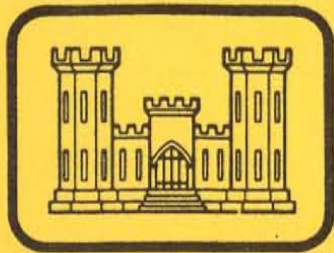


FLOOD CONTROL
MISSISSIPPI RIVER AND TRIBUTARIES
MISSISSIPPI RIVER LEVEES

ITEM M-71.O-L
LINWOOD LEVEE SETBACK

PLAQUEMINES PARISH, LOUISIANA
RELOCATION OF FACILITIES
DESIGN MEMORANDUM NO. 68



**United States Army
Corps of Engineers**

*... Serving the Army
... Serving the Nation*

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

MARCH 1981

Serial No. 15

TC
7
.P5
dm 68
1981

+ DYNIX 211745

DUP



DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P. O. BOX 60267
NEW ORLEANS, LOUISIANA 70160

REPLY TO
ATTENTION OF:

LMNED-MR

16 March 1981

SUBJECT: Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-71.0-L, Linwood Levee Setback, Plaquemines Parish, Louisiana, Relocation of Facilities, Design Memorandum No. 68

President
Mississippi River Commission
ATTN: MSRC-ED-TD

1. The subject design memorandum is submitted herewith for review and approval in accordance with the provisions of ER 1110-2-1150 dated 19 June 1970.

2. The final Environmental Impact Statement (EIS) for the Mississippi River Levees and Channel Improvements projects, which includes the Linwood Levee Setback, was filed with the Council on Environmental Quality (CEQ) on 8 April 1976 and the notice of its availability was published in the Federal Register on 16 April 1976. No inadequacies in the EIS were reported.

3. A cultural resources survey will be conducted prior to award of the levee work. The purpose of the cultural resources survey will be to ascertain the existence of archaeological resources in the work area and to determine the applicable procedures to be followed to avoid damage to the archaeological resources, if any are found. Additionally, specifications covering the work to be performed in constructing and maintaining the levees provide for preservation of any items of apparent historical or archaeological interest which may be discovered in the course of construction activities. The specifications will require immediate notification of proper authorities if any items of this nature are encountered, and will further require that the work cease until the items can be classified and salvaged, if salvage is considered appropriate.

LMNED-MR

16 March 1981

SUBJECT: Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-71.0-L, Linwood Levee Setback, Plaquemines Parish, Louisiana, Relocation of Facilities, Design Memorandum No. 68

4. The Section 404 public notice for the levee district covering this item of work was issued on 8 October 1976. No adverse comments were received. In compliance with applicable regulations pursuant to Section 404(b) of Federal Water Pollution Control Act, a statement of findings covering proposed future construction of Mississippi River levees within the New Orleans District was submitted to the Environmental Protection Agency (EPA) on 14 July 1978. The statement of findings was approved on 6 November 1978.

5. This report is being submitted as scheduled. Approval of the design memorandum is recommended.

1 Incl (12 sets)
Design Memorandum No. 68



THOMAS A. SANDS
Colonel, CE
District Engineer

FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES
MISSISSIPPI RIVER LEVEES
ITEM M-71.0-L
LINWOOD LEVEE SETBACK
PLAQUEMINES PARISH, LOUISIANA
RELOCATION OF FACILITIES
DESIGN MEMORANDUM NO. 68

STATUS OF DESIGN MEMORANDUMS

<u>Design Memo No.</u>	<u>Title</u>	<u>Actual (A) or Scheduled (S) Submission Date</u>
1	Flood Control, Mississippi River and Tributaries, Item M-25.0-R, Buras Levee Setback, Plaquemines Parish, Louisiana, Relocation of Facilities	23 Nov 70 (A)
2	Flood Control, Mississippi River and Tributaries, Item M-26.0-R, Upper Buras Levee Setback, Plaquemines Parish, Louisiana, Relocation of Facilities	21 Jan 71 (A)
3	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-14.9-R, Commander Levee Enlargement, Plaquemines Parish, Louisiana, Relocation of Facilities	11 Jun 71 (A)
4	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-10.7-R, Venice Levee Enlargement and Setback, Plaquemines Parish, Louisiana, Relocation of Facilities	6 Apr 71 (A)
5	Lower Red River - South Bank Red River Levees, Item R-117.0-R (1957 Mileage), Levee Enlargement, Rapides-Cotton Bayou Levee, Rapides Parish, Louisiana, Relocation of Facilities	22 Jan 71 (A)
6	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-31.3-R, Tropical Bend Levee Setback, Plaquemines Parish, Louisiana, Relocation of Facilities	30 Mar 71 (A)
7	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-10.4-R, Lower Venice Levee Enlargement and Setback, Plaquemines Parish, Louisiana, Relocation of Facilities	27 Aug 71 (A)

STATUS OF DESIGN MEMORANDUMS (cont'd)

<u>Design Memo No.</u>	<u>Title</u>	<u>Actual (A) or Scheduled (S) Submission Date</u>
8	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-18.9-R, Fort Jackson-Boothville Levee Enlargement, Plaquemines Parish, Louisiana, Relocation of Facilities	30 Nov 72 (A)
9	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-21.5-R, Childress Levee Enlargement, Plaquemines Parish, Louisiana, Relocation of Facilities	23 Sep 71 (A)
10	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-23.2-R, Buras-Triumph Levee Enlargement, Plaquemines Parish, Louisiana, Relocation of Facilities	31 May 73 (A)
11	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-55.3-R, Upper Junior Levee Setback, Plaquemines Parish, Louisiana, Relocation of Facilities	
12	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-51.0-L, Gravolet Levee Enlargement and Setback, Plaquemines Parish, Louisiana, Relocation of Facilities	14 Sep 72 (A)
13	Flood Control, Mississippi River and Tributaries, Lower Red River - South Bank Red River Levees, Item R-123.5-R (1957 Mileage), Scott Home-Bertrand Levee Enlargement, Rapides Parish, Louisiana, Relocation of Facilities	15 Sep 72 (A)
14	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-96.9-R, Amelia Street Levee, Jefferson Parish, Louisiana, Relocation of Facilities	31 Aug 71 (A)

STATUS OF DESIGN MEMORANDUMS (cont'd)

<u>Design Memo No.</u>	<u>Title</u>	<u>Actual (A) or Scheduled (S) Submission Date</u>
15	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-41.7-R, Port Sulphur Levee Enlargement and Setback, Plaquemines Parish, Louisiana, Relocation of Facilities	28 Jan 74 (A)
16	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-33.4-R, Nairn Levee Enlargement, Plaquemines Parish, Louisiana, Relocation of Facilities	22 Dec 75 (A)
17	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-37.7-R, Homeplace Levee Enlargement, Plaquemines Parish, Louisiana, Relocation of Facilities	5 Jan 73 (A)
18	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-57.7-R, Myrtle Grove Levee Enlargement, Plaquemines Parish, Louisiana, Relocation of facilities	31 Jan 73 (A)
19	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-28.0-R, Empire Levee Enlargement, Plaquemines Parish, Louisiana, Relocation of Facilities	30 Aug 74 (A)
20	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-49.5-R, Woodland Levee Enlargement, Plaquemines Parish, Louisiana, Relocation of Facilities	24 Aug 73 (A)
21	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-47.2-R, Nolan Levee Enlargement, Plaquemines Parish, Louisiana, Relocation of Facilities	29 Jun 73 (A)

STATUS OF DESIGN MEMORANDUMS (cont'd)

<u>Design Memo No.</u>	<u>Title</u>	<u>Scheduled (S)</u>	<u>Actual (A) or Submission Date</u>
22	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-45.0-R, Socola Levee Enlargement, Plaquemines Parish, Louisiana, Relocation of Facilities		28 Nov 72 (A)
23	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-75.0-L, Scarsdale Levee Setback, Plaquemines Parish, Louisiana, Relocation of Facilities		7 Dec 73 (A)
24	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-89.5-R, Cutoff Levee Setback, Orleans Parish, Louisiana, Relocation of Facilities		20 Dec 74 (A)
25	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-130.0-L, Gypsy Levee Setback, St. Charles Parish, Louisiana, Relocation of Facilities		30 Dec 74 (A)
26	Flood Control, Mississippi River and Tributaries, Atchafalaya River Levees, Item A-31.3-L, Cross Bayou Levee Setback, Pointe Coupee Parish, Louisiana, Relocation of Facilities		8 Nov 74 (A)
27	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-39.0-R, Freeport Levee Enlargement, Plaquemines Parish, Louisiana		27 Dec 74 (A)
28	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-30.2 R, Upper Empire Levee Enlargement and Setback, Plaquemines Parish, Louisiana, Relocation of Facilities		30 Apr 75 (A)

STATUS OF DESIGN MEMORANDUMS (cont'd)

<u>Design Memo No.</u>	<u>Title</u>	<u>Actual (A) or Scheduled (S) Submission Date</u>
29	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-63.0-L, Monsecour Levee Enlargement, Plaquemines Parish, Louisiana, Relocation of Facilities	15 Oct 75 (A)
30	Flood Control, Mississippi River and Tributaries, Atchafalaya River Levees, Item A-25.5-R, Goudeau Levee Setback, St. Landry Parish, Louisiana, Relocation of Facilities	30 Jun 76 (A)
31	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-320 to 303-R, Fifth Louisiana Levee District Levee Enlargement, Concordia, West Feliciana, and Pointe Coupee Parishes, Louisiana, Relocation of Facilities	30 Jun 75 (A)
32	Flood Control, Mississippi River and Tributaries, Atchafalaya River Levees, Item A-4.6-L, Legonier Levee Setback, Pointe Coupee Parish, Louisiana, Relocation of Facilities	30 Sep 75 (A)
33	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-35.0-R, Nairn Levee Setback, Plaquemines Parish, Louisiana, Relocation of Facilities	22 Dec 75 (A)
34	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-99.0-L, Louisiana Avenue Floodwall, Orleans Parish, Louisiana, Relocation of Facilities	21 Oct 75 (A)
35	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-144.5-L, Angelina Levee Setback, Saint John the Baptist Parish, Louisiana, Relocation of Facilities	12 Dec 75 (A)

STATUS OF DESIGN MEMORANDUMS (cont'd)

<u>Design Memo No.</u>	<u>Title</u>	<u>Actual (A) or Scheduled (S) Submission Date</u>
36	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-205.0-R, Point Pleasant Levee Setback, Iberville Parish, Louisiana, Relocation of Facilities	29 Nov 76 (A)
37	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-58.0-L, St. Sophie Levee Enlargement, Plaquemines Parish, Louisiana, Relocation of Facilities	15 Sep 75 (A)
38	Flood Control, Mississippi River and Tributaries, Atchafalaya River Levees, Item A-38.0L, Holloway Lake Levee Setback, Pointe Coupee Parish, Louisiana, Relocation of Facilities	26 Mar 76 (A)
39	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-90.5-L, Chalmette Slip Levee Enlargement, St. Bernard Parish, Louisiana, Relocation of Facilities	5 May 77 (A)
40	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-95.3L, Thalia-Poydras Street Floodwall, Orleans Parish, Louisiana, Relocation of Facilities	10 Jun 76 (A)
41	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-217.5-L, Chariot Levee Setback, East Baton Rouge Parish, Louisiana, Relocation of Facilities	11 Jun 76 (A)
42	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-52.6-R and M-52.1-R Junior and Lower Junior Levee Setbacks, Plaquemines Parish, Louisiana, Relocation of Facilities	24 Jan 77 (A)

STATUS OF DESIGN MEMORANDUMS (cont'd)

<u>Design Memo No.</u>	<u>Title</u>	<u>Actual (A) or Scheduled (S) Submission Date</u>
43	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-86.0-R, Stanton Levee Setback, Orleans Parish, Louisiana, Relocation of Facilities	10 Oct 78 (A)
44	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-215.3-L, Manchac Bend Levee Setback, East Baton Rouge Parish, Louisiana, Relocation of Facilities	23 Dec 76 (A)
45	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-28.5-R, Empire Levee Setback, Plaquemines Parish Louisiana, Relocation of Facilities	16 Dec 77 (A)
46	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-49.0-R, Woodland Levee Setback, Plaquemines Parish Louisiana, Relocation of Facilities	28 Nov 77 (A)
47	Flood Control, Mississippi River and Tributaries, Atchafalaya Basin Floodway, New Berwick Floodwall, St. Mary Parish, Louisiana, Relocation of Facilities	14 Mar 79 (A)
48	Flood Control, Mississippi River and Tributaries, Atchafalaya Basin Floodway, New Morgan City Floodwall, St. Mary Parish, Louisiana, Relocation of Facilities	16 Mar 81 (A)
49	Flood Control, Mississippi River and Tributaries, Atchafalaya Basin Floodway, New Tiger Island Floodwall, St. Mary Parish, Louisiana, Relocation of Facilities	17 Oct 79 (A)
50	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-24.8-R, Buras-Triumph Levee Setback, Plaquemines Parish, Louisiana, Relocation of Facilities	30 Sep 77 (A)

STATUS OF DESIGN MEMORANDUMS (cont'd)

<u>Design Memo No.</u>	<u>Title</u>	<u>Actual (A) or Scheduled (S) Submission Date</u>
51	Flood Control, Mississippi River and Tributaries, East Atchafalaya Basin Protection Levee, Item E-69.0 and E-73.3, Levee Enlargements, St. Martin and Iberville Parishes, Louisiana, Relocation of Louisiana State Route 997	3 Jun 77 (A)
52	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-100.0-L, Nashville-Napoleon Floodwall, Orleans Parish, Louisiana Relocation of Facilities	25 Aug 77 (A)
53	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-88.0-R, Algiers Lock Forebay Levee Enlargement, Orleans Parish, Louisiana, Relocation of Facilities	1 Aug 77 (A)
54	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-29.4-R, Empire Lock Modifications, Plaquemines Parish, Louisiana, Relocation of Facilities	19 May 78 (A)
55	Flood Control, Mississippi River and Tributaries, West Atchafalaya Basin Protection Levee, Item W-86.0 Levee Enlargement, St. Mary Parish, Louisiana, Relocation of Facilities	NOT SCHEDULED
56	Flood Control, Mississippi River and Tributaries, East Atchafalaya Basin Protection Levee, Item E-89, Driving Steel Sheet Piling and Levee Enlargement, St. Mary Parish, Louisiana, Relocation of Facilities	15 May 78 (A)
57	Flood Control, Mississippi River and Tributaries, Algiers Point Setback, Levee Enlargement and Slope Pavement, Item M-94.3-R, Orleans Parish, Louisiana Relocation of Facilities	8 Aug 79 (A)

STATUS OF DESIGN MEMORANDUMS (cont'd)

<u>Design Memo No.</u>	<u>Title</u>	<u>Actual (A) or Scheduled (S) Submission Date</u>
58	Flood Control, Mississippi River and Tributaries, Item M-48.7-L, East Pointe-a-la-Hache Ferry Landing and Levee Enlargement, Plaquemines Parish, Louisiana, Relocation of Facilities	2 Jun 78 (A)
59	Flood Control, Mississippi River and Tributaries, Jackson Avenue Floodgate, Item M-97.2-L, Orleans Parish, Louisiana, Relocation of Facilities	9 Jun 78 (A)
60	Flood Control, Mississippi River and Tributaries, Item M-303 to 293-R, Torras Levee Enlargement and Berm, Pointe Coupee Parish, Louisiana, Relocation of Facilities	26 Jul 78 (A)
61	Flood Control, Mississippi River and Tributaries, East Atchafalaya Basin Protection Levee, Item E-36.0, Levee Enlargement, Iberville Parish, Louisiana, Relocation of Facilities	28 Mar 79 (A)
62	Flood Control, Mississippi River and Tributaries, Item M-293 to 283-R, Levee Raccourci Levee Enlargement, Pointe Coupee Parish, Louisiana, Relocation of Facilities	12 Jun 79 (A)
63	Flood Control, Mississippi River and Tributaries, West Atchafalaya Basin Protection Levee, Item W-85.0A, Levee Enlargement, Iberia and St. Martin Parishes, Louisiana, Relocation of Facilities	6 Oct 80 (A)
64	Flood Control, Mississippi River and Tributaries, Louisiana-Jackson Avenue Floodwall, Item M-98.2 to 97.2-L, Orleans Parish, Louisiana, Relocation of Facilities	Dec 81 (S)

STATUS OF DESIGN MEMORANDUMS (cont'd)

<u>Design Memo No.</u>	<u>Title</u>	<u>Actual (A) or Scheduled (S) Submission Date</u>
65	Flood Control, Mississippi River and Tributaries, Canal-Toulouse Street Floodwall, Item M-94.9-94.6-L, Orleans Parish, Louisiana, Relocation of Facilities	Nov 81 (S)
66	Flood Control, Mississippi River and Tributaries, West Atchafalaya Basin Protection Levee, Item W-117.0, Levee Enlargement, St. Mary Parish Louisiana, Relocation of Facilities	15 Dec 80 (A)
67	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-56.0-L, Harlem Levee Setback Plaquemines Parish, Louisiana, Relocation of Facilities	17 Feb 81 (A)
68	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-71.0-L, Linwood Levee Setback Plaquemines Parish, Louisiana, Relocation of Facilities	16 Mar 81 (A)
69	Flood Control, Mississippi River and Tributaries, Mississippi River Levees, Item M-75.6 - 74.5-L, Scarsdale-Stella Levee Setback and Enlargement, Plaquemines Parish, Louisiana, Relocation of Facilities	15 Jun 81 (S)
70	Flood Control, Mississippi River and Tributaries, West Atchafalaya Basin Protection Levee, Item W-68.0, Levee Enlargement & Berms, St. Martin Parish, Louisiana, Relocation of Facilities	29 May 81 (S)
71	Flood Control, Mississippi River and Tributaries, East Atchafalaya Basin Protection Levee, Item E-58.0A, Levee Enlargement & Berms, Iberville Parish, Louisiana, Relocation of Facilities	30 Apr 81 (S)

TABLE OF CONTENTS

<u>Paragraph</u>	<u>Title</u>	<u>Page</u>
	PERTINENT DATA	A
1	PURPOSE OF DESIGN MEMORANDUM	1
2	PROJECT AUTHORIZATION	
	a. Construction, Enlargement, or Improvement of Main Line Mississippi River Levees	
	b. Levee Setbacks, Main Line Mississippi River Levees	1
3	AUTHORITY FOR ACCOMPLISHING RELOCATIONS	1
4	DESCRIPTION OF FACILITIES AFFECTED BY THE PROJECT	2
	a. Roads	2
	b. Utilities	2
5	OWNER'S COMPENSABLE INTEREST	3
6	FIELD RECONNAISSANCE AND INVESTIGATION	4
7	CRITERIA FOR RELOCATED FACILITIES	
	a. Roads	4
	b. Utilities	4
8	DESCRIPTION OF PROPOSED RELOCATIONS	
	a. Roads	4
	b. Utilities	5
9	PROCEDURE FOR ACCOMPLISHING RELOCATIONS	
	a. Roads	6
	b. Utilities	6
10	ATTITUDE OF OWNERS	6
11	ESTIMATE OF COST	7
12	COMPARISON WITH PRIOR COST ESTIMATES	7
13	JUSTIFICATION FOR COST REVISION	8
14	RECOMMENDATIONS	8

TABLES

<u>No.</u>	<u>Title</u>	<u>Page</u>
1	LIST OF EXISTING FACILITIES	C
2	SUMMARY OF ESTIMATED FEDERAL RELOCATIONS COSTS	7
3	COMPARISON OF COSTS MAINTENANCE FUNDS	8

PLATES

<u>No.</u>	<u>Title</u>
1	LOCATION MAP
2-6	PROJECT PLAN
7	TYPICAL SECTIONS
8	TYPICAL PIPE CROSSING

APPENDIXES

I	ATTORNEY'S REPORT
II	LOUISIANA OFFICE OF HIGHWAYS MINIMUM DESIGN STANDARDS FOR RURAL HIGHWAYS AND ROADS
III	PERTINENT CORRESPONDENCE
IV	DETAILED COST ESTIMATES

FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES
MISSISSIPPI RIVER LEVEES
ITEM M-71.0-L
LINWOOD LEVEE SETBACK
PLAQUEMINES PARISH, LOUISIANA
RELOCATION OF FACILITIES
DESIGN MEMORANDUM NO. 68

PERTINENT DATA

The Linwood Levee Setback, Item M-71.0-L, is located in Plaquemines Parish, Louisiana on the left descending bank of the Mississippi River between levee stations 1114+64 and 1166+10 (approximate river mile 71.0 above the Head of Passes).

Purpose:

The Mississippi River and Tributaries Flood Control project embodies a plan to protect the Lower Mississippi Valley against the project design flood. The plan includes the use of levees, floodways, channel improvements and major tributary flood control improvements. Specifically, item M-71.0-L is designed to provide flood protection to a portion of the Plaquemines Parish area. Justification for the need for this work is based on LMNED-FD "Supplemental Report - Mississippi River Revetment, Linwood, Louisiana" approved 14 Sept 1979. The stability control line, established in the above referenced report, applied to overbank cross sections requires a setback between the station limits shown on Plates 2 through 6 in order to maintain the required safety factor of 1.3.

Authorization:

The Flood Control Act of 15 May 1928 (Public Law 391, 70th Congress), as amended, provides authorization for the project.

Assuring Agency:

The local assuring agency for the Linwood levee setback, item M-71.0-L, is the Plaquemines Parish Commission Council, the governing body of the Grand Prairie Levee District.

Description of Proposed Work. The levee will be set back between stations 1114+64 and station 1166+10. Smooth transitions 100-feet in length will be provided on each end to blend the new levee into the existing levee. Embankment material will be obtained from the existing levee and from designated batture borrow areas. The new levee will be constructed in two separate lifts. The first lift will be constructed to elevation 17.7 NGVD. The second lift will be constructed after foundation settlement has occurred, bringing the levee up to the authorized design grade. The second lift can be constructed within the right-of-way established for the first lift. Riverside slope protection will consist of sand-cement bags placed to flowline

grade during the first lift construction. Extension of the slope paving will be made during second lift construction after settlement occurs. The levee design section is the 1947 code section which consists of a 1V on 4H landside slope, 1V on 3H riverside slope and 10-foot crown width. The project will dislocate over 5,000 linear feet each of the adjacent State highway and natural gas, water, and telephone facilities plus nearly 4,500 linear feet of power transmission line. All facilities which are located outside of the existing levee right-of-way are to be relocated at Federal expense. The right-of-way to be occupied by the proposed project is shown on plates 2 through 6; a typical section for the levee and relocated road are shown on plate 7, while typical sections for pipelines crossing over levees are shown on plate 8 of this report.

TABLE 1
LIST OF EXISTING FACILITIES

Item	Owner	Description	Disposition	Location
R-1	State of Louisiana Dept of Highways	State Route Louisiana 39	Relocate	Plate 2 thru 6
G-1	Louisiana Gas Service Company	4-inch - Diameter Gas Main	Relocate	Plate 2 thru 6
P-1	Louisiana Power and Light Company	13.8 KV aerial distribution line	Relocate	Plate 2 thru 6
W-1	Plaquemines Parish Commission Council	6-inch - diameter potable water line	Relocate	Plate 2 thru 6
T-1	South Central Bell Telephone Co.	600 pair, 22 gauge buried cable 400 pair, 22 gauge buried cable 100 pair, 22 gauge buried cable 50 pair, 22 gauge buried cable	Relocate Relocate Relocate Relocate	Plate 2 thru 6
A-1	Shell Pipeline	Two 10 3/4-inch - diameter Oil Pipelines	Relocate	Plate 3
A-2	Mr. Rene Becnel	Two 2-inch - diameter pipes	Remove	Plate 5

1. PURPOSE OF DESIGN MEMORANDUM. The purpose of this design memorandum is to present the plans for the relocation and alteration of the facilities which will be affected by the construction of item M-71.0-L Linwood Levee Setback, hereinafter referred to as the Linwood reach. It is being submitted in compliance with Part 3, Section LXXIII, ER 1180-1-1, dated 1 December 1969, and DIVR 1110-2-1, dated 29 January 1968. It establishes the necessity for the relocation of the facilities and the plans of relocations; it establishes the legal obligation of the Federal Government, and it will provide the basis for utilizing Federal funds in accomplishing the relocations described herein.

2. PROJECT AUTHORIZATION.

a. Construction, Enlargement, or Improvement of Main Line Mississippi River Levees.

Authority for construction, enlargement, or improvement of mainline Mississippi River levees, including berms, is contained in the Act of 15 May 1928 (PL 391, 70th Congress) as amended. The furnishing of right-of-way for levee foundations and levees on the main stem Mississippi River, except levee setbacks, is an obligation of local interests (see Section 3, Act of 15 May 1928). The replacement or relocation of public roads, highways, railroads, public utilities, and pipelines required for the construction of mainline Mississippi River Levees will be accomplished at Federal expense. Reimbursement of costs to local cooperating agencies in perfecting relocation of interfering facilities may be made pursuant to the Act of 23 April 1934 (PL 171, 73d Congress).

b. Levee Setbacks, Main Line Mississippi River Levees.

Authority for the construction of levee setbacks of mainline Mississippi River levees is contained in the Act of 15 May 1928 (P.L. 391, 70th Congress), as amended. Payment or reimbursement of costs to local cooperating agencies for rights-of-way furnished including necessary relocation or alteration of public roads, highways, railroads, public utilities, and pipelines is authorized by the Flood Control Act of 18 August 1941 (PL 228, 77th Congress, 1st Session), as amended by the Flood Control Act of 22 December 1944 (PC 534, 78th Congress, 2d Session).

3. AUTHORITY FOR ACCOMPLISHING RELOCATIONS. Policy for relocations is provided by DIVR 1110-2-1. The legal obligations of the Federal Government regarding the affected facilities and the extent of authority for the relocations are as established in the Attorney's Report which is attached as Appendix I.

4. DESCRIPTION OF EXISTING FACILITIES AFFECTED BY THE PROJECT

a. Roads. The State of Louisiana owns a two lane, 24-foot wide, bituminous-surfaced highway located adjacent and parallel to the existing levee. This highway is designated by the Louisiana Department of Transportation and Development Office of Highways as State Route Louisiana 39. The most recent traffic count available for this highway is provided by a 1979 traffic map for State of Louisiana roads as prepared by Louisiana Office of Highways in cooperation with the U.S. Department of Transportation, Federal Highway Administration. This map indicates that the 24-hour average traffic count for Highway 39 is 900 vehicles per day at a point in the vicinity of the proposed levee setback. This traffic count supports a classification of class 4 in the Louisiana Department of Transportation and Development, Office of Highways' Minimum Design standards for Rural Highways and Roads (Appendix III). Further discussion regarding this facility is found in paragraph 7.a. (page 4) of this report. Approximately 5,150 linear feet of the existing highway will be affected by the Linwood reach. This facility is shown as item R-1 on plates 2 thru 6 of this report.

b. Utilities.

(1) Louisiana Gas Service Company (LGS). Louisiana Gas Service Company, a Louisiana corporation domiciled in Jefferson Parish, Louisiana owns a 4-inch diameter steel gas main located adjacent and parallel to the existing State Route Louisiana 39. The total length of this facility is 17.4 miles of which approximately 5,115 linear feet (0.97 mile) will be affected by the Linwood reach. This facility was installed in 1962 with continuous cathodic protection and is in good condition. The owner claims indefinite design life for the facility. For purposes of this report, it will be assumed that the gas main has a design life of 100 years. The gas main is located completely outside of the existing levee right-of-way, and it is shown as item G-1 on plates 2 thru 6 of this report.

(2) Louisiana Power and Light Company (LP&L). Louisiana Power and Light Company, a Louisiana corporation domiciled in Orleans Parish, Louisiana owns a 13.8 kV 3-phase aerial distribution line located adjacent and parallel to the existing State Route Louisiana 39. The total length of this facility is 20 miles, of which approximately 4,490 linear feet (0.85 mile) will be affected by the project. This facility was originally installed in the early 1940's, and it was completely updated in 1964. The facility has a design life of 33 years, and it is in good condition. The powerline is located completely outside of the existing levee right-of-way, and it is shown as item P-1 on plates 2 thru 6 of this report.

(3) Plaquemines Parish. Plaquemines Parish owns a 6-inch diameter cast iron potable water main located adjacent and parallel to the existing State Route Louisiana 39. The total length of this facility is 23 miles of which approximately 5,210 linear feet (0.99 mile), including seven 6-inch

valves and seven fire hydrants will be affected by the project. This facility was installed in 1956; it has a design life of 50 years and is in good condition. The water main is located completely outside of the existing levee right-of-way, and it is shown as item W-1 on plates 2 thru 6 of this report.

(4) South Central Bell Telephone Company (SCB). South Central Bell Telephone Co., a Delaware Corporation owns a 600 pair 22-gauge, a 400 pair 22 gauge, a 100 pair 22-gauge, and a 50 pair 22-gauge buried cable located adjacent and parallel to the existing State Route Louisiana 39. There are two cables buried in a common trench throughout the limits of work. The 600 and 50 pair cables run along the upper three fourths of the reach while the 400 and 100 pair cables run along the lower one fourth of the Linwood reach. Short lengths of 25 pair cable are used to tie in to terminals to provide local service. The total length of the existing cables is 35.6 miles, of which approximately 4,000 linear feet of the 600 and 50 pair cables, 1,650 linear feet of the 400 and 100 pair cables, and 245 linear feet of 25 pair cable will be affected by the Linwood reach. This facility was installed in 1977; it has a design life of 33 years and is in good condition. The telephone cables are located completely outside of the existing levee right-of-way, and are shown as item T-1 on plates 2 thru 6 of this report.

(5) Shell Pipe Line Corporation. Shell Pipe Line Corporation, a Maryland Corporation licensed to do business in the State of Louisiana, owns two 10 3/4-inch diameter pipeliens which cross the levee at right angles at approximate levee stations 1126+70 and 1126+85. These pipelines are used to transport rawmix and liquid petroleum hydrocarbons. The total length of this facility is 50 miles of which approximately 360 linear feet (0.07 mile) will be affected by the Linwood reach. This facility was installed in 1969 and is in good condition. The owner claims indefinite design life for the facility. For purposes of this report, it will be assumed that each pipeline has a design life of 100 years. Approximately 50 percent (180 linear feet) of the affected facility is located outside of the existing levee right-of-way, and it is shown as item A-1 on plate 3 of this report.

(6) Mr. Rene Becnel. Mr. Rene Becnel, a private individual domiciled in Plaquemines Parish, Louisiana owns two 2-inch diameter steel water pipelines which cross the levee at right angles at approximate levee station 1157+50. This facility has been abandoned by its owner. (See Appendix III, Exhibit A). The pipelines are shown as item A-2 on plate 5 of this report.

5. OWNER'S COMPENSABLE INTEREST. The attorney's report, which considers the compensable interests of the owners of the facilities affected by the Linwood project, is attached as Appendix I. The report finds that the Department of Transportation and Development (item R-1) and Plaquemines

Parish (item W-1) are political subdivisions of the State of Louisiana, that LGS, LP&L, SCB and Shell Pipe Line Corporation (items G-1, P-1, T-1 and A-1, respectively) are public utilities, all of which enjoy the power of eminent domain. The report also finds that the facility privately owned by Mr. Becnel (item A-2) may be considered to have been abandoned if there has been an act of abandonment with the intent to abandon. The attorney's report concludes that "It is an obligation of the United States to relocate all of the facilities, except item g , where they exist outside existing levee right-of-way, and those portions of facilities which exist inside the existing levee rights-of-way will be accomplished at the expense of the facility owner. Any facility which is considered to be abandoned will be removed with just compensation being the cost of removal."

6. FIELD RECONNAISSANCE AND INVESTIGATION. Field Surveys, field inspections, consultations, and correspondence with the affected facility owners and with members of the Plaquemines Parish Commission Council (PPCC), the local assuring agency for this project, provided the basic information from which this design memorandum and the proposed relocations were prepared.

7. CRITERIA FOR RELOCATED FACILITIES

a. Roads. The design and relocation of State Route Louisiana 39 (item R-1) will be accomplished by this District in accord with the standards of the Louisiana Department of Transportation and Development, Office of Highways. As discussed in paragraph 4.a. (page 2) of this report, the latest traffic count supports a classification of class 4 for the existing roadways which would dictate a replacement road contained in a 120-foot wide right-of-way. However, in consideration of limited usable land in the Linwood project area, the Louisiana Department of Transportation and Development has concurred that the replacement road should be built in a right-of-way of averaging 65 feet in width. Copies of pertinent correspondence regarding the affected highway are provided by Appendix III, Exhibits A through N. The replacement road will encompass some features attributable to class 4 highways (lane and shoulder widths), while other features (right-of-way width, one-way tangential section with no ditch between the road and the levee) will be incorporated at the request of the Plaquemines Parish Commission Council and as concurred in by the Louisiana Office of Highways. The replacement road will be designed by this District and will be included as an item of work in the levee contract.

b. Utilities. The owners of the affected facilities (items G-1, P-1, W-1, T-1, and A-1, respectively) will accomplish the design and relocation of their facilities to their individual criteria and in a manner which will eliminate interference with the project. If an owner's criteria results in a betterment, that betterment will be discussed with the owner, and payment for the betterment will be disallowed by this District. This is in accord with paragraph 73-106 of ER 1180-1-1, which stipulates that "... a substitute facility will be provided which will, as nearly as practicable, serve the owner in the same manner and reasonably as well as does the existing facility."

8. DESCRIPTION OF PROPOSED RELOCATIONS

a. Road. The alignment for the proposed relocation of State Route Louisiana 39 is shown on plates 2 thru 6 of this report. The new road will

approximate the design standards of a class 4 road, as outlined by the Louisiana Office of Highways' Minimum Design Standards for Rural Highways and Roads (Appendix II). The primary deviation from class 4 standards is that the new road will be built within an average right-of-way width of 65 feet, one way tangential section with no ditch between the road and the levee (reference appendix III and plate 7). The new road will consist of approximately 5,150 linear feet of asphaltic concrete pavement 24 feet wide by 3 1/2 inches thick, built on an 8 1/2 inch thick base course. Compacted shell shoulders will be 8 feet wide. A typical section for the relocated road is shown on plate 7. Drainage culverts will be placed under the road to drain runoff from the levee side to the landside of the road where dictated by typical section II construction (normal road crown and ditch on each side of the road). Temporary bypass roads will be constructed at each end of the job limits to assure continued flow of traffic during construction of the relocated road.

b. Utilities.

(1) Louisiana Gas Service Company. LGS will relocate item G-1 on an alignment just inside the landside boundary of the new road right-of-way. The relocated facility will consist of approximately 5,115 linear feet of 4-inch diameter steel gas main with continuous cathodic protection. This relocation is to be accomplished at Federal expense.

(2) Louisiana Power and Light Co. LP&L will relocate item P-1 on an alignment just outside the landside boundary of the new road right-of-way. The new facility will consist of approximately 4,490 linear feet of 13.8 kV aerial transmission powerline attached on treated timber poles. The Federal Government will pay for the cost of constructing the new facility.

(3) Plaquemines Parish. Plaquemines Parish will relocate item W-1 on an alignment parallel and adjacent to item G-1, the LGS gas main. The new facility will be located 5 feet inside the new road right-of-way, and it will consist of approximately 5,210 linear feet of 8 inch diameter A.C. water main with 5 gate valves and 10 fire hydrants. This facility will be relocated at Federal expense, less the cost of the 3 extra fire hydrants proposed by the owner. Installing 8" A.C. pipe is not considered a betterment since the cost of installing the proposed 8" A.C. pipe is estimated to be 30 percent less than the cost of replacing the existing water main with 6" C.I. pipe.

(4) South Central Bell Telephone Co. SCB will relocate item T-1 on an alignment just outside the landside boundary of the new road right-of-way. The relocated facility will consist of approximately 4,000 linear feet each of 600-pair 22-gauge and 50-pair 22-gauge plus 1,550 linear feet each of 400-pair 22-gauge and 100-pair 22-gauge buried cables. The relocation is to be accomplished at Federal expense.

(5) Shell Pipe Line Corporation. Shell Pipe Line Corporation will first construct a temporary bypass line which will cross the levee downstream of the existing crossing. The existing pipelines will then be cut and removed so as not to interfere with the new levee. After the new

levee section is completed at the site of the existing crossing, Shell will construct a new permanent crossing on the same alignment as that of the existing facility. The temporary crossing will then be removed by the owner. It is estimated that 50 percent of the work to be performed by Shell will be accomplished outside of the existing levee right-of-way. Therefore, the Federal Government will reimburse 50 percent of the total cost of relocating Shell Pipe Line Corp's pipelines. Typical sections for pipelines crossing over levees are shown on plate 8.

9. PROCEDURE FOR ACCOMPLISHING RELOCATIONS.

a. Roads. The Louisiana Department of Transportation and Development, Office of Highways and the Plaquemines Parish Engineering and Public Works Department furnished the criteria and basic design for item R-1, State Route Louisiana 39. This District will prepare the detailed plans and specifications for the relocated roadway, which will be constructed by the Government's contractor at no cost to the owner. The right-of-way for the relocated road is shown on plates 2 thru 6 of this report.

b. Utilities. The affected utility owners (except Mr. R. Becnel, item A-2) will prepare detailed plans and specifications for the cutting, abandoning, removing, or relocating of their facilities, and they will accomplish their work in a manner that will not interfere with the project. The owners' plans and specifications will be reviewed by this District to determine if the owners' proposals are compatible with the project. The relocations will be closely coordinated among all parties involved. Upon approval of this design memorandum and in accord with the provisions described herein, the Plaquemines Parish Commission Council being the governing body of the Grand Prairie Levee District, the local assuring agency, will advise the affected owners to effect their relocations. This District will advise the PPCC of the dollar amount (based on the approved design memorandum) available for reimbursement to each owner. Payments will be based on actual cost for accomplishing the work, adjusted where appropriate, for depreciation, salvage value, and betterments. Upon completion of the relocation, the PPCC will furnish a reimbursement assembly to this District consisting of: copies of any contracts (including plans and specifications) covering work performed by others or itemized billings for labor and materials if the work was performed by the owner, and a copy of all canceled checks covering related payments. Further, all records related to the reimbursement request will be subject to audit by the Government and original time cards or payrolls, material records, and accounts for all charges and expenditures for which reimbursement will be claimed from the Government will be available at all reasonable times for Government inspection. Finally, so far as practicable, the owner will maintain separate records for all items and accounts constituting the basis of information from which the reimbursement assembly is prepared. The abandoned item A-2 will be removed by the Government's contractor.

10. ATTITUDE OF OWNERS. All of the affected facility owners and representatives of the Plaquemines Parish Commission Council have cooperated in developing

the information presented in this design memorandum. Our latest contacts with these owners indicate that they will be ready to perform the relocations in a timely manner upon notification by this District. We do not anticipate any problems in accomplishing the relocations required by this project.

11. ESTIMATE OF COST.

The estimated Federal cost for accomplishing the proposed relocations has been prepared in accordance with the provisions of ER-1180-1-1 and is based on relocation plans proposed by or agreed to by the affected owners. The relocations costs are summarized in Table 2 below, and they are presented in more detail in Tables IV-1 through IV-6 of Appendix IV. All costs presented in this report shall be chargeable to "Maintenance Funds".

TABLE 2
SUMMARY OF ESTIMATED FEDERAL RELOCATIONS COST
(DECEMBER 1980 PRICE LEVELS)

<u>DESCRIPTION/OWNER</u>	<u>ESTIMATED COST (\$)</u>
Road	
State Route Louisiana 39	952,000
Road R/W	247,000
Subtotal Road	<u>1,199,000¹</u>
Utilities	
Louisiana Gas Service Co.	105,000
Louisiana Power and Light Co.	59,000
Plaquemines Parish	89,000
South Central Bell Telephone Co.	66,000
Shell Pipeline Corporation	147,000
Subtotal Utilities	<u>466,000¹</u>
Subtotal Relocations	1,665,000
E&D (6%+)	85,000 ²
S&A (6%+)	<u>85,000²</u>
TOTAL	1,835,000

¹Includes 25% contingencies

²No E&D or S&A for Road R/W

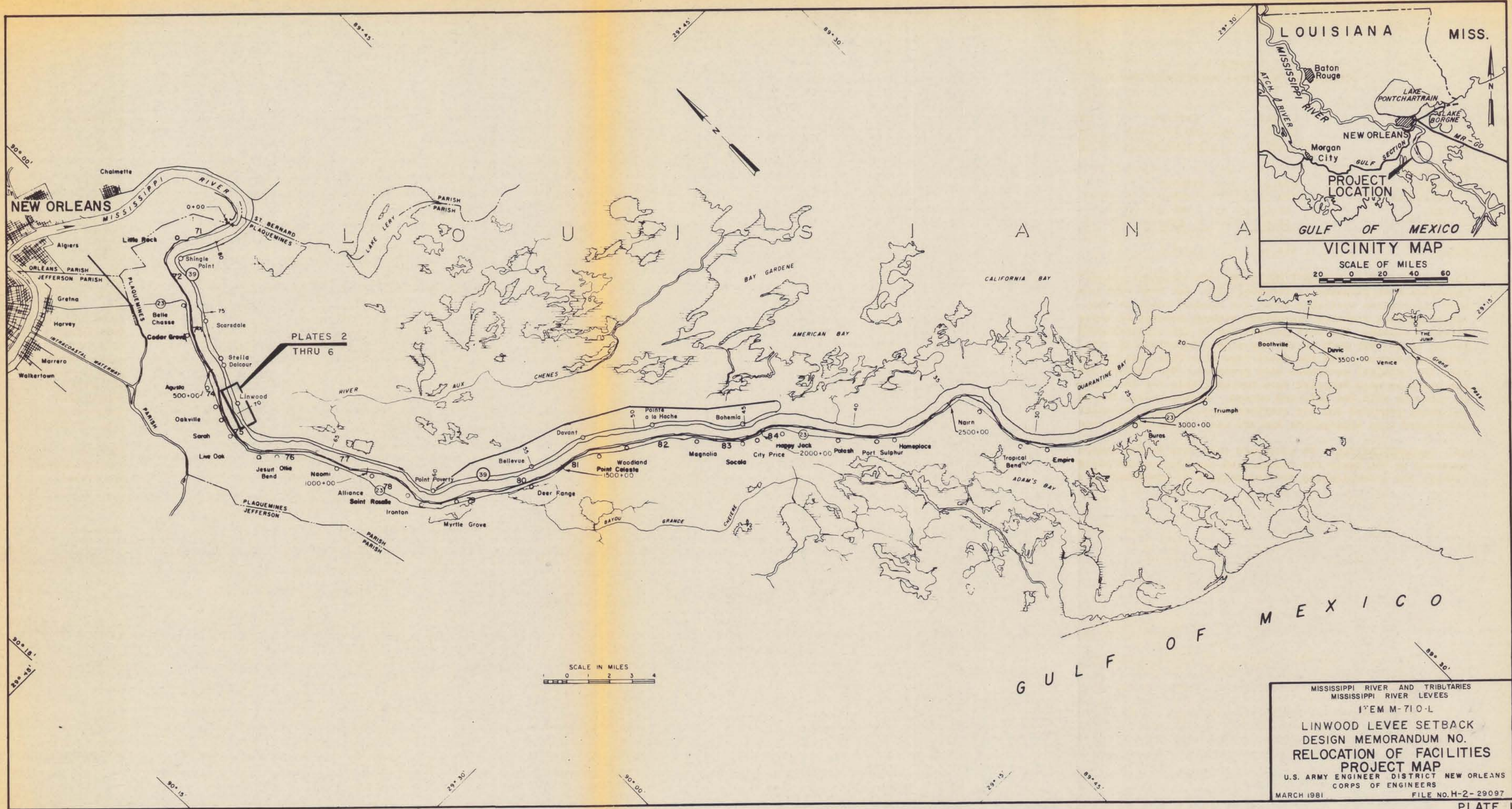
12. COMPARISON WITH PRIOR COST ESTIMATES. The current working cost estimates for the relocations required by the Linwood reach are summarized below for comparison with the latest approved cost estimates. The latest approved cost estimates have been separated from the respective documents for the Mississippi River Levees project for suitable comparison. The latest approved cost estimate for maintenance funds is the Detailed Project Schedule (PB-2A), CYR ES 013, effective 1 October 1980, as approved 15 December 1980.

TABLE 3
COMPARISON OF COST - MAINTENANCE FUNDS

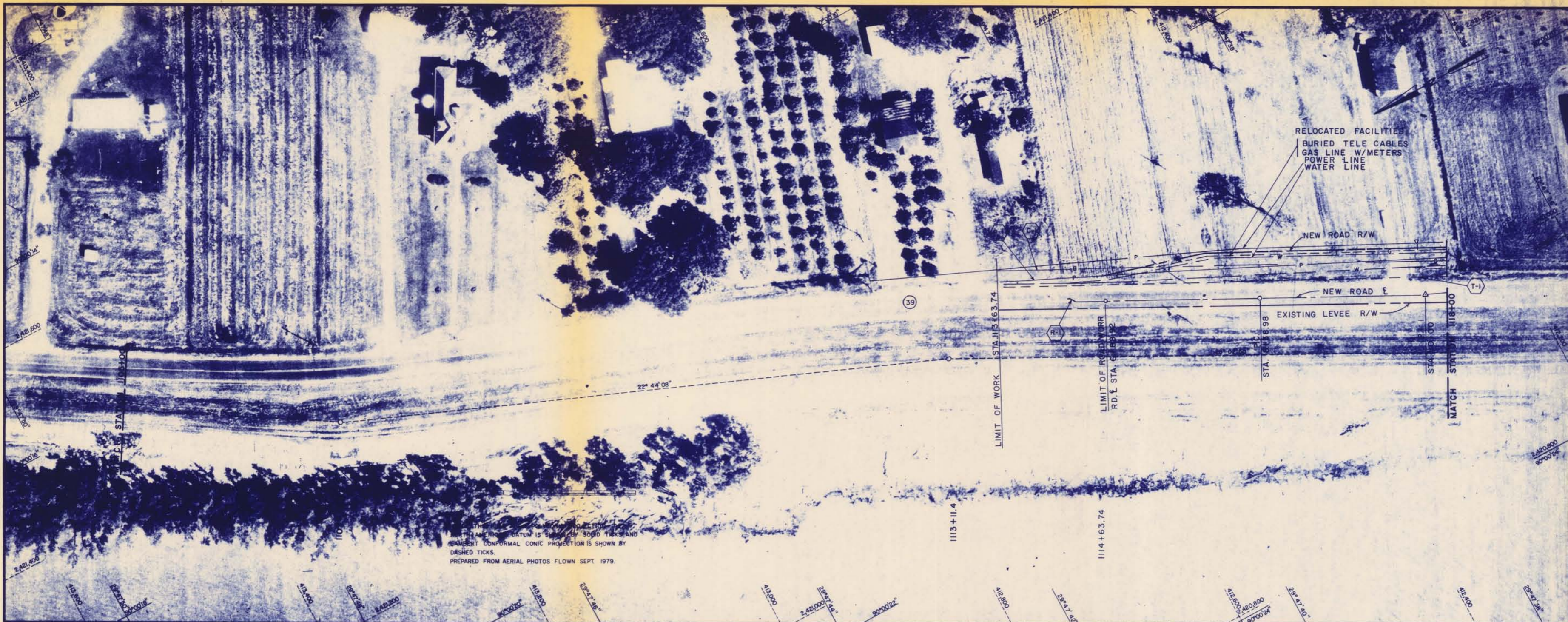
<u>Item</u>	<u>Latest PB-2A (\$1,000's)</u>	<u>Current Working Estimate (\$1,000's)</u>	<u>Difference from PB-2A (\$1,000's)</u>
Relocations			
Roads	429.1	1,199.0	+769.9
Utilities	349.0	466.0	+117.0
E&D	85.0	85.0	0.0
S&A	<u>85.0</u>	<u>85.0</u>	<u>0.0</u>
TOTAL	948.1	1,835.0	+886.9

13. JUSTIFICATION FOR COST REVISION. The original relocations cost estimates were prepared in December 1979, and they were based on preliminary information available about the Linwood reach at that time. The estimates were prepared "in-house" without benefit of input from the affected owners. The unit prices used in the original estimate have proven to be very much on the low side. Additionally, the need for temporary bypass lines for Shell Pipe Line Corp. was not foreseen at the time the original estimates were prepared. The current working estimates are based on more detailed data now available for the Linwood reach and on contacts with the affected owners. Additionally, the original cost estimates provided for 15% contingencies, whereas 25% contingencies are considered more appropriate and are used in the current working estimate.

14. RECOMMENDATIONS. We recommend that this design memorandum be approved as the basis for reimbursing the Plaquemines Parish Commission Council for accomplishing the relocations as described in this report.



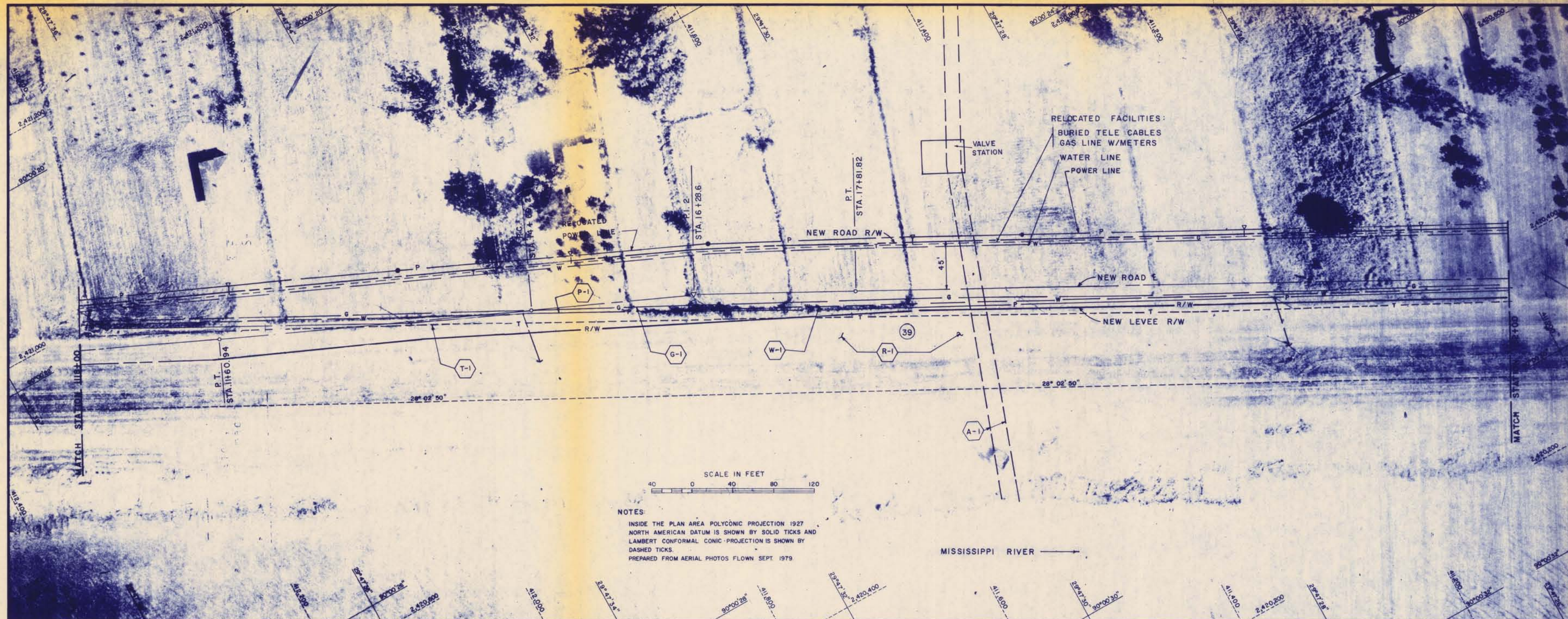
MISSISSIPPI RIVER AND TRIBUTARIES
 MISSISSIPPI RIVER LEVEES
 1"=M-710-L
 LINWOOD LEVEE SETBACK
 DESIGN MEMORANDUM NO.
 RELOCATION OF FACILITIES
 PROJECT MAP
 U.S. ARMY ENGINEER DISTRICT NEW ORLEANS
 CORPS OF ENGINEERS
 MARCH 1981 FILE NO. H-2-29097



EXISTING FACILITIES				
ITEM NO.	DESCRIPTIONS	STA.	OWNER	DISPOSITION
P-1	13.8KV POWER LINE	1112+40 TO 1157+30	LOUISIANA POWER & LIGHT CO.	RELOCATE
T-1	4 BURIED TELE. CABLES	1114+30 TO 1166+40	SOUTH CENTRAL BELL TELEPHONE CO.	RELOCATE
G-1	4" Ø GAS LINE	1114+95 TO 1166+10	LOUISIANA GAS SERVICE CO.	RELOCATE
W-1	6" Ø WATER LINE	1114+30 TO 1166+40	PLAQUEMINES PARISH	RELOCATE
R-1	ROAD LA. 39	1114+64 TO 1166+10	LOUISIANA OFFICE OF HIGHWAYS	RELOCATE

NEW ROAD E
 P.I. 1
 P.I. STA. 10+00
 $\Delta = 4^{\circ} 01' 31''$
 $D = 1^{\circ} 15' 00''$
 $R = 4583.66'$
 $T = 161.08'$
 $L = 322.02'$
 $E = 2.83'$

MISSISSIPPI RIVER AND TRIBUTARIES
 MISSISSIPPI RIVER LEVEES
 ITEM M-71.0-L
LINWOOD LEVEE SETBACK
 DESIGN MEMORANDUM NO. 68
PROJECT PLAN
 U. S. ARMY ENGINEER DISTRICT NEW ORLEANS
 CORPS OF ENGINEERS
 MARCH 1981 FILE NO. H-2-29097



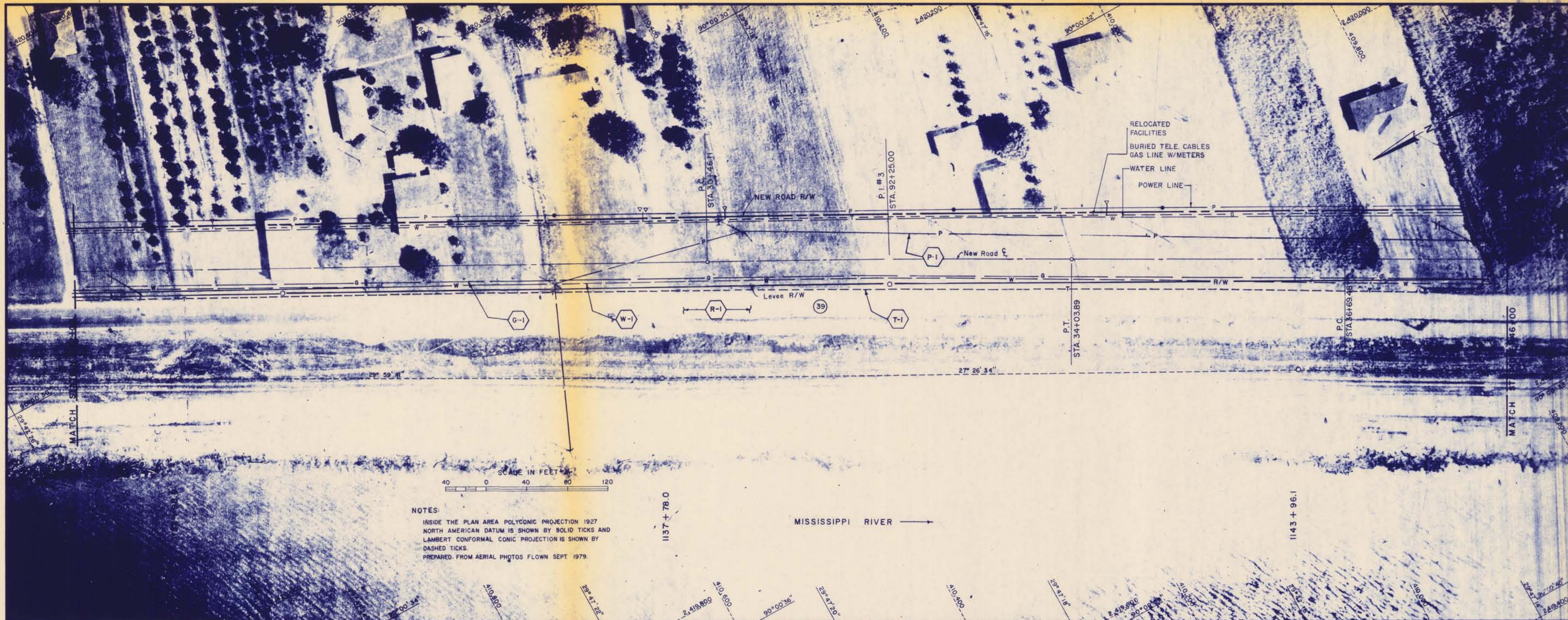
SCALE IN FEET
 0 40 80 120

NOTES:
 INSIDE THE PLAN AREA POLYCONIC PROJECTION 1927
 NORTH AMERICAN DATUM IS SHOWN BY SOLID TICKS AND
 LAMBERT CONFORMAL CONIC PROJECTION IS SHOWN BY
 DASHED TICKS.
 PREPARED FROM AERIAL PHOTOS FLOWN SEPT. 1979.

NEW ROAD E
 P.I. 2
 P.I. STA. 16+28.6
 $\Delta = 3^{\circ} 58' 55''$
 $D = 1^{\circ} 15' 00''$
 $R = 4583.66'$
 $T = 159.34'$
 $L = 318.56'$
 $E = 2.77'$

EXISTING FACILITIES				
ITEM NO.	DESCRIPTIONS	STA.	OWNER	DISPOSITION
P-1	13.8KV POWER LINE	1112 +40 TO 1157 +30	LOUISIANA POWER & LIGHT CO.	RELOCATE
T-1	4 BURIED TELE CABLES	1114 +30 TO 1166 +40	SOUTH CENTRAL BELL TELEPHONE CO.	RELOCATE
G-1	4" GAS LINE	1114 +95 TO 1166 +10	LOUISIANA GAS SERVICE CO.	RELOCATE
A-1	2-10 3/4" OIL LINES	1126 +70 TO 1126 +95	SHELL PIPE LINE CO.	RELOCATE
W-1	6" WATER LINE	1114 +30 TO 1166 +40	PLAQUEMINES PARISH	RELOCATE
R-1	ROAD LA. 39	1114 +64 TO 1166 +10	LOUISIANA OFFICE OF HIGHWAYS	RELOCATE

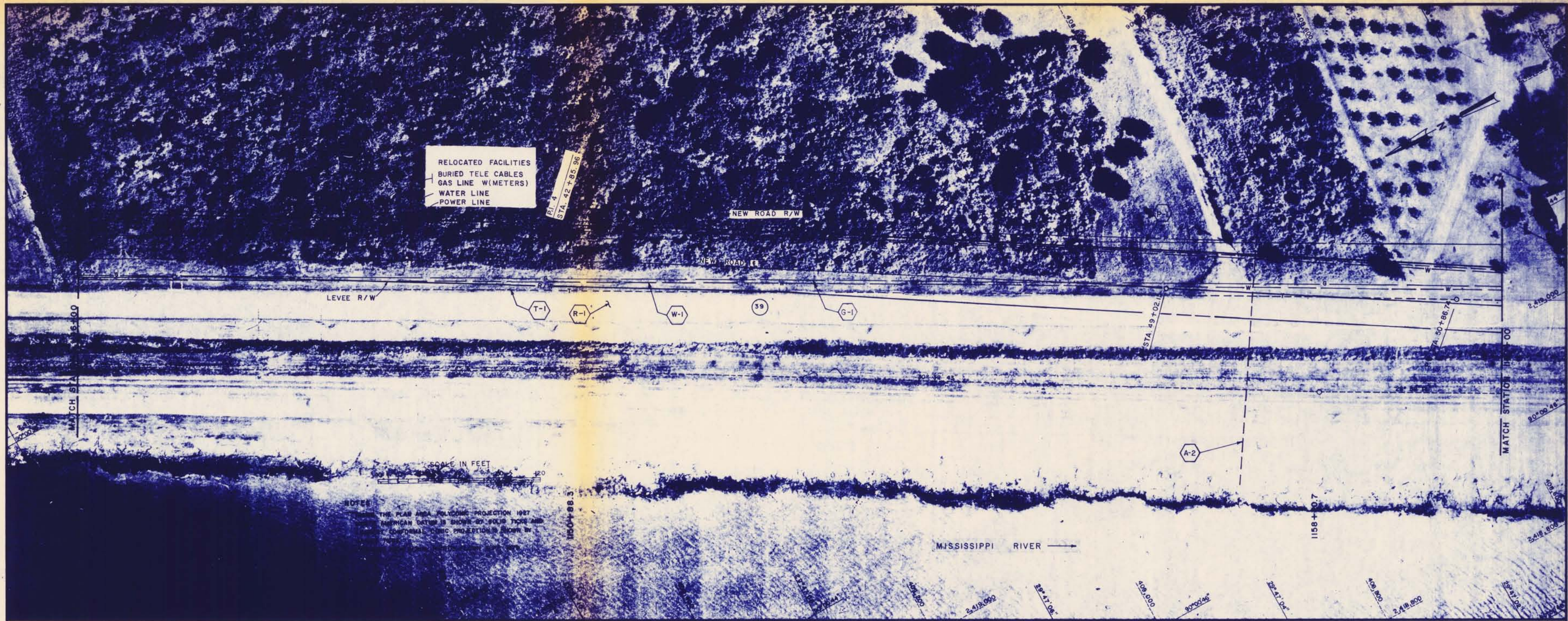
MISSISSIPPI RIVER AND TRIBUTARIES
 MISSISSIPPI RIVER LEVEES
 ITEM M-71.0-L
 LINWOOD LEVEE SETBACK
 DESIGN MEMORANDUM NO. 68
 PROJECT PLAN
 U.S. ARMY ENGINEER DISTRICT NEW ORLEANS
 CORPS OF ENGINEERS
 MARCH 1981
 FILE NO. H-2-29097



NEW ROAD L
 P.I. 3
 P.I. STA. 32+25
 $\Delta = 0^\circ 53' 40''$
 $D = 0^\circ 15'$
 $R = 22918.3'$
 $T = 178.89'$
 $L = 357.78'$
 $E = 0.70'$

EXISTING FACILITIES				
ITEM NO.	DESCRIPTIONS	STA.	OWNER	DISPOSITION
P-1	13.8KV POWER LINE	1112+40 TO 1157+30	LOUISIANA POWER & LIGHT CO.	RELOCATE
T-1	4 BURIED TELE. CABLES	1114+30 TO 1166+40	SOUTH CENTRAL BELL TELEPHONE CO.	RELOCATE
G-1	4" GAS LINE	1114+95 TO 1166+10	LOUISIANA GAS SERVICE CO.	RELOCATE
W-1	6" WATER LINE	1114+30 TO 1166+40	PLAQUEMINES PARISH	RELOCATE
R-1	ROAD LA. 39	1114+60 TO 1166+10	LOUISIANA OFFICE OF HIGHWAYS	RELOCATE

MISSISSIPPI RIVER AND TRIBUTARIES
 MISSISSIPPI RIVER LEVEES
 ITEM M-71.0-L
 LINWOOD LEVEE SETBACK
 DESIGN MEMORANDUM NO. 68
 PROJECT PLAN
 U.S. ARMY ENGINEER DISTRICT NEW ORLEANS
 CORPS OF ENGINEERS
 MARCH 1981
 FILE NO. H-2-29097
 PLATE 4



RELOCATED FACILITIES
 BURIED TELE CABLES
 GAS LINE W(METERS)
 WATER LINE
 POWER LINE

P.I. 4
 STA. 42+85.96

NEW ROAD R/W

NEW ROAD E

LEVEE R/W

MATCH STA. 1156+00

MATCH STA. 1170+00

SCALE IN FEET

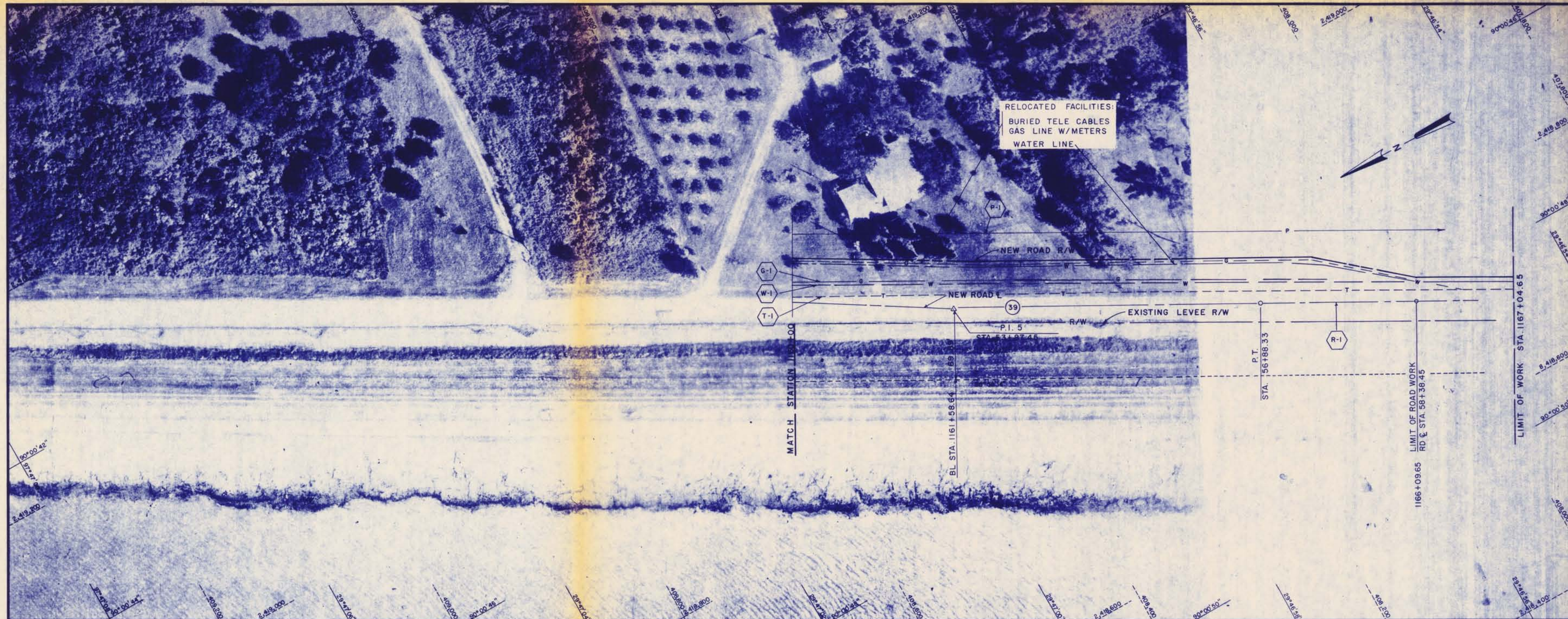
NOTE:
 THE PLAN AREA POLYCONIC PROJECTION 1987
 MEAN DATUM IS SHOWN BY SOLID TICKS AND
 CONFORMAL CONIC PROJECTIONS SHOWN BY
 DASHED TICKS.

MISSISSIPPI RIVER

NEW ROAD E
 P.I. 4
 P.I. STA. 42+85.96
 $\Delta = 3^{\circ}04'54''$
 $D = 0^{\circ}15'$
 $R = 22918.3'$
 $T = 616.48'$
 $L = 1232.67'$
 $E = 8.30'$

EXISTING FACILITIES				
ITEM NO.	DESCRIPTIONS	STA.	OWNER	DISPOSITION
P-1	13.8KV POWER LINE	1112+40 TO 1157+30	LOUISIANA POWER & LIGHT CO.	RELOCATE
T-1	4 BURIED TELE. CABLES	1114+30 TO 1166+40	SOUTH CENTRAL BELL TELEPHONE CO.	RELOCATE
G-1	4" ϕ GAS LINE	1114+95 TO 1166+10	LOUISIANA GAS SERVICE CO.	RELOCATE
W-1	6" ϕ WATER LINE	1114+30 TO 1166+40	PLAQUEMINES PARISH	RELOCATE
A-2	2-2 1/2" ϕ PIPE LINE	1157+50	MR. RENE BECNEL	ABANDONED
R-1	ROAD LA. 39	1114+64 TO 1166+10	LOUISIANA OFFICE OF HIGHWAYS	RELOCATE

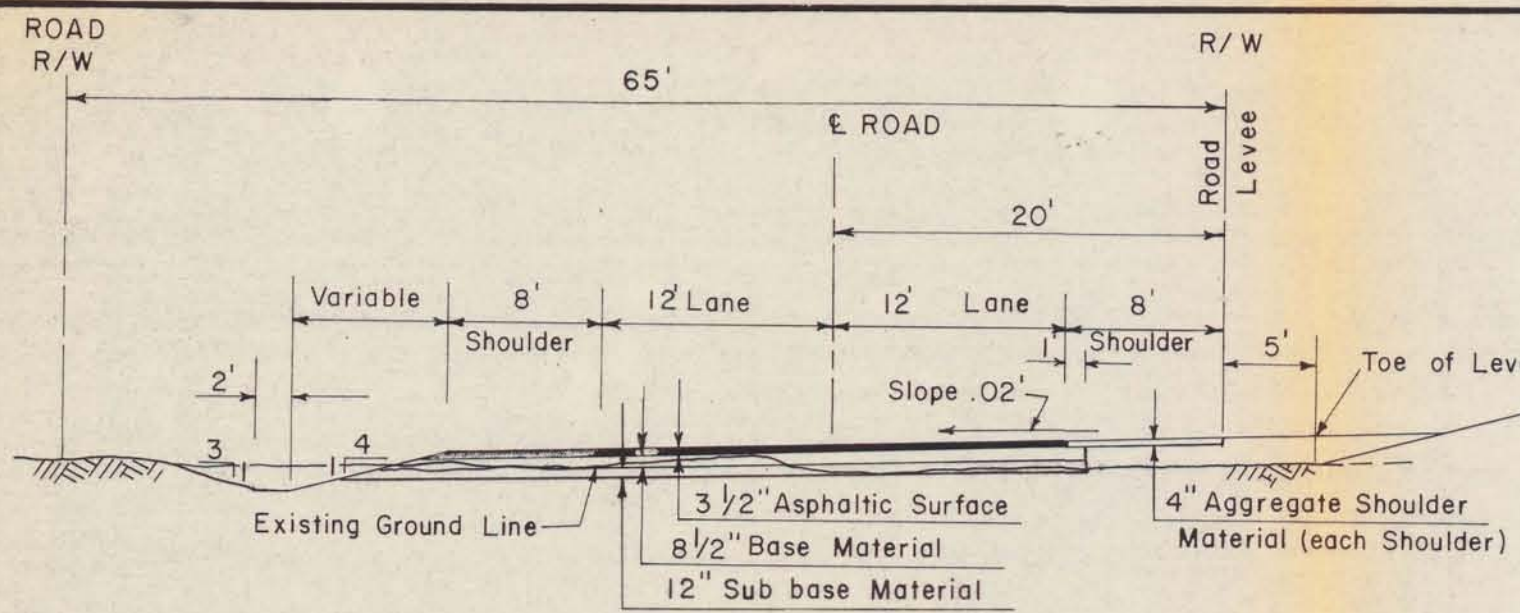
MISSISSIPPI RIVER AND TRIBUTARIES
 MISSISSIPPI RIVER LEVEES
 ITEM M-71.0-L
LINWOOD LEVEE SETBACK
 DESIGN MEMORANDUM NO. 68
 PROJECT PLAN
 U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
 CORPS OF ENGINEERS
 MARCH 1981 FILE NO. H-2-29097



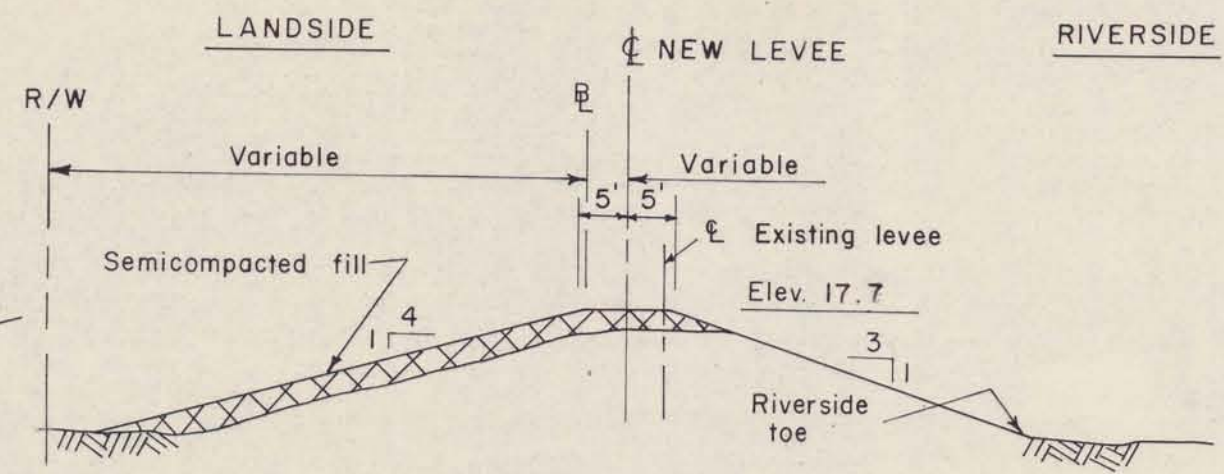
NEW ROAD E
 P.I. 5
 P.I. STA 53.87.45
 $\Delta = 3^{\circ}00'34''$
 $D = 0^{\circ}30'$
 $R = 11459.2'$
 $T = 301.01'$
 $L = 601.89'$
 $E = 3.59'$

EXISTING FACILITIES				
ITEM NO.	DESCRIPTIONS	STA.	OWNER	DISPOSITION
P-1	13.8KV POWER LINE	1157+30 TO 1167+05	LOUISIANA POWER & LIGHT CO.	NOT AFFECTED
T-1	3 BURIED TELE. CABLES	1114+95 TO 1166+10	SOUTH CENTRAL BELL TELEPHONE CO.	RELOCATE
G-1	4" ϕ GAS LINE	1114+30 TO 1166+40	LOUISIANA GAS SERVICE CO.	RELOCATE
W-1	6" ϕ WATER LINE	1114+30 TO 1166+40	PLAQUEMINES PARISH	RELOCATE
R-1	ROAD LA. 39	1114+64 TO 1166+10	LOUISIANA OFFICE OF HIGHWAYS	RELOCATE

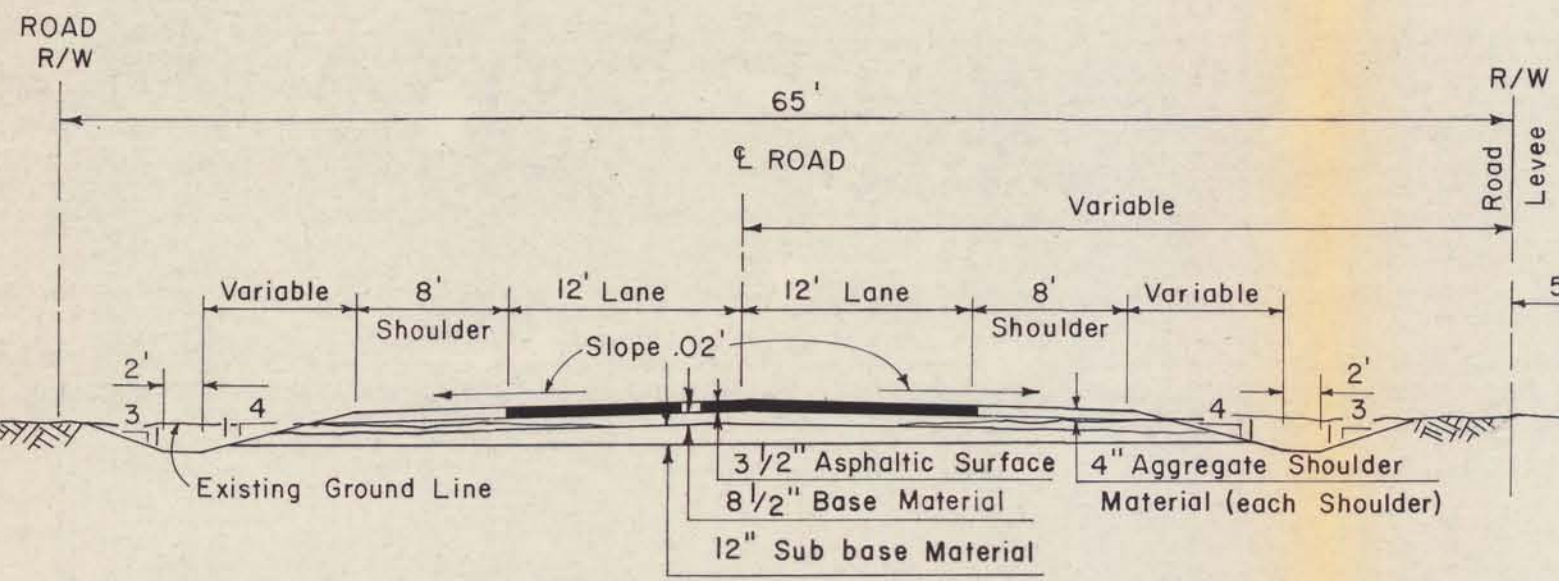
MISSISSIPPI RIVER AND TRIBUTARIES
 MISSISSIPPI RIVER LEVEES
 ITEM M-71.0-L
 LINWOOD LEVEE SETBACK
 DESIGN MEMORANDUM NO. 68
 PROJECT PLAN
 U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
 CORPS OF ENGINEERS
 MARCH 1981
 FILE NO. H-2-29097



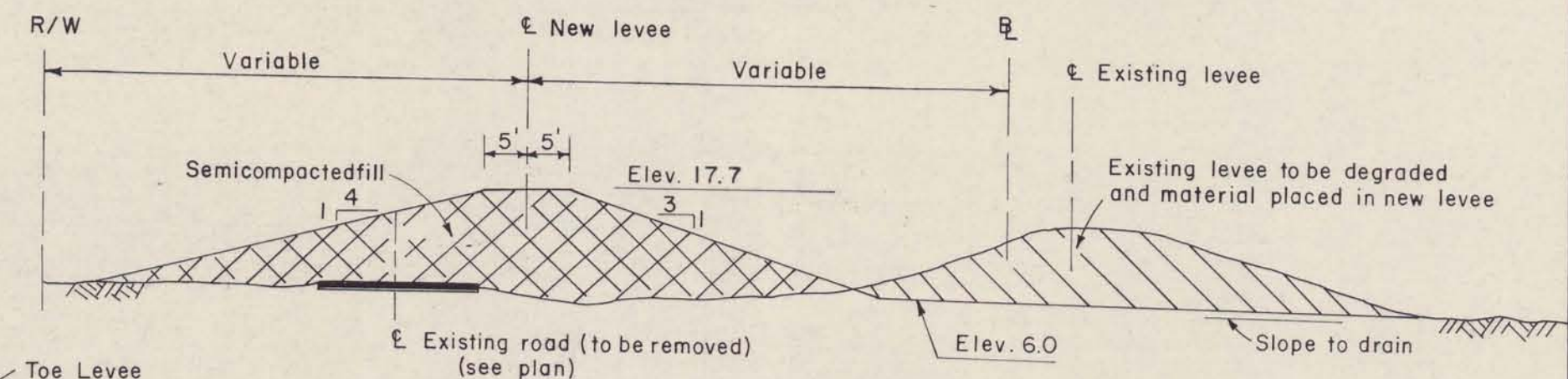
TYPICAL SECTION I



STA. BASE LINE 1113+64 TO 1115+64
STA. BASE LINE 1164+10 TO 1166+10



TYPICAL SECTION II

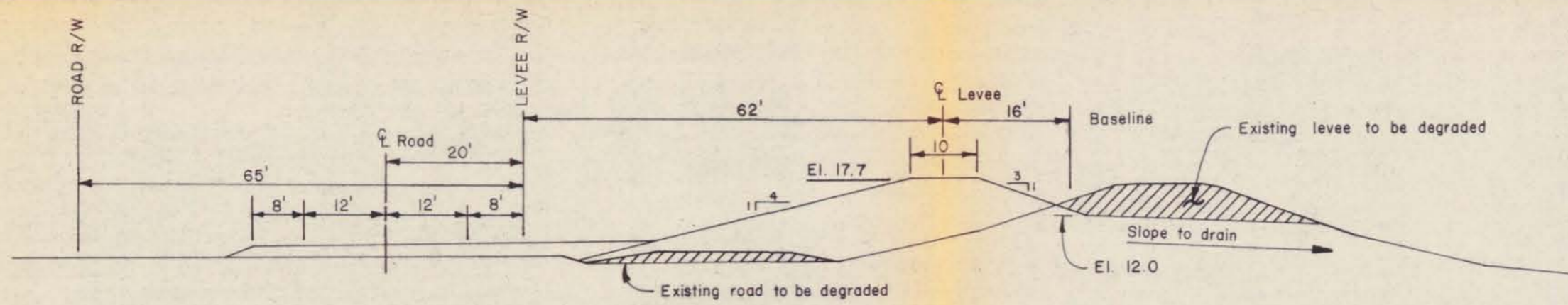


STA. B. L. 1115+64 TO 1164+10

NOTE:
Where road is to be constructed without ditch along levee use Typical Section I, if road is to be constructed with ditch on both sides use Typical Section II

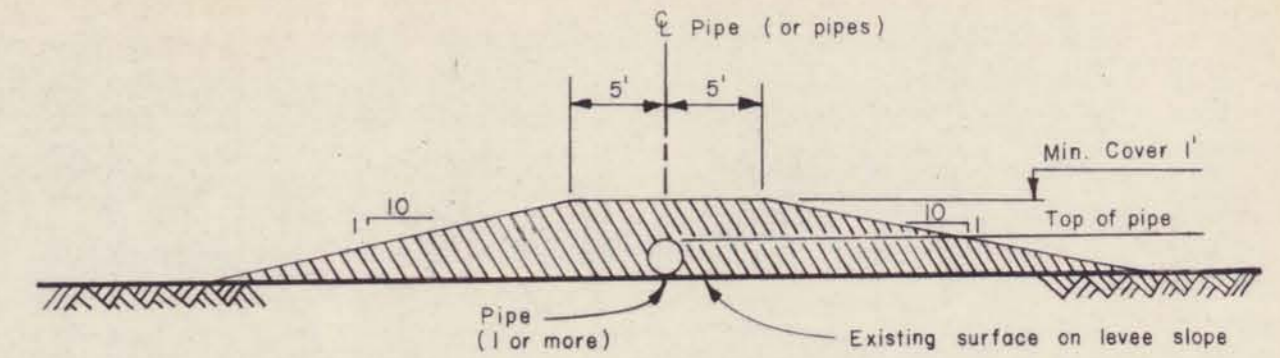
TYPICAL ROAD SECTION
(NOT TO SCALE)

MISSISSIPPI RIVER AND TRIBUTARIES
MISSISSIPPI RIVER LEVEES
ITEM M-71.0-L
LINWOOD LEVEE SETBACK
DESIGN MEMORANDUM NO. 68
RELOCATION OF FACILITIES
TYPICAL SECTIONS
U.S. ARMY ENGINEER DISTRICT NEW ORLEANS
CORPS OF ENGINEERS
MARCH 1981 FILE NO. H-2-29097



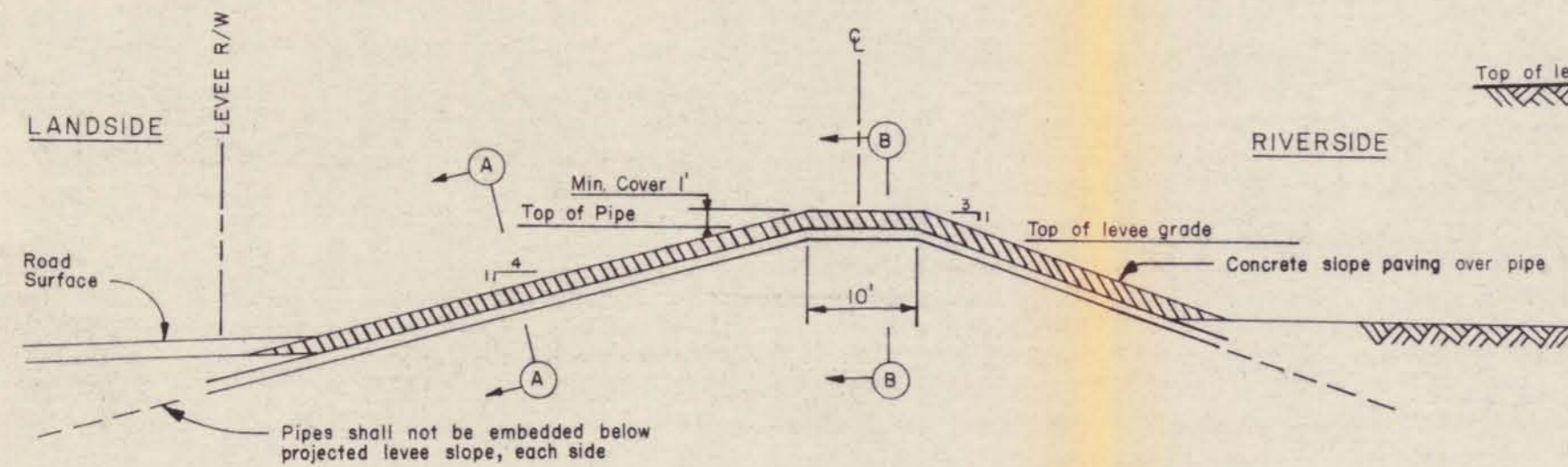
SECTION STA. 1127 + 33

(NOT TO SCALE)



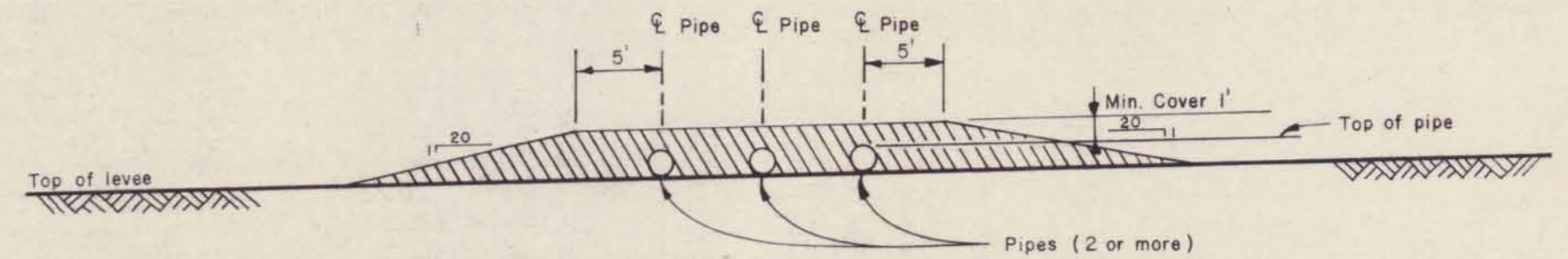
SECTION A-A

(NOT TO SCALE)



TYPICAL SECTION PIPE CROSSING

(NOT TO SCALE)



MULTIPLE PIPE CROSSING

SECTION B-B

(NOT TO SCALE)

MISSISSIPPI RIVER AND TRIBUTARIES
 MISSISSIPPI RIVER LEVEES
 LINWOOD
 LEVEE SETBACK
 DESIGN MEMORANDUM NO.68
 RELOCATION OF FACILITIES
 TYPICAL PIPE CROSSING
 U.S. ARMY ENGINEER DISTRICT NEW ORLEANS
 CORPS OF ENGINEERS
 MARCH 1981 FILE NO. H-2-29097

FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES
MISSISSIPPI RIVER LEVEES
ITEM M-71.0-L
LINWOOD LEVEE SETBACK
PLAQUEMINES PARISH, LOUISIANA
RELOCATION OF FACILITIES
DESIGN MEMORANDUM NO. 68

APPENDIX I
ATTORNEY'S REPORT

ATTORNEY'S INVESTIGATION
AND
REPORT OF COMPENSABLE INTEREST

Item M-71.0-L
Linwood Levee Setback
Mississippi River Levees
Plaquemines Parish, Louisiana

This investigation and report is made in accordance with DIVR 1110-2-2 (see also DIVR 1110-2-1, 29 January 1968) and ER 1180-1-1, Section 73, Part 3, 73-203 and 73-204 on the following facilities which will be affected by the subject project:

- a. State Highway 39 owned by State of Louisiana Department of Transportation and Development, Office of Highways;
- b. A 4-inch diameter gas pipeline, parallel to and landside of LA Highway 39 owned by Louisiana Gas Service Company;
- c. A 13.8 kV distribution powerline, parallel to and landside of LA Highway 39 owned by Louisiana Power and Light Company;
- d. A 6-inch diameter cast iron waterline, parallel to and landside of LA Highway 39, owned by Plaquemines Parish Commission Council;
- e. A 600-pair 22 gage buried cable, a 400-pair 22 gage, a 100-pair 22 gage buried cable and a 50-pair 22 gage buried cable, parallel to and landside of LA Highway 39, owned by South Central Bell Telephone Company;
- f. Two 10 3/4-inch diameter oil pipelines which cross the levee at approximate levee stations 1126+70 and 1126+85, owned by Shell Pipeline Corporation;
- g. Two 2-inch diameter steel water pipelines, which cross the levee at right angles at levee station 1157+50, privately owned by Mr. Rene Becnel.

The location of the above facilities are located on plates 1, 2 and 3 entitled, "Item M-71.0-L, Linwood Levee Setback, Project Plan", File No. H-2-29097.

I.

COMPENSABLE INTEREST
OF
STATE OF LOUISIANA THROUGH
THE DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

The Department of Transportation and Development is a political subdivision of the State of Louisiana through LA. REV. STAT. ANN. 48:13. Pursuant to LA. REV. STAT. ANN. 48:21, the Department is empowered to "study, administer, construct, improve, maintain and regulate the use of public transportation systems..."

The facility listed in "a" is part of the state highway system. This facility is located outside the existing levee right-of-way. There has been no evidence furnished to date that the right-of-way for the highway was purchased from the fee owners. However, a political subdivision through the power or right of eminent domain possesses a vested right in the right-of-way in need of relocation, even without the use of conventional negotiation and acquisition of the subject right-of-way. See LA. REV. STAT. ANN. 48:441 and 19:14.

LA. REV. STAT. ANN. 19:14 is the statutory enactment of the Doctrine of Unopposed Use. Under this Doctrine, when a political corporation or any corporation possessed of the powers of eminent domain takes possession of or constructs facilities on privately owned land with the consent or acquiescence of the owner, then it acquires a vested right in the property. Investigation has shown that no landowner has objected to the State's use of the land.

Accordingly, the Department does have a real interest and therefore a compensable interest in this facility where as located outside the existing levee right-of-way.

II.

COMPENSABLE INTEREST
OF
LOUISIANA GAS SERVICE COMPANY

Louisiana Gas Service is a Louisiana public utility domiciled in Jefferson Parish, Louisiana. It provides natural gas service to customers located in Plaquemines Parish, Louisiana and has the right of eminent domain. See LA. REV. STAT. ANN. 19:2(5).

The location of facility listed "b" is located outside the existing levee right-of-way. There has been no evidence furnished to date that the right-of-way for the gas pipeline was purchased from the fee owner. However, a corporation having the power or right of eminent domain possesses a vested right in the right-of-way in need of relocation, even without the use of conventional negotiation and acquisition of the subject right-of-way. See LA. REV. STAT. ANN. 19:2(5) and 19:14.

Accordingly, Louisiana Gas Service possesses a compensable interest to the facility when it is located outside the existing levee right-of-way.

III.

COMPENSABLE INTEREST OF LOUISIANA POWER AND LIGHT COMPANY

Louisiana Power and Light Company is a Louisiana public utility domiciled in Orleans Parish. It provides electric service throughout southeast Louisiana and has the right of eminent domain. See LA. REV. STAT. ANN. 19:2(7).

The facility listed in "c" is owned and maintained by Louisiana Power and Light. It is located outside the existing levee right-of-way. There has been no evidence furnished to date that the portion of the right-of-way outside the existing levee right-of-way was purchased from the fee owner. However, a public utility through the power of eminent domain possesses a real right in the right-of-way in need of relocation, even without the use of conventional negotiation and acquisition of the subject right-of-way. See LA. REV. STAT. ANN. 19:2(7) and 19:14.

Thus, Louisiana Power and Light does have a compensable interest to this facility where it is located outside existing levee right-of-way.

IV.

COMPENSABLE INTEREST OF THE PLAQUEMINES PARISH COMMISSION COUNCIL

Plaquemines Parish is a political subdivision of the State of Louisiana. The governing body of Plaquemines Parish is the commission council. The commission council form of government is authorized pursuant to LA. REV. STAT. ANN. 33:1271. The Plaquemines Parish Commission Council is authorized to own and operate a waterline through authority granted by LA. REV. STAT. ANN. 33:1324. It also has the power of eminent domain. See LA. REV. STAT. ANN. 33:4621 and 19:2(1).

The facility listed in "d" is located outside the existing levee right-of-way. There has been no evidence furnished to date that this right-of-way was purchased from the fee owner. However, a political subdivision through the power or right of eminent domain possesses a vested right in the right-of-way in need of relocation even without the use of conventional negotiation and acquisition of the subject right-of-way. See LA. REV. STAT. ANN. 33:4621, 19:2(1) and 19:14.

Accordingly, Plaquemines Parish Commission Council does have a compensable interest to this facility where it is located outside the existing levee right-of-way.

V.

COMPENSABLE INTEREST
OF
SOUTH CENTRAL BELL TELEPHONE COMPANY

South Central Bell Telephone Company is a Delaware corporation licensed to do business in the State of Louisiana. The company is considered to be a public utility by virtue of LA. REV. STAT. ANN 45:781. Pursuant to this authority, South Central Bell possesses the right of eminent domain. See LA. REV. STAT. ANN. 19:2(6).

The facilities listed in "e" are located outside the existing levee right-of-way. There is no evidence furnished to date that the rights-of-way for these facilities were purchased from the fee owners. However, a public utility having the right of eminent domain possesses a vested right in the rights-of-way in need of relocation, even without the use of conventional negotiation and acquisition of the subject rights-of-way. See LA. REV. STAT. ANN. 19:2(6) and 19:14.

Therefore, South Central Bell does have a compensable interest to these facilities where they are located outside existing levee right-of-way.

VI.

COMPENSABLE INTEREST
OF
SHELL PIPELINE CORPORATION

Shell Pipeline Corporation is a Maryland corporation licensed to do business in the State of Louisiana. The company is considered to be public utility under LA. REV. STAT. ANN. 45:301. Pursuant to this authority Shell Pipeline Corporation possesses the right of eminent domain. See LA. REV. STAT. ANN. 19:2(5).

Portions of the facilities listed in "f" are located inside the existing levee right-of-way. The pipelines are located here through permission of the local levee authority. Since the pipelines are there only through permission, Shell Pipeline Corporation cannot acquire a real right to the property. Accordingly, no compensable interest can be established.

Other portions of these facilities are located outside the existing levee right-of-way. There has been no evidence furnished to date that the portion of the right-of-way outside the existing levee right-of-way was purchased from the fee owner. However, a public utility through the power of eminent domain possesses a real right in the rights-of-way in need of relocation, even without the use of conventional negotiation and acquisition for subject rights-of-way. See LA. REV. STAT. ANN. 19:2(5) and 19:14.

Accordingly, Shell Pipeline Corporation does have a compensable interest to these facilities where they are located outside the existing levee right-of-way.

VII.

COMPENSABLE INTEREST OF MR. RENE BECNEL

Mr. Rene Becnel owns two water pipelines which lie partially within the existing levee right-of-way and partially within the right-of-way to be acquired. Evidence furnished by the Design Memo Branch indicates that this facility is abandoned. If this facility in fact is not being used, it may be considered to have been abandoned by the owner. To constitute abandonment of personal property by the owner, there must be an act of abandonment by the owner with intention to abandon. See Crowell Land and Mineral Corporation v. United States, 114 F. Supp. 31; Powell v. Cox, 92 So. 2d 739.

Therefore, the owner of such facility should be requested to furnish a letter of intent or it should be set forth in a relocation contract as to the facilities to be abandoned. Just compensation for the abandoned facilities within the new right-of-way is the cost of removal.

VIII.

AUTHORITY AND OBLIGATION

Authority for the construction and enlargement or improvement of main line Mississippi River Levees, including berms, is contained in the Act of 15 May 1928 (Public Law 391, 70th Congress), as amended. The furnishing of the rights-of-way for levee foundations and levees on the main line stem

Mississippi River, except for levee setbacks, is the obligation of local interests (see Section 3, Act of 15 May 1928). The replacement or relocation of public roads, highways, railroads, public utilities and pipelines required for the construction of main line of the Mississippi River Levees will be accomplished at Federal expense. Reimbursement of costs to local cooperating agencies effecting relocations of interfering facilities may be made pursuant to Act of 23 April 1934 (Public Law 171, 73rd Congress).

IX.

SUMMARY

It is the obligation of the United States to relocate all of the facilities listed above, except item g, where they exist outside existing levee rights-of-way. Those portions of the facilities which exist inside the existing levee rights-of-way will be accomplished at the expense of the facility owner. Any facility which is considered to be abandoned will be removed with just compensation being the cost of removal.

25 November 1980

DATE

Clyde H. Sellers

CLYDE H. SELLERS

Senior Attorney-Advisor

U. S. Army Engineer District

New Orleans

FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES
MISSISSIPPI RIVER LEVEES
ITEM M-71.0-L
LINWOOD LEVEE SETBACK
PLAQUEMINES PARISH, LOUISIANA
RELOCATION OF FACILITIES
DESIGN MEMORANDUM NO. 68

APPENDIX II
LOUISIANA OFFICE OF HIGHWAYS
MINIMUM DESIGN STANDARDS
FOR RURAL HIGHWAYS AND ROADS

OFFICE OF HIGHWAYS
LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
MINIMUM DESIGN STANDARDS FOR NEW CONSTRUCTION OR MAJOR
RECONSTRUCTION OF RURAL HIGHWAYS AND ROADS

ITEM NO.	ITEMS	COLLECTOR AND LOCAL ROADS									
		CLASS 1	CLASS 2	CLASS 3	CLASS 4	CLASS 5	CLASS 6	CLASS 7	CLASS 8		
1	CURRENT AVERAGE DAILY TRAFFIC	OVER 12,000	12,000 - 3,001	3,000 OR LESS	1,500 - 751	750 OR LESS	400 - 250	250 - 50	50 OR LESS		
2	DESIGN HOURLY VOLUME	OVER 2,400	2,400 - 601	600 OR LESS	400 - 200	200 OR LESS	100 - 50	50 OR LESS			
3	NUMBER OF TRAFFIC LANES	6	4	2	2	2	2	2	2		
4	WIDTH OF EACH LANE	12'	12'	12'	12'	12'	10'	10'	10'		
5	WIDTH OF SHOULDERS	10' OUT. - INS. 6'	10' OUT. - INS. 6'	8'	8'	6'	4'	4'	4'		
6	TYPE OF SHOULDERS	STABILIZED & SURFACED	STABILIZED & SURFACED	AGGREGATE (2)	AGGREGATE	AGGREGATE	AGGREGATE	AGGREGATE	AGGREGATE		
7	WIDTH OF MEDIAN	4' - 1'	4' - 1'	4' - 1'	4' - 1'	4' - 1'	4' - 1'	4' - 1'	4' - 1'		
8	FORE SLOPE - RATIO	4:1	4:1	4:1	4:1	4:1	4:1	4:1	4:1		
9	BACK SLOPE - RATIO	6:1	6:1	6:1	6:1	6:1	6:1	6:1	6:1		
10	DESIGN SPEED M.P.H.	4:1	4:1	4:1	4:1	4:1	4:1	4:1	4:1		
11	STOPPING SIGHT DISTANCE	70	70	60	60	60	60	60	60		
12	CONTROLLING CURVATURE	600'	600'	475'	475'	350'	275'	200'	200'		
13	CONTROLLING GRADE	4%	4%	5%	5%	6%	7%	7%	7%		
14	VERTICAL CLEARANCE	15'	15'	15'	15'	15'	15'	15'	15'		
15	HORIZ. CLEARANCE	30'	30'	30'	30'	30'	30'	30'	30'		
16	RIGHT OF WAY WIDTH	300'	300'	150'	120'	100'	80'	60'	60'		
17	DESIGN LOADING FOR BRIDGES	HS 20-44	HS 20-44	HS 20-44	HS 20-44	HS 20-44	HS 20-44	HS 20-44	HS 20-44		
18	MINIMUM WIDTH OF BRIDGES (MEASURED FROM FACE TO FACE OF BRIDGE RAIL)	APPROACH PAVEMENT & SHOULDERS (1)	APPROACH PAVEMENT & SHOULDERS (1)	APPROACH PAVEMENT & SHOULDERS (1)	APPROACH PAVEMENT & SHOULDERS (1)	APPROACH PAVEMENT & SHOULDERS (1)	APPROACH PAVEMENT & SHOULDERS (1)	APPROACH PAVEMENT & SHOULDERS (1)	APPROACH PAVEMENT & SHOULDERS (1)		
19	PAVEMENT CROSS SLOPE	0.025%	0.025%	0.025%	0.025%	0.025%	0.025%	0.025%	0.025%		
20	GUARDRAIL REQUIRED AT BRIDGE ENDS	YES	YES	YES	YES	YES	YES	YES	YES		

ADOPTED *Dempsey D. White*
DEMPSEY D. WHITE
CHIEF ENGINEER
APRIL 29, 1977

SCHEDULE OF REVISIONS

REVISION	APPROVED	DATE
Item Nos. 17 & 18	<i>Blair</i>	7.7.80

- ① - 4' OF INSIDE SHOULDER TO BE SURFACED.
- ② - STABILIZED AND SURFACED DESIRABLE.
- ③ - ON FUTURE FOUR LANE FACILITY DESIGN FOR 70 MPH WITH 600' S.S.D. AND 4% CONTROLLING GRADE.
- ④ - BASED ON 0.10 FT/FT MAXIMUM SUPERELEVATION.
- ⑤ - GRADES MAY BE INCREASED TO MAXIMUM USEABLE WITH DESIGN SPEED SELECTED, BUT NOT TO EXCEED 6% IN ANY CASE, EXCEPT FOR CLASS 6 HIGHWAYS AND LOCAL ROADS.
- ⑥ - 15 FT. VERTICAL CLEARANCE OVER TRUNK LINE ROUTES.
- ⑦ - MAY BE LESS IF PROTECTED BY GUARDRAIL.
- ⑧ - MINIMUM FOR NEW LOCATION IF R/W IS ACQUIRED FOR EXISTING LOCATION, IT WILL ONLY BE THAT REQUIRED FOR ALL ELEMENTS OF THE CROSS-SECTION AND APPROPRIATE BORDER AREAS.
- ⑨ - 300' WHERE FUTURE FOUR LANES ARE INDICATED.
- ⑩ - AS REQUIRED TO ACCOMMODATE SECTION.
- ⑪ - IN SPECIAL CASES PARTIAL SHOULDERS MAY BE USED.
- ⑫ - 18' MINIMUM WIDTH FOR RETENTION OF BRIDGES IN GOOD CONDITION BUT NOT LESS THAN APPROACH SHOULDER WIDTH PLUS 10' FOR 4:1 FORE SLOPES.
- ⑬ - MAY BE 1' LESS FOR MINOR ROADS WITH FEW TRUCKS.

Figure 1 - 3

FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES
MISSISSIPPI RIVER LEVEES
ITEM M-71.0-L
LINWOOD LEVEE SETBACK
PLAQUEMINES PARISH, LOUISIANA
RELOCATION OF FACILITIES
DESIGN MEMORANDUM NO. 68

APPENDIX III
PERTINENT CORRESPONDENCE

AMT 11/1/79

Plaquemines Parish Commission Council

POINTE-A-LA-HACHE, LA. 70082

CHALIN O. PEREZ, PRESIDENT
LUKE A. PETROVICH, VICE-PRESIDENT
MRS. E. LAFRANCE, SECRETARY

COMMISSIONERS:
ALBERT J. BESHEL
MICHAEL E. KIRBY
LENNARD H. MACKENROTH

October 24, 1979

Re: LMNED-MR

Mr. Frederic M. Chatry
Chief, Engineering Division
Department of the Army
New Orleans District
Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

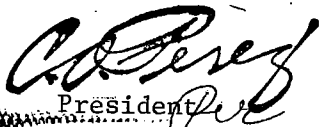
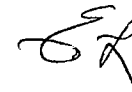
Dear Mr. Chatry:

This will acknowledge receipt of your letter dated 3 October 1979, advising that you propose to construct levee enlargement and setback along the left descending bank of the Mississippi River between levee stations 1110+00 and 1160+00 in the Grand Prairie Levee District, designated as Linwood Levee Setback and Enlargement, Item M-71.0-L.

Rene Becnel, Box 172-A, Braithwaite, La. 70040, is the owner of the two 2" diameter pipes across the levee at approximate station 1157+50 referred to in letter as above with drawing attached. Pipelines have been abandoned and may be disposed of by your contractor.

Sincerely,

Plaquemines Parish Commission Council


President


COP:sb
encls.
cc: Mr. Carroll Martin

Exhibit A

REPLY TO
ATTENTION OF:

LMNED-MR

5 November 1979

Chief Engineer
Louisiana Department of Transportation and Development
Office of Highways
P.O. Box 44245, Capitol Station
Baton Rouge, Louisiana 70804

Dear Sir:

Personal contact with Messrs. Jack Reid and Harvey Shaffer of your office was made on 16 October 1979 by Messrs. Robert Campos and Vern Carrier of our office to discuss the proposed levee setbacks along the left descending bank of the Mississippi River in the areas of Scarsdale-Stella (Mile 75.6 to 74.5-L), Linwood (Mile 71.0-L), and Harlem (Mile 56.1-L). The proposed levee setbacks will affect State Route LA 39 in these three areas. Our projects are scheduled for award as follows: Harlem in August 1981, Linwood in September 1981 and Scarsdale-Stella in January 1982.

We understand that using "new location" road design criteria, a replacement road designed for the average daily traffic count for the affected reaches of Route LA 39 would require a minimum of 120 feet of right-of-way. Since we are proposing to relocate only three short segments of LA 39, it appears that your criteria for an "existing location" would be more appropriate; i.e., a right-of-way width that would contain all elements of the proposed road cross-section and its appropriate border areas.

You may recall that a short segment of LA 39 was dislocated in 1975 by our project, item M-75.0-L, Scarsdale Levee Setback. The relocated road was built within an 80 foot wide right-of-way in lieu of the 120 foot wide right-of-way dictated for a "new location". The location of the old Scarsdale Setback is now contained in the current Scarsdale-Stella reach.

We note that in the Linwood reach, private residences will be dislocated by the relocated road. Accordingly, this project is particularly sensitive to right-of-way requirements.

Exhibit B₁

LMNED-MR
Chief Engineer

5 November 1979

In light of the preceding considerations, we propose to provide 80 feet of right-of-way for each segment of LA 39 that will be affected by our current projects. Additionally, we suggest that the design and construction of the required road relocations be accomplished as part of our levee project, subject to appropriate reviews and approvals by your office. We ask for your concurrence regarding this proposed action.

Inclosed for your information (inclosures 1, 2 and 3) are copies of preliminary work limits and right-of-way alignments of the three proposed levee setbacks. We ask that you furnish us a description of LA 39 in each of the areas by giving the applicable information on the inclosed forms (inclosures 4, 5, and 6).

Should you have any questions, please contact Mr. Robert Campos at 838-2998 or Mr. Vern Carrier at 838-2630.

Sincerely,

- 2 Incl (dups)
1. Preliminary Right-of-Way dugs
2. Descriptive information for
Highways

FREDERIC N. CHATRY
Chief, Engineering Division

Copies Furnished without inclosures:
Mr. Chalin Perez, President
Plaquemines Parish Commission Council
Pointe-a-la-Hache, Louisiana 70062

Mr. Arthur R. Theis, Chief Engineer
Office of Public Works
Department of Transportation and Development
P.O. Box 44155, Capitol Station
Baton Rouge, Louisiana 70804

Mr. A. E. Simpson, District Engineer
Louisiana Office of Public Works
7252 Lakeshore Drive
New Orleans, Louisiana 70124

Mr. A. E. Simpson, District Engineer
Louisiana Office of Public Works
P.O. Box 9179
Bridge City, Louisiana 70094

LMNED-DL
LMNRE-AP
LMNOC

State of Louisiana
Department of Transportation and Development

MW/30

EDWIN EDWARDS
GOVERNOR



GEORGE A. FISCHER
SECRETARY

Office of Highways

P. O. Box 44245 Capitol Station Baton Rouge, Louisiana 70804

January 21, 1980

Mr. Frederic M. Chatry
Chief, Engineering Division
Department of the Army
New Orleans District
Corps of Engineers
P. O. Box 60267
New Orleans, La. 70160

Dear Mr. Chatry:

RE: LMNED-MR

The following comments are in response to your letter of 5 November, 1979, concerning levee setbacks at Harlem, Linwood and Scarsdale - Stella, all affecting La. 23 in Plaquemines Parish.

Please accept our apologies for the delay in replying to your letter. As we explained verbally to Mr. Campos, this delay was caused by the necessity to develop a new policy and obtain the necessary approvals, concerning right-of-way acquisitions for realigned roadways.

Our policy is: WHEN A ROADWAY IS REALIGNED TO THE EXTENT THAT PRIVATE PROPERTY IS PERMITTED TO REMAIN BETWEEN THE EXISTING ROADWAY AND THE NEW ROADWAY, DESIGN STANDARDS FOR NEW LOCATION SHALL BE USED.

I believe that this will answer the question raised in the second paragraph of your letter. Please note that this does not necessarily mean that we approve of any fixed amount of right-of-way for these projects, such as the 80' mentioned in paragraph 5 of your letter. The actual amount of right-of-way to be acquired should be established from construction limits, with appropriate border areas. The distance between construction limits and required right-of-way line should generally be an average of 10'.

We concur in your suggestion to include the necessary relocation of La. 39 in the levee contracts. Some of the information that you requested concerning the existing roadway and traffic information is shown on the attached forms, for each location. Other information is not readily available. If additional information is absolutely necessary and you need our further assistance, please advise.

Sincerely,

Dempsey D. White
Chief Engineer

DDW/HDS/jnd
Attachments

cc: Mr. Jack R. Reid
Mr. Harvey D. Shaffer

Exhibit C

Plaquemines Parish Commission Council

POINTE-A-LA-HACHE, LA. 70082

CHALIN O. PEREZ, PRESIDENT
LUKE A. PETROVICH, VICE-PRESIDENT
MRS. E. LAFRANCE, SECRETARY

COMMISSIONERS:
ALBERT J. BESHEL
MICHAEL E. KIRBY
LENNARD H. MACKENROTH

May 30, 1980

U. S. Corps of Engineers
Office of the District Engineer
New Orleans District
Post Office Box 60267
New Orleans, Louisiana 70160

Attention: Mr. Frederic M. Chatry, Chief
Engineering Division

Dear Mr. Chatry:

We are herewith enclosing two certified copies of a resolution adopted by the Plaquemines Parish Commission Council at its meeting held on May 7, 1980, recommending that the State of Louisiana Highway Standard requiring an eighty-eight (88') foot right of way for construction of a new highway for Louisiana State Highway No. 39 in the Promised Land to Linwood Area be waived and that a total right of way width of approximately sixty-five (65') feet be utilized and that the replacement road for the Linwood Levee Setback be designed in such a way as to eliminate the ditch between the levee and the highway.

Yours very truly,

Plaquemines Parish Commission Council


President

COP:sb
encls.
cc: Mr. Wallace J. Buras, Jr.

Mr. Carroll Martin

Exhibit D,

R E S O L U T I O N

On motion of Commissioner Beshel seconded by Commissioner Mackenroth and on roll call all members present voting "YES", the following resolution was unanimously adopted:

WHEREAS, State of Louisiana Highway Standards require an eighty-eight (88') foot right of way for construction of a new highway for Louisiana State Highway No. 39 in the Promised Land to Linwood Area, and

WHEREAS, the highways upriver and downriver from said road have recently been and are now being widened and overlayed in order to improve the roads and the design of those roads have eliminated the ditch between the levee and the highway, and

WHEREAS, the new stretch of highway to accommodate the Linwood Levee Setback should be similarly constructed which would reduce the right of way needed to approximately sixty-five (65') feet, and

WHEREAS, the Plaquemines Parish Commission Council is in accord with and recommends the narrower right of way and the method of construction which would eliminate the ditch between the levee and the highway,

THEREFORE:

BE IT RESOLVED by the Plaquemines Parish Commission Council that it hereby recommends to the State of Louisiana, Department of Transportation and Development, Office of Public Works, and to the U. S. Corps of Engineers that a total right of way width of approximately sixty-five (65') feet be utilized and that the replacement road for the Linwood Levee Setback be designed in such a way as to eliminate the ditch between the levee and the highway.

I hereby certify the above and foregoing to be a true and correct copy of a Resolution adopted by the Plaquemines Parish Commission Council at its regular meeting held at its office in the Courthouse, Pointe ala Hache, Louisiana, on May 7, 1980.


Secretary

Exhibit D₂

IN REPLY TO
ATTENTION OF:

LMNED-MR

20 June 1980

Chief Engineer
Department of Transportation
and Development
Office of Highways
P. O. Box 44245, Capitol Station
Baton Rouge, Louisiana 70804

Dear Sir:

We are continuing our planning for the construction of the Scarsdale-Stella, Linwood, and Harlem Levee Setbacks. The Scarsdale-Stella and Linwood reaches will dislocate the existing State Route LA 39, and the Harlem reach will dislocate Parish Road No. 15 (old State Route LA 39), all in Plaquemines Parish.

At this time, we need to establish the State's right-of-way requirements for the relocated roads at the Scarsdale-Stella and Linwood reaches. Since the Harlem reach will not affect a State-owned highway, we will contact Plaquemines Parish about their right-of-way requirements for the new roadway in the Harlem reach.

As we indicated in our letter of 5 November 1979, the Linwood reach is particularly sensitive to rights-of-way requirements. In this regard, the Plaquemines Parish Commission Council (PPCC) on 7 May 1980 passed a resolution in which it "... Recommends... that a total right-of-way width of approximately sixty-five (65') feet be utilized and that the replacement road for the Linwood Levee Setback be designed in such a way as to eliminate the ditch between the levee and the highway." Copies of the PPCC letter and of the resolution are attached as inclosure 1.

The set of aerial photos attached as inclosure 2 shows the location of the proposed Linwood reach and 65-foot wide right-of-way for the relocated road. The road right-of-way is based on "TYPICAL SECTION I" shown on inclosure 3 and as recommended by the Plaquemines Parish Commission Council.

Please advise us if the Plaquemines Parish proposal to eliminate the ditch between the levee and the highway in the Linwood reach is acceptable to the Office of Highways. If the Parish's proposal is not acceptable, please forward to us your proposed typical section and the minimum right-of-way width for the relocated roadway. We ask that you furnish us your comments by 11 July 1980 so that we may maintain our schedule for this project.

Exhibit E,

LMNED-M
Chief Engineer

20 June 1980

Our proposals for the Scarsdale-Stella reach will be addressed by separate correspondence. Please contact Mr. Robert Campos at 838-2998 if you have any questions regarding this correspondence.

Sincerely,

FREDERIC M. CHATRY
Chief, Engineering Division

- 3 Incl
1. PPC letter of 30 May 1980 with Resolution of 7 May 1980
 2. File No. H-2-29097 plates 5 thru 9 (preliminary marked in red)
 3. Typical Sections (preliminary)

Copies Furnished: w incl
Mr. Jack Reid, Road Design Engineer
Louisiana Office of Highways
P. O. Box 44245, Capitol Station
Baton Rouge, LA 70804

Mr. Arthur Theis, Chief Engineer
Department of Transportation and Development
Office of Public Works
P. O. Box 44155, Capitol Station
Baton Rouge, LA 70804

Mr. Gaspar Chifci
Louisiana Office of Public Works
7252 Lakeshore Drive
New Orleans, LA 70124

Mr. Chalin O. Perez, President
Plaquemines Parish Commission Council
Pointe-a-la-Hache, Louisiana 70082

LMNRE-AP
LMNED-DL

REPLY TO
ATTENTION OF:

LMVED-MR

24 June 1980

pc

Mr. Chalin O. Perez, President
Plaquemines Parish Commission Council
Pointe-a-la-Hache, Louisiana 70082

Dear Mr. Perez:

This is in response to your letter of 30 May 1980 forwarding the 7 May 1980 Plaquemines Parish Commission Council resolution regarding the relocation of State Route La 39 as affected by our project, item M-71.0-L, Linwood Levee Setback.

We have forwarded the Council's proposal to the Chief Engineer, Louisiana Office of Highways for his consideration. We will advise you of his findings as soon as we receive that information.

Sincerely,

FREDERIC M. CHATRY
Chief, Engineering Division

Copies furnished:
Chief Engineer
Department of Transportation
and Development
Office of Highways
P. O. Box 44245, Capitol Station
Baton Rouge, Louisiana 70804

Mr. Jack. R. Reid, Director of Preconstruction
Louisiana Office of Highways
P. O. Box 44245, Capitol Station
Baton Rouge, LA 70804

Mr. Arthur Theis, Chief Engineer
Department of Transportation
and Development
Office of Public Works
P. O. Box 44155, Capitol Station
Baton Rouge, LA 70804

Mr. Gaspar Chiffici
Louisiana Office of Public Works

Exhibit F

7252 Lakeshore Drive
Baton Rouge, Louisiana 70124



PAUL J. HARDY
SECRETARY

Department of Transportation and Development

P. O. BOX 44245 CAPITOL STATION
BATON ROUGE, LA. 70804

July 14, 1980



DAVID C. TREEN
GOVERNOR

MS
7/22

Mr. Frederic M. Chatry
Chief, Engineering Division
Department of the Army
New Orleans District
Corps of Engineers
P. O. Box 66267
New Orleans, La. 70160

RE: Linwood Levee Setback
Plaquemines Parish, La. 39
LMNED-MR

Dear Mr. Chatry:

This is in response to your letter of June 20, 1980, transmitting aerial photographs and plans for the Linwood Levee Setback. We offer the following comments.

We are aware, of course, of the public relations problems in the relocation of private residences. However, the aerial photographs indicate that the additional right-of-way required in using "Typical Section II" in lieu of "Typical Section I" would not impact any additional improvements.

We have had drainage problems in superelevated areas with the "Typical Section I" type of section when located adjacent to the levee.

We are preparing plans for improving La. 39 in the Phoenix - White Ditch area. We propose to use our Class IV typical section for this project. The "Typical Section I" would not conform to this section.

Considering the above, we do not concur in the use of "Typical Section I" for this project. We recommend using our Class IV typical section.

We do not necessarily concur in a fixed amount of right-of-way. The right-of-way width should be set as required for the section, plus an appropriate border area.

We are attaching for your use a copy of our Class IV typical section.

If additional information is needed, please advise.

Sincerely,

Verdi Adam
Chief Engineer

VA/JTH/jnd
Attachment

cc: Mr. Jack R. Reid
Mr. Frank M. Heroy, Jr.
Mr. Harvey D. Shaffer

Exhibit G

REPLY TO
ATTENTION OF:

LMNED-MR

29 July 1980

Mr. Verdi Adam, Chief Engineer
Louisiana Office of Highways
P. O. Box 44245, Capitol Station
Baton Rouge, Louisiana 70804

Dear Mr. Adam:

This is in follow-up to your letters of 14 July 1980 regarding the required right-of-way for the segments of Route La. 39 which will be dislocated by our projects, Scarsdale-Stella and Linwood Levee Setback in Plaquemines Parish.

We are now plotting the typical section for a class 4 highway on the cross sections in order to develop the required right-of-way width. The right-of-way width will be determined from the required road section plus a 10 foot wide border area on the landside of the road. When we have developed the new roads' center lines and right-of-way alignments, we will forward them to you for your review and approval.

Sincerely,

THOMAS E. HARRINGTON, JR.
Chief, Design Memo Branch
Engineering Division

Copy furnished:
w/Ofc of Hwys' ltrs
Mr. Wallace J. Buras, Supervisor
Plaquemines Parish Engineering and Public Works
102 Avenue G
Belle Chasse, Louisiana 70037

LMNED-DL
LMNRE

Exhibit H



PAUL J. HARDY
SECRETARY

rc 9/10
CAB 9/10/80
HDS/10
Department of Transportation and Development

P. O. BOX 44245 CAPITOL STATION

BATON ROUGE, LA. 70804

September 4, 1980



DAVID C. TREEN
GOVERNOR

Mr. Frederic M. Chatry
Chief, Engineering Division
Department of the Army
New Orleans District
Corps of Engineers
P. O. Box 66267
New Orleans, La. 70160

RE: LINWOOD LEVEE SETBACK
PLAQUEMINES PARISH
LA. 39
LMNED-MR

Dear Mr. Chatry:

This will supersede the letter to you from Mr. Verdi Adam,
Chief Engineer, dated July 14, 1980.

We have been authorized by Mr. Neil L. Wagoner, Assistant
Secretary, to permit you to reconstruct the roadway in kind for
the captioned project. Specifically, a one-way tangent crown on
the roadway, sloping away from the levee, will be acceptable to
the Department.

This decision was made for this individual project, and should
not be interpreted as Department policy for all roadways adjacent
to levees.

Yours very truly,

Harvey D. Shaffer

Harvey D. Shaffer
Road Design Engineer

HDS/jnd

cc: Mr. Neil Wagoner
Mr. Verdi Adam
Mr. Jack R. Reid
Mr. Joseph T. Hoskins

Exhibit I

REPLY TO
ATTENTION OF:

LMNED-MR

12 September 1980

Mr. Harvey D. Shaffer
Road Design Engineer
Louisiana Department of Transportation
and Development
Office of Highways
P. O. Box 44245, Capitol Station
Baton Rouge, Louisiana 70804

Dear Mr. Shaffer:

Thank you for your letter of 4 September 1980 advising us of the Department's revised position regarding the replacement of Route La. 39, which will be dislocated by our project, Linwood Levee Setback, Plaquemines Parish.

We will develop the replacement roadway centerline and right-of-way alignments based on a one-way tangent crown on the roadway, sloping away from the levee. We will then forward that information to you for your review and approval. In the interim, please furnish us the centerline alignment and elevation for the existing road. We have cross sections of the entire project area, but the sections were taken prior to your overlaying and widening the roadway.

Please contact Mr. Robert Campos at 838-2998 if you have any questions regarding this correspondence.

Sincerely,

FREDERIC M. CHATRY
Chief, Engineering Division

Copy furnished with copy
of Ofc of Hwys ltr:
Mr. Wallace J. Buras, Jr., Supervisor
Plaquemines Parish Engineering & Public Works

Mr. Gaspar Chifidi
La. Ofc of Public Works

LMNED-DL
LMNRE-AP

Exhibit J



PAUL J. HARDY
SECRETARY

Department of Transportation and Development

P. O. BOX 44245 CAPITOL STATION

BATON ROUGE, LA. 70804

September 22, 1980



DAVID C. TREEN
GOVERNOR

LINWOOD LEVEE SETBACK
PLAQUEMINES PARISH
LA. 39

Mr. Frederic M. Chatry
Chief, Engineering Division
Department of the Army
New Orleans District
Corps of Engineers
P. O. Box 60267
New Orleans, La. 70160

Dear Mr. Chatry:

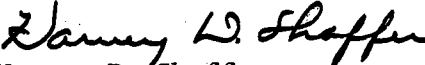
YOUR FILE: LMNED-MR

I refer to your letter of September 12, 1980, requesting information on La. 39 in the area of Linwood Levee Setback.

I am attaching plans for two recently completed projects on La. 39 (S.P. 46-04-33 & 46-05-19 and 46-04-35). These projects consisted of asphaltic concrete widening and overlay along the existing alignment.

I trust this is the information you require.

Sincerely,


Harvey D. Shaffer
Road Design Engineer

HDS/JTH/jnd
Attachments

cc: Mr. Jack R. Reid
Mr. Frank M. Heroy, Jr.

Exhibit K

REPLY TO
ATTENTION OF:

LMNED-MR

9 October 1980

Mr. Harvey D. Shaffer
Road Design Engineer
Department of Transportation
and Development
Office of Highways
P.O. Box 44245, Capitol Station
Baton Rouge, Louisiana 70804

Dear Mr. Shaffer:

Reference your letter of 4 September 1980, Linwood Levee Setback, Plaquemines Parish, La. 39. We are inclosing for your information one set of aerial photos for the Linwood Levee Setback indicating the project location and showing in red the proposed centerline and right-of-way for the proposed relocation of La. 39.

Also inclosed is one roll of cross sections showing the proposed levee setback and rights-of-way for both levee and La. 39. We will begin developing the plans and specifications for the new road as soon as we have your approval of the proposed road alinement and right-of-way. The plans and specifications will then be forwarded to you for your review and approval.

If you have any questions, please contact Mr. Robert Campos of this Office, telephone 838-2998.

Sincerely,

2 Incl
As stated

FREDERIC M. CHATRY
Chief, Engineering Division

Copy Furnished: w/o incl
Mr. Wallace J. Buras
Supervisor
Plaquemines Parish Engineering
and Public Works

CF: w/o incl
LMNED-DL
LMNRE-AP

Exhibit L



PAUL J. HARDY
SECRETARY

Department of Transportation and Development

P. O. BOX 44245 CAPITOL STATION
BATON ROUGE, LA. 70804
November 10, 1980



DAVID C. TREEN
GOVERNOR

LMNED-MR
LINWOOD LEVEE SETBACK
RELOCATION OF LA. 39
PLAQUEMINES PARISH

Mr. Frederic M. Chatry
Chief, Engineering Division
Department of the Army
New Orleans District
Corps of Engineers
P. O. Box 60267
New Orleans, La. 70180

Dear Mr. Chatry:

I refer to your letter of October 9, 1980, transmitting aerial photographs and cross-sections of the Linwood Levee Setback. We have reviewed the plans and our comments are as follows:

With the exception of the curve at "P.I. No. 24", the length of the horizontal curves are not adequate for the required superelevation and transition. On this class of highway, our normal procedures are to place 50% of the superelevation runoff on the tangent. The remaining 50% is placed in the curve. Longer curve lengths with these small deflection angles will also help to avoid the appearance of a kink in the roadway.

Considering the drainage problems inherent in the proposed section, when superelevated, we recommend that you consider reducing the "degree of curve" to $0^{\circ}15'$ on all horizontal curves and eliminate the need for superelevation.

Sincerely,

Harvey D. Shaffer
Road Design Engineer

HDS/JTH/jnd

cc: Mr. Jack R. Reid
Mr. Frank M. Heroy, Jr.

Exhibit M

REPLY TO
ATTENTION OF:

LMNED-MR

3 December 1980

Mr. Harvey D. Shaffer
Road Design Engineer
Department of Transportation
and Development
Office of Highways
P.O. Box #4245, Capitol Station
Baton Rouge, Louisiana 70804

Dear Mr. Shaffer:

This is a follow-up to the meeting held in your office with you and your Mr. Joe Hoskins and Messrs E. Pilie and V. Carrier of this office on 24 November 1980. The purpose of the meeting was to resolve the comments contained in your letter of 10 November 1980 regarding our Linwood Levee Setback.

Inclosed, please find one set of aerial photos indicating the project location and showing in red the proposed centerline and right-of-way for the Louisiana Highway 39. The alignments shown are the ones which were discussed and mutually agreed on at the above-referenced meeting.

We will begin developing the plans and specifications (P&S) for the new road based on this agreed-on alignment. We will then forward the P&S to your office for your review and approval.

In the interim, if you have any questions, please contact Mr. Robert Campos of this office, telephone 838-2998.

Sincerely,

FREDERIC M. CHATRY
Chief, Engineering Division

Incl
As stated

Copy Furnished: with incl
Mr. Wallace J. Buras, Supervisor
Plaquemines Parish Engineering
and Public Works

CF: w/o incl
LMNED-DL
LMNRE-AP

Exhibit N

FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES
MISSISSIPPI RIVER LEVEES
ITEM M-71.0-L
LINWOOD LEVEE SETBACK
PLAQUEMINES PARISH, LOUISIANA
RELOCATION OF FACILITIES
DESIGN MEMORANDUM NO. 68

APPENDIX IV
DETAILED COST ESTIMATES

TABLE IV-1
 DETAILED COST ESTIMATE
 LOUISIANA OFFICE OF HIGHWAYS
 (DECEMBER 1980 PRICE LEVELS)

I. ROADS: Item R-1

<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost(\$)</u>	<u>Amount(\$)</u>
Mob & Demob	Job	Job	20,000.00	20,000
Clearing & Grubbing	Acres	8	1,000.00	8,000
Excavation	Cu.Yds.	4,324	2.50	10,810
Fill, Semi Compacted	Cu.Yds.	4,012	2.50	10,030
Sand-Shell Sub base Compacted 12" thick	Cu.Yds.	11,255	30.00	337,650
Cement Treated Sand-Shell Base Course 8 1/2" thick	Cu.Yds.	3,510	47.00	164,970
Shoulders, 4" thick Compacted Shell	Cu.Yds.	801	21.00	16,821
Prime Coat	Gal.	3,500	1.35	4,725
Asphaltic Concrete, 3 1/2" thick	Ton	2,710	55.00	149,050
Detour Road, Shell- Surfaced	Job	Job	25,000.00	25,000
Signs & Barricades	Job	Job	3,000.00	3,000
Environmental Pro- tection	Job	Job	4,000.00	4,000
18"x11" Bituminous Coated Arch Pipe	Feet	240	32.50	<u>7,800</u>
Subtotal				761,856
Contingencies (25%+)				<u>190,144</u>

TABLE IV-1
 DETAILED COST ESTIMATE
 LOUISIANA OFFICE OF HIGHWAYS
 (DECEMBER 1980 PRICE LEVELS)
 (continued)

<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost(\$)</u>	<u>Amount(\$)</u>
Subtotal				952,000
Right-of-Way				<u>247,000¹</u>
Subtotal Federal Cost				1,199,000
E&D (6%+)				57,000 ²
S&A (6%+)				<u>57,000²</u>
TOTAL				1,313,000

¹Based on \$127,850 for land and improvements (three private dwellings and one commercial building), \$45,000 for relocation assistance (P.L. 91-646), and 42,000 acquisition costs plus \$32,150 for contingencies.

²No E&D and S&A for road right-of-way.

TABLE IV-2
 DETAILED COST ESTIMATE
 LOUISIANA GAS SERVICE COMPANY
 (DECEMBER 1980 PRICE LEVELS)

UTILITIES: Item G-1

<u>Description</u>	<u>Amount (\$)</u>
Installation Cost: 5,115 linear feet of 4" diameter steel gas main at \$16.00 per linear foot	81,840 ¹
Plus removal cost: Cut and abandon old main, install two line stoppers, install one plug valve, tie in new facilities, test and purge system	<u>2,160²</u>
Subtotal	84,000
Contingencies (25%+)	<u>21,000</u>
Subtotal Federal Cost	105,000
E&D (6%+)	6,000
S&A (6%+)	<u>6,000</u>
TOTAL	117,000

¹No betterments are involved; no depreciation based on ECI 73-209.3(b)(1)b, dated 1 Jul 80.

²Facilities retired, with the exception of meters and regulators, will be abandoned in place and have no salvage value. The existing meters and regulators will be reinstalled on the new gas main.

TABLE IV-3
 DETAILED COST ESTIMATE
 LOUISIANA POWER AND LIGHT COMPANY
 (DECEMBER 1980 PRICE LEVELS)

UTILITIES: Item P-1

<u>Description</u>	<u>Amount (\$)</u>
Installation Cost: 4,490 linear feet of 13.8kV, 3-phase, aerial distribution line (poles, conductors, guys & anchors, etc.) at \$4.50 per linear foot, plus clearing 10'x4,490' right-of- way (tree trimming) at \$4.00 per linear foot	38,165 ¹
Removal Cost: 4,490 linear feet of 13.8kV, 3-phase, aerial distribution line (poles, conductors, guys & anchors, etc.) at \$2.00 per linear foot	<u>8,980¹</u>
Subtotal	47,145
Contingencies (25%+)	<u>11,855</u>
Subtotal Federal Cost	59,000
E&D (6%+)	3,500
S&A (6%+)	<u>3,500</u>
TOTAL	66,000

¹No Betterments are involved; no depreciation or salvage value since existing materials will be reused.

TABLE IV-4
 DETAILED COST ESTIMATE
 PLAQUEMINES PARISH
 (DECEMBER 1980 PRICE LEVELS)

UTILITIES: Item W-1

<u>Description</u>	<u>Cost (\$)</u>
Installation Cost:	
5,210 linear feet of 8 inch diameter asbestos cement water main at \$10.50 per linear foot plus 16 3/4" water services at \$100.00 each (new 3/4" copper tubing and remove and reinstall existing "water service" assemblies)	56,305 ^{1,2}
5 gate valves at \$450.00 each	2,250
10 fire hydrant assemblies at \$1,350.00 each	13,500
Plus removal cost:	
Cut and abandon old main, tie in new facilities, test and purge system	3,000 ³
Subtotal	75,055
Less betterments:	
3 fire hydrant assemblies at \$1,350 each	(4,050) ⁴
Subtotal	71,005
Contingencies (25%+)	17,995
Subtotal Federal Cost	89,000
E&D (6%+)	5,500
S&A (6%+)	5,500
TOTAL	100,000

TABLE IV-4
DETAILED COST ESTIMATE
PLAQUEMINES PARISH
(DECEMBER 1980 PRICE LEVELS)
(continued)

¹No betterment since cost of installing A.C. is approximately 30 percent less than the cost of installing 6" C.I. pipe.

²No depreciation based on ECI 73-209.3(b)(1)b dated 1 Jul 80.

³Facilities retired, with the exception of the "water service" assemblies will be abandoned in place and have no salvage value.

⁴Represents the cost of the extra number of fire hydrant assemblies that the owner proposes to install over the number of fire hydrant assemblies affected by the Linwood reach.

TABLE IV-5
 DETAILED COST ESTIMATE
 SOUTH CENTRAL BELL TELEPHONE CO.
 (DECEMBER 1980 PRICE LEVELS)

UTILITIES: Item T-1

<u>Description</u>	<u>Amount (\$)</u>
Installation Cost:	
4,000 linear feet each of 600 pair, 22 gauge and 50 pair, 22 gauge telephone cables buried in a common trench at \$9.60 per linear foot	38,400.00
1,550 linear feet each of 400 pair, 22 gauge and 100 pair, 22 gauge telephone cables buried in a common trench at \$8.25 per linear foot	12,787.50
245 linear feet of 25 pair, 22 gauge buried telephone cable at \$4.00 per linear foot	980.00
7-8 foot stub poles and terminals at \$105.00 each	<u>735.00</u>
Subtotal	52,902.50 ¹
Contingencies (25%+)	<u>13,097.50</u>
Subtotal Federal Cost	66,000.00
E&D (6%+)	4,000.00
S&A (6%+)	<u>4,000.00</u>
TOTAL	74,000.00

¹No betterments are involved; no depreciation based on ECI 73-209.3(b)(1)b, dated 1 Jul 80. No salvage value since the existing cables will be abandoned in place. The existing terminals will be reused.

TABLE IV-6
 DETAILED COST ESTIMATE
 SHELL PIPE LINE CORPORATION
 (DECEMBER 1980 PRICE LEVELS)

UTILITIES: Item A-1

<u>Description</u>	<u>Amount (\$)</u>
Relocation Cost:	
Temporary Bypass: 560 linear feet (2 pipes, 15 feet apart) of 10 3/4" diameter steel pipe with casings under new and existing roads, plus removal of the temporary bypass at a combined rate of \$110 per linear foot	61,600 ^{1,3}
Permanent Facility: 360 linear feet (2 pipes, 15 feet apart) of 10 3/4" diameter steel pipe with casings under new road, plus removal of existing facilities at a combined rate of \$160.00 per linear foot	57,600 ^{2,3}
Subtotal	119,200
Less Salvage Value: 18 tons of steel pipe @ \$70.00 per ton	(1,260) ³
Subtotal	117,940
Contingencies (25%+)	29,060
Subtotal Federal Cost	147,000
E&D (6%+)	9,000
S&A (6%+)	9,000
TOTAL	165,000

¹Beginning at the valve station, approximately 100 linear feet (times 2 pipes) parallel to the new road right-of-way, plus 180 linear feet (times 2 pipes) to the existing levee right-of-way.

²Represents 180 linear feet (times 2 pipes) from the valve station to the existing right-of-way. No betterments are involved; no depreciation based on ECI 73-209.3 (b) (1) dated 1 Jul 80.

³Removed pipes will be salvaged as scrap.