The steam water used in these power plants was self-contained and did not mix with the ocean cooling water.

While in operation, the nuclear-powered SONGS Unit 1 power plant also used a self-contained cooling steam-water system that did not mix with ocean water. The power plant pumped cool ocean water from the offshore intake conduit into a large heat exchanger, where the steam used to turn the turbine-generator was condensed back into a liquid phase for recirculation through the plant. Spent cooling water was discharged through the second offshore conduit.

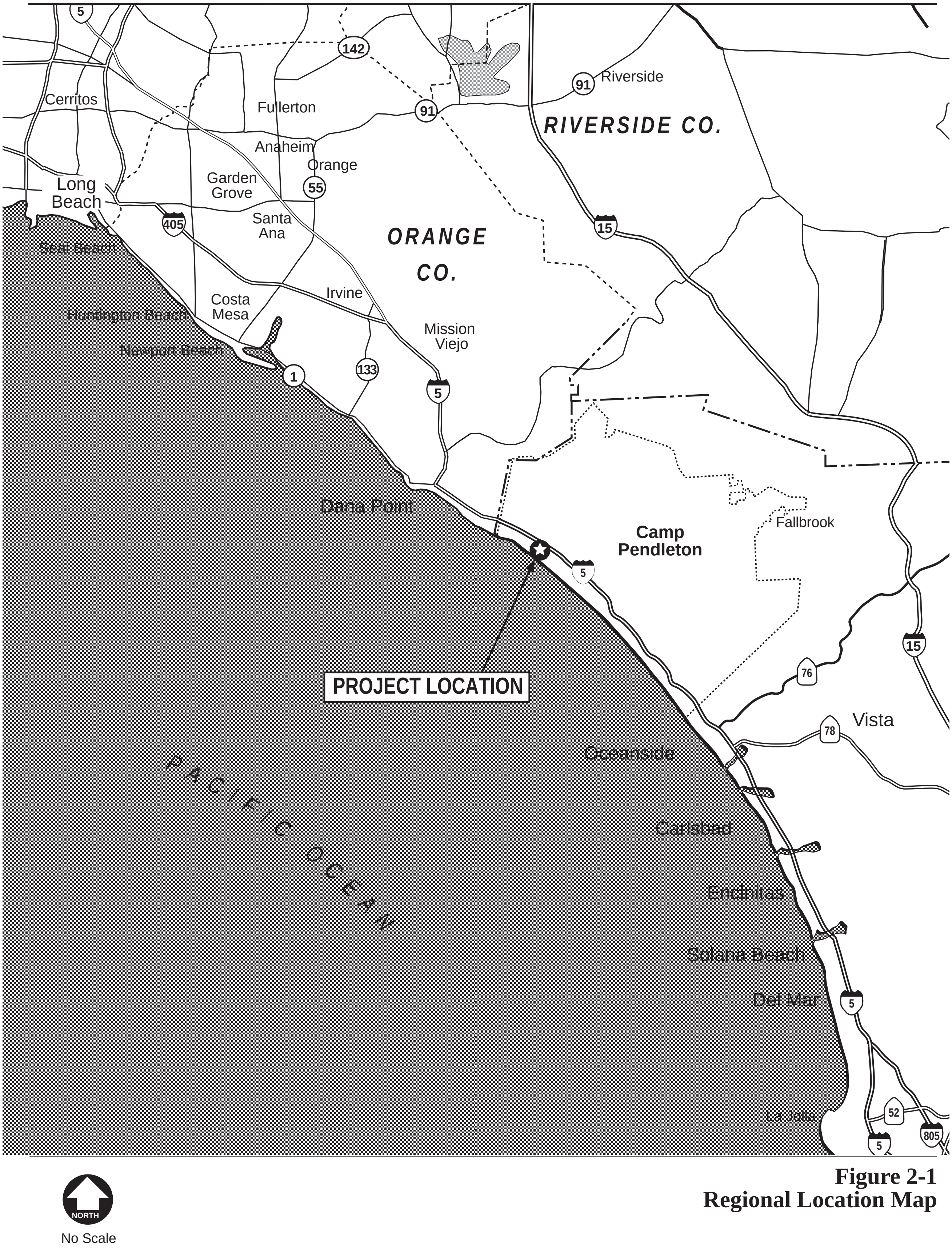

Figure 2-1
Regional Location Map

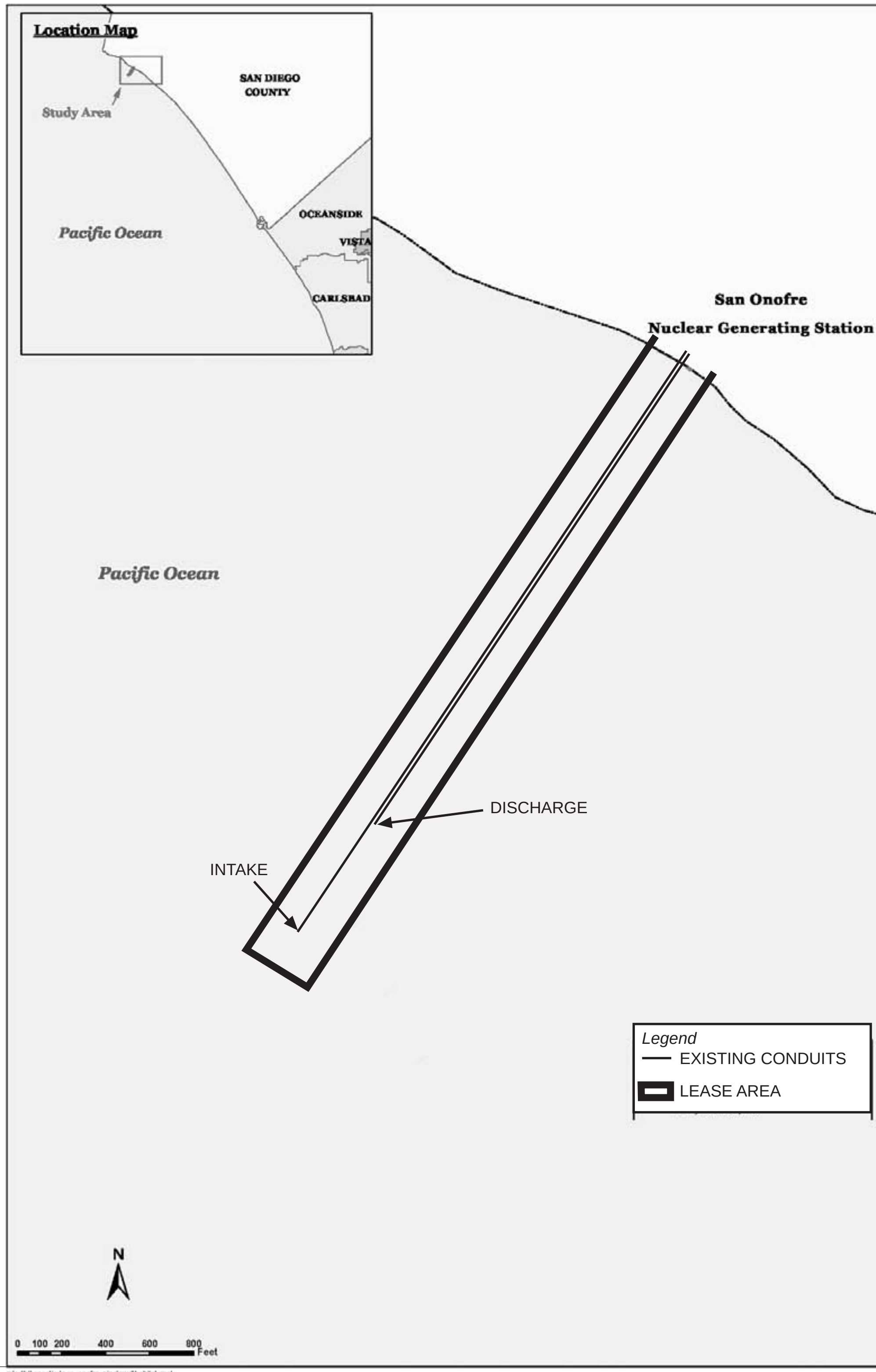

Figure 2-2
SONGS and Offshore Lease Area

2.2 EXISTING STRUCTURES AND FACILITIES

The SONGS Unit 1 intake and discharge conduits are constructed of 12-foot-diameter (3.7-m), steel-reinforced concrete pipe. The two parallel offshore cooling water conduits are 20 feet apart (6 m), with the longer intake conduit located to the north of the discharge conduit. The offshore conduits extend horizontally from the onshore plant site approximately 3,200 feet (975 m) (intake) and 2,600 feet (762 m) (discharge) southwest of SONGS Unit 1. The offshore portion of each conduit is buried beneath the ocean bottom and is covered with approximately 4 feet (1.2 m) of sand, with the conduits following the local ocean bottom profile.

A terminal structure has been constructed at the west end of both the intake and discharge conduits. The terminal structures rest on separate foundations that extend approximately 30 feet (9 m) beneath the ocean bottom and are surrounded by 4 feet (1.2 m) of rock cover at the ocean floor (Figures 2-3 and 2-4). The intake structure is located in water approximately 27 feet (8.2 m) deep, and it rises vertically to approximately 15.5 feet (4.7 m) above the ocean floor, or approximately 11 feet (3.3 m) below the surface of the ocean. Its outside horizontal dimensions are 20 by 27.5 feet (6.1 by 8.2 m). The discharge conduit terminal structure is located in water approximately 25 feet (7.6 m) deep, and it rises vertically to approximately 11 feet (3.3 m), or approximately 14 feet (4.3 m) below the ocean surface. Because these structures create a potential navigational hazard, buoys are maintained at each structure to mark the locations for boaters.

Each terminal structure consists of nine rectangular, stacked, reinforced concrete sections (or modules), with reinforced concrete columns at each of the four corners of the structure (Figure 2-4). The prefabricated concrete modules measure between 3.8 and 5.5 feet (1.2 m and 1.7 m) in height. A 12-inch-thick (30-cm) velocity cap rests on eight columns approximately 4 feet (1.2 m) above the top of the intake structure.

Each conduit also includes manhole risers spaced every 500 feet (152 m): five on the intake conduit and four on the discharge conduit. The manhole risers extend between one and five feet (0.3 and 1.5 m) above the seafloor, and there are no marker buoys for the risers.

2.3 COMPONENTS OF THE PROPOSED PROJECT

The proposed disposition of the offshore cooling water conduits includes the following actions, as described in the Project Application and the Applicant's Work Execution Plan (WEP).

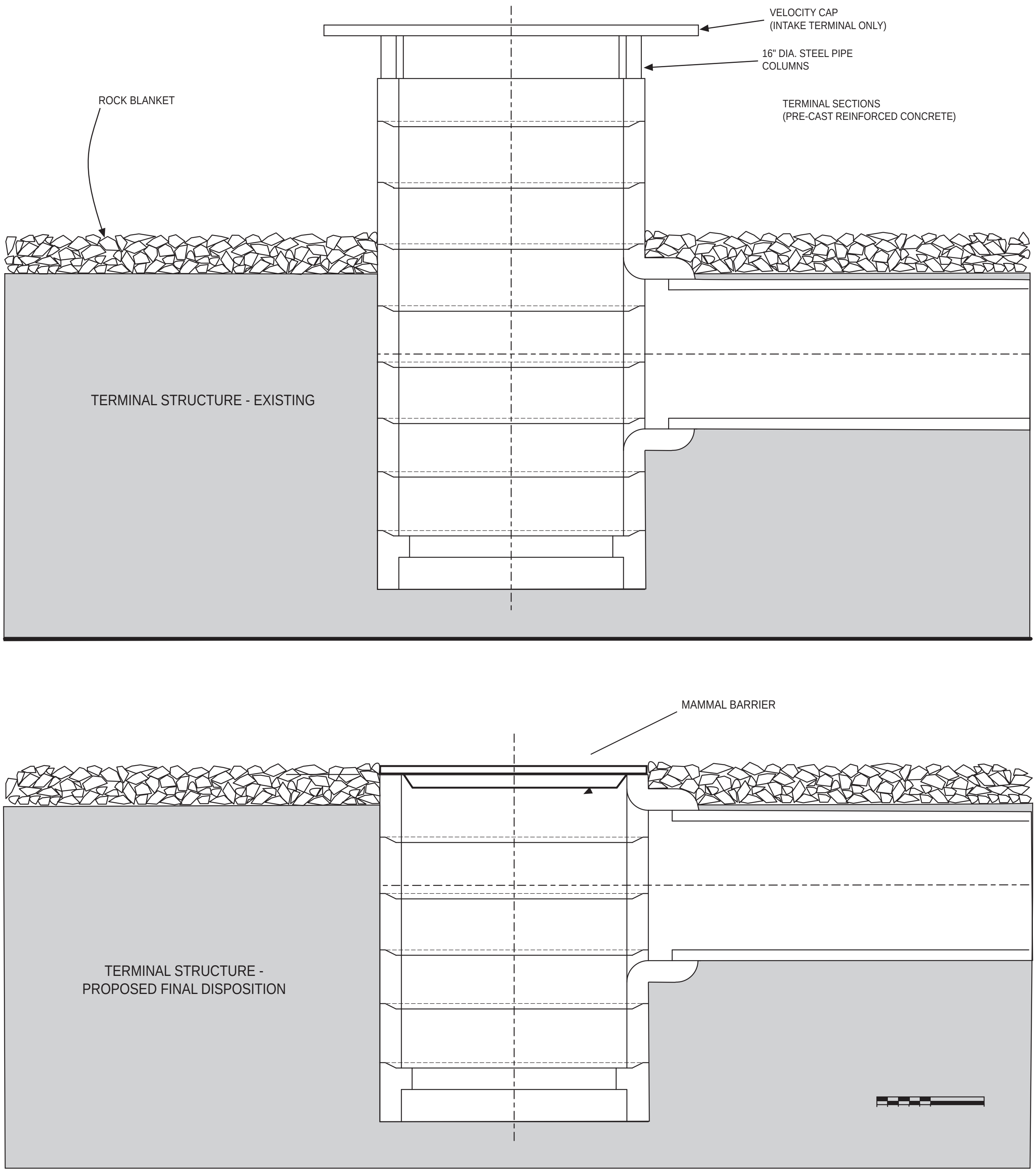

Figure 2-3
Cross Sections of Intake Terminal Structure
(Discharge Structure Identical Except for Velocity Cap)

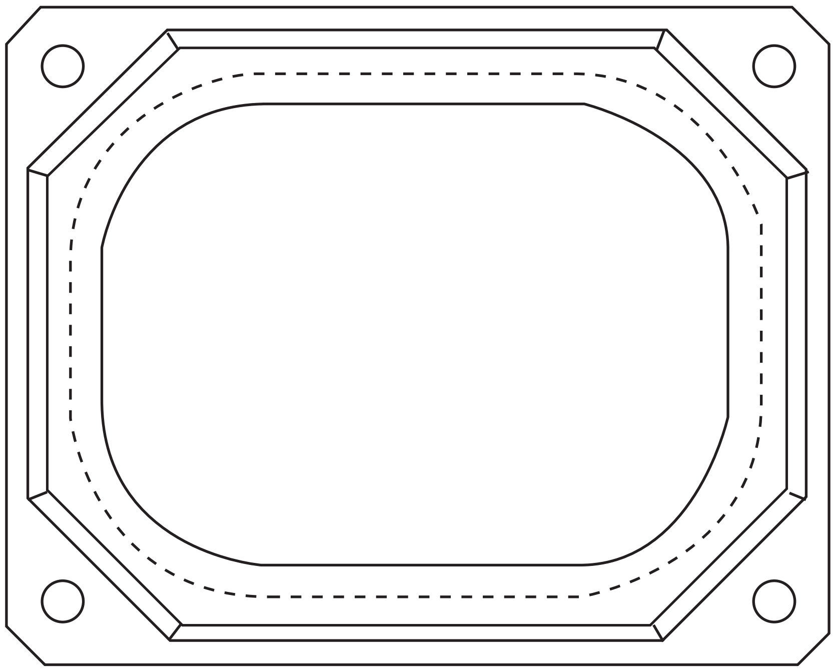

Figure 2-4
Plan View of Terminal Structure without Velocity Cap

2.3.1 Removal of Terminal Structures

The terminal structures would be removed by equipment brought to the offshore site by barge. The marine equipment would be mobilized out of the Port of Long Beach. A barge with an 80-ton crane and clam bucket (Figure 2-5) would be towed to the project site by tugboat. The barge crew and divers would stage out of either Dana Point or Oceanside Harbor and would travel daily to the site on a crew boat. The barge would be anchored at the project site, and it would require several days to lay out the anchor spread in relation to prevailing weather, which generally comes from the northwest. The crane would be used for moving concrete sections of the terminal structures and manhole risers as well as to operate a clamshell bucket for dredging operations.

The clamshell dredge operating from the crane barge would be used to expose the perimeter of the terminal structures at the seafloor. Excavated material, including the riprap, would be sidecast away from the structure. Once the crane barge was anchored onsite, the barge crew with diver support would work initially on removal of the discharge terminal structure. Divers would break the connections between the concrete components of the sections. Divers would make the necessary disconnections to free each component, and all concrete components would be lifted clear of the structure. Once the discharge structure was removed, the barge would be moved and reanchored to remove the intake terminal structure and velocity cap.

The WEP includes an Anchoring Plan that specifies the plans and protocols that would be employed in deploying, using, and recovering anchorages. The crane barge and support vessels would be moored in three- or four-point anchorages. The *Anchoring Plan* is included in this EIR as Appendix D.

A diamond wire cutting machine would be used to make vertical cuts in the top three sections of the terminal structures to sever each of the concrete sections from the four corner columns. Divers would break the connections between the velocity cap and its support columns, and the riser sections. Each concrete section would be removed by a crane operating from the barge, and the velocity cap, columns, and concrete sections removed from the structure would be placed on the seafloor bottom by the crane. A prefabricated metal mammal barrier would be placed in the opening of each of the terminal structures; openings in the barriers would allow gradual backfilling with sand and prevent entry into the conduits by marine mammals or recreational divers.

When both terminal structures have been dismantled and all other offshore disposition activities have been completed, the crane would remove the concrete sections from the

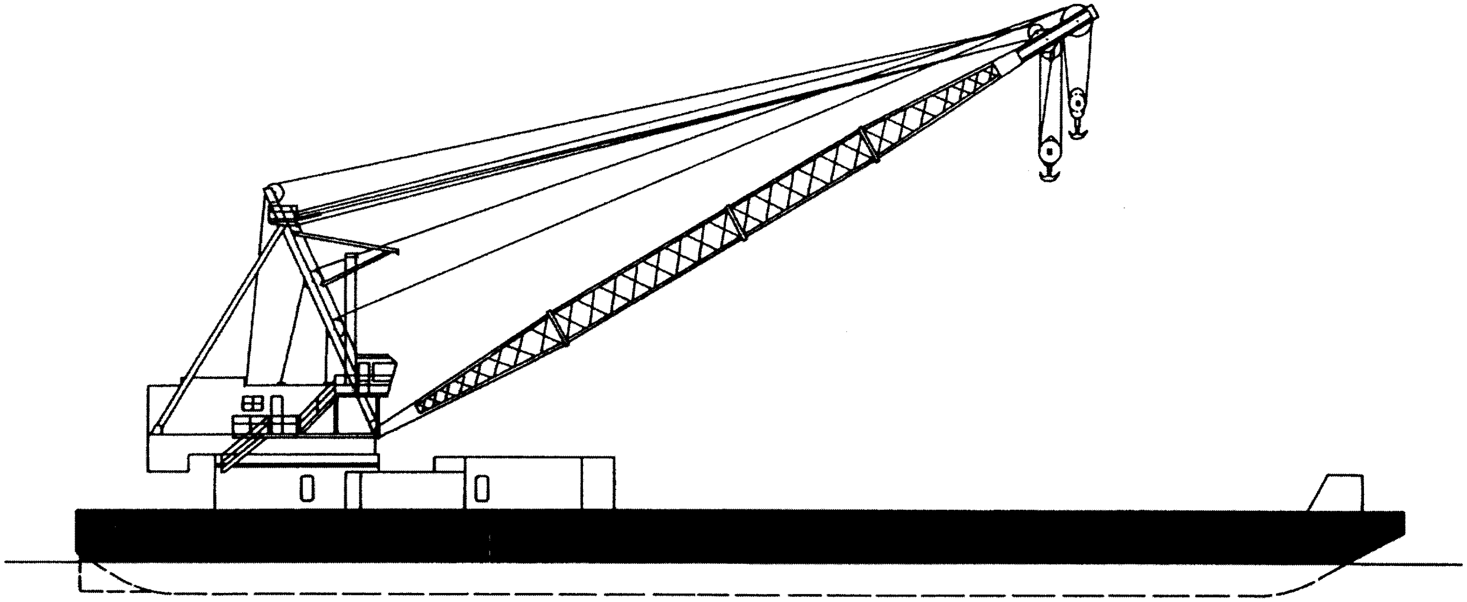

Figure 2-5
Typical Crane Barge

seafloor and place them on a deck barge towed to the site from the Port of Long Beach by a tugboat. This would eliminate the need for a deck barge remaining at the site for the entire four-month duration of the offshore disposition activities.

2.3.2 Removal of Buoys

Surface buoys have been placed at the two terminal structures to mark the location of these potential navigational hazards. With the removal of the terminal structures, the maintenance of the marker buoys and anchor blocks would no longer be necessary, and they would be removed.

2.3.3 Removal of Manhole Risers

In addition to removing the terminal structures, the Proposed Project would remove the nine manhole risers. The removal of the manhole risers would take place in two marine environments, nearshore surfzone and offshore. Each marine environment requires a removal methodology unique to that environment. Each methodology is described below, and the manhole risers are depicted in Figure 2-6.

Nearshore Surfzone Removal

Four manhole risers are located nearshore in water depths insufficient for floating vessel support, where anchoring of support vessels would be undesirable. A skid based surf sled vehicle (SSV), consisting of a steel pipe structure atop skids with a working platform on top of the steel pipe columns, would be used to access the nearshore surfzone manhole risers (Figure 2-7). The SSV would be launched from the crane barge anchored offshore and set on the sand within the conduit corridor. The SSV would support a dive team working from its deck. A pull winch would be anchored on the beach to pull the SSV shoreward, guided by a cable from a deck winch located on the crane barge (Figure 2-8). SSV and beach winch anchoring procedures are described in *Anchoring Plan* (Appendix D).

Starting with the manhole riser located closest to shore, the SSV would be fastened to the seafloor with pin piles installed by high pressure water jets to a depth of approximately 4 feet (1.2 m). A cofferdam would be lowered over the manhole riser to create a safe working environment for the divers. Dive teams would remove both the cover plate from the top of the manhole riser and the manhole port at the top of the conduit. The cover plate and manhole port would be lifted onto the deck of the SSV. A prefabricated mammal barrier would then be installed in the manhole opening in the top of the conduit. The divers would excavate around the manhole riser base using

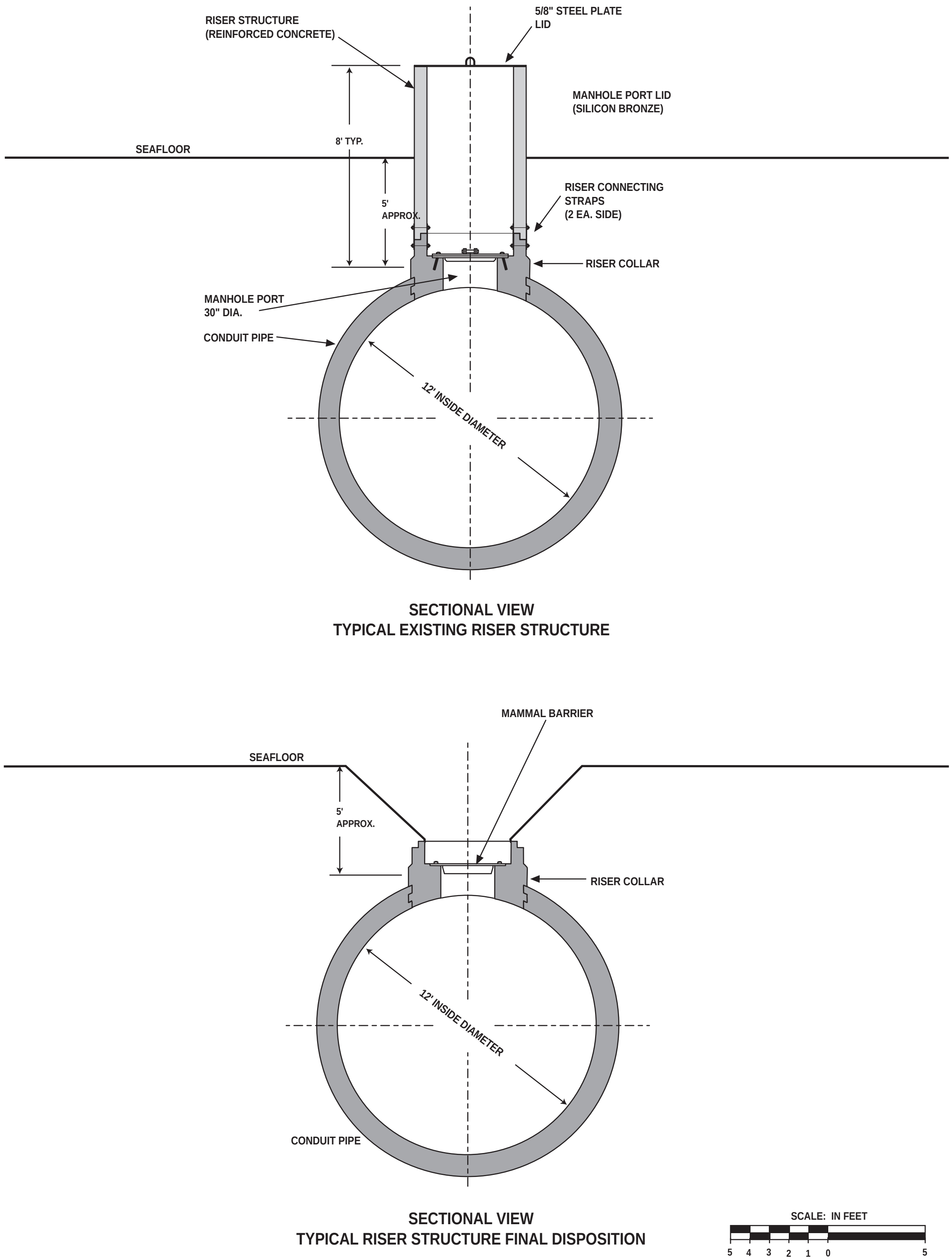

Figure 2-6
Manhole Risers

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Figure 2-7
Surf Sled Vehicle (SSV)

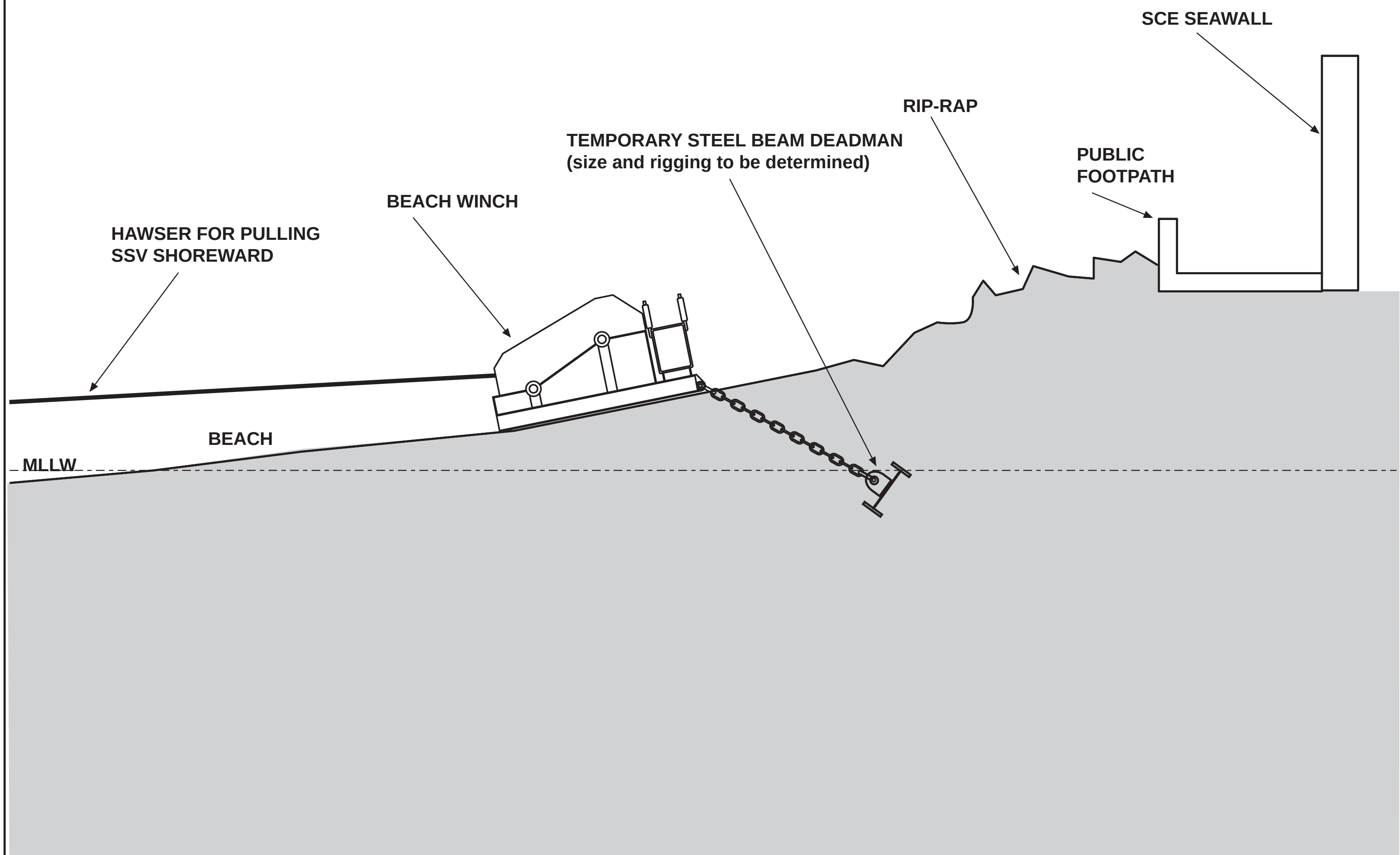

Figure 2-8
SSV Beach Winch

handheld airlifts and cut the straps that hold the riser to the top of the conduit. The riser would be pulled offshore through the sand corridor to the crane barge utilizing a pulling wire. The SSV would then be pulled offshore to the next manhole location. The manhole risers would be removed along the intake conduit first, and then along the discharge conduit.

Offshore Removal

There are five offshore manhole risers located in water depths sufficient for support from floating vessels. The crane barge and other equipment used for the removal of the terminal structures would be utilized for the removal of the offshore manhole risers. The SSV and cofferdam would not be needed. The offshore manhole riser removal would follow the same steps and use the same tools described above for the nearshore riser removal.

2.3.4 Duration of Offshore Activities

Removal of the terminal structures and manhole risers is projected to require approximately 4 months. Up to 20 personnel would be required during the offshore phase of the work, including workers on the barge, divers, and boat operators.

2.3.5 Materials Removal

Once the components have been removed from the two terminal structures and the manholes, and other activities that could create debris are complete, the material removal would begin. Materials to be removed would be identified by a sonar survey. A deck barge would be towed to the site, the concrete debris would be removed from the seafloor, lifted onto the deck barge, and secured for transport. A tugboat would tow the deck barge back to the Port of Long Beach. The major concrete components on deck resulting from dismantling the terminal structures would consist of concrete sections from both terminal structures and one velocity cap from the intake structure; additionally, there would also be debris from nine manhole risers. The total cargo load would consist of approximately 600 tons (544 metric tons) of terminal structure components and approximately 60 tons (54 tons) of manhole risers. One or two roundtrips of the deck barge would be required to tow the concrete debris back to port, depending upon the size of the deck barge. The *Sea Floor Debris Removal Plan*, which is part of the WEP, is included in this EIR as Appendix E, and provides additional details about material removal activities.

2.3.6 Materials Processing and Recycling

Materials removed from the site would be barged to the Port of Long Beach for recycling and disposal. Once the deck barge has reached port, the deck load from the barge would be placed on dry ground, and a hydraulic backhoe would reduce the concrete to rubble for transport to a commercial recycler. All recycling activities would be conducted at an approved site within existing permit conditions; recycling activities are therefore not considered to be a part of the Proposed Project and are not addressed in this EIR.

2.3.7 Marine Safety

The Marine Safety Plan (MSP) has been developed to support the proposed project operations. The primary concerns addressed in the MSP are personnel, environmental, and vessel safety. One important element of the MSP is the Critical Operations and Curtailment Plan (COCP), which requires the project manager to shut down or not permit any operation when existing or forecast sea states or weather conditions would create unsafe working conditions for personnel or equipment. The MSP is included in this EIR as Appendix F.

2.3.8 Oil Spill Response Plan

The Oil Spill Response Plan is part of the project WEP, and it specifies procedures and protocols that would be utilized in the event of an onshore or offshore oil spill resulting from proposed project activities. The *Oil Spill Response Plan* is included in this EIR as Appendix G.

2.3.9 Diver's Safety Plan

The Diver's Safety Plan will be part of the project WEP, and it will specify techniques, equipment, and procedures to be used for each underwater operation. The Diver's Safety Plan will include an evacuation plan for injured divers. The plan specifies that all diving operations will comply with U.S. Coast Guard and OSHA safety regulations for commercial diving operations. The *Diver's Safety Plan* is included in this EIR as Appendix H.

2.3.10 Conduit Plugs

The CSLC lease extends offshore from the MLLW line; the portion of the easement that extends to the east above MLLW is leased by the Applicant from MCB Camp Pendleton.

This onshore portion of the conduits would be plugged with concrete from MLLW to the existing tsunami gates, inland from the existing seawall. Installation of the concrete plug would be accomplished from the SONGS Unit 1 site through existing manholes on the plant site (Figure 2-9). A plug would be installed by divers, and concrete would be pumped into a series of fabric forms within the conduits to fill the conduits and prevent any future use or failure of the conduits beneath the beach. Installation of the conduit plugs would require a crew of 12 workers, including divers. Project work on this onshore section of the conduits, east of the MLLW line, would only require approval from MCB Camp Pendleton, since it is outside of the jurisdiction of the CSLC.

2.3.11 Potential Future Reuse of Conduits

Under the Proposed Project, the conduits would remain in place and could be used for any future project that could utilize the ocean water intake and discharge structures. During scoping for this EIR, both the Water Authority and MWD indicated that they are considering the feasibility of a regional seawater desalination facility at MCB Camp Pendleton. Such a regional facility would supplement the water supplies of the Water Authority and the MWD, and the fresh water produced at the desalination facility could serve both water districts as well as MCB Camp Pendleton. The Base commented during scoping that it was aware of the consideration being given to a desalination facility at MCB Camp Pendleton, and it supported the Proposed Project and the retention of the offshore conduits in place.

Although there are no specific plans for a regional desalination facility at this time, the existing intake and discharge conduits may be suitable for such a potential future use. This EIR, however, does not evaluate a future reuse of the offshore conduits in the impact analysis, since such a proposal is speculative and is not a reasonably foreseeable project at this time.

2.3.12 Lease Termination

The purpose of the Proposed Project is to terminate the existing Lease Agreement and replace it with a Lease Termination/Abandonment Agreement in which the Applicant would remain responsible for the abandoned conduit structures.

2.4 DISPOSITION SCHEDULE

Once the CSLC has certified the Final EIR and approved the Proposed Project, the disposition schedule would depend on the time required for: (1) the CCC to issue a Coastal Development Permit; (2) permitting by other agencies; (3) National

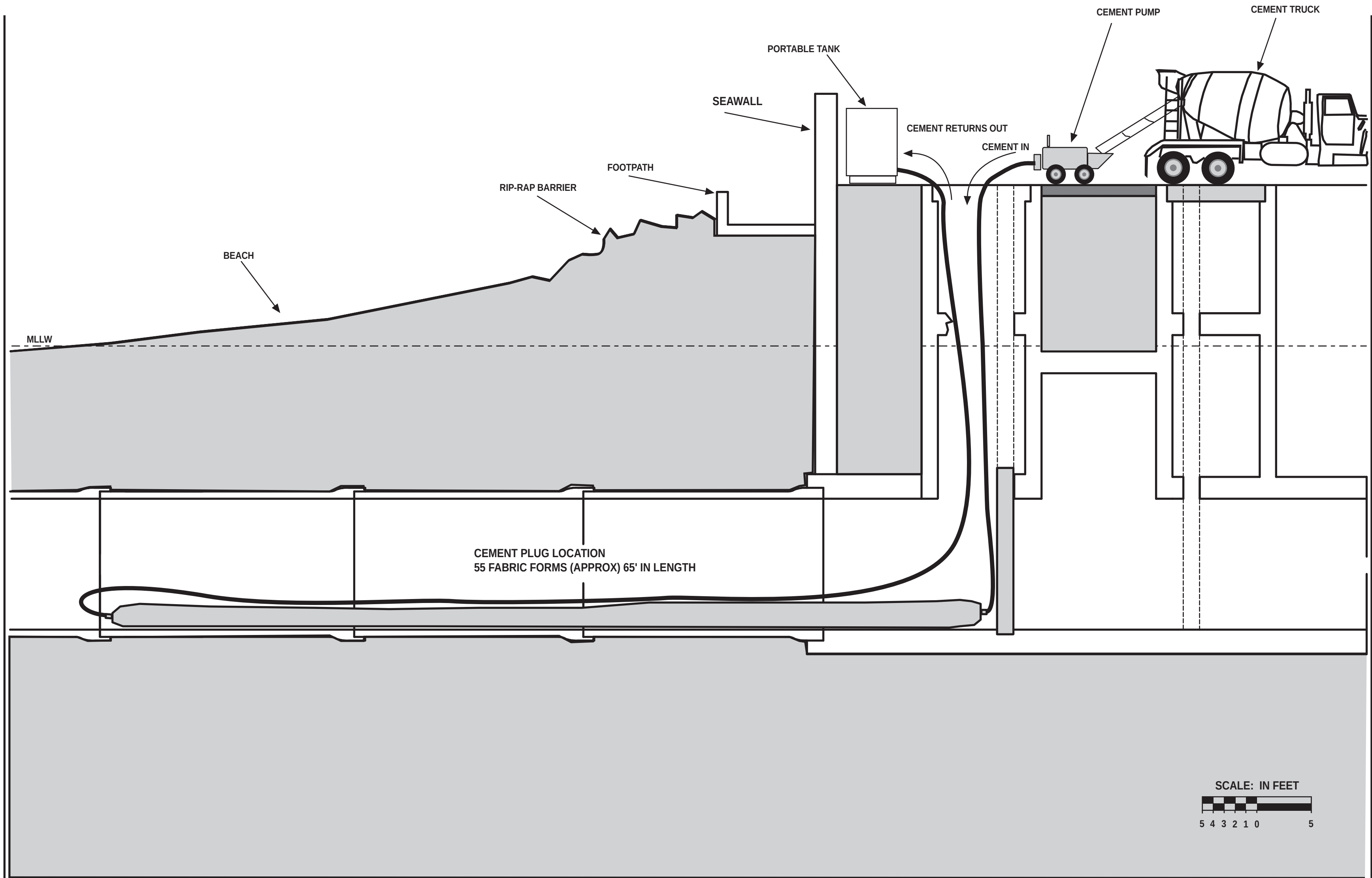

Figure 2-9
Conduit Plug

Environmental Policy Act (NEPA) compliance, if required; and (4) scheduling by the Applicant. It is anticipated that overall activities involving disposition, demolition, and removal and recycling of materials would last for approximately 4 months starting in early 2006. An extended period of inclement weather or unsafe sea states could extend the project duration, as described in Section 2.3.7 and Appendix F.

2.5 ENVIRONMENTAL COMPLIANCE INSPECTION AND MITIGATION MONITORING

The CSLC will adopt a Mitigation Monitoring Program (MMP) to ensure the implementation of all mitigation measures contained in the Final EIR. Section 6 of this EIR contains the MMP for the Proposed Project.

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