

HIGH ISLAND SPILL AGREEMENT

For

High Island Oil Spill, September 5, 1991

Prepared by:

**U.S. Department of Interior
Fish and Wildlife Service**

**U.S. Department of Commerce
National Oceanic and Atmospheric Administration**

Texas Parks and Wildlife Department

Texas Water Commission

Texas General Land Office

PROJECT DESCRIPTION

Two 60-inch diameter aluminum culverts fitted with flapgates and flashboard risers will replace the existing open culverts at the Jackson Ditch road crossing on the Anahuac National Wildlife Refuge in Chambers County, Texas. This work will protect and enhance approximately 10,000 acres of intermediate and brackish marsh on the Refuge and adjacent private lands by reducing saltwater intrusion and excessive tidal fluctuation, providing water level control, and preventing entry by oil or other hazardous substances spilled in the Gulf Intracoastal Waterway. It will provide significant benefits to waterfowl and other migratory birds, preserve vital nursery areas for marine finfish and shellfish, and contribute to the enhancement of surface water resources.

The Jackson Ditch water control structure will be constructed in accordance with the drawings and specifications submitted by the Amoco Pipeline Company in their December 11, 1991 letter (Attachment B), with the following modifications:

1. Channels for boards on flashboard risers shall be constructed of 1/2-inch by 2-inch aluminum.
2. All plate, flatbar, and angle must be alloy 5086-H34 aluminum.
3. Both flashboard risers must be covered with 1-inch thick aluminum grating.
4. Anti-seep collars shall be 10-foot by 10-foot by 1/4-inch aluminum.
5. Flashboard risers shall be constructed of 8 gauge aluminum.
6. Each flashboard riser shall be equipped with a full set of 2-inch by 6-inch by 4-foot treated boards (2.5 lbs CCA). Each board shall be fitted with 1/2-inch diameter stainless steel lift pins at each end (alloy AISI Type 316).
7. Flashboard risers shall have locking devices to prevent the unauthorized removal of boards. Refuge will provide padlocks.
8. Magnesium anodes must be a minimum of 5 pounds each, and shall be connected to the water control structure with copper wiring.
9. Timber sheet piling must be extended into top of bank at each side of water control structure.

10. Riprap material shall be placed so as to adequately prevent erosion around ends of timber bulkheading.
11. Earthen cofferdams may be substituted for steel sheet piling if feasible.
12. These specifications may be modified by mutual consent of Amoco Pipeline Company and the designated Trustee representative, Refuge Manager, Anahuac National Wildlife Refuge.



Amoco Pipeline Company

One Mid-America Plaza
Oakbrook Terrace, Illinois 60181
708-990-6106

Sandra A. Medley
Director, Environmental Services

December 11, 1991

Domenick R. Ciccone
Refuge Manager
U.S. Department of Interior
Fish and Wildlife Service
Anahuac, National Wildlife Refuge
P.O. Box 278
Anahuac, TX 77514

RE: Amoco Pipeline Company
High Island Mitigation Project

Dear Mr. Ciccone:

Amoco Pipeline Company respectfully submits five copies of the design, and drawings for the subject project. The package was prepared by Pyburn & Odom, Inc. on our behalf. As agreed, the copies will be distributed to the trustees by you or your staff.

The design includes a cost estimate for the project, \$343,961.00. The cost estimate does not include work associated with obtaining necessary permits or costs for oversight of the project by Amoco or trustee representatives. The cost estimate exceeds the trustees' internal estimate of \$100,000 and is disproportionate to the damage done. We have had our consultant review their estimate and have found it to be "realistic".

We would like to meet with you and other appropriate trustee representatives to discuss the mitigation project and its cost estimate. Please contact me at (708) 990-6106, to make the necessary arrangements. Lastly, have a Happy Holiday Season.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sandy".

Sandy A. Medley
Director, Environmental Services

SAM/das



PYBURN & ODOM, INC.
CONSULTING ENGINEERS

8178 GERRI Ave., Building A
Baton Rouge, LA 70820 Tel: (504) 766-6330
FAX - 769-7680

Roy M. Odom, V.P.
Charles H. Coates, Jr., V.P.
Jeffrey M. Floyd, P.E.
Brandon G. Parlange, P.E.
Thomas R. Iglehart, V.P.
Charles A. Stevie, P.E.
Michael P. Maillet, PLS
Richard E. Collins, CHS
John Porter, P.E.

December 6, 1991

Mr. Albert F. Davis
Amoco Pipeline Company
One Mid America Plaza
Oakbrook, IL 60181

Subject: Water Control Structure Design - Anahuac Wildlife Refuge, Jackson Ditch
Project, P&O Project No. 11-860.

Dear Mr. Davis:

In accordance with your telephoned request of November 19, 1991 and your subsequent letter dated November 25, 1991 we have designed water control structures at the two locations in the subject refuge, Jackson ditch and for the oil field road north of Jackson Ditch. We are transmitting herewith 3 copies of the water control structures (culverts) design, P&O drawing Nos. C11-860-01 to 07, along with technical specifications, a listing of necessary permits and associated agencies and an itemized estimate of total project cost.

Our estimate of the costs of constructing these facilities is \$345,000. This estimate is based on our previous work with water control structures. A more complete breakdown of the costs are shown on pages 3 and 4. Total Project cost is estimated at \$403,000, See page 5. Two permits will be required, one from the U.S. Army Corps of Engineers the other from Trinity Bay Conservation District. A listing of the necessary permits and associated agencies is on page 2 and Technical (Bid) specifications are enclosed in booklet form and entitled "Jackson Ditch and Oil Field Road Water Control Structures." It is my understanding that you will include Amoco's Standard Bid Specifications. In the following paragraphs we have provided the details with regard to the various aspects of this project.

Design

The Water Control Structure/Culvert design was based on the drawings and comments we received from Amoco Pipeline, Anahuac National Wildlife Refuge, and Trinity Bay Conservation District (TBCD) and conversations we had with Mr. Jim Neaville of the Department of the Interior and Messrs. Domenick Ciccone and Dan Alonso of the Anahuac Wildlife Refuge. Messrs. George Wilcox and Gary Cooper of the TBCD, Mr. Dick Nicor of Hope Oil and Mr. Steve Rector of S&S Energy for anticipated wheel loadings. We considered using concrete culverts but due to the extremely tight time schedule we opted to use the aluminum culverts shown on the preliminary design provided by your office and the Refuge. As you specified, two 60" aluminum culverts with flapgates and slots were specified for Jackson ditch and one 60-inch aluminum culvert with flapgate was shown for the location just north of Jackson Ditch called Oil field road. The Jackson Ditch culvert is designed to reduce salt water intrusion and tidal fluctuations and prevent oil and other materials from entering the refuge from the Intracoastal waterway, while the culvert north of Jackson Ditch is designed to permit drainage of storm surge water as you specified. On the west end (refuge side) of each culvert a water control structure was designed to allow for variation in the water level of the refuge. We were concerned about potential corrosion of the Aluminum culverts in a saltwater environment therefore we have included catalytic protection in the form of a magnesium anode.

All three culverts are designed to handle H-20 truck loadings. Our field crew spent a total of 3-1/2 days gathering data and traveling to and from the site. When the field data was plotted, we noticed the culvert north of Jackson Ditch, Oil Field Road Culvert, had silted in, as may be noticed on drawing P&O Drawing No. C11-360-02. This information was telephoned to you and Mr. Dom Ciccone the Refuge Manager on Dec. 4, 1991. Future silting at this location after culvert installation could prevent operation of the flapgate if the silt is not removed. We did not include in our plans excavation of the ditch from the culvert to the Oxbow lake into which the water drains. Water depths at Jackson Ditch appear to be adequate. Spoil from the excavation will have to be disposed of outside of the marsh on higher ground. Mr. Ciccone mentioned the refuge may be able to provide a spoil location.

Permits

The permits required for the installation of these culverts are a Section 404 (wetlands type) Permit from the Galveston District of the U. S. Army Corps of Engineers and a permit from the Trinity Bay Conservation District. Their addresses are listed below. The agencies which will review the Corps 404 (wetlands type) permit are listed below the Corps address. The Corps will send this permit application out to over 500 companies, landowners, and other interested parties in order that they may comment or note the location of the proposed installation. We can prepare the Section 404 (wetlands type) Permit for the Corps, should you wish us to. The Corps review process usually takes 70 to 90 days, probably 90 days.

U.S. Army Corps of Engineers
Evaluation Section
PO Box 1229
Galveston, Texas 77553-1229

U.S. Army Corps of Engineers
Texas Parks & Wildlife Department
Texas Water Commission
Texas General Land Office
National Marine Fisheries
U.S. Fish & Wildlife Service
Environmental Protection Agency

Trinity Bay Conservation District
PO Box 580
Anahuac, Texas 77514

The next 3 pages show the estimated costs of the project.

ITEMIZED COST ESTIMATE
 JACKSON DITCH
 WATER CONTROL STRUCTURE
 AMOCO PIPELINE COMPANY

<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT COST</u>	<u>TOTAL</u>
Mobilization	1	Job	7,500.00	\$ 7,500.00
Steel Sheet Piling, Pull & Salvage	6,400	Sq. Ft.	8.55	54,720.00
Dewatering	1	Job	4,500.00	4,500.00
Excavation and Disposal	565	Cu. Yd.	4.18	2,361.70
Timber Foundation Sheet Piling	3.6	MBF	550	1,980.00
Crushed Stone, Foundation	70	Tons	32.50	2,275.00
Filter Fabric	330	S.Y.	2.25	742.50
60 Inch Aluminum Culverts	60	L.F.	156.50	9,390.00
60 Inch Aluminum Flapgates	2	Each	3,250.00	6,500.00
Weir Type Drop Inlet	2	Each	2,786.00	5,572.00
Crushed Stone: Backfill	953	Tons	25.00	23,825.00
Class "B" Timber Piling	540	L.F.	17.50	9,450.00
Timber Sills and Hardware	3.7	MBF	885	3,274.50
Timber Sheet Piling	2,150	S.F.	7.85	16,877.50
Broken Stone Riprap	27	Ton	22.50	607.50
Clean-up and Demobilization	1	Job	2,500.00	2,500.00
Subtotal				\$152,075.70
15% Contingencies				22,811.30
Total Estimated Cost				\$174,887.00

**ITEMIZED COST ESTIMATE
OIL FIELD ROAD
WATER CONTROL STRUCTURE
AMOCO PIPELINE COMPANY**

<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT COST</u>	<u>TOTAL</u>
Mobilization	1	Job	7,500.00	7,500.00
Steel Sheet Piling, Pull & Salvage	7,200	Sq. Ft.	8.55	61,560.00
Dewatering	1	Job	4,500.00	4,500.00
Excavation and Disposal	716	Cu. Yd.	4.18	2,992.88
Timber Foundation Sheet Piling	3.9	MBF	550.00	2,145.00
Crushed Stone, Foundation	46	Tons	32.50	1,495.00
Filter Fabric	285	S.Y.	2.25	641.25
60 Inch Aluminum Culverts	30	L.F.	156.50	4,695.00
60 Inch Aluminum Flapgates	1	Each	3,250.00	3,250.00
Weir Type Drop Inlet	1	Each	2,786.00	2,786.00
Crushed Stone; Backfill	986	Tons	25.00	24,650.00
Class "B" Timber Piling	450	L.F.	17.50	7,875.00
Timber Sills and Hardware	3.5	MBF	885.00	3,097.50
Timber Sheet Piling	2,145	S.F.	7.85	16,838.25
Broken Stone Riprap	22	Ton	22.50	495.00
Clean-up and Demobilization	1	Job	2,500.00	2,500.00
Subtotal				\$147,020.88
15% Contingencies				22,053.12
Total Estimated Cost				\$169,074.00

**AMOCO PIPELINE COMPANY
 WATER CONTROL STRUCTURE
 ENGINEER, INSPECTION & MANAGEMENT
 ESTIMATE COSTS**

Engineering	7.5% of 345,000 =	\$25,875
Inspection	\$6,000/month 3 mo.	18,000
per diem	\$44/day 90 day	<u>3,960</u>
		47,835
Management	3% of \$370,875	<u>11,126</u>
		\$58,961

TOTAL PROJECT COST

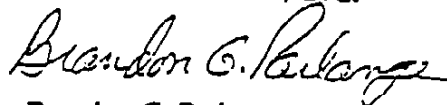
Jackson Ditch Structure	\$174,887
Oil Field Road Structure	169,074
Eng., Insp., Management	<u>58,961</u>
	\$402,922
	\$403,000

Before the Construction Phase of the work begins Hope Oil and S&S Energy should be contacted about limiting access to their wells from the road. Hope Oil has a road usage agreement which must be signed according to David Cantwell of Hope Oil. At present they access the wells by skiff but any rig equipment must be brought in by truck over the subject road.

Should you have any questions please call me at 504/766-6330.

Very truly yours,

PYBURN & ODOM, INC.



Brandon G. Parlange
Associate Engineer

BGP:ls

Encl: P&O Drawing C11-860-01 to 07 2 copies each
Technical Specifications 1 copy each

cc: Tom Egelston
Amoco Pipeline Co.
Hwy. 42 at Harrison Road
Longview, TX 75604
One Complete Set of Plans & Specifications

