

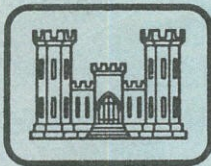
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY

CHALMETTE AREA PLAN

BAYOU BIENVENUE  
CONTROL STRUCTURE

PERIODIC INSPECTION REPORT NO. 2

27 JULY 1979



**United States Army  
Corps of Engineers**

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

**New Orleans District**



LMVED-G (NOD 30 Nov 79) 1st Ind  
SUBJECT: Lake Pontchartrain, Louisiana and Vicinity, Chalmette Area  
Plan; Bayou Bienvenue Control Structure, Periodic Inspec-  
tion Report No. 2, July 1979

DA, Lower Mississippi Valley Division, Corps of Engineers, Vicksburg,  
Miss. 39180

30 MAY 80

TO: District Engineer, New Orleans, ATTN: LMNED-DG

1. The inclosed periodic inspection report is approved, subject to  
the following comments:

a. Para 4-03, page IV-1.

(1) In all future periodic inspection reports for this project,  
each subparagraph should refer to appropriate plates in the report  
which show the observational data for the particular instrumentation  
being discussed and evaluated.

(2) In the next periodic inspection report for this project, a  
subparagraph should also be included which discusses and evaluates  
observations of settlement of the tie-in levees on each side of the  
structure as shown on Plate 18. Since para 3-02 states that concrete  
sheet pile I-walls will be replaced when settlement of the tie-in  
levees has ceased, the subparagraph should include an evaluation of  
the time-rate of settlement of these levees. Plots of settlement  
versus time should be presented for a few typical settlement plates  
for the tie-in levees and the observed magnitude and rate of settlement  
should be compared with the predicted magnitude and rate of settlement  
to determine when consolidation of the levee and foundation is essentially  
completed.

b. Para 6-02c, page VI-1. The scour surveys shown on plan and  
profile sheets on Plates 5 and 6 and also on the cross-sections on  
Plates 7 through 15 indicate considerable scouring is occurring from  
year to year in the vicinity of the structure. Although this scour is  
not presently endangering the integrity of the structure, repair work  
should be scheduled and performed within the next calendar year. This  
repair work should consist of a layer of riprap of sufficient size and  
gradation to preclude a similar scour problem in this area in the future.

c. Refer to minor corrections in red on page VI-1, Plate 27, and  
Photographs No. 5 and 6.

2. This report need not be resubmitted. Minor corrections referenced  
in para 1c above should be made in your file copies of the report.

FOR THE DIVISION ENGINEER:

1 Incl (dupe)  
wd 2 cy

*for* Robert J Kaufman  
R. H. RESTA  
Chief, Engineering Division





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

REPLY TO  
ATTENTION OF:

LMNED-DG

30 November 1979

SUBJECT: Lake Pontchartrain, Louisiana and Vicinity, Chalmette Area  
Plan; Bayou Bienvenue Control Structure, Periodic Inspec-  
tion Report No. 2, July 1979

Division Engineer, Lower Mississippi Valley  
ATTN: LMVED-G

Subject report is submitted herewith for your approval.

FOR THE DISTRICT ENGINEER:

1 Incl <sup>4</sup> (6 cys)  
as

*William B. Seale*  
FREDERIC M. CHATRY  
Chief, Engineering Division



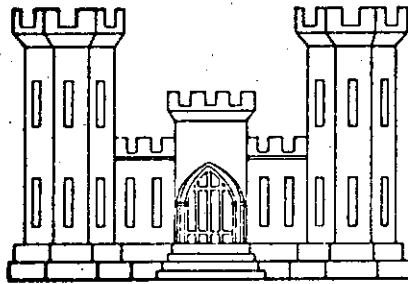
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY

CHALMETTE AREA PLAN

BAYOU BIENVENUE CONTROL STRUCTURE

PERIODIC INSPECTION NO. 2

27 JULY 1979



U.S. ARMY ENGINEER DISTRICT

CORPS OF ENGINEERS

NEW ORLEANS, LA



SUMMARY

The Bayou Bienvenue Control Structure was inspected on 27 July 1979 by representatives of NOD, State of Louisiana Office of Public Works and Orleans Levee Board, and found to be stable, safe and in satisfactory operating condition. Some spot rusting was noted on the sector gate framing members and the embedded metal, with severe corrosion in the area affected by tidal fluctuation. The responsible local agency will clean and paint the affected areas.



BAYOU BIENVENUE CONTROL STRUCTURE

PERIODIC INSPECTION NO. 2

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BAYOU BIENVENUE CONTROL STRUCTURE

Previous Periodic Inspection Reports:

<u>Item</u>	<u>Report No.</u>	<u>Date</u>	<u>Approved</u>
1	1	October 1973	17 April 1974

## SECTION I - INTRODUCTION

1-01 Authority. Authority is provided by ER 1110-2-100, subject, "Periodic Inspection and Continuing Evaluation of Completed Civil Works Structures".

1-02 Purpose and Scope. The results and conclusions of the inspection and evaluation for assuring the structural integrity and operational adequacy of the structure are presented herein.

1-03 Datum. All elevations, except where otherwise indicated, are in feet and refer to the National Geodetic Vertical Datum of 1929 (NGVD), formerly mean sea level (m.s.l.).



SECTION II - PROJECT DESCRIPTION AND BACKGROUND

2-01 General. The description of the structure, historical and other general background information, are included in report No. 1, which also contains selected construction drawings illustrating typical sections and details. This report is supplementary to previously numbered reports.

SECTION III - CURRENT OPERATION AND MAINTENANCE DATA

3-01 Maintenance and Operating Problem. There were no accidents at the structure nor any major operating problems. Some vandalism of the various navigation systems such as lights, lens, solar panels, etc. has occurred and was repaired during regular maintenance. Riprap was placed along the landside channel banks to prevent erosion. Ladders were installed on the protected side of the structures to provide access from ground level to the top of the structure.

3-02 Actions on Deficiencies from Last Inspection. The concrete sheet pile I-wall has been pulled out and stockpiled at the structure, and will be replaced when settlement of the levee adjacent to the structure has ceased.

## SECTION IV - REVIEW OF DESIGN AND ANALYSIS OF INSTRUMENTATION

4-01 Design Review. The original design has been made in accordance with standard engineering practice and with criteria as set forth in engineering manuals for civil work construction, published by the Office of the Chief of Engineers. The original design criteria was given in report No. 1 Section III. Therefore, a detailed review of the design is not required at this time.

4-02 Design Stress. The original design stress criteria as contained in Engineering Manual No. 1110-1-2101, dated November 1963, have not changed.

### 4-03 Analysis of Instrumentation.

a. Settlement Marks. Present survey shows no unusual settlement or rebound at any point of the structure.

b. Scour Survey. The 1978 survey shows scour on north and south approach channels. These scour holes lie on the centerline of the structure adjacent to the end of the riprap placement. On the north approach channel, the scour hole extends from station 9+62 to station 8+00. On the south approach channel it extends from station 13+88 to station 17+00. The holes are 10 feet and 20 feet deep respectively, compared to theoretical section line. To a lesser extent, the banks were eroding, but appear to have stabilized.

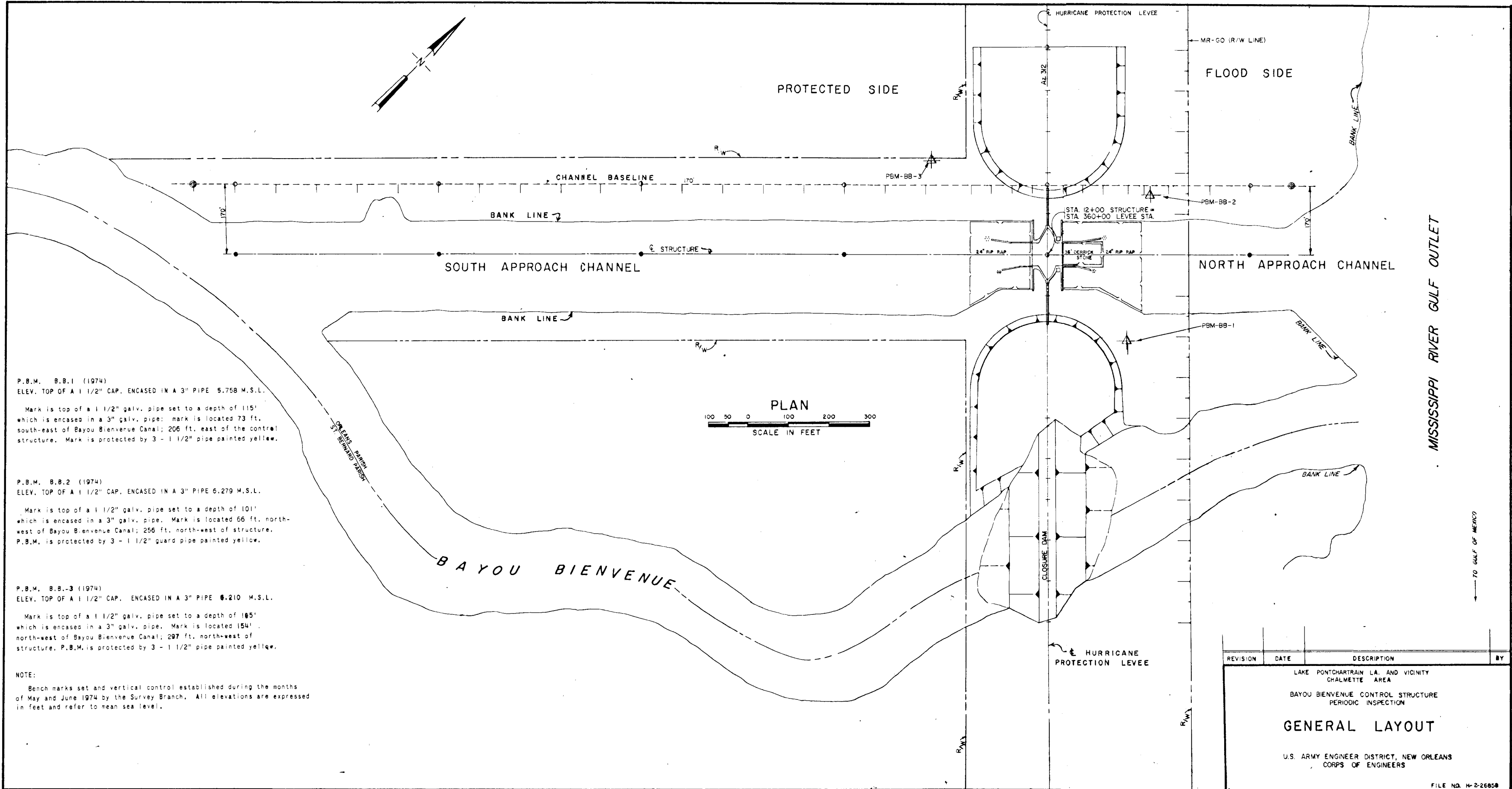
c. Alinement Survey. The measurements made to check the alinement of the floodwalls do not reflect the actual conditions observed at the structure. Further observations will be made to determine the authenticity of the data.

BAYOU BIENVENUE CONTROL STRUCTURE

INSTRUMENTATION DRAWINGS

<u>Plate No.</u>	<u>Title</u>	<u>File No.</u>
1	General Layout	H-2-26858
2	Floodwall Alinement Reference Mark Tabulation	H-2-26857
3	Settlement Reference Marks - Plan & Profile	H-2-26858
4	Settlement Reference Marks - Differential Settlement Chart	H-2-26858
5	Channel Scour Survey - Plan & Profile	H-2-26858
6	Channel Scour Survey - Plan & Profile	H-2-26858
7	Scour Survey 75-78 (Sections)	
8	Scour Survey 75-78 (Sections)	
9	Scour Survey 75-78 (Sections)	
10	Scour Survey 75-78 (Sections)	
11	Scour Survey 75-78 (Sections)	
12	Scour Survey 75-78 (Sections)	
13	Scour Survey 75-78 (Sections)	
14	Scour Survey 75-78 (Sections)	
15	Scour Survey 75-78 (Sections)	
16	Scour Survey 75-78 (Sections)	
17	Scour Survey 75-78 (Sections)	
18	Closure Dam & Levee Plan - Profile & Section	H-2-26858
19	Cross-Sections (Levee & Dam)	
20	Cross-Sections (Levee & Dam)	
21	Cross-Sections (Levee & Dam)	
22	Cross-Sections (Levee & Dam)	
23	Cross-Sections (Levee & Dam)	
24	Cross-Sections (Levee & Dam)	
25	Cross-Sections (Levee & Dam)	
26	Cross-Sections (Levee & Dam)	
27	Crack Survey - December 1973	
28	Crack Survey - December 1973	





P.B.M. B.B.1 (1974)  
 ELEV. TOP OF A 1 1/2" CAP. ENCASED IN A 3" PIPE 5.758 M.S.L.  
 Mark is top of a 1 1/2" galv. pipe set to a depth of 115'  
 which is encased in a 3" galv. pipe. Mark is located 73 ft.  
 south-east of Bayou Bienvenue Canal; 206 ft. east of the control  
 structure. Mark is protected by 3 - 1 1/2" pipe painted yellow.

P.B.M. B.B.2 (1974)  
 ELEV. TOP OF A 1 1/2" CAP. ENCASED IN A 3" PIPE 6.279 M.S.L.  
 Mark is top of a 1 1/2" galv. pipe set to a depth of 101'  
 which is encased in a 3" galv. pipe. Mark is located 66 ft. north-  
 west of Bayou Bienvenue Canal; 256 ft. north-west of structure.  
 P.B.M. is protected by 3 - 1 1/2" guard pipe painted yellow.

P.B.M. B.B.-3 (1974)  
 ELEV. TOP OF A 1 1/2" CAP. ENCASED IN A 3" PIPE 6.210 M.S.L.  
 Mark is top of a 1 1/2" galv. pipe set to a depth of 105'  
 which is encased in a 3" galv. pipe. Mark is located 154'  
 north-west of Bayou Bienvenue Canal; 297 ft. north-west of  
 structure. P.B.M. is protected by 3 - 1 1/2" pipe painted yellow.

NOTE:  
 Bench marks set and vertical control established during the months  
 of May and June 1974 by the Survey Branch. All elevations are expressed  
 in feet and refer to mean sea level.

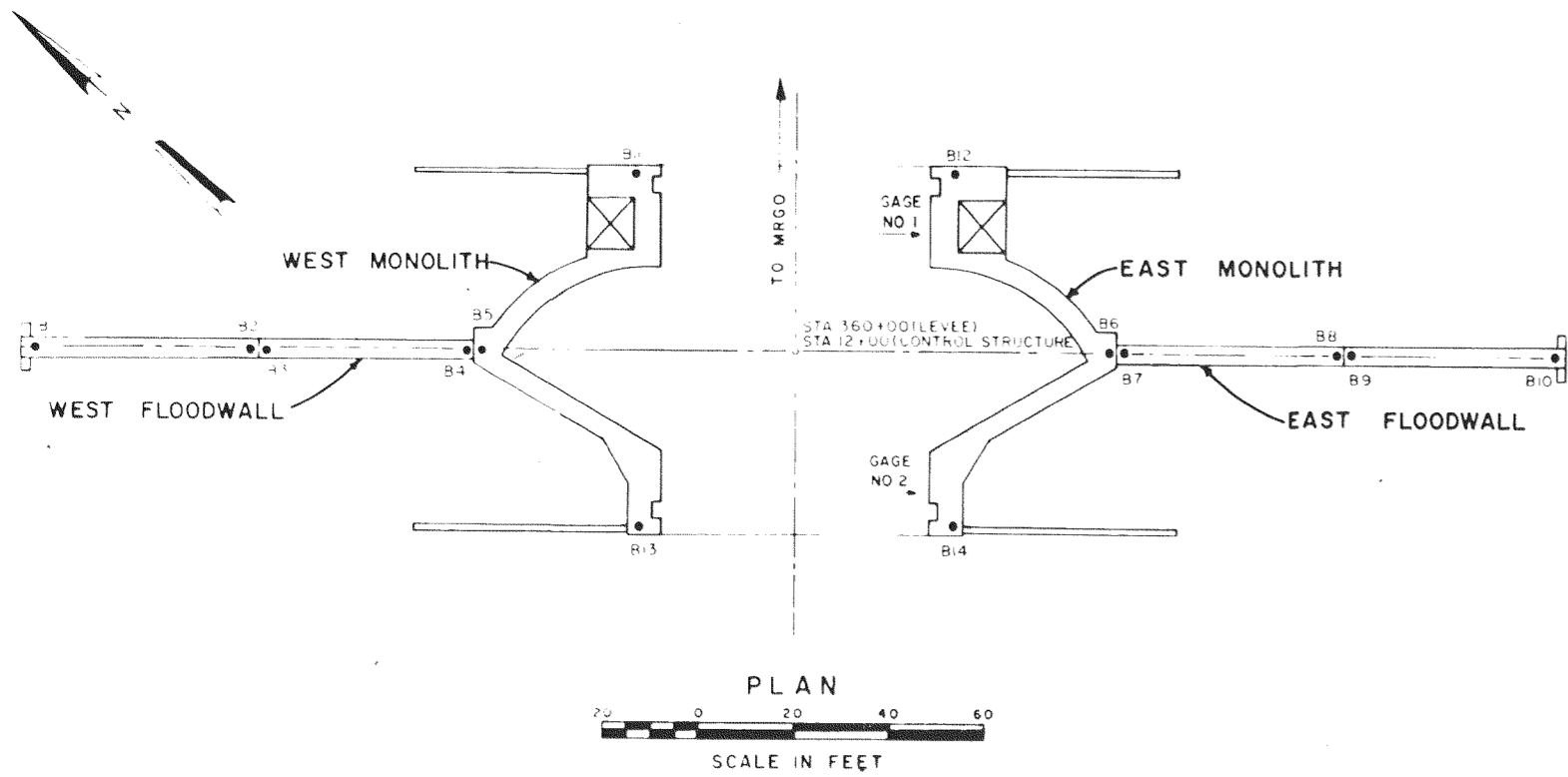


REVISION	DATE	DESCRIPTION	BY
		LAKE PONTCHARTRAIN LA. AND VICINITY CHALMETTE AREA	
		BAYOU BIENVENUE CONTROL STRUCTURE PERIODIC INSPECTION	
<b>GENERAL LAYOUT</b>			
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS			

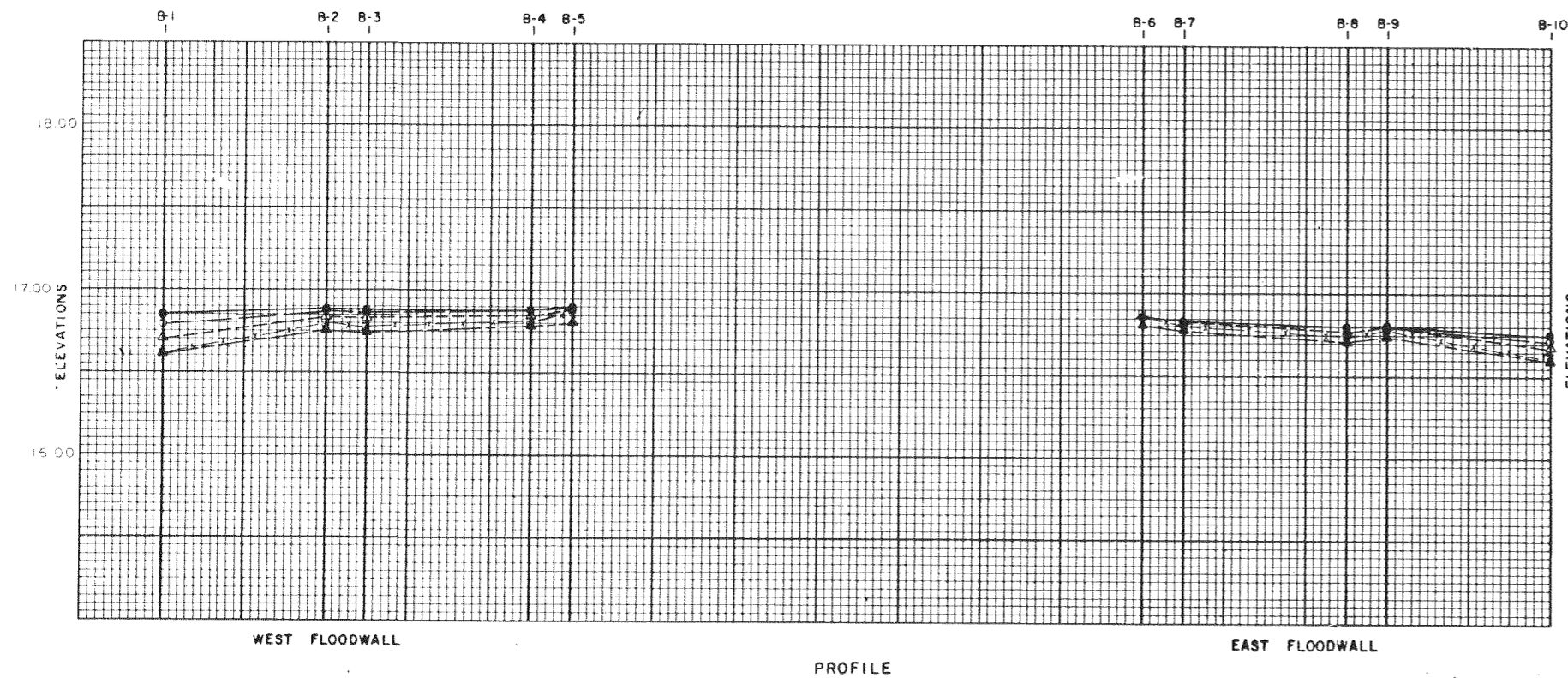
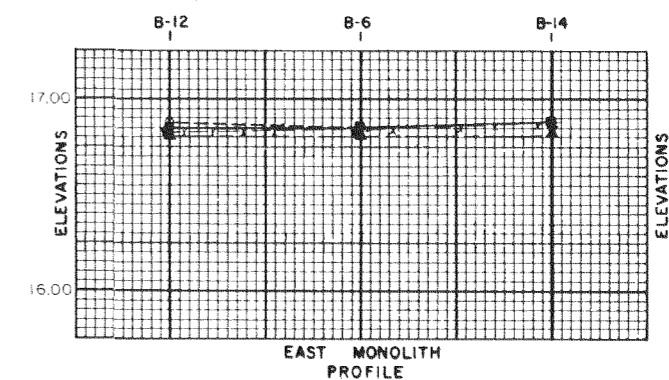
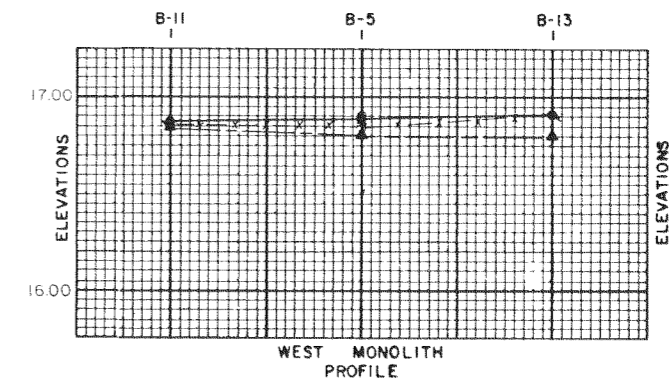
MISSISSIPPI RIVER GULF OUTLET

TO GULF OF MEXICO





SETTLEMENT REFERENCE MARKS																	
NO OF REFERENCE MARK	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	TEMP	GAGE 1	GAGE 2
INITIAL DATE	6-25-74	6-25-74	6-25-74	6-25-74	6-25-74	6-25-74	6-25-74	6-25-74	6-25-74	6-25-74	6-25-74	6-25-74	6-25-74	6-25-74			
ORIGINAL READINGS	16.85	16.88	16.87	16.87	16.89	16.86	16.84	16.80	16.81	16.75	16.87	16.86	16.91	16.88	79°	1.9	1.9
27 NOVEMBER 1974	16.78	16.87	16.86	16.87	16.90	16.87	16.85	16.80	16.81	16.72	16.88	16.88	16.92	16.89	57°	0.9	0.9
27 JUNE 1975	16.71	16.84	16.83	16.85	16.88	16.86	16.84	16.78	16.80	16.68	16.88	16.87	16.91	16.88	80°	1.5	1.5
18 JUNE 1976	16.61	16.76	16.74	16.78	16.81	16.81	16.78	16.71	16.74	16.60	16.84	16.81	16.81	16.82	82°	1.3	1.3
18 JULY 1977	16.60	16.79	16.78	16.81	16.85	16.85	16.82	16.74	16.77	16.61	16.86	16.82	16.90	16.88	87°	1.45	1.45
13 JULY 1978	16.56	16.76	16.75	16.81	16.84	16.85	16.81	16.73	16.76	16.61	16.86	16.86	16.89	16.87	87°	1.00	0.95
OBSERVATIONS																	



**LEGEND**

- ——— 25 JUN 1974
- ——— 27 NOV 1974
- △ ——— 27 JUN 1975
- ▲ ——— 18 JUN 1976
- — x — x — x — 18 JULY 1977
- ——— 13 JULY 1978

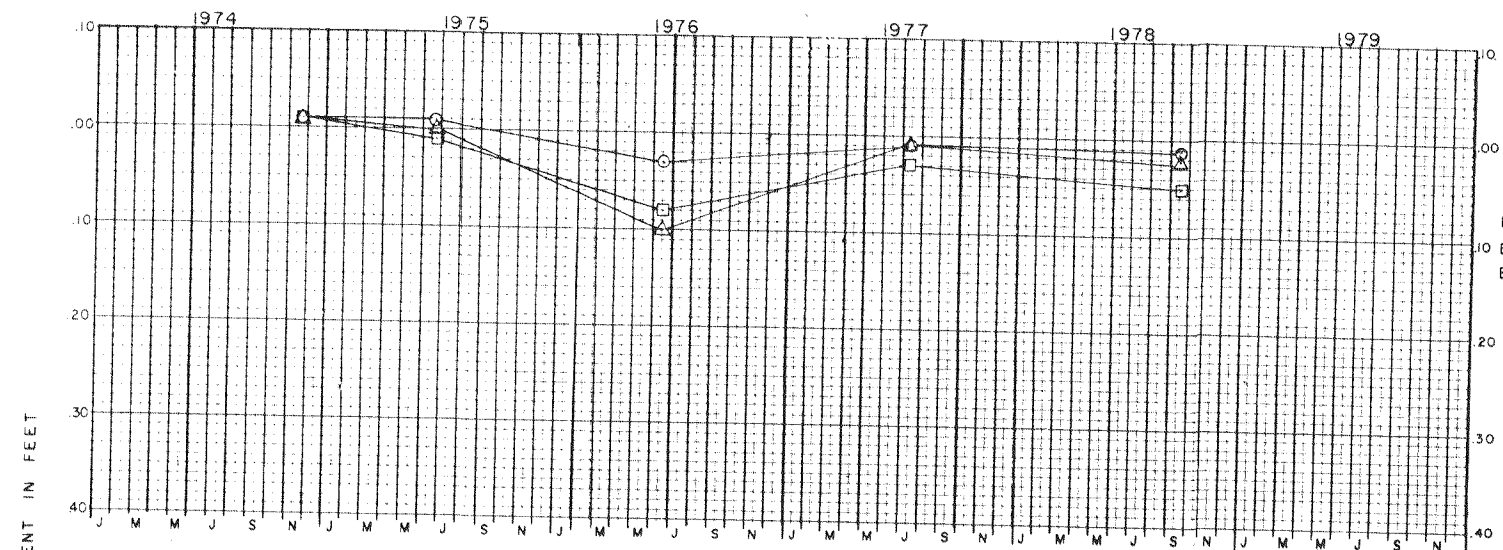
LAKE PONTCHARTRAIN AND VICINITY  
 BAYOU BIENVENUE  
 PERIODIC INSPECTION

**SETTLEMENT REFERENCE MARKS  
 PLAN AND PROFILE**

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS  
 CORPS OF ENGINEERS

FILE NO. H-4-26857

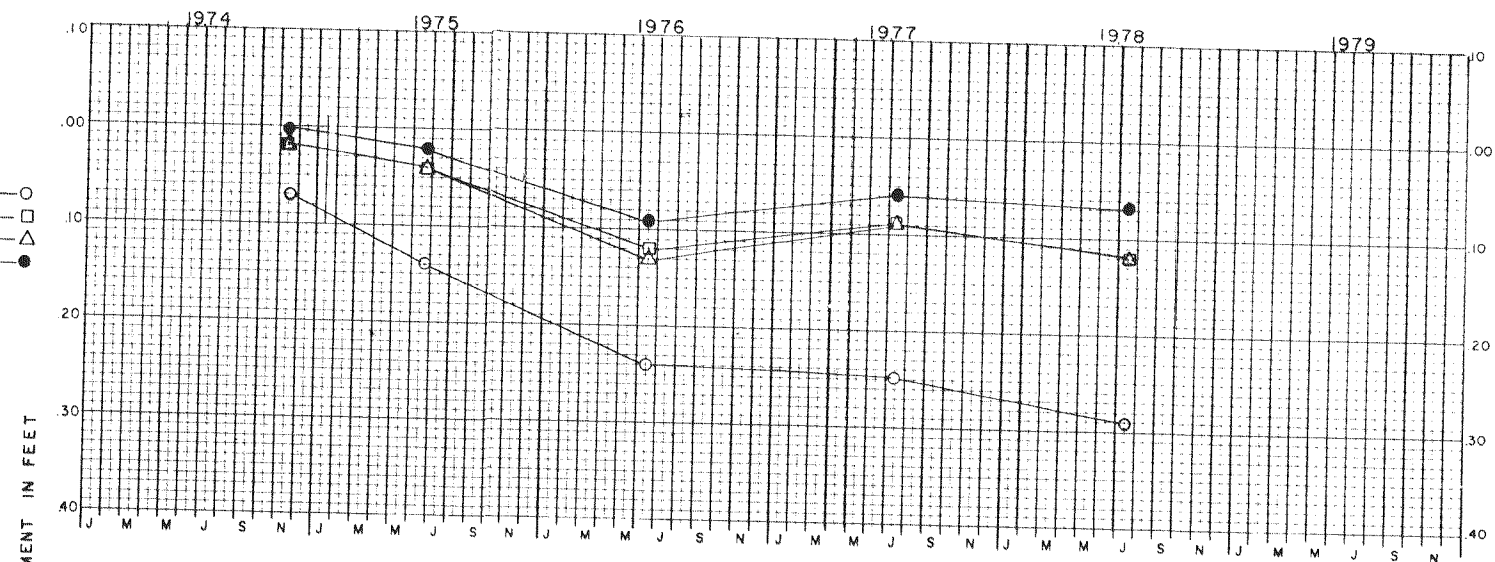
WEST MONOLITH



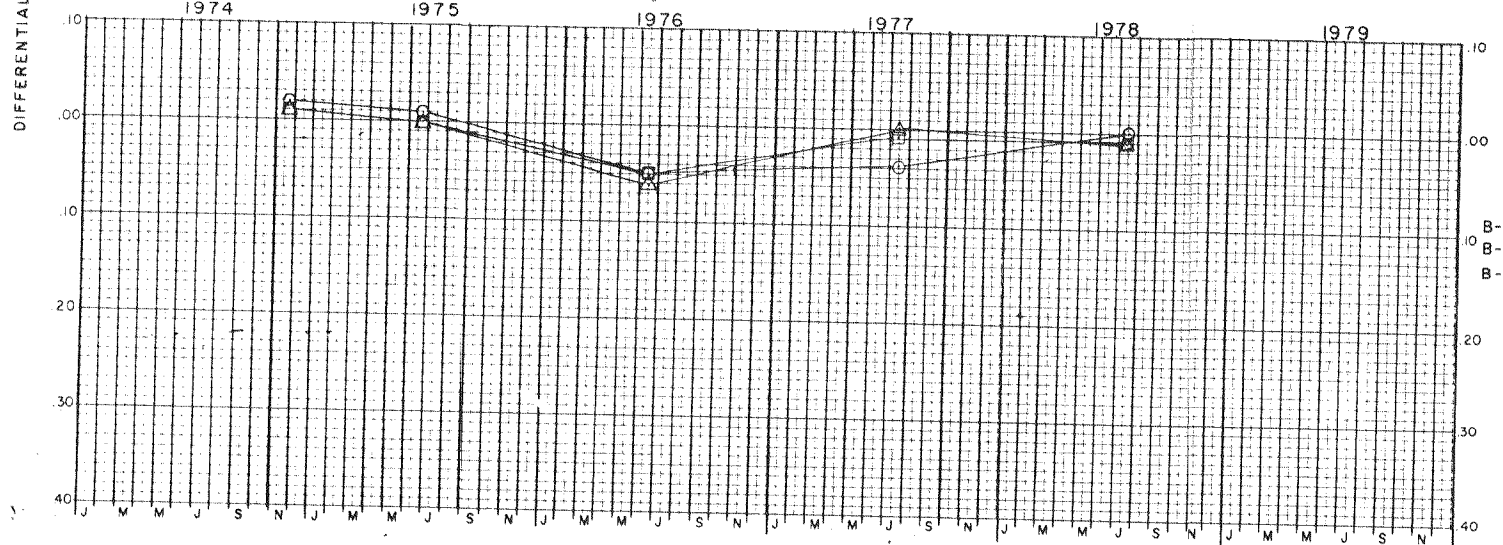
LEGEND

- B-11 — O
- B-5 — □
- B-13 — △
- B-1 — O
- B-2 — □
- B-3 — △
- B-4 — ●

WEST FLOODWALL



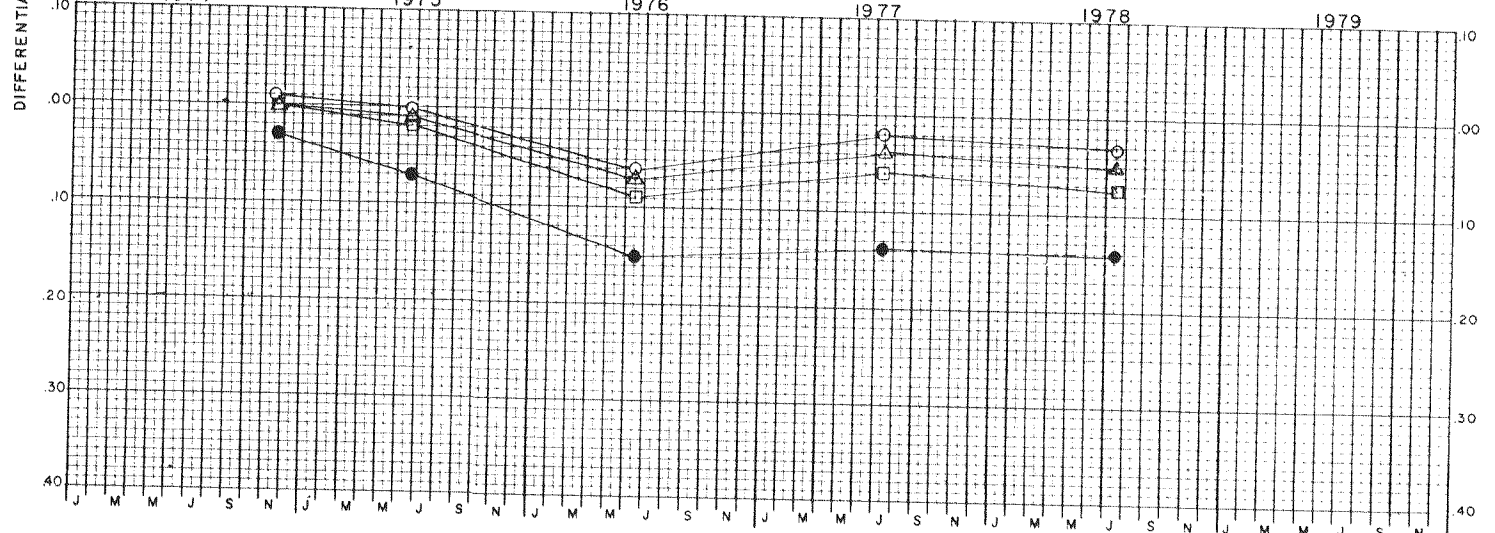
EAST MONOLITH



LEGEND

- B-12 — O
- B-6 — □
- B-14 — △
- B-7 — O
- B-8 — □
- B-9 — △
- B-10 — ●

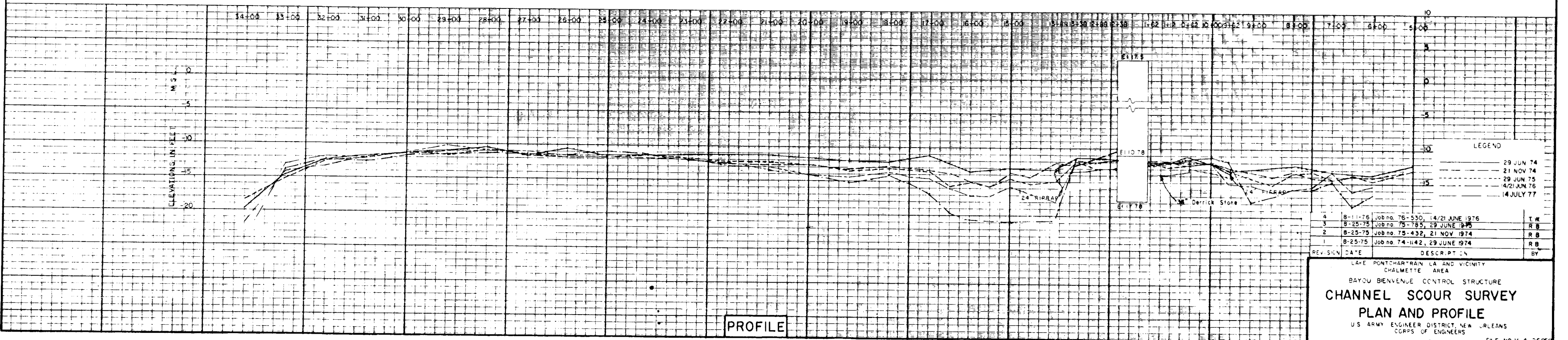
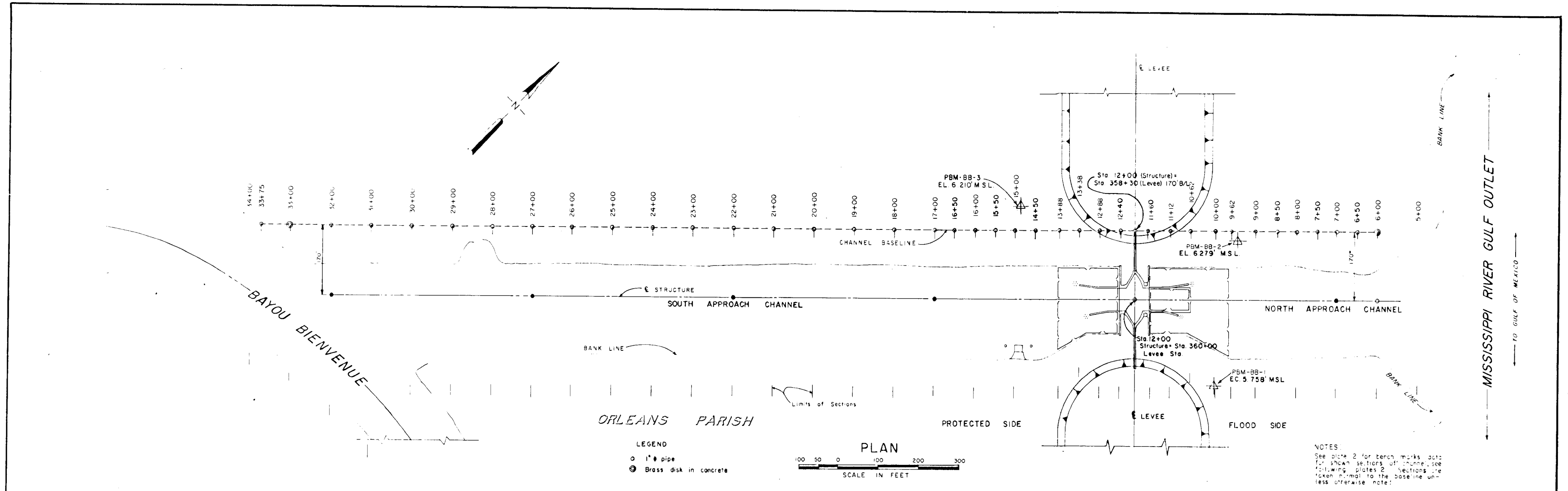
EAST FLOODWALL



NOTE:  
For location and tabulation of settlement reference marks see plate

LAKE PONTCHARTRAIN AND VICINITY:  
BAYOU BIENVENUE  
PERIODIC INSPECTION  
  
SETTLEMENT REFERENCE MARKS  
DIFFERENTIAL SETTLEMENT CHART  
  
U S ARMY ENGINEER DISTRICT, NEW ORLEANS  
CORPS OF ENGINEERS  
  
FILE NO. H-4-26857





NOTES  
 See plate 2 for bench marks data for shown sections of channel, see following plates 2 sections are taken normal to the baseline unless otherwise note!

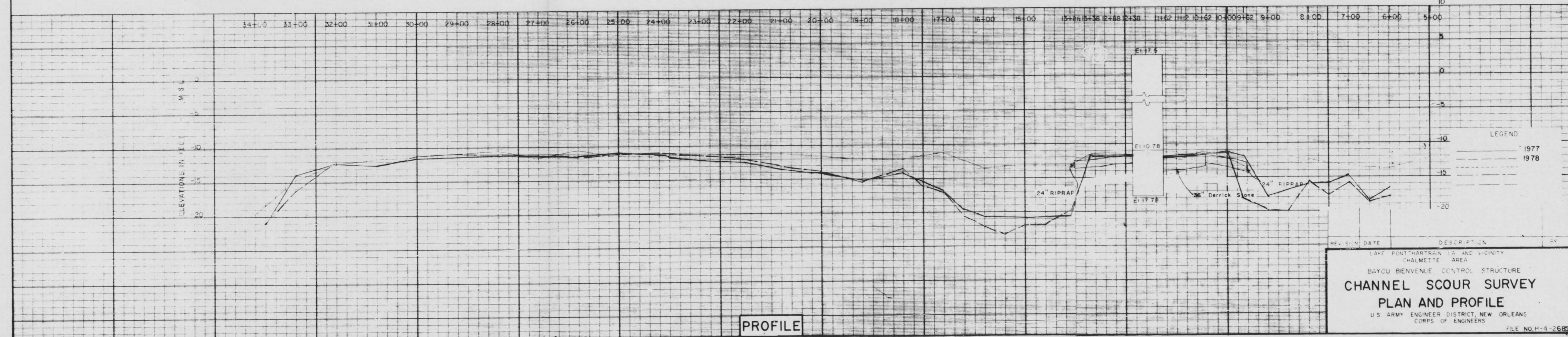
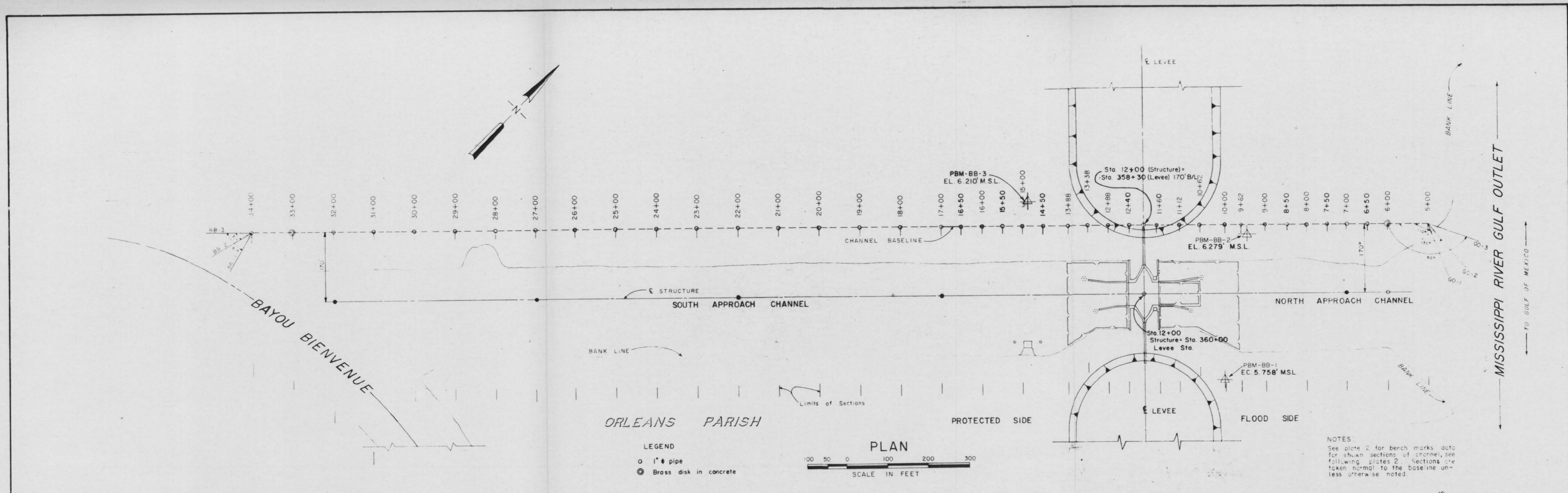
LEGEND  
 ○ 1" pipe  
 ⊙ Brass disk in concrete

SCALE IN FEET  
 100 50 0 100 200 300

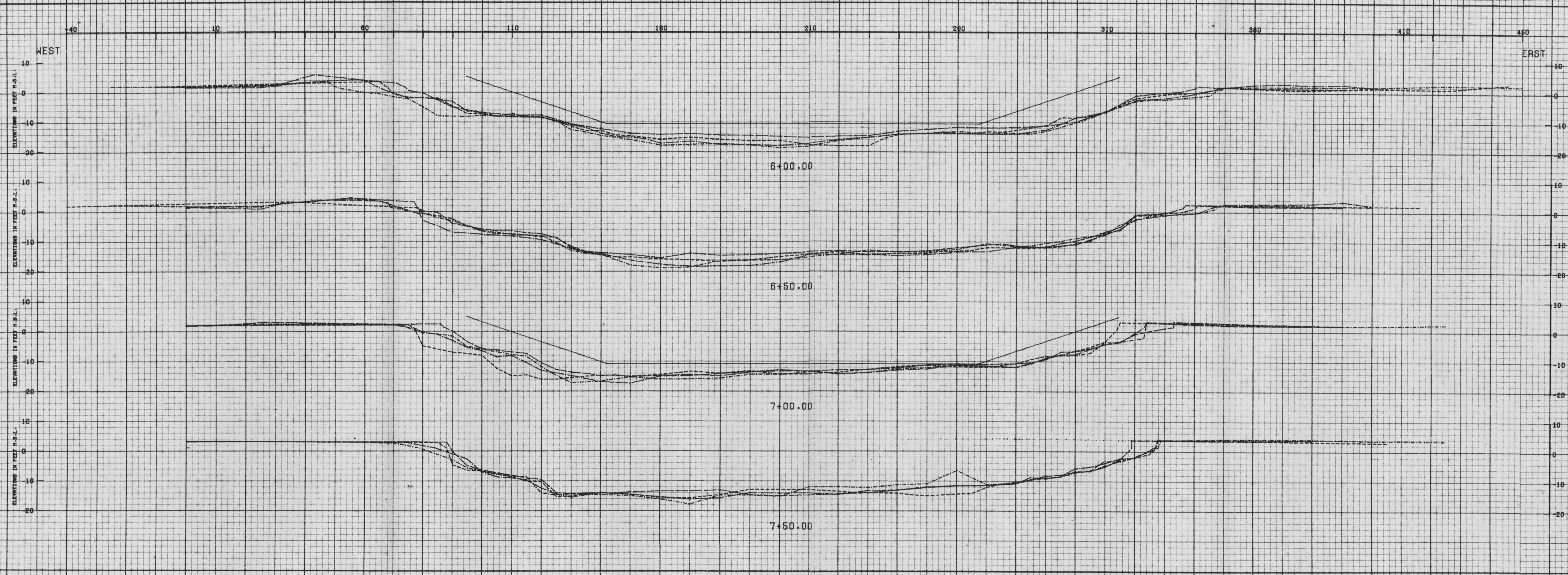
LEGEND  
 — 29 JUN 74  
 - - - 21 NOV 74  
 ····· 29 JUN 75  
 -·-·- 4/21 JUN 76  
 - - - 14 JULY 77

REV.	SIGN.	DATE	DESCRIPTION	BY
4	B-11-76	Job no. 75-530, 14/21 JUNE 1976		T.W.
3	B-25-75	Job no. 75-785, 29 JUNE 1975		R.B.
2	B-25-75	Job no. 75-432, 21 NOV 1974		R.B.
1	B-25-75	Job no. 74-1142, 29 JUNE 1974		R.B.

LAKE PONTCHARTRAIN LA AND VICINITY  
 CHALMETTE AREA  
 BAYOU BIENVENUE CONTROL STRUCTURE  
**CHANNEL SCOUR SURVEY**  
**PLAN AND PROFILE**  
 U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS  
 CORPS OF ENGINEERS  
 FILE NO. M-4 2685







**LEGEND**

THEORETICAL SECTIONS	
29 JUN. 1976	JOB NO. 75-785
16 JUN. 1976	JOB NO. 75-530
14 JULY 1977	JOB NO. 77-527
14 JULY 1978	JOB NO. 78-528

**NOTE**  
SECTIONS PLOTTED LOOKING SOUTH

LAKE PONTCHARTRAIN LA. AND VICINTY  
CHALMETTE AREA  
BAYOU BIENVENUE CONTROL STRUCTURE  
SCOUR SURVEY (75-76)  
U.S. ARMY ENGINEERS NEW ORLEANS CORPS OF ENGINEERS  
SHEET OF JULY 1978  
PLATE - 7





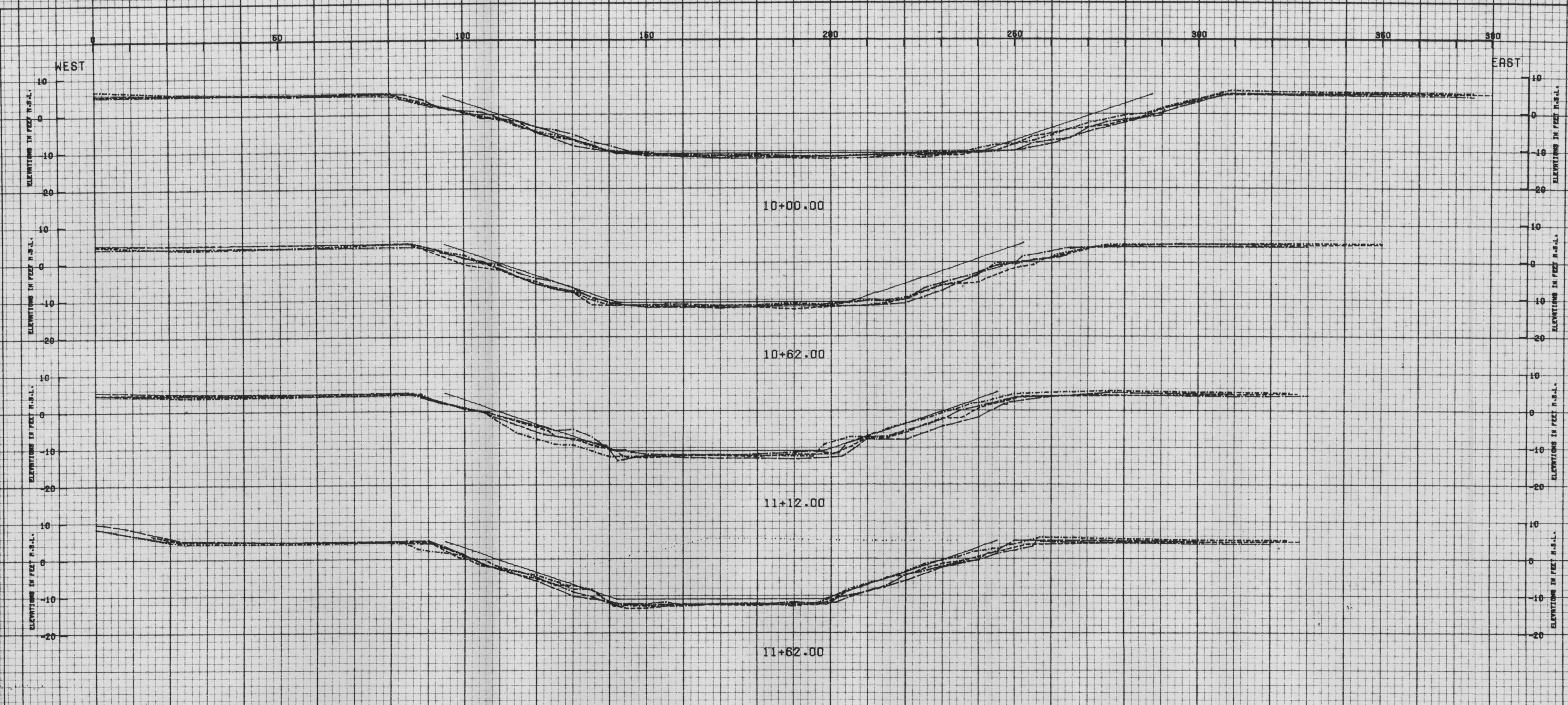
LEGEND

THEORETICAL SECTIONS	
—	29 JUNE 1976 JOB NO. 76-765
- - -	16 JUNE 1978 JOB NO. 78-630
· · ·	14 JULY 1977 JOB NO. 77-827
· · ·	14 JULY 1978 JOB NO. 78-828

NOTE  
SECTIONS PLOTTED LOOKING SOUTH

LAKE PONTCHARTRAIN LA. AND VICINITY  
CHALMETTE AREA  
BAYOU BIENVENUE CONTROL STRUCTURE  
SCOUR SURVEY (75-78)  
U.S. ARMY ENGINEERS WASH. DISTRICT CORPS OF ENGINEERS  
SHEET OF JULY 1978  
PLATE 8





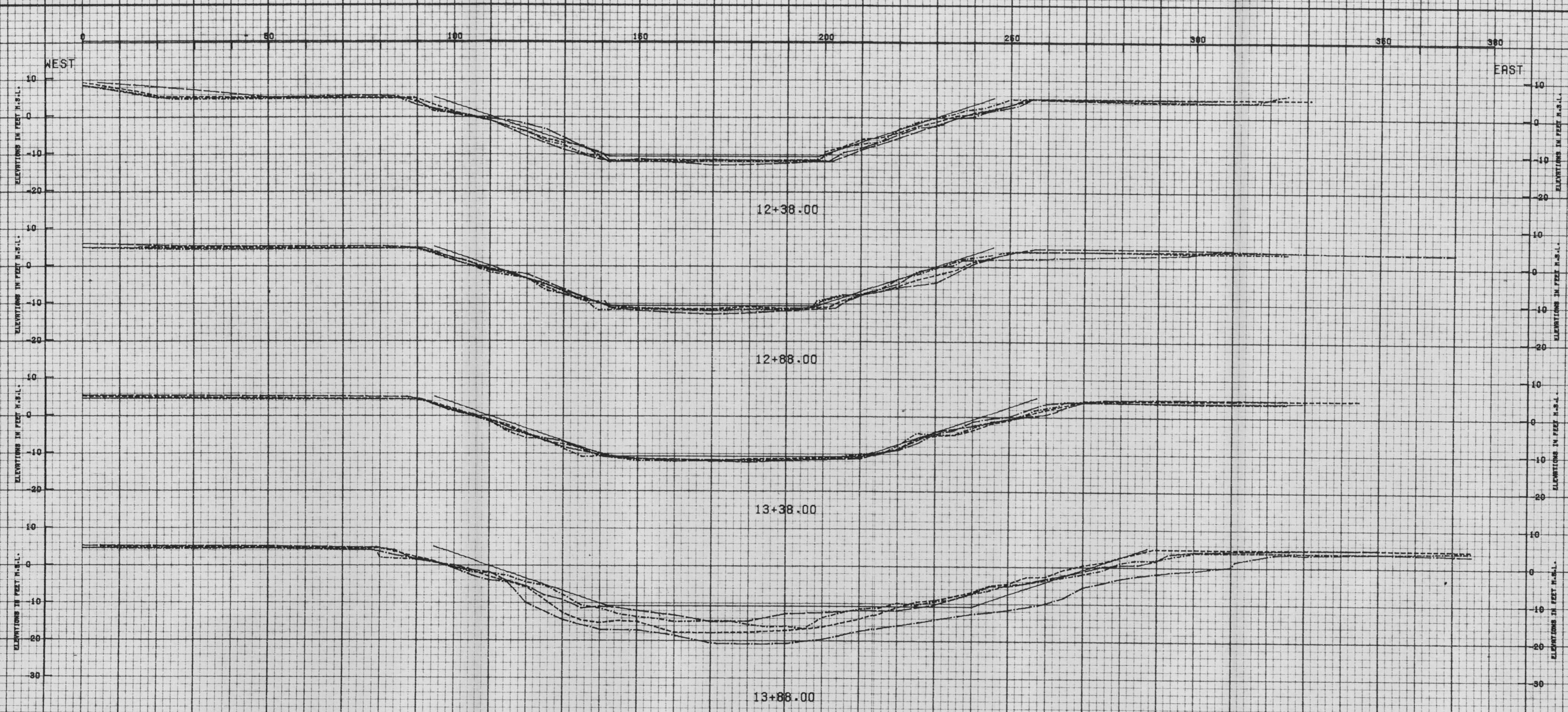
**FOENO**

THEORETICAL SECTIONS	
29 JUNE 1976	JOB NO. 75-766
14 JUN. 1976	JOB NO. 75-830
14 JULY 1977	JOB NO. 77-327
14 JULY 1978	JOB NO. 78-322

**NOTE**  
SECTIONS PLOTTED LOOKING SOUTH

LAKE PONCHARTRAIN LA. AND VICINTY  
CHALMETTE AREA  
BAYOU BIENVENUE CONTROL STRUCTURE  
SCOUR SURVEY (75-78)  
U.S. ARMY ENGINEERS NEW ORLEANS CORPS OF ENGINEERS  
SHEET OF JULY 1978  
PLATE-9





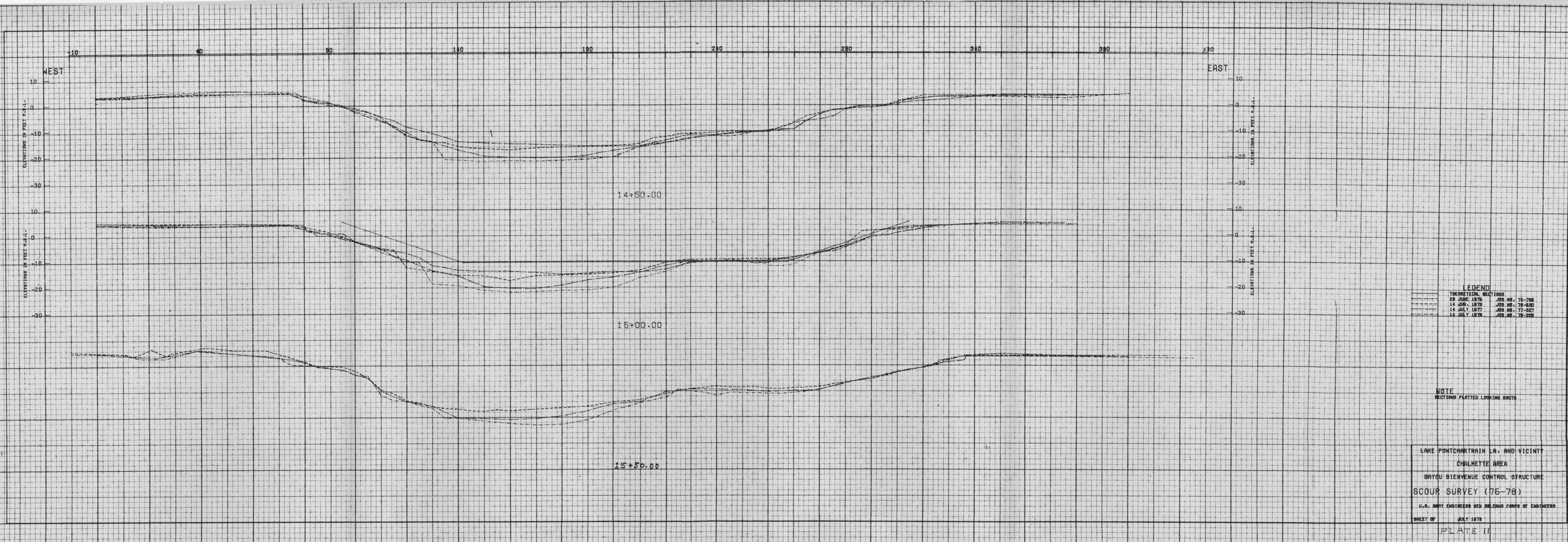
**LEGEND**

THEORETICAL SECTIONS	
29 JUNE 1976	JOB NO. 75-786
14 JULY 1976	JOB NO. 76-830
14 JULY 1977	JOB NO. 77-327
14 JULY 1978	JOB NO. 78-326

**NOTE**  
SECTIONS PLOTTED LOOKING SOUTH

LAKE PONTCHARTRAIN LA. AND VICINITY  
CHALMETTE AREA  
BAYOU BIENVENUE CONTROL STRUCTURE  
SCOUR SURVEY (75-78)  
U.S. ARMY ENGINEERS NEW ORLEANS CORPS OF ENGINEERS  
SHEET OF JULY 1978





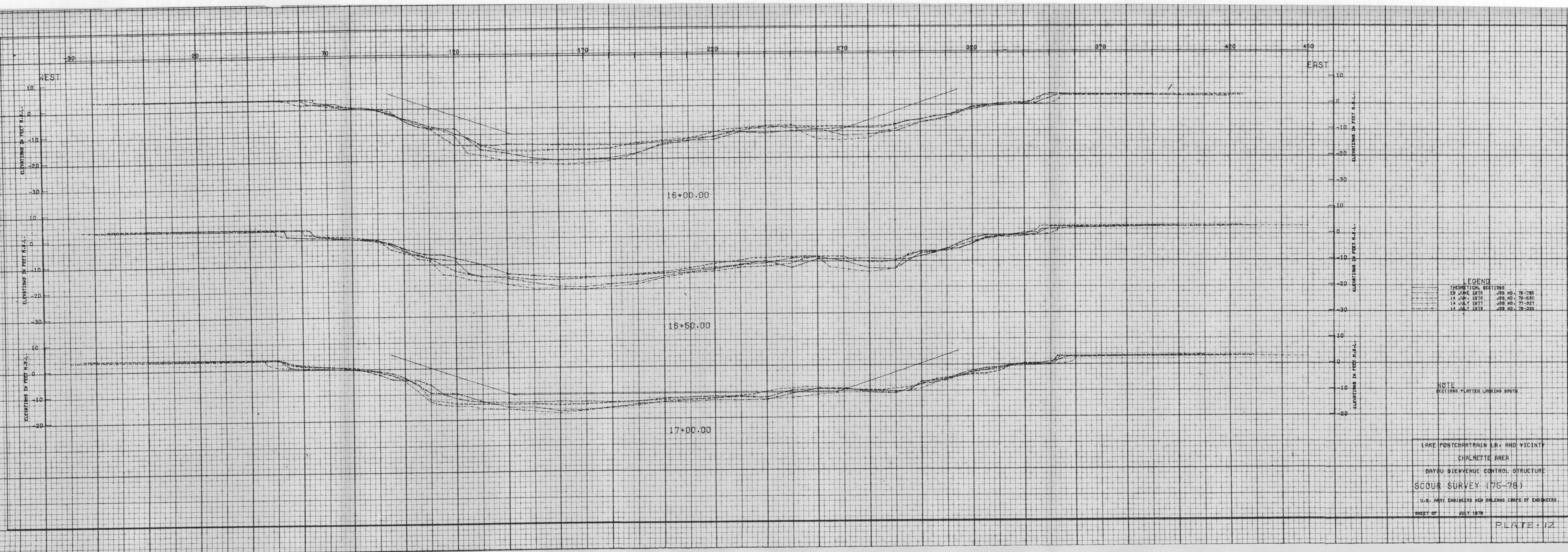
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THEORETICAL SECTIONS	
29 JUNE 1976	JOB NO. 76-786
14 JUNE 1978	JOB NO. 78-830
14 JULY 1977	JOB NO. 77-927
14 JULY 1978	JOB NO. 78-928

**NOTE**  
SECTIONS PLOTTED LOOKING SOUTH

LAKE PONTCHARTRAIN LA. AND VICINITY  
CHALMETTE AREA  
BAYOU BIENVENUE CONTROL STRUCTURE  
SCOUR SURVEY (75-78)  
U.S. ARMY ENGINEERS NEW ORLEANS CORPS OF ENGINEERS  
SHEET OF JULY 1978  
PLATE II





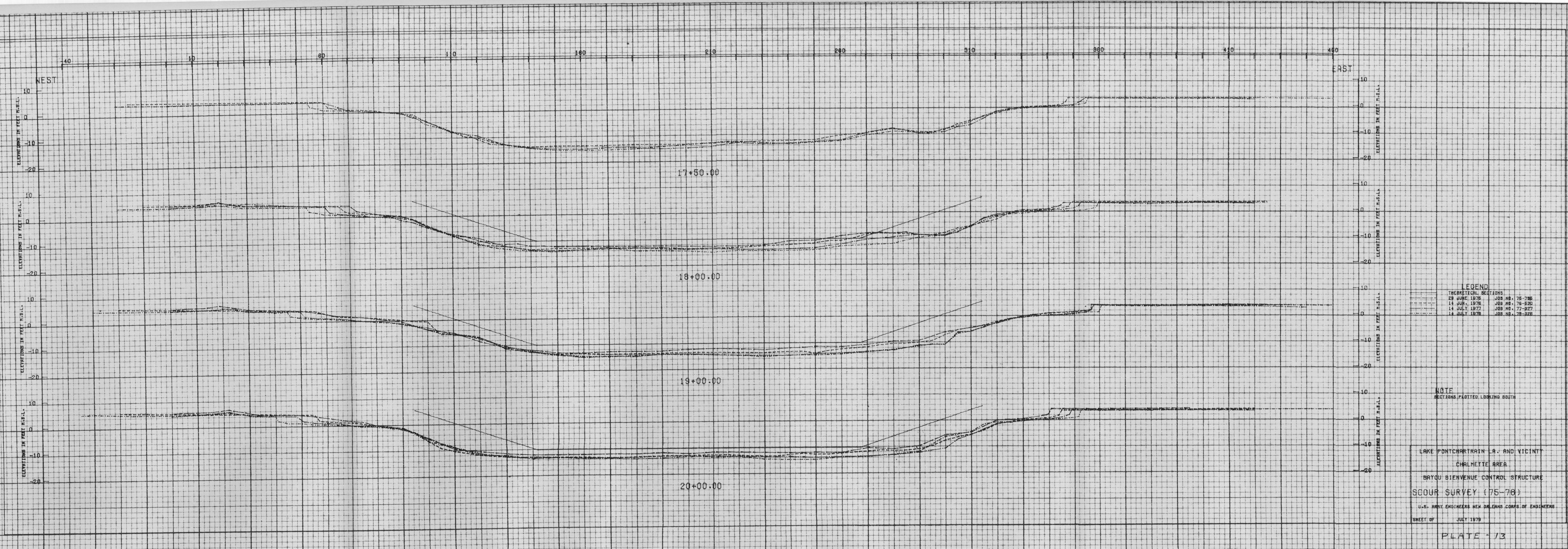
**LEGEND**

THEORETICAL SECTIONS	
—	29 JUNE 1975 JOB NO. 76-785
- - -	14 JUN. 1976 JOB NO. 76-630
- - -	14 JULY 1977 JOB NO. 77-327
- - -	14 JULY 1978 JOB NO. 78-328

**NOTE**  
SECTIONS PLOTTED LOOKING SOUTH

LAKE PONCHARTRAIN LA. AND VICINITY  
CHALMETTE AREA  
BAYOU BIENVENUE CONTROL STRUCTURE  
SCOUR SURVEY (75-78)  
U.S. ARMY ENGINEERS NEW ORLEANS CORPS OF ENGINEERS  
SHEET OF JULY 1978





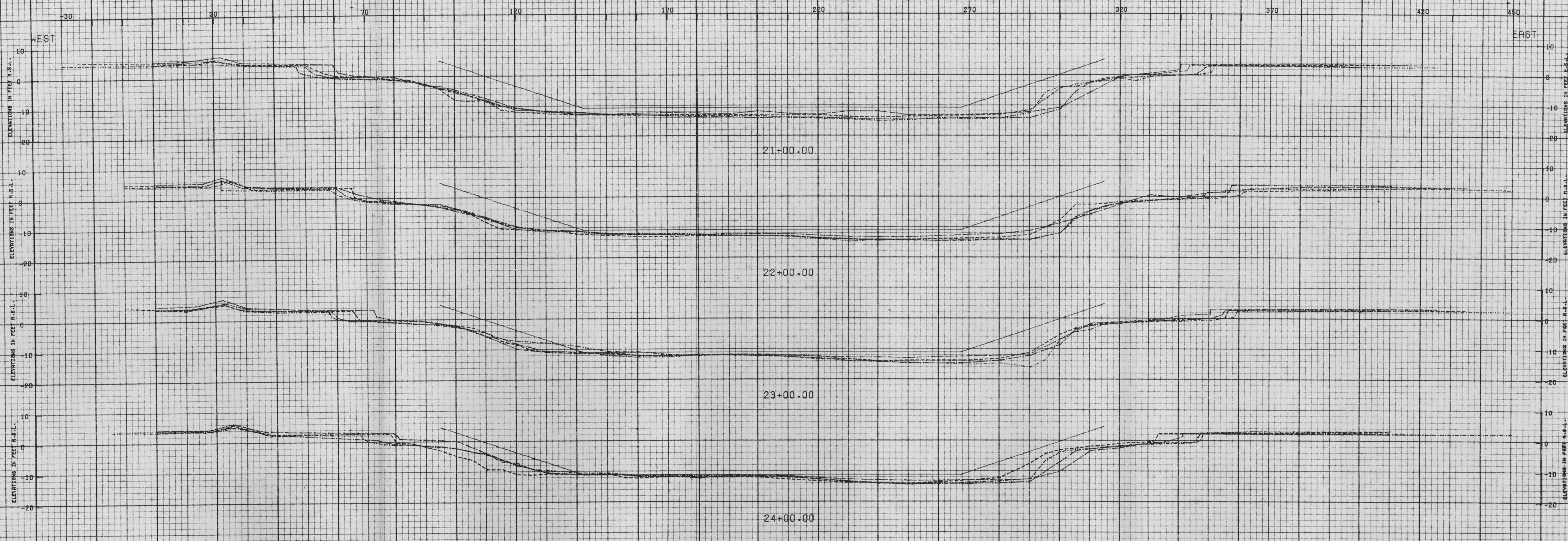
**LEGEND**

THEORETICAL SECTIONS	
29 JUNE 1976	JOB NO. 76-78B
14 JULY 1976	JOB NO. 76-530
14 JULY 1977	JOB NO. 77-927
14 JULY 1978	JOB NO. 78-326

**NOTE**  
SECTIONS PLOTTED LOOKING SOUTH

LAKE PONCHARTRAIN LA. AND VICINITY  
CHALMETTE AREA  
BAYOU BIENVENUE CONTROL STRUCTURE  
SCOUR SURVEY (75-78)  
U.S. ARMY ENGINEERS NEW ORLEANS CORPS OF ENGINEERS  
SHEET OF JULY 1978





**LEGEND**

**THEORETICAL SECTIONS**

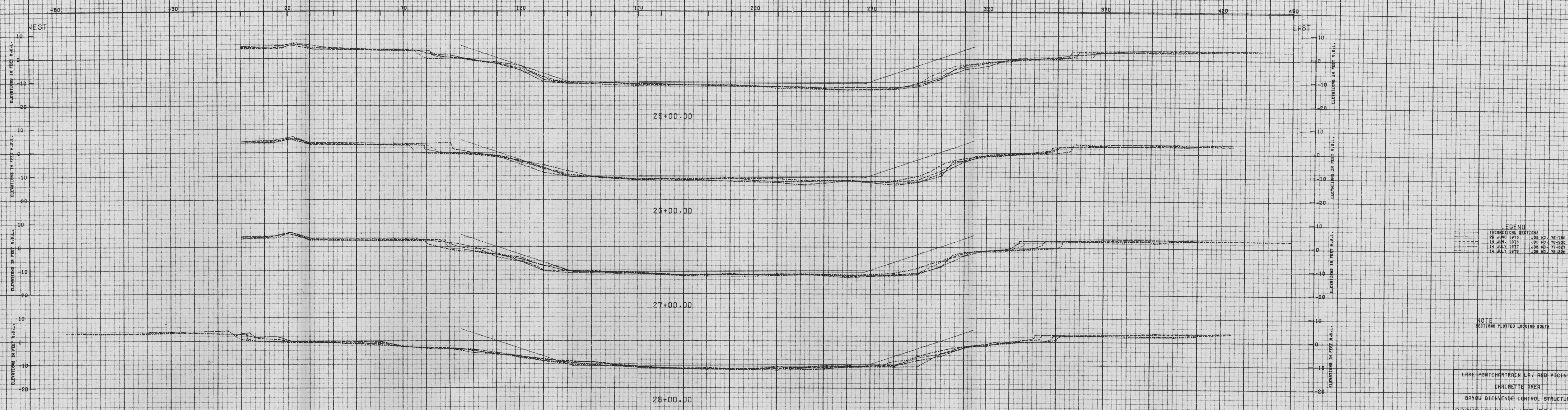
29 JUNE 1976	JOB NO. 75-786
14 JULY 1976	JOB NO. 76-630
14 JULY 1977	JOB NO. 77-337
14 JULY 1978	JOB NO. 78-326

**NOTE**  
SECTIONS PLOTTED LOOKING SOUTH

LAKE PONTCHARTRAIN LA. AND VICINITY  
CHALMETTE AREA  
BAYOU BIENVENUE CONTROL STRUCTURE  
SCOUR SURVEY (75-78)  
U.S. ARMY ENGINEERS NEW ORLEANS CORPS OF ENGINEERS

SHEET OF JULY 1978





25+00.00

26+00.00

27+00.00

28+00.00

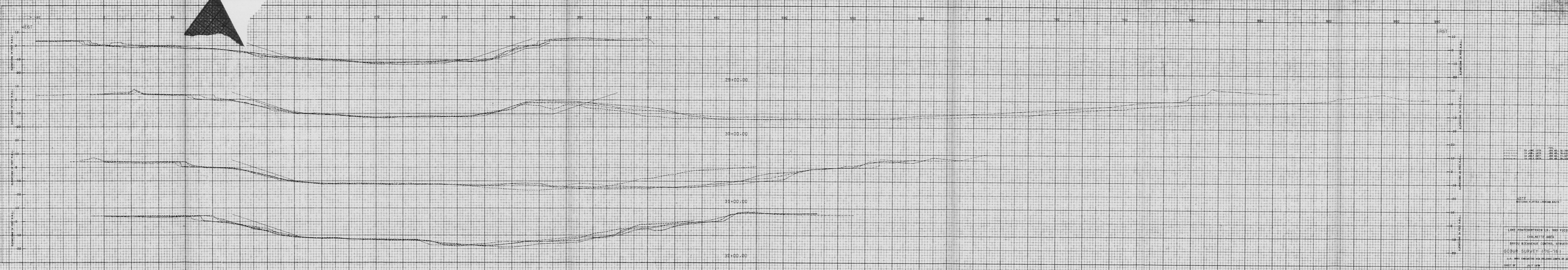
**LEGEND**

THEORETICAL SECTIONS	
29 JUNE 1975	JOB. NO. 76-786
14 JUN. 1976	JOB. NO. 76-530
14 JULY 1977	JOB. NO. 77-327
14 JULY 1978	JOB. NO. 78-328

**NOTE**  
SECTIONS PLOTTED LOOKING SOUTH

LAKE PONTCHARTRAIN LA. AND VICINITY  
CHALMETTE AREA  
BAYOU BIENVENUE CONTROL STRUCTURE  
SCOUR SURVEY (75-78)  
U.S. ARMY ENGINEERS NEW ORLEANS CORPS OF ENGINEERS  
SHEET OF JULY 1978





29 JUNE 1976	CHS
14 JULY 1976	JOE NO. 76-285
14 JULY 1977	JOE NO. 76-830
14 JULY 1978	JOE NO. 77-327
	JOE NO. 78-328

NOTE  
SECTIONS PLOTTED LOOKING SOUTH

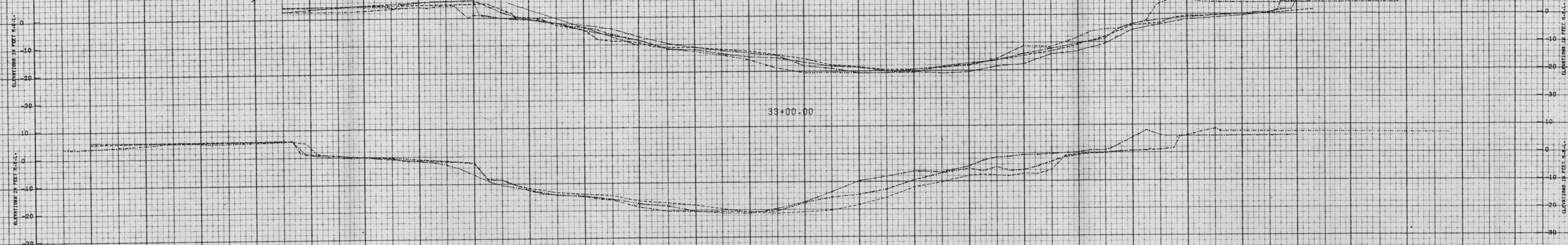
LAKE PONTCHARTRAIN LA. AND VICINITY  
CHARLOTTE AREA  
BAYOU BIENVENUE CONTROL STRUCTURE  
SCOUR SURVEY (75-78)

U.S. ARMY ENGINEERS NEW ORLEANS CORPS OF ENGINEERS  
SHEET OF JULY 1978  
PLATE - 15



80 90 20 70 120 170 220 270 320 370 420 450

WEST EAST



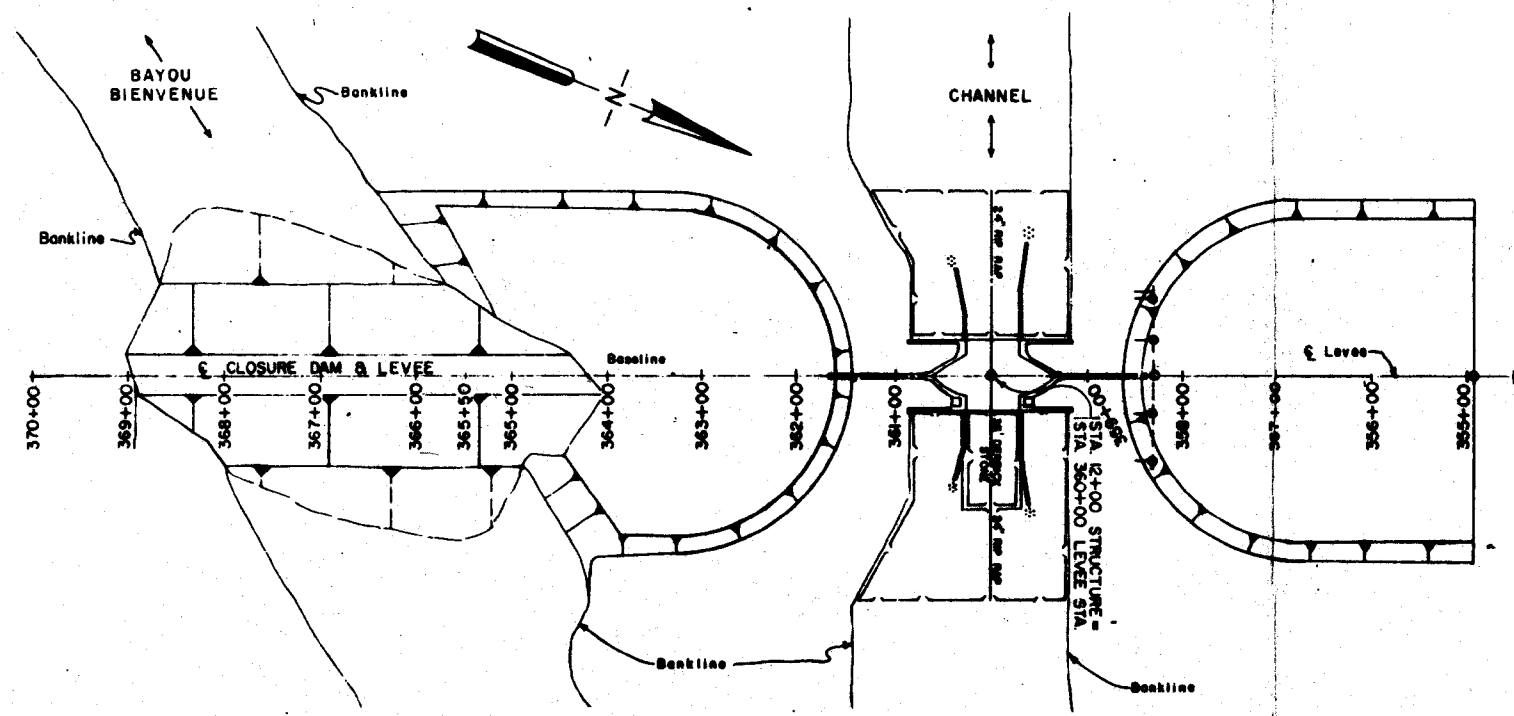
LEGEND

THEMATIC SECTION	
28 JUNE 1976	JOB NO. 76-785
14 JUNE 1976	JOB NO. 76-530
14 JULY 1977	JOB NO. 77-327
14 JULY 1978	JOB NO. 78-328

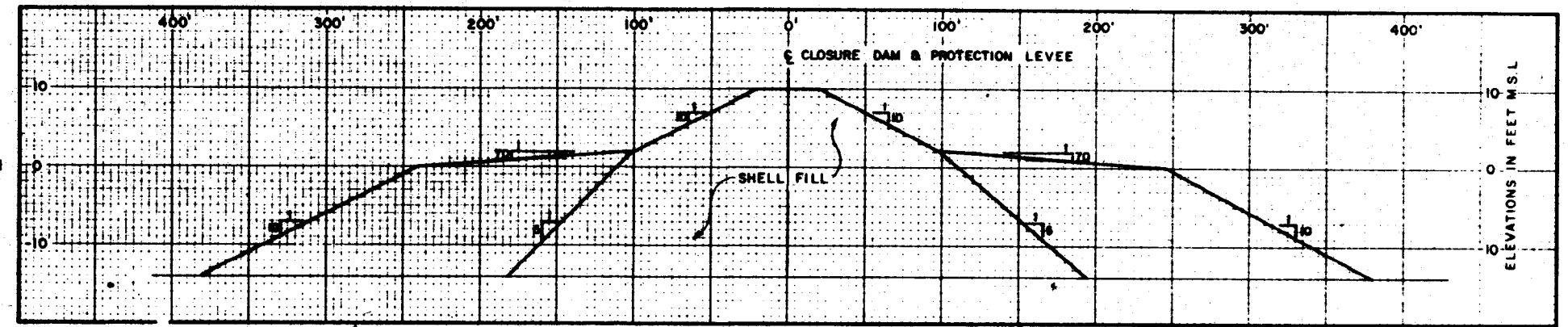
NOTE  
SECTIONS PLOTTED LOOKING SOUTH

LAKE PONTCHARTRAIN LA. AND VICINTY  
CHALMETTE AREA  
BAYOU BIENVENUE CONTROL STRUCTURE  
SCOUR SURVEY (75-78)  
U.S. ARMY ENGINEERS NEW ORLEANS CORPS OF ENGINEERS  
SHEET OF JULY 1978  
PLATE - 17

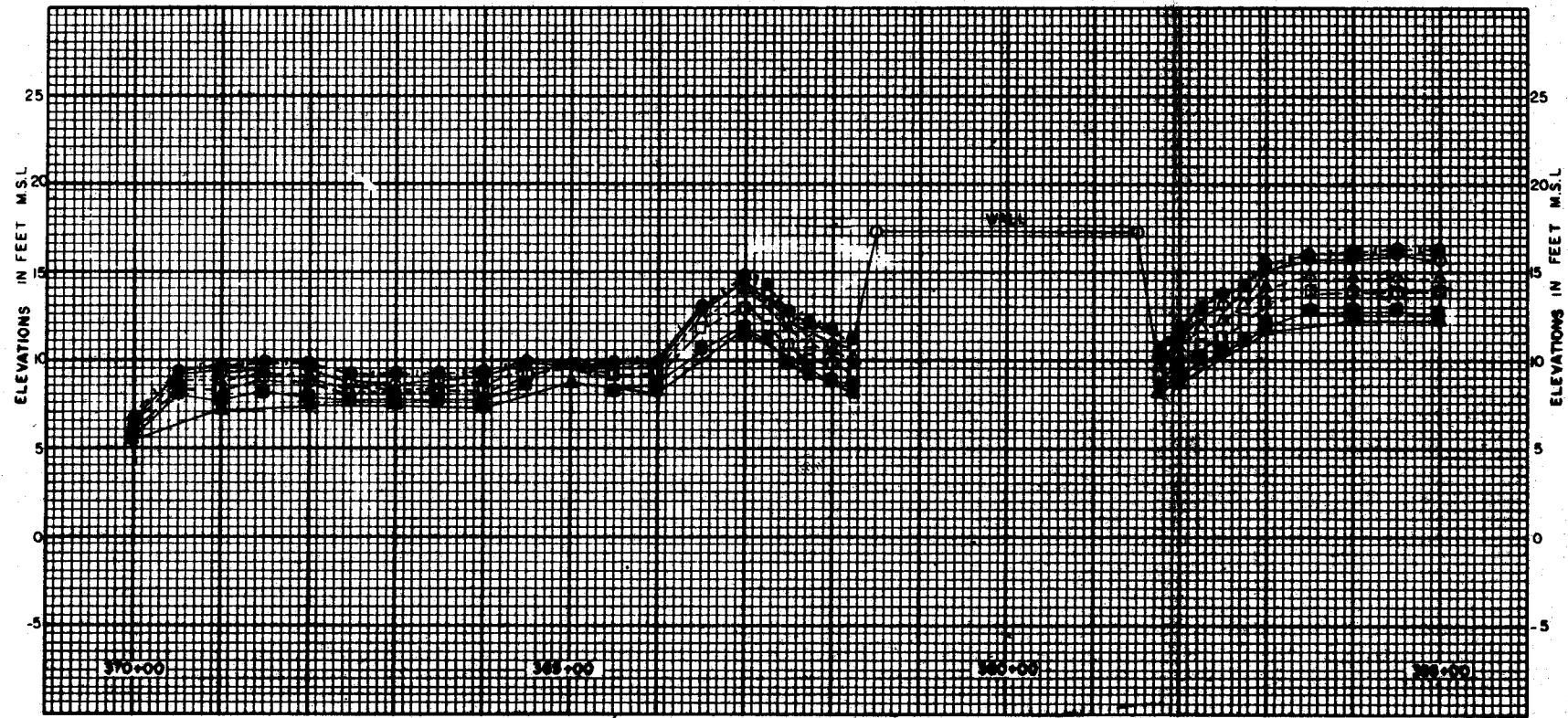




**PLAN**  
SCALE IN FEET  
100 50 0 100 200 300



**TYPICAL CROSS SECTION OF CLOSURE DAM AT BAYOU**



**PROFILE**

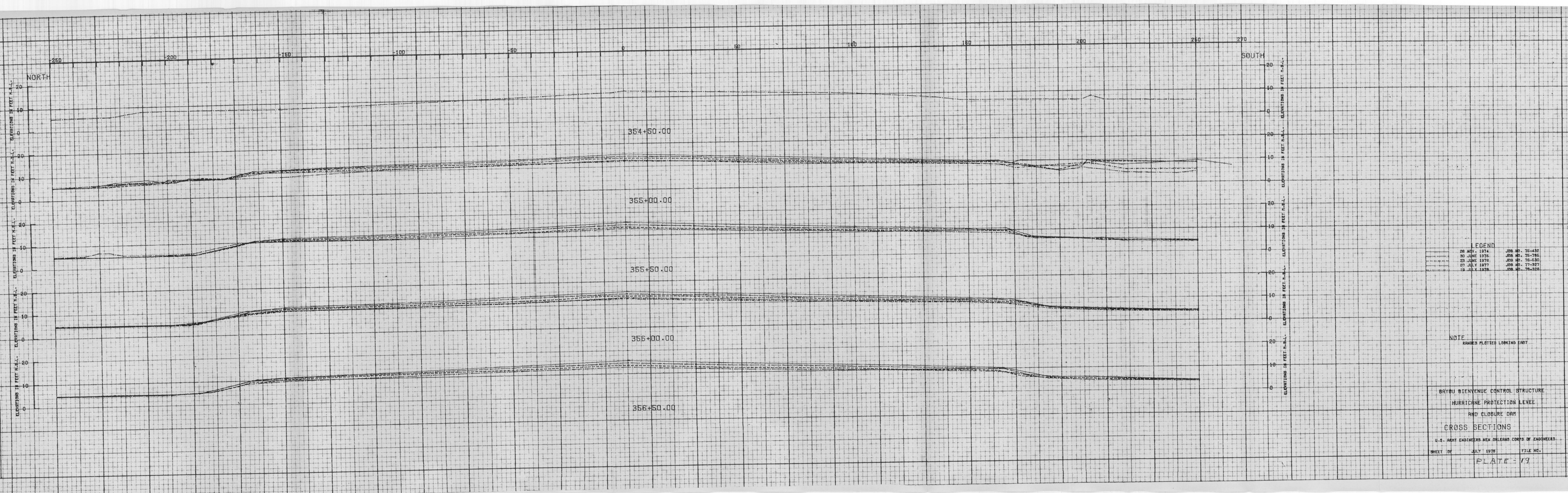
**LEGEND**

●— —●	JUL-SEPT	1974
○— —○	NOV	1974
△— —△	JUNE	1975
□— —□	JUNE	1976
■— —■	JULY	1977
▲— —▲	JULY	1978

**NOTES**  
See plate 2 for bench mark data  
For sections of shown stations of closure dam & levee, see the following plates.  
Sections are taken normal to Baseline looking in direction of increasing stations

LAKE PONTCHARTRAIN AND VICINITY  
BAYOU BIENVENUE  
PERIODIC INSPECTION  
**CLOSURE DAM AND LEVEE PLAN,  
PROFILE AND SECTION**  
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS  
CORPS OF ENGINEERS  
FILE NO. H-4-20897





**LEGEND**

—	28 NOV. 1974	JOB NO. 75-432
- - -	30 JUNE 1975	JOB NO. 75-785
· · ·	23 JUNE 1976	JOB NO. 75-530
— · —	07 JULY 1977	JOB NO. 77-527
- - -	19 JULY 1978	JOB NO. 78-328

**NOTE**  
RANGES PLOTTED LOOKING EAST

BAYOU BIENVEUE CONTROL STRUCTURE  
HURRICANE PROTECTION LEVEE  
AND CLOSURE DAM  
CROSS SECTIONS

U.S. ARMY ENGINEERS NEW ORLEANS CORPS OF ENGINEERS  
SHEET OF JULY 1978 FILE NO.  
PLATE - 19



-250      -200      -150      -100      -50      0      50      100      150      200      250

NORTH  
ELEVATIONS IN FEET M.S.L.  
ELEVATIONS IN FEET M.S.L.  
ELEVATIONS IN FEET M.S.L.  
ELEVATIONS IN FEET M.S.L.  
ELEVATIONS IN FEET M.S.L.

SOUTH  
ELEVATIONS IN FEET M.S.L.  
ELEVATIONS IN FEET M.S.L.  
ELEVATIONS IN FEET M.S.L.  
ELEVATIONS IN FEET M.S.L.  
ELEVATIONS IN FEET M.S.L.

357+00.00

357+25.00

357+50.00

357+75.00

358+00.00

LEGEND

—	28 NOV. 1974	JOB NO. 75-432
- - -	30 JUNE 1976	JOB NO. 75-785
· · ·	28 JUNE 1976	JOB NO. 76-530
— · —	07 JULY 1977	JOB NO. 77-327
- · - · -	19 JULY 1978	JOB NO. 78-328

NOTE  
RANGES PLOTTED LOOKING EAST

BAYOU BIENVENUE CONTROL STRUCTURE  
HURRICANE PROTECTION LEVEE  
AND CLOSURE DAM  
CROSS SECTIONS

U.S. ARMY ENGINEERS NEW ORLEANS CORPS OF ENGINEERS

SHEET OF JULY 1978 FILE NO.

PLATE - 20



ELEVATIONS IN FEET M.S.L. ELEVATIONS IN FEET M.S.L. ELEVATIONS IN FEET M.S.L. ELEVATIONS IN FEET M.S.L. ELEVATIONS IN FEET M.S.L.

NORTH

260 210 160 110 60 -10 40 90 140 190 240

SOUTH

ELEVATIONS IN FEET M.S.L. ELEVATIONS IN FEET M.S.L. ELEVATIONS IN FEET M.S.L. ELEVATIONS IN FEET M.S.L. ELEVATIONS IN FEET M.S.L.

358+25.00

358+50.00

358+75.00

359+00.00

361+00.00

LEGEND

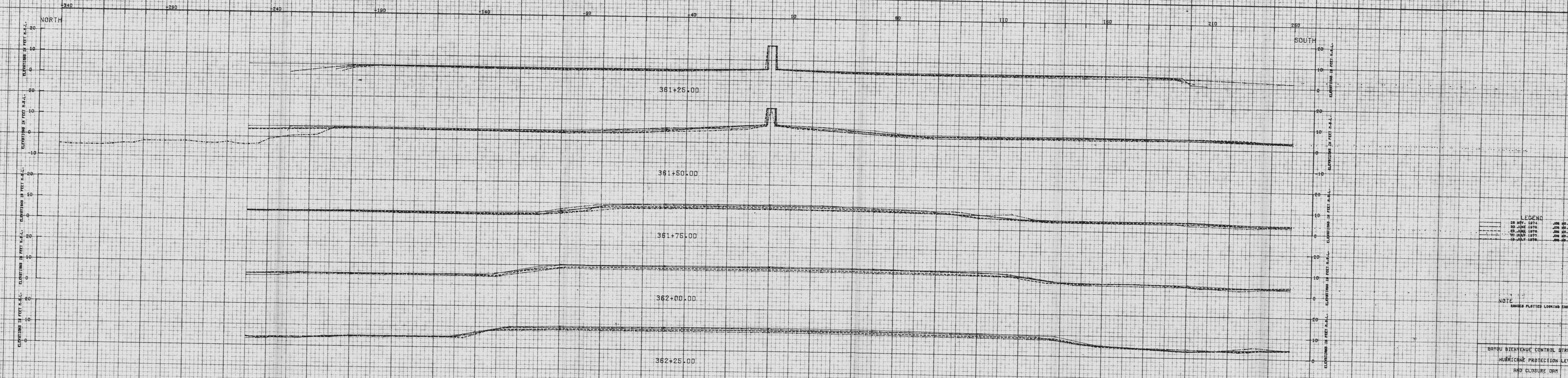
—	28 NOV. 1974	JOB NO. 75-432
- - -	30 JUNE 1976	JOB NO. 76-785
· · ·	29 JUNE 1976	JOB NO. 76-530
— · —	07 JULY 1978	JOB NO. 77-527
— · — · —	19 JULY 1978	JOB NO. 78-558

NOTE  
RANGES PLOTTED LOOKING EAST

BAYOU BIENVENUE CONTROL STRUCTURE  
HURRICANE PROTECTION LEVEE  
AND CLOSURE DAM  
CROSS SECTIONS

U.S. ARMY ENGINEERS NEW ORLEANS CORPS OF ENGINEERS  
SHEET OF JULY 1978 FILE NO.  
PLATE-21





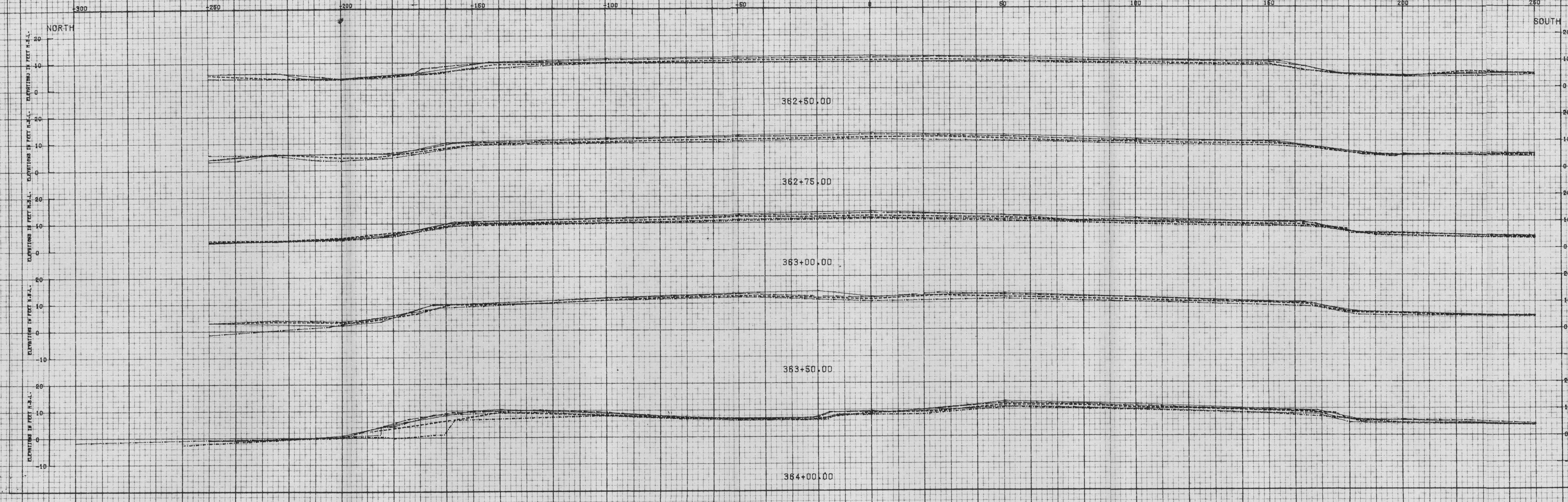
**LEGEND**

—	28 MAY 1974	JOB NO. 78-432
- - -	30 JUNE 1975	JOB NO. 78-786
- · - · -	29 JUNE 1976	JOB NO. 78-530
- · - · -	07 JULY 1977	JOB NO. 77-527
- · - · -	19 JULY 1978	JOB NO. 78-828

**NOTE**  
RANGES PLOTTED LOOKING EAST

BAYOU BIENVENUE CONTROL STRUCTURE  
HURRICANE PROTECTION LEVEE  
AND CLOSURE DAM  
CROSS SECTIONS  
U.S. ARMY ENGINEERS NEW ORLEANS CORPS OF ENGINEERS





LEGEND

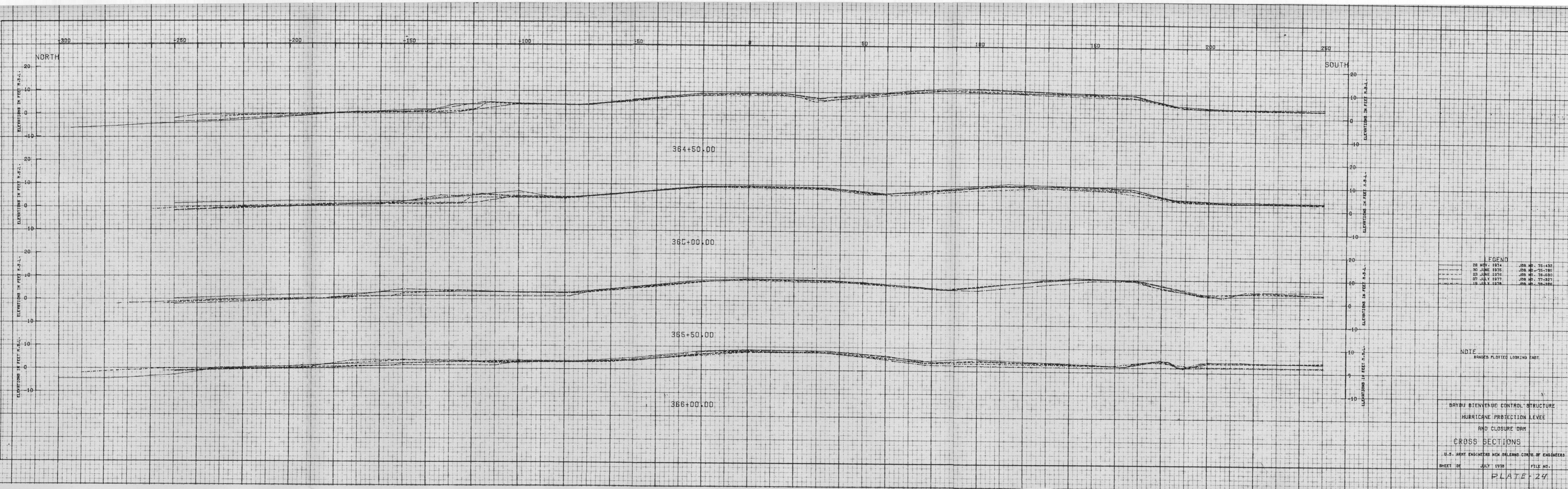
—	28 NOV. 1974	JOB NO. 75-452
- - -	30 JUNE 1976	JOB NO. 76-788
· · ·	29 JUNE 1976	JOB NO. 76-530
- · -	07 JULY 1977	JOB NO. 77-527
- - - -	19 JULY 1978	JOB NO. 78-528

NOTE  
RANGES PLOTTED LOOKING EAST.

BAYOU BIENVENUE CONTROL STRUCTURE  
HURRICANE PROTECTION LEVEE  
AND CLOSURE DAM  
CROSS SECTIONS

U.S. ARMY ENGINEERS NEW ORLEANS CORPS OF ENGINEERS  
SHEET OF JULY 1978 FILE NO.  
PLATE - 23





LEGEND

26 NOV. 1974	JOB NO. 75-432
30 JUNE 1975	JOB NO. 75-785
23 JUNE 1976	JOB NO. 76-530
07 JULY 1977	JOB NO. 77-537
19 JULY 1978	JOB NO. 78-326

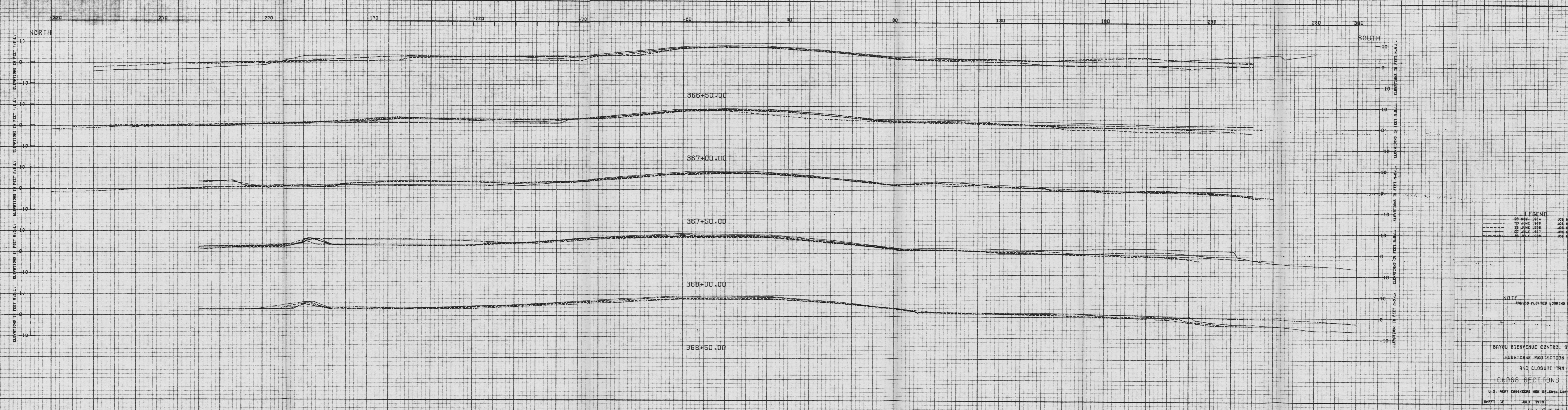
NOTE  
RANGES PLOTTED LOOKING EAST

BAYOU BIENVENUE CONTROL STRUCTURE  
HURRICANE PROTECTION LEVEE  
AND CLOSURE DAM  
CROSS SECTIONS

U.S. ARMY ENGINEERS NEW ORLEANS CORPS OF ENGINEERS

SHEET OF JULY 1978 FILE NO.





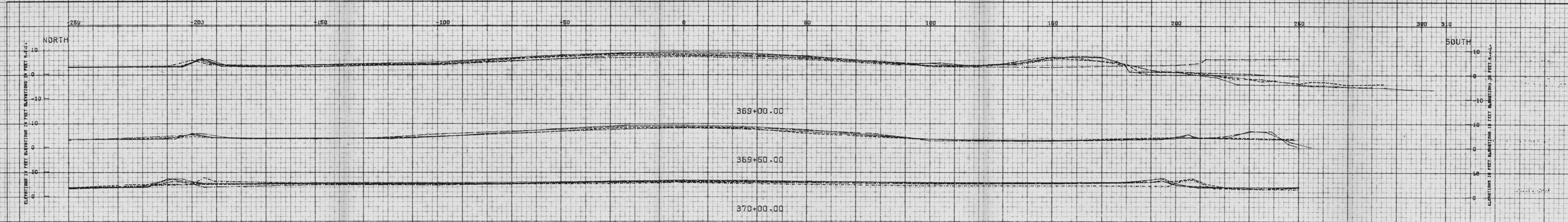
**LEGEND**

—	26 NOV. 1974	JOB NO. 75-432
- - -	30 JUNE 1976	JOB NO. 75-786
· · ·	28 JUNE 1976	JOB NO. 76-530
— · —	07 JULY 1977	JOB NO. 77-327
- - -	18 JULY 1978	JOB NO. 78-328

**NOTE**  
RANGES PLOTTED LOOKING EAST

BAYOU BIENVENUE CONTROL STRUCTURE  
HURRICANE PROTECTION LEVEL  
AND CLOSURE DAM  
CROSS SECTIONS  
U.S. ARMY ENGINEERS MON. ORLEANS CORPS OF ENGINEERS  
SHEET OF JULY 1978 FILE NO.  
PLATE 25





ELEVATIONS IN FEET BARVATIONS IN FEET M.S.L.

ELEVATIONS IN FEET BARVATIONS IN FEET M.S.L.

**LEGEND**

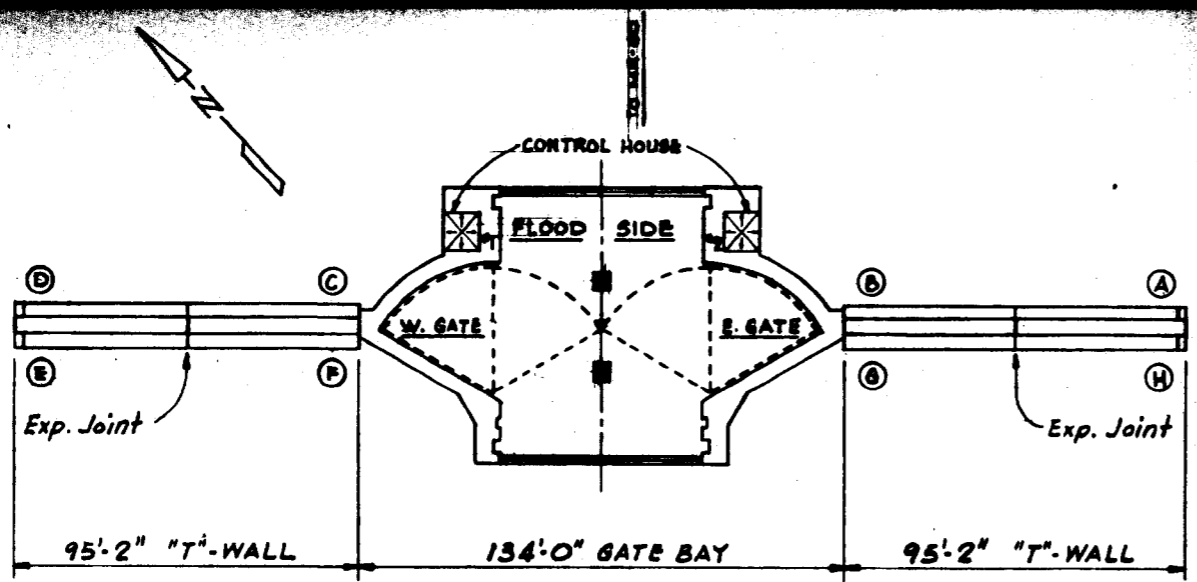
—	28 NOV. 1974	JOB NO. 76-437
- - -	23 JUNE 1976	JOB NO. 76-786
· · ·	23 JUNE 1976	JOB NO. 76-830
—	07 JULY 1977	JOB NO. 77-827
- - -	19 JULY 1978	JOB NO. 78-828

**NOTE**  
 SECTIONS PLOTTED LOOKING EAST

BAYOU BIENVENUE CONTROL STRUCTURE  
 HURRICANE PROTECTION LEVEE  
 AND CLOSURE DAM  
**CROSS SECTIONS**

U.S. ARMY ENGINEERS WETLANDS-JOBS OF ENGINEERS  
 SHEET OF JULY 1978 FILE NO.  
**PLATE - 26**

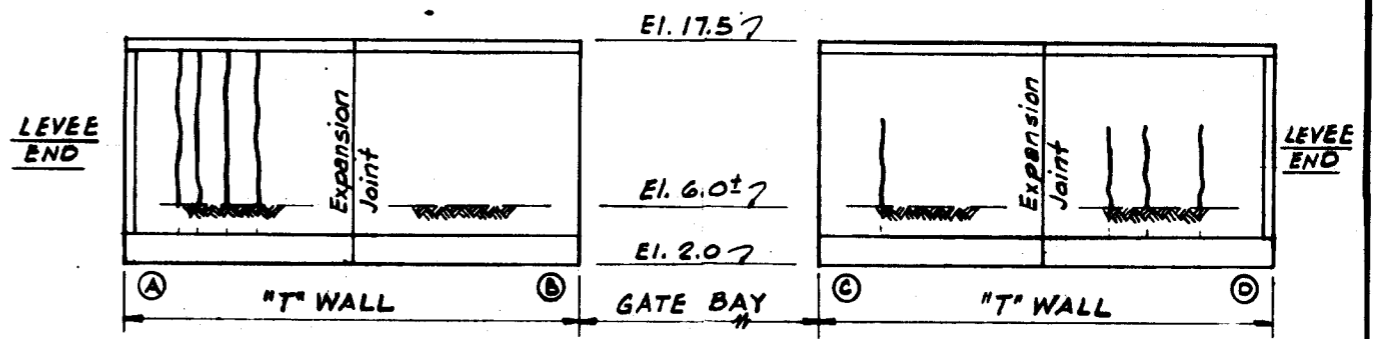




NOTE: THIS PLAN TO BE USED FOR REFERENCE ONLY

**PLAN - GATE BAY AND "T"-WALLS**

Scale: 1" = 40'-0"

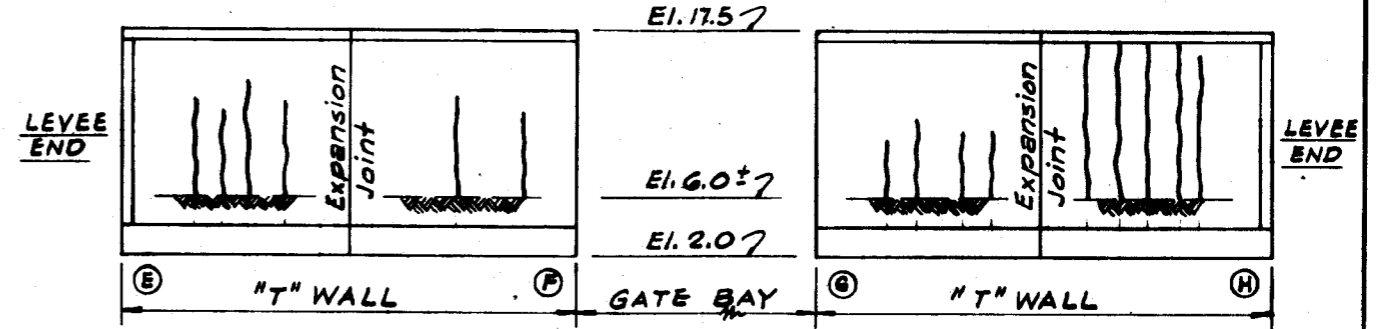


**ELEVATION A-B**

Scales: HORIZ. 1" = 30'-0"  
VERT. 1" = 10'-0"

**ELEVATION C-D**

Scales: HORIZ. 1" = 30'-0"  
VERT. 1" = 10'-0"

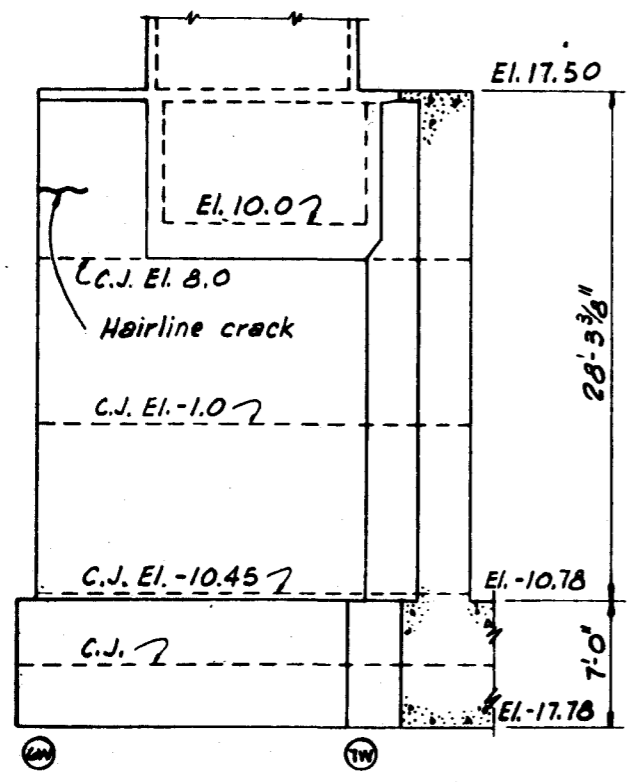


**ELEVATION E-F**

Scales: HORIZ. 1" = 30'-0"  
VERT. 1" = 10'-0"

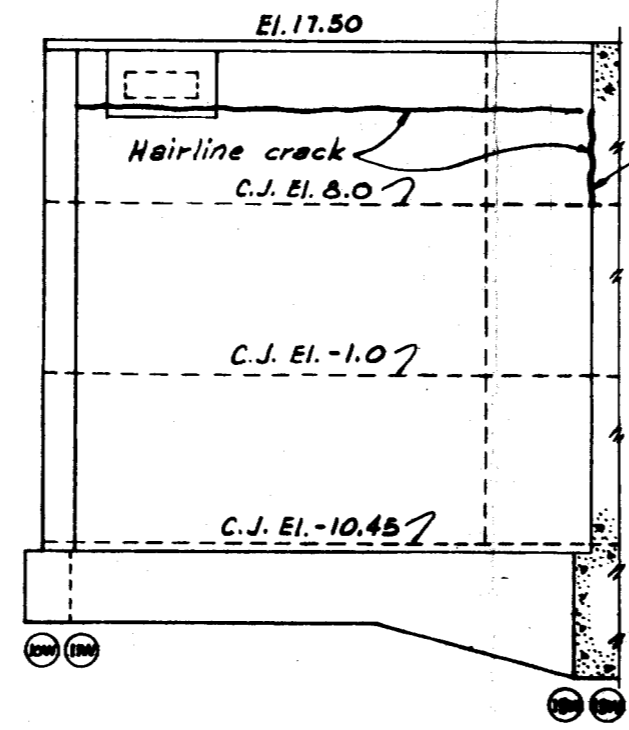
**ELEVATION G-H**

Scales: HORIZ. 1" = 30'-0"  
VERT. 1" = 10'-0"



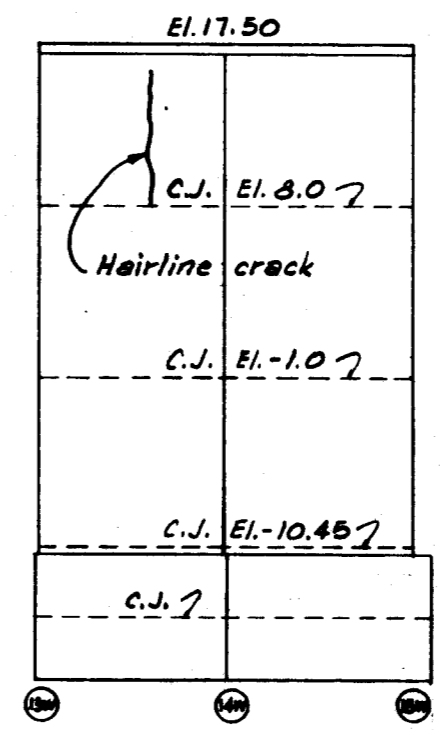
**ELEVATION 6W-7W**

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



**ELEVATION 10W-13W**

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



**ELEVATION 13W-15W**

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

ELEVATIONS REFER TO M.S.L. DATUM.

LAKE FORTCHARTRAIN, LOUISIANA AND VICINITY  
HURRICANE PROTECTION SYSTEM  
CHALMETTE AREA PLAN

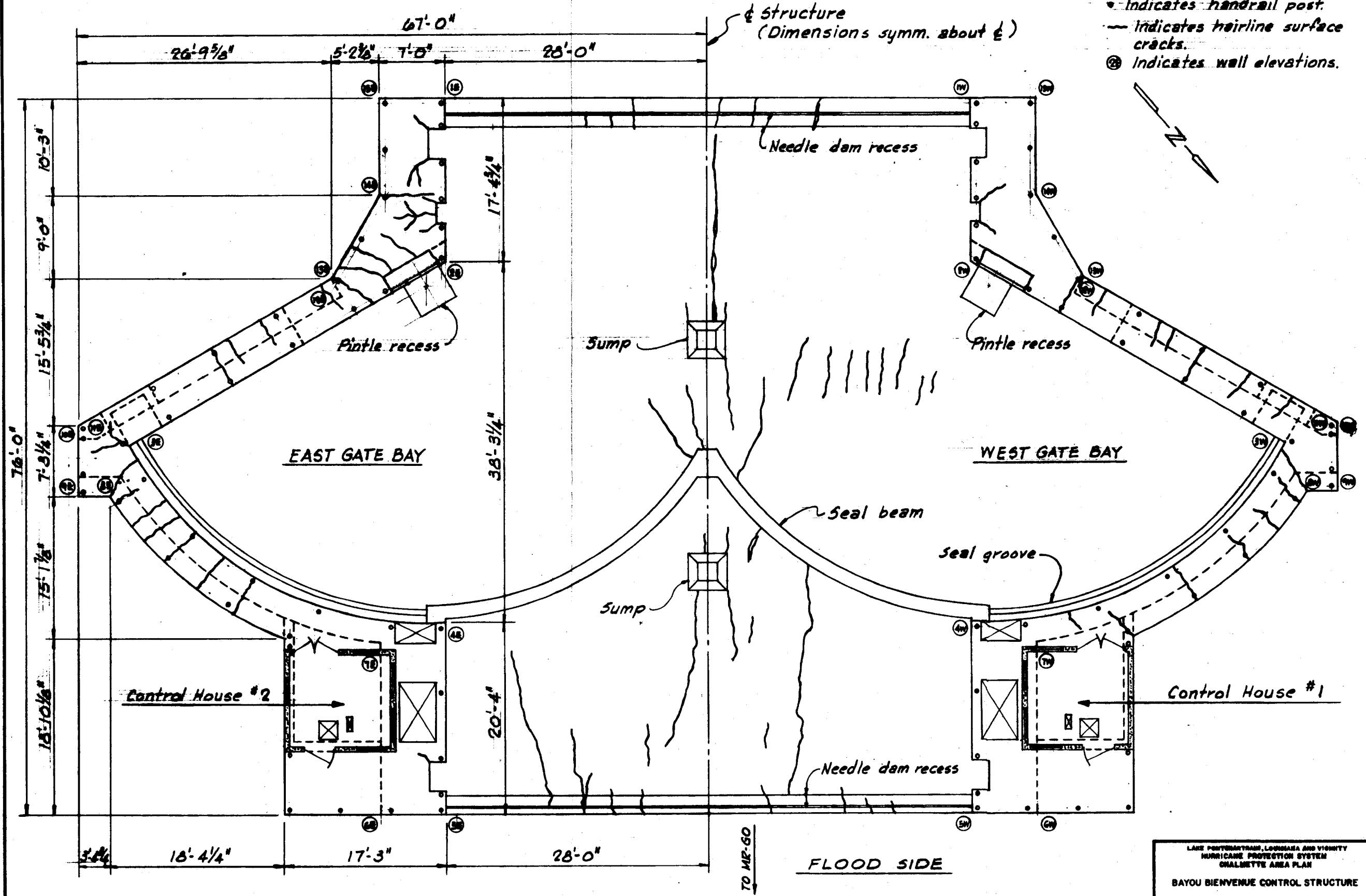
BAYOU BIENVENUE CONTROL STRUCTURE  
CRACK SURVEY - DECEMBER, '73

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS, LA.  
CORPS OF ENGINEERS

FILE NO. H-2-26858

**LEGEND**

- Indicates handrail post.
- - - Indicates hairline surface cracks.
- ⊙ Indicates wall elevations.



**GATE BAY PLAN OF WALKWAYS AND BASE SLAB**

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

LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY  
 HURRICANE PROTECTION SYSTEM  
 CHALMETTE AREA PLAN

BAYOU BIENVENUE CONTROL STRUCTURE  
 CRACK SURVEY - DECEMBER, '73

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS, LA.  
 CORPS OF ENGINEERS

FILE NO. H-2-26856

SECTION V - INSPECTION

5-01 Inspection Team. The inspection of the structure was conducted on 27 July 1979 by the following personnel:

NOD

Mr. Suryakant D. Patel	General Engineering Section
Mr. Vernon R. Jackson	General Engineering Section
Mr. Dennis C. Strecker	General Engineering Section
Mr. Jorge A. Romero	Structural Design Section
Mr. Marvin A. Drake	Hydraulics & Hydrology Branch
Mr. Robert C. Lanza	Foundations & Materials Branch
Mr. Richard F. Baldini, Jr.	Operations Division
Mr. John J. Flanagan	New Orleans Area Office
Mr. Ward C. Purdum, Jr.	New Orleans Area Office

LOUISIANA OFFICE OF PUBLIC WORKS

Mr. Emile F. Schilling	Area Engineer
------------------------	---------------

ORLEANS LEVEE BOARD

Mr. Earl Magner, Jr.	Assistant Chief Engineer
Mr. Glenn Ortego	Assistant Chief Engineer

5-02 Orientation. Prior to the inspection, the team members were given a brief orientation of the following features of the structure: hydraulic and hydrology, structural considerations, foundations, operating machinery, and construction history.

5-03 Observation. The Control Structure was not dewatered at the time of the inspection; all observations recorded hereafter refer to those surfaces above the water line.

a. Structural. The structure is relatively new and is in good condition. The horizontal members of the sector gates have spot rusting due to water standing on the members. (See photographs Nos. 1 and 2).

Severe corrosion was found in the area affected by tidal fluctuation on the skin plate of the sector gates and on the embedded steel members of gate bay monoliths. (See photographs Nos. 3, 4, 5, and 6). The Orleans Levee Board, who is responsible for the operations and maintenance of the structure, is in the process of having the corroded areas repaired and treated with corrosion preventive materials.

b. Hydraulic. From the hydraulic viewpoint the structure was found to be in good condition. The channels were free from growth and debris. The electronic gage monitor (inside the control house) was not functioning.

c. Foundation. The structure was in satisfactory condition from a foundations standpoint. The approach channels were missing some riprap but no serious erosion was noted. (See photographs Nos. 7 and 8). The 1978 Scour Survey shows that the north and south approach channels have a scour problem. This is discussed in Section IV "Analysis of Instrumentation".

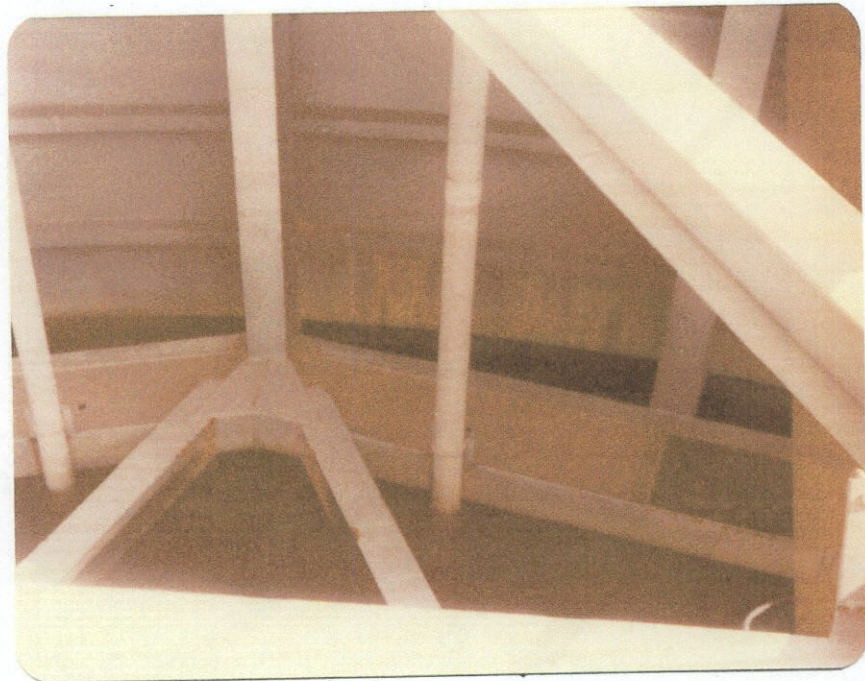
d. Mechanical. The operation of the sector gates, machinery, and power generator indicated all were in satisfactory condition.





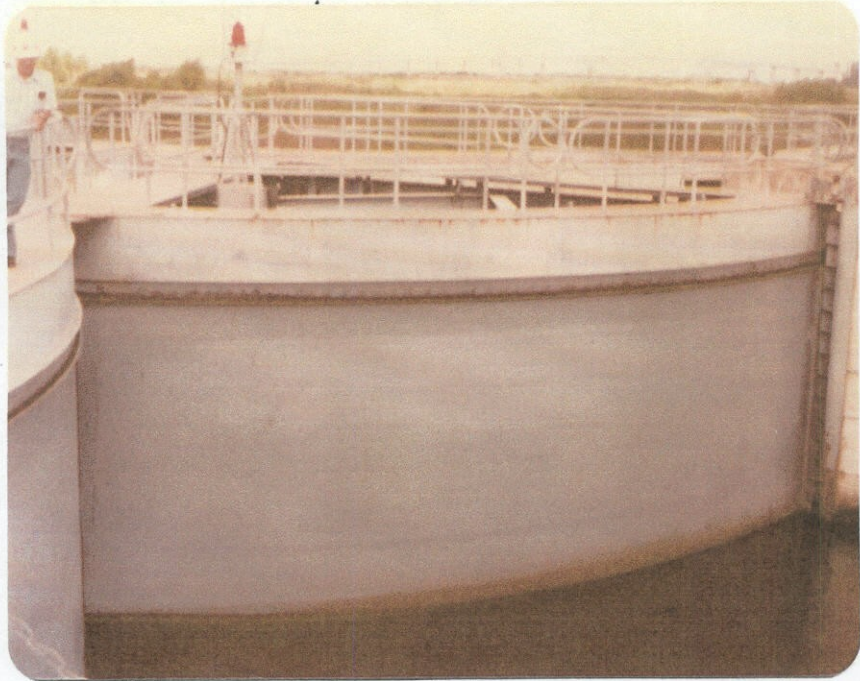
51

Photograph No. 1 - Spot Rust on Structural Steel Members of Sector Gate



Photograph No. 2 - Spot Rust on Structural Steel Members of Sector Gate





46

Photograph No. 3 - Corrosion at Water Line



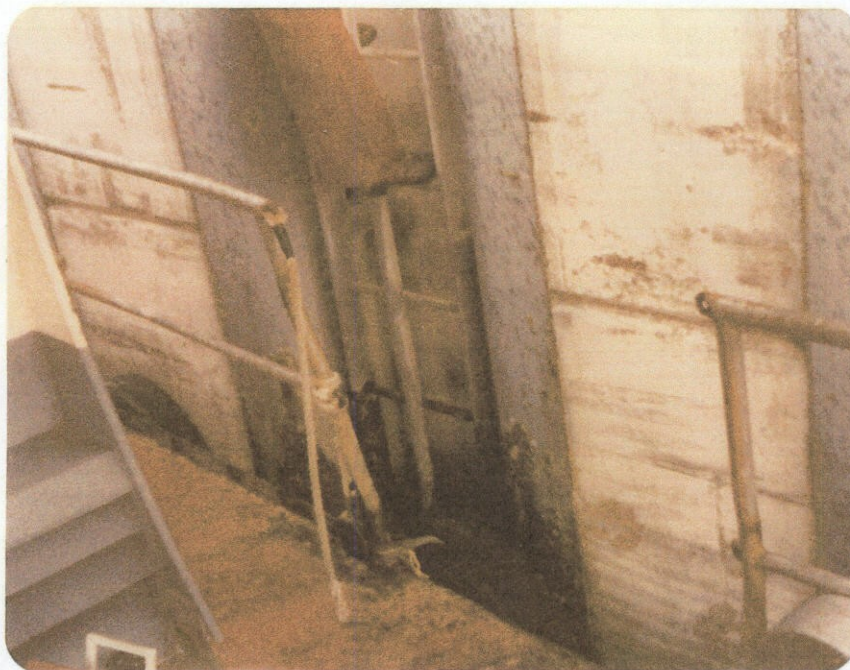
45

Photograph No. 4 - Corrosion on Sector Gate at Water Line





Photograph No. 5 - Rusted Structural Steel Members in Gate Bay Monolith



Photograph No. 6 - Rusted Structural Steel Members in Gate Bay Monolith





Photograph No. 7 - Missing Riprap on Bank of Approach Channel



Photograph No. 8 - Missing Riprap on Bank of Approach Channel



SECTION VI - CONCLUSION AND REMEDIAL ACTION

6-01 Conclusions. It is concluded that the Bayou Bienvenue Control Structure is a stable, safe, and adequately maintained structure in satisfactory operating condition.

6-02 Remedial Actions. There are no major remedial actions required at the structure; however, the following minor remedial actions will be coordinated with the Orleans Levee Board, the agency responsible for operation and maintenance of the structure.

a. Spot rusting of sector gates members and corroded surfaces of sector gates and embedded steel members should be cleaned and treated with corrosion preventive materials or painted as necessary.

b. The electronic gage monitor will be made operational.

c. The missing riprap on both sides of the approach channels will be replaced by the Corps if and when it becomes necessary to place additional riprap in the approach channels.

6-03 Next Inspection. The next inspection of Bayou Bievenue Control Structure is scheduled for October 1981.