Barron, Robert B SAJ

From: Marelisa_Rivera@fws.gov
Sent: Monday, May 16, 2011 3:36 PM
To: Barron, Robert B SAJ
Subject: Fw: EcoElectrica Permit (UNCLASSIFIED)
Attachments: SAJ-1995-05825 EcoElectrica Permit.pdf

----- Forwarded by Marelisa Rivera/R4/FWS/DOI on 05/16/2011 03:35 PM -----

"Garcia, Edgar W SAJ"
<Edgar.W.Garcia@usace.army.mil>

04/29/2011 05:12 PM

To<Marelisa_Rivera@fws.gov>,
<Edwin_Muniz@fws.gov>

cc"Castillo, Sindulfo SAJ"
<Sindulfo.Castillo@usace.army.mil>

SubjectEcoElectrica Permit (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Marelisa,

Enclosed is subject document,

Respectfully,

Edgar W. García
Project Manager
Army Corps of Engineers
Jacksonville District
Antilles Regulatory Section
Tel: (787) 729-6905 Ext. 3059
Fax: (787) 729-6906

Classification: UNCLASSIFIED
Caveats: NONE
(See attached file: SAJ-1995-05825 EcoElectrica Permit.pdf)

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS, ANTILLES OFFICE
400 FERNANDEZ JUNCOS AVENUE
SAN JUAN, PUERTO RICO 00901-3299

REPLY TO
ATTENTION OF

JUL 22 1996

Antilles Regulatory Section
199505825 (IP-JR)

Mr. Ken Morton
Ecoeléctrica, L.P.
Plaza Scotiabank, Suite 902
273 Ponce de León Avenue
Hato Rey, Puerto Rico 00918

Dear Mr. Morton:

Enclosed is an original and a copy of an unsigned Department of the Army permit instrument.

Both copies must be signed by the applicant in the space provided on the last page of the instrument. In the case of corporations, acceptance must be by an officer of that corporation. Type or print the name and title of the person signing below the signature and the date signed. This indicates that the applicant accepts the provisions and conditions of the permit.

SIGN AND RETURN BOTH THE ORIGINAL AND THE COPY TO THIS OFFICE, ALONG WITH A CHECK OR MONEY ORDER for $100.00 PAYABLE TO THE FINANCE AND ACCOUNTING OFFICER

The original will be signed by the District Engineer or an authorized representative and returned to you with a placard to be posted at the site. The permit is not valid until it is signed by the District Engineer or his representative.

Sincerely,

Original signed by

Chester D. Fowler
Lieutenant Colonel, U.S. Army
Deputy District Engineer
for the Antilles

Enclosures

ROSARIO/MUÑIZ/CESAJ-DS-RD/mzr

DEPARTMENT OF THE ARMY PERMIT

DUPLICATE

Permittee: ECOELECTRICA, L.P.

Permit No. 199505825(IP-JR)

Issuing Office: U.S. Army Engineer District, Jacksonville

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: To construct an industrial complex consisting of: (1) a nominal 461 MW (± 10 percent) cogeneration power plant; (2) a liquefied natural gas (LNG) import terminal and storage facility including a docking facility and 1721-foot pier structure with attached water intake and discharge structures and piping associated with the cooling system of the cogeneration plant; and (3) a desalination plant that will share the water intake and discharge structures and piping with the cooling system. In addition, the project will require natural gas, liquefied petroleum gas (LPG) and water pipeline corridors, and electric transmission line corridors from the power plant site through an existing industrial area. The project is as shown and described on attached plans numbered 199505825(IP-JR) in 33 sheets, dated JUL 22 1996.

Project Location: The project is located at Punta Guayanilla, Peñuelas, Puerto Rico.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on _____. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature and mailing address of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. At least 60 days prior to the mobilization of equipment for the construction of the pier, the permittee shall submit to the Corps of Engineers for approval, the final construction plans for the pier. This construction plan, as a minimum, shall contain final drawings (cross sections and plan views), exact location of the pier, exact location of the bottom areas to be impacted, a calculation of the habitats types (seagrasses and corals) to be impacted (to be transplanted), and a detailed description of the method of construction. An estimate of the sea bottom communities that would be impacted by the construction equipment and its anchoring method, shall also be provided, and considered in the mitigation.

2. The permittee shall schedule a preconstruction meeting with the Corps of Engineers at least 30 days prior to the commencement of construction of any portion of the industrial complex.

3. The permittee shall perform compensatory mitigation for the loss of seagrasses caused by the placement of the pier pilings and related permanent structures, including the areas to be affected by the construction equipment and related activities. The mitigation shall be accomplished as follows:

(a) A characterization of the pier area (bottom communities, i.e., seagrasses) to be affected by the pier itself

and the construction activities shall be conducted prior to the commencement of any construction equipment mobilization.

(b) Transplanting shall be achieved by removing one or more seagrass "plugs" large enough to ensure sufficient root/rhizome mass from pier piling footprints and/or the areas to be impacted by the construction machinery, and moving them immediately to

pre-inspected prepared and approved locations at the Enrique Reef lagoon at La Parguera, Lajas, Puerto Rico.

(c) The selected site(s) for the seagrasses transplant at Enrique Reef shall be provided on a location map and the area's extent to be transplanted stated on it. It shall be provided to the Corps and resource agencies prior to commencement of the approved project construction.

(d) A mitigation ratio of at least 2:1 (transplanted area: impacted area) shall be obtained in a five-year period. An 80% survival rate of the transplanted seagrass plugs shall be obtained at the end of the five-year period. The permittee shall be responsible to monitor and manage the transplanted area in order to obtain the expected survival rate.

(e) A control area would be selected on the basis of similar bathymetry, turbidity, wave exposure, etc., and monitored using the same methodologies as those employed for the pier area.

(f) The seagrasses transplant area shall be marked with signs encouraging boaters not to anchor on the vicinity of the seagrass transplant area and/or close to the floating markers. The floating signs shall be attached to the sandy bottom by means of sand screws. The location of the buoys (coordinates) shall be selected, mapped and notified to the Corps of Engineers, Coast Guard, and the resource agencies.

(g) The monitoring events shall commence two weeks after the transplant is performed. Then, it shall be conducted

quarterly during the first year and every six months thereafter. The data to be collected shall include the aerial extent of the transplanted seagrass plugs, stem densities, leaf morphology (leaf length, leaf width), and other indicators of plant health (standing crop, growth rate, chlorophyll/carotinoids levels).

4. The permittee shall compensate for the loss of corals caused by the placement of the pier pilings and related permanent structures, including the areas to be affected by the construction equipment and related activities. The mitigation shall be accomplished as follows:

(a) A characterization of the pier area (bottom communities, i.e., corals) to be affected by the pier itself and the construction activities shall be conducted prior to the commencement of any construction equipment mobilization.

(b) The selected site(s) for the corals transplant shall be provided on a location map and the area's extent to be transplanted stated on it. It shall be provided to the Corps and resource agencies prior to commencement of the equipment mobilization for the pier construction.

(c) The minimum acceptable criterion shall be an 80% survival rate for the total individual transplanted specimens, at the end of the five-year monitoring period.

(d) The monitoring schedule shall be quarterly during the first year, and semi-annually from the second year to the end of the five-year monitoring period.

5. As voluntarily offered, the permittee shall perform a mangrove planting at four different selected locations with different waves exposures around Punta Guayanilla. The mitigation shall be accomplished as follows:

(a) A technique using PVC pipes recommended by the National Marine Fisheries Service, to hold the propagules in place shall be implemented.

(b) The selected site(s) for the mangroves planting shall be provided on a location map and the area's extent to be transplanted stated on it.

(c) A minimum of four clusters of approximately 40 mangrove propagules, planted at three feet centers, and at different wave exposures shall be performed.

(d) The elevation of the PVC planted mangroves shall be correlated to the tidal range in order to obtain data on this aspect.

(e) The monitoring schedule shall be conducted quarterly during the first year of implementation and semi-annually during the second and subsequent years of the monitoring period.

6. The permittee shall conduct a Pier-Effects Study to measure changes in distribution and abundance of seagrasses and corals beneath the shadow pattern of the pier in order to identify possible shading and/or other effects of the pier (changes in the bottom habitat) on the benthic communities underneath and in the pier's vicinity within a five-year period.

(a) Monitoring of the benthic communities beneath the pier for potential shading effects shall be conducted immediately before, and immediately after construction commencement (i.e., equipment mobilization to the area, etc.). The following monitoring event shall be conducted two weeks after the construction operations commencement. Then, it shall be conducted quarterly during the first year and every six months thereafter.

(b) The data to be collected for seagrasses shall include stem densities, leaf morphology (leaf length, leaf width), and other indicators of plant health (standing crop, growth rate, and chlorophyll/carotinoids levels).

(c) Stations to collect data shall be selected on areas that would be affected by the pier shadow, to the west away from the pier, and to the east away from the pier.

(d) A Pre- and Port Operations Study Program shall be prepared to evaluate marine impacts associated with the cooling water intake and NPDES permitted discharges of thermal and hypersaline discharges in which the Pier-Effects Study will take advantage of the data generated by that study to help in interpreting the nature and extent of any possible pier related effects.

7. The data to be collected as a result of the monitoring plan for the Pier-Effects Study, the seagrass and corals transplants, mangroves PVC planting technique, and the freshwater ponding area are described in Section 3.0 of the document entitled "Detailed Mitigation Plan" prepared by Huffman & Associates, Inc. and Huffman & Broadway, Inc., dated March, 1996. This document, with all attachments and appendices, is incorporated by reference herein and made part of this permit.

8. Reports on the mitigation plan implementation and performed studies shall be provided on an annual basis. The first report shall be delivered to the Corps of Engineers, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the Department of Natural and Environmental Resources one year from the commencement of the mitigation plan implementation. Following reports shall be delivered on a yearly basis.

9. Trimming of mangroves at the LPG pipeline crossing of the artificial channel and the small drainage swale shall be kept to the minimum required for construction of, and access to, the pipeline. Mangrove wetlands impacted by the LPG pipeline crossing of the Tallaboa River shall be restored to preconstruction contours and all exposed slopes and stream banks shall be stabilized upon completion of construction. In addition, mangroves lost as a result of any of the above described activities shall be replaced at nearby locations at a minimum of 2:1 ratio.

10. The sheetpile replacement at the construction dock shall maintain the same dimensions and footprint as the existing one. No increase in size or modification is allowed.

11. As voluntarily offered by the permittee, the northwest storm water retention pond shall be graded with topographic variability, including an island in the center. A drainage pipe shall be installed at the low end of the pond (southeast corner) with a riser or other control structure to allow the pond to retain a minimum of one foot of water.

12. All wetlands or other waters of the United States within 100 feet of any pipeline corridor, electrical transmission corridor, temporary access road or construction staging/laydown area shall be clearly marked, prior to earth working or equipment mobilization, with flags and/or temporary fencing and with signs in Spanish and English. No placement of dredged or fill material or equipment operations shall be permitted in such areas, except in accordance with the terms and conditions of this permit.

13. The mitigation work (seagrass and corals transplant, and mangroves planting) to be implemented shall start only after written approval by the Corps of Engineers of the final pier plans acceptance. The permittee shall finalize the mitigation work one year after the written approval of the final pier plans and shall conduct the monitoring for the following five years after the last seagrass and/or coral is transplanted.

14. The permittee shall implement the standard conditions for the protection of the West Indian manatee during project construction. See attachment 4(b).

15. The permittee shall comply with the terms of the Biological Opinion issued by the U.S. Fish and Wildlife Service on March 29, 1996, (copy enclosed) pursuant to Section 7 of the Endangered Species Act of 1973. The permittee shall comply with the conservation recommendations included in the Biological Opinion.

16. Best management practices for erosion control shall be implemented and maintained at all times during construction to prevent siltation and turbid discharges. Therefore, prior to commencement of any construction authorized by this permit, turbidity and erosion control devices, including but not limited to staked hay bales, silt screens and turbidity curtains, shall be installed on the outer edges of the wetlands to be filled and the wetlands to be created and enhanced. The turbidity control devices shall remain in place and be properly maintained until all fill areas and all side slopes are stabilized in the construction area, and all ground cover is established in the created and enhanced wetland areas. Temporary slope stabilization (hydromulch, sod, hay straw) shall be used at any other time as necessary to prevent erosion and turbid discharges.

17. The permittee shall provide as-built drawings of the authorized work, including mitigation, and a completed As-Built Certification Form herewith provided. The drawings are to be submitted within 60 days after completion of the authorized work, including mitigation, or at the expiration of the construction window of the permit, whichever comes first. The drawings and Certification Form must be signed and sealed by a Professional Engineer in Puerto Rico. In the event that the completed work deviates from the approve permit drawings and special conditions, the permittee shall describe, on the Certification Form, the deviations between the authorized by the permit and the work as constructed. A blank form is provided in attachment 4(a). Please note that the depiction and description of the deviations on the drawings and Certification Form does not necessarily mean the Corps of Engineers will approve them.

b. The As-Built drawings shall include the following:

1) Plan view of overall footprint of the project showing all "earth disturbance", including wetland impacts, water management structures, and any on-site mitigation areas.

2) A detailed plan view of all created and/or restored or enhanced (as appropriate) mitigation areas showing planting zones, and cross-sections of the mitigation areas showing elevations corresponding to the plantings; elevations of the inverts of any control structures servicing (inflow and outflow) the mitigation areas.

3) Any stormwater management system, that is a part of a wetland creation, restoration or enhancement mitigation project, especially elevations of the inverts of the control structures.

4) Location of the authorized work footprint (as shown on the permit drawings) with an overlay of the work as constructed.

5) List any deviations between the work authorized by the permit and the work as constructed. Clearly indicate on the as-built drawings any deviations which have been listed.

6) The Department of the Army Permit number.

7) Include pre- and post-construction aerial photographs of the project site, if available.

c. As-built drawings shall be submitted to:

Chief, Antilles Regulatory Section
U.S. Army Corps of Engineers
400 Fernández Juncos Avenue
San Juan, PR 00901-3299

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(*) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(*) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered

by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Kent Morton for Eco Electrica, L.P. 7/23/96

(PERMITTEE) Kent Morton (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

LTC EN 26 JUL 96

(FOR THE DISTRICT ENGINEER) USA (DATE)

CHESTER D. FOWLER
DEPUTY DISTRICT ENGINEER
FOR THE ANTILLES

by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

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Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

(PERMITTEE) Kent Morton — 7/23/96 (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

LTC EN, USA — 26 JUL 96 (DATE)

(FOR THE DISTRICT ENGINEER)
CHESTER D. FOWLER
DEPUTY DISTRICT ENGINEER
FOR THE ANTILLES

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____ _____

(TRANSFEREE-SIGNATURE) (DATE)

_____

(NAME-PRINTED)

_____

(ADDRESS)

_____

(CITY, STATE, AND ZIP CODE)

DEPARTMENT OF THE ARMY PERMIT

Attachments to Department of the Army Permit Number 199505825(IP-JR)

1. PERMIT DRAWINGS: 33 pages, dated JUL 22 1996

2. WATER QUALITY CERTIFICATION: In accordance with General Condition number 5 on page 2 of this DA permit, the Environmental Quality Board, Water Quality Certificate Specific Conditions consist of 5 pages.

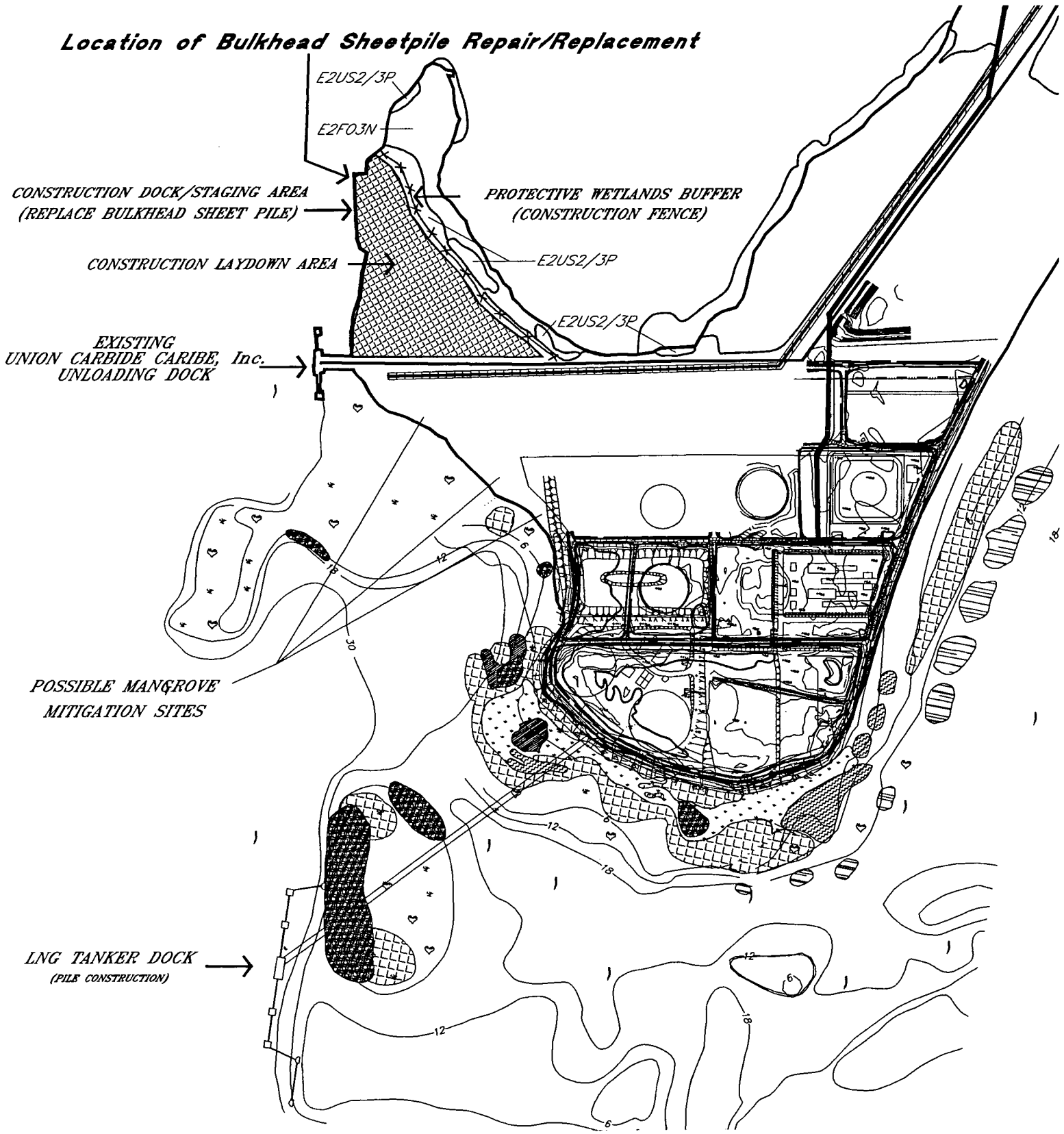
3. Additional Documents:

   (a) Biological Opinion issued by the U.S. Fish and Wildlife Service on March 29, 1996, pursuant to Section 7 of the Endangered Species Act of 1973.

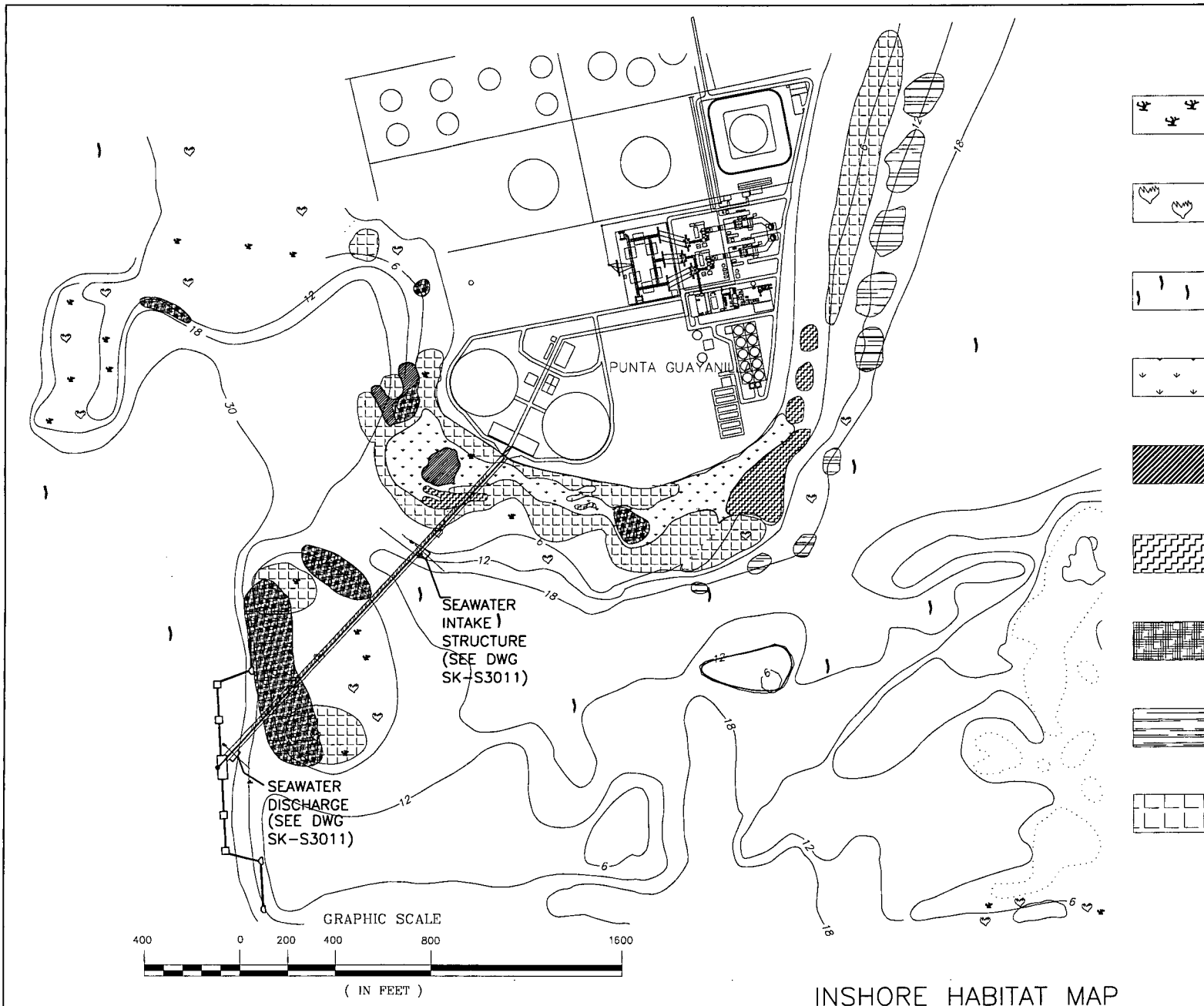
   (b) Standard Manatee Conditions, 3 pages

   (c) As-built Certification by Professional Engineer

Location of Bulkhead Sheetpile Repair/Replacement

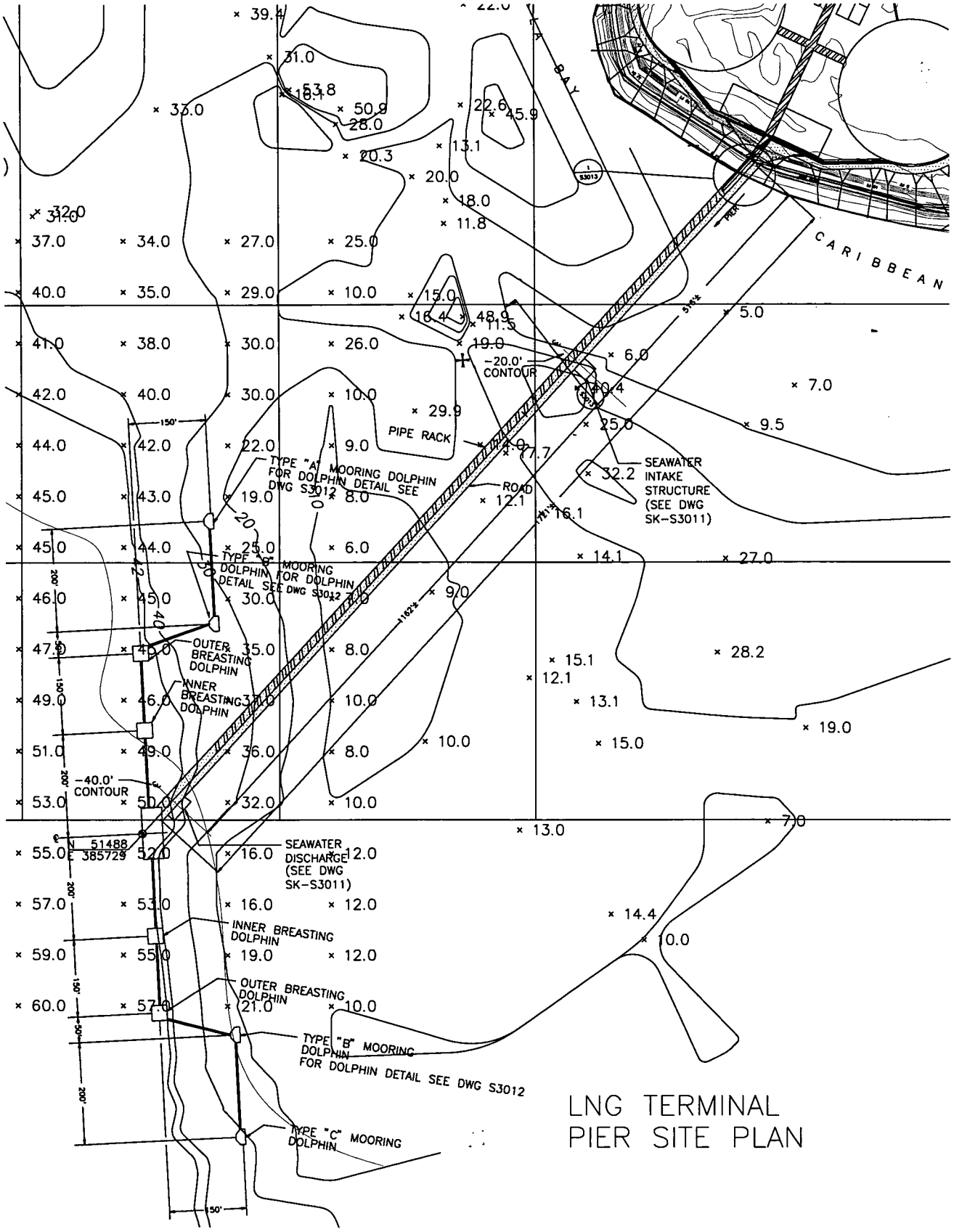


JUL 22 1996



INSHORE HABITAT MAP

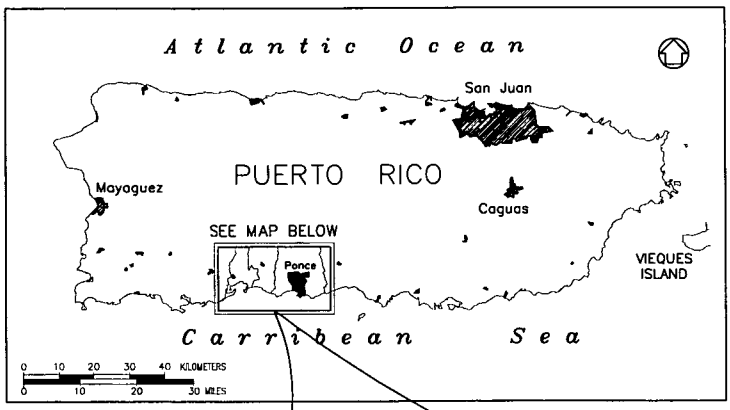
FILE NAME: 23-29.DWG

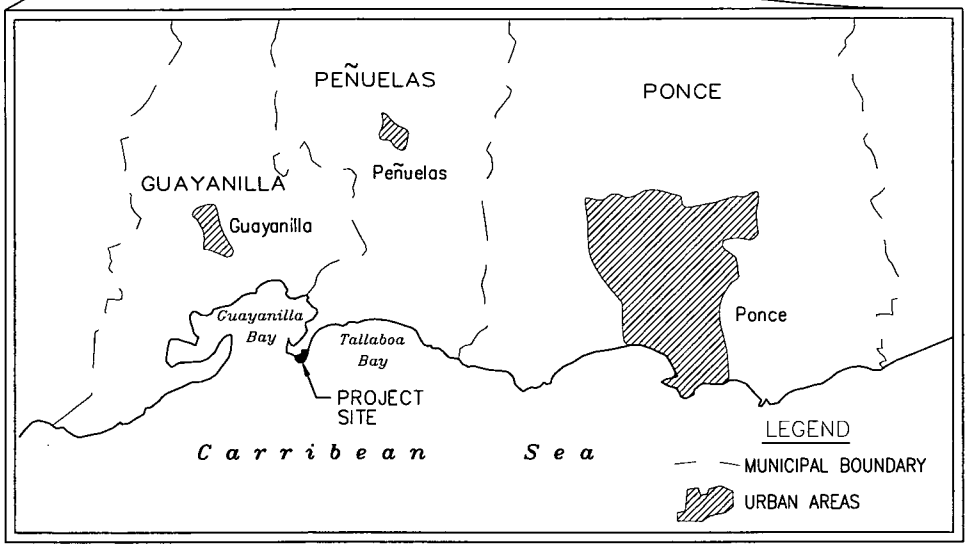


LNG TERMINAL
PIER SITE PLAN

FILE NAME: 2-29.DWG

PERMIT 199505825(IP-JR)
Page 5 of 33 JUL 22 1996





SCALE

0 20 40 KILOMETERS

0 20 MILES

LNG IMPORT TERMINAL AND COGENERATION PROJECT

SITE LOCATION MAP

PLOT DATE JAN 20, 1995 C:\5199----\----\00001-08.DWG

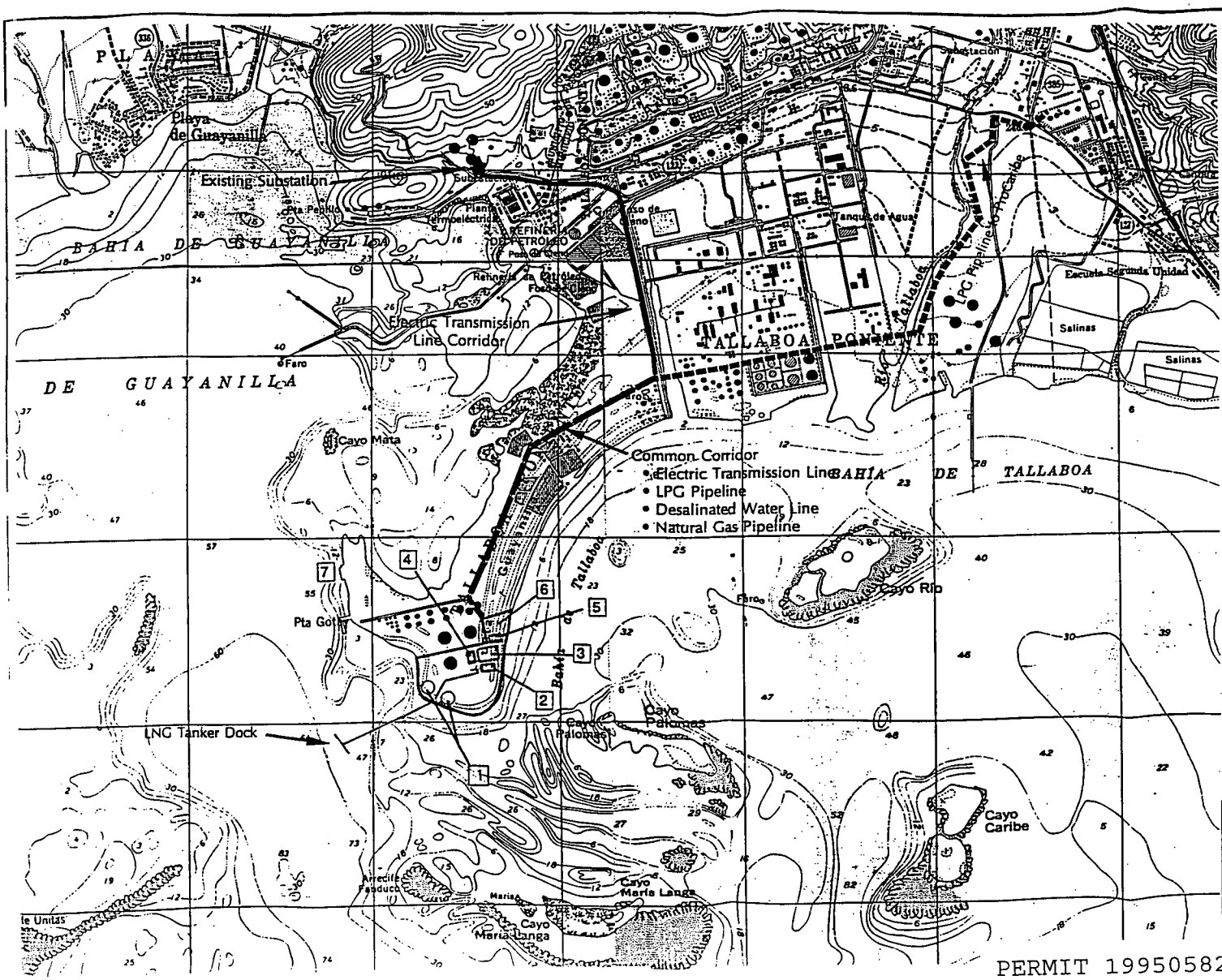
FILE NAME: 3-29.DWG

PURPOSE: CONSTRUCT LNG FACILITY & POWER PLANT
DATUM: MSL

ADJACENT PROPERTY OWNERS:
1-UNION CARBIDE
2-PEERLESS CHEMICAL
3-PREPA
4-VALDIVIESO
5-TEXACO
6-PRO CARIBE

PERMIT 199505825(IP-JR)
Page 1 of 33

JUL 22 1996


Playa de Guayanilla
Existing Substation
Pta Pedillo
Planta Termoeléctrica
REFINERIA DE PETROLEO
Tanque de Agua
LPG Pipeline to Yabucoa
Escuela Segunda Unidad
Salinas
Salinas
Faro
Electric Transmission Line Corridor
BAHIA DE GUAYANILLA
TALLABOA PONIENTE
Cayo Mata
Common Corridor
• Electric Transmission Line
• LPG Pipeline
• Desalinated Water Line
• Natural Gas Pipeline
BAHIA DE TALLABOA
Cayo Rio
Faro
Pta Gotay
LNG Tanker Dock
Cayo Palomas
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Cayo Caribe
Cayo Maria Langa
Cayo Maria Langa
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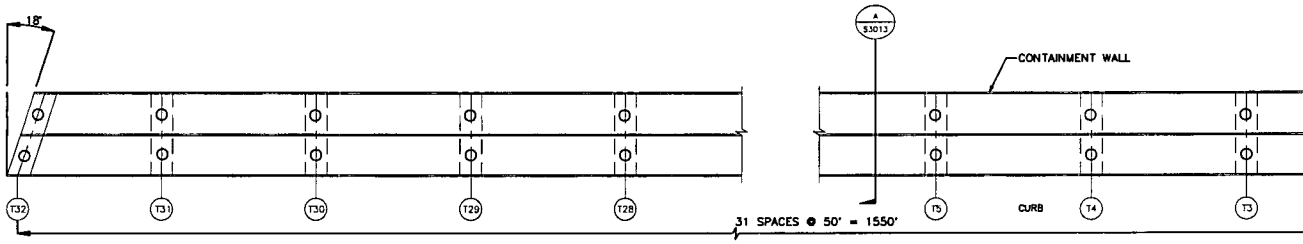
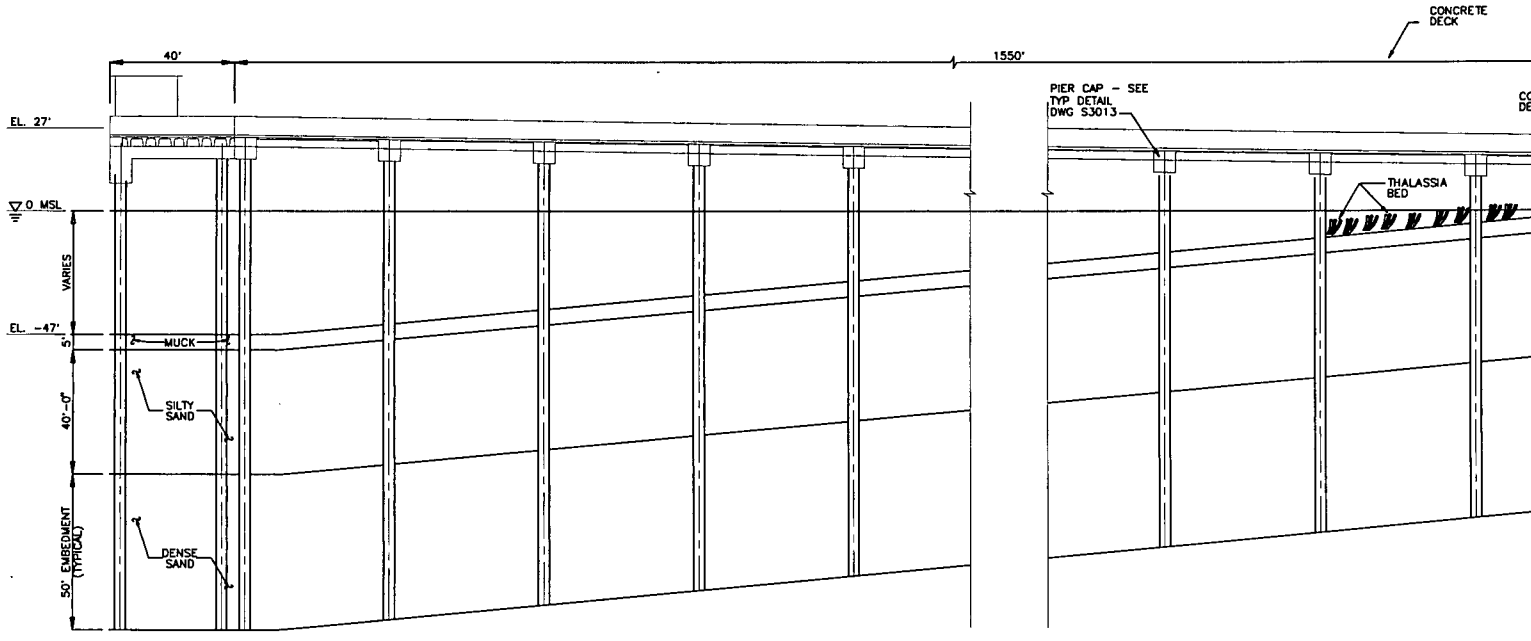
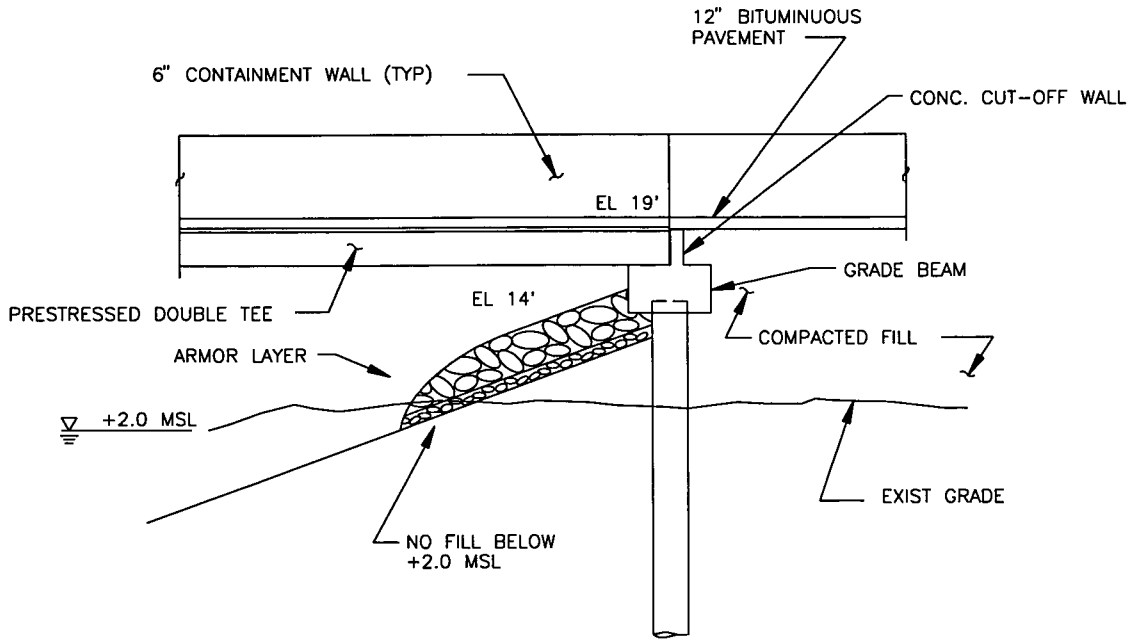


PIER PLAN



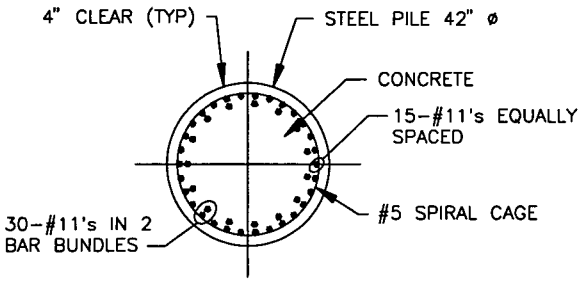
PIER SECTION

FILE NAME: 6A-29.DWG



TYPICAL SECTION VIEW PIER-SHORE DETAIL

SCALE: NONE

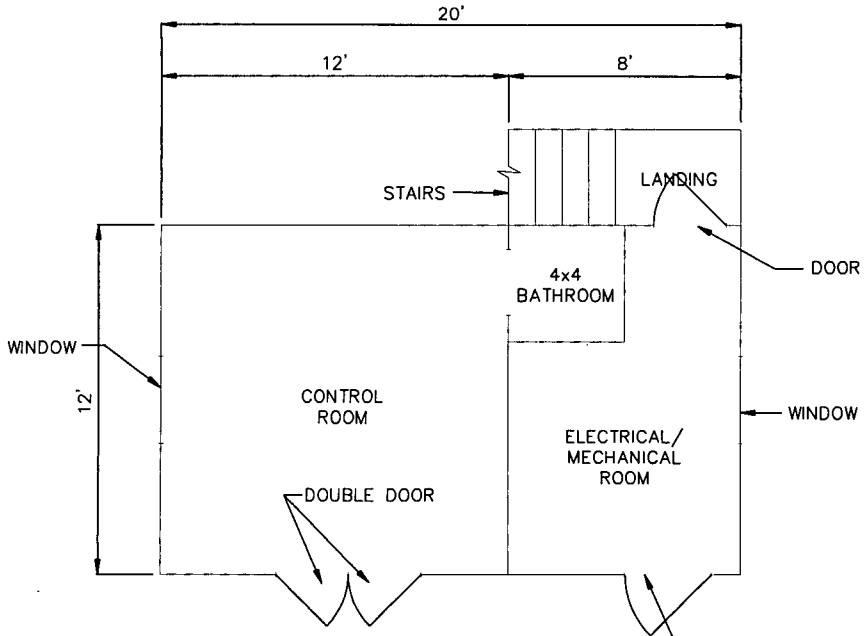


TYPICAL SECTION VIEW PILE RBAR DETAIL

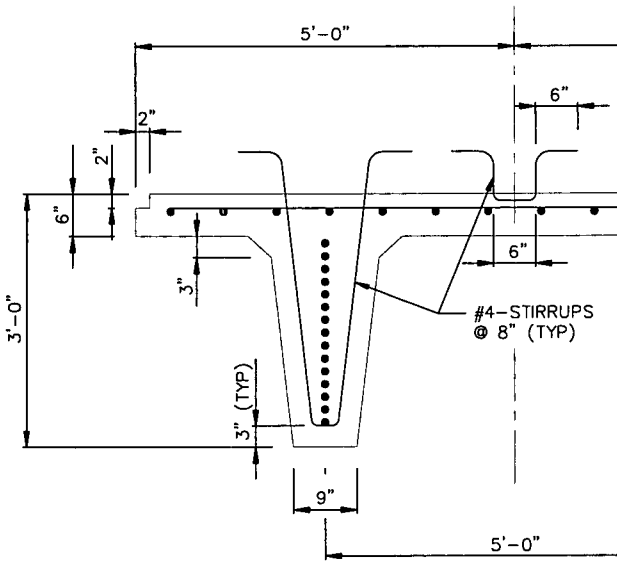
SCALE : 1/4"=1'-0"

FILE NAME: 14-29.DWG

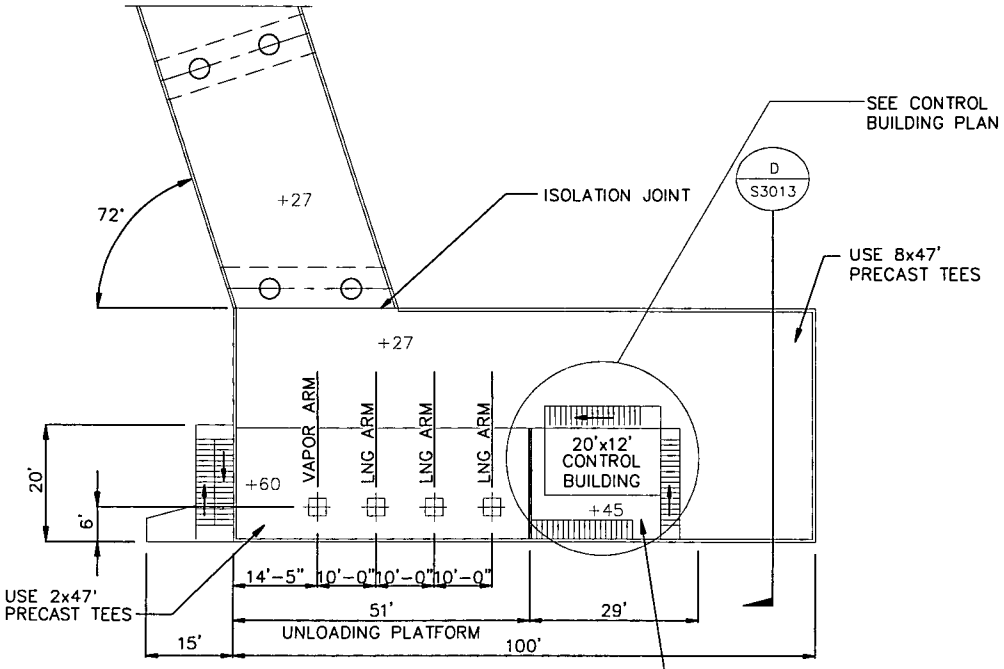
JUL 22 1996



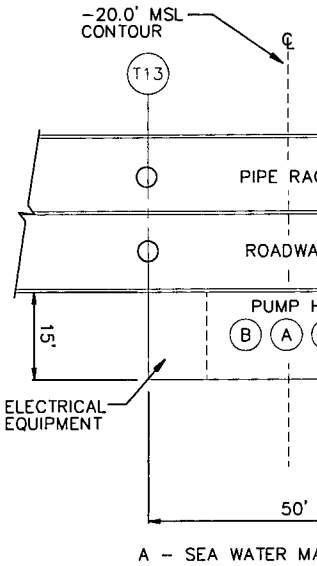
TYPICAL PIER DOUBLE-TEE



TYPICAL PIER DO



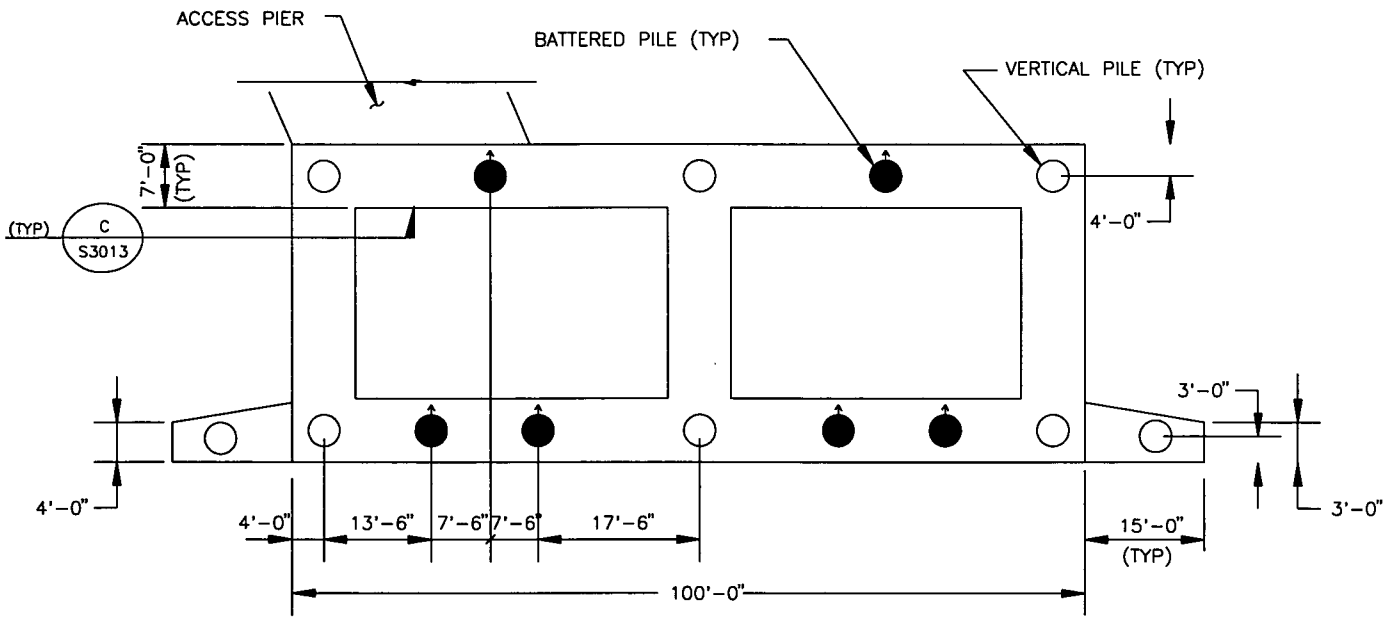
PIER HEAD PLAN



A - SEA WATER MA
B - LNG FIRE WATE

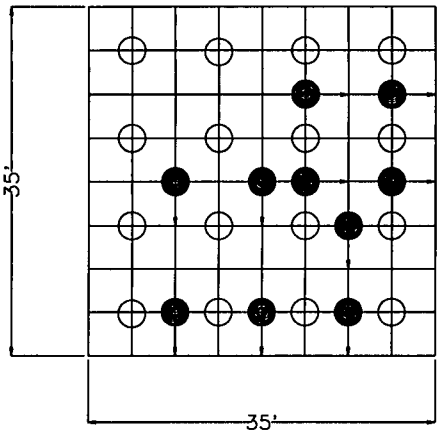
SEAWATER IN

FILE NAME: 6-29.DWG

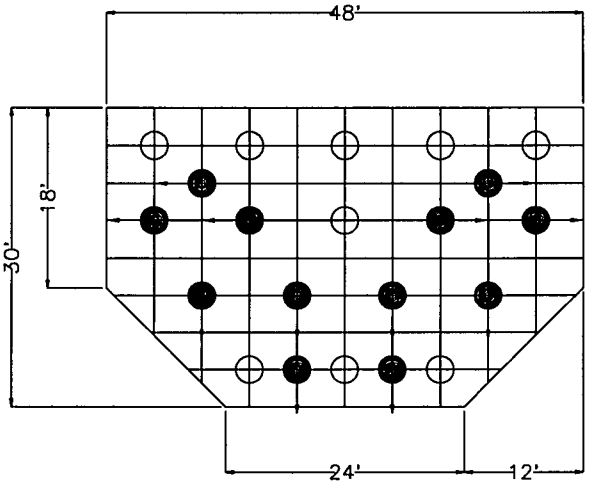


PIER HEAD PILE PLAN
SCALE: NONE

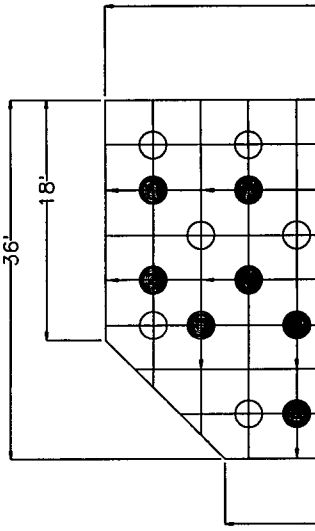
FILE NAME: 10-29.DWG



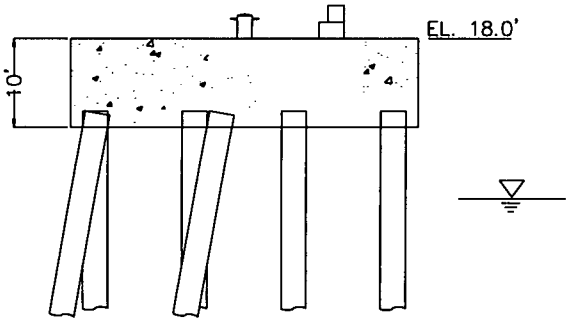
TYPE "A" MOORING DOLPHIN PILE PLAN



TYPE "B" MOORING DOLPHIN PILE PLAN
(2 REQUIRED)

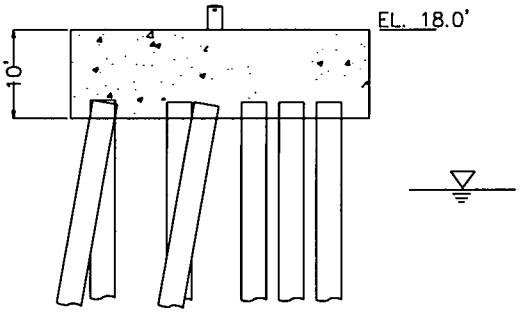


TYPE "C" MOORI



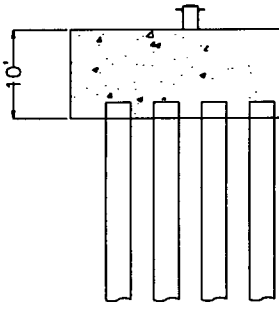
ELEVATION

TYPE "A" MOORING DOLPHIN
(1 REQUIRED)



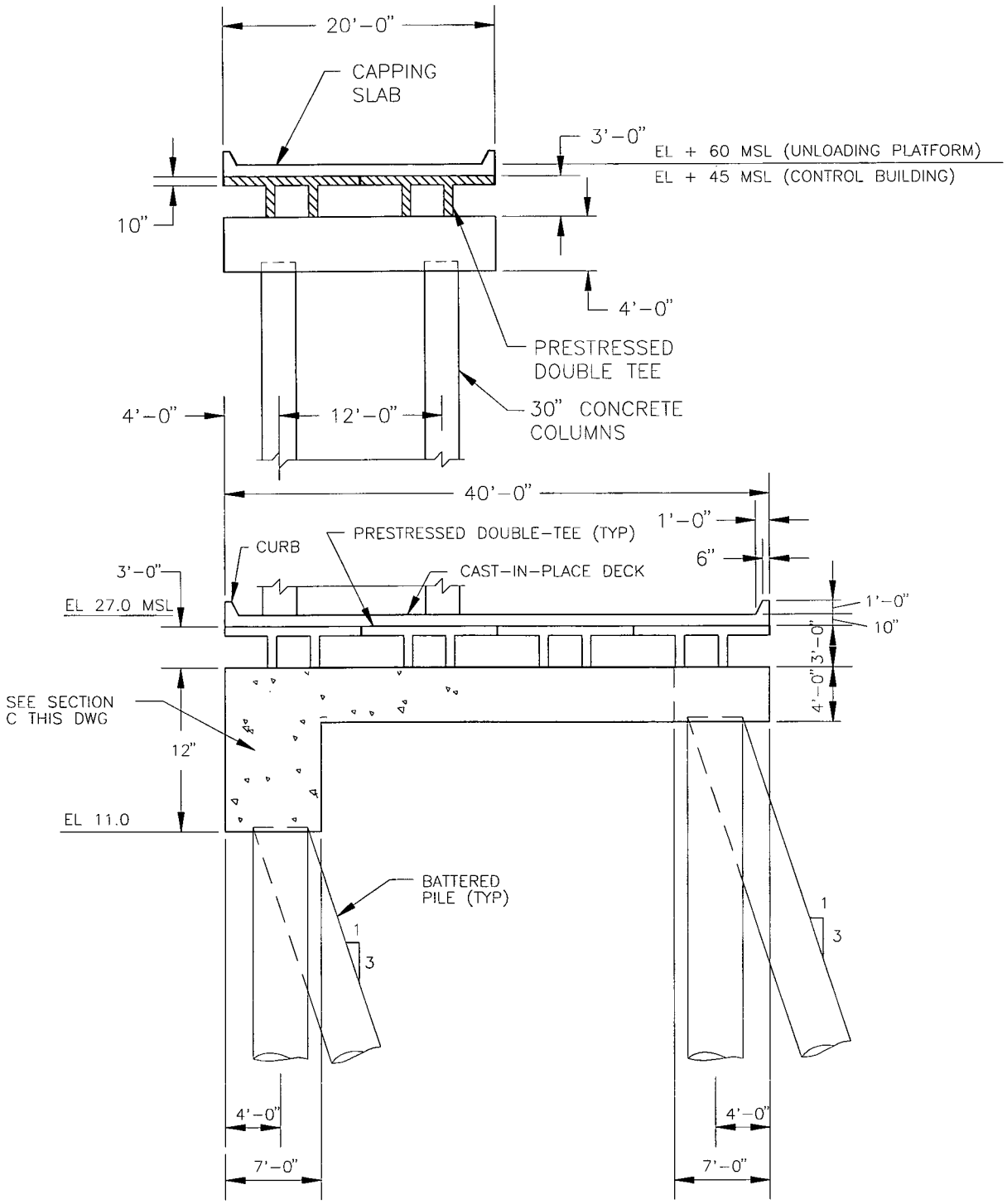
ELEVATION

TYPE "B" MOORING DOLPHIN
(2 REQUIRED)



TYPE "C"

FILE NAME: 7-29.DWG



SECTION D (THRU PIER HEAD)

SCALE : 1/8"=1'-0"

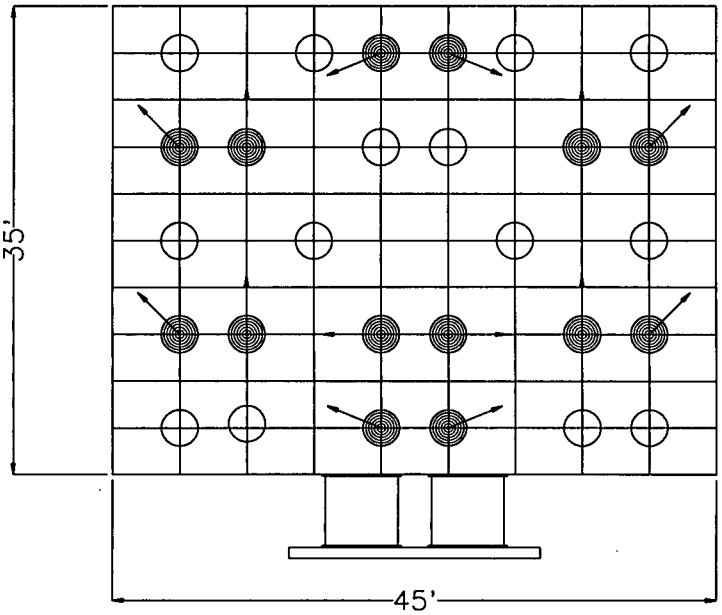
PURPOSE: CONSTRUCT LNG FACILITY & POWER PLANT
DATUM: MSL

IN: TALLABOA RIVER & CARIBBEAN SEA
AT: PUNTA GUAYANILLA MUNICIPALITY: PENUELAS
STATE: PUERTO RICO

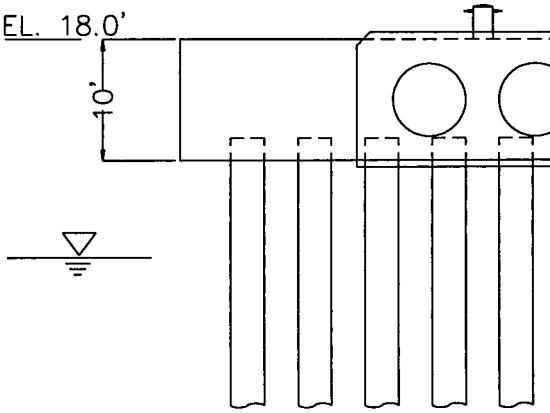
ADJACENT PROPERTY OWNERS:
1-UNION CARBIDE
2-PEERLESS CHEMICAL
3-PREPA
4-VALDIVIESO
5-
6-

PERMIT 199505825(IP-JR)

JUL 22 1996



INNER BREASTING DOLPHIN PILE PLAN

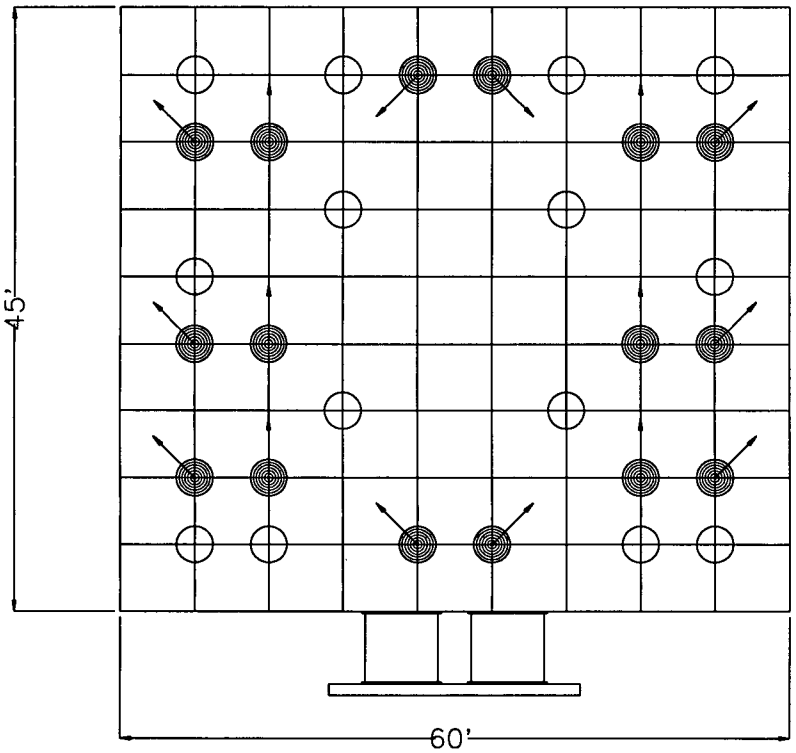


ELEVATIO

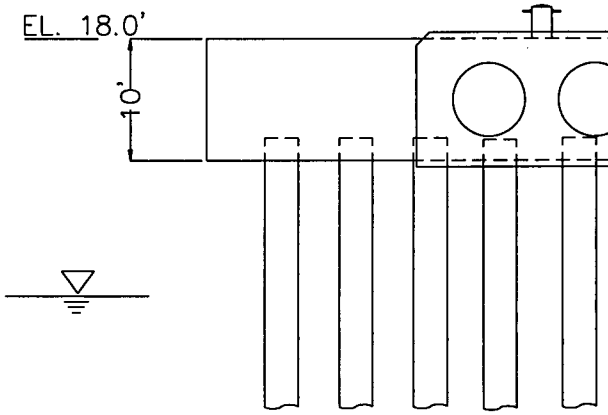
INNER BREASTING
(2 REQUIRED)

FILE NAME: 8-29.DWG

PERMIT 199505825(I
Page 13 of 33
JU



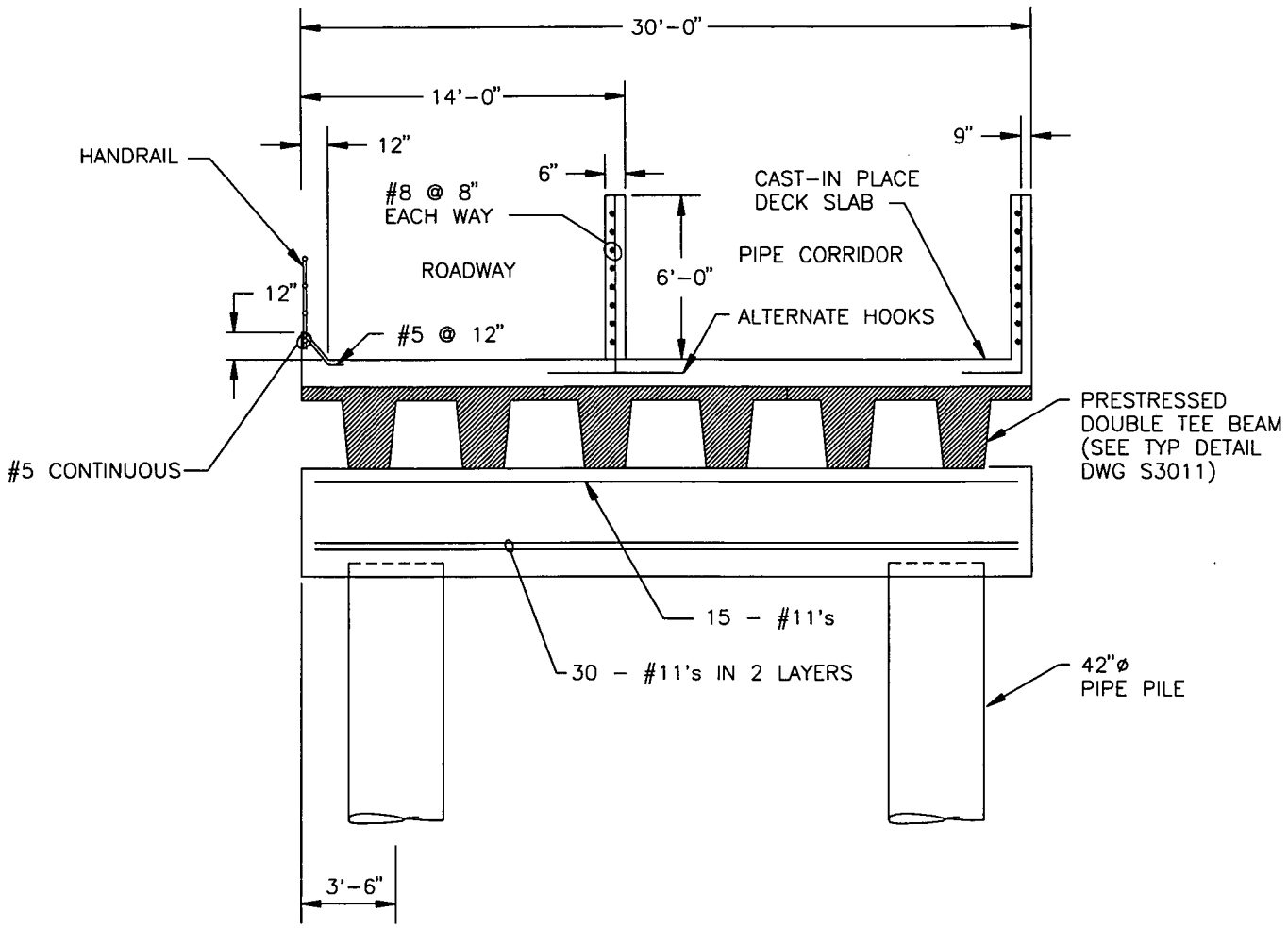
OUTER BREASTING DOLPHIN PILE PLAN



ELEVATIO

OUTER BREASTING
(2 REQUIRED)

FILE NAME: 9-29.DWG

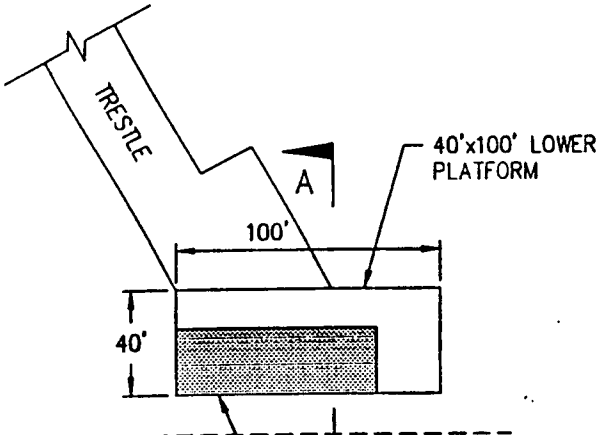


SECTION A
SCALE: NONE
REF DWG S3010

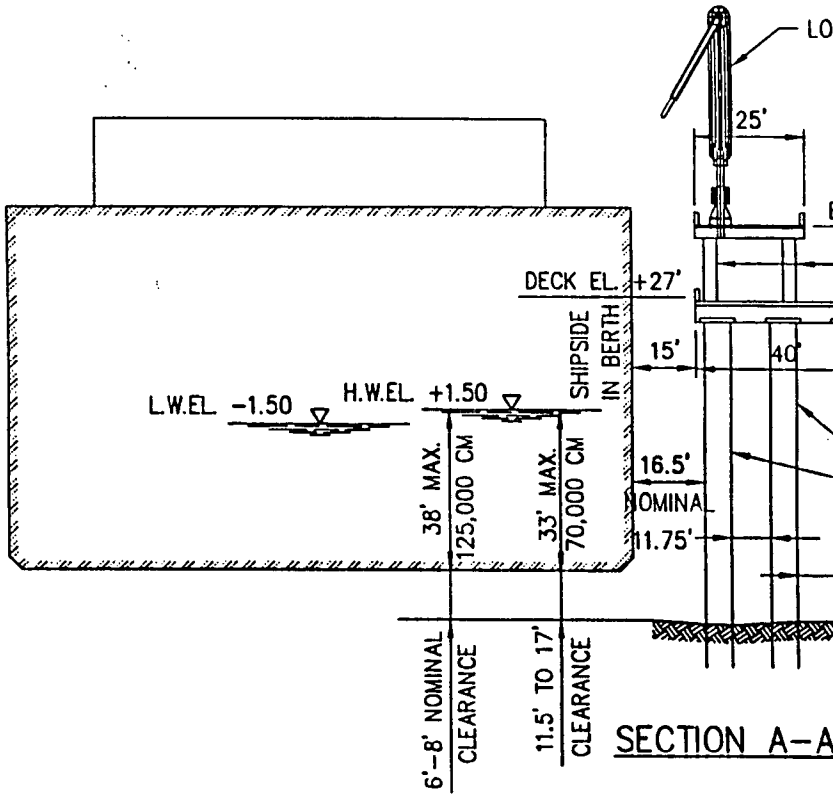
PIER CROSS SECTION

FILE NAME: 11-29.DWG

JUL 22 1996



PLAN–PLATFORM



SECTION A–A

Figure 2
EcoEléc
And Co
LOADIN

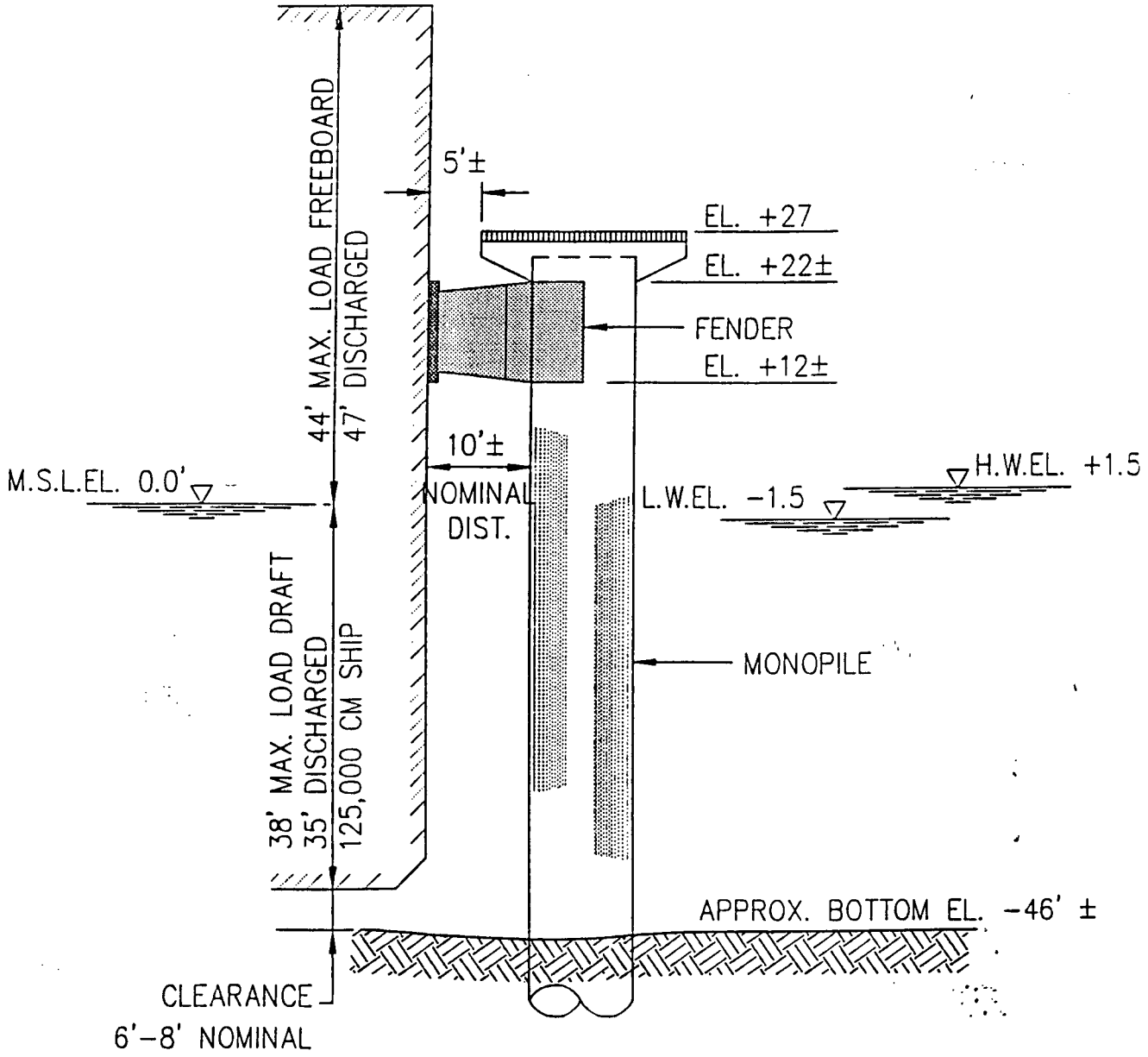
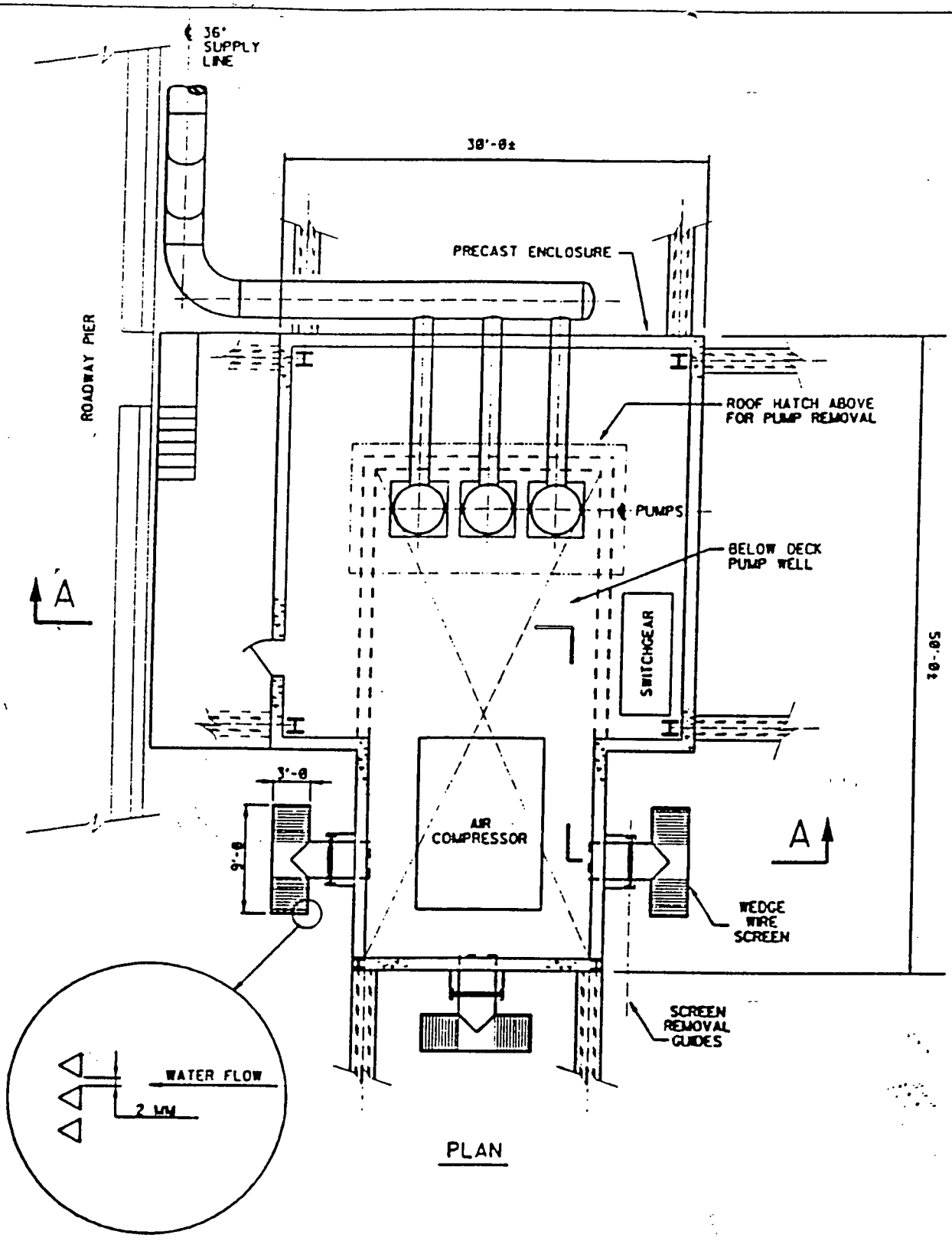
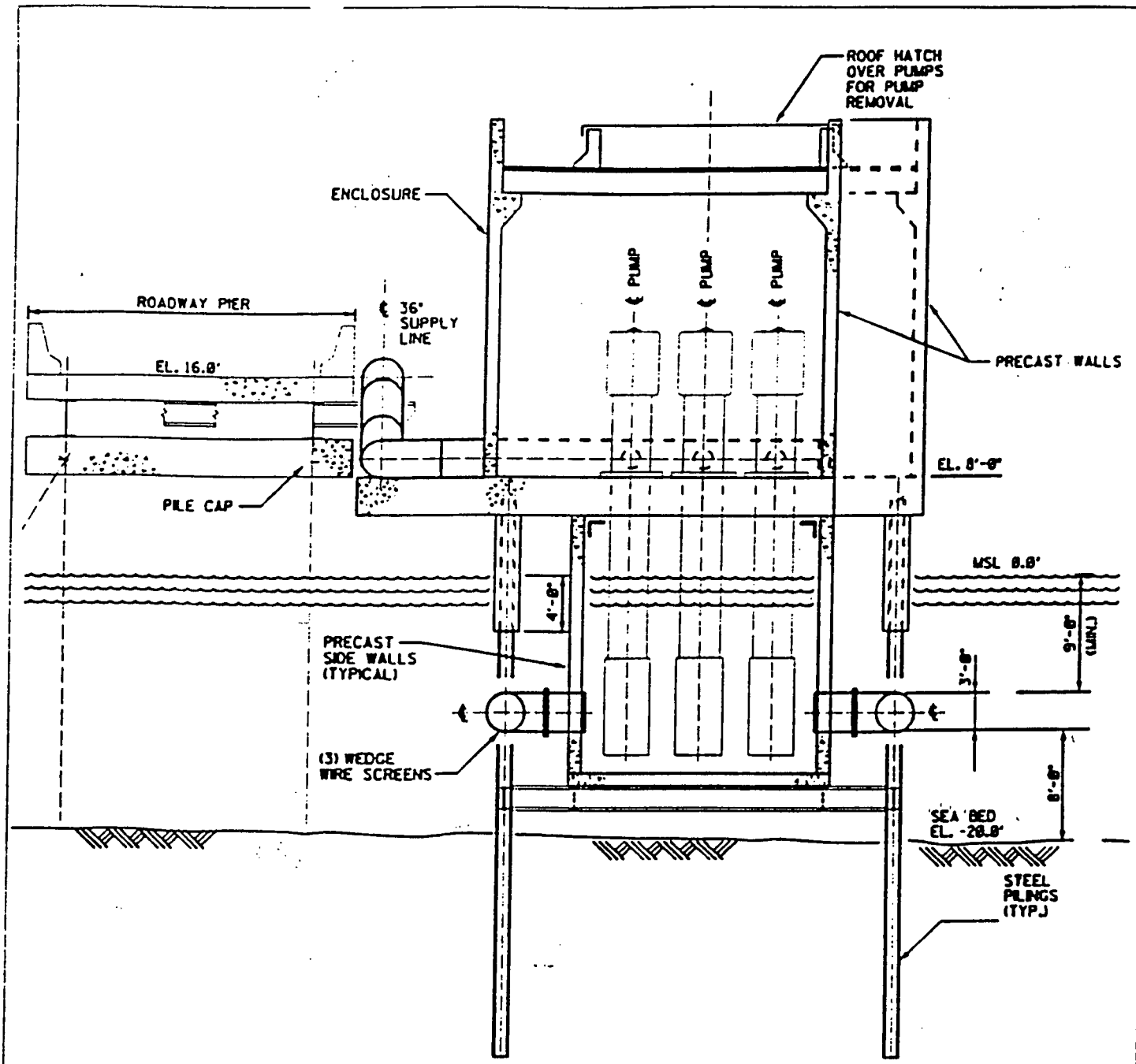


Figure 3
EcoEléctrica LNG Import Terminal And Cogeneration Project
BREASTING DOLPHIN DETAIL



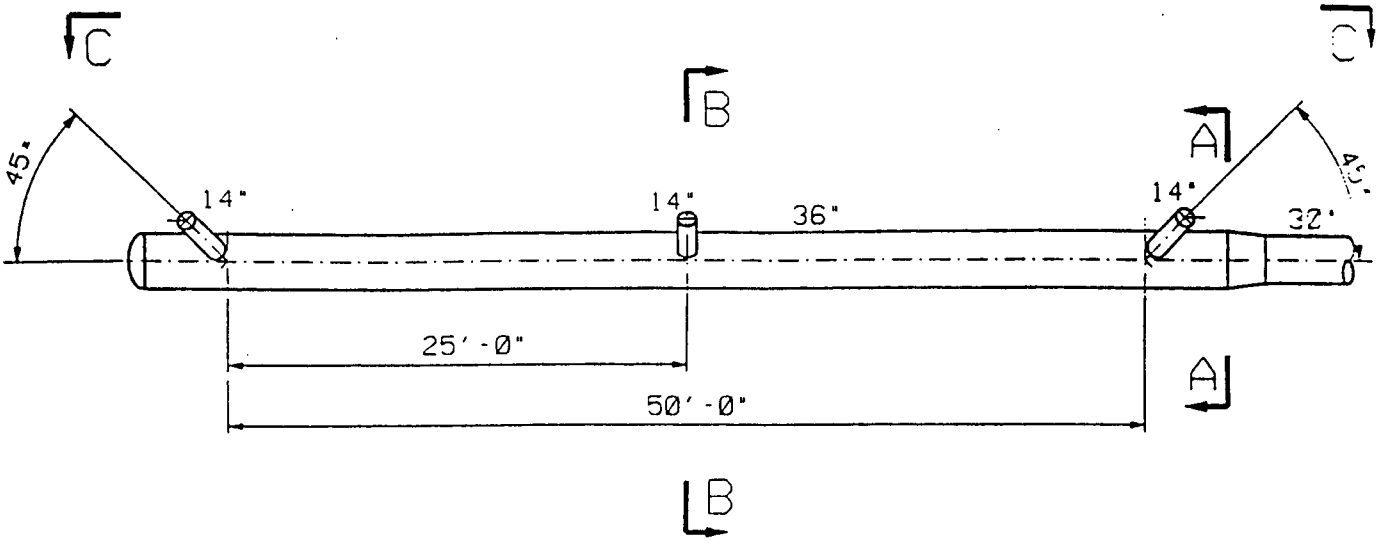
n:\pri\1331000\misc\aer\eco1.dgn Jan 29 1996 15:54:20

Figure 4
EcoEléctrica LNG Import Terminal And Cogeneration Project
INTAKE STRUCTURE - PLAN VIEW



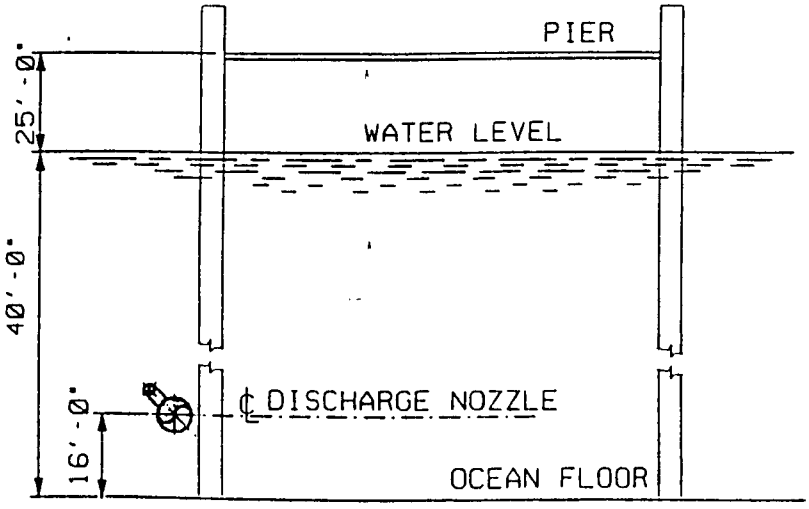
SECTION A-A

Figure 5
EcoEléctrica LNG Import Terminal And Cogeneration Project
INTAKE STRUCTURE - SECTION VIEW

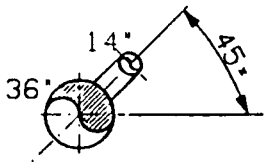


PLAN

DISCHARGE DIFFUSER



ELEVATION B-B



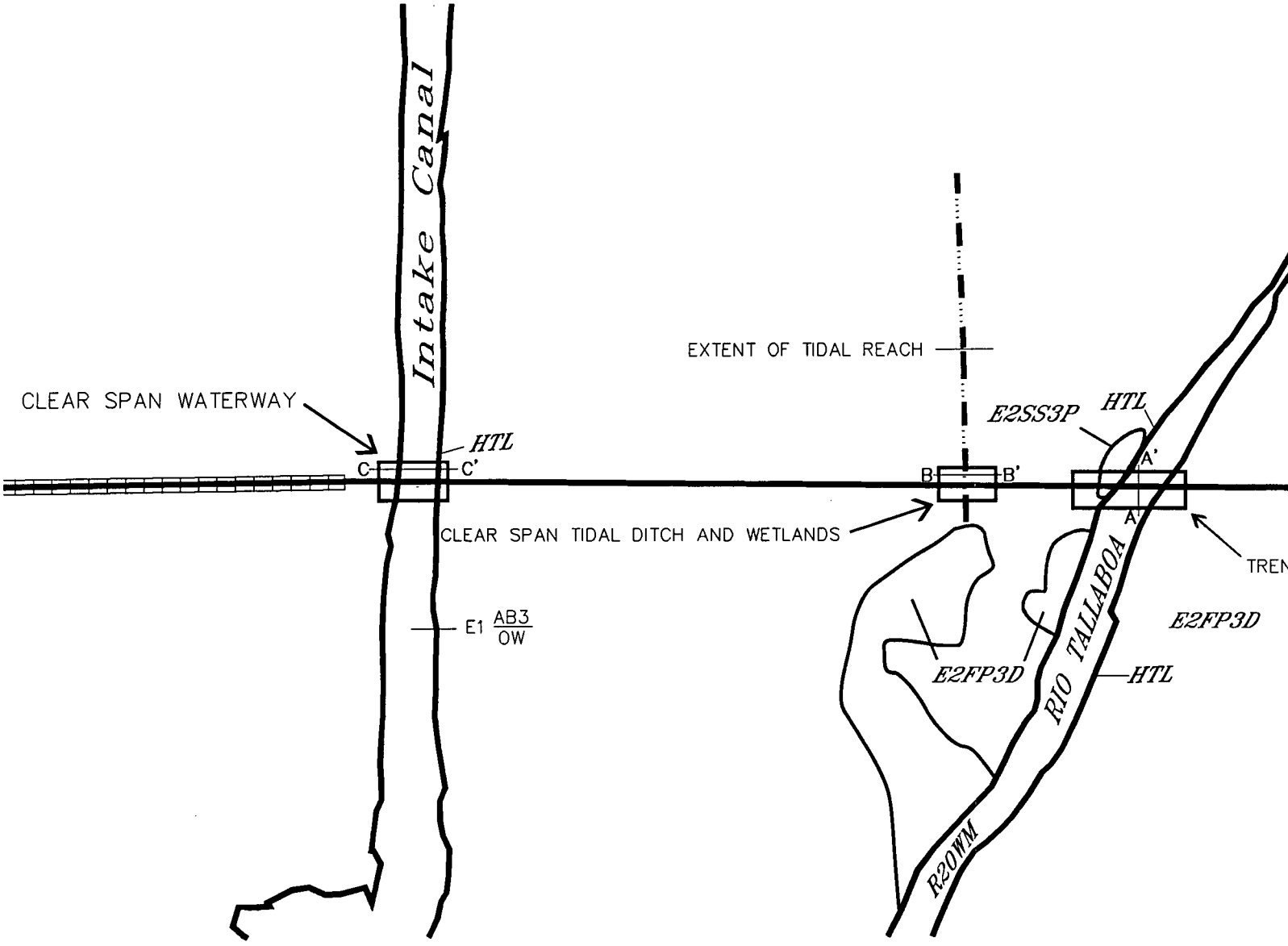
SECTION A-A

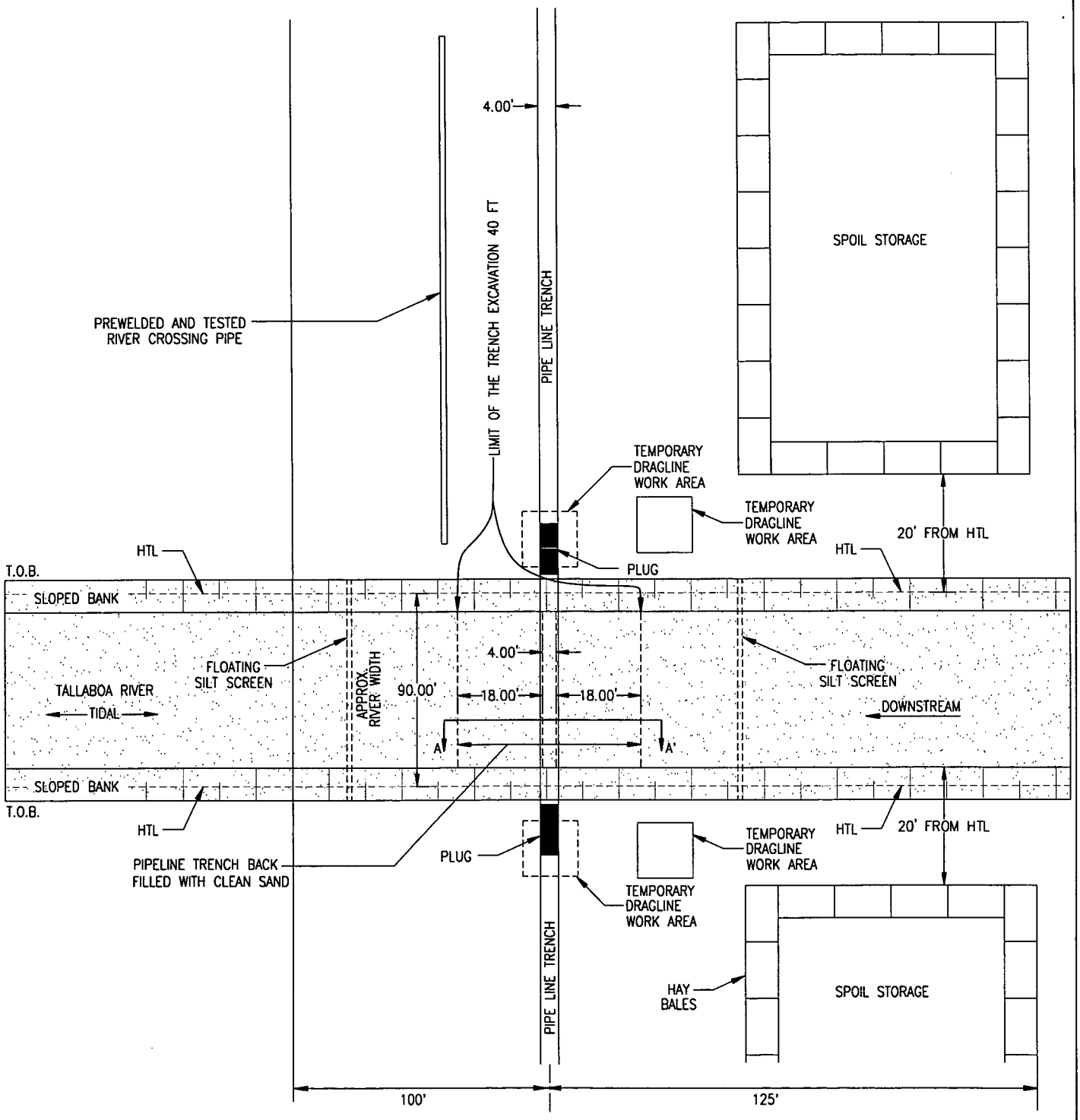
EcoEléctrica

PUNTA GUAYANILLA

OUTFALL 001 DIFFUSER

PLAN & ELEVATION


Intake Canal
CLEAR SPAN WATERWAY
HTL
C
C'
EXTENT OF TIDAL REACH
E2SS3P
HTL
B
B'
A'
A
CLEAR SPAN TIDAL DITCH AND WETLANDS
E1 AB3 OW
E2FP3D
E2FP3D
RIO TALLABOA
HTL
E2FP3D
R20WM



TALLABOA PIPE LINE RIVER CROSSING
PLAN VIEW

FILE NAME:9141-127.DWG

PERMIT 199505825(IP-JR)
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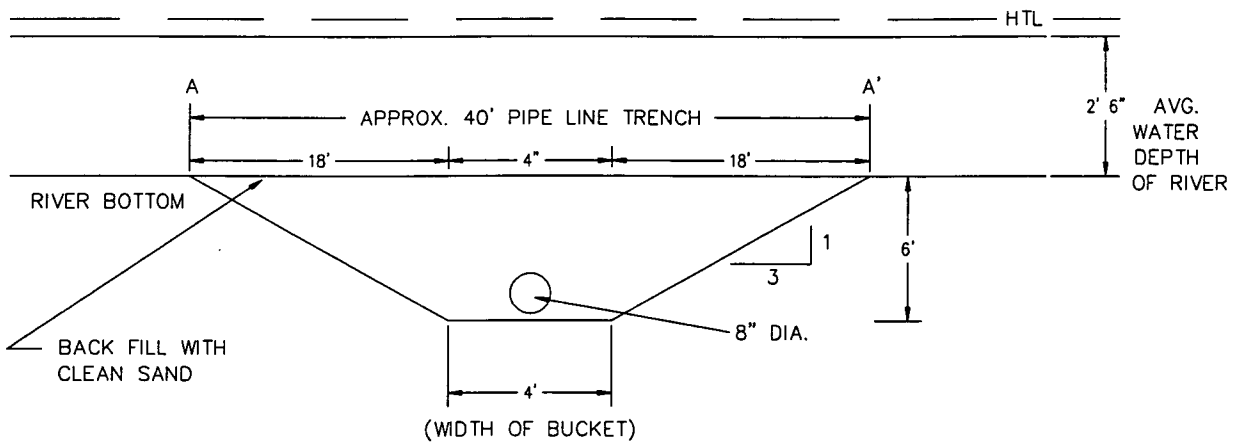
JUL 22 1996

CROSS SECTION OF RIVER
PIPE LINE CROSSING TRENCH
SECTION VIEW



APPROXIMATELY 450 CUBIC YARDS ESCAVATION IN THE TALLABOA RIVER, 8.625" O.D. – 0.250 " WALL – A106 SMLS (MIN.) COATED WITH FUSION BONDED EPOXY AND WEIGHTED DOWN WITH BOLT-ON WEIGHTS.

SPACING BASED ON SP. GR. 1.35 (WEIGHT EVERY 20 FT APPROXIMATELY).

NOTE:

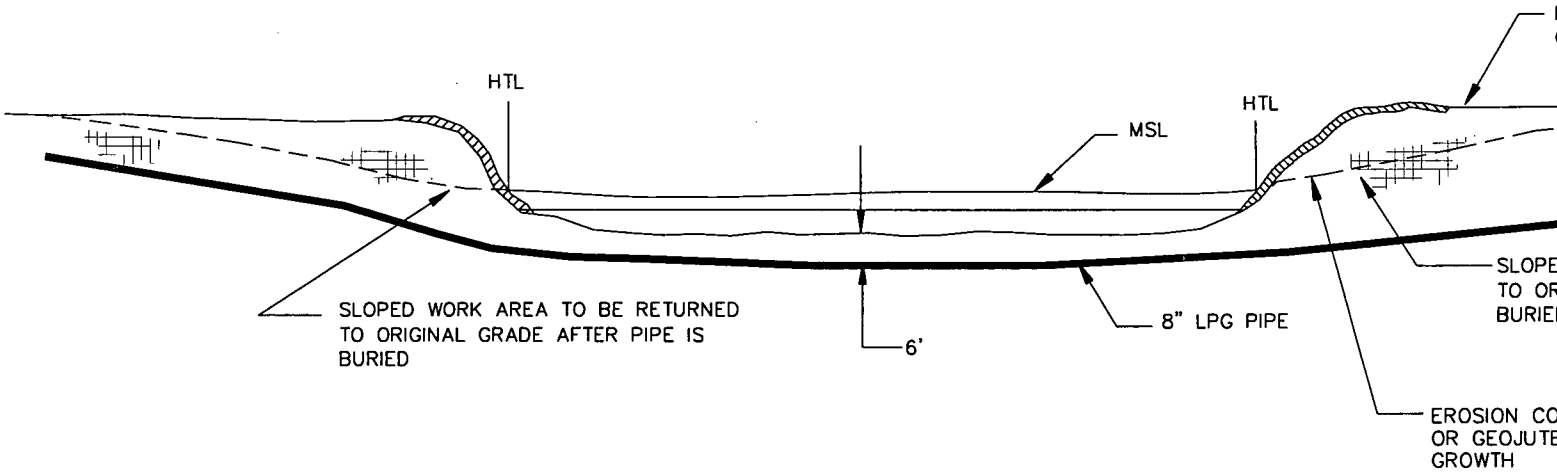
HTL = HIGH TIDE LINE

FILE NAME: 9141-128.DWG

JUL 22 1996

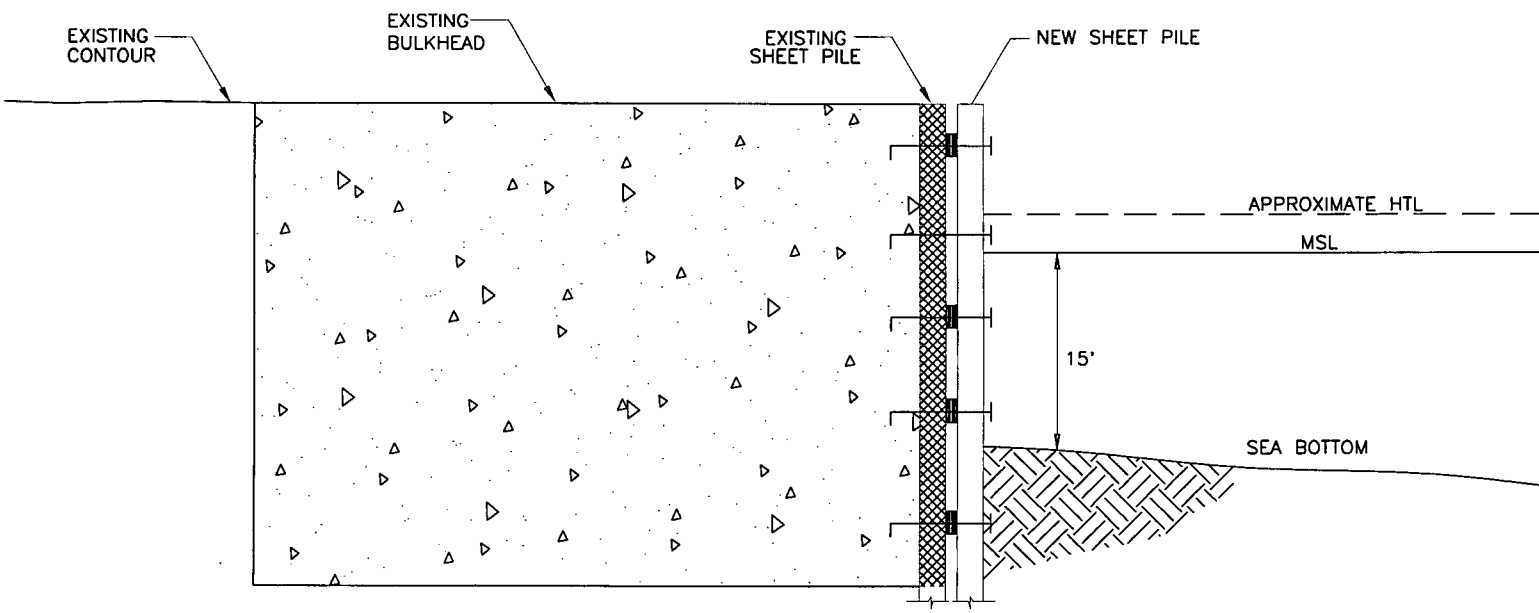
TYPICAL SECTION:

BANK EROSION CONTROL
TALLABOA RIVER PIPELINE CROSSING



NO
HT
PR
WO

FILE: 9141-129.DWG



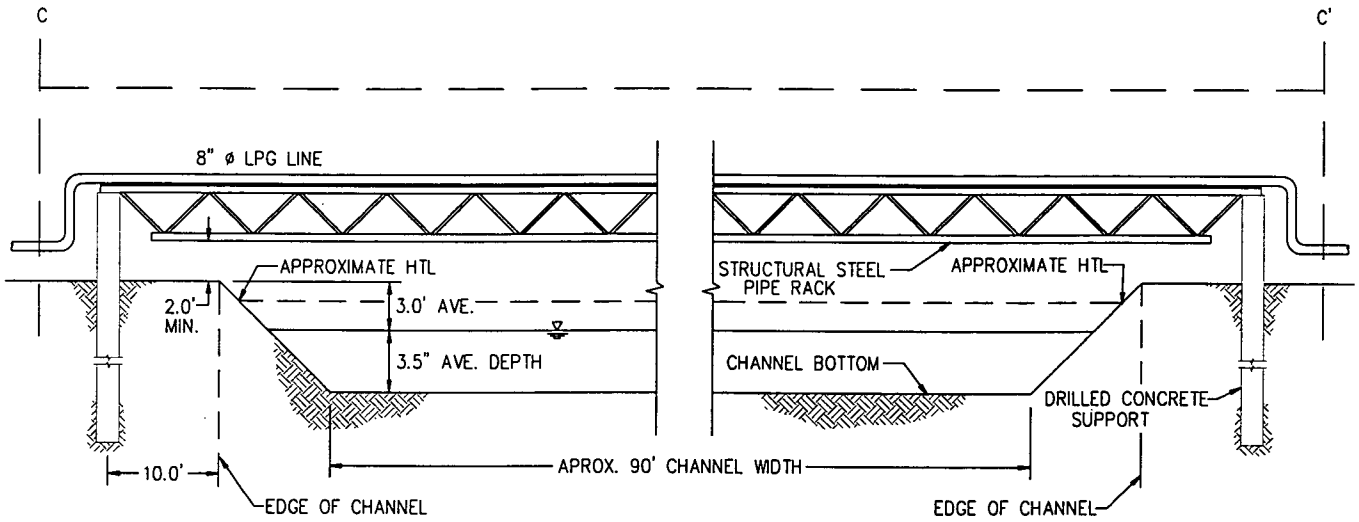
CONSTRUCTION DOCK SHEET PILE REPLACEME

(TYPICAL SECTION)

SCALE: NO SCALE

FILE NAME: 9141-141.DWG

TYPICAL PIPELINE CHANNEL CROSSING WITH STRUCTURAL STEEL PIPE BRIDGE SECTION VIEW



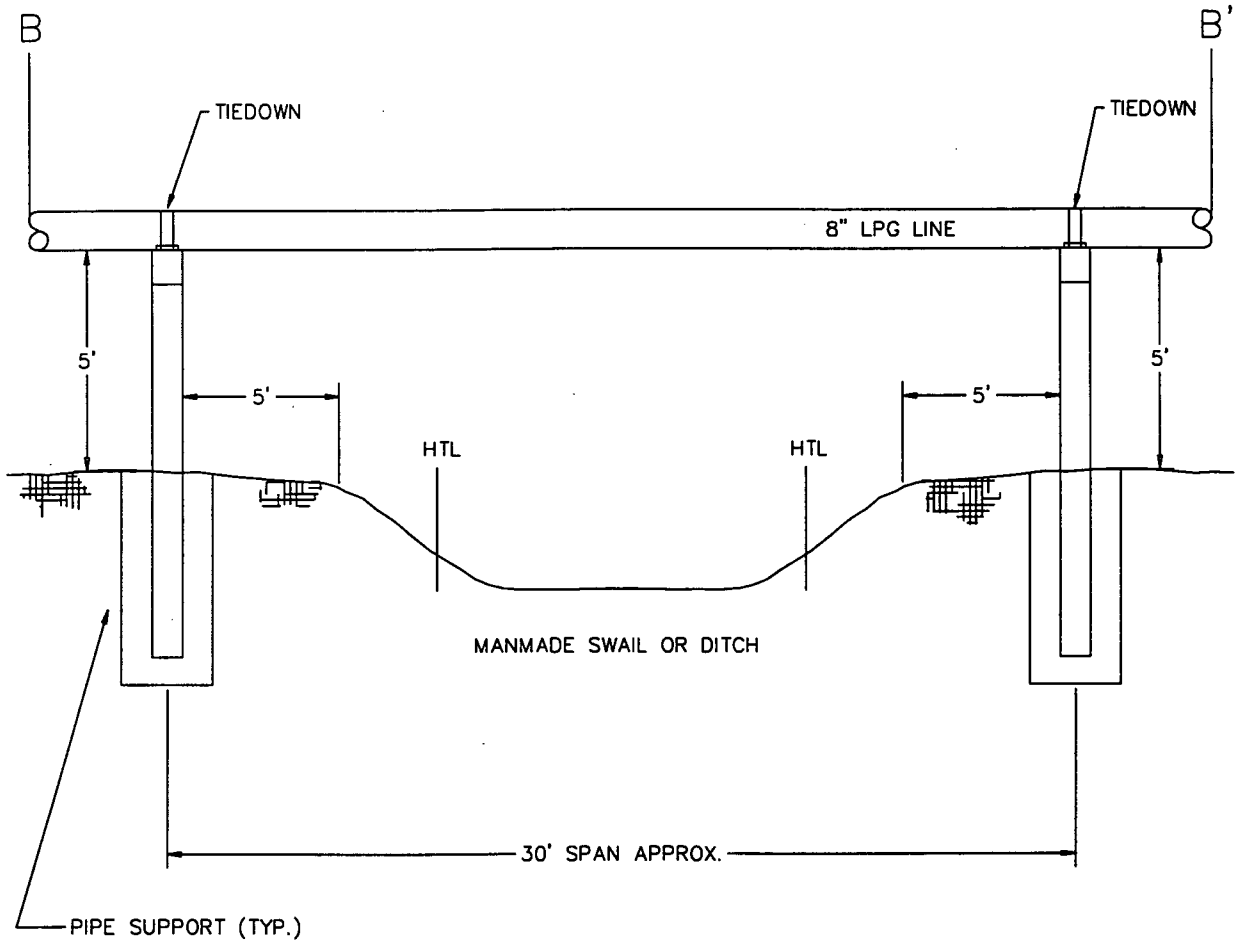
CHANNEL CROSSING

NOTE: NO WORK WILL BE DONE WITHIN THE CHANNEL BED AND BANKS

FILE NAME: 9141-126.DWG

JUL 22 1996

TYPICAL SECTION DITCH CROSSING

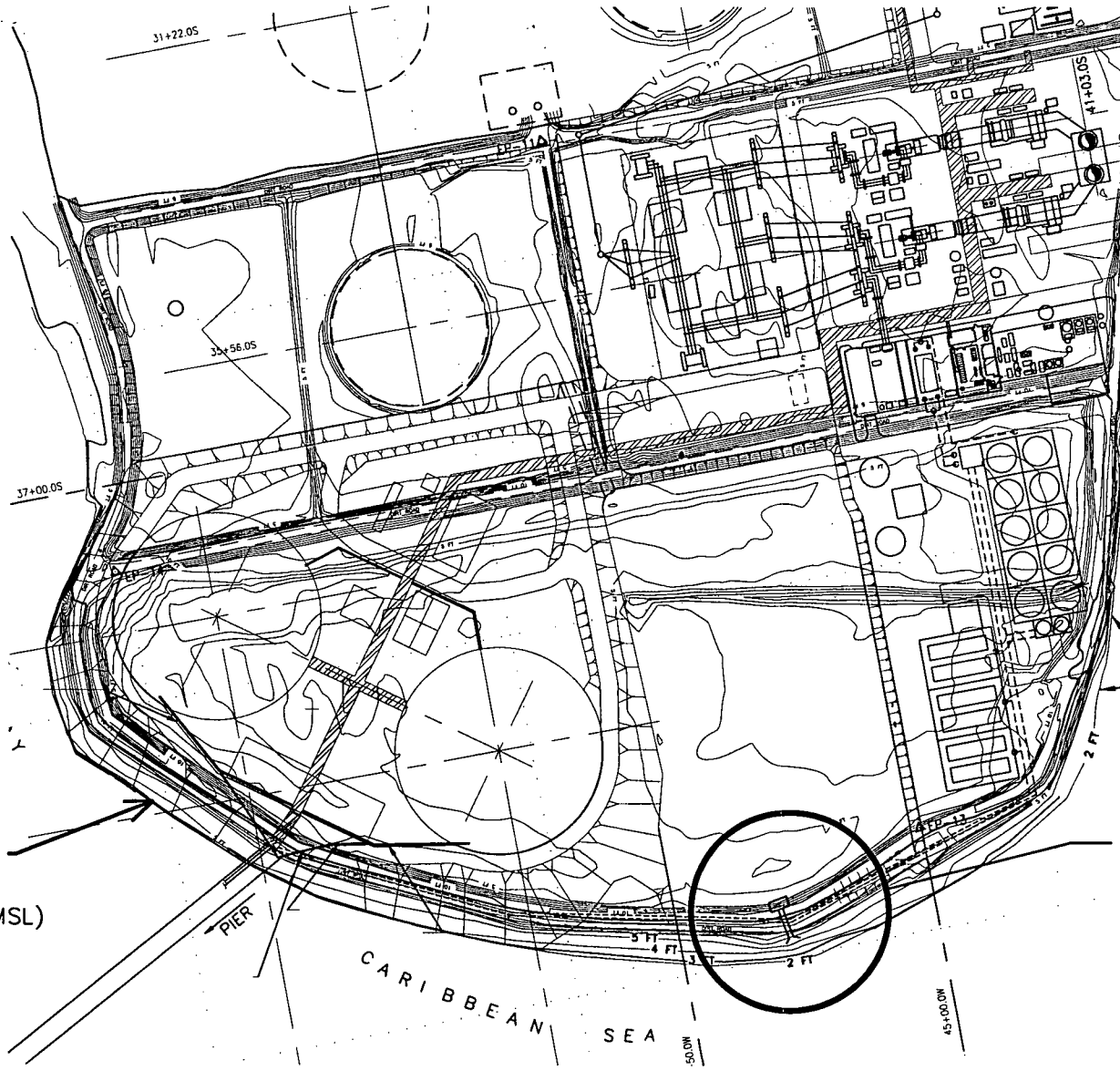


NOTE:

HTL = HIGH TIDE LINE
NO WORK WILL BE DONE
WITHIN THE BED AND BANKS

FILE: 9141-131.DWG

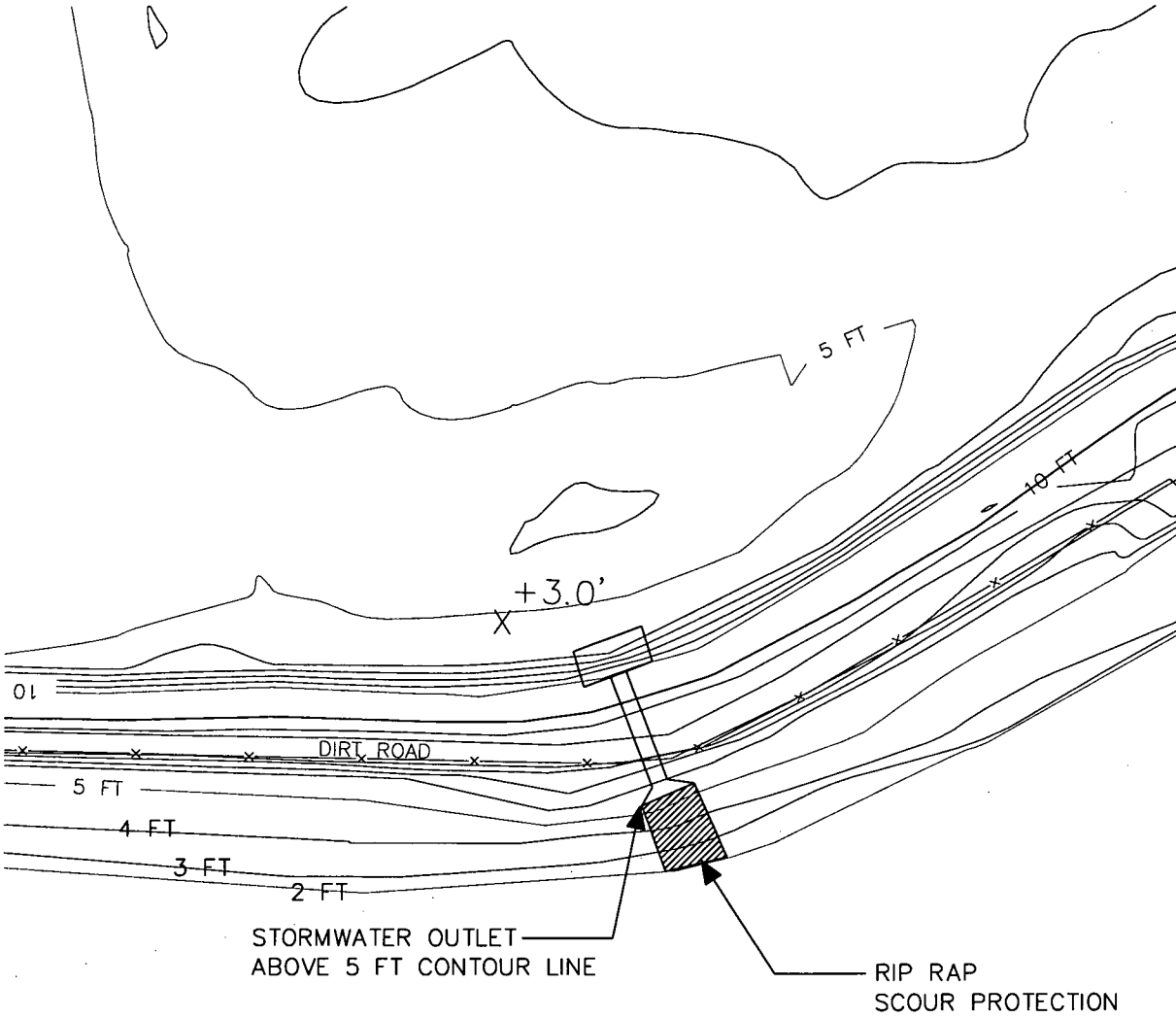
JUL 22 1996



STORMWATER OUTLET PLAN VIEW

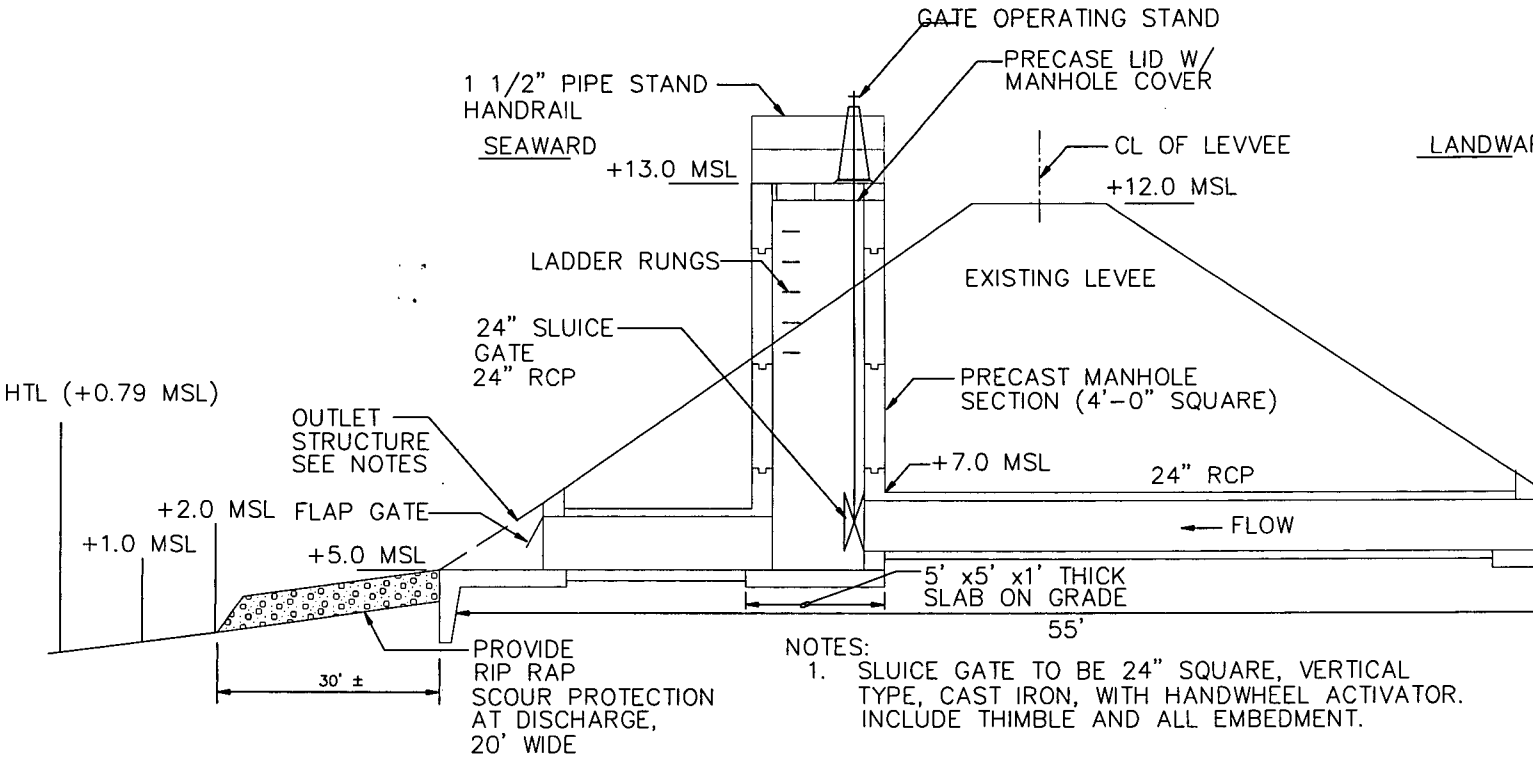
NOTE:
HTL = + 0.79 MSL

E:\...\STORM1.DWG



STORMWATER OUTLET

FILE: OUTLET2.DWG



NOTES:
1. SLUICE GATE TO BE 24" SQUARE, VERTICAL TYPE, CAST IRON, WITH HANDWHEEL ACTIVATOR. INCLUDE THIMBLE AND ALL EMBEDMENT.

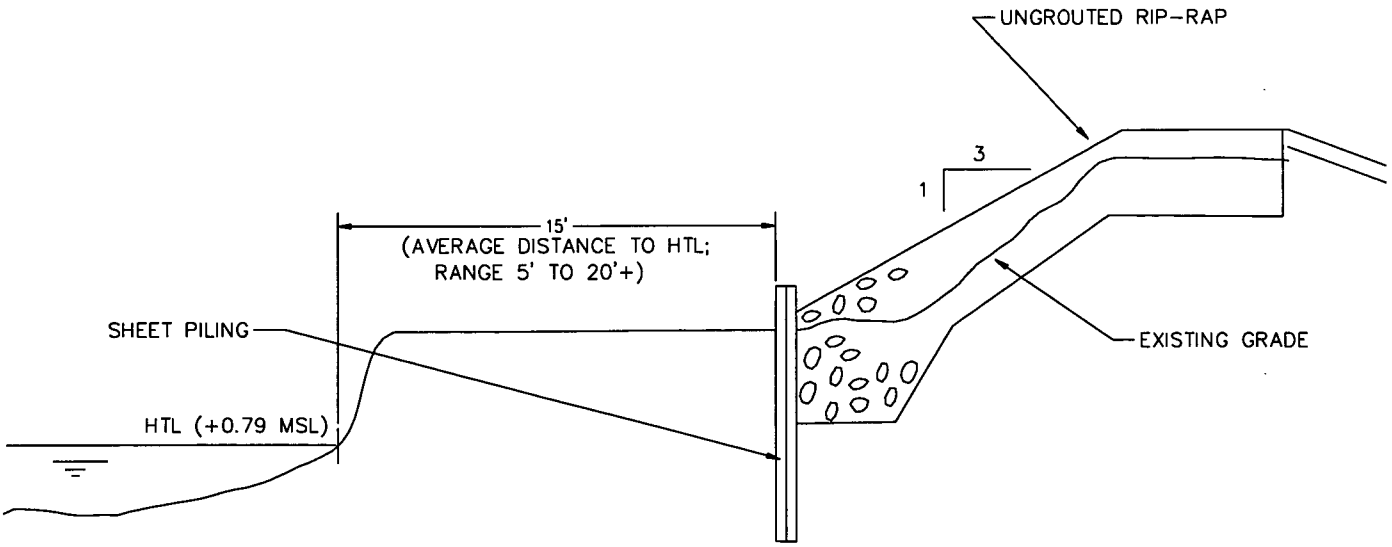
STORMWATER OUTFALL STRUCTURE

SCALE: NO SCALE
SEE DWG S3007

FILE: 9141-140.DWG

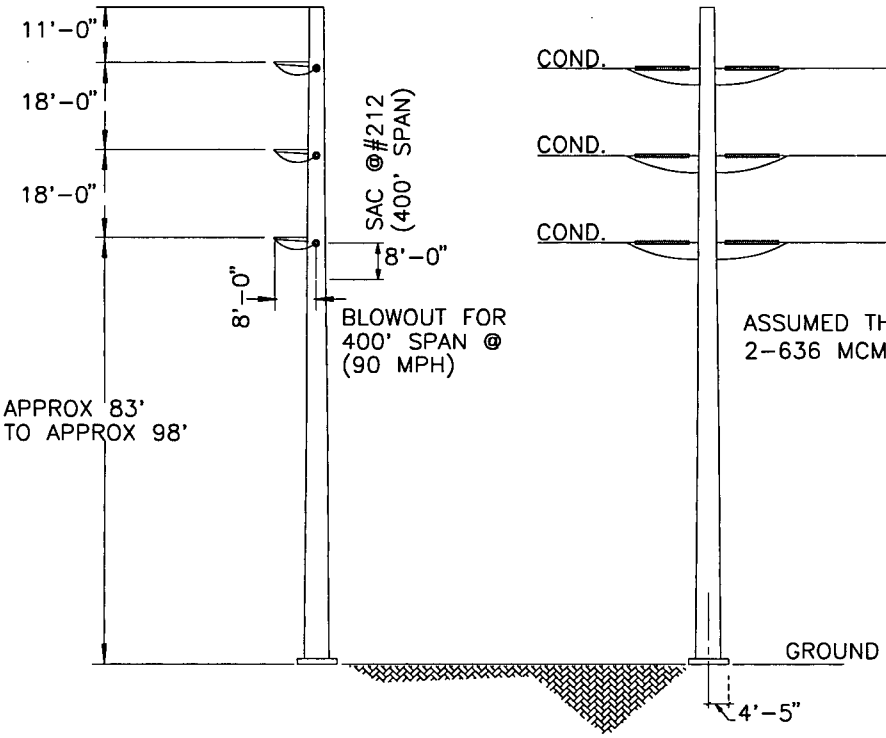
TYPICAL SECTION VIEW

PERIMETER DIKE
SLOPE PROTECTION



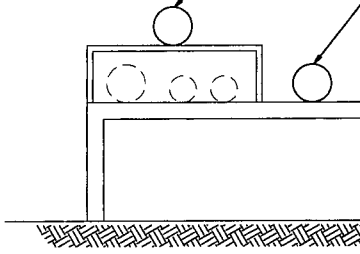
FILE: 9141-132.DWG

JUL 22 1996



NOTE:
U.S. FISH AND
WILL RECOMME
TO POWER LIN
BIRD STRIKES

NEW



TYPICAL PIPELIN
ON EXISTING

NOTE: POWER POLE PLACEMENT WILL BE DONE SO AS TO AVOID IMPACTS TO WETLANDS AND OTHER AQUATIC HABITATS. A BARRIER FENCE OR HAY BALES WILL BE PLACED BETWEEN ANY WEDLAND AND/OR AQUATIC HABITAT WHICH IS WITHIN 100 FT OFF THE POWER POLE CONSTRUCTION SITE IN OTHER TO PROTECT POSSIBLE IMPACT.

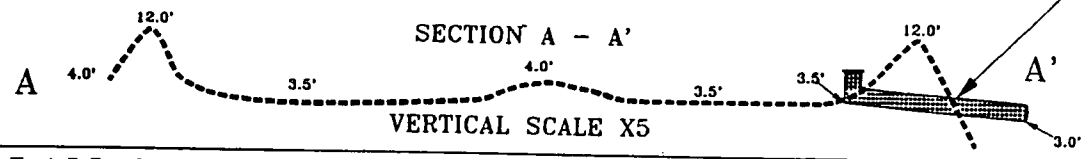
FILE NAME: 22-29.DWG

SECTION VIEW

NORTH-SOUTH
ACROSS STORMWATER RETENTION BASIN 1

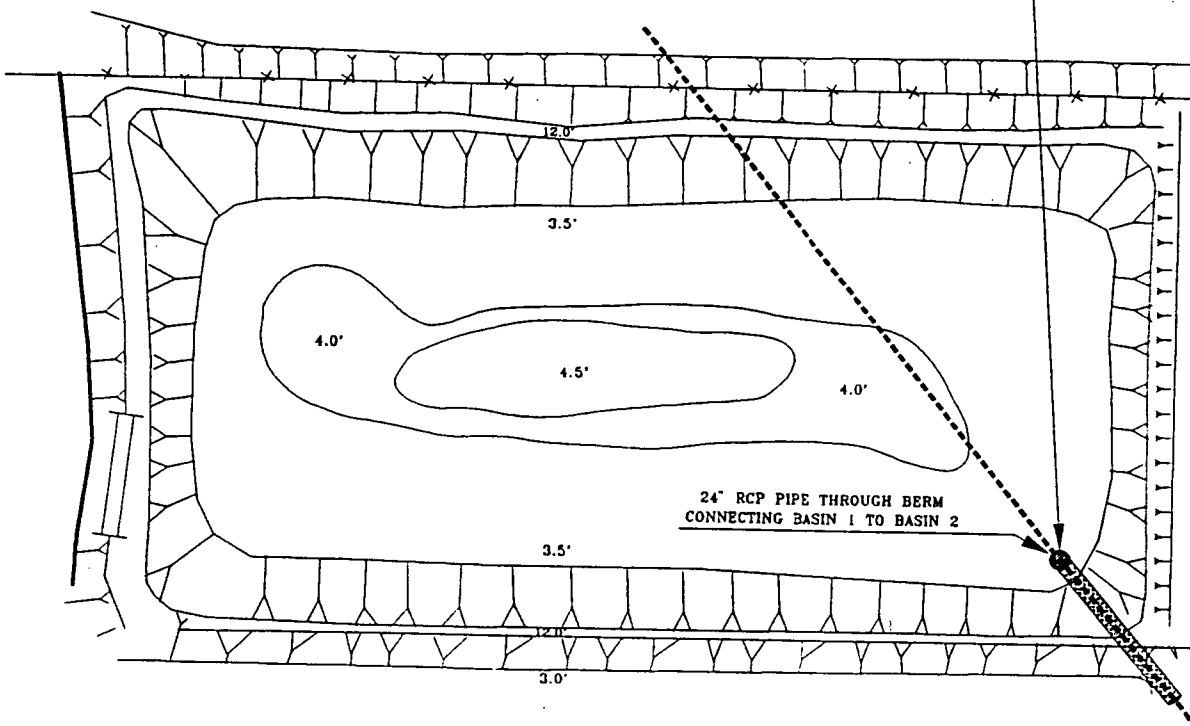
A

* NOTE:
RCP CONNECTING PIPE IS SHOWN AT A X5 SCALE F



PLAN VIEW

NORTH-SOUTH
ACROSS STORMWATER RETENTION BASIN 1

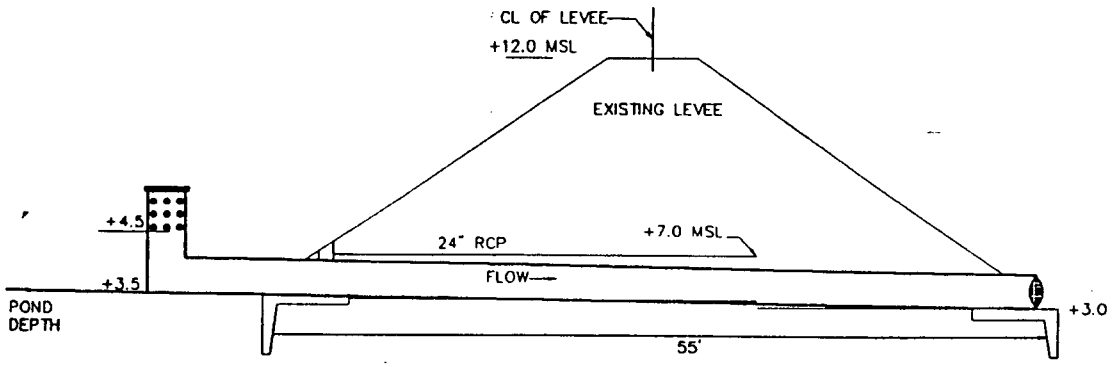


SCALE: Graphic Scale (1"=~120')	DRAWING NAME: Stormwater Retention Basin 1 -
DATUM:	HUFFMAN & ASSOC
WETLAND REGULATORY CONSULTANTS 700 Larkspur Landing Circle,	
DATE: 20 MAR 96	DRAWN BY: / APPROVED BY: T. Huffman / REVISION LEV 11 MAR 96

FILENAME: BASIN

STORMWATER RETENTION POND No. 1

STORMWATER RETENTION POND No. 2



STORMWATER RETENTION BASIN CONNECTING STRUCTURE

NOT TO SCALE
SEE DWG 53007

JUL 22 1996

GOBIERNO DE PUERTO RICO
OFICINA DEL GOBERNADOR
JUNTA DE CALIDAD AMBIENTAL

AG-AFR-idn

JUL. 3 1996

96 JUL 11 PM 1:05
U.S. ARMY
CORPS OF ENGINEERS
ANTILLES OFFICE
REGULATORY SECTION

Sr. Robert Wyatt
Gerente de Asuntos Ambientales
Eco Eléctrica, L. P.
Plaza Scotiabank, Suite 902
Ave. Ponce de León #273
Hato Rey, Puerto Rico 00918

Re: Certificado de Calidad de Agua
Construcción Planta
Cogeneradora de Energía
Peñuelas, Puerto Rico
COE No. 199505825 (IP-JR)

Estimado señor Wyatt:

Hemos recibido y evaluado la solicitud de Certificado de Calidad de Agua para un permiso del Cuerpo de Ingenieros del Ejército de los Estados Unidos para la construcción de un complejo industrial consistente de: (1) planta cogeneradora de energía de 461 MW (nominal); (2) terminal de importación de gas natural líquido y facilidades de almacén, incluyendo facilidades de atracadero y un muelle de 1,721 pies con tomas de agua y tubería de descarga para el sistema de enfriamiento de la planta cogeneradora; (3) planta de desalinización. En adición, el proyecto requerirá varios corredores para tubería de gas, agua y electricidad, que se extenderán de norte a este desde la ubicación de la planta de energía a través de un área industrial existente, pero en la vecindad de humedales.

Aproximadamente 2,838 pies cuadrados (0.065 acres) del fondo del Mar Caribe serán impactados por la colocación de pilotes para sostener el muelle propuesto, de los cuales, aproximadamente 211 pies cuadrados (0.0048 acres) son hábitat de yerbas marinas. La orientación y localización del muelle deberá ser tal que no sea necesario realizar actividades de dragado, y las estructuras de toma y descarga de aguas de enfriamiento deberán ser fijadas sin cambiar las elevaciones del fondo o los patrones de las corrientes. Se utilizarán pilotes hincados huecos para sostener el muelle para minimizar los sedimentos suspendidos asociados con la colocación de

los pilotes. La reparación-reemplazo de la tablestaca en la construcción del atracadero para descargar materiales y maquinaria de construcción, resultará en el impacto de 400 pies cuadrados (0.0092 acres) del fondo arenoso del mar sin vegetación.

El cruce de la tubería del gas licuado de petróleo por el Río Tallaboa, solo podrá impactar de forma temporera aproximadamente 1,400 pies cuadrados de humedales y el área de trabajo no deberá cubrir más de 3,600 pies cuadrados de aguas abiertas del río. Además, se removerán y reemplazarán aproximadamente 450 yardas cúbicas de material dragado. La tubería del gas licuado de petróleo cruzará sobre un canal artificial influenciado por la marea, sostenido por una rejilla de acero para tubería sobre columnas, fuera de la jurisdicción del Cuerpo de Ingenieros. Un bajío de drenaje influenciado por la marea será franqueado por una rejilla para tubería fuera de los bancos del bajío. La cimentación de las torres eléctricas no invadirán humedales y todos los humedales a unos 100 pies de las torres eléctricas deberán ser marcados y cercados con faldos de heno o barreras de tierra para asegurar la protección a estas áreas. Los humedales a unos 100 pies de las áreas de construcción, también deberán ser marcados y cercados con faldos de heno o barreras de tierra.

El propósito del proyecto es construir un terminal de importación de gas natural líquido y una planta cogeneradora de gas natural para satisfacer el crecimiento futuro en la demanda de energía eléctrica y para mejorar la confiabilidad del sistema eléctrico.

El proyecto estará localizado en Punta Guayanilla, en la latitud 17°58'35" norte y longitud 66°45'24" oeste, Peñuelas, Puerto Rico.

El cuerpo de agua donde se llevará a cabo el proyecto está clasificado como SC por el Reglamento de Estándares de Calidad de Agua (RECA), excepto la parte del proyecto que envuelve el cruce de la tubería de gas licuado de petróleo por aguas estuarinas clasificadas SB por el RECA.

Conforme a la Sección 401 (a) (1) de la Ley Federal de Agua Limpia (la Ley), posterior a la debida consideración de los límites de efluente o estándares establecidos bajo las Secciones 301, 302, 303, 306 y 307 de la Ley, si alguno, y luego de tomar en consideración la clasificación aplicable y estándares que regulan la calidad de las aguas de Puerto Rico, se certifica que existe una seguridad razonable, según determinado por la Junta de Calidad Ambiental, de que el proyecto permitido no causará violaciones a los estándares de calidad de agua aplicables si se cumplen con las limitaciones de la Tabla A-1. Las condiciones especificadas en la tabla antes mencionada, deberán ser incorporadas en el permiso

federal para satisfacer las provisiones de la Sección 401 (d) de la Ley.

Esta certificación aplica solamente a los efectos que esta actividad pudiera tener en la calidad de las aguas según definido por las regulaciones y no a otros efectos ecológicos, biológicos o ambientales que puedan resultar del proyecto. Esta Junta se reserva el derecho de comentar en fecha posterior sobre algún otro aspecto ambiental del proyecto.

Maribelle Marrero Vázquez
Miembro Asociado

Luis Rubén Rodríguez
Vice Presidente

Héctor Russe Martínez
Presidente

c: Sr. Edwin E. Muníz, COE

TABLA A-1

PARAMETRO	LIMITACION
Sólidos Suspendidos, Coloidales o Sedimentables	Los sólidos provenientes de las obras o sus desperdicios no deberán ocasionar asentamientos, o ser nocivos a aquellos usos específicos de las aguas.
Aceite y Grasa	Las aguas de Puerto Rico deberán estar substancialmente libres de aceites y grasas flotantes no derivados del petróleo, así como de aceites y grasas derivados del petróleo.
Oxígeno Disuelto	Contendrá no menos de 5.0 mg/l excepto cuando causas naturales ocasionen una depresión en este valor.
pH	Deberá siempre permanecer entre 7.3 y 8.5 excepto cuando fenómenos naturales ocasionen que el valor de pH salga fuera de este rango.
Color	No deberá ser alterado por otras causas que no sean fenómenos naturales.
Turbiedad	No excederá 10 unidades nefelométricas de turbiedad (NTU).
Sulfatos	No excederá 2,800 mg/l.
Agentes Tensoactivos como Sustancias Reactivas con Azul de Metileno	No excederá 500 µg/l.

Condiciones Especiales

1. La Junta de Calidad Ambiental (JCA) al emitir este Certificado de Calidad de Agua (CCA), no releva al solicitante, el Sr. Robert Wyatt en representación de Eco Eléctrica, L. P., de su responsabilidad de obtener permisos y/o autorizaciones adicionales de la JCA, según requerido por la Ley. La emisión del CCA no puede considerarse como una autorización para llevar a cabo actividades que no estén específicamente cubiertas en el CCA.

2. El Sr. Robert Wyatt en representación de Eco Eléctrica, L. P., deberá:

   a) Obtener la aprobación del Departamento de Recursos Naturales y Ambientales para el Plan de Compensación para mitigar el impacto del proyecto propuesto.

   b) Tomar las medidas necesarias para evitar que los cauces de aguas y áreas ribereñas o costaneras sean afectadas durante el proceso de construcción por el movimiento de maquinaria, equipo pesado o vehicular.

   c) Tomar las medidas de control necesarias para evitar violaciones a los estándares de calidad de agua aplicables a los cuerpos de agua afectados durante la etapa de construcción.

   d) Tomar las medidas necesarias para evitar que residuos de sustancias orgánicas, tales como: aceites, combustible u otras sustancias químicas puedan ganar acceso a un cuerpo de agua.

   e) Cumplir con cualquier requerimiento o recomendación del Servicio Federal de Pesca y Vida Silvestre.

   f) Obtener de esta Junta la aprobación de un Plan para el Control de Erosión y Sedimentación (CES).

   g) En el caso de la instalación de algún tanque para el almacenamiento de combustible (diesel, gas licuado, etc.), someter a la División de Permisos e Ingeniería del Negociado de Control de Calidad de Agua un Plan de Emergencia, a tenor con el Artículo 11, Inciso 14 de la Ley sobre Política Pública Ambiental, Ley Núm. 9 del 18 de junio de 1970, según enmendada y a la Sección 6.5 del Reglamento de Estándares de Calidad de Agua para prevenir y controlar derrames.

   h) Cumplir con las condiciones especiales antes mencionadas. De no hacerlo así, el CCA concedido por la JCA será nulo inmediatamente.

3. Las limitaciones y condiciones especiales establecidas en este CCA entrarán en vigencia a partir de la Fecha de Efectividad del Permiso (FEP) emitido por el Cuerpo de Ingenieros y expirará en FEP + 5 años. El mismo podrá ser renovado, a solicitud del peticionario, conforme a las Reglas y Reglamentos Aplicables a la fecha de radicación de la nueva solicitud.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Caribbean Field Office
P.O. Box 491
Boqueron, Puerto Rico 00622

TAKE PRIDE IN AMERICA

March 29, 1996

Mr. Robert K. Arvedlund, Chief
Environmental Review and Compliance Branch I
Federal Energy Regulatory Commission
Washington, D.C. 20426

Dear Mr. Arvedlund:

The Fish and Wildlife Service (Service) has reviewed the information provided by the Federal Energy Regulatory Commission (Commission) on the construction of EcoEléctrica Liquified Natural Gas Import Terminal and Cogeneration Project in Guayanilla/Peñuelas, Puerto Rico. This document represents the Service's Biological Opinion in accordance with Section 7 of the Endangered Species Act of 1973, as amended (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

This Biological Opinion satifies only the requirements of Section 7(a)(2) of the Act, and does not address other environmental statutes such as the National Environmental Policy Act and the Fish and Wildlife Coordination Act. Reports under the Fish and Wildlife Coordination Act were provided in a letter of January 12, 1996, to the U.S. Army Corps of Engineers (Corps). A complete administrative record of this consultation is on file at the Caribbean Field Office in Boquerón, Puerto Rico.

CONSULTATION HISTORY

The Federal Energy Regulatory Commission is proposing to permit the construction and operation of the EcoEléctrica Liquified Natural Gas Import Terminal and Cogeneration Facility in Guayanilla/Peñuelas in southwestern Puerto Rico.

In response to a request from Dr. Fred Shanholtzer, Foster Wheeler Environmental Corporation, of November 3, 1994, the Service provided a list of threatened and endangered species known to occur in the area of Guayanilla/Peñuelas, Puerto Rico, in a letter of December 1, 1994. Additional information on the

species was provided by the Service to Ms. Sandra Cummings of Coastal Planning and Engineers, Inc. in a letter of May 31, 1994.

On April 15, 1995, the Service responded to a March 14, 1995, request by the Commission and the Puerto Rico Planning Board for concerns to be considered during the scoping process for the proposed project. A list of species was provided in addition to information on wetlands and special aquatic sites in the area. It was also stated that a decision as to which federal agency involved in the project, the Commission or the Corps, would be the lead agency for any Section 7 consultation which might be required. In a July 6, 1995, response to a similar request of June 7, 1995, directed to the Service's Southeast Regional Office, the Service provided a list of threatened and endangered species as well as information available on the species.

A Biological Assessment was provided by the Commission to the Service on October 13, 1995. The Commission determined, based on the results of the Assessment, that there would be no effect on Mitracarpus polycladus, the Puerto Rican crested toad (Peltophryne lemur), and the yellow-shouldered blackbird (Agelaius xanthomus) and that there would be no adverse effect on the Puerto Rican nightjar (Caprimulgus noctitherus), the brown pelican (Pelecanus occidentalis), Caribbean roseate tern (Sterna d. dougallii), the West Indian manatee (Trichechus manatus), the green sea turtle (Chelonia mydas) or the hawksbill sea turtle (Eretmochelys imbricata).

In a letter of January 11, 1996, the Service provided comments on the Biological Assessment and the Commission's determination of effect on threatened and endangered species. The Service's letter concurred with the Commission's determination for all species except the endangered manatee, stating that insufficient information was available for concurrence at that time. Additional information was requested on the amount of seagrass to be affected, the location of the cooling system seawater intake and discharge and its configuration, and the pier's design.

The Service received the draft Environmental Impact Statement, prepared jointly by the Commission and the Puerto Rico Planning Board, for review on November 29, 1995. The document was reviewed by the Service and comments were provided on January 22, 1996.

The Public Notice for Permit Application No. 199505825 (IP-JR) for the proposed project was circulated by the U.S. Army Corps of Engineers on December 15, 1995. The permit application stated that the manatee is known to inhabit the area but that the project was not expected to affect the species. The Service provided comments on January 12, 1996, concerning aspects of the project such as alternatives for layout and operation, pier alignments, seawater cooling system, the intake and discharge locations, as well as discrepancies in areas of seagrass/algal beds to be affected, and pier design. The Service's response

stated that it had been recommended previously that a lead federal agency be chosen for consultation purpose's and that a Biological Assessment had been prepared and submitted to the Service by the Commission. The Service also recommended that a permit not be issued until the Section 7 consultation was completed.

On February 8, 1996, the Service received a copy of EcoEléctrica's response to the Service's January 11, 1996, request for additional information. This information was forwarded by the Commission to the Service with a letter dated February 13, 1996. The February 8 letter requested the Service's Biological Opinion in order that it might be included in the Final Environmental Impact Statement. The letter also requested concurrence that further consultation would be unnecessary. On March 13, 1996, the Service received from EcoEléctrica a letter stating why it was believed that formal consultation was not necessary. The letter was accompanied by a "Manatee and Sea Turtle Mitigation Plan".

The Service contacted Ms. Amy Olson of the Commission by telephone on March 15, 1996, in order to determine whether a Biological Opinion was being requested. She indicated that, while adverse effects to the Antillean manatee had been minimized, the Commission recognized that the project might affect the species. Therefore, it was agreed that a Biological Opinion would be prepared.

Site visits were made during the informal consultation period, including visits made in conjunction with the Commission, the Puerto Rico Planning Board and consultants on September 1, 1995 and February 15, 1996.

DESCRIPTION OF THE PROPOSED PROJECT

EcoEléctrica, L.P. is proposing the construction of a cogeneration project on Punta Guayanilla, a peninsula separating Guayanilla and Tallaboa Bays on the southern coast of Puerto Rico. The project would involve the construction a a liquid natural gas (LNG) terminal and storage facility that would supply fuel for a new 400 MW power plant and associated desalination plant. The LNG facility would require the placement of a pier 1,721 feet long by 30 feet wide and a series of 8 mooring dolphins to allow docking of LNG vessels. A dike adequate to withstand Category 5 Hurricane storm waves would be constructed around portions of the peninsula above the mean high water line. Various transmission corridors to and from the site would be required for power lines and pipes. A LNG line would be built to the Costa Sur power plant with the possibility of supplying an alternative fuel source for the Puerto Rico Energy and Power Authority (PREPA).

An estimated 1,977 square feet of soft bottom habitat would be permanently altered as a result of the project, including approximately 413 square feet of seagrass. An estimated 13,401 square feet of seagrass and 5,733 square feet of algal habitat would be located under the proposed pier and subject to potential shading by the pier. Additional seagrass areas may be adversely affected by construction equipment in shallow water.

Several project modifications have been incorporated in order to minimize the impact of the project to the manatee. The intake, designed to have an intake velocity of less than 1 fps, will be located approximately 516 feet from shore in 20 feet of water. The openings for the intake will be a minimum of 8 feet above the bay floor. Each opening for the proposed intake will be 3 feet in diameter and will be covered by a wedge wire screen constructed from 90-10 copper nickel alloy material, with a slot size of 2 mm. The discharge structure will be located at approximately 1,680 feet from the landward end of the LNG pier in 40 feet of water. The discharge openings will be a minimum of 16 feet above the bay floor. The velocity is anticipated to be approximately 9.8 fps and coarse screens (2 inch by 2 inch) will be placed over the end of each diffuser.

A fender system will be included on each mooring dolphin to provide a minimum 10-foot clearance between the side of the ship and the breasting dolphin piling, and a minimum of 16.5 foot clearance between the ship and the closest pier head piling. All fenders on the breasting dolphins will be a minimum of 10.5 feet above the expected high water line, and the pier and dolphin platforms a minimum of 20.5 feet above the water's surface.

In order not to impede movements of manatees among the dolphin and pier head structures, a single large diameter pile would be used for each mooring and breasting dolphin structure, instead of the originally proposed 21 to 30 piles per structure. The minimum and maximum distances between the pier head pilings will be 11.75 and 18 feet.

Based on LNG tanker dimensions and the water depths known to be present at the loading site, ship channel and turning basin, the clearance between the bay floor and the hull of tankers will be 6 to 8 feet. The clearance between the hull of construction related vessels and the bay floor is to be 4 feet.

A designated manatee spotter will be present on all construction work vessels and a log will be maintained of all manatee sightings. The logs will record the time and date of the sighting, location, a description of the species sighted, and the activity at the time of the sighting. Logs will be submitted to the Service on a quarterly basis. A similar log would be maintained on all tug boats and the LNG tankers and would be submitted on an annual basis. The manatee "mitigation" plan

submitted to the Service indicates that if a manatee is observed within 300 feet of an inwater construction activity that presents a potential hazard to the animal, the activity will be halted, and will be restarted when the animal leaves the area on its own.

Additional measures incorporated to minimize impacts to manatees include education, the installation of manatee "warning" signs, and the mitigation for the loss of seagrass beds. The education program will include the development of an employee instruction manual and training. Detailed information is provided in the manatee "mitigation" plan. Also proposed is research, including aerial surveys of manatees and the establishment of speed zones. The latter, however, is not enforceable by EcoEléctrica and would require coordination with other local and federal agencies responsible for the establishment of such zones.

STATUS OF THE SPECIES

The Genus Trichechus is one of only two living genera of the mammalian Order Sirenia, represented by three species. The West Indian manatee is represented by two subspecies, the Florida manatee (Trichechus manatus latirostris) and the Antillean manatee (Trichechus manatus manatus). The species was listed as endangered on June 2, 1970 (35 FR 8495). The Antillean subspecies is found in the Caribbean Region and the Gulf of Mexico.

The manatee is an aquatic and herbivorous mammal that feeds on a wide range of aquatic vegetation including floating plants (e.g., water hyacinth Eichornia crassipes) and submergent vegetation (e.g., turtle grass Thalassia testudinum, shoal grass Halodule wrightii, and manatee grass Syringodium filiform). Manatees are known to feed in areas of only one to three meters in depth where aquatic vegetation is abundant. The combination of manatees feeding in shallow areas and along shorelines increases their susceptibility to watercraft collisions with manatees (Hartman 1979).

Manatees are not territorial and do not form stable, close-knit social groups or herds. They are sometimes found in small groups, but lone animals are more frequently sighted. Large specimens can attain a length of 12.5 ft and weigh 3,500 pounds. Manatee cows bear only a single calf, with two young being a rarity. Calves reach sexual maturity at 4 to 6 years of age. Most females breed successfully by 7 to 9 years of age, giving birth every 2 to 3 years. Although the Antillean manatee is found near river mouths and shallow low-energy coastal areas, it may move as far as one or two miles from shore (particularly when travelling between areas).

Although the earliest accounts of Puerto Rico include reference to manatees and their use as a food resource by the Indians and

the Spaniards, there is no indication of the precise historical distribution or abundance of manatees around the island (Acosta 1590, Stahl 1883). Currently, manatees have been sighted on all coasts of the island, but larger numbers are reported for the northeast, east, and south coasts. Based on aerial surveys of the entire coast of Puerto Rico, no more than 101 manatees have been observed during a single aerial survey (an average of 66 manatees per survey). Precise accounts of manatees (population size) in Puerto Rico are lacking.

For the purposes of conducting aerial surveys for manatees in Puerto Rico, the island has been divided into 11 segments. The proposed project area is located in aerial survey segment 7, extending from the Guánica Bay to Ponce. In studies conducted by Rathbun et al. (1986), the authors found that segment 7 was fifth in importance with 37 of 523 sightings or 7 percent of the total. In more recent surveys conducted by T. Carr for the Fish and Wildlife Service in 1993 and 1994, segment 7 ranks third in importance, with 10.0 and 5.0 manatees (average number) being observed in the segment during aerial surveys. Of all sightings in segment 7 for which data is available between 1984 and 1994, approximately 50% (51) were recorded from the Guayanilla and Tallaboa Bays. Three of these manatees were calves. Manatees were observed feeding, resting and travelling in the area.

The Biological Assessment also includes observations made of manatees during studies conducted between November, 1994, and July, 1995, for its preparation. A total of 18 manatees (one calf) was observed on 12 different occasions.

Data provided in Recovery Plans for the Antillean Manatee (Fish and Wildlife Service 1986) and Florida Manatee (Fish and Wildlife Service 1989), and in previous biological opinions on actions affecting the manatee, identify the high rate of manatee mortalities caused by watercraft collisions as one of the most significant threats to this species. More than 50 percent of human related manatee deaths investigated have been attributed to boat or barge collisions (Fish and Wildlife Service 1989). Deaths resulted from deep wounds from propellers and blows from boat hulls without involvement of propeller blades (O'Shea 1995). In Florida, from 1974 to 1992, the number of manatee deaths caused by collisions with watercrafts increased, causing 83% of deaths from human-related causes (1986-92), and 37% of deaths with identified causes (Ackerman et al. 1995). The number of watercraft deaths was strongly correlated with the total number of pleasure and commercial vessels registered in Florida, and it was highest in Florida counties that had the largest number of registered vessels and boat traffic.

A large percentage of living manatees bear wounds and deformities due to encounters with boat propellers. Death of dependent calves (perinatal) is the second most prevalent cause of manatee

mortality. Separation of mothers and calves by human harassment, death of the mother, and pesticides are also being investigated as contributing factors. Injuries from boat collisions may have an effect on the manatee population through impairment of reproductive output (O'Shea 1995).

Analyses of manatee carcasses, and observations and interviews with local residents indicate that a principal source of human-related manatee mortality in Puerto Rico is collisions with high-speed boats. Of the 77 manatee deaths reported by the Caribbean Stranding Network as occurring in the waters of Puerto Rico, eleven (11) are attributed to watercraft collisions and twenty-three (23) are of unknown origin. All others are attributed to entanglement, death of dependent calves, illness, shooting, drowning, and pollution. Although manatee hunting is prohibited, accidental and illegal killing of the species for human consumption may still occur. Of the 11 manatee deaths caused by watercraft collisions in Puerto Rico waters, the distribution of recovered carcasses is as follows: 5 occurred on the southern coast of the island, 1 on the eastern coast, 2 on the north, 1 on the southeast, 1 on the northeast, and 1 on the southwestern coast. Seven of the 11 collisions involved males, three involved females, and one unknown. Six strandings/mortalities have occurred in the Guayanilla/Peñuelas area in southern Puerto Rico with the causes being identified as follows: illness - 1; captured - 1; entanglement - 1; watercraft collision - 2 and unknown - 1. Marinas and boat traffic have increased islandwide, resulting in a concurrent increase in the probability of collisions with manatees, and adverse effects to potential foraging areas.

ENVIRONMENTAL BASELINE

The environmental baseline is an analysis of the past and ongoing human and natural factors leading to the current status of the species or its habitat and ecosystem within the proposed action area. The proposed project site is located in the area of Guayanilla/Peñuelas in southern Puerto Rico. During the 1950's heavy industries based on bulk importation of foreign crude oil were established at the natural ports along the southern coast of the island. The deep harbor areas such as Guayanilla attracted the petroleum refining and petrochemical industries to the south coast which became a major producer of petroleum derivatives from the 1960's through the 1980's. The majority of the Punta Guayanilla peninsula was designated for this use. The complex is currently not as active as it was in the 1970's and 1980's but the land use and zoning remain unchanged. Several proposals are currently being considered for reactivation of some facilities. The draft Environmental Impact Statement for the project states that total vessel movements in the Guayanilla Bay in 1992 were 489 and in 1993 were 576. Tugboats handled the majority of the ship arrivals and departures.

During the last 10 years, Puerto Rico has experienced a significant increase in water-dependent recreational activities, with a concomitant demand for more marinas and boat facilities. Marinas have been built virtually throughout the entire coast of the island, and permit applications for new marinas continue to be submitted. The increase in the number of marinas and boat traffic has resulted in the following impacts to manatees in Puerto Rico waters: 1) loss of manatee foraging habitat (i.e., increased loss of seagrass beds) and 2) decreased manatee survivability (i.e., increase number of manatee/boat collisions and female/calf separations).

EFFECTS OF THE ACTION

Direct and Indirect Effects

Human activities are presently the major threat to the manatee. These activities directly and indirectly affect mortality, reproduction and recruitment, manatee distribution and behavior, abundance and distribution of vegetation available for consumption, and levels of contaminants and pathogens. As a result of the proposed project, threats to the Antillean manatee in the Guayanilla/Peñuelas area may increase. Some of the major threats to manatees associated with the proposed project are addressed below.

The principal threat associated with the proposed project is the risk of manatee mortality, injury and harassment caused by boats/barges and construction equipment. Manatees are often injured by propellers which leave deep scarring. Large slow-moving ships (e.g., tugs and cargo vessels) are known to kill manatees (Fish and Wildlife Service 1989). Some animals appear to be pulled into propeller blades by the sheer power of generated water currents and others may be pinned between the hull and the ocean bottom. When moored, large vessels may pin manatees between their hulls and adjacent wharves or ships. The possibility of the latter has been minimized through the utilization of fenders to maintain a minimum distance between the moored vessel and the pier and pilings as well as through the redesigning of the pier in order to leave minimum and maximum distances of 11.75 and 18 feet between dolphin and pier head pilings. While propeller shrouds have been installed on tugs in other areas, they are not proposed for this project.

Harassment of manatees due to construction activities may disrupt essential behavioral patterns, including breeding and feeding. Such harassment can alter their local distribution, and contribute to the separation of mothers and calves. The applicant has stated that a "manatee spotter" will be present on all construction work vessels, and it a manatee is observed within 300 feet of an inwater construction activity presenting a hazard to the animal, construction will be stopped until the

animal leaves the area.

Dredging and filling, construction of docks, and boating activities which result in bottom scraping, propeller scouring, and anchor dragging directly destroy manatee food resources and indirectly impact aquatic vegetation by increasing turbidity, encouraging nutrient overloading, and reducing light penetration. Alteration of drainage patterns from wetlands and uplands, land development, and stormwater runoff also affect the chemical composition and quality of water and alter natural filtration processes.

An estimated 1,977 square feet of soft bottom habitat would be permanently altered as a result of the project, including approximately 413 square feet of seagrass. An estimated 13,401 square feet of seagrass and 5,733 square feet of algal habitat would be located under the proposed pier and subject to potential shading by the pier. While shading effects from the pier are expected to be limited due to the height of the pier (ranging from 14 to 22 feet above mean sea level), the applicant will implement a seagrass monitoring program to determine the effects of shading. Additional seagrass areas may be adversely affected by construction equipment in shallow water. The applicant has prepared a mitigation plan for seagrass areas to be directly impacted, however, additional mitigation may become necessary for shading or construction impacts.

The action, as proposed, will result in an increase in boat/barge traffic in the area, thus increasing the probability of manatee/boat collisions and adverse impacts to the species' habitat. The draft Environmental Impact Statement states that the EcoEléctrica project would increase the marine traffic in the Guayanilla Bay area by 10 to 25 movements per year if a 125,000 cubic meter LNG ship is utilized and from 50 to 60 movements if smaller ships are used. A movement, however, includes the use of one tug escorting the ship during the transit to the turning area in the bay. As the turning area is approached two additional tugs would join the ship until docking is complete. Undocking requires two tugs and the escorting of the ship by another tug. Based on LNG tanker dimensions and the water depths known to be present at the loading site, ship channel and turning basin, the clearance between the bay floor and the hull of tankers will be from 6 to 8 feet. The clearance between the hull of construction related vessels and the bay floor is to be 4 feet.

Cumulative Impacts

Cumulative effects include the effects of future State, local or private activities on endangered and threatened species and on critical habitat that are reasonably certain to occur within the action area of the Federal action subject to consultation. Future Federal actions will be subject to consultation

requirements established in Section 7 and, therefore, are not considered cumulative in the proposed action.

Many existing facilities in the area are currently not in use but have not been dismantled, allowing for the possible resumption of operations in the future. Land on which facilities were dismantled may be redeemed for use in the future. At present consideration is being given to the resumption of activities at nearby facilities. Such reinitiation of activities would mean possible additional increases in boat/barge traffic in the area.

Unregulated recreational boating, including jet skis, is increasing throughout Puerto Rico. Seagrass beds, foraging areas for the manatee, are being adversely affected by unregulated boating, as well as by upland and shoreline development, and the associated increased turbidity, nutrient overloading and reduced light penetration.

BIOLOGICAL OPINION

The Service has reviewed the current status of the manatee, the environmental baseline for the action area, the effects of the proposed activity and the cumulative effects. Based on this analysis using the best available scientific and commercial information, it is the Service's Biological Opinion that the action, as proposed, is not likely to jeopardize the continued existence of the manatee.

INCIDENTAL TAKE

Section 9 of the Act prohibits taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct) of listed species without special exemption. Under the terms of Section 7(b)(4) and 7(o)(2) of the Act, taking that is incidental to and not intended as part of the agency action is not considered taking within the bounds of the Act. The Service does not anticipate that the proposed action will result in any incidental take of the manatee.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purpose of the Act by carrying out conservation programs for the benefit of endangered and threatened species. The term conservation recommendations are discretionary agency activities which would minimize or avoid adverse effects of a proposed action on listed species or critical habitat, help implement recovery plans, or develop information.

The applicant has made a commitment, as part of the project design, to conduct surveys of the manatee in the

Guayanilla/Tallaboa Bay area. The Service recommends that such studies should be designed to evaluate potential impacts of the proposed project on the species' and its habitat, as well as to evaluate the effectiveness of the measures which have been incorporated into the project design in order to minimize adverse effects to the species and its habitat. The applicant and the Commission should coordinate with the Service in the development of this study.

In order for the Service to be kept informed of actions that either minimize or avoid adverse effects or, that benefit listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

This concludes formal consultation on the proposed EcoEléctrica LNG Import Terminal and Cogeneration project. As required by 50 CFR 401.16, reinitiation of formal consultation is required if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an adverse effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Sincerely,

James P. Oland
Field Supervisor

ss
cc:
COE, San Juan
EcoEléctrica, Hato Rey
DNER, San Juan
EQB, San Juan
PRPB, San Juan
Lebron & Associates, San Juan

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Knight,

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STANDARD MANATEE CONDITIONS FOR USE DURING CONSTRUCTION OF PROJECT AUTHORIZED BY

The permittee shall ensure that the following standard manatee conditions are followed during the construction of this project:

1. The contractor instructs all personnel associated with construction of the facility of the presence of manatees and the need to avoid collisions with manatees.

2. All construction personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Endangered Species Act of 1973 and the Marine Mammal Protection Act of 1972. The permittee and/or contractor will be held responsible for any manatee harmed, harassed, or killed as a result of construction of the project.

3. Siltation barriers will be made of material in which manatees cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment. Barriers must not block manatee entry to or exit from essential habitat.

4. All vessels associated with the project construction will operate at "no-wake/idle" speeds at all times while in water where the draft of the vessel provides less than a 4-foot clearance from the bottom and that vessels will follow routes of deep water whenever possible.

5. If manatees are seen within 100 yards of the dredging area, all appropriate precautions shall be implemented to ensure protection of the manatees. These precautions shall include operating all equipment in such a manner that moving equipment does not come any closer than 50 feet of any manatee. Operation of any equipment closer than 50 feet to a manatee shall necessitate immediate shutdown of that equipment.

6. Any collision with and/or injury to a manatee shall be reported immediately to the U.S. Fish and Wildlife Service, Caribbean Field Office (809-851-7297).

7. Temporary manatees awareness construction signs labeled "Manatee Habitat - Idle Speed In Construction Area" shall be installed and maintained in prominent locations within the construction area prior to initiation of construction. Temporary signs will be removed by the permittee upon completion of construction.

8. The contractor shall keep a log detailing sightings, collisions, or injury to manatees which have occurred during the contract period. Following project completion, a report summarizing the above incidents and sightings will be submitted to the U.S. Fish and Wildlife Service, Caribbean Field Office P.O. Box 491, Boquerón, Puerto Rico 00622.

9. Permanent bilingual manatee awareness signs (6) shall be installed and maintained at docking and launching facilities within 1 year of issuance of the permit. The location of the "Caution Manatee Area" sign and "Information Display" signs will be noted on the attached permit drawings. The permanent "Caution Manatee Area" signs will be three feet by four feet, 125 gauge 61TS aluminum, covered with white, engineer grade, reflective sheeting; black painted lettering; black screened design; and orange, engineer grade, reflective grade border. Sign installation specifications and permanent awareness sign criteria are attached to this permit.

10. A notarized verification letter stating that permanent signs have been installed at designated locations shall be forwarded to the Corps of Engineers, Antilles Regulatory Section, as soon as they are installed. Signs and pilings remain the responsibility of the owner(s) and are to be maintained for the life of the docking and launching facility in a manner acceptable to the Corps of Engineers.

11. A permanent bilingual "Information Display" (consisting of two signs, "Manatee Basic for Boaters" and "Antillean Manatee Fact Sheet") will be installed prior to mooring occupancy at a prominent location to increase the awareness of boaters using the facility of boats to these animals. The numbers of Information Displays required will depend on

the docking facility design. One Information Display is required at each boat ramp or travel lift (if applicable). Information Display locations will be as shown on the attached drawings. Information Displays remain the responsibility of the owner(s) and are to be maintained for the life of the docking facility in a manner acceptable to the Corps of Engineers.

AS-BUILT CERTIFICATION BY PROFESSIONAL ENGINEER

Submit this form and one set of as-built engineered drawings to the Chief, Antilles Regulatory Section, U.S. Army Corps of Engineers, 400 Fernadez Juncos Avenue, San Juan, Puerto Rico 00901-3299. If you have questions regarding this requirement, please contact the Antilles Regulatory Section at (787) 729-6905/6944.

1. Department of the Army Permit Number: _____

2. Permittee Information: _____

Name _____

Address _____

_____

3. Project Site Identification:

Physical location/address _____

_____

4. As-Built Certification:

I hereby certify that the authorized work, including any mitigation reequired by Special Conditions to the permit, has been accomplished in accordance with the Department of the Army permit with any deviations noted below. This determination is based upon on-site observation, scheduled and conducted by me or by a project representative under my direct supervision. I have enclosed one set of as-built engineering drawings.

_____ _____

Signature of Engineer Name (Please type)

_____ _____

(FL,PR or VI) Reg. Number Company Name

_____

Address

_____

City State ZIP

(Affix Seal)

_____ _____

Date Telephone Number

Deviations from the approved permit drawings and special conditions:
(attach additional pages if necessary)

CESAJ-DS-RD
199505825 (IP-JR)

JUL 22 1996

MEMORANDUM FOR RECORD

SUBJECT: Department of the Army Environmental Assessment and Statement of Findings for the above-numbered Permit Application

1. Applicant: EcoEléctrica, L.P.
Plaza Scotiabank
Suite 902
273 Ponce de León Avenue
Hato Rey, Puerto Rico 00917

2. Location, Project Description, Existing Conditions:

a. Location: The proposed project is located at Punta Guayanilla, Peñuelas, Puerto Rico.

Latitude/Longitude: Latitude - 17'58'35"N,
Longitude - 66'45'24"W

b. Existing Site Conditions: The proposed project is located in an industrial area. Surrounding land uses are commercial and industrial. The closest residential area is approximately two miles north-northwest from the proposed project. The closest agricultural area is approximately two miles northeast from the proposed project. Waterways that would be affected by the proposed project include the Caribbean Sea and the Tallaboa River. The pier structure would extend perpendicularly from the southwest facing the shore of Punta Guayanilla toward the entrance to the Guayanilla Bay. The marine habitat in the vicinity of the pier structure consists of rip-rap shore protection, a sandy intertidal zone, shallow soft bottom habitat with some areas of seagrass and macroalgae, and hard bottom habitat with scattered individual corals. Onshore habitat at the plant site consists of diked industrial areas that are designed to retain rain water and to contain any spills from existing petroleum/chemical storage tanks. Parts of these diked areas exhibit wetland characteristics, but these areas are exempt from regulation under 33 CFR Part 328. The electric transmission lines from the plant site to PREPA's power grid will pass near

some mangrove wetlands and will span some storm water drainage ditches. The LPG pipeline route includes some scrub-shrub upland habitat, grassland and mangrove habitat along two manmade canals, and a drainage ditch. Other habitat along the LPG pipeline route includes small fringing wetlands on either shore of the Tallaboa River and the open water habitat in the river itself.

c. Initial Project Description As Shown on the Application:

The applicant proposes to construct an industrial facility consisting of: (1) a nominal 461 MW cogeneration power plant; (2) a liquefied natural gas (LNG) import terminal and storage facility including a docking facility and 1721-foot pier structure with attached water intake and discharge pipes associated with the cooling system of the cogeneration plant; and (3) a desalination plant. In addition, the project will require various gas, water, and electric utility line corridors from the power plant site through an existing industrial area in the vicinity of some wetlands.

Approximately 2838 square feet (0.065 acre) of bottom habitat would be impacted by the placement of piles for the proposed pier, from which approximately 211 square feet (0.0048 acre) would involve sea grass habitat. The pier orientation and location is such that no dredging would necessary and the water cooling intake and discharge structures are to be attached to the pier with no change in bottom elevations or current patterns. The use of driven, hollow piles to support the pier minimizes the suspended sediments associated with the piles placement. The sheetpile repair/replacement at the construction dock to unload construction machinery and materials would result in up to 400 square feet (0.0092 acre) of impacts to sandy bottoms without seagrasses. At the Tallaboa River, the liquefied petroleum gas (LPG) pipeline crossing would result in temporary impacts to approximately 1,400 square feet of wetlands, and the working area would cover 3,600 square feet of open water.

Approximately 450 cubic yards of dredged material would be removed and replaced at the Tallaboa River pipeline crossing. The LPG pipeline would cross over a tidally influenced manmade

canal supported by a steel piperack on columns outside Corps jurisdiction. A tidally influenced drainage swale would be spanned by a piperack structure away from the swale banks. Footings for electrical towers would not intrude into wetlands and all wetlands within 100 feet of electrical towers would be marked and fenced with bay hales and/or silt fences to insure the protection of these areas. Wetlands within 100 feet of construction staging/laydown areas would be also be marked and fenced with bay hales and or silt fences. Silt curtains would be placed around the pier pile driving operations, the sheetpile repair/replacement, and on the upstream and downstream sides of the Tallaboa River LPG pipe crossing. The applicant would place warning structures on electrical transmission lines to minimize bird strikes on high tension lines.

d. Changes to Project: The project has been maintained as originally proposed.

e. History: The site, and the surrounding area, has historically been used by heavy industries based on bulk importation of foreign crude oil. No construction work site associated with the proposed project has been conducted in Corps jurisdictional areas to date.

3. Project Purpose:

a. Basic: The basic project purpose is to construct an LNG import terminal and natural gas cogeneration facility.

b. Overall: The proposed project would help meet the future growth in demand for energy and to enhance Puerto Rico's system reliability. The Puerto Rico Energy and Power Authority (PREPA) has determined that approximately 1,200 MW of additional generating capacity will be needed by the year 2000. Currently, the electrical service in Puerto Rico is threatened by peak loads that are approaching the system loading capacity.

4. Statutory Authority: Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344).

5. Other Federal, State, and Local Authorizations Obtained or Required and Pending:

a. Water Quality Certification: The Puerto Rico Environmental Quality Board issued on 3 July 1996, the 401 Water Quality Certificate for the proposed project.

b. Coastal Zone Management (CZM) consistency: The CZM consistency certification from the Puerto Rico Planning Board was issued on 21 June 1996.

c. Other Authorizations: Other required Federal and Commonwealth permits are either approved or pending. The joint FEIS prepared by the Puerto Rico Planning Board and the Federal Energy Regulatory Commission (FERC) has been issued and compliance with Article 4(c) of Puerto Rico's Law 9 has been certified.

d. National Pollutant Discharge Elimination System (NPDES) Permit: An application for an NPDES permit from EPA was submitted to EQB on 19 September 1995, and the applicant is expecting to obtain a 402 water quality certification for the NPDES permit. Sanitary wastewater will be collected in a holding tank and taken offsite to an approved disposal facility.

6. Date of Public Notice and Summary of Comments:

a. Preapplication Meetings: Two preapplication meetings were conducted with the applicant and his agent to discuss the project details and the information and drawings that should be provided in the application.

b. The application was received on 8 September 1995. The application was initially reviewed on 12 September 1995, and additional information was requested on 27 September 1995, and again at a meeting on 30 October 1995. The application was considered complete on 20 November 1995. The complete date was reset in RAMS to 22 January 1996, to account for the applicant's 80 days delay in providing information. A public notice was issued on November 28, 1995, and sent to all interested parties including appropriate Commonwealth and Federal agencies. Due to

non-receipt of the 28 November 1995, public notice, a duplicate public notice was reissued on December 15, 1995. On 30 January 1996 the application was considered withdrawn and reactivated on 19 April 1996. All comments received on this application have been reviewed and are summarized below.

(1) U.S. Environmental Protection Agency (EPA): By letter dated 2 February 1996, the agency objected to issuance of a permit for the project pending clarification/resolution of a number of issues, including: (i) consideration of non-direct impacts such as shading and sediment re-suspension; (ii) clarification of the nature and extent of direct impacts; and (iii) development of a mitigation plan approved by the resource agencies.

(2) U.S. Fish and Wildlife Service (FWS): By letter dated 12 January 1996 the FWS recommended that a permit not be issued until its concerns were addressed. These concerns included: (i) evaluating the need for the project; (ii) addressing whether the Puerto Rico Electric Power Authority (PREPA) will commit to converting some of its units to natural gas; (iii) addressing mangrove impacts in intertidal areas; (iv) potential impacts to mangroves from trimming of trees along the electric transmission line corridor; (v) developing a mitigation plan; (vi) clarifying the height of the storm water outfall structure in the storm water retention pond designated for habitat enhancement; (vii) examining alternatives to the proposed pier alignment; (viii) evaluating the pier for potential shading effects and the size of the footprint; (ix) determining the nature and extent of construction impacts on seagrass areas and gorgonian/hard coral assemblages; (x) clarification of the location of the cooling water intake and discharge structures; (xi) addressing potential impingement of manatees and sea turtles at the cooling water intake structure; (xii) providing more specific information on the design, depths and orientation of the cooling water intake and outfall; (xiii) explaining the apparent contradiction between the EIS and the Corps application concerning plankton densities at the cooling water intake structure; (xiv) providing an explanation of why the proposed cooling water design is a salt water cooling tower rather than an air cooled condenser; and (xv) the need to resolve Section 7 Consultation of the Endangered Species Act issues regarding manatees.

(3) National Marine Fisheries Service (NMFS): By letter dated 22 January 1996, the NMFS objected to issuance of the permit pending resolution of its concerns, which included: (i) shading and direct impacts from the pier; (ii) entrapment of plankton at the cooling water intake; (iii) potential impacts from shallow water construction techniques; (iv) the need to explore alternatives to prestressed concrete decking for the pier that would allow more light penetration (e.g., steel grating); (v) the need for a mitigation plan; and (vi) providing an explanation of why the proposed cooling water design is a salt water cooling tower rather than an air cooled condenser.

(4) State Historic Preservation Officer (SHPO): The SHPO did not respond to the Corps public notice, but provided a letter to the applicant dated 21 March 1996 stating that "there are no cultural resources within the proposed project area or construction right-of-way."

(5) Department of Natural and Environmental Resources (DNER): By letter dated 29 December 1995, the DNER has endorsed the project, provided any significant unavoidable impacts in the following areas are appropriately mitigated: (1) impacts to the artesanal fishing industry affected by the increased ship traffic; (2) entrapment of larval fish and young sea turtles in the cooling water intake; (3) the effects of thermal discharge from the cooling water outfall; (4) effects of the brine discharge from the desalinization plant; and (5) project's direct impacts to seagrasses and corals.

(6) Puerto Rico Ports Authority (PRPA): By letter dated 2 January 1996, the PRPA provided a tentative endorsement of the project, provided it does not adversely affect its installations.

(7) Environmental Quality Board (EQB): By letter dated 2 January 1996, the EQB indicated that compliance with Article 4(c) of Law 9 is required before issuance of a 401 Water Quality Certification, and that a separate 401 Water Quality Certification request should be submitted for other required Federal permits. The agency additionally requested a copy of the

storm water construction permit and that additional information submittals should include a drawing indicating the drainage area of each storm water outfall and a certification that a Storm Water Pollution Prevention Plan has been developed and implemented as required in the permit. The Board recommended that the applicant should consult with EPA concerning whether a permit for a storm water discharge associated with an industrial facility is required, and that the final disposal method of the project's process and sanitary wastewater should be indicated.

(8) Organizations: No comments were received.

(9) Individuals: No comments were received.

(10) Internal Coordination: Not necessary.

c. Response to the comments: The comments received in response to the public notice were coordinated with the applicant on 30 January 1996. The applicant responded to the comments on April 19, 1996. The applicant stated that, in response to the EPA comments, the project's indirect impacts such as shading and sediment re-suspension are not expected to be significant, and that shading effects are expected to be minimal because of the height of the pier above the water surface, the orientation of the pier relative to the arc of the sun, and seasonal changes in incidental light from the sun. He added that sediment resuspension has been minimized by selecting a pier location that avoids the need to dredge, and that silt curtains will be deployed to mitigate construction related turbidity. Direct impacts will be from the placement of pier pilings. The extent of these impacts is expected to be no more than 1998 square feet.

In response to the FWS comments that applicant stated that the need for the project has been verified in evaluations by the Puerto Rico Power Authority and the Puerto Rico Energy Affairs Administration of the Department of Natural and Environmental Resources. The applicant's power purchase agreement with PREPA requires the construction of a natural gas pipeline to Costa Sur. However, the applicant stated that is not in a position to publicly represent PREPA's internal decision making processes or future commitments concerning if or when PREPA might convert any

of the Costa Sur units to natural gas. Regarding the issue on mangrove impacts, the applicant clarified that there are no expected impacts to intertidal mangroves on the plant site. Some mangroves above the high tide line, may be impacted by the placement of rock fill to reinforce and elevate the perimeter dike. Unavoidable impacts to mangroves at the pipeline crossing of the Tallaboa River will be mitigated as described in the mitigation plan. Regarding the electric transmission lines issue, the applicant stated they will be installed on high poles and the lines would be several times higher than the tallest mangroves, and there will be no need to trim mangroves along the electric transmission line corridor. The storm water retention pond issue at the northwest corner of the plant site includes a standpipe that allows up to 12 inches of water to accumulate before any storm water is discharged. The standpipe was designed during the development of the mitigation plan to assure an opportunity for precipitation ponding to benefit local and migratory birds. This mitigation is for impacts to areas outside Corps jurisdiction.

Regarding the alternatives to the proposed pier alignment, the applicant stated that the proposed pier alignment is the least damaging practicable alternative, taking into consideration cost, existing technology and logistics. The applicants stated it is the only practicable alternative that satisfies the safety requirement for a minimum 587-foot distance between the LNG storage tanks and the distillate storage tanks. It also satisfies the engineering, design requirement that the pier connect to the shore at a point where a perpendicular line between the center line of the two LNG storage tanks intersects the shoreline, and it achieves a number of safety and environmental objectives, the most important being direct access to a containment area for collection of potential spills from the pier pipeline containment structure. Moreover, the straight line configuration allows emergency vehicle access from the shoreline to the pier head with an unimpeded route from the pier head to shoreline in the event of an emergency situation. The applicant does not anticipate any significant shading effects due to the height of the pier above the water surface, the orientation of the pier relative to the arc of the sun, and the seasonal changes in incidental light from the sun. At the request of the FWS, the

applicant will conduct a 5-year pier effects study to gather information for the agencies to use in evaluating the potential shading effects of other future industrial or commercial projects in Puerto Rico's near-shore marine habitat. This study is part of the mitigation plan. The applicant clarified that construction impacts are expected to be limited to the placement of pier pilings. As discussed in the mitigation plan, seagrasses and corals in areas where pilings are to be placed would be relocated to suitable areas in consultation with the Corps and the resource agencies. The cooling water intake structure will be located on the pier, approximately 400 feet from shore. The discharge structure will be located on the pier, approximately 75-100 feet from the pier head. The applicants anticipated no effects on manatees and sea turtles as a result of the cooling water intake structure. He indicated that intake velocities will be less than 1 foot per second and the mesh size over the intake will be 2-3 millimeters preventing the impingement of the species. More specific information on the design, depths and orientation of the cooling water intake and outfall were provided. The design depths and orientation of the cooling water intake and outfall were discussed. Clarification on the intake structure which is in an area where plankton densities are low, and not at the shelf edge of Guayanilla Bay where higher densities have been observed, was provided. Although water use figures given in the original Corps application indicate that the Salt Water Cooling Tower (SWCT) uses more water than the Air Cooling Condenser (ACC), calculations based on more detailed plant design and operational parameters show the two systems to be similar in their water use characteristics. According to these calculations, the SWCT would average approximately 13,815 gallons per minute (gpm) or less, and the ACC system would require approximately 11,670 gpm for power plant purposes. Other factors that tend to offset the slight water use advantage of the ACC system include its higher energy requirements, higher potential for equipment damage during severe weather, significant cost differential (approximately $25 million more for the ACC), and environmental concerns related to ACC noise, air turbulence and aesthetics. Regarding the Section 7 Consultation issues on the manatees, the applicant has worked with the FWS and the FERC to address all Section 7 issues as part of the FEIS. According to a FWS letter and Biological Opinion transmitted to FERC on 29 March 1996, all these issues have been resolved.

In response to the NMFS's concerns on the shading and direct impacts from the pier, the applicant does not anticipate any significant shading effects due to the height of the pier above the water surface, the orientation of the pier relative to the arc of the sun, and the seasonal changes in incidental light from the sun. A 5-year pier effects study to gather information about the pier's potential shading effects was proposed. Direct impacts are expected to be limited to the placement of pier pilings. As discussed in the mitigation plan, seagrasses and corals in areas where pilings are to be placed will be relocated to suitable areas in consultation with the Corps and the resource agencies. Regarding the entrapment of plankton at the cooling water intake, the applicant stated impacts are expected to be insignificant because the cooling water intake structure has been located in an area of low plankton density. Moreover, the water used by the seawater cooling system represents less than 0.2% of the total volume of water in Guayanilla Bay on any given day, and daily tidal circulation in Guayanilla Bay has been conservatively estimated at 2,650,000 cubic meters per day, more than 27 times the water volume associated with the proposed project. This daily tidal circulation causes an exchange of plankton with the surrounding Caribbean Sea and further negates any impact to plankton due to the project. It is anticipated that the inshore 350-400 feet of the pier will be constructed from the shore and/or shallow draft barges using an incremental approach. It is intended that all pile placement will be completed using either the constructed offshore portions of the pier, or the constructed shore portions of the pier. To further minimize the potential for impacts due to work barges, the pier contractor will be required to mobilize at least one shallow draft work barge (approximately 4-foot draft). In areas with sufficient water depth for the work barges, the work barges will be moored to shore anchors and mooring piles to prevent grounding. Regarding the need to explore alternatives to prestressed concrete decking for the pier that would allow more light penetration (e.g., steel grating), the applicant has explored potential alternatives that would allow more light penetration below the pier and does not believe that a practicable alternative is available, due to the need to provide for LNG vapor retention in the event of a spill,

and the potential pathway to the aquatic environment of such an alternative could provide for potential leaks from equipment and/or vehicles on the pier. The need for a mitigation plan was discussed again.

Regarding the proposed cooling water design using ~~is~~ a salt water cooling tower (SWCT) rather than an air cooled condenser (ACC), the applicant provided an explanation. The comparison between the SWCT and the ACC were discussed as in the FWS discussion above.

The applicant explained that he has entered into an agreement with the PRPA for the exclusive use of the project's marine facilities. A copy of the storm water construction permit has been submitted to EQB and was included as an exhibit on the response to comments letter. Regarding the drainage area of each storm water outfall, a Storm Water Pollution Prevention Plan has been developed and implemented as required in the EQB permit. It is expected that no storm water discharges will be associated with the construction activities except in the event of severe storm precipitation events. The applicant has consulted with EPA and determined that a storm water permit for discharges associated with an industrial activity is required for the proposed project. This permit action was completed by General NPDES Program Permit compliance procedures.

d. Further coordination: No further coordination was required, due to: (a) the extensive coordination already conducted by the applicant with the Corps and the reviewing agencies; (b) the coordination associated with public hearings conducted by the Puerto Rico Planning Board and the Puerto Rico Environmental Quality Board; and (c) completion of the joint Federal-Commonwealth FEIS, which concludes that the proposed project would be environmentally acceptable with recommended mitigation measures.

7. Alternatives:

a. Avoidance (No action, uplands, availability of other sites): The geographic scope of the search for alternative sites encompassed the Island of Puerto Rico. Search efforts focused on

the coastal region due to the project's dependence upon access to the marine environment in order to import LNG by ship and the need for adequate cooling water supplies. The practicable alternatives analysis was conducted in three stages:

(1) An initial screening of the entire Island using primary, project-specific sitting criteria to identify and eliminate areas that would clearly be unsuitable for the EcoEléctrica project.

(2) A more detailed analysis of the areas remaining after the initial island-wide screening to develop a list of candidate sites.

(3) A comparison of candidate sites in order to identify the least damaging practicable alternative.

The project sponsor as well as the Corps has concluded that the least damaging practicable alternative is at Punta Guayanilla, on the south coast of Puerto Rico. The Corps finds that the applicant has met the practicable alternatives requirements of 40 CFR Part 230, and concurs with the applicant's conclusion that the proposed project, under the terms and conditions set forth in the Corps' permit, is the least damaging practicable alternative.

b. Minimization (modified project designs, etc.): Pier construction methodology (driven hollow piles) was chosen to avoid the need for dredging and to minimize suspended sediment associated with pile placement. In addition, the pier alignment was chosen to minimize impacts to sea grass beds, taking into consideration costs, existing technology and logistics. Wetland and open water impacts along the utility transmission corridors were eliminated or minimized wherever possible by using existing facilities and spanning such aquatic ecosystems when possible. The crossing of the Tallaboa River cannot be avoided, but the effects will be minimized by the short duration of the disturbance (3 days) and by working from the shore, rather than by building coffer dams and/or working with heavy machinery in the river.

c. Compensatory Mitigation (Wetland enhancement, creations, etc.): No permanent impacts to wetlands will occur as a result of the proposed project. Temporary impacts will occur as a result of the LPG pipeline crossing of the Tallaboa River.

(1) Description of impacts: A small fringing mangrove wetland on the shores of the Tallaboa River would be impacted by the placement of the LPG pipeline, but it would be naturally restored after the work conclude. Approximately 450 cubic yards of dredged material from the Tallaboa River crossing would be removed and stockpiled onshore behind a hay bale barrier and/or silt fence. Clean sand would be used to bury the pipeline, and the original river bottom contours would be restored. River banks would be stabilized, and the area would be allowed to revegetate naturally. Potential impacts to seagrasses include direct effects from placing pier pilings in seagrass beds, and potential shading effects from the pier structure. The applicant is attempting to design the pier in a manner that allows pier pilings to be moved as much as 10 feet shoreward or seaward in order to avoid wherever possible, such direct impacts. However, a worst case scenario for direct pile impacts to seagrasses (50 foot pile spacing with no ability to move the piles shoreward or seaward to avoid seagrass beds) results in an estimated maximum direct loss of 413 square feet of seagrass habitat.

(2) Compensation:

(a) Mangroves: The original small fringing mangrove wetlands on the shores of the Tallaboa River that would be impacted by the placement of the LPG pipeline would be restored by stabilizing the bank and allowing natural revegetation. The applicant responded to a verbal request made by Mr. John Iliff from the NMFS, to implement a new mangrove planting technique using PVC pipes to be tested at the project area. The PVC pipes would hold mangrove propagules in place in high-energy environments until they develop into young trees with prop roots. A total of four clusters of mangroves would be located at Punta Guayanilla at locations with different wave exposures. A minimum of 160 mangrove propagules would be initially planted.

(b) Seagrasses and corals: In areas where the pier pilings are to be placed seagrasses and corals would be relocated

to suitable areas in consultation with the Corps and the resource agencies. Monitoring of seagrasses beneath the pier for potential shading effect would be conducted quarterly during the first year and every six months thereafter, to determine changes in aerial extent of seagrass beds within the shadow pattern of the pier (Pier Effects Study). Transplanting would be achieved by removing one or more seagrass "plugs" large enough to ensure sufficient root/rhizome mass from pier piling footprints and moving them immediately to the pre-inspected, prepared and approved locations. Corals that would be impacted by the pier pilings would be moved to areas with equal or less turbidity than what exists in the proposed pier location, or attached to the pier pilings. In addition to moving the corals, the Pier Effects Study to be implemented would examine the effects of shading on corals.

(c) Freshwater ponding area: The filling of these freshwater ponding areas (approximately 0.75 acre) for the power plant construction would result in some loss of habitat that is occasionally used by wading birds and waterfowl. The applicant proposed to design its northwest storm water retention pond to maximize habitat benefits to the wading birds and waterfowl that currently use the ponded portions of the diked areas on the project site after heavy rains. Mechanisms to allow the pond to retain a minimum of one foot of water would be installed.

8. Evaluation of the 404(b)(1) Guidelines:

a. Factual determinations (230.1 1):

(1) Physical substrate (230.1 1 (a)): There will be no significant disturbance of the physical substrate as a result of the placement of pier pilings for the new LNG docking facility and/or the replacement of sheet pilings at the existing construction dock. No dredging or placement of earthen fill will be required to accomplish these tasks. Installation of the LPG pipeline across the Tallaboa River will result in a temporary removal of the physical substrate while the pipeline trench is being excavated, but this trench will be backfilled and the river bank stabilized after completion.

(2) Water circulation, fluctuation, and salinity (230.1 1 (b)): There will be no changes in bottom contours or other significant changes in the hydrologic regime as a result of the placement of pier pilings for the new LNG docking facility and/or the replacement of sheet pilings at the existing construction dock. Hence, there will be no change in water current patterns, circulation, and normal water elevation fluctuations. There will be some localized change in salinity and temperature profiles as a result of the desalinization plant and cooling water discharges, respectively. Due to dispersion effects, these are expected to be non-significant. The LPG pipeline crossing of the Tallaboa River is not expected to have any significant effect on water circulation, fluctuation, or salinity.

(3) Suspended particulate/turbidity(230.11(c)): There will be no significant increase in suspended particulate/turbidity as a result of the proposed project. The placement of pier pilings for the new LNG docking facility and the replacement of sheet pilings at the existing construction dock will not require any dredging or discharge of fill material and silt curtains will be used wherever practical to minimize incidental sediment suspension. In addition, construction barges will not be allowed to rest on the bottom in shallow waters. The LPG pipeline's river crossing will result in some increase in turbidity above the normally high background levels of the Tallaboa River, but silt curtains will also be used where practical to minimize this increase and the trenching operation is expected to be completed in three days.

(4) Contaminant availability (230.1 l(d)): None of the proposed operations is expected to introduce, relocate, or increase contaminants in the aquatic ecosystem. The pier and sheet pilings or the dikes to be constructed will be free of contaminants and silt curtains will be placed around all work in the aquatic environment, including the Tallaboa River, to minimize the resuspension of any existing contaminants.

(5) Aquatic ecosystem and organisms (230.1 I (e)): No significant changes in the aquatic ecosystem structure or function are anticipated from the proposed project. Shading effects from the pier are expected to be minimal due to its

height and orientation. There may be some slight increase in seagrass growth rates due to cooling water discharges slightly above background temperatures during the winter.

(6) Proposed disposal site (230.1 l(f)): Not applicable.

(7) Cumulative effects on the aquatic ecosystem (230.1 1 (g)): The proposed project would not be a significant cumulative impact on the aquatic environment. There are no known development proposals or conceptual plans for the area that would result in additional impacts to wetlands or other waters of the United States.

(8) Secondary effects on the aquatic ecosystem (230.1 I (g)): Potential secondary effects from the proposed project include possible shading of seagrass habitat by the pier structure, and the potential temperature effects of the power plant's cooling water discharge, and/or salinity effects from the proposed desalinization plant. Shading effects are expected to be minimal due to the height of the pier above the water surface (approximately 17 feet) and the orientation of the pier in a direction that avoids a constant sun angle. Temperature effects will be minimized by using cooling towers to reduce the water temperature to below 90° before discharge, and salinity effects are expected to be minimal due to the small volume of the discharge, a low salinity increase from that of background levels and a near-field mixing zone dispersion (ambient salinity within 25 feet).

b. Restrictions on discharges:

(1) Alternatives:

(a) The activity is located in a special aquatic site (wetlands, sanctuaries, and refuges, mudflats, vegetated shallows, coral reefs. riffle & pool complexes, etc.):

yes__**__ no____

(b) The activity needs to be located in a special aquatic site to fulfill its basic purpose:

yes___**__ no____

(c) It has been demonstrated in paragraph 7 above that there are no practicable nor less damaging alternatives which could satisfy the project's basic purpose.

yes__**__ no____

(2) Other program requirements:

(a) The proposed activity violates applicable Commonwealth water quality standards or Section 307 prohibitions or effluent standards.

yes____ no__**__

(b) The proposed activity jeopardizes the continued existence of federally listed threatened or endangered species or affects their critical habitat.

yes____ no__**__

(c) The proposed activity violates the requirements of a federally designated marine sanctuary.

yes____ no__**__

(3) The activity will cause or contribute to significant degradation of waters of the United States, including adverse effects on human health; life stages of aquatic organisms, ecosystem diversity, productivity and stability; and recreation, esthetic, and economic values.

yes____ no__**__

(4) Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem.

yes__**_ no _____

c. Findings:

(1) The proposed site for the discharge of dredged or fill material complies with the Section 404(b)(1) guidelines with the inclusion of the following conditions: Implementation of the mitigation plan, to move seagrasses and corals that would be impacted by the pier pilings placement, and the planting of mangroves propagules in PVC pipes on four locations within the

Guayanilla peninsula on different wave impacts regimes, including a monitoring scheme, annual reports, and the implementation of a Pier Effects Study.

9. Public Interest Review:

a. All public interest factors have been reviewed. The following public interest review factors are considered relevant to this proposal. Both cumulative and secondary impacts on the public interest were considered:

(1) Conservation: The proposed project is in a heavily industrialized area. With the permit conditions imposed, no significant conservation values will be adversely affected by the proposed project.

(2) Economics: The proposed project is in accordance with the energy needs of Puerto Rico.

(3) Esthetics: Due to the heavily industrialized nature of the proposed project location, and its isolation from visual receptors, there will be no significant adverse esthetic effects.

(4) General Environmental Concerns: Endangered species concerns involving manatees have been addressed through the development of a manatee protection plan. Other environmental effects have been minimized to a non-significant level through project design and construction restrictions.

(5) Wetlands: No significant impacts to wetlands will occur as a result of the proposed project. The only direct impacts are to small fringing wetlands along the banks of the Tallaboa River, and these impacts, associated with the construction of an LPG pipeline crossing, will be temporary. Wetlands within 100 feet of any construction areas will be marked and fenced off to prevent incidental damage. Silt fences and/or hay bales will be used to eliminate and/or minimize sediment runoff to wetlands.

(6) Historic Properties: No historic/cultural resources will be impacted by the proposed project.

(7) Fish and Wildlife Values: With the implementation of the manatee protection plan, the proposed project will not significantly affect currently existing fish and wildlife values at the site.

(8) Flood Hazards: The proposed project is presently protected from flood hazards. Additional flood protection measures, e.g., raising the surface elevation to a level sufficient to withstand hurricane induced precipitation ponding, will be implemented during the project.

(9) Floodplain Values: The proposed project will not result in any loss of floodplain capacity.

(10) Land Use: Land use in the area is heavily industrialized. The proposed project is consistent with this land use type.

(11) Navigation: The project will have no effect on navigation. The LNG docking facility will be outside the shipping channel and the overhead crossing of the existing manmade canal will not prevent small boats from passing.

(12) Shore Erosion and Accretion: The riprap levee around the proposed project (from 2' MSL and above) will be built up to withstand a force 5 hurricane category. No shoreline erosion or accretion effects are expected to occur as a result of the proposed project construction.

(13) Recreation: Due the heavily industrialized nature of the proposed project area, no significant adverse impacts to recreational values are expected.

(14) Water Supply and Conservation: The proposed project's desalinization plant will increase potential water supplies in the area and allow the facility to operate without compromising local water conservation efforts.

(15) Water Quality: Cooling water and saline discharges from the proposed project will have no significant adverse impact on

water quality. Construction methods will employ silt curtains in open water and silt fences/hay bales onshore to prevent significant impacts to water quality.

(16) Energy Needs: The project is being proposed as a direct response to Puerto Rico's energy needs and provides a opportunity to diversify energy sources on the island to include a clean burning fuel.

(17) Safety: The proposed facility will be operated in accordance with all applicable health and safety laws and regulations.

(18) Food and Fiber Production: Not applicable.

(19) Mineral Needs: Not applicable.

(20) Considerations of Property Ownership: Not applicable.

b. Describe the relative extent of the public and private need for the proposed structure or work: The Puerto Rico Electric Power Authority (PREPA) has not added new generating capacity in nearly 20 years, despite an annual economic growth rate greater than three percent. As a result, electrical service in Puerto Rico is threatened by peak loads that are approaching the system's loading capacity. To meet future growth in demand for energy and to enhance system reliability, PREPA has determined that approximately 1,200 MW of additional generating capacity will be needed by the year 2000. Part of PREPA's strategy for meeting its enhanced capacity/reliability goals is to diversify its energy sources to include electricity purchased from cogeneration facilities that use fuels other than oil, i.e., primarily natural gas and coal. This purchased-power strategy will also allow PREPA to preserve its funds for existing facility maintenance and enhancement programs rather than investing heavily in new electrical power plant construction. This will also facilitate PREPA's pursuit of the policies outlined in the Puerto Rico Energy Policy developed by the Governor's Committee on Cogeneration and Generation of Energy (e.g., the efficient distribution of electric energy and the use of fuels other than oil, such as natural gas).

c. Describe the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed work where there are unresolved conflicts as to resource use: There are not unresolved conflicts as to resource use. Moreover, the applicant's practicable alternatives analysis demonstrates that there are no reasonable alternative locations and methods to accomplish the objective of the proposed work.

d. Describe the extent and permanence of the beneficial and/or detrimental effects which the proposed work is likely to have on the public and private uses to which the area is suited: The area is heavily industrialized and generally not suitable for public use. The proposed project would benefit the area by filling a currently underutilized industrial parcel.

e. Threatened or Endangered Species: The Antillean manatee *(Trichechus manatus)* is known to inhabit the proposed project area. The Corps of Engineers has made a determination that the proposed work will have no effect on the manatee or its habitat. Standard conditions for protection of the manatee will be part of the permit. Marine turtles are also known to use the coastal waters of the area, but the project and its operation would not affect any nesting area. No nesting habitat exists in the immediate vicinity of the project site. It is the Corps' opinion that marine turtles would not be affected by the proposed project because the seawater intakes would have wedge wire mesh with two millimeter openings, and the water intake velocity would be less than 1.0 feet per second (0.6 knots).

Two species of water bird, the brown pelican *(Pelecanus occidentalis* - an endangered species) and the white-cheeked pintail *(Anas bahamensis)*, a candidate species have been observed in the project area. The brown pelican has been observed feeding immediately upstream of the mouth of the Tallaboa River. Cayo Palomas, about 0.25 miles from the site, is a nesting and roosting site for the brown pelican. The project site itself offers neither nesting nor roosting habitat for this species, and the LPG pipeline crossing of the Tallaboa River is expected to be accomplished in three days. Waters adjacent to the site are feeding locations for the brown pelican, but the species is considered by the Fish and Wildlife Service to be common to

abundant in the region. Several individuals of the white-cheeked pintail have been observed on three occasions in the diked areas of the project site where storm water is retained. One of the two new storm water retention basins, approximately 6.5 acres, would be managed to duplicate the temporarily ponded habitat in which the white-checked pintail has been observed. It is not expected that the pintail would take more than occasional advantage of the project's habitat and it does not appear generally suitable as a nesting or roosting area due to the low percentage of vegetation cover.

It is the Corps of Engineers' determination that neither the brown pelican, nor the white-cheeked pintail would be affected by the proposed project. The FWS issued a biological opinion on March 29, 1996, stating that the project, as proposed, is not likely to jeopardize the continued existence of the West Indian manatee. However, the opinion states that the applicant has made a commitment to conduct surveys of the manatee in the Guayanilla/Tallaboa Bay area. The FWS recommended that such studies be designed to evaluate potential impacts of the project on the species and its habitat, as well to evaluate the effectiveness of the measures which have been incorporated into the project design in order to minimize or avoid adverse effects to the species and its habitat. The applicant and the Federal Energy Commission should coordinate with the Service in the development of this study.

f. Corps Wetland Policy: The proposed temporary wetland alteration at the pipeline crossing of the Tallaboa River is necessary to realize the project purpose and should result in minimal adverse environmental impacts. The benefits of the project would outweigh the minimal detrimental impacts. Therefore, the project is in accordance with the Corps wetland policy.

g. Cumulative and Secondary Impacts: There will be no adverse cumulative or secondary impacts caused by the project.

h. Corps analysis of comments and responses: Full consideration was given to all comments received in response to the public notice. The applicant has implemented all

recommendations made by the resource agencies including the acceptance to perform seagrasses and coral transplantation, planting of mangroves propagules using PVC pipes on several locations with different wave energy regimes, and a Pier Effect Study to determine the long term effect of the shading of the structure on the benthic communities of the area. The results of these activities would be provided to the resource agencies by means of annual reports. A monitoring scheme and a contingency plan are part of the proposal.

10. Determinations:

a. Finding of No Significant Impact (FONSI): Having reviewed the information provided by the applicant and all interested parties and an assessment of the environmental impacts, I find that those portions of the project within the Corps' jurisdiction authorized under this permit action will not have a significant adverse impact on the quality of the human environment.

b. Compliance with 404(b)(1) Guidelines: Having completed the evaluation in paragraph 8 above, I have determined that the proposed discharge complies with the 404(b)(1) Guidelines.

c. Section 176(c) of the Clean Air Act General Conformity Rule Review: The proposed permit action has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the proposed project is exempt 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps' continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this permit action.

d. Public Interest Determination: I find that issuance of a Department of the Army permit is not contrary to the public interest.

e. Public Hearing Request: I have received no requests for a public hearing in this matter. Moreover, public hearings on the project have been held by the Puerto Rico Planning Board, the

Puerto Rico Environmental Quality Board and the Federal Energy Regulatory Commission. There is sufficient information available to evaluate the proposed project; therefore, no public hearing were be held.

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