

Extra Final Copy

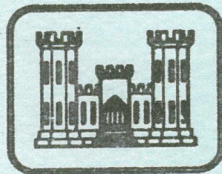
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY

CHALMETTE AREA PLAN

BAYOU DUPRE  
CONTROL STRUCTURE

PERIODIC INSPECTION REPORT NO. 3

DECEMBER 1983



**United States Army  
Corps of Engineers**

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

**New Orleans District**

LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY

CHALMETTE AREA PLAN

BAYOU DUPRE CONTROL STRUCTURE

PERIODIC INSPECTION NO. 3

1 December 1983

U.S. ARMY ENGINEER DISTRICT

CORPS OF ENGINEERS

NEW ORLEANS, LOUISIANA

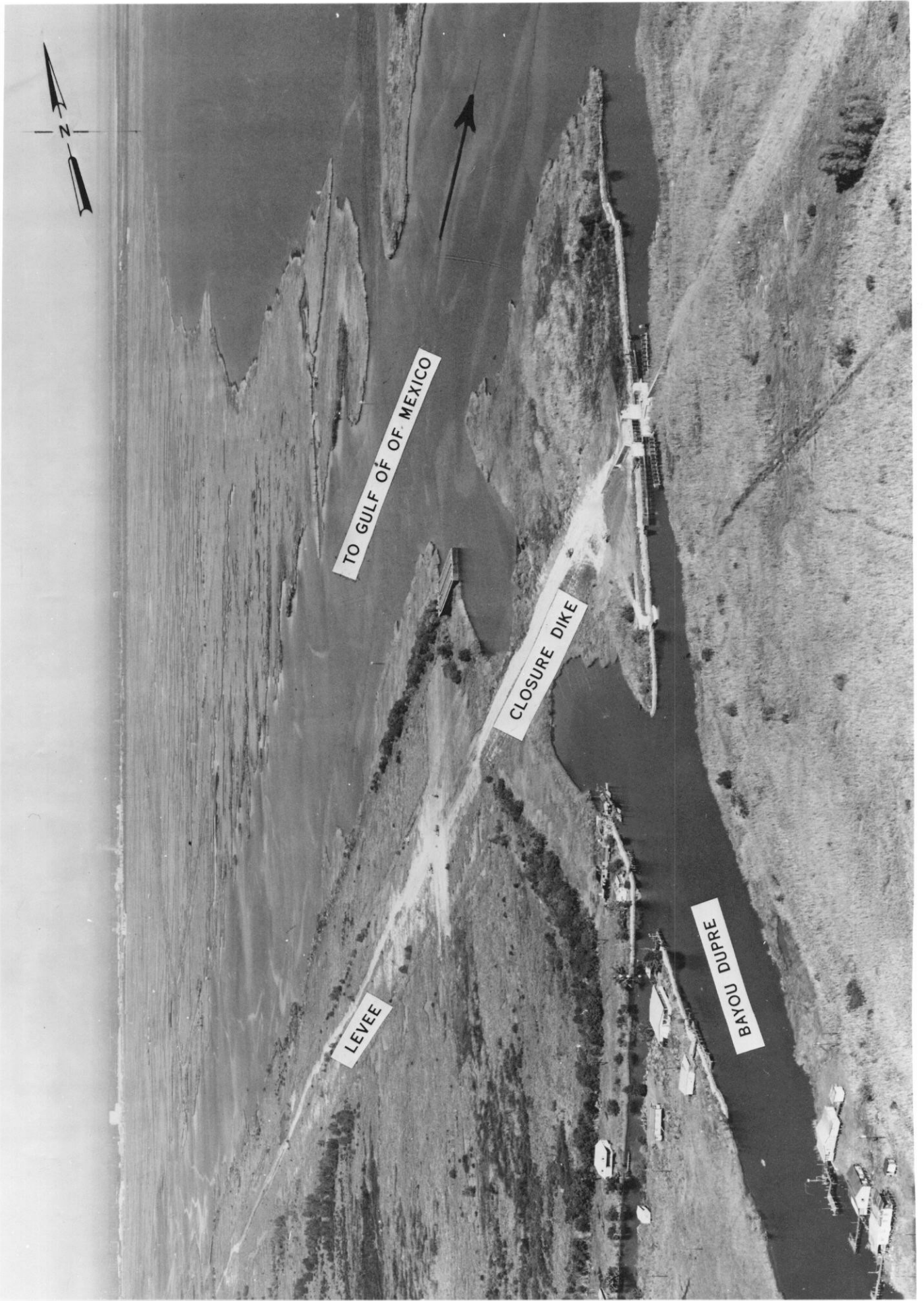


PHOTO TAKEN 5 NOV 1980

BAYOU DUPRE CONTROL STRUCTURE

BAYOU DUPRE CONTROL STRUCTURE

PERIODIC INSPECTION NO. 3

TABLE OF CONTENTS

<u>Para. No.</u>	<u>Description</u>	<u>Page No.</u>
<u>SECTION I - INTRODUCTION</u>		
1-01	Authority	I-1
1-02	Purpose and Scope	I-1
1-03	Datum	I-1
1-04	Previous Reports	I-1
<u>SECTION II - PROJECT DESCRIPTION AND BACKGROUND</u>		
2-01	General	II-1
<u>SECTION III - CURRENT OPERATION AND MAINTENANCE DATA</u>		
3-01	Maintenance and Operating Problems	III-1
3-02	Actions on Deficiencies From Last Inspection	III-1
	1980 Repair Drawings - After Page	III-2
<u>SECTION IV - REVIEW OF DESIGN AND ANALYSIS OF INSTRUMENTATION</u>		
4-01	Design Review	IV-1
4-02	Design Stress	IV-1
4-03	Analysis of Instrumentation	IV-1
	Instrumentation Drawings	IV-3
<u>SECTION V - INSPECTION</u>		
5-01	Inspection Team	V-1
5-02	Orientation	V-1
5-03	Observation	V-1
	Photographs	V-5, V-6
<u>SECTION VI - CONCLUSION AND REMEDIAL ACTION</u>		
6-01	Conclusion	VI-1
6-02	Remedial Action	VI-1
6-03	Next Inspection	VI-1

## SECTION I - INTRODUCTION

1-01 Authority. Authority for this report is ER 1110-2-100, dated 28 February 1983, subject "Periodic Inspection and Continuing Evaluation of Completed Civil Works Structures."

1-02 Purpose and Scope. This report presents the results and conclusions of the third inspection of the Bayou Dupre Control Structure conducted under the above referenced ER. The inspection was limited to surfaces above water.

1-03 Datum Plane. All elevations in connection with the control structure, unless otherwise specified, are in feet and refer to the National Geodetic Vertical Datum (N.G.V.D.), formerly mean sea level (M.S.L.).

1-04 Previous Reports.

	<u>Report No.</u>	<u>Title</u>	<u>Report Date</u>
*	1	Periodic Inspection Report No. 1	Feb 74
*	2	Periodic Inspection Report No. 2	Mar 80

## 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 and others issued subsequently to Report No. 1 are considered supplementary to that report.

SECTION III - CURRENT OPERATION AND MAINTENANCE DATA

3-01 Maintenance and Operating Problems.

During the third quarter of 1980 Contract No. DACW29-80-C-0340 was awarded to Midwest Construction Company for scour repair on both sides of the channel as indicated on plates 1A through 5A following page III-2. The repair required approximately 45,000 tons of graded riprap, 23,000 tons of class "C" stone and 10,800 C.Y. of shell for a total job cost of \$1,182,900. This work is referenced in para. 3-02(b).

During the second quarter of 1981, concurrent with other levee work, the Levee Board added fill and made general repairs to the tie-in levees.

Minor damage occurred to the service wharf on the protected side of the structure in December, 1982. The Levee Board is currently working with their insurance company to repair this damage.

3-02 Actions on Deficiencies From Last Inspection.

The following repair work letter designations refer to like lettered designations of paragraph 6-02, Section VI, Inspection Report No. 2:

a. The Levee Board has scheduled funds for calendar year 1984 to repair the NW guide wall. Repairs will include the addition of batter piles to the end of the fender system for added support.

b. Scour repairs were completed 9 February 1981 under Government Contract DACW29-80-C-0340. See details para. 3-01.

\* c. Blasting and painting of the corroded structural steel members has been tentatively scheduled for the last quarter of FY 86.

\* d. The alternator belt was tightened.

\* e. All burned indicator lights were replaced.

\* f. The loose coupling on the electric motor was adjusted and tightened.

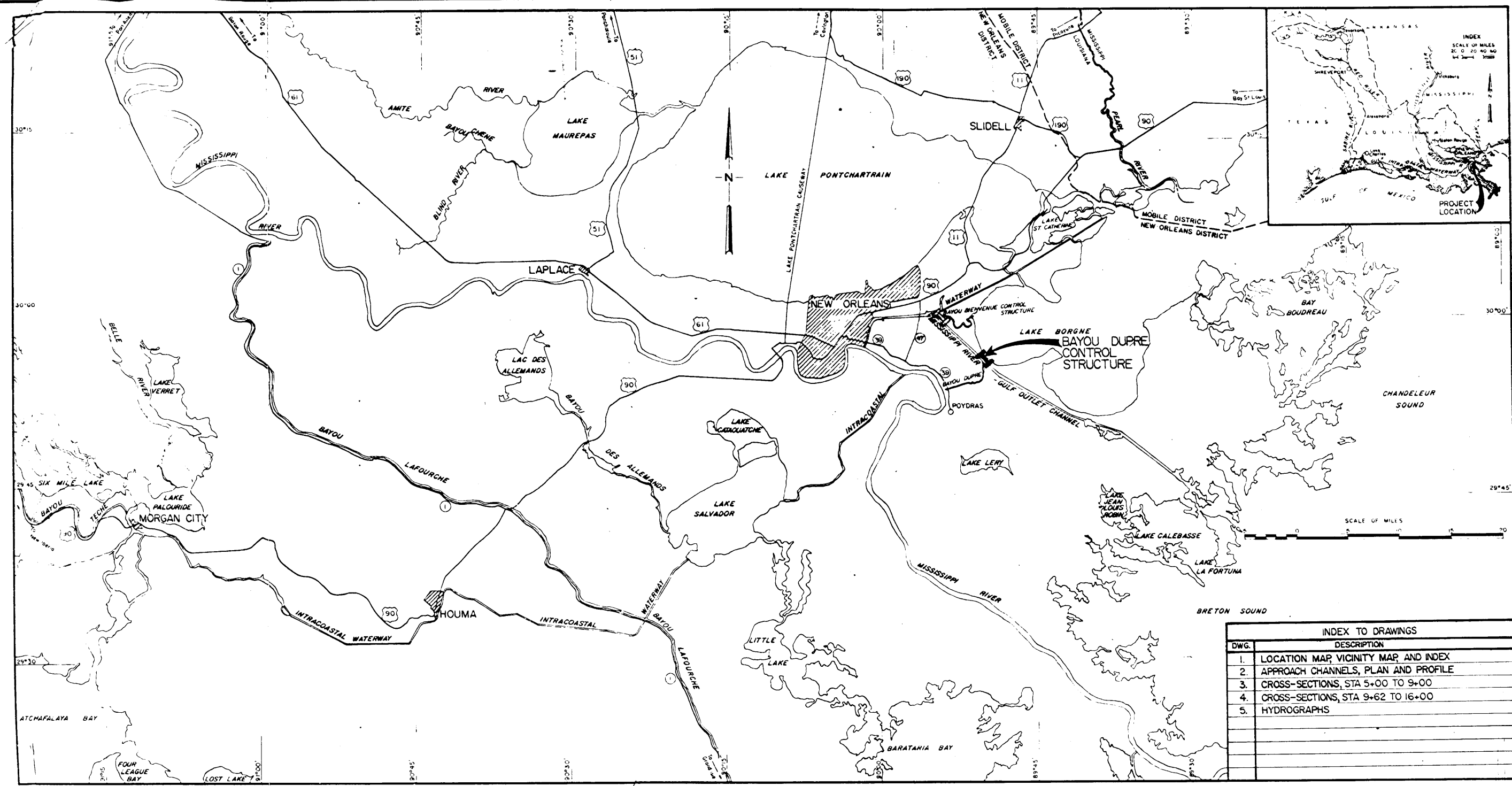
\* Revised

III-1

Incl 3

Since there is no evidence of structural cracks or rotation of the wingwall this is not considered serious at present. Settlement should continue to be monitored to detect further change, stabilization, or if there was some problem with the latest surveys received.



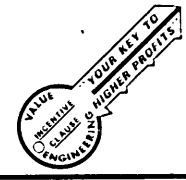


DWG.	DESCRIPTION
1.	LOCATION MAP, VICINITY MAP AND INDEX
2.	APPROACH CHANNELS, PLAN AND PROFILE
3.	CROSS-SECTIONS, STA 5+00 TO 9+00
4.	CROSS-SECTIONS, STA 9+62 TO 16+00
5.	HYDROGRAPHS

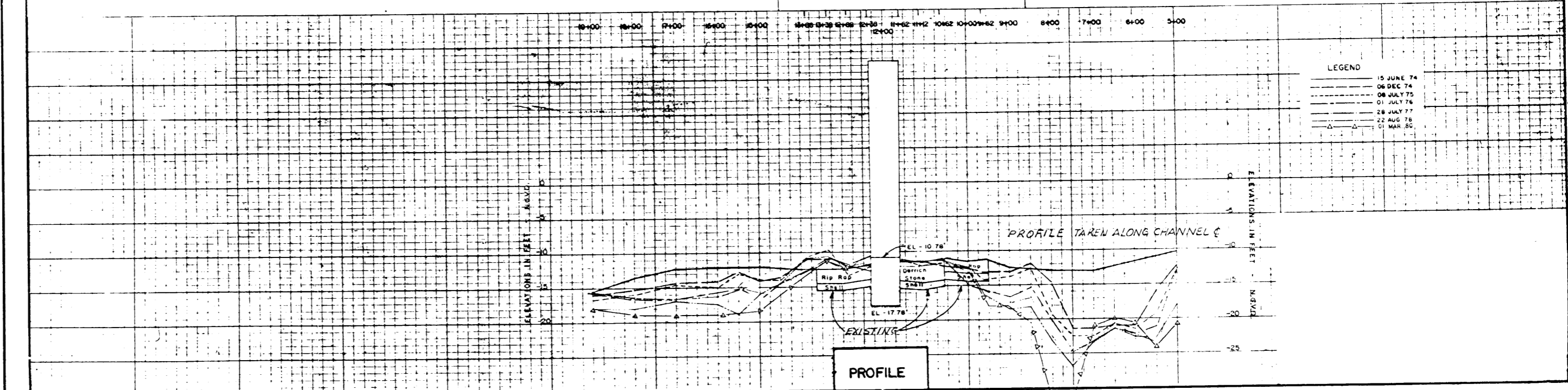
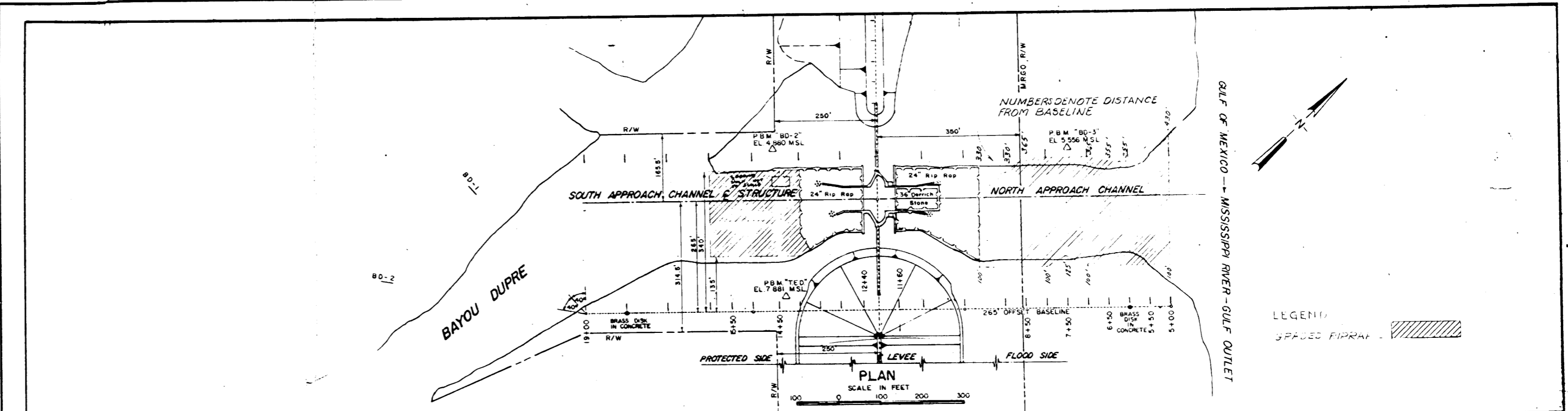
# BAYOU DUPRE CONTROL STRUCTURE

## 1980 SCOUR REPAIRS

### ST. BERNARD PARISH, LA.


  
*Safety is a Part of Your Contract*
  
 NOTE: DRAWING REDUCED TO ONE HALF SCALE

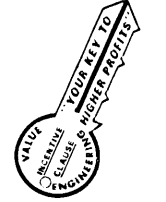
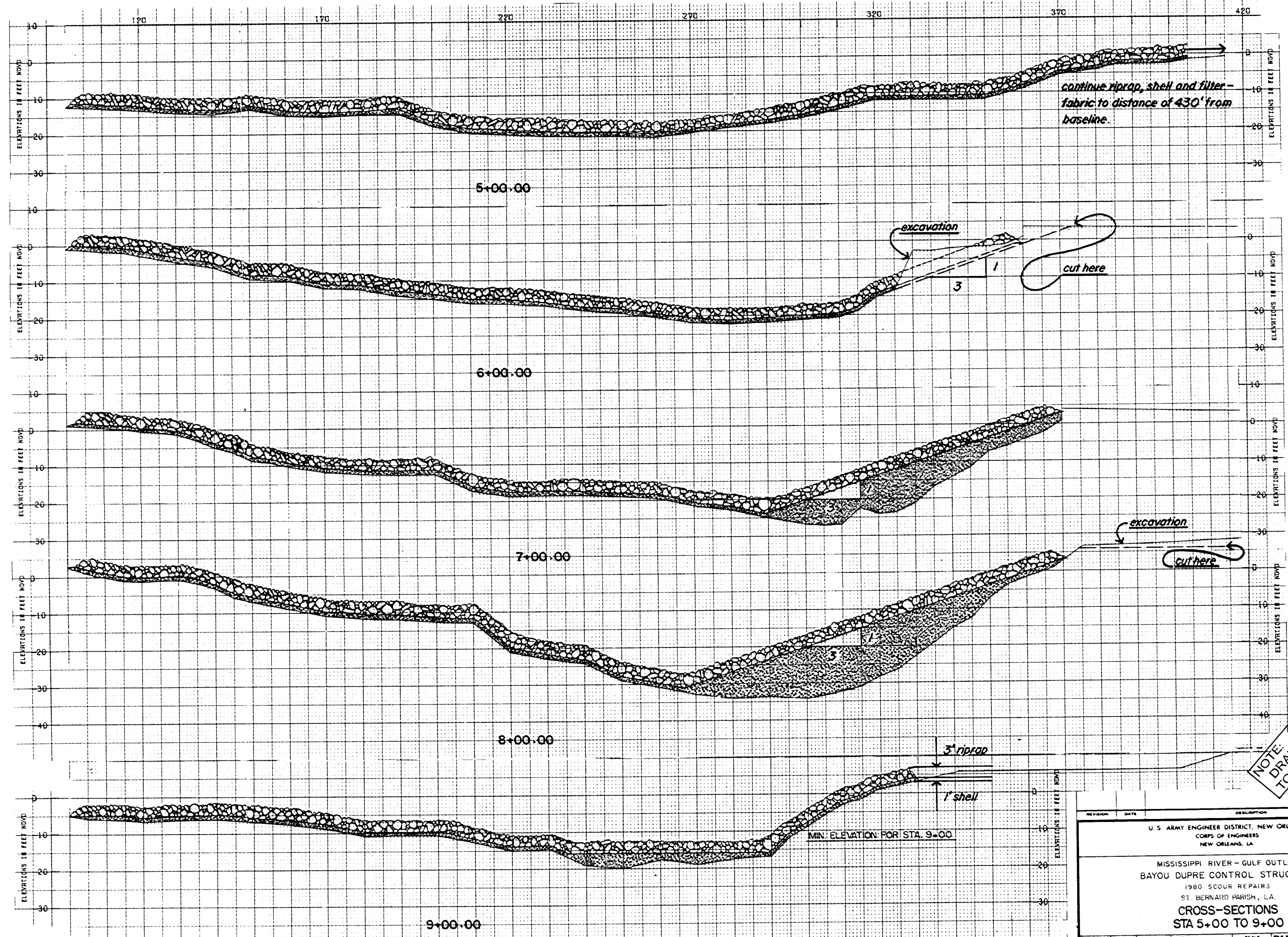
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U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LA.			
SUBMITTED:		MISSISSIPPI RIVER - GULF OUTLET BAYOU DUPRE CONTROL STRUCTURE 1980 SCOUR REPAIRS ST. BERNARD PARISH, LA.	
APPROVED:		LOCATION MAP, VICINITY MAP AND INDEX	
DESIGNED BY:	DRWN:	DATE:	SCALE:
HRV	JOS HLB	SEPTEMBER 1980	AS SHOWN
CHECKED BY:		FILE NO.:	
THOMAS J. SANDS		H-4-28845	
PROJECT NO.:		SHEET NO. 5	
DACW29-80-B-0160			



*Safety is a Part of Your Contract*

NOTE:  
DRAWING REDUCED  
TO ONE-HALF SCALE

REVISION		DATE	DESCRIPTION	BY
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LA.				
MISSISSIPPI RIVER - GULF OUTLET BAYOU DUPRE CONTROL STRUCTURE 1980 SCOUR REPAIRS ST. BERNARD PARISH, LA. <b>APPROACH CHANNELS PLAN AND PROFILE</b>				
DESIGNED HRV	DRAWN J.O.S.	CHECKED H.L.B.	DATE SEPTEMBER 1980	SCALE AS SHOWN
			FILE NO. H-4-28845	
SUBMITTED BY <i>[Signature]</i>			SPEC. NO. DACW29-80-B-0160	SHEET 2 OF 5

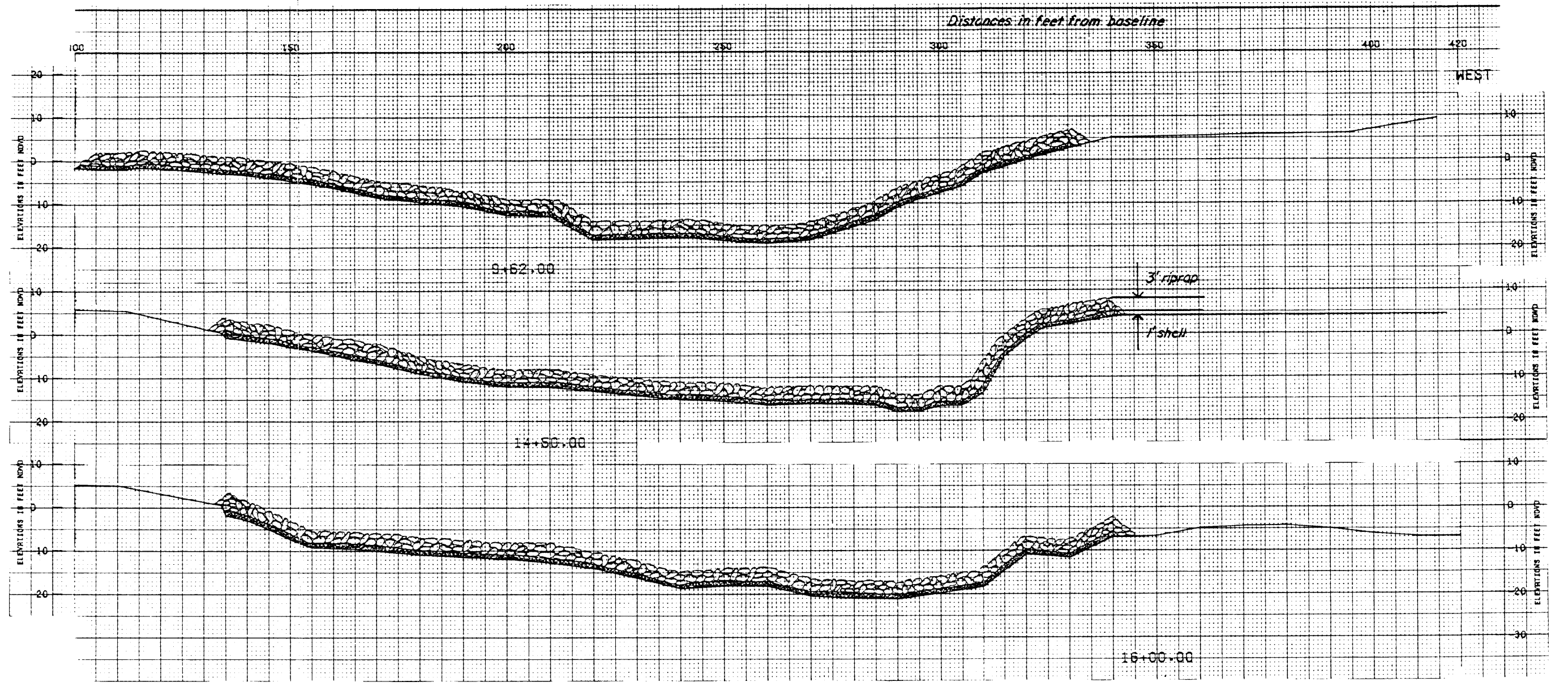


*Safety is a Part of Your Commitment*

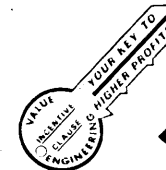
NOTE: DRAWING REDUCED TO ONE HALF SCALE

note: see drawing 4 of 5 for legend.



REVISION	DATE	DESCRIPTION	BY
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LA.			
MISSISSIPPI RIVER - GULF OUTLET BAYOU DUPRE CONTROL STRUCTURE 1980 SCOUR REPAIRS ST. BERNARD PARISH, LA. <b>CROSS-SECTIONS</b> <b>STA 5+00 TO 9+00</b>			
DESIGNED H.R.V.	DRAWN J.O.S.	CHECKED H.L.B.	DATE SEPTEMBER 1980
SCALE AS SHOWN		FILE NO. H-4-28845	
DRAWN BY <i>[Signature]</i>		SPEC. NO. DACW29-80-B-0160	
		SHEET NO. 3 OF 5	



Note:  
Sections taken facing South



*Safety is a Part of Every Contract*

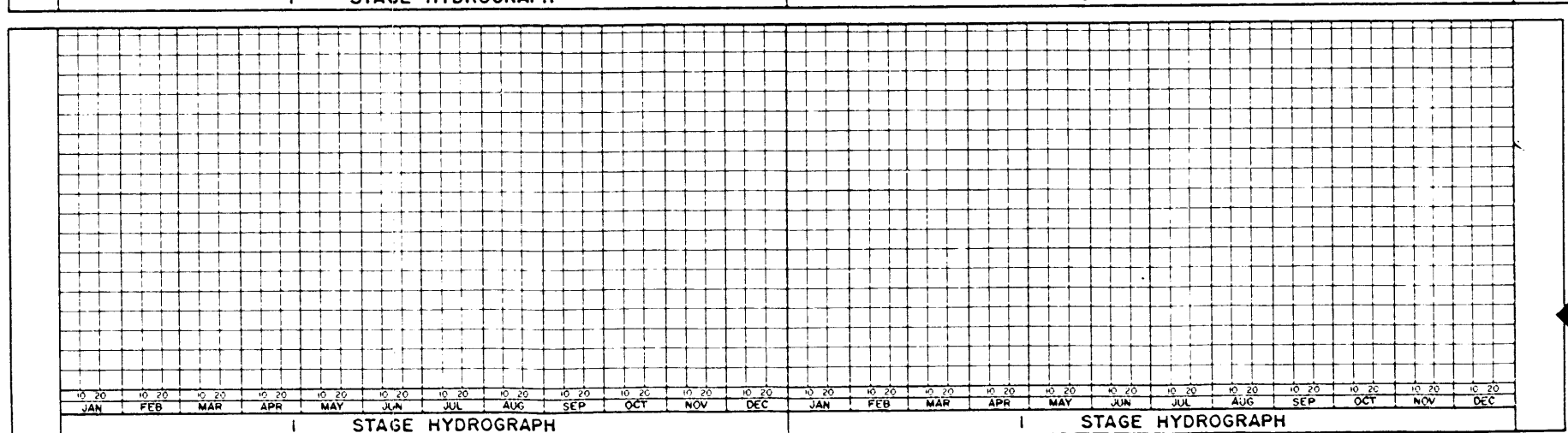
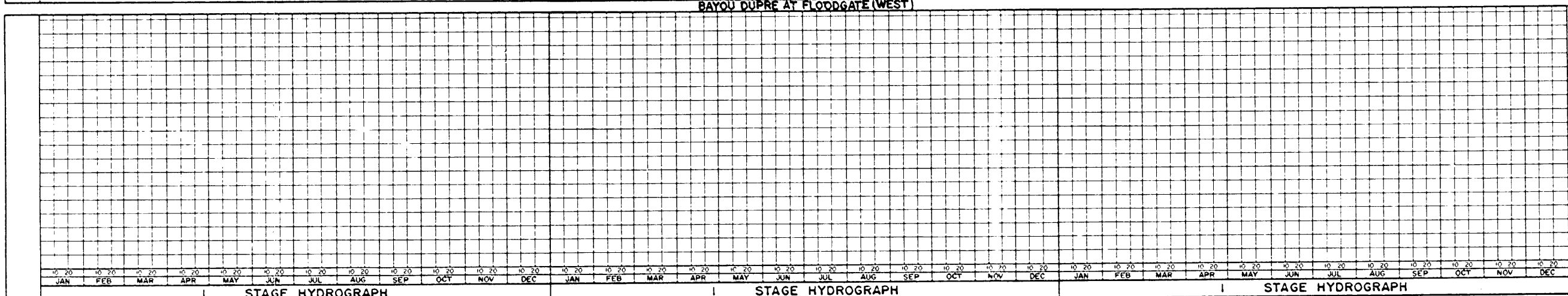
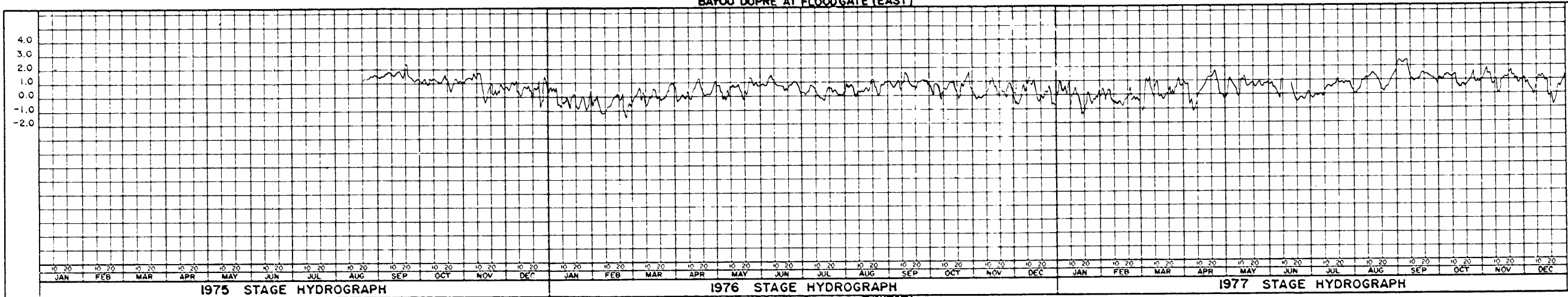
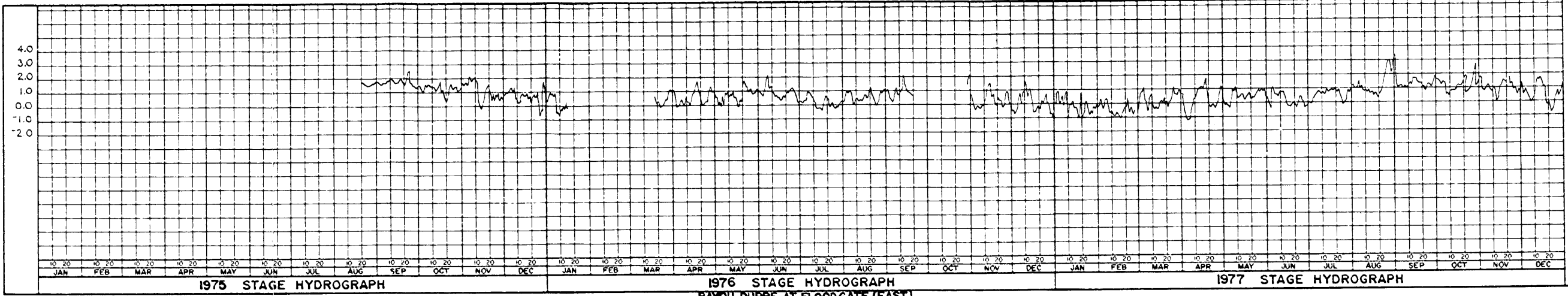
LEGEND  
 SHELL  
 RIPRAP

NOTE:  
DRAWING REDUCED TO ONE HALF SCALE

REVISION	DATE	DESCRIPTION	BY
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LA			
MISSISSIPPI RIVER - GULF OUTLET BAYOU DUPRE CONTROL STRUCTURE 1980 SCOUR REPAIRS ST. BERNARD PARISH, LA. CROSS-SECTIONS STA 9+62 TO 16+00			
DESIGNED HRV	DRAWN JOS	CHECKED H.L.B.	DATE SEPTEMBER 1980
SCALE AS SHOWN		FILE NO. H-4-28845	
SPEC NO. DACW29-80-B-0160		DWS 4 of 5	

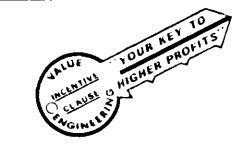
GAGE READINGS IN FEET  
NGVD

GAGE READINGS IN FEET



*Safety is a Part of Your Contract*

**NOTE: DRAWING REDUCED TO ONE HALF SCALE**



REVISION	DATE	DESCRIPTION	BY
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LA.			
MISSISSIPPI RIVER - GULF OUTLET BAYOU DUPRE CONTROL STRUCTURE 1980 SCOUR REPAIRS ST. BERNARD PARISH, LA. <b>HYDROGRAPHS</b>			
DESIGNED	DRAWN	CHECKED	DATE
H. H. V.	J. O. S.	H. L. B.	SEPT. 1979
SCALE	AS SHOWN	FILE NO.	
			H-4-28845
DRAWN BY		DATE	
James H. B. J. O. S.		SEPT. 1979	
SPEC. NO.		DWG. NO.	
DACW29-80-B-0160		5A of 5	

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

4-01 Design Review. The original design was 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 design criteria has been 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, has not changed.

4-03 Analysis of Instrumentation.

a. Settlement Reference Marks. Neither the 1980 nor the 1982 (current) surveys indicate unusual settlement or rebound at any point of the structure. See plates 6 through 10.

1. The settlement reference marks for the concrete sheet pile wall on the west and east side of the control structure show some settlement as expected due to settling of levee fill.

2. An overall settlement of 1" - 1½" is indicated over most of the structure with 3" occurring at the east end of the east floodwall.

3. It is felt at this time that the settlement has not reached significant magnitude to cause structural damage, however, it should be monitored very closely to detect any possible future settlement that could endanger the safety of the structure.

b. Alinement Survey. The 17 Dec 1982 survey indicates a maximum of 1 1/4 inch misalignment from the centerline of the structure.

This doesn't present any major structural deficiency affecting the functional capabilities of the structure. The 1980 and 1982 survey measurements at reference marks E-1, E-5 and E-15 appear compatible and indicate that the 1978 measurements which had indicated between

\* .8 and 1.0" movement was, in fact, erroneous, see plate 9.

\* The June and December 82 surveys indicate a reversal movement of nearly equal magnitude from north to south ending in the proximity of prior coordinates. Additional observation is necessary to assess the significance and/or credibility of these indications.

c. Scour Survey. Scour is not significant in the approach channels of the control structure. However, after comparing the Jun 82 and Dec 82 surveys (listed on Pg. IV-3), it is noted that a section of station 17+00, PL20 has scoured approximately 10.0 ft. The section is located about 300 ft. from the east bank. No danger is anticipated for the control structure, since the scour is well past the end of the riprap placed to stabilize the channel. Remedial actions are not currently needed.

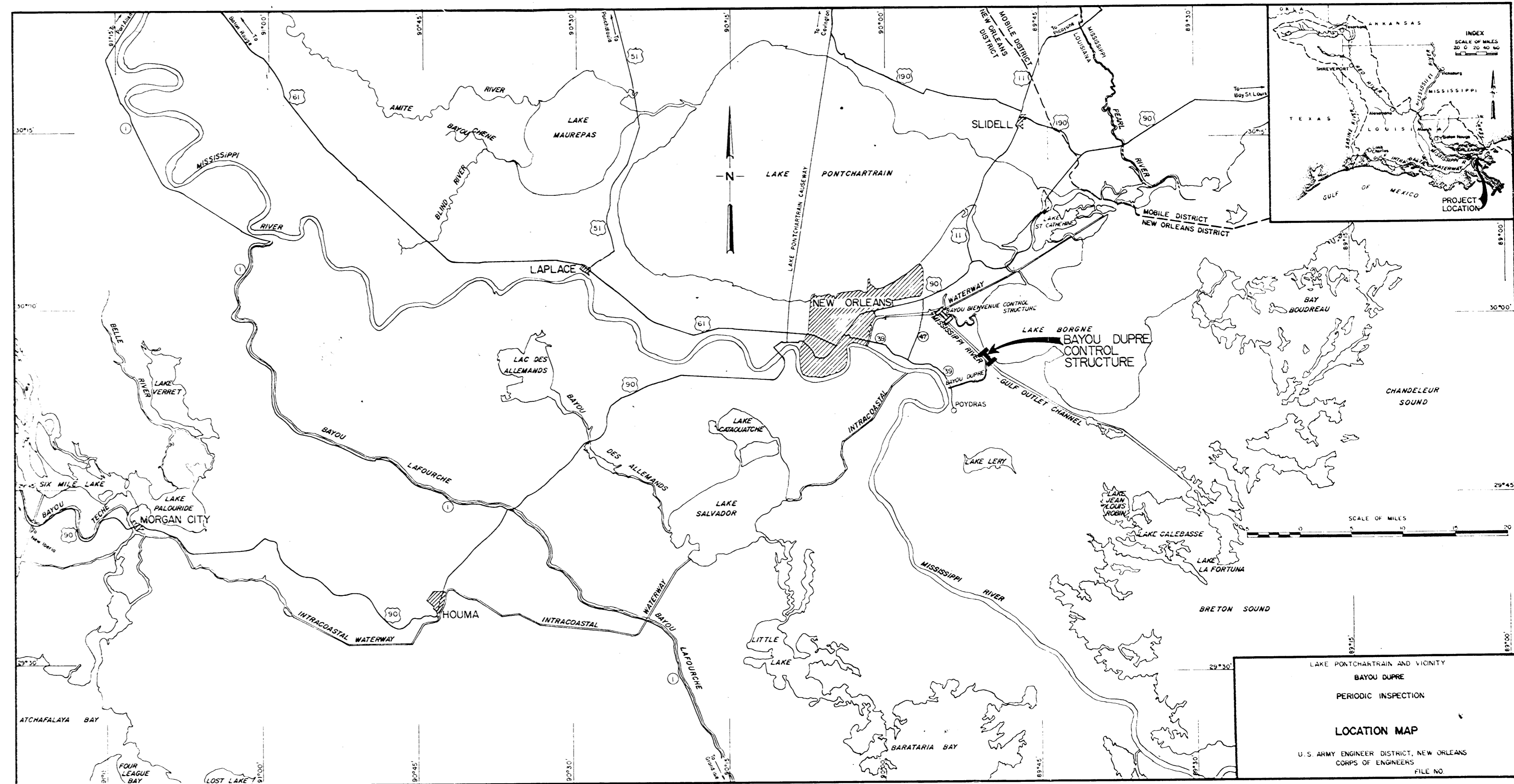
d. Closure Dam, Cross Section Survey. The enclosed cross-sections from latest surveys (Dec 82) plates 24 - 29 indicate elevations of approximately 10.0 ft. NGVD for the closure dam in the vicinity of the Old Bayou Channel (stations 687+22 to 696+72). The design elevation is 17.50 ft. NGVD. However, upon visual inspection on 1 Dec 83, it was evident that additional work had been done subsequent to this survey, apparently restoring the closure dam to an elevation compatible with the remaining portion of the levee.

BAYOU DUPRE CONTROL STRUCTURE

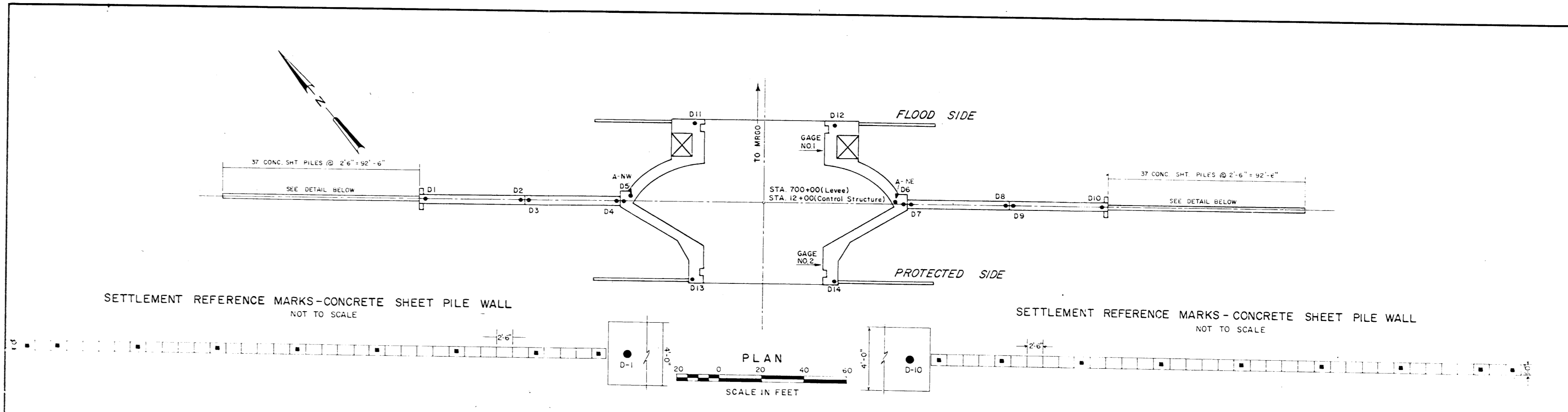
INSTRUMENTATION DRAWINGS

<u>PLATE NO.</u>	<u>TITLE</u>
1	Location Map
2	Instrumentation Location, Tabulation
3	Settlement Reference Marks Plan and Profile, Sheet File
4	Settlement Reference Marks Plan and Profile
5	Instrument Location
6	Settlement Reference Marks Differential Charts
7	Closure Dam and Levee
8	Plan and Profile
9	Alinement
10	Differential Settlement
11	Profile Survey (74-82)
12	Scour Survey (74-82)
13	Scour Survey (74-82)
14	Scour Survey (74-82)
15	Scour Survey (74-82)
16	Scour Survey (74-82)
17	Scour Survey (74-82)
18	Scour Survey (74-82)
19	Scour Survey (74-82)
20	Scour Survey (74-82)
21	Scour Survey (74-82)
22	Profile Survey (74-82)
23	Profile Survey (74-82)
24	Cross Section Survey (74-82)
25	Scour Survey (74-82)
26	Scour Survey (74-82)
27	Scour Survey (74-82)
28	Scour Survey (74-82)
29	Cross Section Survey (74-82)
30	Crack Survey
31	Crack Survey





LAKE PONTCHARTRAIN AND VICINITY  
 BAYOU DUPRE  
 PERIODIC INSPECTION  
**LOCATION MAP**  
 U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS  
 CORPS OF ENGINEERS  
 FILE NO.



NO OF REFERENCE MARKS	DISTANCE TO REFERENCE MARKS											
	D2-D3	D4-D5	D5-D6	D6-D7	D8-D9	D11-D12	D13-D14					
INITIAL DATE	6-7-74	6-7-74	6-7-74	6-7-74	6-7-74	6-7-74	6-7-74					
ORIGINAL READINGS	4.00	4.05	129.96	4.00	4.00	64.17	64.08					
9 DECEMBER 1974	4.02	4.06	129.98	4.02	4.01	64.15	64.03					
7 JULY 1975	4.01	4.06	129.94	4.00	4.02	64.13	64.02					
22 JULY 1976	4.00	4.06	129.92	4.00	4.00	64.14	64.03					
10 AUGUST 1977	4.01	4.05	129.95	4.01	4.01	64.15	64.13					
25 AUGUST 1978	4.01	4.12	131.89	4.02	4.01	64.17	64.06					

PBM TD-1 Elevation m.s.l.  
Galvanized pipe, 1/2 inches in diameter, was set in bore hole at a depth of 95 feet. The 1/2-inch diameter pipe was then driven an additional 10.5 feet into strata. PBM is on the east side of Bayou Dupre, south side of the structure, 105 feet from Bayou Dupre and 252 feet from the wall of the structure. The 1/2-inch pipe is protected by 3-inch diameter galvanized pipe with cap and three 1/2-inch guard posts painted yellow.

PBM BD-2 Elevation m.s.l.  
Galvanized pipe, 1/2 inches in diameter, was set in bore hole at a depth of 95 feet, then driven an additional 10.5 feet into strata. PBM is on the west side of Bayou Dupre and on the south side of the structure, 67 feet from Bayou Dupre and 291 feet from the wall of the structure. The 1/2-inch pipe is protected by 3-inch diameter galvanized pipe with cap and three 1/2-inch guard posts painted yellow.

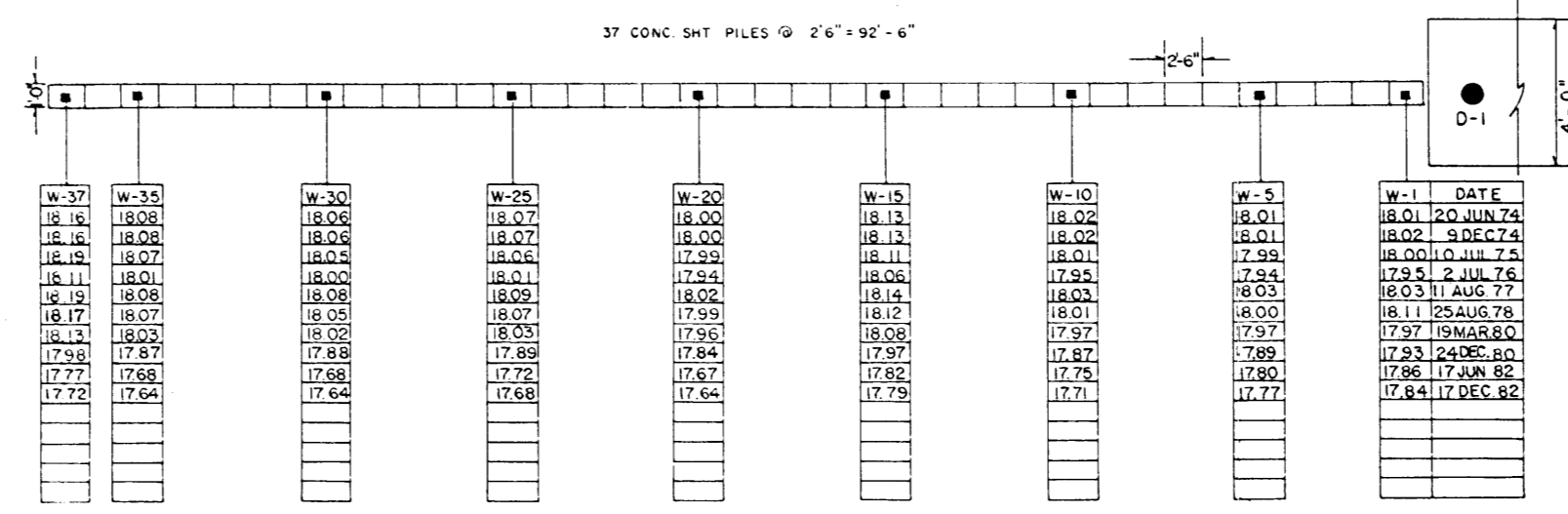
PBM BD-3 Elevation m.s.l.  
Galvanized pipe, 1/2 inches in diameter was set in bore hole at a depth of 95 feet then driven an additional 10.5 feet into strata. PBM is on the west side of Bayou Dupre and 126 feet west of Bayou Dupre and 483 feet from the wall of the structure. The 1/2-inch diameter pipe is protected by 3-inch diameter galvanized pipe with cap and three 1/2-inch guard posts 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.

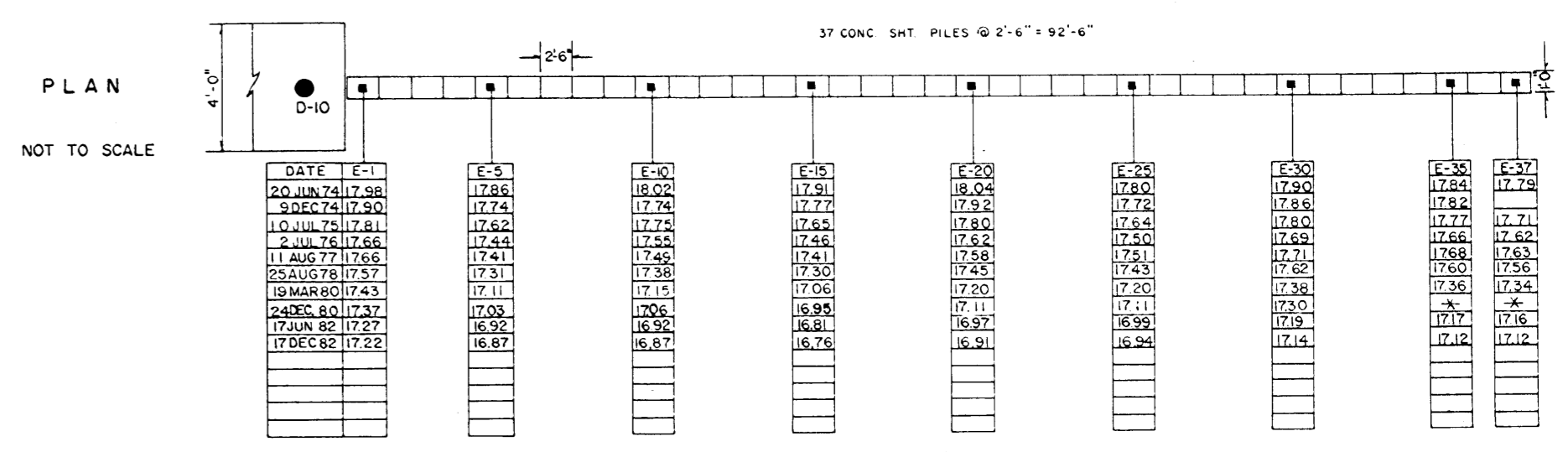
\*This gage may be in error as 3 new PBMs were set during May and June 1974. The present gage was set by general contractor earlier.

REVISION	DATE	DESCRIPTION	BY
		LAKE BOUTCHARTON AND VICINITY BAYOU DUPRE PERIODIC INSPECTION	
<b>INSTRUMENTATION LOCATION</b>			
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS			
FILE NO.			

SETTLEMENT REFERENCE MARKS-CONCRETE SHEET PILE WALL

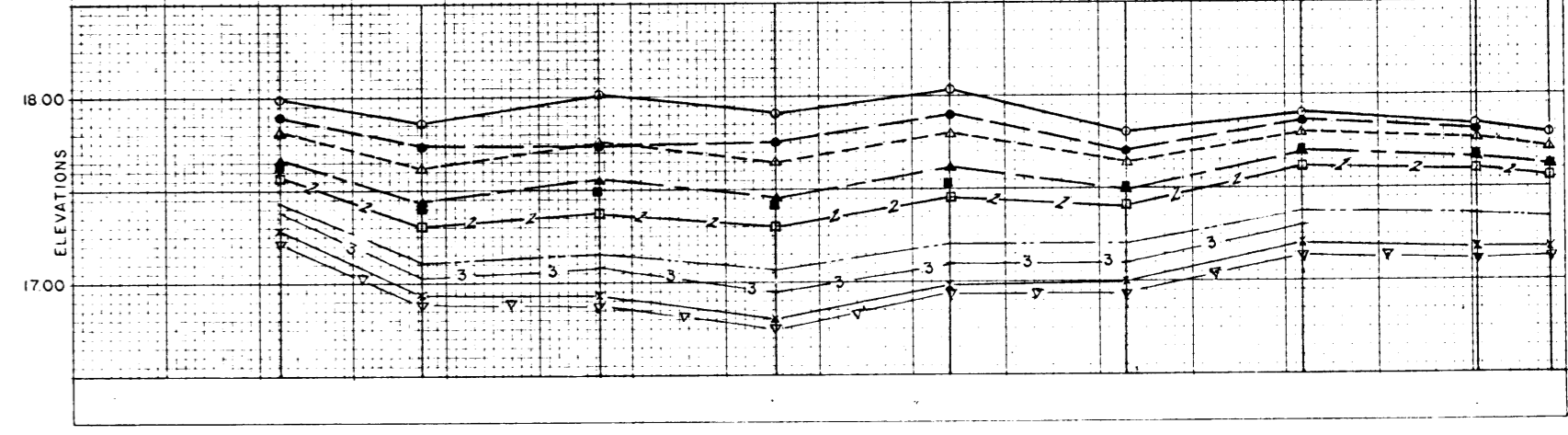
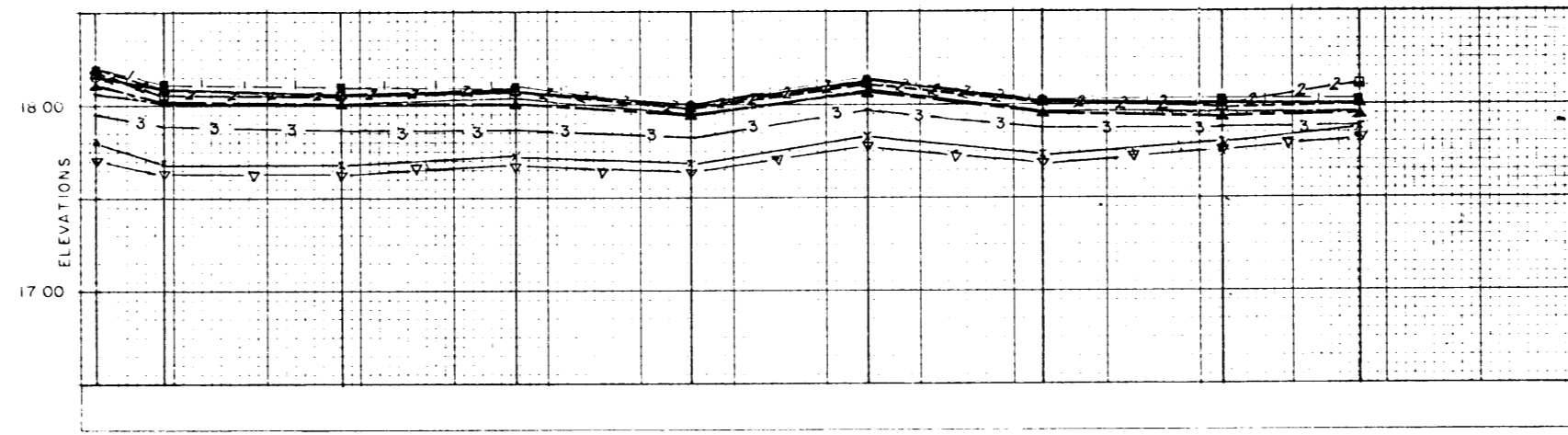


SETTLEMENT REFERENCE MARKS-CONCRETE SHEET PILE WALL



NOTE:  
\* COVERED BY LEVEE

Survey of Dec & Jun. 74 same point



LEGEND

○	20 JUN 1974	---	19 MAR 1980
●	9 DEC 1974	- - -	24 DEC 1980
△	10 JUL 1975	— x —	17 JUN 1982
▲	2 JUL 1976	— v —	17 DEC 1982
■	11 AUG 1977		
□	25 AUG 1978		

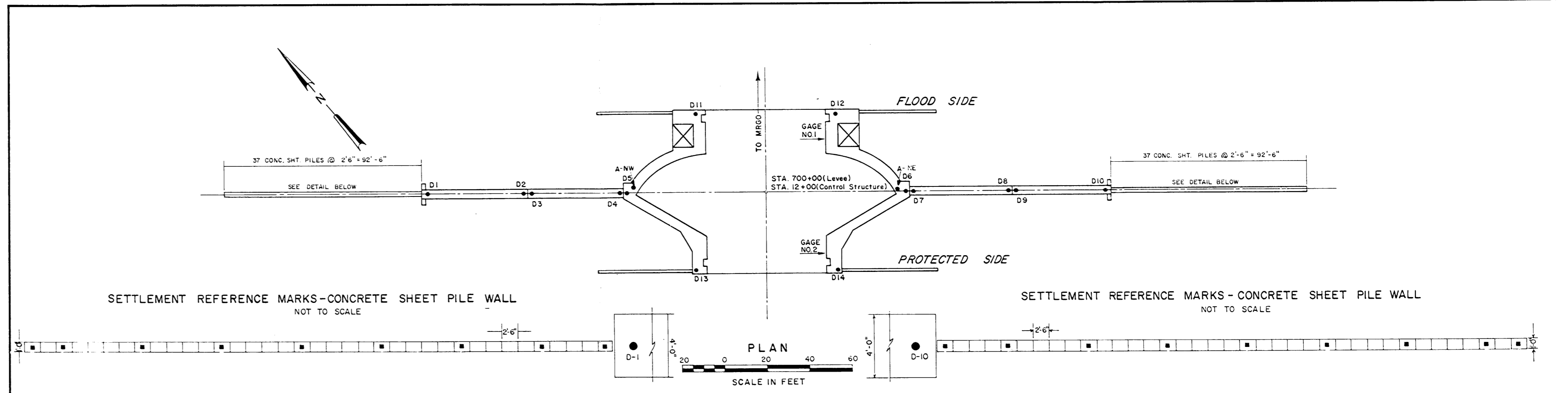
LAKE PONTCHARTRAIN AND VICINITY  
BAYOU DUPRE  
PERIODIC INSPECTION

**SETTLEMENT REFERENCE MARKS  
PLAN AND PROFILE  
CONCRETE-SHEET PILE**

U S ARMY ENGINEER DISTRICT, NEW ORLEANS  
CORPS OF ENGINEERS

PL-3  
FILE NO. N-





		DISTANCE TO REFERENCE MARKS							
		D2-D3	D4-D5	D5-D6	D6-D7	D8-D9	D11-D12	D13-D14	
NO. OF REFERENCE MARKS		6-7-74	6-7-74	6-7-74	6-7-74	6-7-74	6-7-74	6-7-74	6-7-74
INITIAL DATE		4.00	4.05	129.96	4.00	4.00	64.17	64.08	
DATE OF OBSERVATION	9 DECEMBER 1974	4.02	4.06	129.98	4.02	4.01	64.15	64.03	
	3 JULY 1975	4.01	4.06	129.94	4.00	4.02	64.13	64.02	
	22 JULY 1976	4.00	4.06	129.92	4.00	4.00	64.14	64.03	
	10 AUGUST 1977	4.01	4.05	129.95	4.01	4.01	64.15	64.13	
	25 AUGUST 1978	4.01	4.12	131.89	4.02	4.01	64.17	64.06	
	19 MARCH 1980	4.01	4.03	---	4.02	4.02	---	---	
	24 DECEMBER 1980	4.00	4.08	---	4.03	4.02	---	---	
17 JUNE 1982	4.07	4.02	---	4.03	4.02	---	---		
17 DECEMBER 1982	4.02	4.08	---	4.04	4.03	64.15	64.05		

**PBM TD-1 Elevation N.G.V.D.**  
Galvanized pipe, 1/2 inches in diameter, was set in bore hole at a depth of 95 feet. The 1/2-inch diameter pipe was then driven an additional 10.5 feet into strata. PBM is on the east side of Bayou Dupre, south side of the structure, 105 feet from Bayou Dupre and 282 feet from the wall of the structure. The 1/2-inch pipe is protected by 3-inch diameter galvanized pipe with cap and three 1/2-inch guard posts painted yellow.

**PBM BD-2 Elevation N.G.V.D.**  
Galvanized pipe, 1/2 inches in diameter, was set in bore hole at a depth of 95 feet, then driven an additional 10.5 feet into strata. PBM is on the west side of Bayou Dupre and on the south side of the structure, 67 feet from Bayou Dupre and 291 feet from the wall of the structure. The 1/2-inch pipe is protected by 3-inch diameter galvanized pipe with cap and three 1/2-inch guard posts painted yellow.

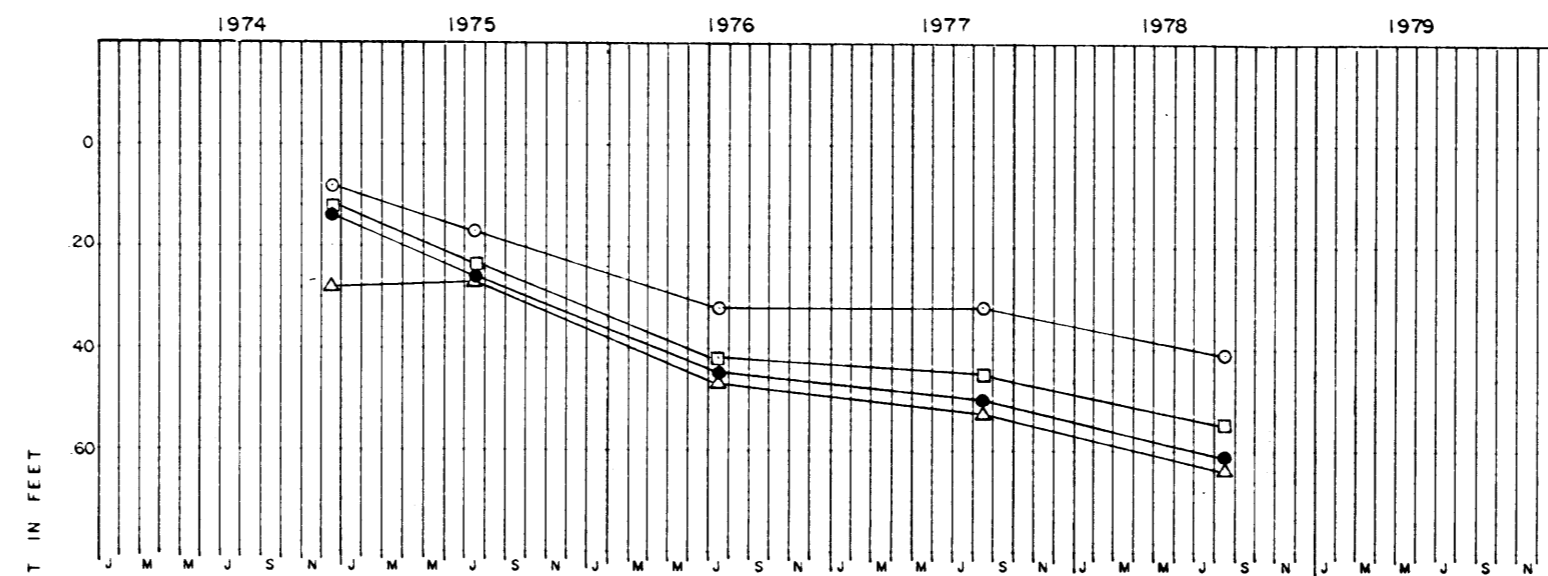
**PBM BD-3 Elevation N.G.V.D.**  
Galvanized pipe, 1/2 inches in diameter, was set in bore hole at a depth of 95 feet then driven an additional 10.5 feet into strata. PBM is on the west side of Bayou Dupre and 128 feet west of Bayou Dupre and 483 feet from the wall of the structure. The 1/2-inch diameter pipe is protected by 3-inch diameter galvanized pipe with cap and three 1/2-inch guard posts 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 N.G.V.D.

\*This gage may be in error as 3 new PBMs were set during May and June 1974. The present gage was set by general contractor earlier.

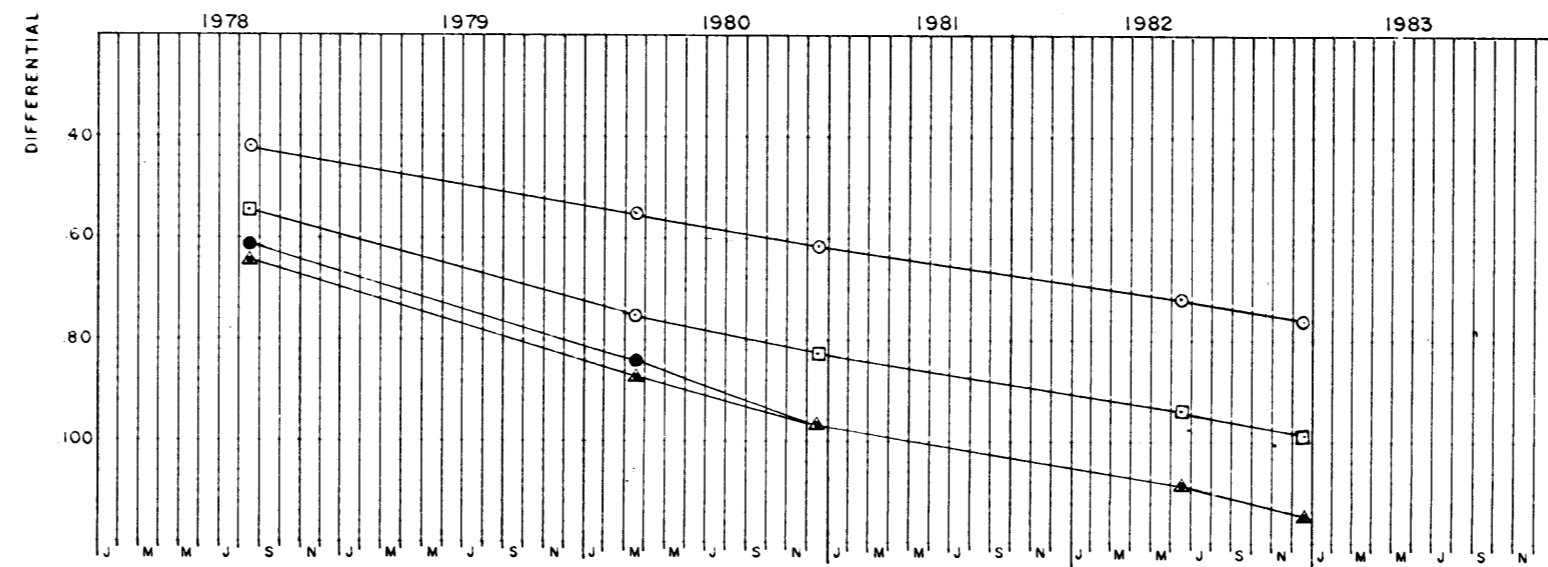
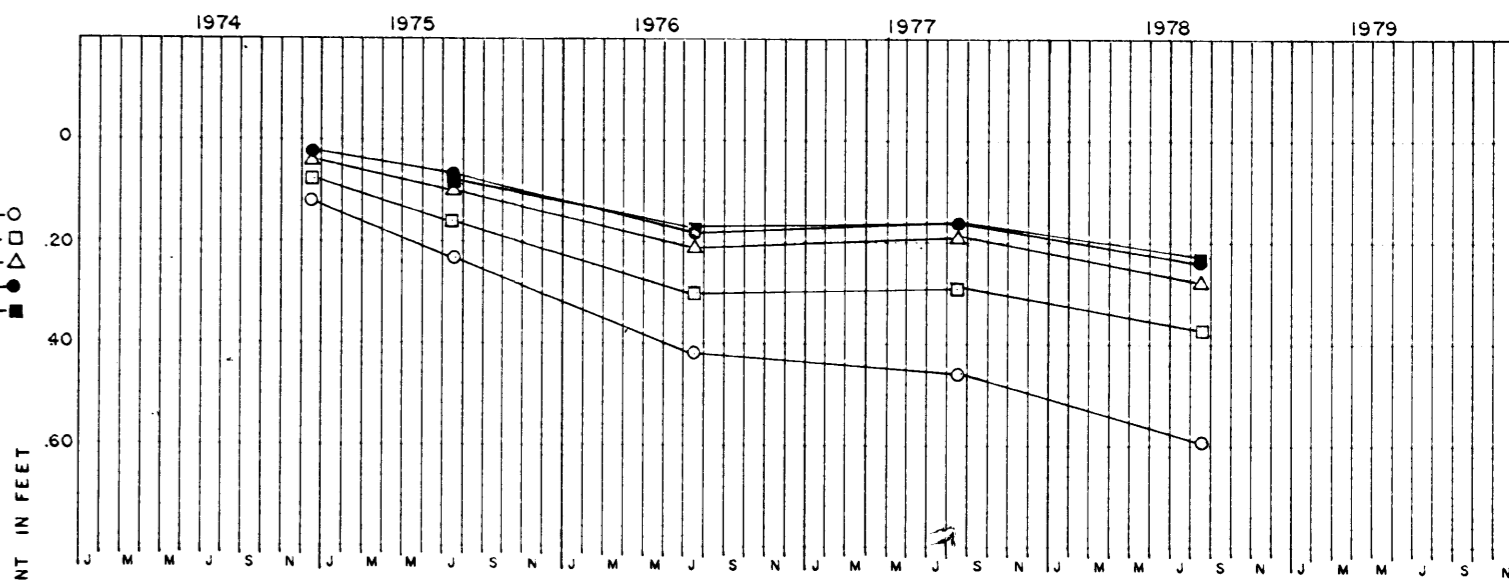
REVISION	DATE	DESCRIPTION	BY
LAKE PONCHARTRAIN AND VICINITY BAYOU DUPRE PERIODIC INSPECTION <b>INSTRUMENTATION LOCATION</b>			
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS			
FILE NO. <b>PL-5</b>			

EAST CONCRETE SHEET PILE WALL



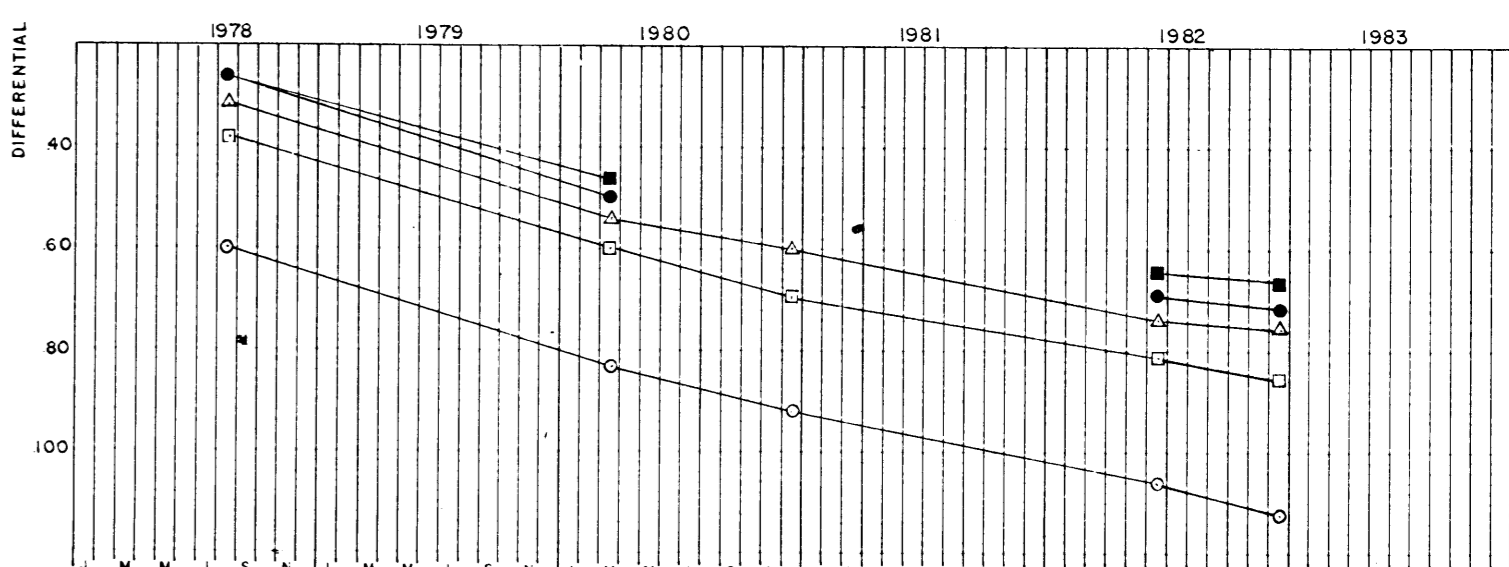
LEGEND

E-1	○	E-20	○
E-5	□	E-25	□
E-10	△	E-30	△
E-15	●	E-35	●
		E-37	■



LEGEND

E-1	○	E-20	○
E-5	□	E-25	□
E-10	△	E-30	△
E-15	●	E-35	●
		E-37	■

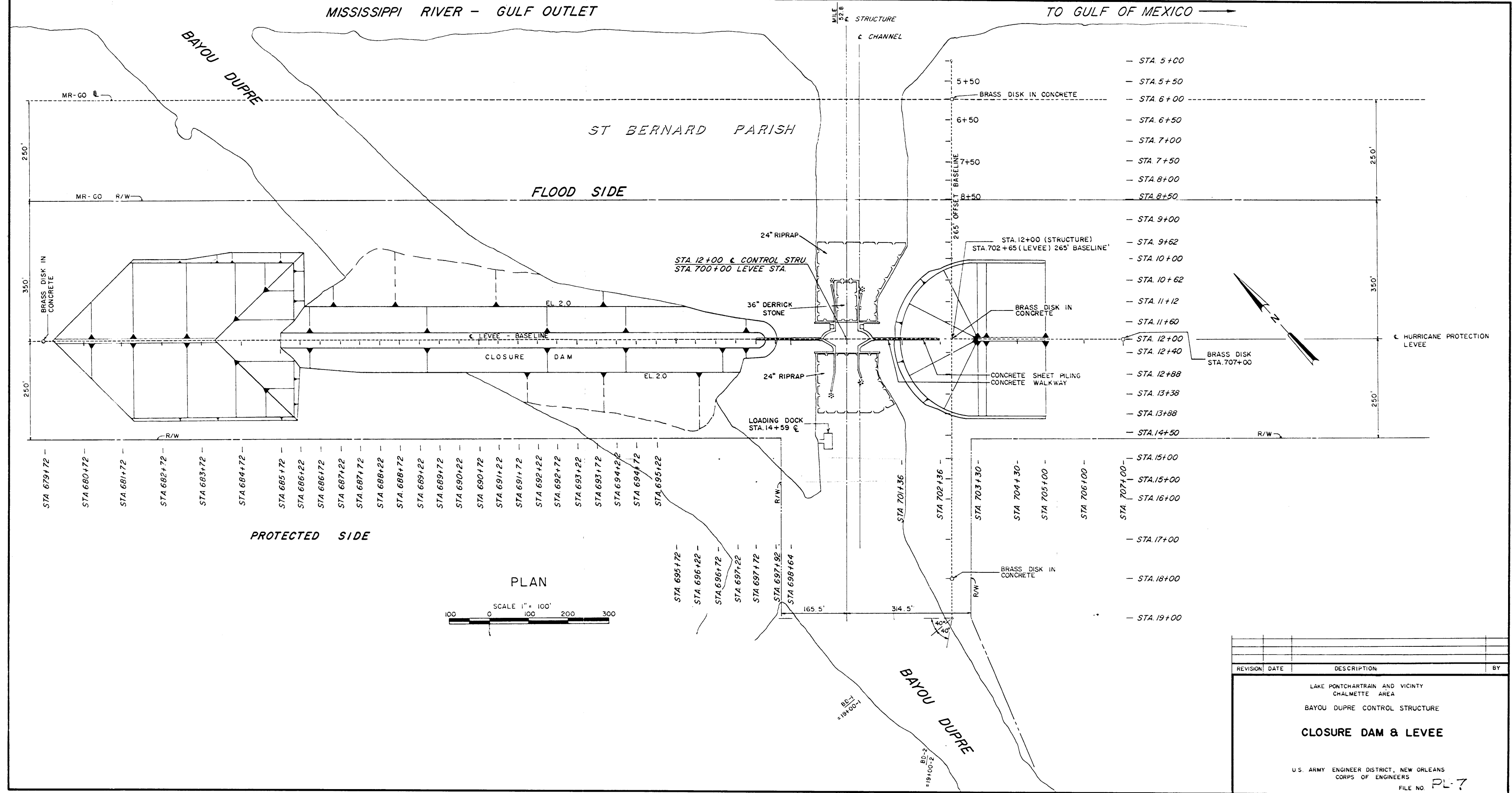


NOTE:  
For location and tabulation of  
settlement reference marks see  
plate

LAKE PONTCHARTRAIN AND VICINITY  
BAYOU DUPRE  
PERIODIC INSPECTION  
SETTLEMENT REFERENCE MARKS  
DIFFERENTIAL SETTLEMENT CHART

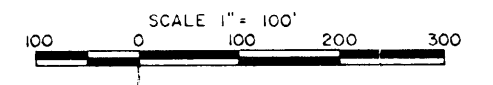
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS  
CORPS OF ENGINEERS

PL. 6  
FILE NO. W-4-26657



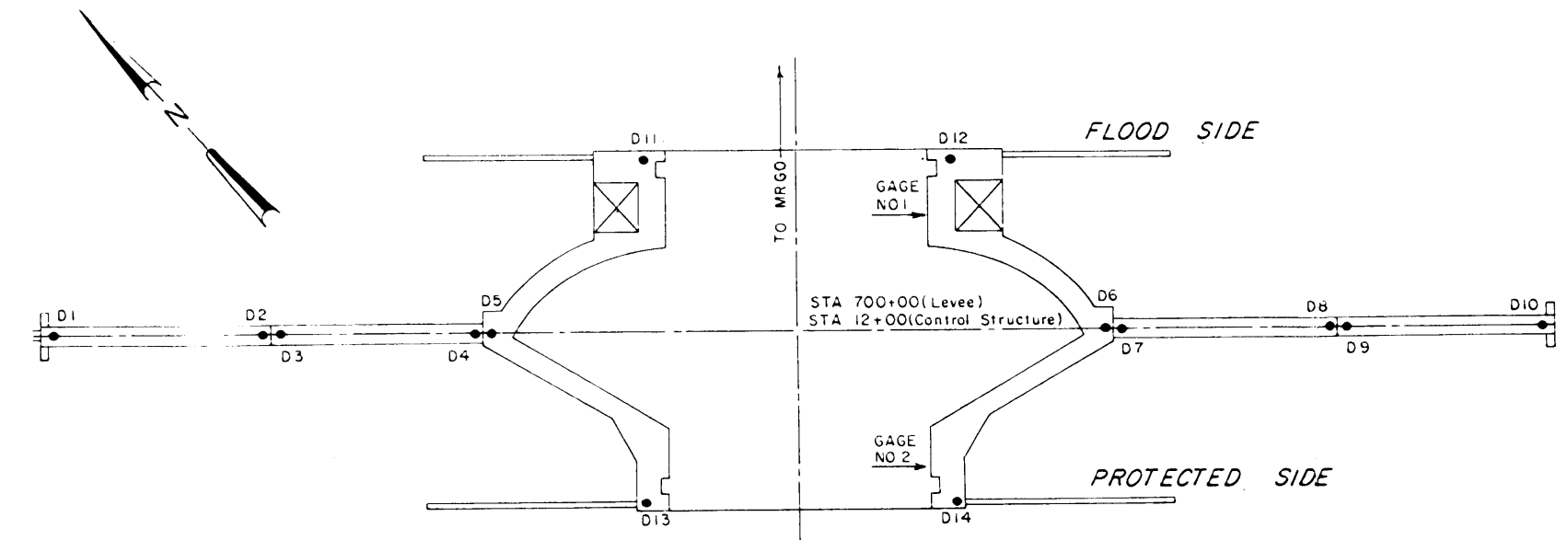
PROTECTED SIDE

PLAN

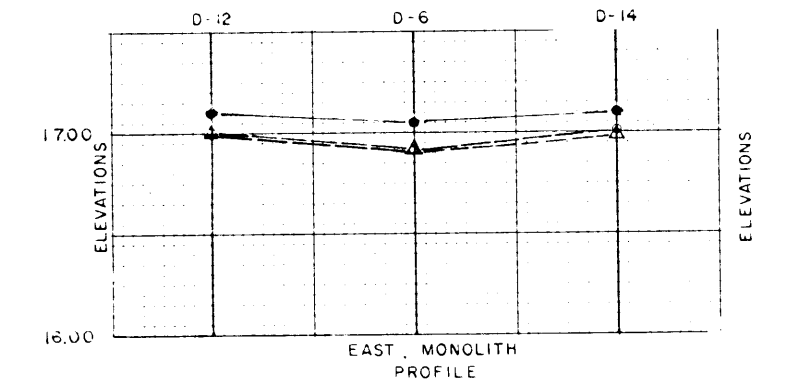
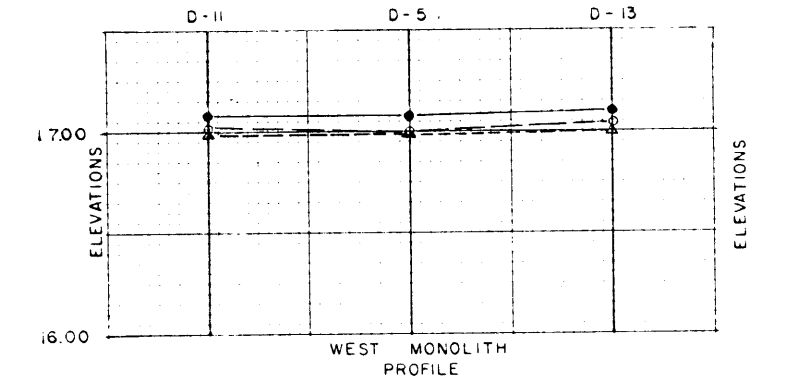
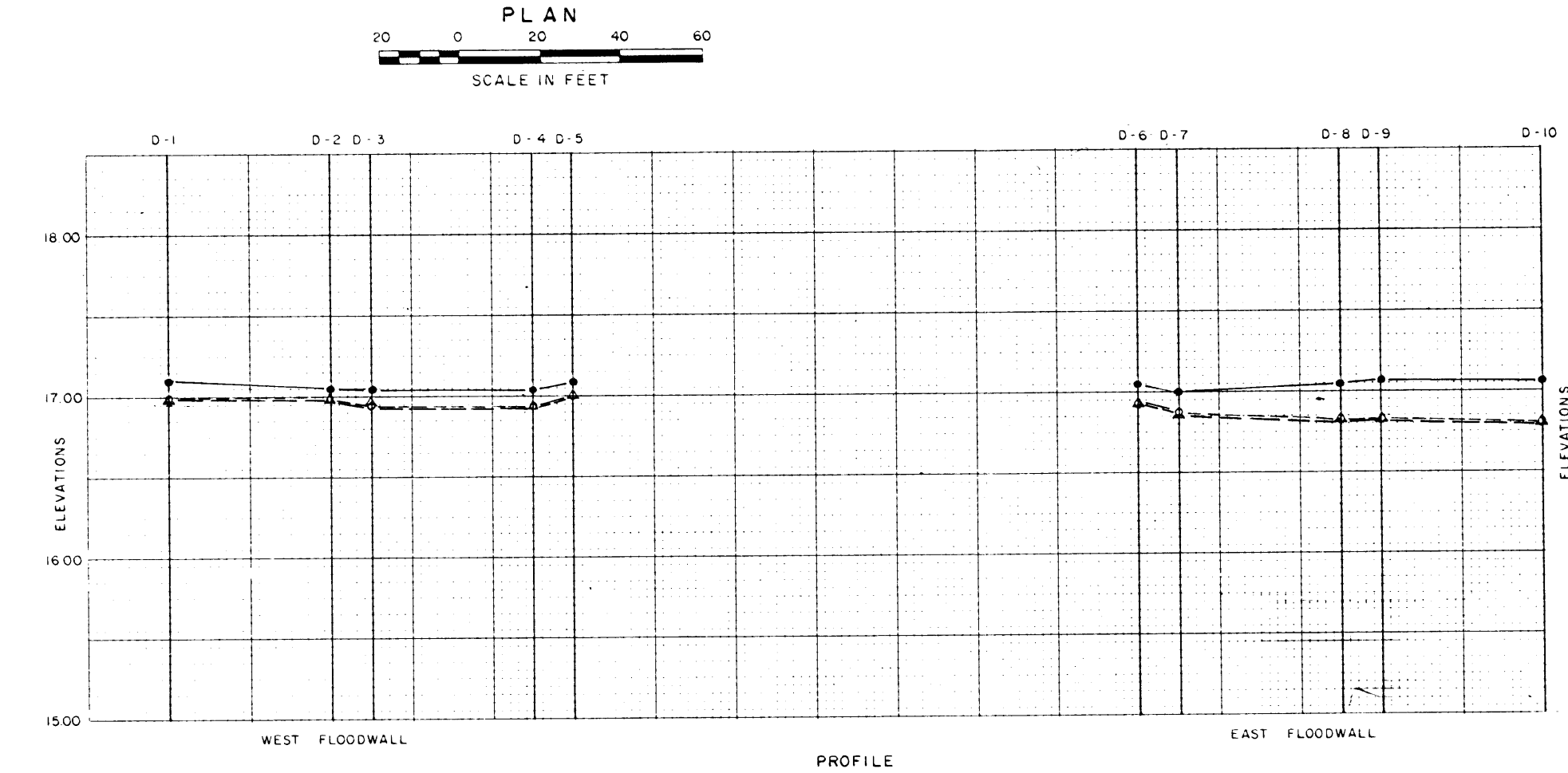


REVISION	DATE	DESCRIPTION	BY

LAKE PONCHARTRAIN AND VICINITY  
CHALMETTE AREA  
BAYOU DUPRE CONTROL STRUCTURE  
**CLOSURE DAM & LEVEE**  
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS  
CORPS OF ENGINEERS  
FILE NO. PL-7



NO OF REFERENCE MARKS	SETTLEMENT REFERENCE MARKS														TEMP	GAGE 1	GAGE 2					
	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9	D-10	D-11	D-12	D-13	D-14								
INITIAL DATE	7-20-74	7-20-74	7-20-74	7-20-74	7-20-74	7-20-74	7-20-74	7-20-74	7-20-74	7-20-74	7-20-74	7-20-74	7-20-74	7-20-74	7-20-74	7-20-74	7-20-74	91*	1.6	1.6		
ORIGINAL READINGS	17.07	17.04	17.03	17.03	17.07	17.04	17.01	17.03	17.05	17.05	17.07	17.10	17.10	17.09	17.01	17.01	17.03	17.00	85*	0.7	0.6	
17 JUNE 1982	16.99	16.98	16.96	16.95	17.00	16.92	16.88	16.86	16.87	16.81	17.01	17.01	17.03	17.00	17.01	17.01	17.03	17.00	85*	0.7	0.6	
17 DECEMBER 1982	16.97	16.96	16.95	16.94	16.99	16.90	16.85	16.83	16.84	16.79	16.99	17.01	16.92	16.95	16.99	17.01	16.92	16.95	83*	1.2	1.4	
DATE OF OBSERVATIONS																						

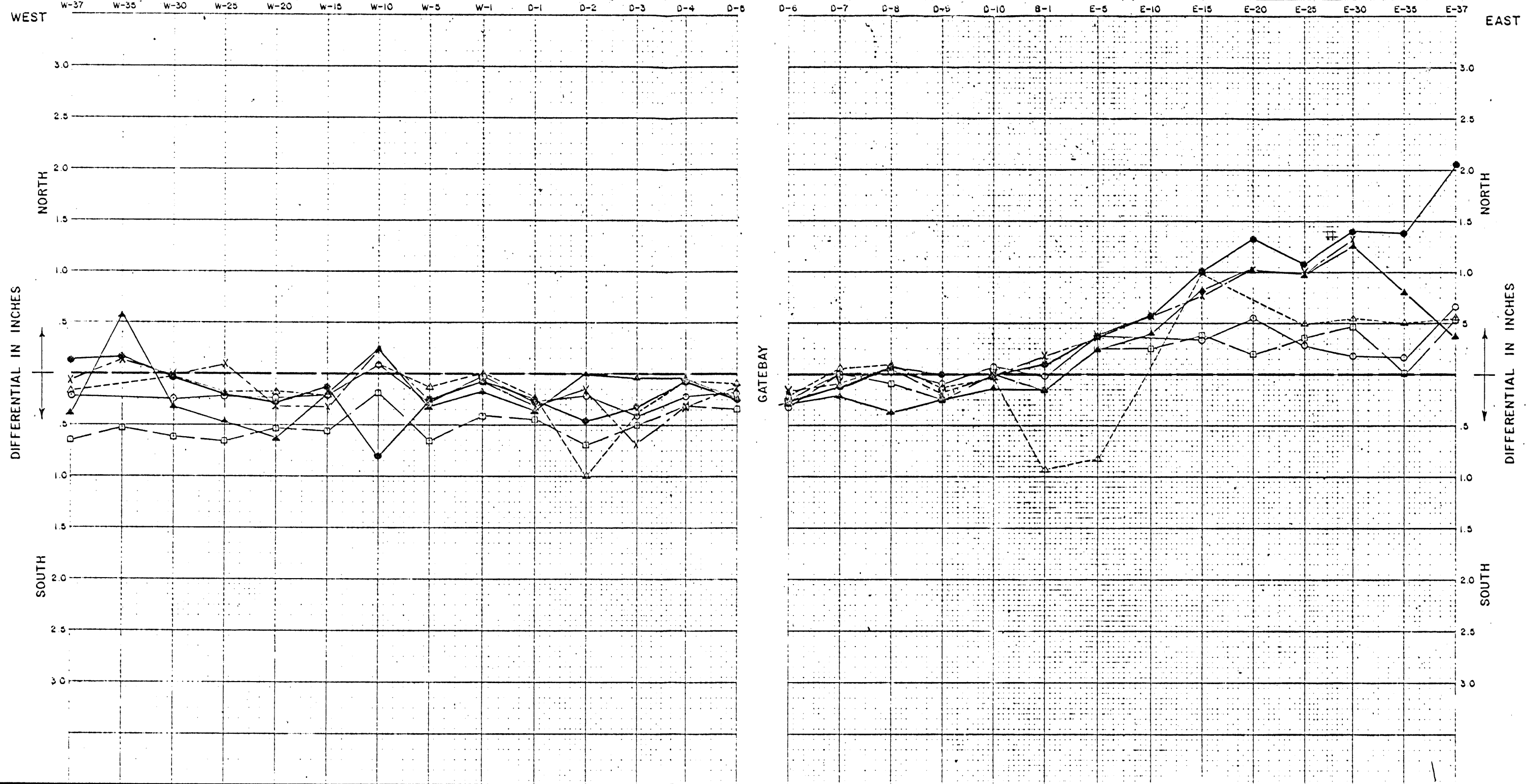


LEGEND  
 ● 20 July 1974  
 ○ 17 June 1982  
 △ 17 Dec 1982  
 — 1  
 — 2

LAKE PONTCHARTRAIN AND VICINITY  
 BAYOU DUPRE  
 PERIODIC INSPECTION  
**SETTLEMENT REFERENCE MARKS**  
**PLAN AND PROFILE**  
 U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS  
 CORPS OF ENGINEERS  
 FILE NO. PL-8



NO. OF REFERENCE MARK	W-37	W-35	W-30	W-25	W-20	W-15	W-10	W-5	W-1	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9	D-10	E-1	E-5	E-10	E-15	E-20	E-25	E-30	E-35	E-37	TEMP.	
DATE INSTALLED	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76	7-23-76		
ORIGINAL READINGS(IN)	3.675 S	4.312 S	3.688 S	3.625 S	3.625 S	3.562 S	4.062 S	3.500 S	3.438 S	3.875 S	3.812 S	4.000 S	3.438 S	3.000 S	3.000 S	3.375 S	3.812 S	3.750 S	3.750 S	3.031 S	2.875 S	2.812 S	2.031 S	2.188 S	1.562 S	1.781 S	2.250 S	3.812 S	102°F	
DATE OF OBSERVATIONS	AUGUST 11 1977		3.937 S	3.843 S	3.906 S	3.781 S	3.966 S	3.781 S	3.468	4.156 S	4.031 S	4.406 S	3.656 S	3.187 S	3.343 S	3.375 S	3.781 S	3.843 S	3.687 S	3.062 S	2.500 S		1.687 S	1.622 S	1.281 S	1.593 S	2.093 S	3.156 S	93°F	
	AUGUST 25 1978		3.718 S	3.812 S	3.812 S	3.781 S	4.000 S	3.625 S	3.437 S	4.093 S	4.781 S	4.375 S	3.500 S	3.093 S	3.218 S	3.312 S	3.718 S	3.875 S	3.781 S	3.968 S	3.656 S		1.031 S	1.062 S	1.250 S	1.750 S	3.281 S	94°F		
	MARCH 19 1980	4.531 S	4.843 S	4.312 S	4.281 S	4.156 S	4.125 S	4.250 S	4.156 S	3.843 S	4.312 S	4.500 S	4.500 S	3.750 S	3.343 S	3.375 S	3.506 S	4.000 S	3.750 S	3.187 S	2.625 S	2.562 S	1.656 S	2.000 S	1.187 S	1.312 S	2.250 S	3.281 S	66°F	
	DECEMBER 24 1980	3.969 S	4.188 S	3.719 S	3.563 S	3.536 S	3.875 S	3.844 S	3.750 S	3.531 S	4.156 S	4.000 S	4.988 S	3.780 S	3.156 S	3.188 S	3.437 S	3.838 S	3.750 S	2.813 S	2.500 S	2.250 S	1.250 S	1.156 S	0.563 S	0.500 S	*	3.343 S	68°F	
	JUNE 17 1982	3.750 S	4.125 S	3.750 S	3.812 S	3.875 S	4.875 S	3.750 S	3.500 S	4.125 S	4.250 S	4.375 S	3.900 S	3.250 S	3.250 S	3.500 S	3.500 S	3.750 S	3.750 S	2.937 S	2.500 S	2.250 S	1.000 S	0.875 S	0.500 S	0.375 S	0.875 S	1.750 S	68°F	
	DECEMBER 17, 1982	4.250 S	3.719 S	4.000 S	4.094 S	4.250 S	3.719 S	3.812 S	3.812 S	3.594 S	4.250 S	3.812 S	4.031 S	3.469 S	3.212 S	3.212 S	3.212 S	3.212 S	4.000 S	3.844 S	3.156 S	2.656 S	2.406 S	1.219 S	1.156 S	0.563 S	0.331 S	1.468 S	3.938 S	57°F



**LEGEND**

- — 11 AUG 1977
- △ — 25 AUG 1978
- — 19 MAR 1980
- × — 24 DEC 1980
- — 17 JUN 1982
- ▲ — 17 DEC 1982

**NOTE:**

- ◻ For location of points see Plate 3
- \* Covered by Levee
- \* *Apparent Survey Error*

A-NW — LINE OF SIGHT — A-NE  
ALL MARKS ARE SOUTH OF L.O.S.

LAKE PONTCHARTRAIN AND VICINITY  
BAYOU DUPRE  
PERIODIC INSPECTION

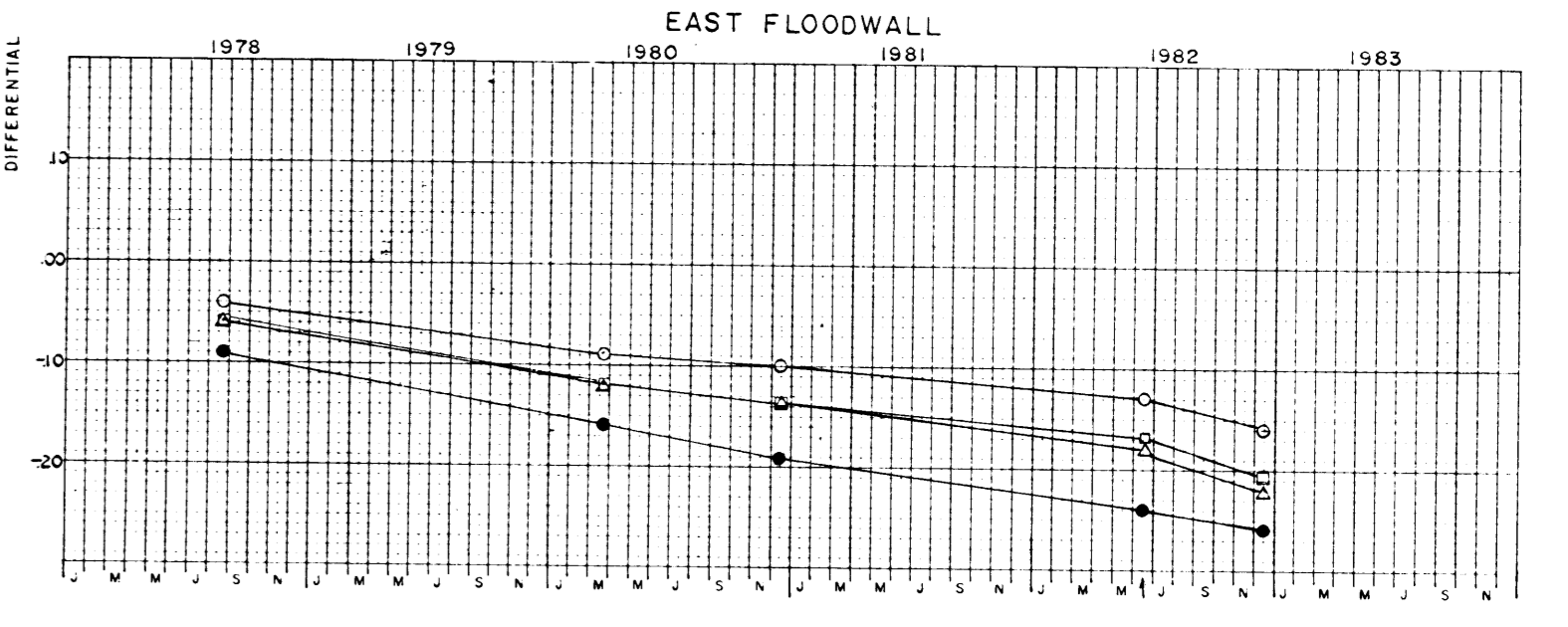
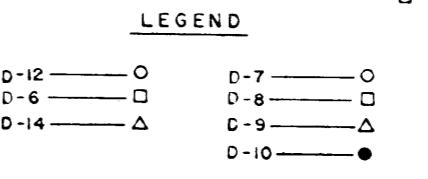
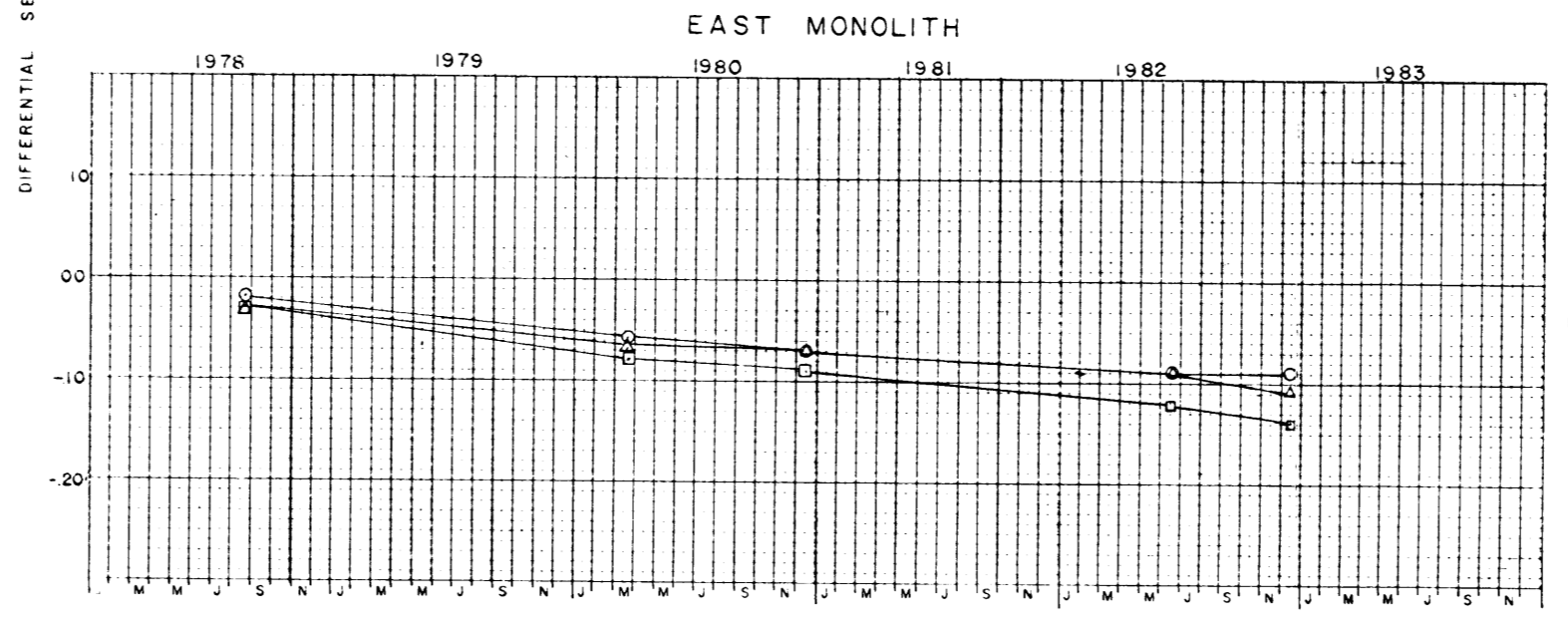
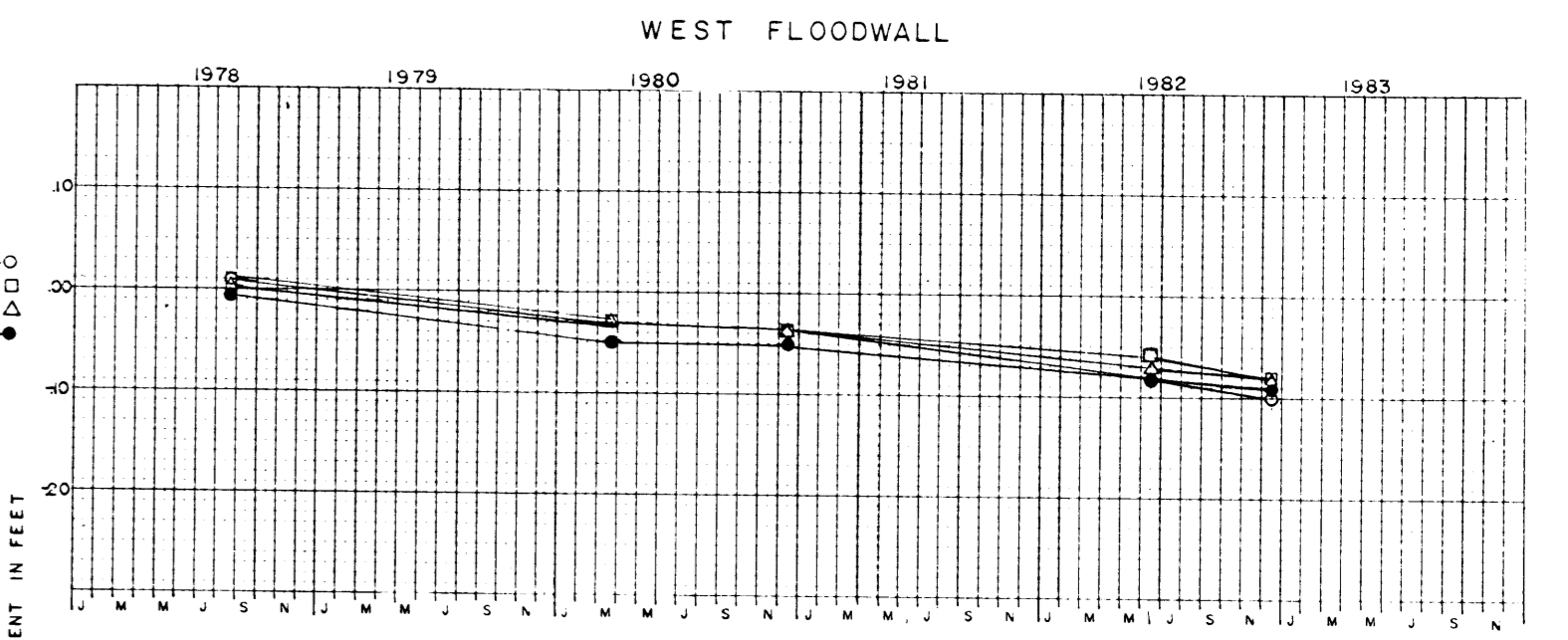
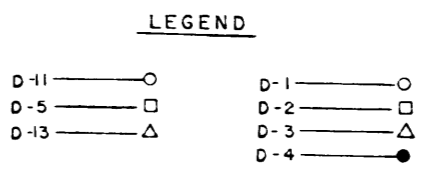
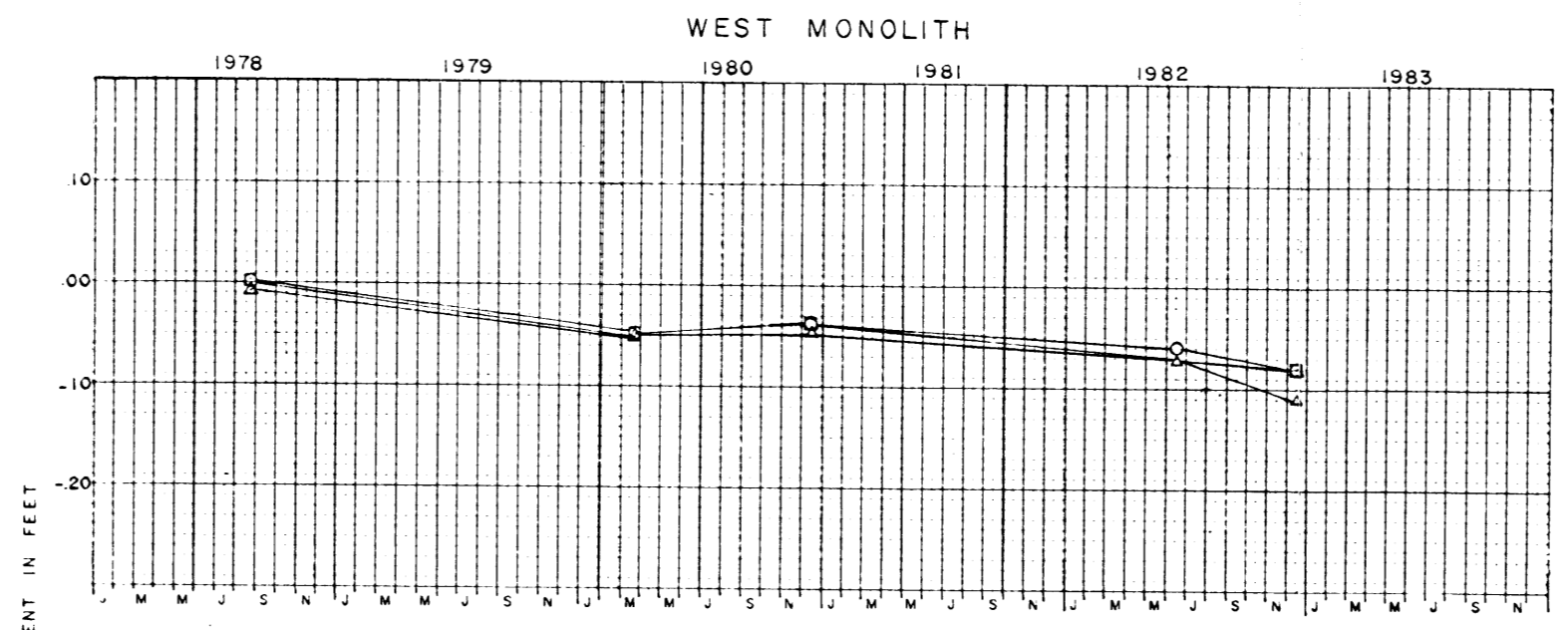
**ALINEMENT**

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

Added Note, AI No 511/84

PL-9  
FILE NO. H-4-26855

INCLOSURE 7



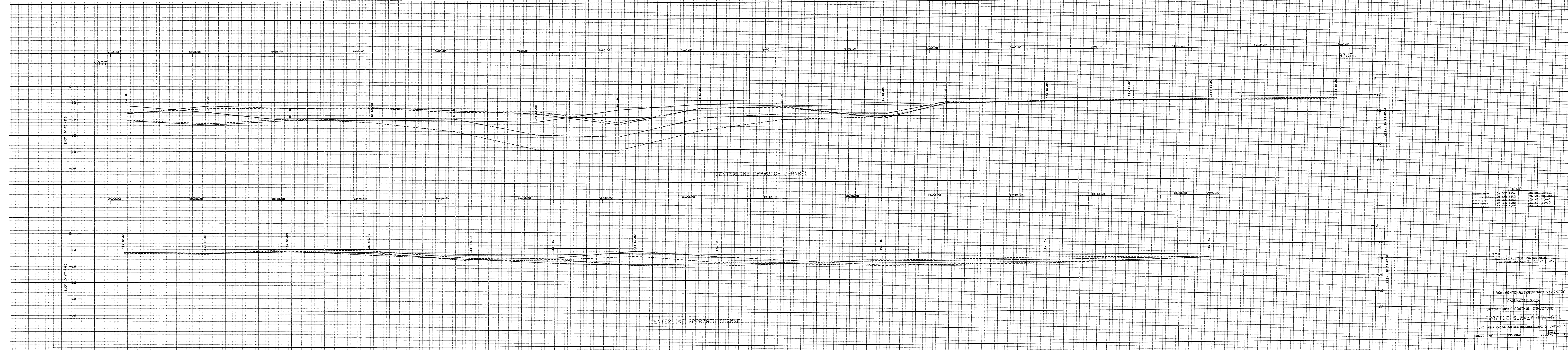
NOTE:  
For location and tabulation of  
settlement reference marks see  
plate

LAKE PONTCHARTRAIN AND VICINITY  
BAYOU DUPRE  
PERIODIC INSPECTION

**SETTLEMENT REFERENCE MARKS  
DIFFERENTIAL SETTLEMENT CHART**

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

PL-10  
FILE NO. H-4-26857

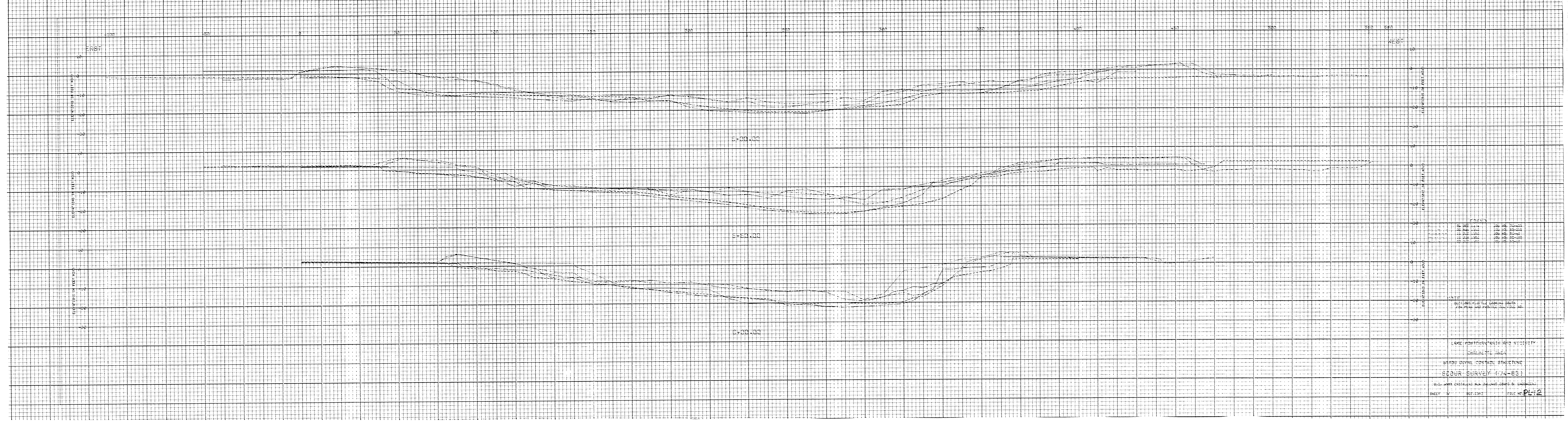


FOOTING

0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00

NOTE:  
SECTION PLotted LOOKING SOUTH  
FROM PLAN AND PARALLEL TO CENTERLINE

LAKE MONTCAHERRIN AND VICINITY  
CHANNELS AREA  
BAYOU DUNE CONTROL STRUCTURE  
PROFILE SURVEY (74-62)  
U.S. ARMY ENGINEERING AND WATERWAYS EXPERIMENTAL STATION  
DESIGNED BY [Signature]  
CHECKED BY [Signature]

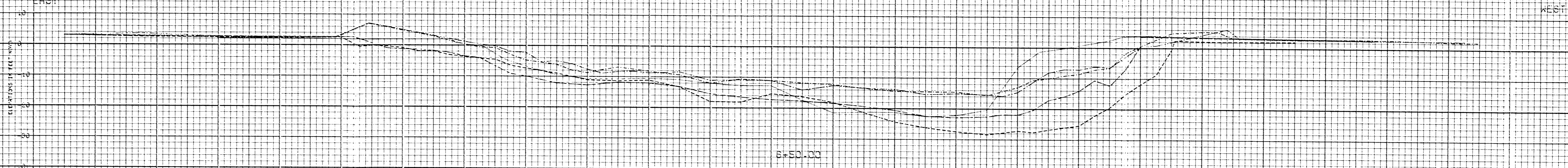


DATA			
04 DEC 1974	031 40	05-400	
11 FEB 1982	031 40	05-400	
11 FEB 1982	031 40	05-400	
04 DEC 1974	031 40	05-400	

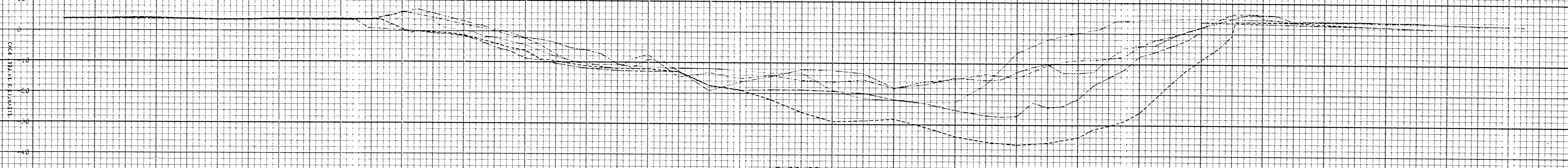
NOTE:  
SECTION PROFILE LOOKING SOUTH  
FOR PLAN AND PROFILE SEE FILE NO.

LAKE MONTICOMERY WATERSHED VICINITY  
ORSHAMITE AREA  
BAYOU DETENTION CONTROL STRUCTURE  
SCOUR SURVEY (74-83)  
U.S. ARMY DISTRICT HQ. JACKSON COMP. DIST. JACKSON  
SHEET 10 OF 10 DEC-1982 FILE NO. PL-2

EAST 30 100 150 200 250 300 350 400 450 480 WEST



6+50.00



7+00.00

DATE	BY	JOB NO.
02-01-63	W.B.	75-433
02-01-63	W.B.	80-020
02-01-63	W.B.	81-445
02-01-63	W.B.	82-165

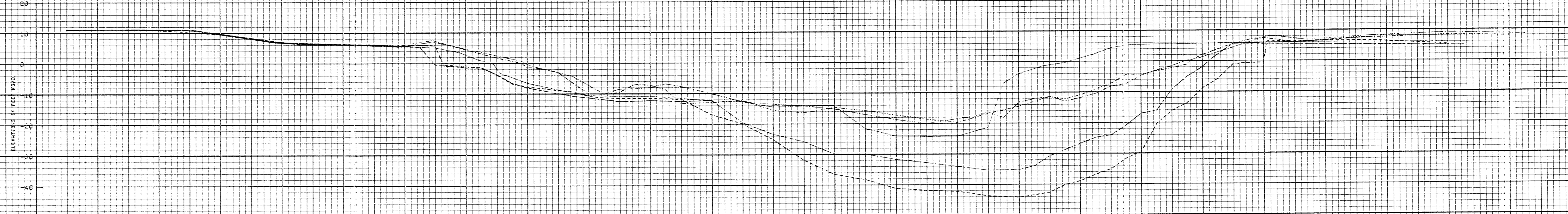
SECTION PLOTTED LOOKING SOUTH  
TO LEFT AND EAST TO RIGHT

STATE HIGHWAY DEPARTMENT AND VICINITY  
CHALMERS AREA  
STATE ROAD IMPROVEMENT STRUCTURE  
SECTION SURVEY (174-63)

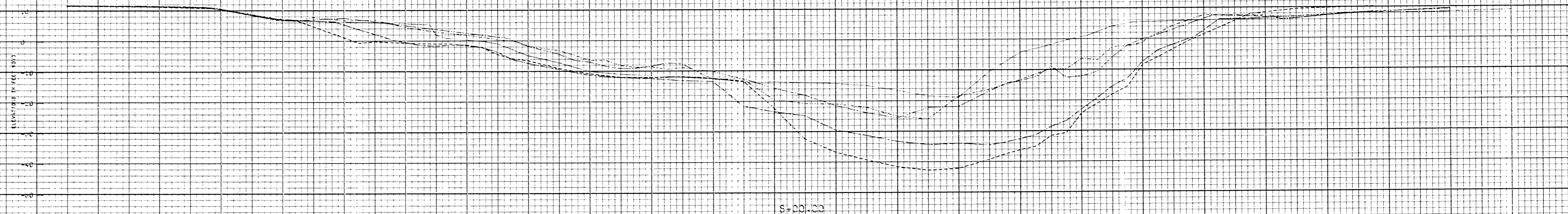
DATE: OCT-1962 FILE NO. **PL-13**

0 50 100 150 200 250 300 350 400 450 500

EAST WEST



7-50-00



8-00-00

DATE	BY	NO.	REV.
10-1-63	W.C. BERRY	1	1
10-1-63	W.C. BERRY	1	1
10-1-63	W.C. BERRY	1	1
10-1-63	W.C. BERRY	1	1

SECTION PLATTEN LOOKING SOUTH  
 1/4 SECTION 36 TOWNSHIP 34 N. RANGE 10 E.

LAKEMONTCHARTERS VICTORY  
 CHARLOTTE AREA

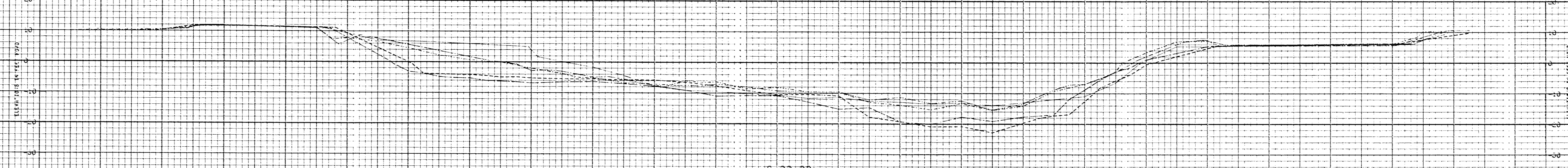
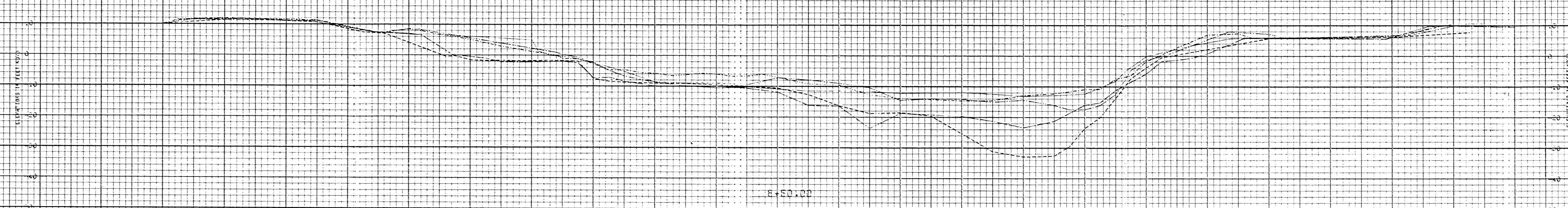
DAVIDSON COUNTY STRUCTURE  
 SOUR SURVEY (174-63)

W.C. BERRY CONSULTING ENGINEERS  
 1111 N. W. 11th St. Charlotte, N.C.

DATE: 10-1-63 TITLE: 174-63

130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420

ELEVATION IN FEET 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420



DATE	NO.	DESCRIPTION
12/15/65	100	100-100
12/15/65	101	101-101
12/15/65	102	102-102
12/15/65	103	103-103
12/15/65	104	104-104

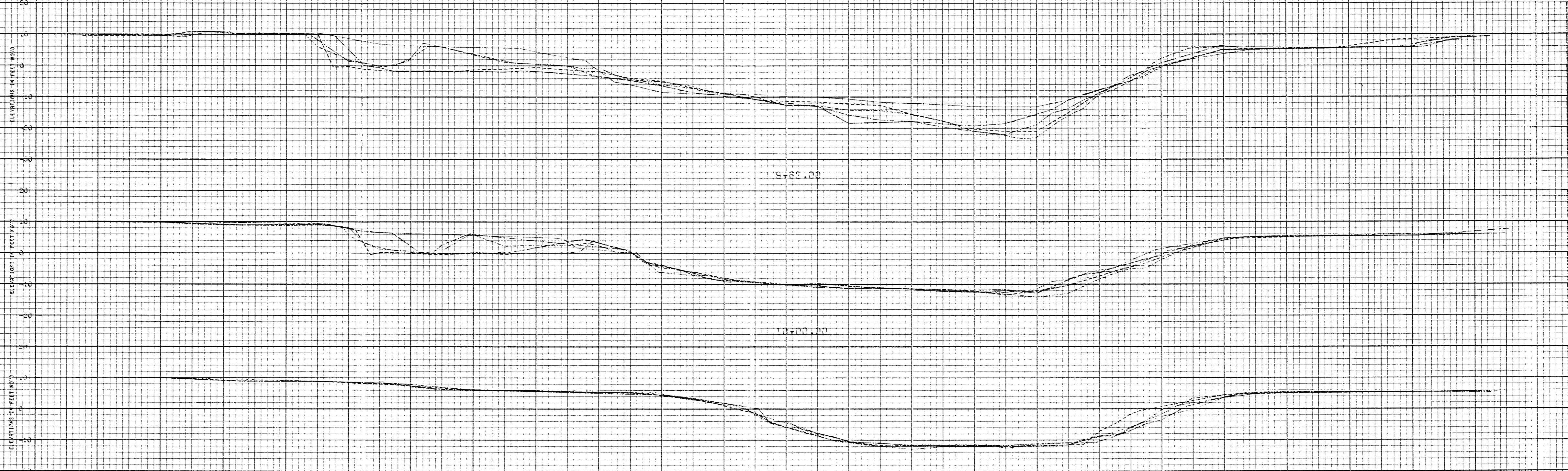
SECTION PLATE, LOOKING DOWN  
FOR PLAN AND PROFILE SEE FILE NO.

LAKE MONTEMINNAN AND VICINITY  
CHARLESTON, IOWA

BRIDGE DRAIN CONTROL STRUCTURE  
STOUR SURVEY (74-65)

U.S. ARMY ENGINEER REGIMENT, CHARLESTON, IOWA  
SHEET NO. 100-1500 TITLE NO. PL-15

EAST WEST



97.92.00

10.00.00

10.88.00

DATE	BY	JOB NO.
10/1/63	...	...
10/1/63	...	...
10/1/63	...	...
10/1/63	...	...

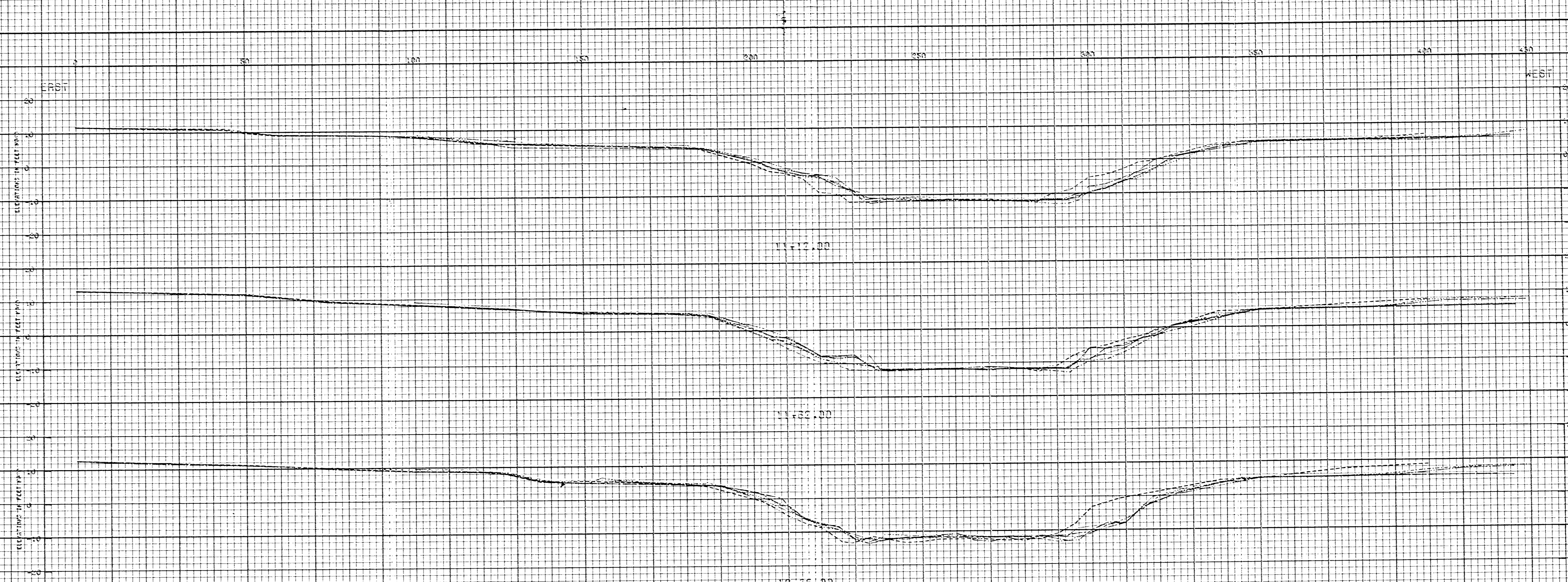
DATE: 10/1/63  
 ELEVATION PLANNED DRAINAGE WIDTH  
 10' PLAN AND PROFILE SCALE: 1" = 10'

ONE MONTICENTRY AND VICINITY  
 CHARLOTTE, N.C.

BY: J. R. ...  
 SURVEY SURVEY (174-63)

DATE: 10/1/63  
 SHEET: 3  
 FILE NO.: PL16

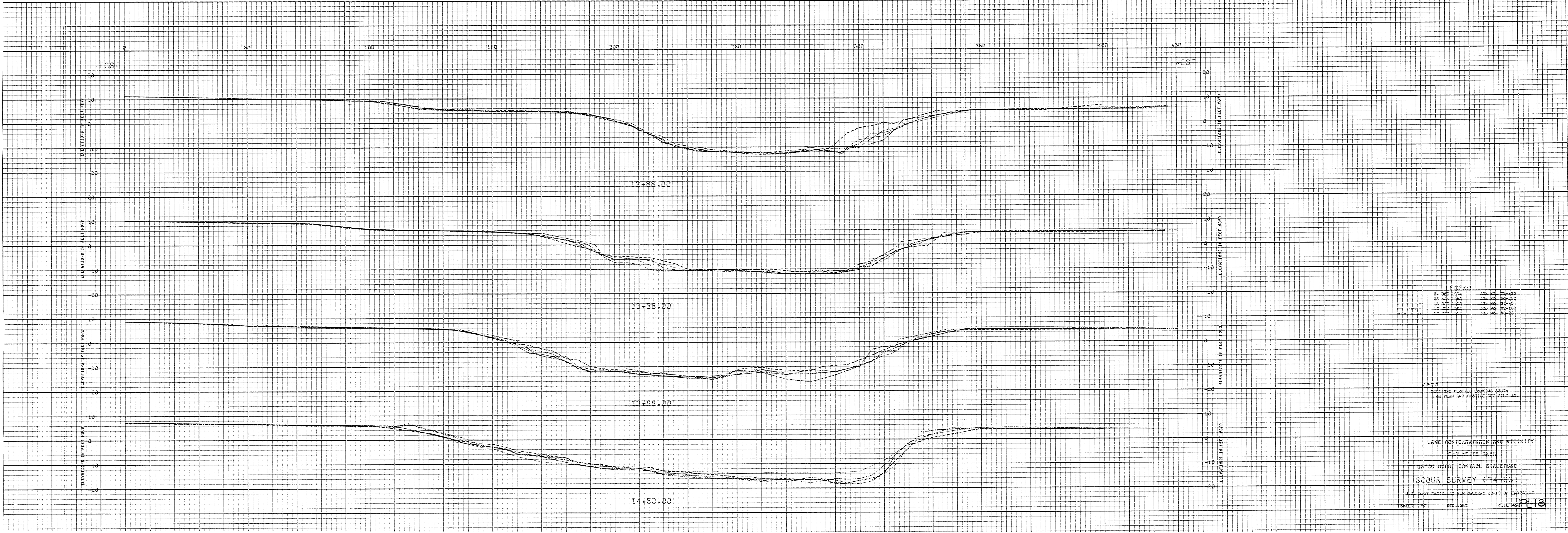




Station	Elevation	Station	Elevation
11+00	6.5	11+50	6.5
11+10	6.5	11+60	6.5
11+20	6.5	11+70	6.5
11+30	6.5	11+80	6.5
11+40	6.5	11+90	6.5
11+50	6.5	12+00	6.5
11+60	6.5	12+10	6.5
11+70	6.5	12+20	6.5
11+80	6.5	12+30	6.5
11+90	6.5	12+40	6.5
12+00	6.5	12+50	6.5

SECTIONAL ELEVATION LOOKING SOUTH  
 FROM STATION 11+00 TO STATION 12+50

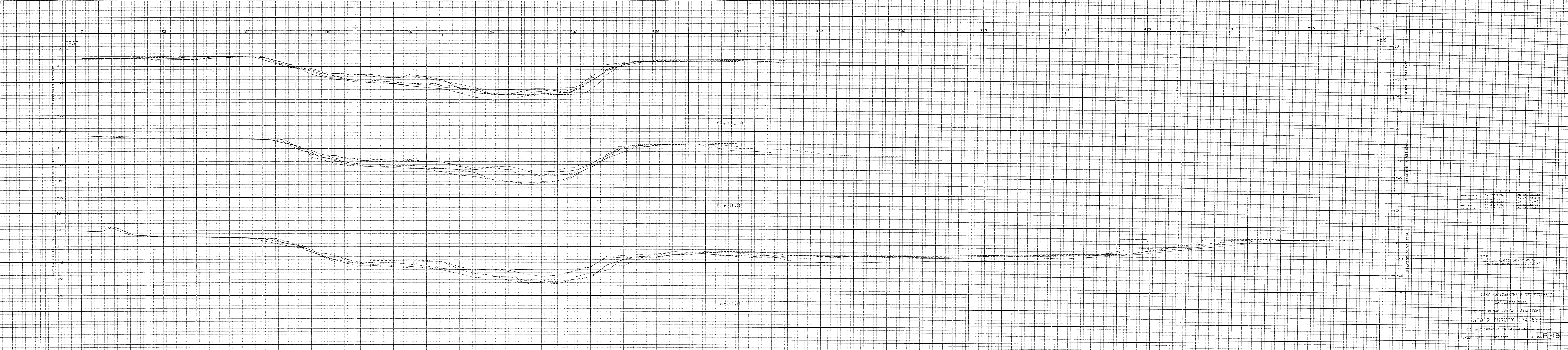
LAKE MONTCHANTAIN AND VICINITY  
 CHARLOTTE AREA  
 ARMY CORP. OF ENGRS. CONTROL STRUCTURE  
 SURVEY K74-63  
 SHEET 17 OF 17  
 FILE NO. P-17

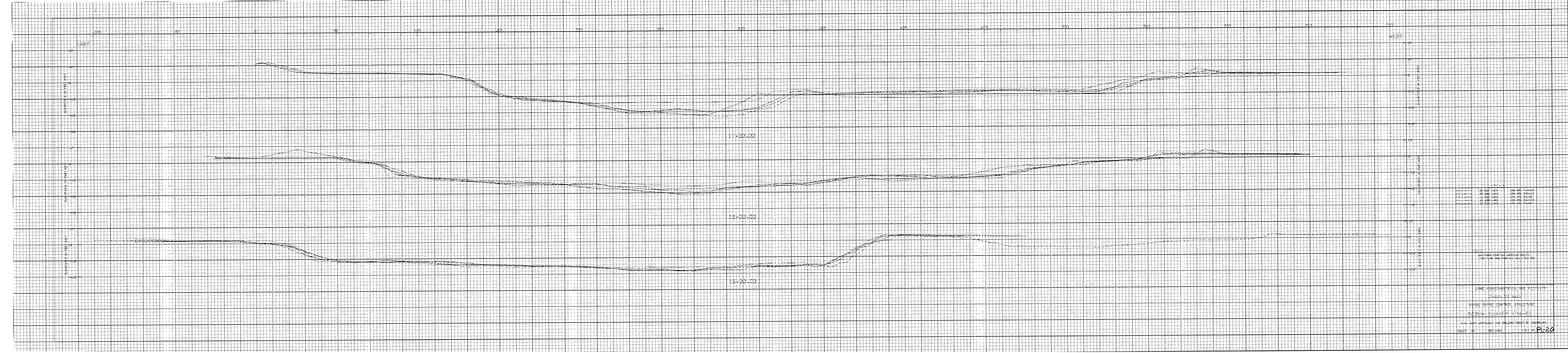


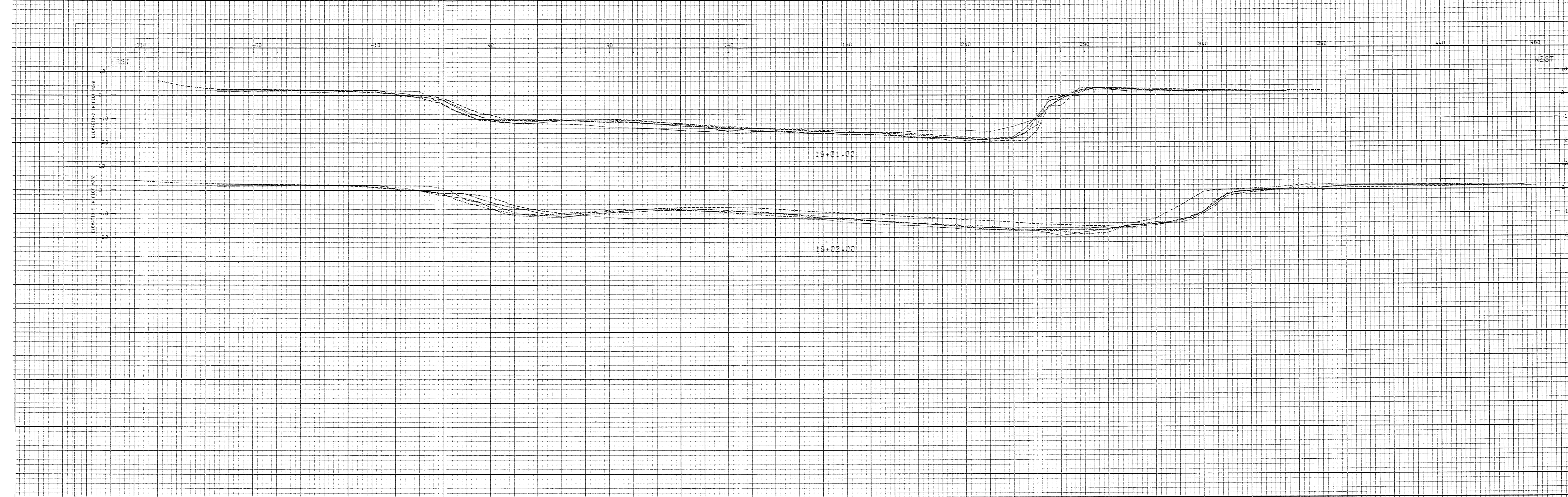
DATE	TIME	LOCATION
12-15-63	10:00	12+38.00
12-15-63	10:15	13+38.00
12-15-63	10:30	13+38.00
12-15-63	10:45	14+30.00

SECTION PLACED LOOKING SOUTH  
 FROM THE EAST END OF THE BRIDGE

LOWE HORTON WATKIN AND VICINITY  
 CHARLOTTE, N.C.  
 BRIDGE DESIGN CONSULTANTS  
 SURVEY SURVEY (174-63)  
 SHEET 37 OF 37  
 DATE 12-15-63  
 FILE NO. P-18





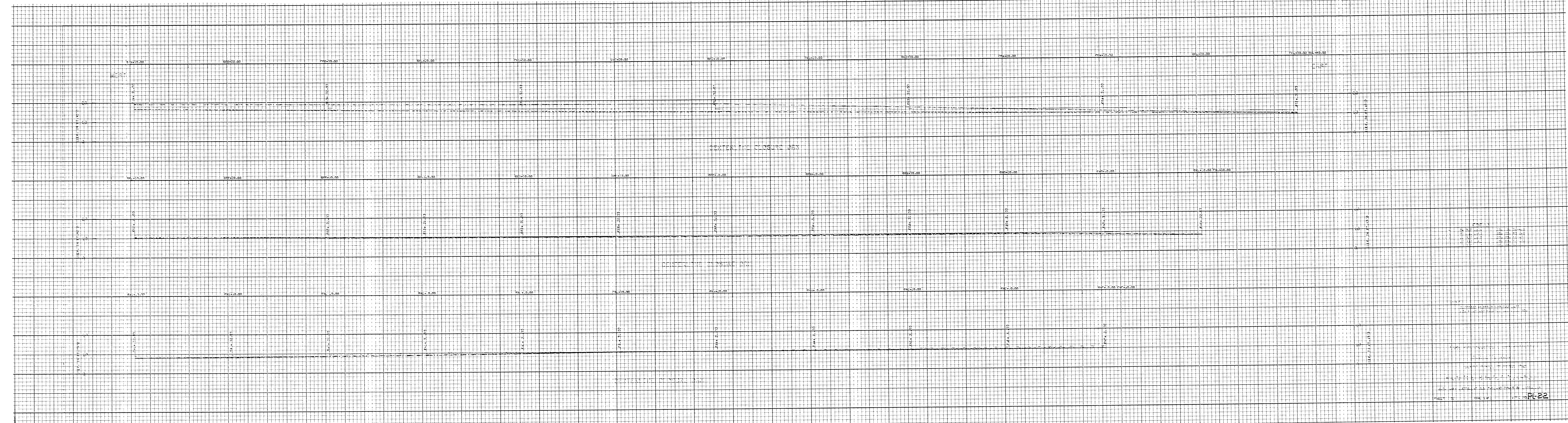


FOOTNOTES

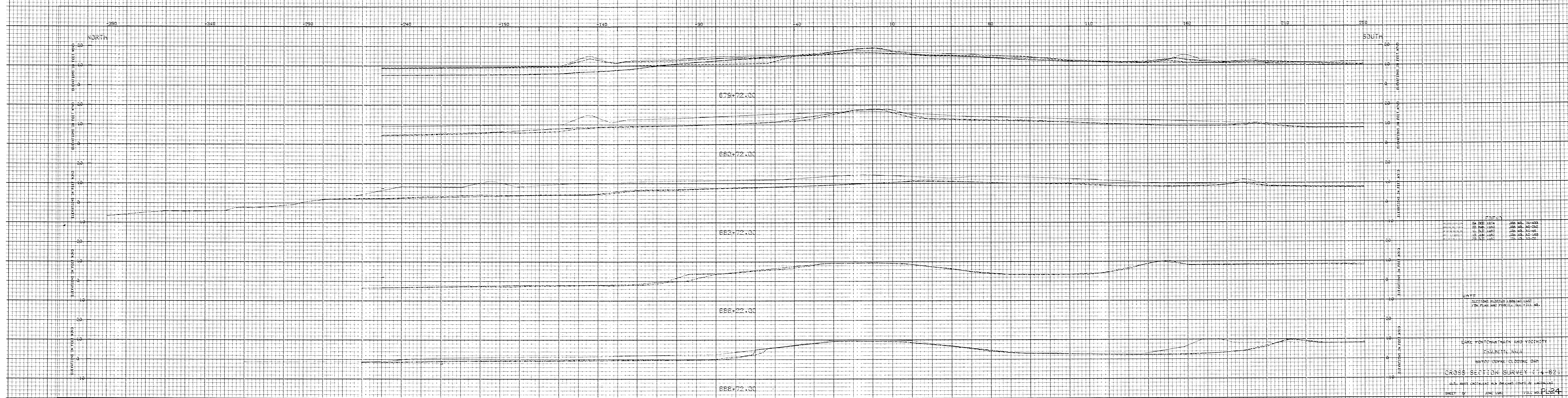
1	SEE PLAN	25	25-402
2	SEE PLAN	26	26-402
3	SEE PLAN	27	27-402
4	SEE PLAN	28	28-402
5	SEE PLAN	29	29-402

NOTES:  
 1. ALL DIMENSIONS ARE IN FEET AND DECIMALS THEREOF.  
 2. SEE PLAN FOR LOCATION OF POINTS.

DATE: 10/15/54  
 DRAWN BY: J. J. JONES  
 CHECKED BY: J. J. JONES  
 SURVEY NUMBER: 174-63  
 SHEET NO. 1 OF 2  
 FILE NO. PL-21







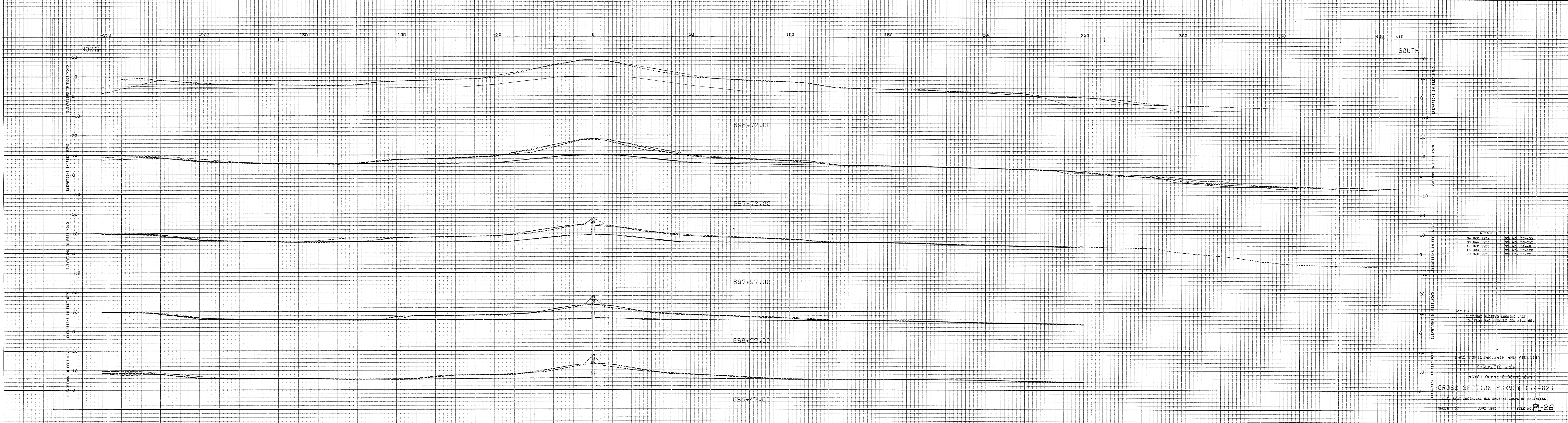
DATE	JOB NO.
24 DEC 1974	76-453
28 SEP 1980	80-282
17 DEC 1982	82-46
17 JAN 1983	83-169
20 DEC 1982	83-26

NOTE  
SECTION PLOTTED LOOKING EAST  
FOR PLAN AND PROFILE SEE FILE NO.

LAKE PONTCHARTRAIN AND VICINITY  
CALUMET AREA  
DRY-DOWN CLOSURE DAM  
CROSS SECTION SURVEY 674-620  
U.S. ARMY ENGINEER REGIMENT CORPS OF ENGINEERS  
SHEET OF JUNE 1983 FILE NO. PL24





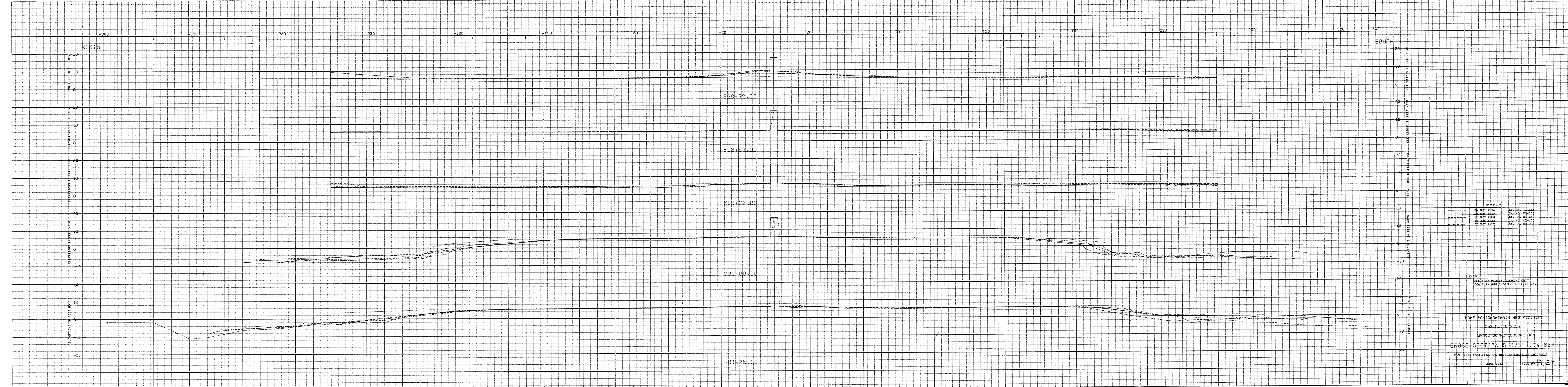


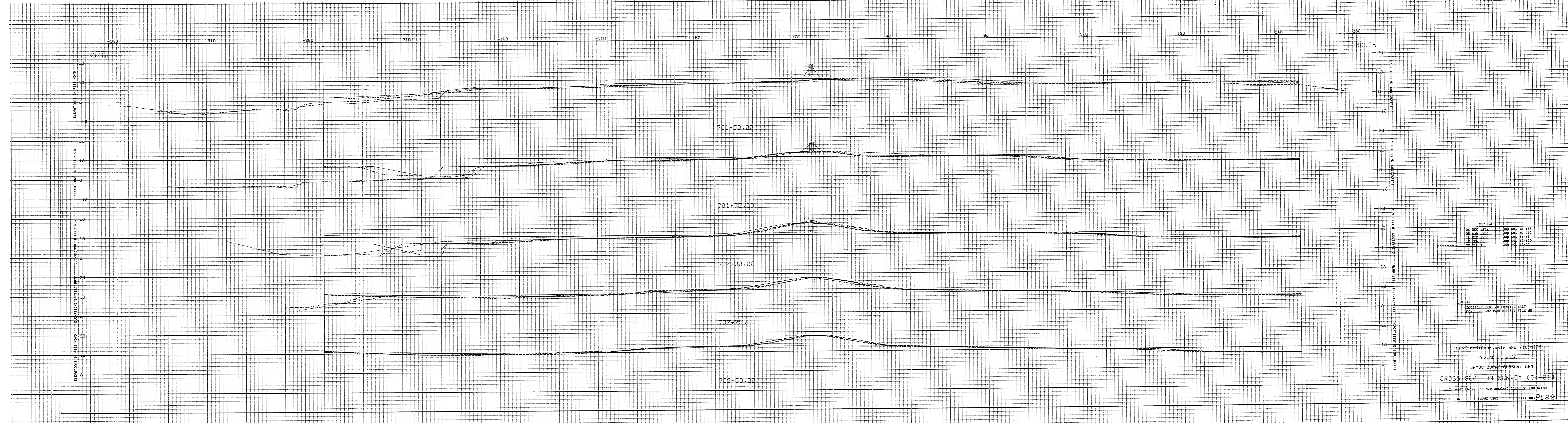
FOUNDS

04 D.C. 1974	JOB NO. 75-433
05 D.C. 1980	JOB NO. 80-292
11 D.C. 1980	JOB NO. 81-48
12 D.C. 1982	JOB NO. 82-180
20 D.C. 1982	JOB NO. 82-22

NOTE  
 SECTION PLOTTED LOOKING WEST  
 FOR PLAN AND PROFILE SEE FULL NO.

LAKE PONCHARTRAIN AND VICINITY  
 CHALMETTE AREA  
 BRIDGE DUNE CLOSURE DAM  
 GROSS SECTION SURVEY (74-82)  
 U.S. ARMY ENGINEERING AND WATERWAYS CENTER OF ENGINEERS  
 SHEET 01 JUNE 1982 FILE NO. PL-26

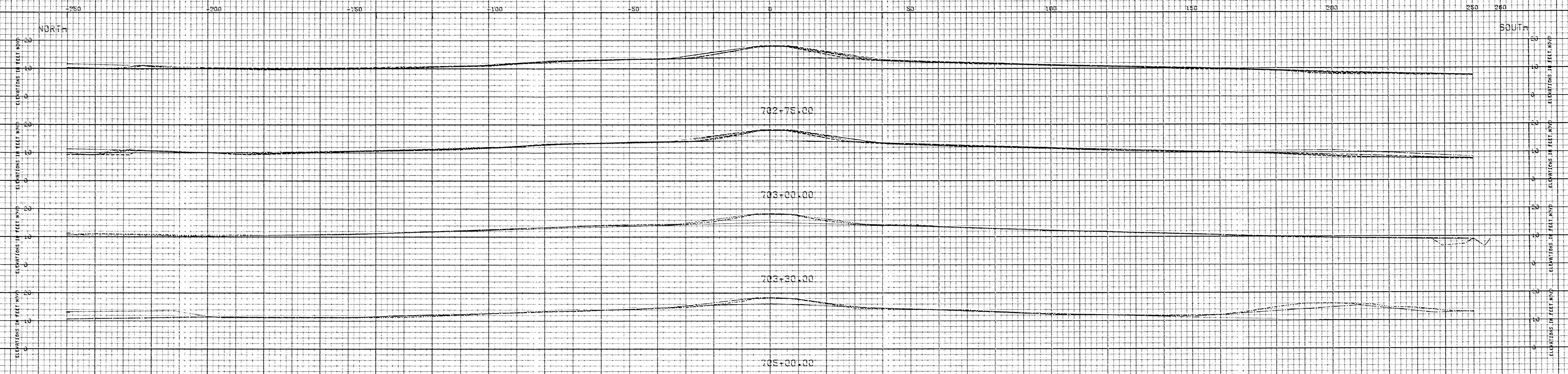




FOOTNOTES	
DA. D.T. 1964	Job No. 70-433
DB. D.T. 1962	Job No. 80-282
DC. D.T. 1962	Job No. 80-46
DD. D.T. 1962	Job No. 80-100
DE. D.T. 1962	Job No. 80-28

NOTE:  
 SECTIONS PLOTTED LOOKING EAST  
 (ON PLAN AND ELEVATION SEE FILE NO.)

DAKE POND DAM AND VICINITY  
 CALUMET AREA  
 DAM AND DUNE CLOSURE DAM  
 CROSS SECTION SURVEY (74-82)  
 U.S. ARMY ENGINEERING CENTER, CORPS OF ENGINEERS  
 SHEET 3 JUNE 1962 FILE NO. PL 28



CORRECTIONS		
06 DEC 1924	100	75-453
05 FEB 1925	100	84-200
15 FEB 1925	100	81-40
16 JUN 1925	100	82-100
20 DEC 1925	100	83-20

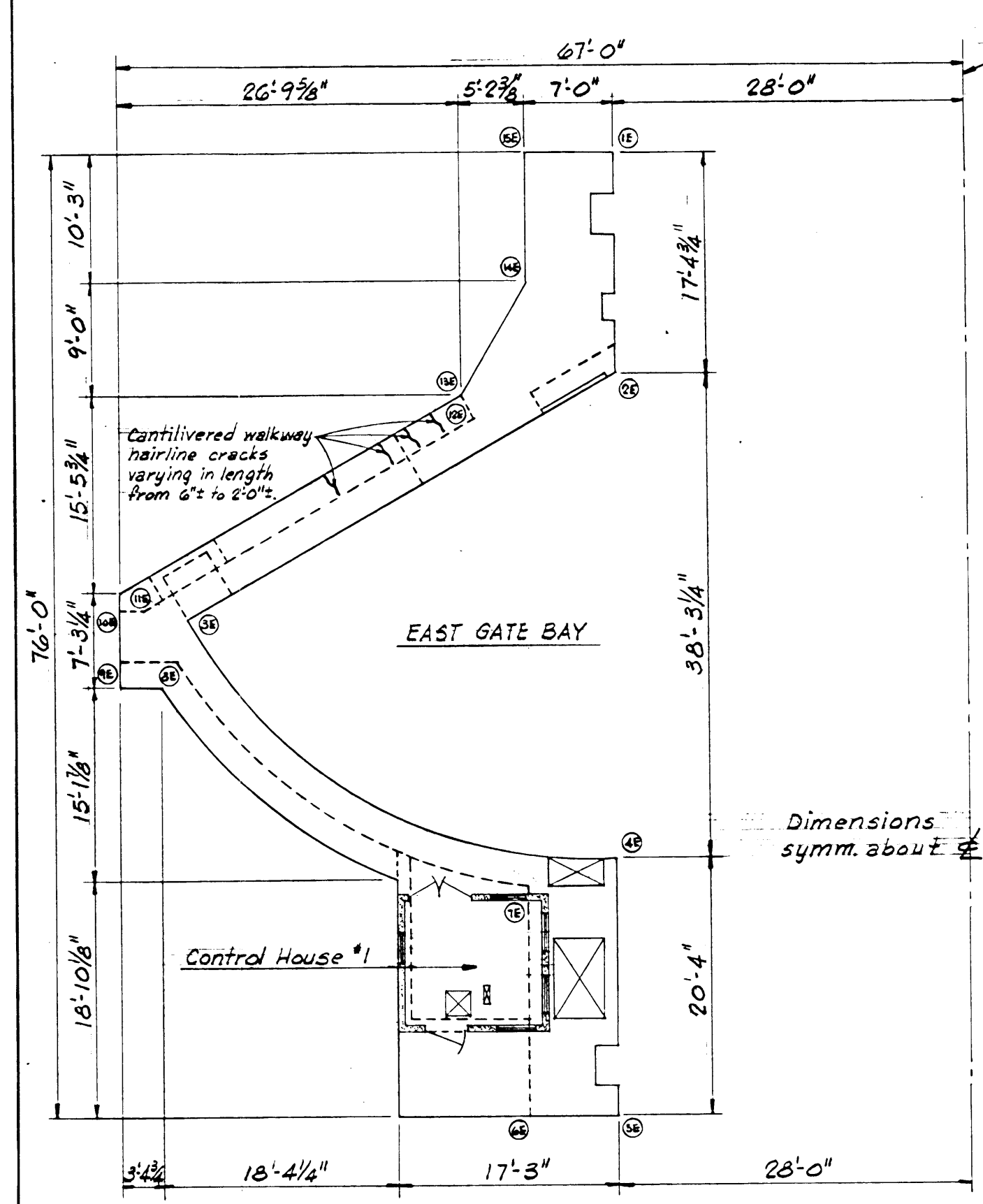
DATE  
SECTION PLATED LOOKING EAST  
FOR PLAN AND PROFILE SEE FILE NO.

LAKE PONTCHARTRAIN AND VICINITY  
CALMETTE AREA  
DRYDOW DUNE CLOSURE DAM

GROSS SECTION SURVEY (74-82)

U.S. ARMY ENGINEER AND ARCHITECT COAST AND GEODYSIC ENGINEERS  
SHEET OF JUNE 1925 FILE NO. PL-29

Reduce to 10 1/2"



Structure

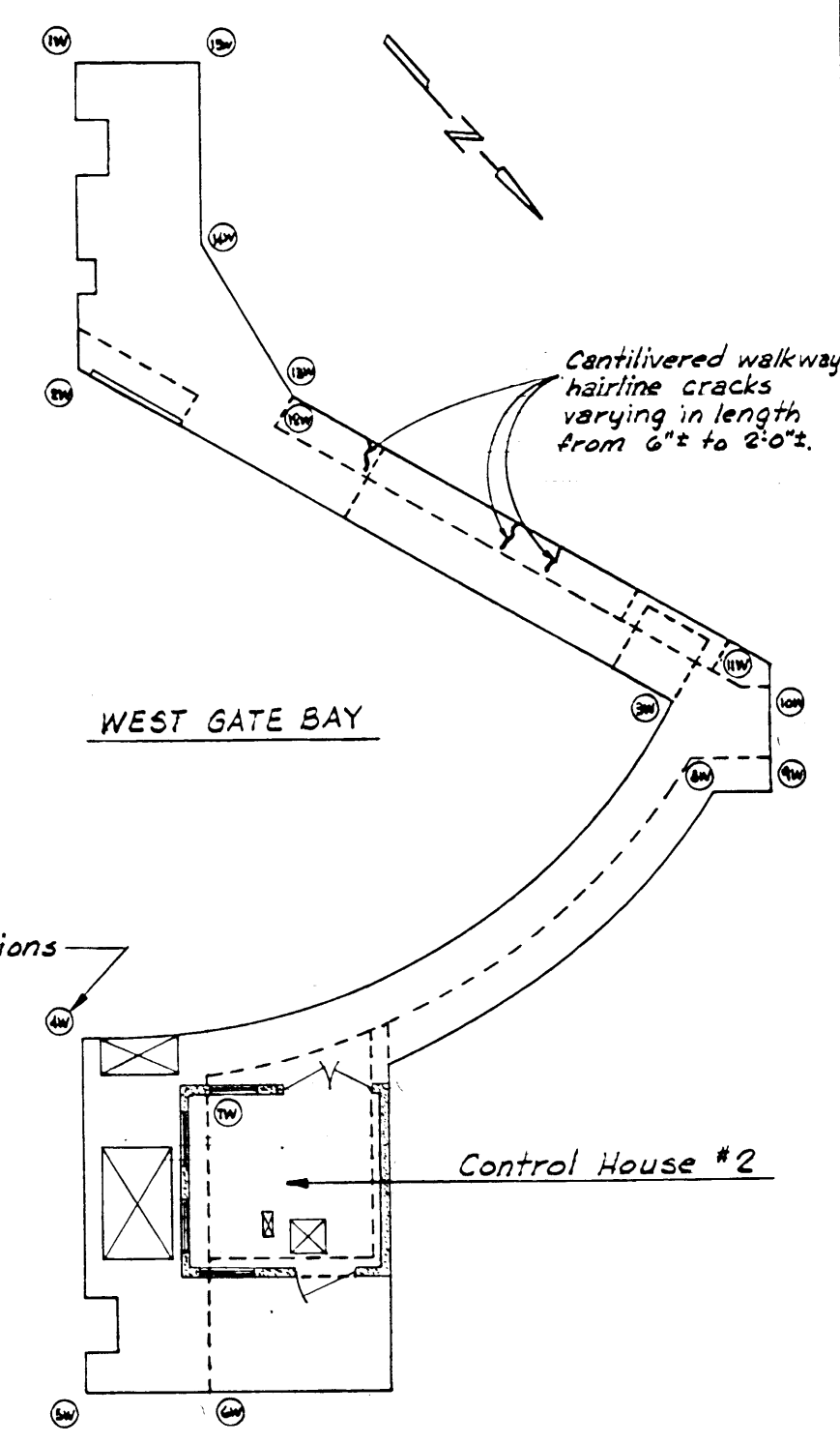
Cantilivered walkway hairline cracks varying in length from 6"± to 2'-0"±.

EAST GATE BAY

Control House #1

Dimensions symm. about Structure

Indicates wall elevations



WEST GATE BAY

Control House #2

GATE BAY PLAN AT EL. 17.5

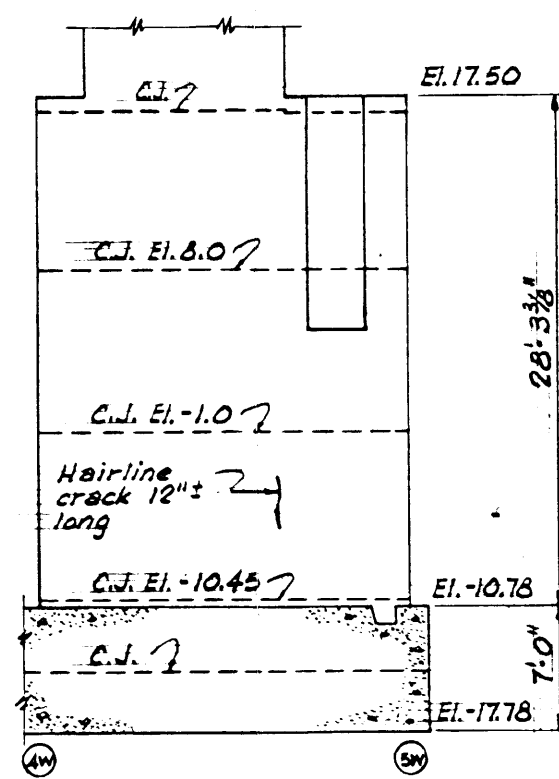
Scale: 1/8" = 1'-0"

LAKE FORTCHARTRAIN LOUISIANA AND VICINITY  
 HURRICANE PROTECTION SYSTEM  
 CHALMETTE AREA PLAN

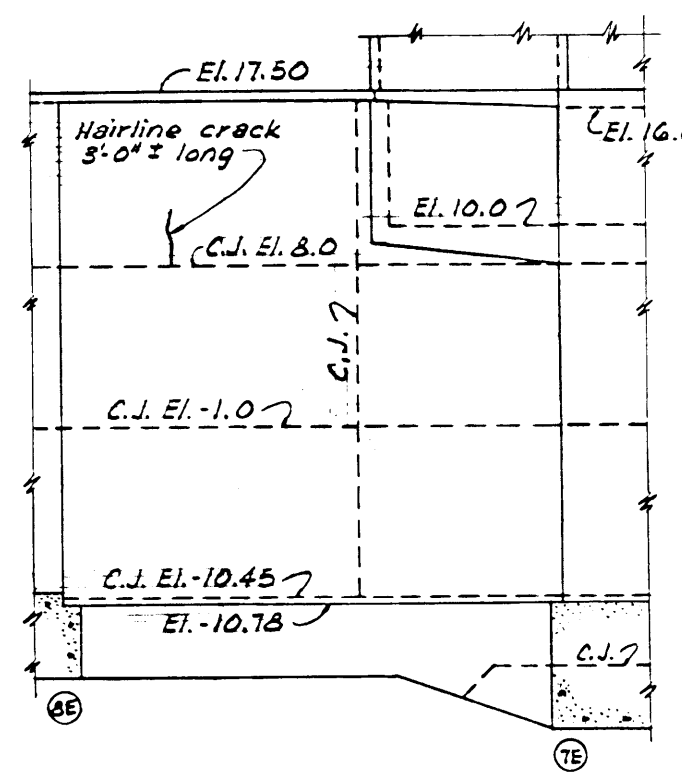
BAYOU DUPRE CONTROL STRUCTURE  
 CRACK SURVEY - APRIL, '74

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

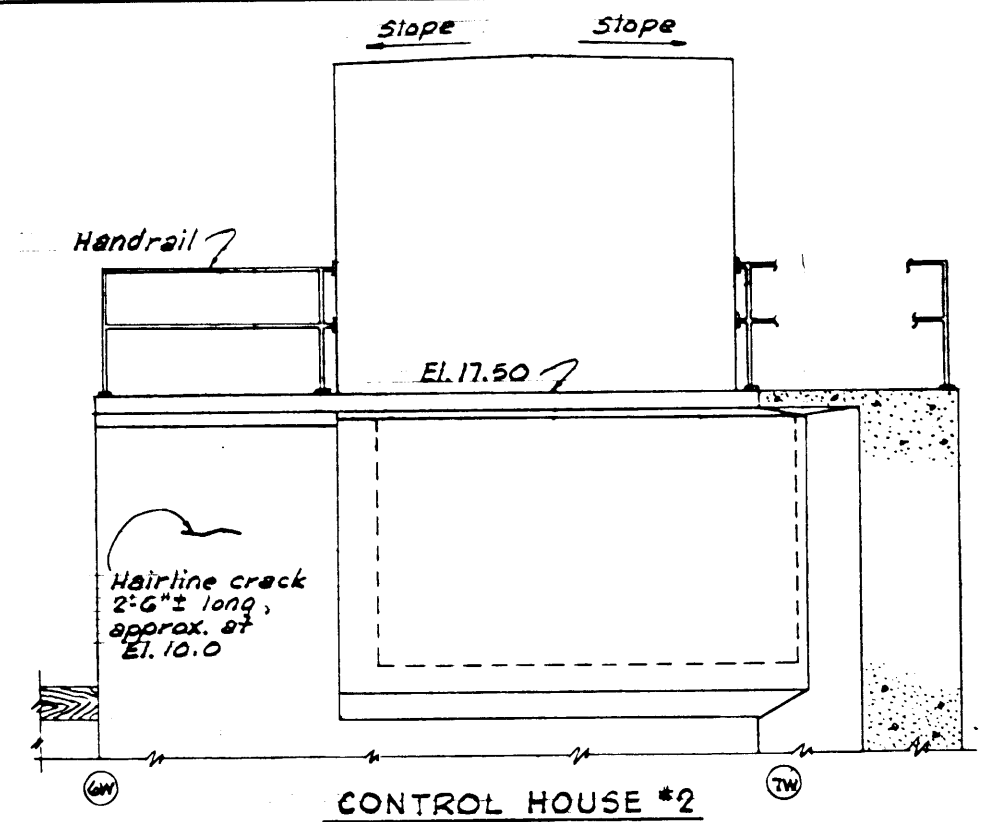
FILE NO. H-2-26856



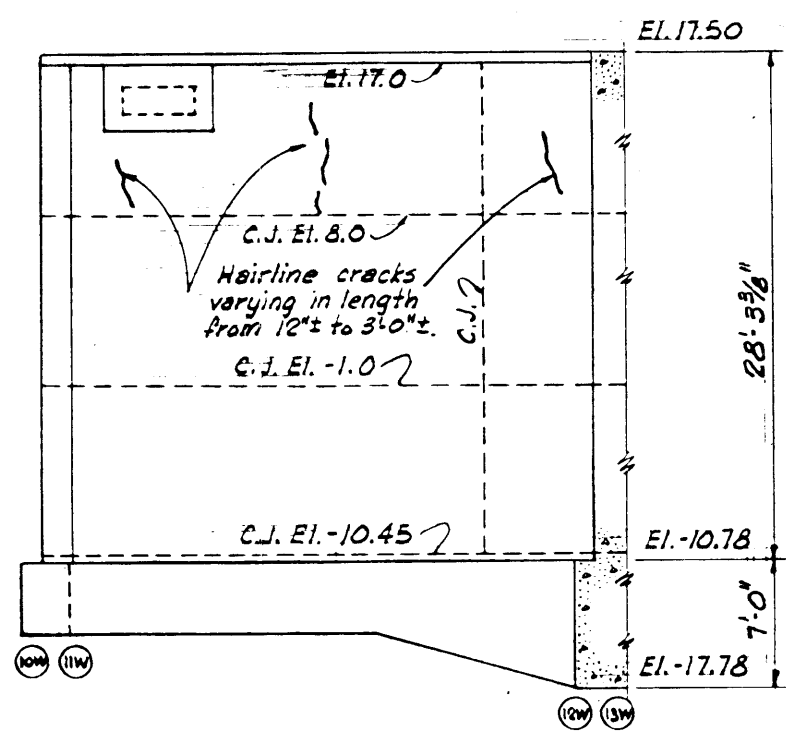
**ELEVATION 4W-5W**  
Scale: 1/8" = 1'-0"



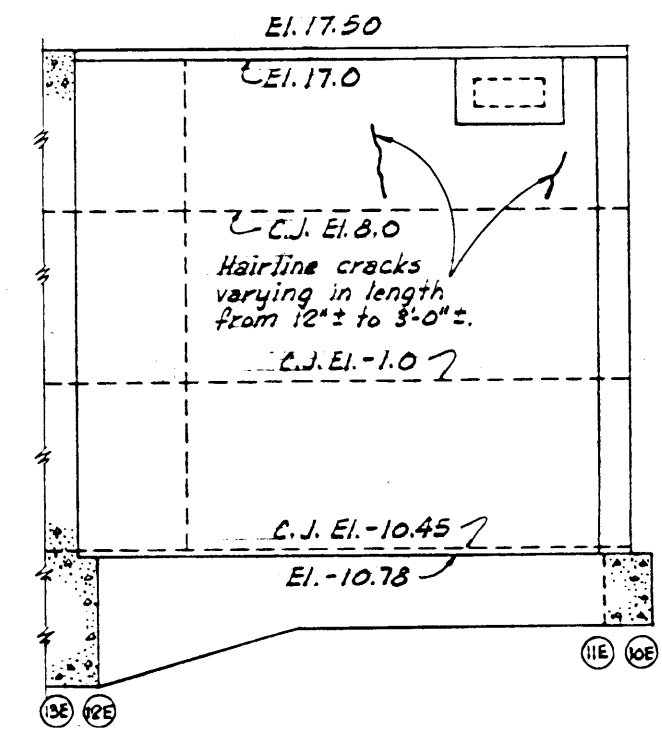
**ELEVATION 8E-7E**  
Scale: 1/8" = 1'-0"



**ELEVATION 6W-7W**  
Scale: 1/8" = 1'-0"



**ELEVATION 10W-13W**  
Scale: 1/8" = 1'-0"



**ELEVATION 10E-13E**  
Scale: 1/8" = 1'-0"

ELEVATIONS REFER TO M.S.L. DATUM

LAKE FORTCHARTRAIN, LOUISIANA AND VICINITY  
 HURRICANE PROTECTION SYSTEM  
 CHALMETTE AREA PLAN  
 BAYOU DUPRE CONTROL STRUCTURE  
 CRACK SURVEY - APRIL, '74  
 U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS, LA.  
 CORPS OF ENGINEERS  
 FILE NO. H-2-26856  
 PLATE NO. 2

SECTION V - INSPECTION

5-01 Inspection Team. The inspection of the structure was conducted on 1 December 1983 by the following personnel:

NOD

Mr. H. J. Sims	General Engineering Section (Mech; Inspection Coordinator)
Mr. J. B. Drummond	General Engineering Section
Ms. Deborah E. Garrett	H & H Branch
Mr. Angel Mislán	H & H Branch
Ms. Lynn Tintó	Structural Design Section
Mr. Roberto Estrada	F & M Branch
Mr. Jerry Colletti	Operations Division

LOCAL INTEREST

Mr. Dan Caluda	President, Lake Borgne Basin Levee District
Mr. E. Fred Schilling, Jr.	Engineer, Office of Public Works - New Orleans

LMVD

NO REPRESENTATIVE

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

5-03 Observations. 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. Reinforced Concrete.

- (1) Structural Cracks. No evidence of structural cracks.
- (2) Exposed Reinforcement. No evidence of exposed reinforcement.
- (3) General Condition of Concrete Surface. The concrete surfaces are in good condition, no evidence of spalls, pop-outs, weathering, corrosion, honeycombing or cracks.



(4) Condition of Horizontal and Vertical Joints. There is no evidence of slippage or separation of joints either on the main structure or the adjacent T-walls. The concrete sheet pile walls adjacent to the T-walls have experienced some differential settlement between piles, but with no apparent separation of the joints. See Photo Nos. 1 and 2. There was some separation of the joint where the concrete sheet pile wall ties into the west T-wall.

(5) Visual Check of Horizontal and Vertical Alinement of Walls. Good alinement throughout the structure.

(6) Evidence of Structural Damage. None found.

b. Gates.

(1) Evidence of Difficulty in Opening and Closing. The gates were closed with no difficulty and appeared to seal well. When they were being opened, the west gate had to be operated manually because of an electrical problem. See para. e.2.

(2) Evidence of Damage to Skin Plate, Ribs, Girders, Framing, Walkways, and Handrails. None found.

(3) Condition of Paint. Generally good, only the area of tidal fluctuation is corroded.

(4) Corrosion. Only general light corrosion under light oxide scale was observed in the area of tidal fluctuation at the time of this inspection and no plans were discussed with the Levee Board to repair it; however, any progress should be noted closely at subsequent inspections in case it should impair the structural integrity of the gates. Refer to Photo Nos. 3 and 4.

c. Guide Walls and Fenders, General Conditions of Timber and Connections. Excellent, except where repairs are planned for damaged fender piles.

d. Safety Precautions.

(1) Safety Precautions for Personnel. Good.

(2) Need for Additional Safety Precautions. None.

e. Mechanical.

(1) The motor-generator was clean, appeared properly lubricated and was smooth running. Control rooms and motor compartments below were very clean and all control panels and lighting functioning properly when the gates were being closed. The motor drivers for the sector gates were clean, smooth running and properly lubricated.

(2) During the inspection a limit switch, which had apparently become misaligned, allowed the west sector gate to overclose, damaging the switch and closing off electrical power to the motor driver, making it necessary to open this gate manually.

The Levee Board stated that this problem would be corrected without delay and, in fact, repair was completed on 7 December 1983.

(3) Approximately 10% of the running wire rope which transmits power for opening and closing the sector gates had been recently lubricated. The remainder was dry with spotted light oxidation and appeared to have been operated without lubrication for months.

Better preventive maintenance should be practiced regarding this particular item. Regular lubrication of these power transmitting wire ropes would not appear to be an unreasonable maintenance expense compared to their early replacement due to extra strain and increased corrosion initiated by lack of lubricant.

f. Foundations.

No bank erosion or scour was noted at this time. All the riprap placed on the banks appeared to be in place.

A hole approximately 10 ft. wide x 30 ft. long x 5.5 ft. deep was observed behind the riprap revetment on the east bank of the north channel approach to the structure. Whether this is a stabilized condition reflecting the original placement of riprap or the results of a washing action is presently unknown. To date, information obtained by a search of records has not clarified the matter.

Data search will continue, along with visual monitoring, to determine the significance of this observation and recommendations will be made accordingly.

The floodwalls appear to be in good overall condition with the exception of some settlement of the concrete sheet piles, more pronounced on the east side, and the separation of the concrete sheet pile wall and T-wall joint (both noted in para. a.4). Neither of these conditions pose any threat at this time, but both should be noted closely at subsequent inspections to insure that the integrity of the flood protection is not impaired.



Photo No. 1, Para. 5-03, a(4) -  
Differential Settlement



Photo No. 2, Para. 5-03, a(4) - Closeup of Above  
View



Photo No. 3, Para. 5-03, b(4) - East Sector Gate Corrosion



Photo No. 4, Para. 5-03, b(4) - West Sector Gate Corrosion

SECTION VI - CONCLUSIONS AND PROPOSED REMEDIAL ACTIONS

6-01 Conclusions. The structure is safe, stable, generally well maintained and in satisfactory operating condition.

6-02 Proposed Remedial Actions. The following items have the same section, paragraph and subparagraph designations as relevant section of this report:

a. 3-01. Progress of the necessary repair work by local interests to the damaged service wharf will be monitored by NOD.

b. 3-02, a. The scheduled repairs by local interests to the NW guide wall and addition of batter piles to the fender system will be monitored by NOD.

c. 3-02, c. Continue to survey and check settlement references, especially on the east floodwall (T-wall), to determine if stabilization is occurring or settlement is continuing.

\* d. 5-03-e(3). The levee district has been advised in writing to lubricate the entire running wire rope transmission for the sector gates on a monthly basis.

\* e. 5-03-f. Continue to observe the hole behind the riprap on the east bank of the north channel approach to determine if some type of action is necessary.

6-03 Next Inspection. The next inspection of Bayou Dupre Control Structure is scheduled for February 1986.