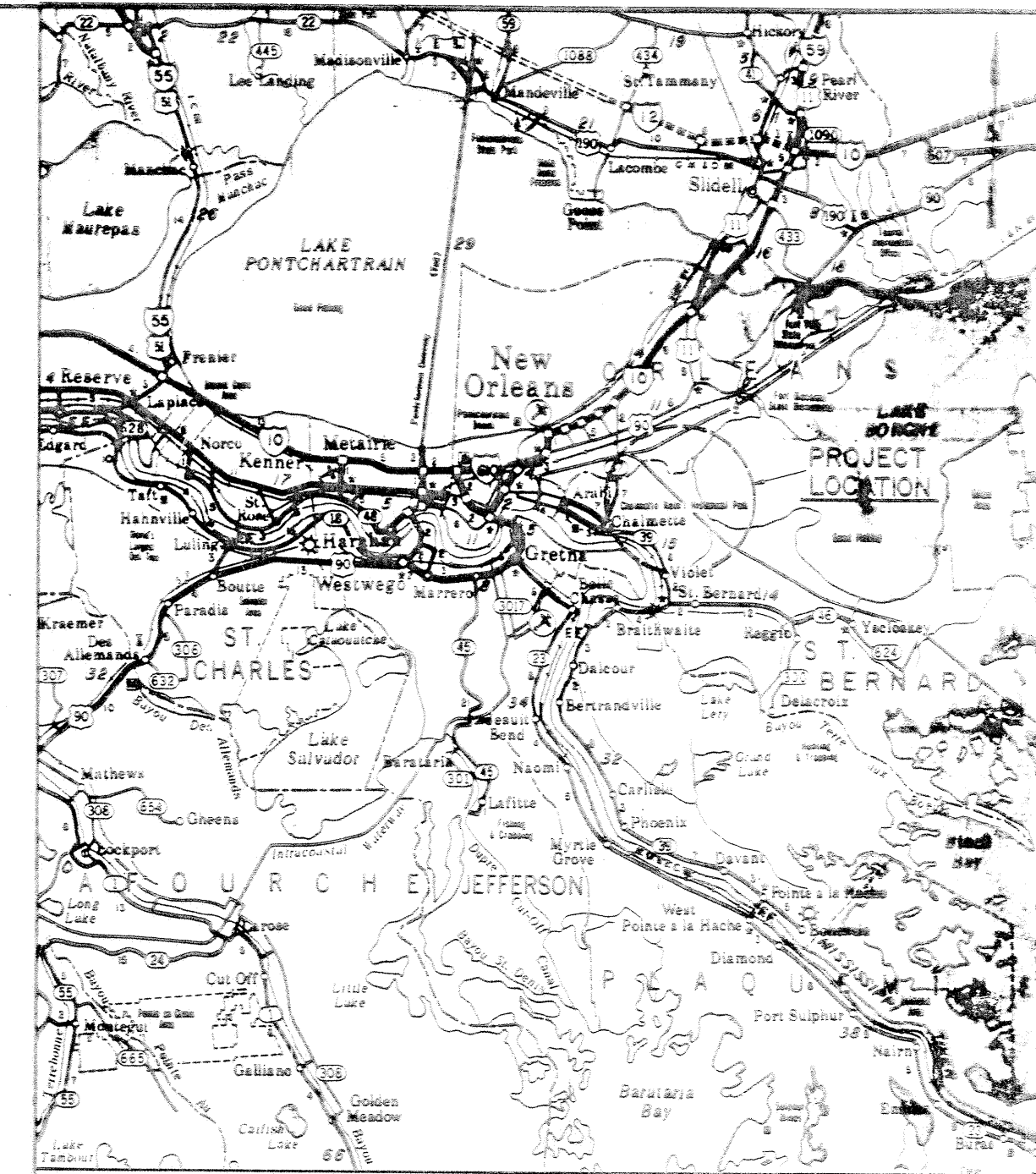


LOCATION SITE MAP

SCALE 1:50,000



VICINITY MAP

SCALE IN MILES
0 5 10 15 20

INDEX TO DRAWINGS

DWG.	DESCRIPTION
1.	LOCATION AND VICINITY MAP
2.	PLAN AND PROFILE (BAYOU BIENVENUE)
3.	BAYOU BIENVENUE CLOSURE PLAN
4.	PLAN AND PROFILE (BAYOU VILLERE)
5.	BAYOU VILLERE CLOSURE PLAN
6.	PLAN AND PROFILE (SO. NATURAL PIPELINE)
7.	LEVEE CLOSURE PLAN (SO. NATURAL PIPELINE)
8.	LEVEE CLOSURE PLAN (SO. NATURAL PIPELINE)
9.	PLAN AND PROFILE (BAYOU DUPRE)
10.	BAYOU DUPRE CLOSURE PLAN
11.	LEVEE & MANDATORY EXCAVATION DESIGN SECTION
12.	LEVEE DESIGN SECTIONS
13.	SOIL BORINGS LOGS
14.	SOIL BORINGS LEGENDS

TABULATION OF BENCH MARKS

B. M.	ELEVATION (N.S.V.D.)	LOCATION AND DESCRIPTION
BM 53	8.21 ft.	Mark is top of a 1 1/2" galv. pipe set to a depth of 105" encased in a 3" galv. pipe. Mark is located 154' north-west of Bayou Bienvenue Canal; 297' north west of structure. P.B.M. is protected by 2-1/2" guard pipe painted yellow.
BM 550410	8.65 ft.	To a brass cap set on a 3/8" rod driven to resistance. P.M. is located at N200 3/4 S. Sta. 550400, 500' landside of N200 3/4 S.
BM 582482	9.27 ft.	Yellow painted mark on the top of the south west 7" beam supporting the pipe at the so. natural gas pipeline crossing, 40' west of levee at lower Sta. 582482.
BM 72	4.58 ft.	Mark is top of a cap set on a 1 1/2" pipe driven to a depth of 105" encased in a 3" galv. pipe. Mark is located 57' south of Bayou Dupre; 250' south of structure; 80' west of Boat Land Platform. Mark is protected by 2-1/2" pipe painted yellow.

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YOUR KEY TO HIGHER PROFITS

LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY CHALMETTE AREA PLAN

HURRICANE PROTECTION LEVEE

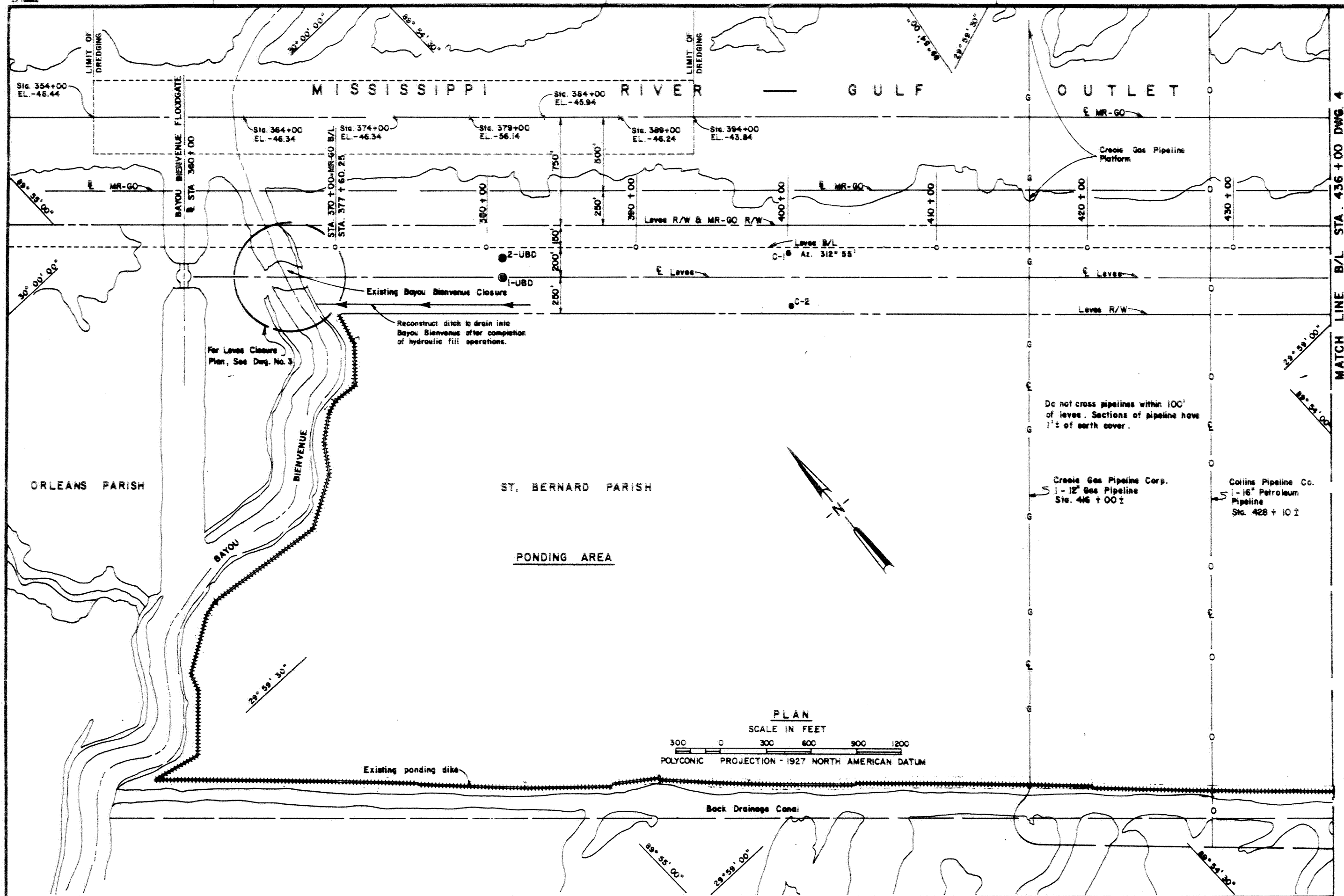
6 DEC 82 MANDATORY EXCAVATION ADDED, AMENDMENT

REVISION	DATE	DESCRIPTION
1		

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

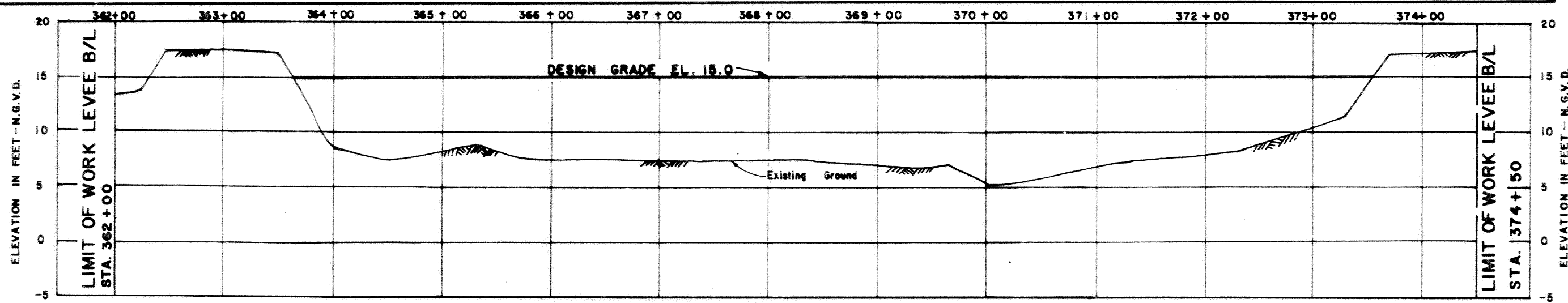
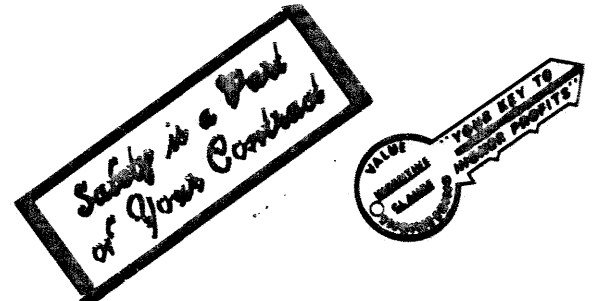
SUBMITTED: [Signature]
APPROVED: [Signature]
CHECKED: [Signature]
DATE: NOV. 1982
SCALE: AS SHOWN
FILE NO: H-6-29466

LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY
CHALMETTE AREA PLAN
HURRICANE PROTECTION LEVEE
BAYOU BIENVENUE TO BAYOU DUPRE
LEVEE CLOSURE
ORLEANS AND ST. BERNARD PARISHES, LA.
LOCATION AND VICINITY MAP



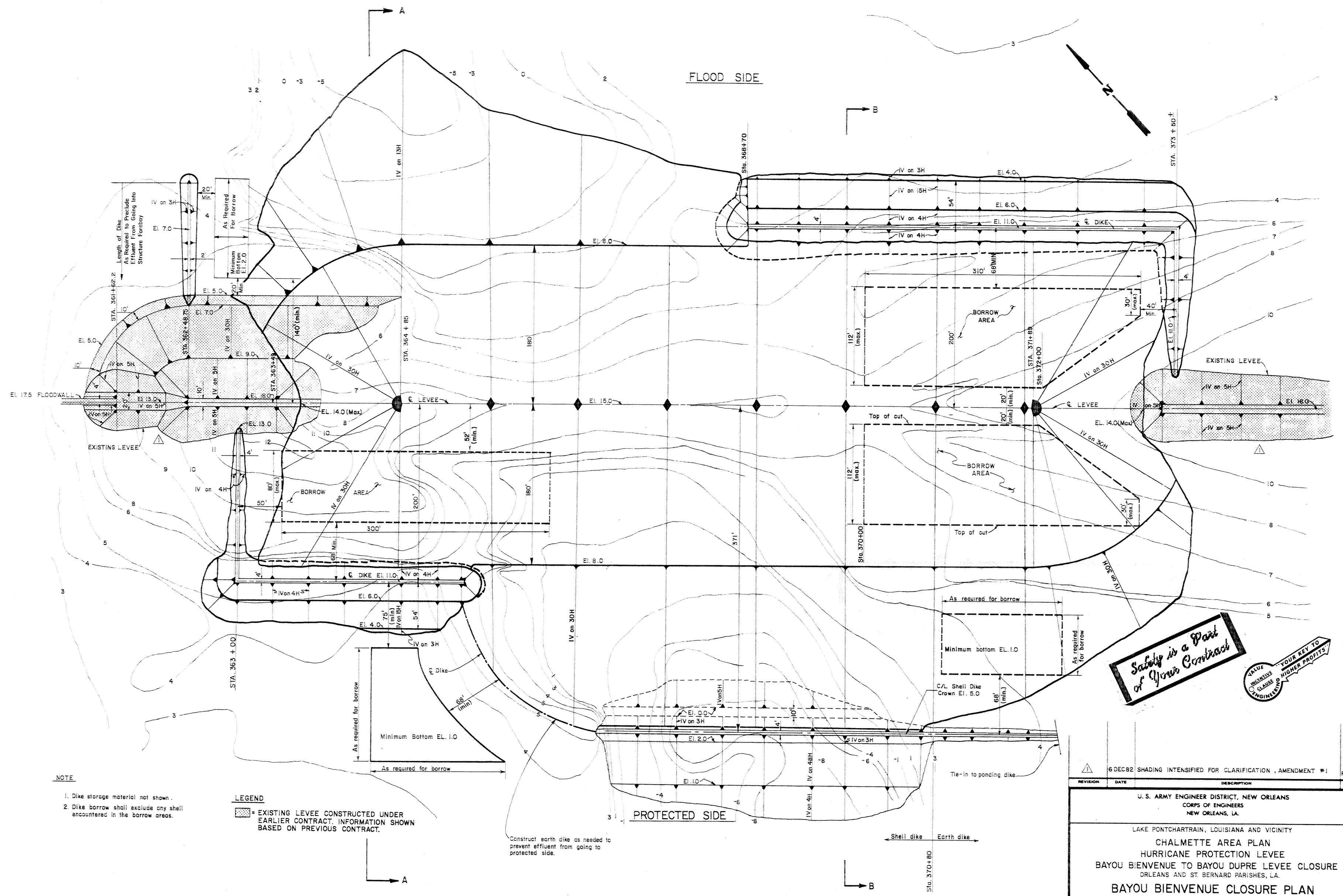
- GENERAL NOTES:**
1. Unless otherwise noted, all elevations are expressed in feet and refer to National Geodetic Vertical Datum (N.G.V.D.)
 2. All azimuths are turned in a clockwise direction from 0° (Due South).
 3. See dwg. 1 for the description of bench marks.
 4. The R/W lines are parallel to or perpendicular with the levee C/L, unless otherwise indicated.
 5. All stations are levee baseline stations unless otherwise noted.
 6. MR-GO B/L stations equate the Levee B/L stations plus 7+60.25 in the reach between Bayou Bienvenue and Bayou Dupre flood control structures.
 7. Dates of surveys used:
 - a. M.R.G.C. soundings - 1981
 - b. Levees - 1982
 8. Rebuild and maintain existing ponding dikes to sufficient height and section to confine the hydraulic effluent within the ponding area. Obtain dike borrow from within the ponding area.
 9. For soil boring logs, see dwg. 13.

- BORING LEGEND**
- General type boring
 - ⊙ Undisturbed boring



BAYOU BIENVENUE CLOSURE
STA. 362+00 LEVEE B/L TO STA. 374+50 LEVEE B/L
PROFILE

REVISION	DATE	DESCRIPTION	BY
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LA.			
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY CHALMETTE AREA PLAN HURRICANE PROTECTION LEVEE BAYOU BIENVENUE TO BAYOU DUPRE LEVEE CLOSURE ORLEANS AND ST. BERNARD PARISHES, LA.			
PLAN AND PROFILE			
DESIGNED BY	DRAWN BY	CHECKED BY	DATE
N.E.	L.A.H.	R.P.L.	NOV. 1982
SCALE:	AS SHOWN	FILE NO.:	H-8-29466
DRAWN BY		DATE	2 of 14
DACW89-83-B-0012			



NOTE

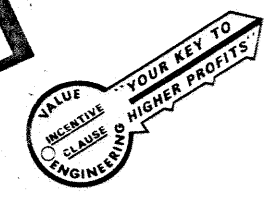
1. Dike storage material not shown.
2. Dike borrow shall exclude any shell encountered in the borrow areas.

LEGEND

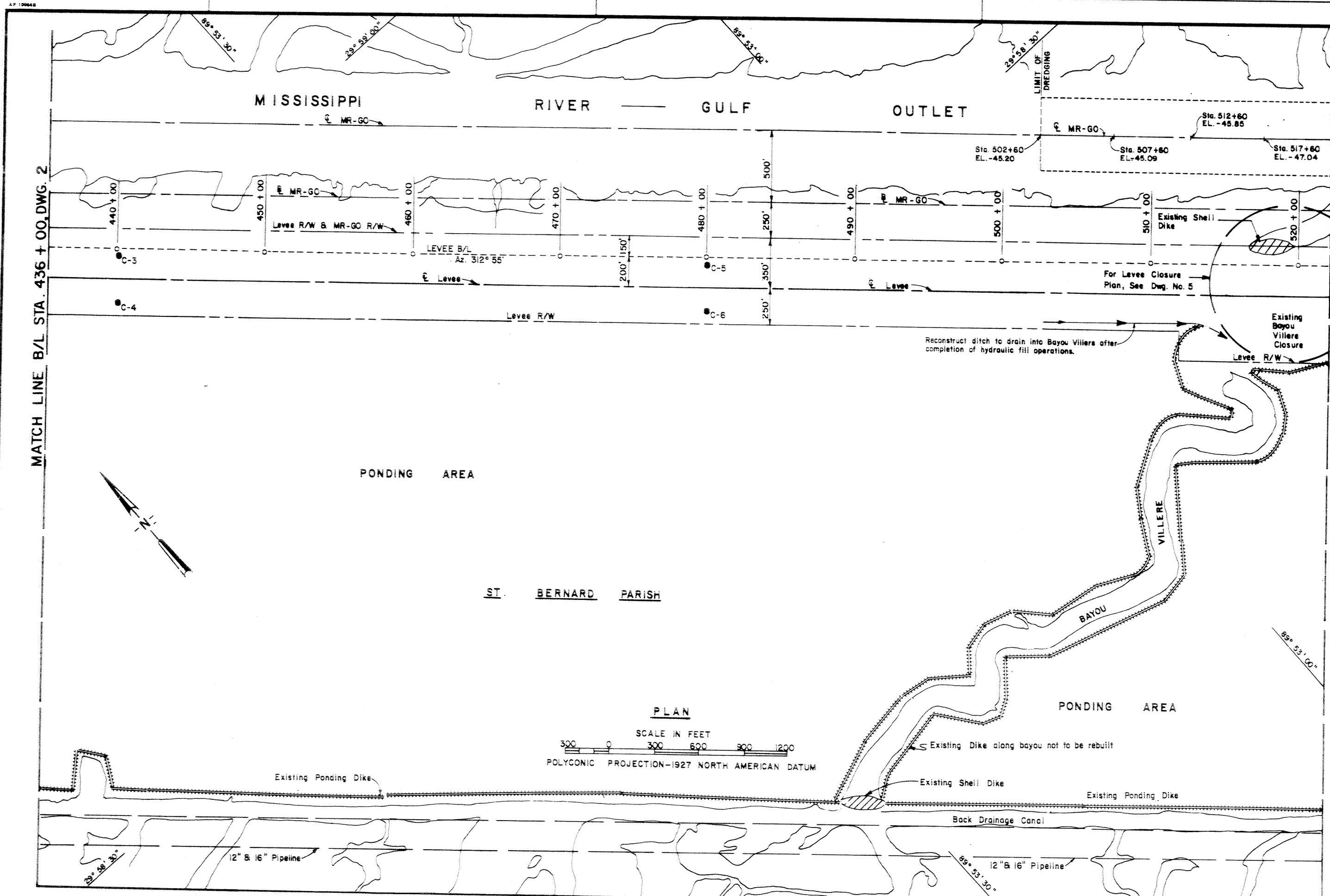
= EXISTING LEVEE CONSTRUCTED UNDER EARLIER CONTRACT. INFORMATION SHOWN BASED ON PREVIOUS CONTRACT.

Construct earth dike as needed to prevent effluent from going to protected side.

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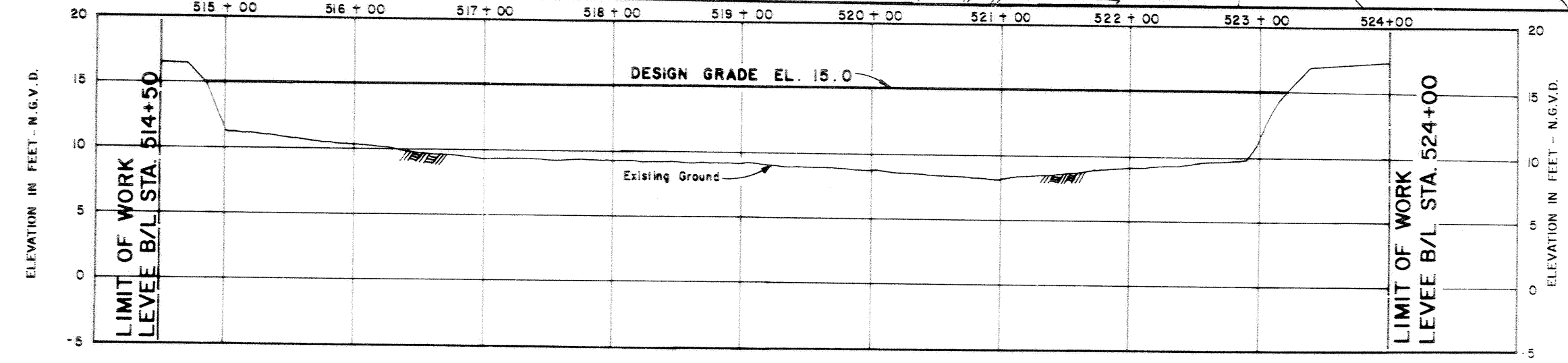


6 DEC 82 SHADING INTENSIFIED FOR CLARIFICATION, AMENDMENT #1		R.W.V.
REVISION	DATE	DESCRIPTION
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LA.		
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY CHALMETTE AREA PLAN HURRICANE PROTECTION LEVEE BAYOU BIENVENUE TO BAYOU DUPRE LEVEE CLOSURE ORLEANS AND ST. BERNARD PARISHES, LA.		
BAYOU BIENVENUE CLOSURE PLAN		
DESIGNED	DRAWN	CHECKED
DATE	SCALE	FILE NO.
N.E.	L.A.H.	R.P.L.
NOV. 1982	1" = 40'	H-8-29466
SUBMITTED	SPEC. NO.	DWG. NO.
	DACW29-83-B-0012	3 OF 14



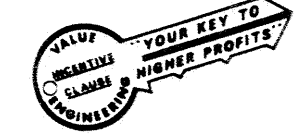
MATCH LINE B/L STA. 436 + 00, DWG. 2

MATCH LINE B/L STA. 522 + 00, DWG. 6

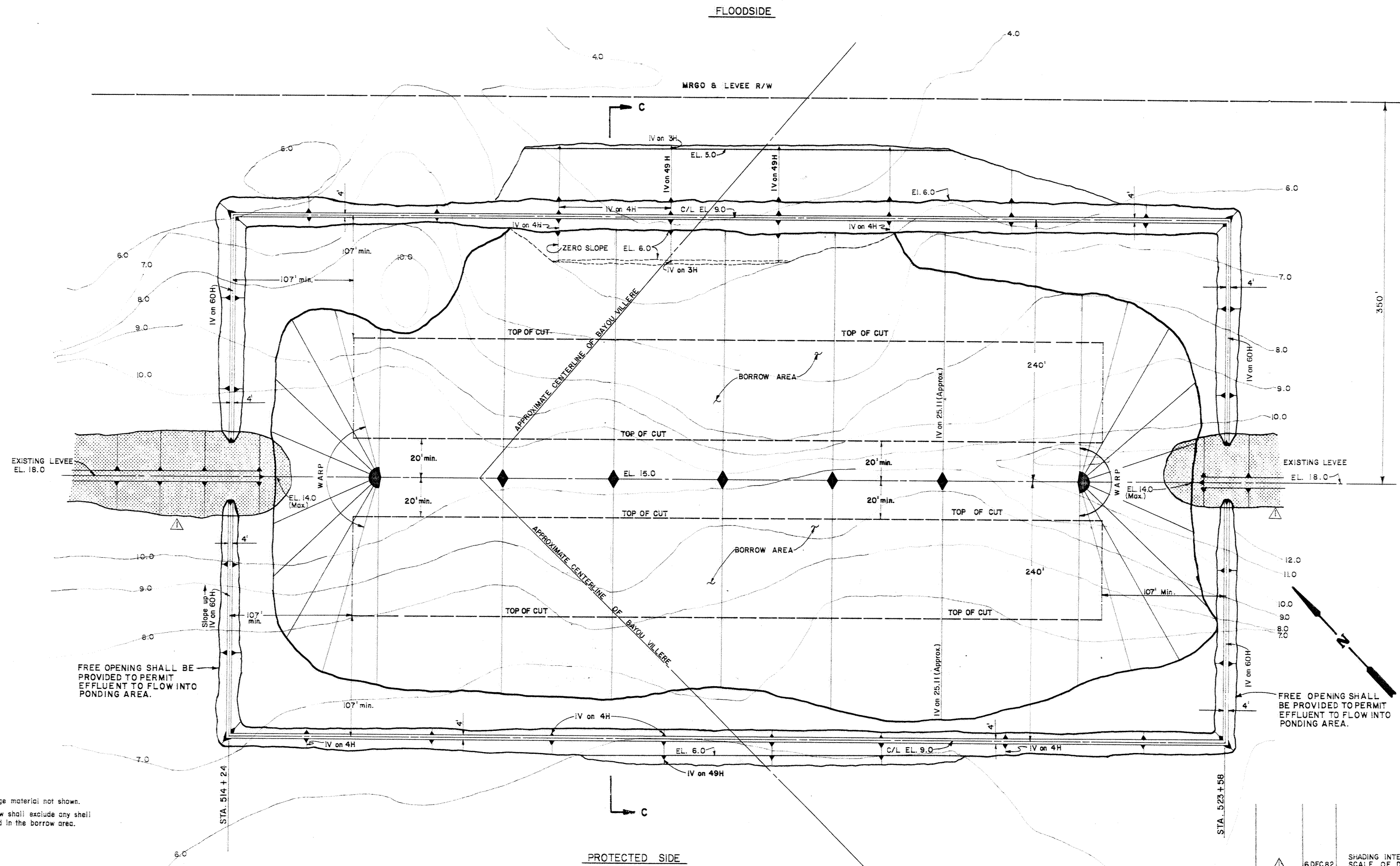


BAYOU VILLERE CLOSURE
STA 514 + 50 LEVEE B/L TO STA. 524 + 00 LEVEE B/L
PROFILE


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REVISION	DATE	DESCRIPTION	BY
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LA.			
LAKE PONTCHARTRAIN LOUISIANA AND VICINITY CHALMETTE AREA PLAN HURRICANE PROTECTION LEVEE BAYOU BIENVENUE TO BAYOU DUPRE LEVEE CLOSURE ORLEANS AND ST. BERNARD PARISHES, LA.			
PLAN AND PROFILE			
DESIGNED	DRAWN	CHECKED	DATE
N.E.	L.A.H.	R.P.L.	Nov. 1982
SCALE	FILE NO.		
AS SHOWN	H-8-29466		
QUANTITY	SPEC. NO.		
	DACW29-83-B-0012		
		DWG. 4	OF 14



NOTES:
 1. Dike storage material not shown.
 2. Dike borrow shall exclude any shell encountered in the borrow area.

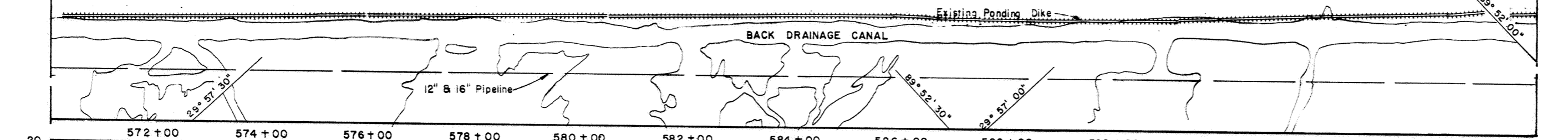
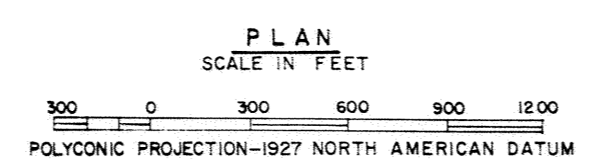
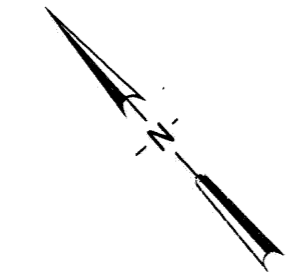
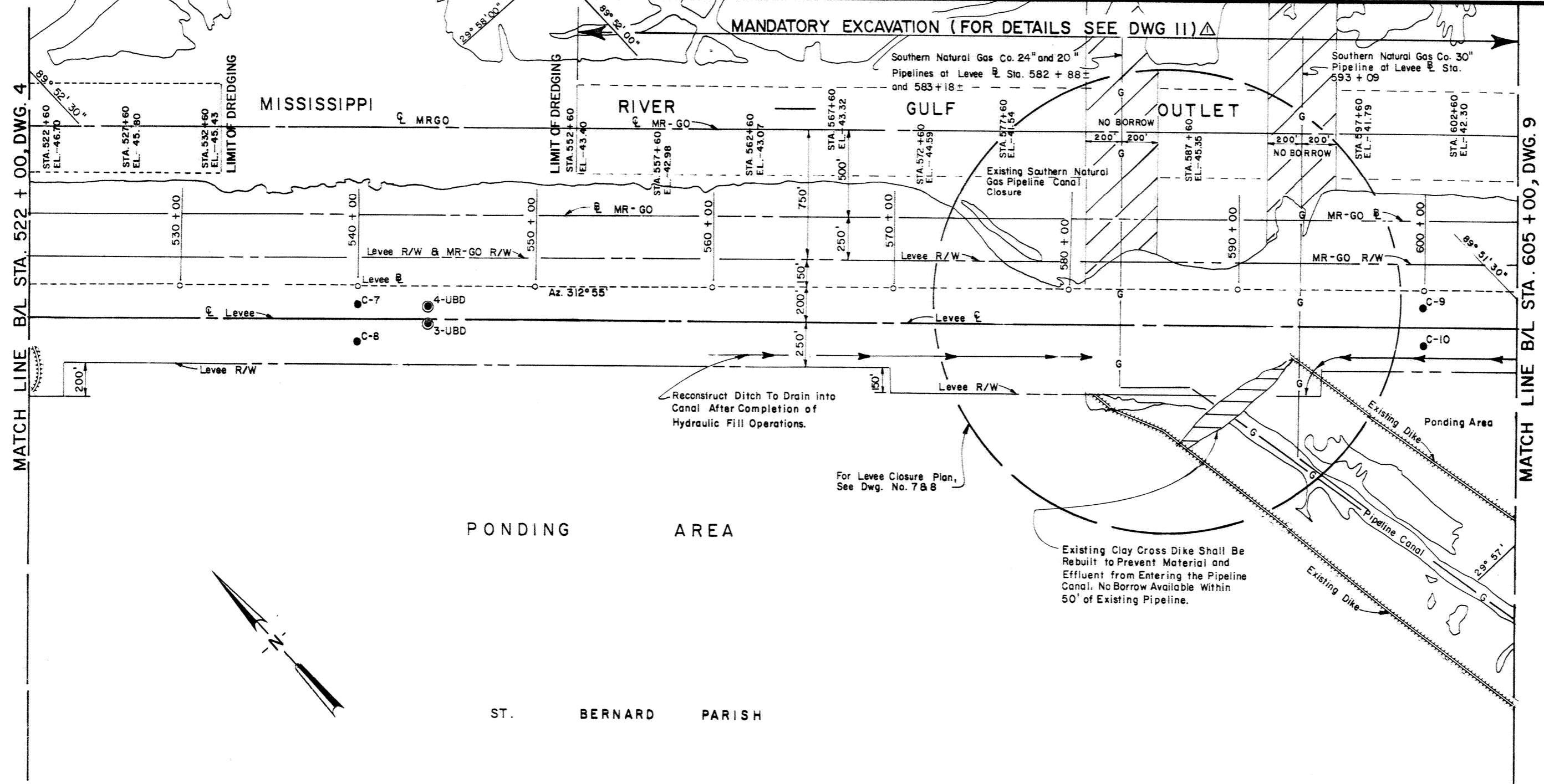
LEGEND
 = EXISTING LEVEE CONSTRUCTED UNDER EARLIER CONTRACT. INFORMATION SHOWN BASED ON PREVIOUS CONTRACT

NOTE: DWG. NOT TO SCALE

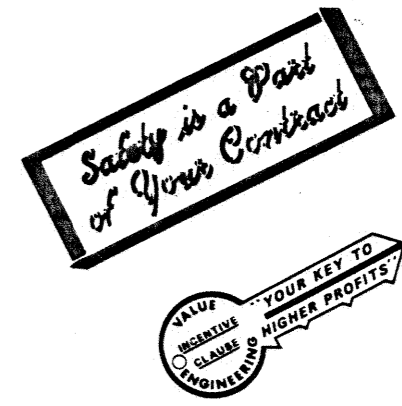
Safety is a Part of Your Contract

VALUE ENGINEERING YOUR KEY TO INCREASING PROFITS & LOWERING COSTS

REVISION	DATE	DESCRIPTION	BY
△	6 DEC 82	SHADING INTENSIFIED FOR CLARIFICATION, SCALE OF DWG. ADDED, AMENDMENT #1	R.W.W.
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LA.			
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY CHALMETTE AREA PLAN HURRICANE PROTECTION LEVEE BAYOU BIENVENUE TO BAYOU DUPRE CLOSURE ORLEANS AND ST. BERNARD PARISHES, LA.			
BAYOU VILLERE CLOSURE PLAN			
DESIGNED:	DRAWN:	CHECKED:	DATE:
N.E.	L.A.H.	R.P.L.	NOV. 1982
SUBMITTED:	SPEC. NO.	SCALE:	FILE NO.
	DACW29-83-B-0012		H-8-29466
			DWG. 5 OF 14



NOTE:
For soil boring logs see dwg. 13

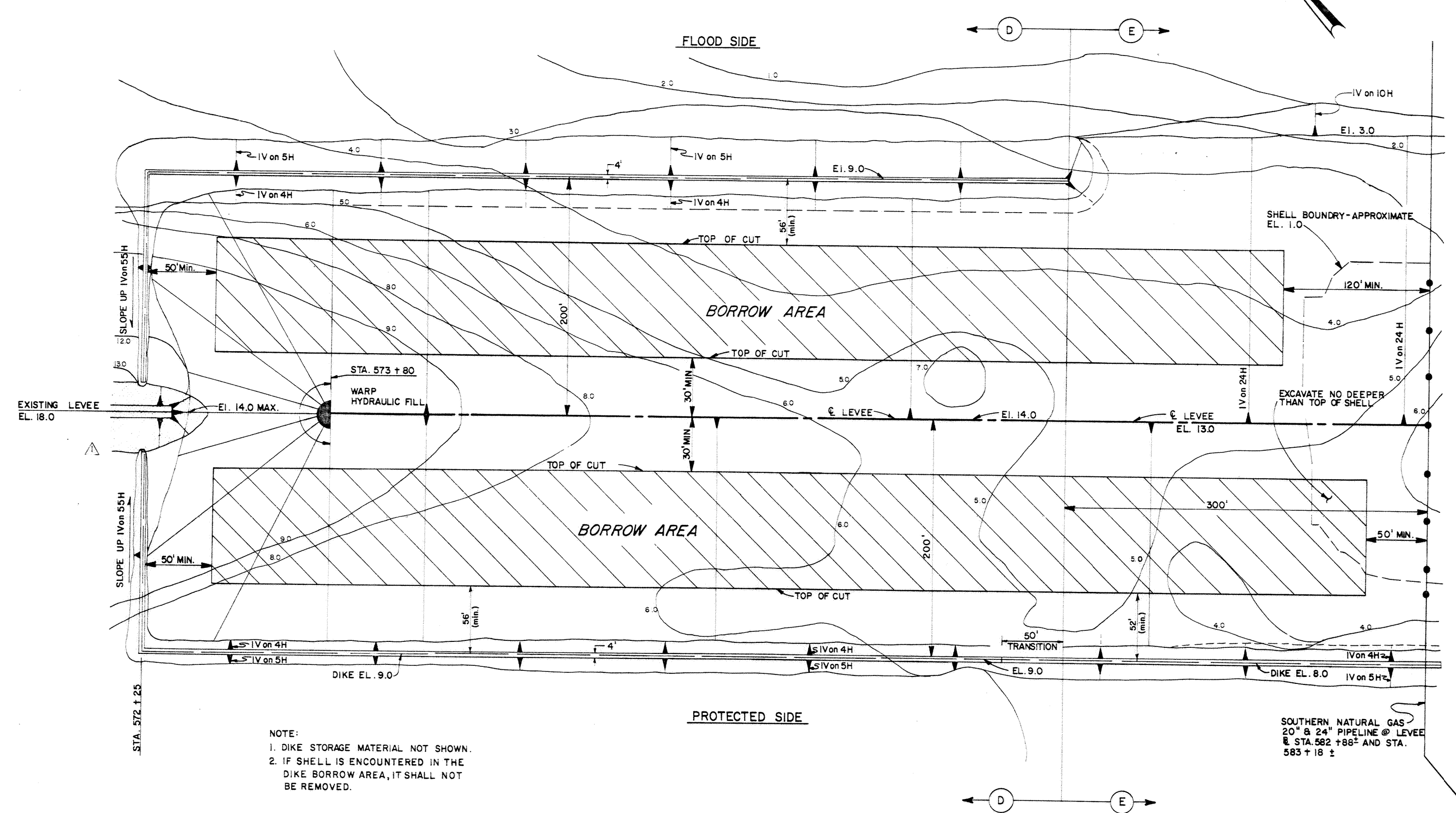
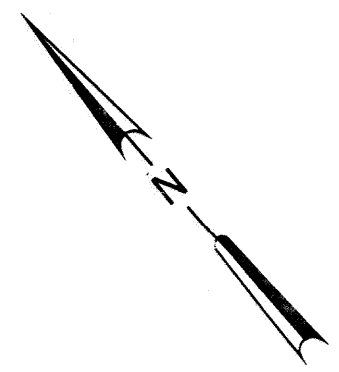


DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:	FILE NO.:
N.E.	L.A.H.	R.P.L.	NOV. 19 82	AS SHOWN	H-8-29466
SUBMITTED:			SPEC. NO.:		
DACW29-83-B-0012			Dwg. 6 of 14		

6 DEC 82 MANDATORY EXCAVATION ADDED - AMENDMENT # 1 R.W.

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

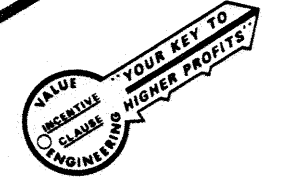
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY
CHALMETTE AREA PLAN
HURRICANE PROTECTION LEVEE
BAYOU BIENVENUE TO BAYOU DUPRE LEVEE CLOSURE
ORLEANS AND ST. BERNARD PARISHES, LA.
PLAN AND PROFILE



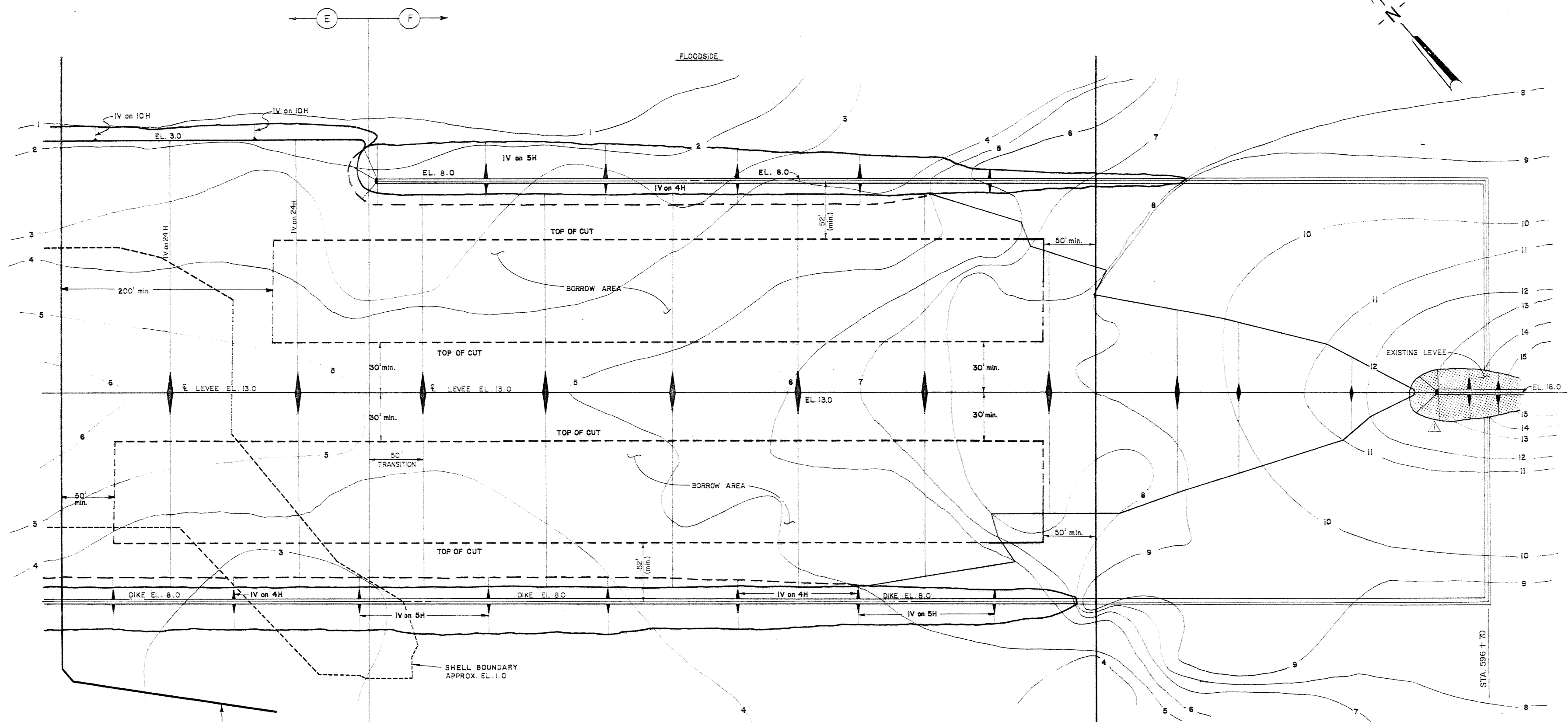
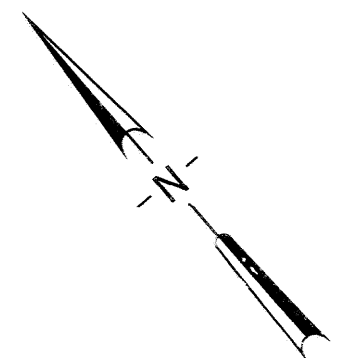
NOTE:
 1. DIKE STORAGE MATERIAL NOT SHOWN.
 2. IF SHELL IS ENCOUNTERED IN THE DIKE BORROW AREA, IT SHALL NOT BE REMOVED.

LEGEND
 [Symbol] - EXISTING LEVEE CONSTRUCTED UNDER EARLIER CONTRACT. INFORMATION SHOWN BASED ON PREVIOUS CONTRACT.

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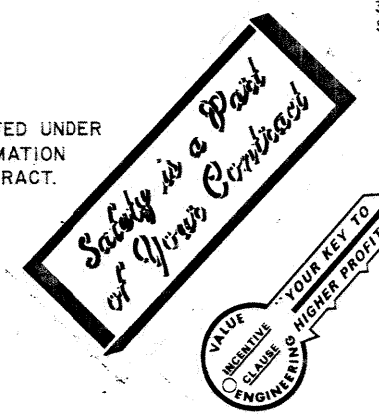
REVISION	DATE	DESCRIPTION	BY
6DEC82		SHADING INTENSIFIED FOR CLARIFICATION, AMENDMENT #1	R.W.W.
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LA.			
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY CHALMETTE AREA PLAN HURRICANE PROTECTION LEVEE ORLEANS AND ST. BERNARD PARISHES, LA.			
LEVEE CLOSURE PLAN (SOUTHERN PIPELINE CROSSING)			
DESIGNED:	DRAWN:	CHECKED:	DATE:
N.E.	L.A.H.	R.P.L.	NOV. 1982
SCALE:		FILE NO.	
1" = 40'		H-8-29466	
SUBMITTED:		SPEC. NO.	
DACW29-83-B-0012		DWG. 7 OF 14	



SOUTHERN NATURAL GAS CO.
20" & 24" PIPELINES
LEVEE B/L STA. 582+88 ±
& STA. 583+18 ±

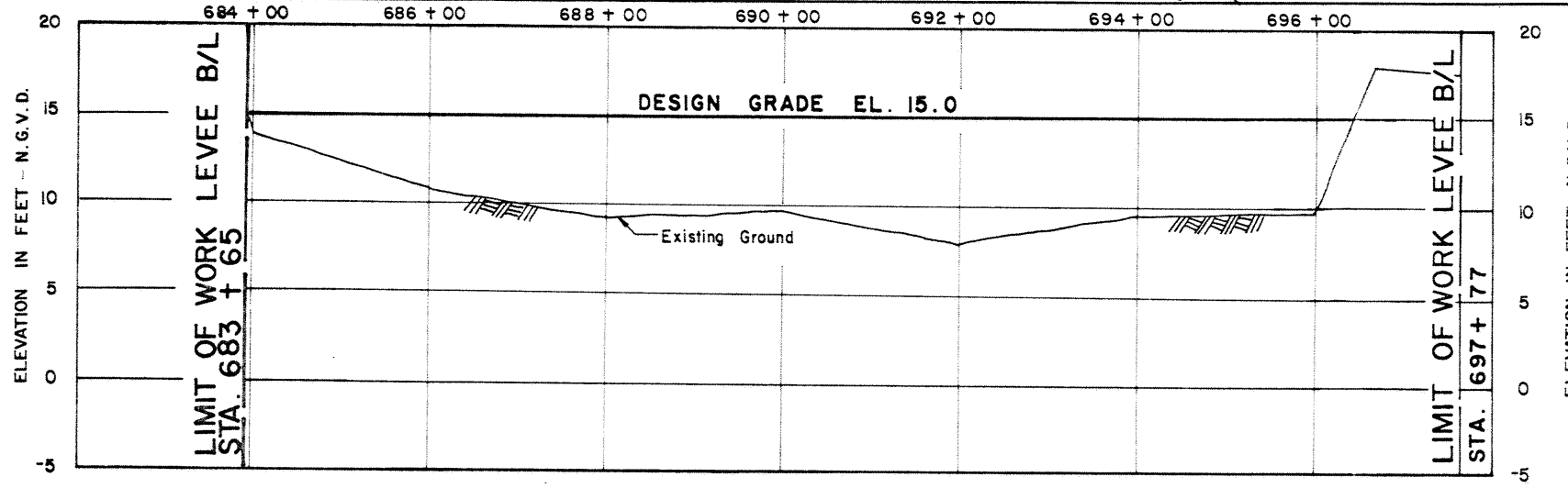
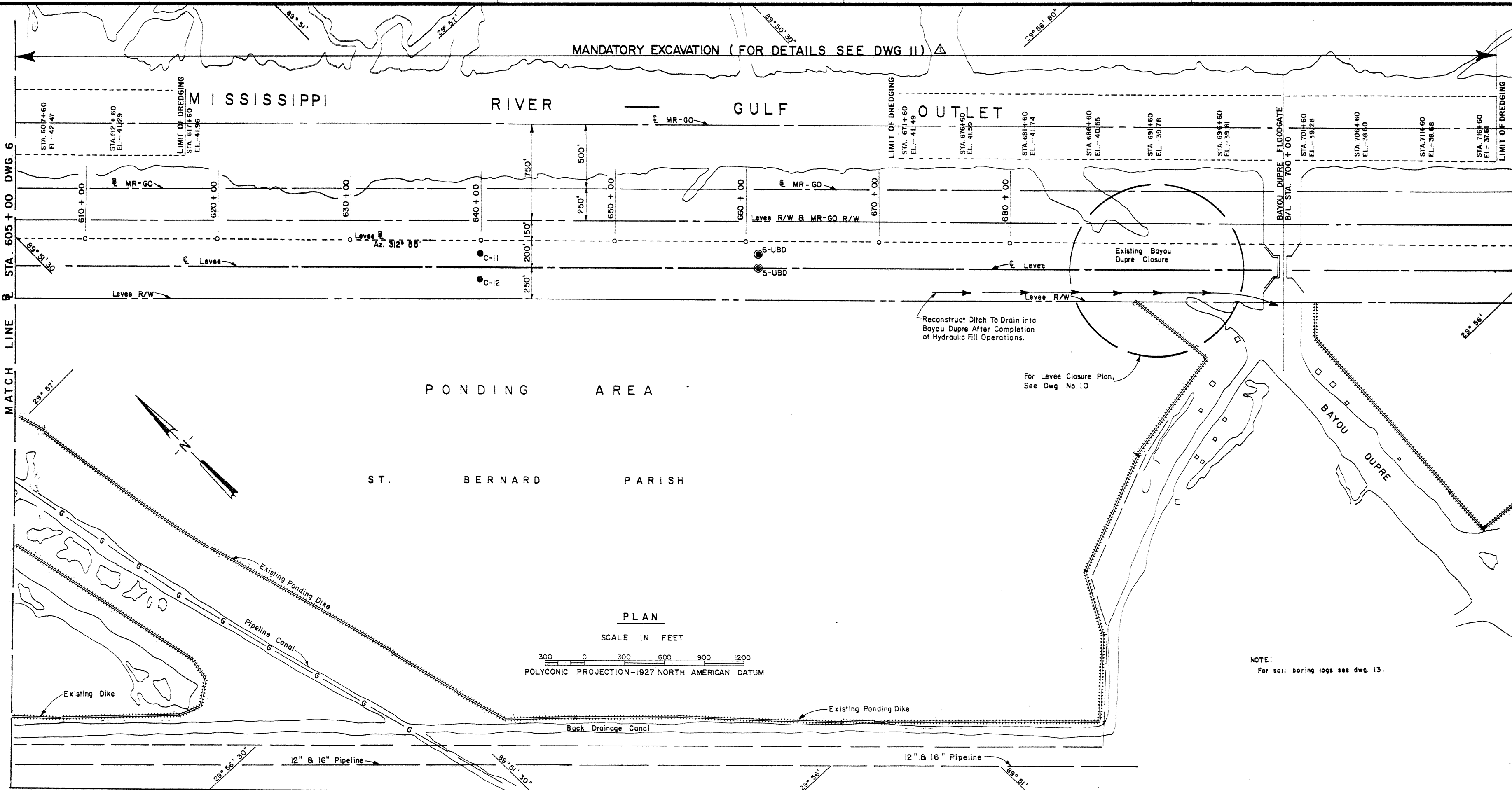
- NOTES:
1. DIKE STORAGE MATERIAL NOT SHOWN.
 2. IF SHELL IS ENCOUNTERED IN THE DIKE BORROW AREA IT SHALL NOT BE REMOVED.

LEGEND
 = EXISTING LEVEE CONSTRUCTED UNDER EARLIER CONTRACT. INFORMATION BASED ON PREVIOUS CONTRACT.



SOUTHERN NATURAL GAS CO.
30" PIPELINE LEVEE B/L
STA. 593+09 ±

REVISION	DATE	DESCRIPTION	BY
6	DEC 82	SHADING INTENSIFIED FOR CLARIFICATION	
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LA.			
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY CHALMETTE AREA PLAN HURRICANE PROTECTION LEVEE ORLEANS AND ST. BERNARD PARISHES, LA. LEVEE CLOSURE PLAN (SOUTHERN PIPELINE CROSSING)			
DESIGNED:	DRAWN:	CHECKED:	DATE:
NE	L.A.H.	R.P.L.	NOV. 1982
SUBMITTED:	SPEC. NO.	SCALE:	FILE NO.
	DACW29-53-B-0012	1" = 40'	H-8-29466
			DWG. 8 OF 14

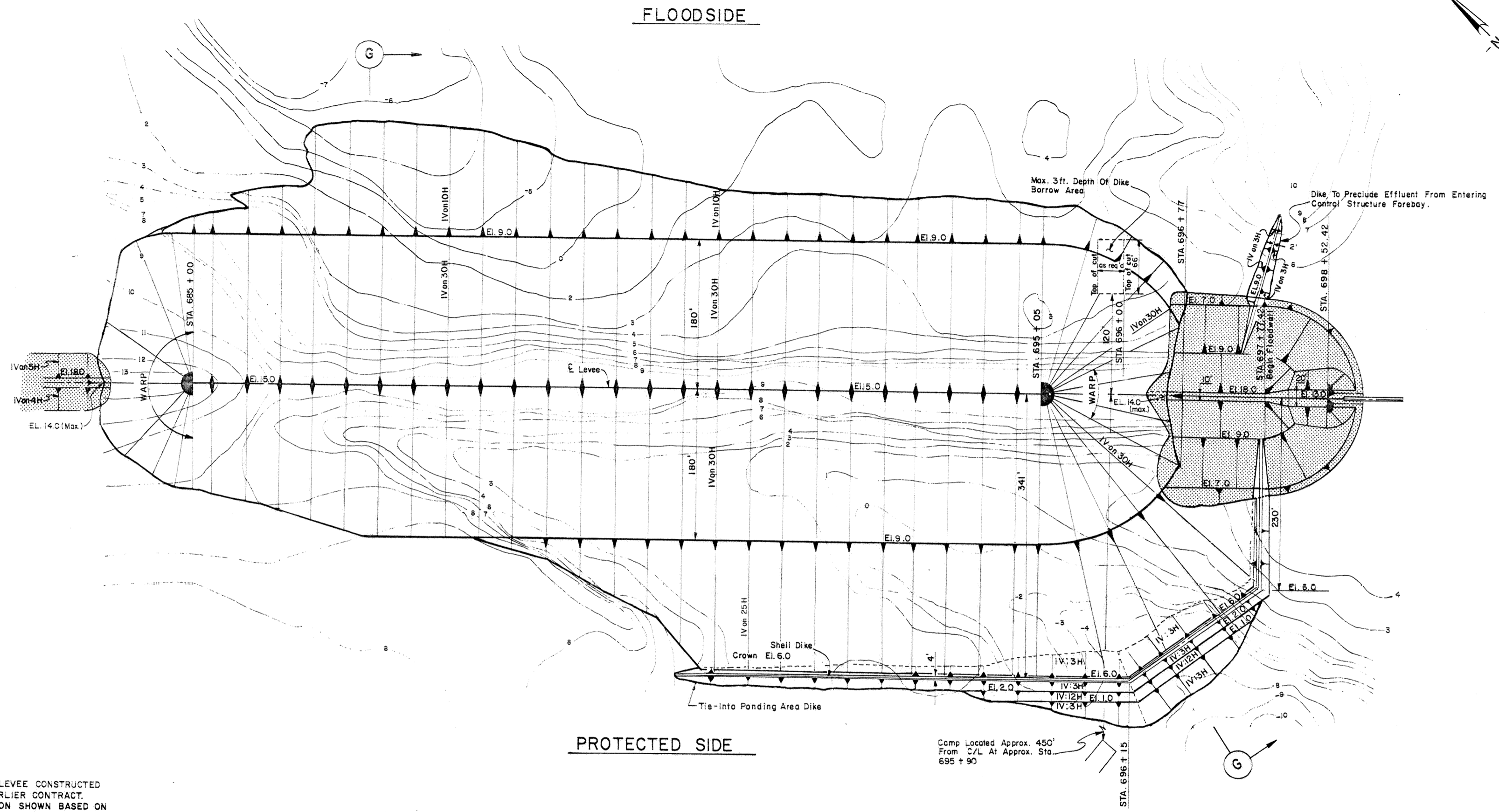


BAYOU DUPRE CLOSURE
 STA. 683+65 LEVEE B/L TO STA. 697+77 LEVEE B/L
 PROFILE



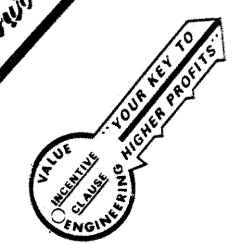
NOTE:
 For soil boring logs see dwg. 13.

REVISION	DATE	DESCRIPTION	BY
6 DEC 82		MANDATORY EXCAVATION ADDED, AMENDMENT #1	R.W.W.
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LA.			
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY CHALMETTE AREA PLAN HURRICANE PROTECTION LEVEE BAYOU BIENVENUE TO BAYOU DUPRE LEVEE CLOSURE ORLEANS AND ST. BERNARD PARISHES, LA.			
PLAN AND PROFILE			
DESIGNED:	DRAWN:	CHECKED:	DATE:
N.E.	L.A.H.	R.P.L.	NOV 1982
SPEC. NO.		SCALE:	FILE NO.
DACW29-83-B-0012		AS SHOWN	H-8-29466
Dwg. 9 of 14			

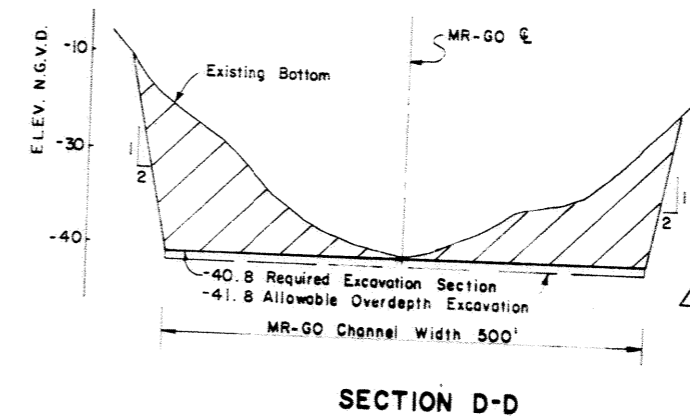
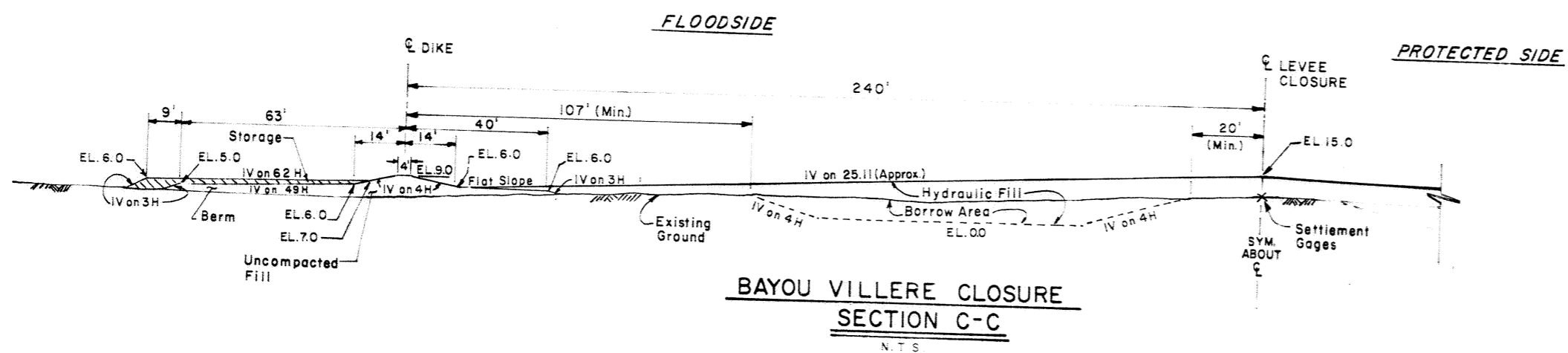
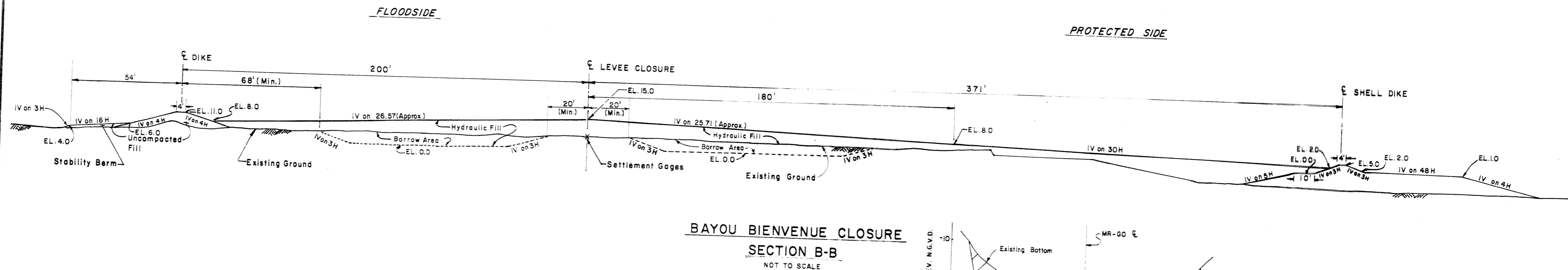
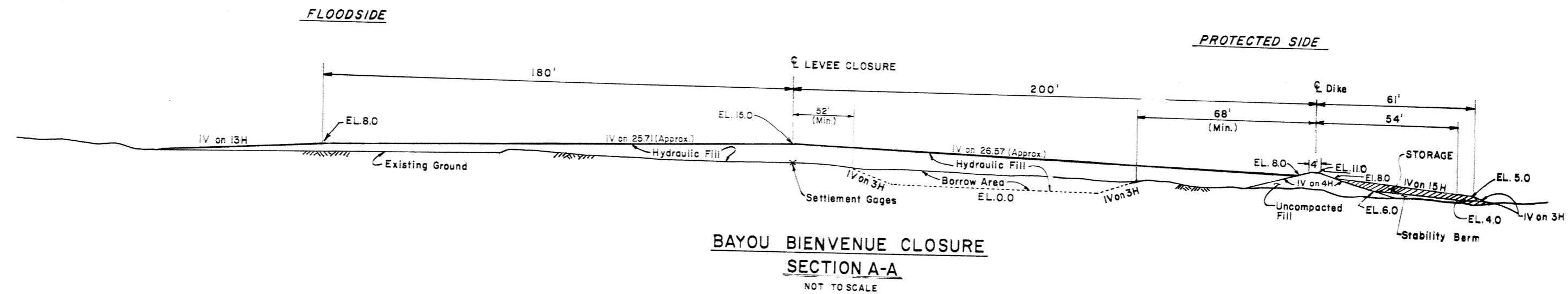


LEGEND:
 [Hatched Box] = EXISTING LEVEE CONSTRUCTED UNDER EARLIER CONTRACT. INFORMATION SHOWN BASED ON PREVIOUS CONTRACT.

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REVISION	DATE	DESCRIPTION	BY
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LA.			
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY CHALMETTE AREA PLAN HURRICANE PROTECTION LEVEE BAYOU BIENVENUE TO BAYOU DUPRE LEVEE CLOSURE ORLEANS AND ST. BERNARD PARISHES, LA. BAYOU DUPRE CLOSURE PLAN			
DESIGNED:	DRAWN:	CHECKED:	DATE:
N. E.	L. A. H.	R. P. L.	NOV. 1962
SUBMITTED:	SPEC. NO.	SCALE:	FILE NO.
	DACW29-83-B-0012	NOT TO SCALE	H-8-29466
		DWG	10 OF 14



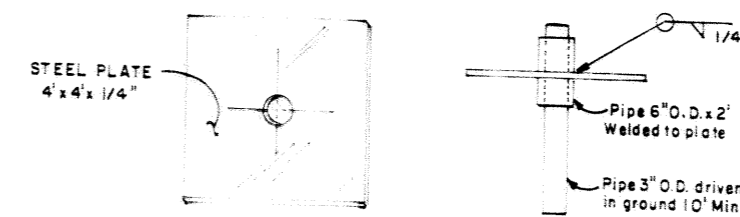
NOTES:

1. CONSTRUCT EARTH DIKES A MINIMUM OF 2 FEET ABOVE EXISTING NATURAL GROUND.
2. STORAGE SHALL BE USED AS REQUIRED TO MAINTAIN THE ELEVATION AND SECTION OF THE DIKE DUE TO SETTLEMENT.
3. ALL EARTH DIKES, BERMS, AND STORAGE AREAS TO BE CONSTRUCTED FROM UNCOMPACTED FILL.
4. FOR GENERAL NOTES, SEE DWG. 2.

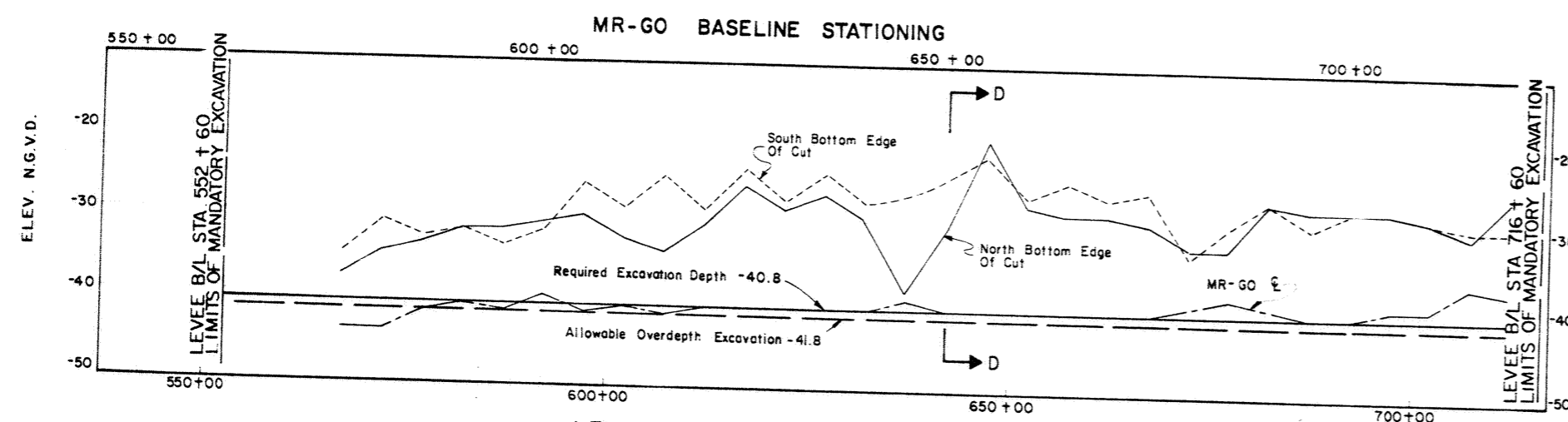
SETTLEMENT GAGE SPECIFICATIONS

SHOULD THE CONTRACTOR DESIRE PAYMENT FOR PLACING ADDITIONAL FILL DUE TO FOUNDATION SETTLEMENT DURING CONSTRUCTION HE SHALL FURNISH AND INSTALL SETTLEMENT GAGES AT THE LOCATIONS SHOWN ON THE DESIGN SECTION IN CONFORMANCE WITH THE PROVISIONS OF SECTION 3 OF THE SPECIFICATIONS.

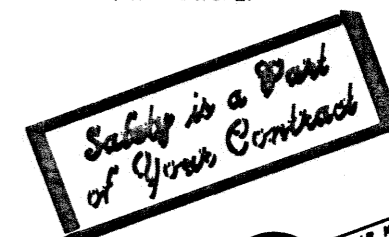
THE LENGTH OF THE SETTLEMENT RANGE FOR ANY SETTLEMENT MEASUREMENT GAGE SHALL NOT EXCEED 300 FT. AND EXTEND FOR A MINIMUM OF 150 FT ON EACH SIDE OF THE SETTLEMENT MEASUREMENT GAGE, MEASURED ALONG THE CENTERLINE OF THE EMBANKMENT EXCEPT WHERE SETTLEMENT GAGES ARE PLACED AT LESS THAN 300 FT INTERVALS, IN WHICH CASE, THE SETTLEMENT MEASUREMENT RANGE SHALL BE TO A POINT 1/2 THE DISTANCE BETWEEN SETTLEMENT GAGES AS INSTALLED. RISER PIPES ARE PERMITTED ON SETTLEMENT PLATES.



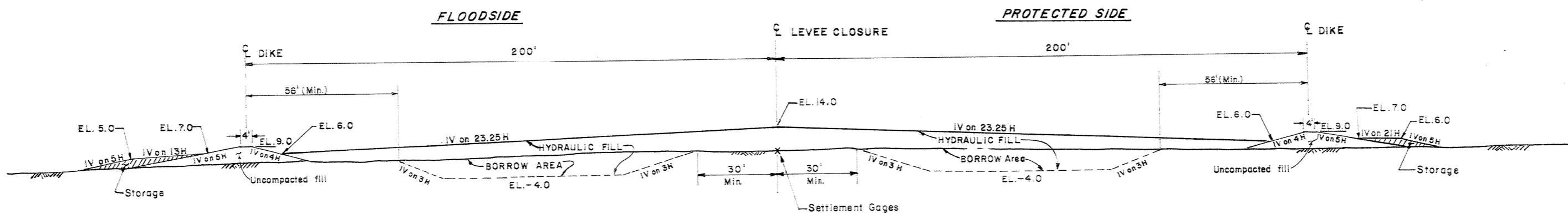
SETTLEMENT MEASUREMENT GAGE DETAIL
N.T.S.



LEVEE BASELINE STATIONING
(NOTE: MR-GO B/L STA = LEVEE B/L 757.9')
MANDATORY EXCAVATION CHANNEL PROFILE

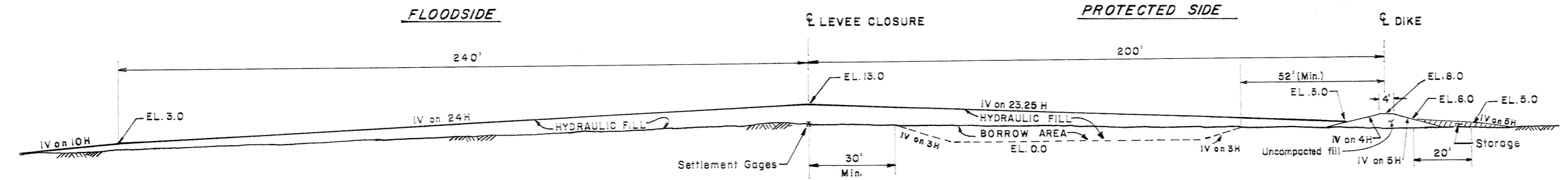


REVISION	DATE	DESCRIPTION	BY
6 DEC 82		MANDATORY EXCAVATION ADDED, AMENDMENT #1	R.W.H.
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LA.			
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY CHALMETTE AREA PLAN HURRICANE PROTECTION LEVEE BAYOU BIENVENUE TO BAYOU DUPRE LEVEE CLOSURE ORLEANS AND ST. BERNARD PARISHES, LA.			
LEVEE & MANDATORY EXCAVATION DESIGN SECTIONS			
DESIGNED	DRAWN	CHECKED	DATE
N.E.	VLW	R.P.L.	NOV. 1982
SCALE:		FILE NO.	
AS SHOWN		H-8-29466	
SUBMITTED		SPEC NO.	
DACW29-83-B-0012		DWG. 11 of 14	

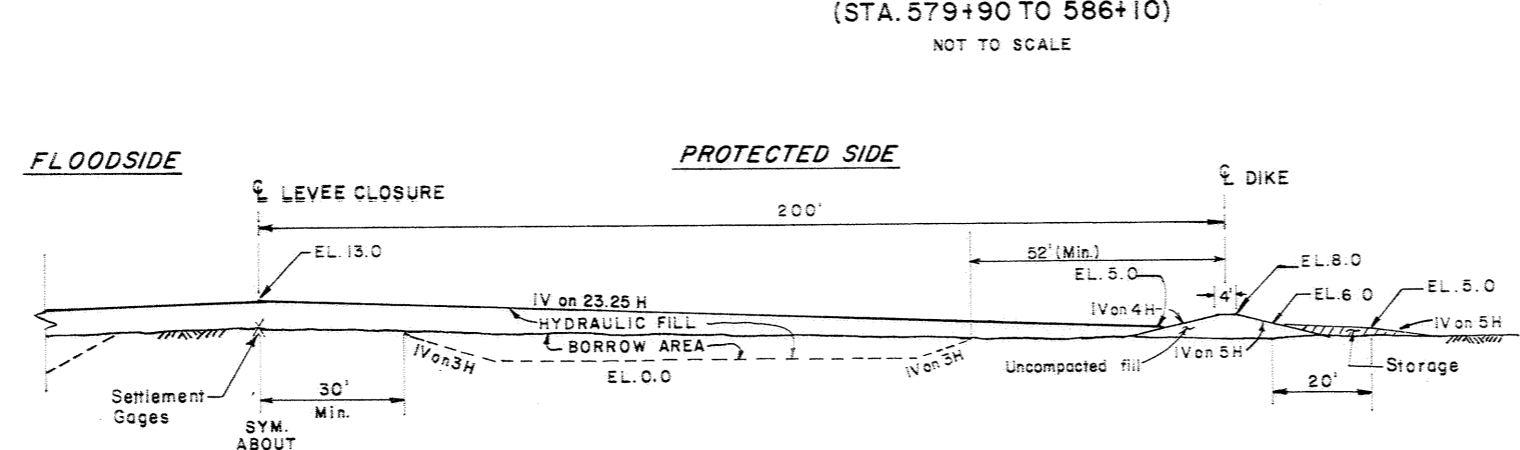


SOUTHERN PIPELINE CROSSING
SECTION D-D
 (STA. 572+25 TO 579 +40)
 NOT TO SCALE

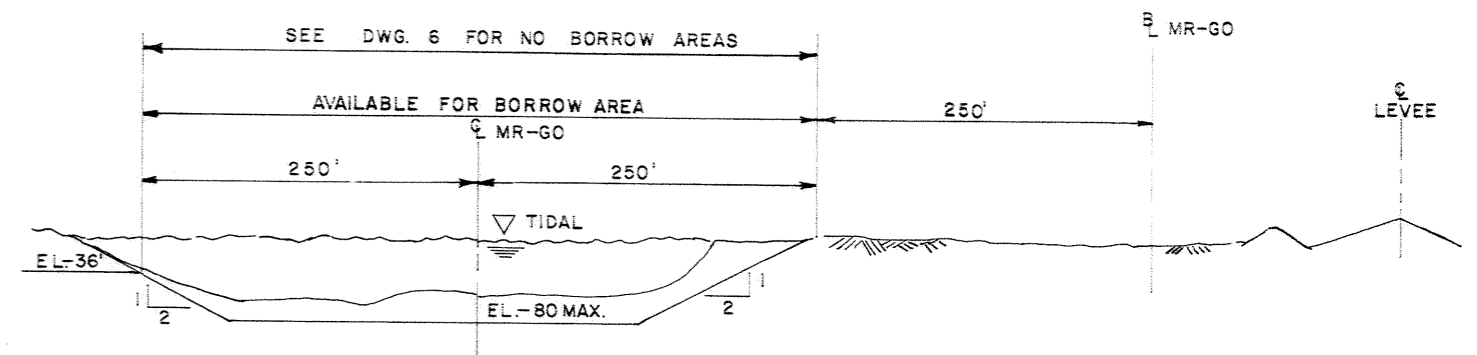
- NOTES:
1. Construct earth dikes a minimum of 2' above existing natural ground.
 2. Storage shall be used as required to maintain the elevation and section of the dike due to settlement.
 3. All earth dikes, berms, and storage areas to be constructed from uncompacted fill.
 4. For General Notes, see Dwg. 2.



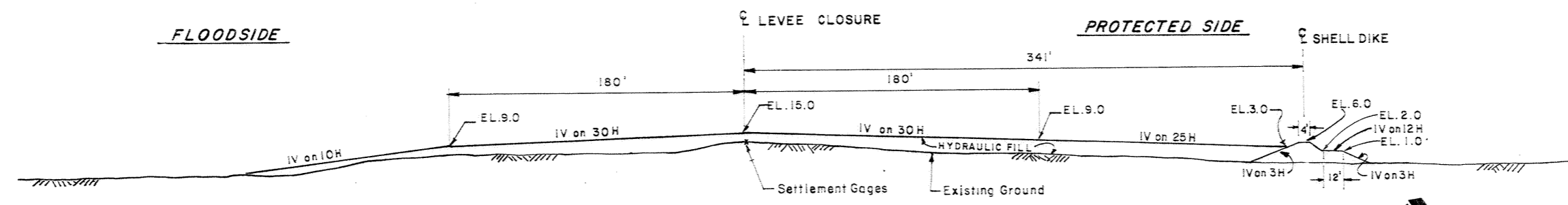
SOUTHERN PIPELINE CROSSING
SECTION E-E
 (STA. 579+90 TO 586+10)
 NOT TO SCALE



SOUTHERN PIPELINE CROSSING
SECTION F-F
 (STA. 586+10 TO 596+70)
 NOT TO SCALE



HYDRAULIC BORROW SECTION MISSISSIPPI RIVER-GULF OUTLET
 NOT TO SCALE

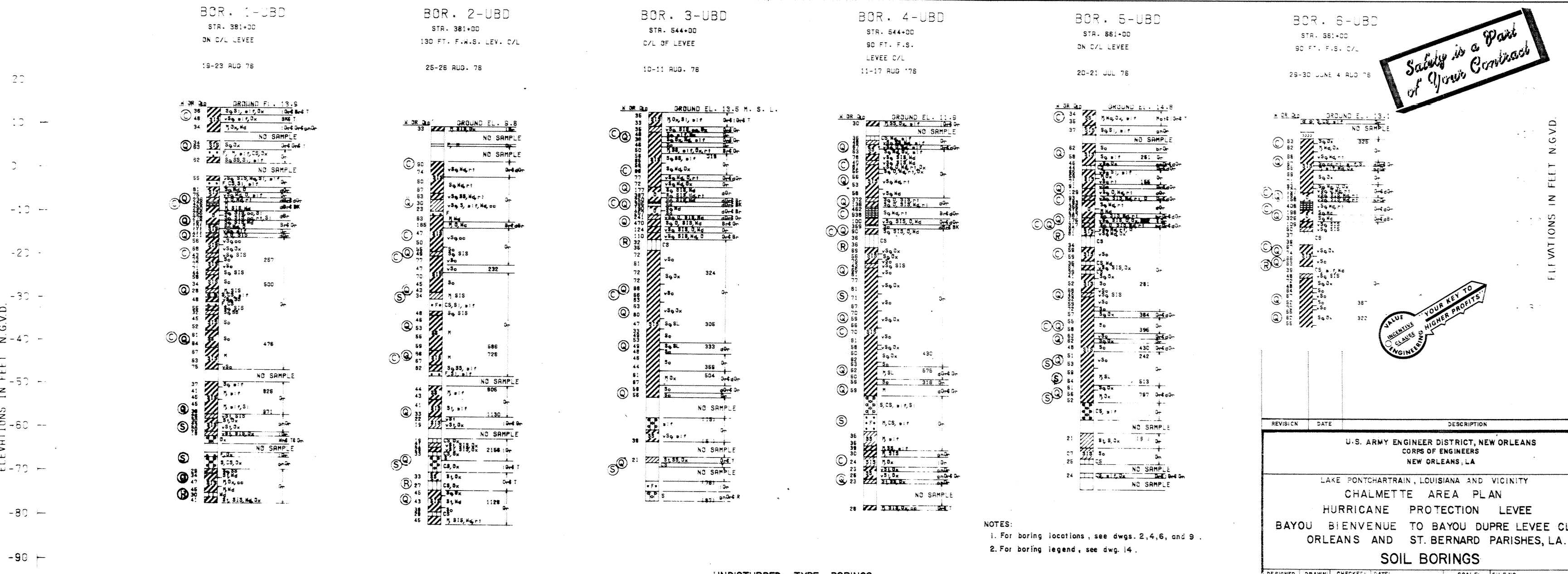
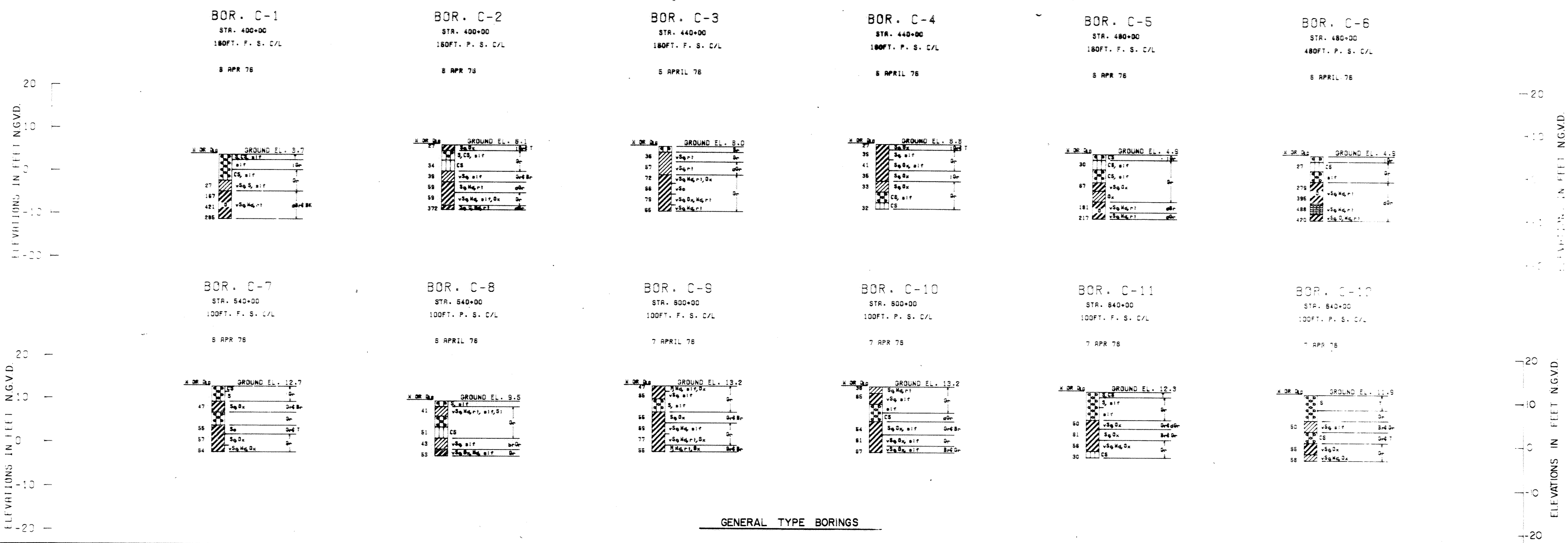


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SECTION G-G
 NOT TO SCALE

Safety is a Part of Your Contract

ANNUAL INSPECTION TO CLASSE YOUR KEY TO HIGHER PROFITS

REVISION	DATE	DESCRIPTION	BY
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LA.			
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY CHALMETTE AREA PLAN HURRICANE PROTECTION LEVEE BAYOU BIENVENUE TO BAYOU DUPRE LEVEE CLOSURE ORLEANS AND ST. BERNARD PARISHES, LA.			
LEVEE DESIGN SECTIONS			
DESIGNED:	DRAWN:	CHECKED:	DATE:
N.E.	V.L.W.	R.P.L.	NOV. 1962
SCALE:		FILE NO.	
AS SHOWN		H-8-29466	
SUBMITTED:		SPEC. NO.	
DACW29-63-B-0012		DWG. 12 OF 14	



NOTES:
 1. For boring locations, see dwgs. 2, 4, 6, and 9.
 2. For boring legend, see dwg. 14.

Safety is a Part of Your Contract

MAKE US YOUR KEY TO
 GREATER
 ENGINEERING
 YOUR KEY TO
 HIGHER PROFITS

REVISION	DATE	DESCRIPTION	BY
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LA.			
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY CHALMETTE AREA PLAN HURRICANE PROTECTION LEVEE BAYOU BIENVENUE TO BAYOU DUPRE LEVEE CLOSURE ORLEANS AND ST. BERNARD PARISHES, LA.			
SOIL BORINGS			
DESIGNED N.E.	DRAWN T.J.C.	CHECKED R.P.L.	DATE NOV. 1962
SCALE AS SHOWN		FILE NO. H-8-29466	
SUBMITTED ENGINEER		SPEC. NO. DACW 29-63-B-0012	
		DWG. 13 OF 14	

UNIFIED SOIL CLASSIFICATION			
MAJOR DIVISION	TYPE	LETTER SYMBOL	TYPICAL NAMES
COARSE-GRAINED SOILS More than half of material is larger than No. 200 sieve size.	GRAVELS More than half of coarse fraction is larger than No. 4 sieve size.	CLEAN GRAVEL (Little or No Fines)	GW GRAVEL, Well Graded, gravel-sand mixtures, little or no fines
		GRAVEL WITH FINES (Appreciable Amount of Fines)	GP GRAVEL, Poorly Graded, gravel-sand mixtures, little or no fines
	SANDS More than half of coarse fraction is smaller than No. 4 sieve size.	CLEAN SAND (Little or No Fines)	SW SAND, Well-Graded, gravelly sands
		SAND WITH FINES (Appreciable Amount of Fines)	SP SAND, Poorly-Graded, gravelly sands
		CLEAN GRAVEL (Little or No Fines)	GM SILTY GRAVEL, gravel-sand-silt mixtures
		GRAVEL WITH FINES (Appreciable Amount of Fines)	GC CLAYEY GRAVEL, gravel-sand-clay mixtures
		CLEAN SAND (Little or No Fines)	SM SILTY SAND, sand-silt mixtures
		SAND WITH FINES (Appreciable Amount of Fines)	SC CLAYEY SAND, sand-clay mixtures
	FINE-GRAINED SOILS More than half the material is smaller than No. 200 sieve size.	SILTS AND CLAYS (Liquid Limit < 50)	ML SILT & very fine sand, silty or clayey fine sand or clayey silt with slight plasticity
			CL LEAN CLAY, Sandy Clay, Silty Clay, of low to medium plasticity
OL ORGANIC SILTS and organic silty clays of low plasticity			
SILTS AND CLAYS (Liquid Limit > 50)		MH SILT, fine sandy or silty soil with high plasticity	
		CH FAT CLAY, inorganic clay of high plasticity	
		OH ORGANIC CLAYS of medium to high plasticity, organic silts	
HIGHLY ORGANIC SOILS	Pt PEAT, and other highly organic soil		
WOOD	Wd WOOD		
SHELLS	SI SHELLS		
NO SAMPLE			

NOTE: Soils possessing characteristics of two groups are designated by combinations of group symbols

DESCRIPTIVE SYMBOLS					
COLOR		CONSISTENCY FOR COHESIVE SOILS		MODIFICATIONS	
COLOR	SYMBOL	CONSISTENCY	COHESION IN LBS./SQ. FT. FROM UNCONFINED COMPRESSION TEST	SYMBOL	MODIFICATION SYMBOL
TAN	T	VERY SOFT	< 250	vSo	Traces Tr-
YELLOW	Y	SOFT	250 - 500	So	Fine F
RED	R	MEDIUM	500 - 1000	M	Medium M
BLACK	BK	STIFF	1000 - 2000	St	Coarse C
GRAY	Gr	VERY STIFF	2000 - 4000	vSt	Concretions cc
LIGHT GRAY	lGr	HARD	> 4000	H	Rootlets rt
DARK GRAY	dGr				Lignite fragments lg
BROWN	Br				Shale fragments sh
LIGHT BROWN	lBr				Sandstone fragments sds
DARK BROWN	dBr				Shell fragments sif
BROWNISH - GRAY	br Gr				Organic matter O
GRAYISH - BROWN	gy Br				Clay strata or lenses CS
GREENISH - GRAY	gn Gr				Silt strata or lenses SIS
GRAYISH - GREEN	gy Gn				Sand strata or lenses SS
GREEN	Gn				Sandy S
BLUE	Bl				Gravelly G
BLUE - GREEN	Bl Gn				Boulders B
WHITE	Wh				Slickensides SL
MOTTLED	Mot				Wood Wd
					Oxidized Ox

PLASTICITY CHART
For classification of fine-grained soils

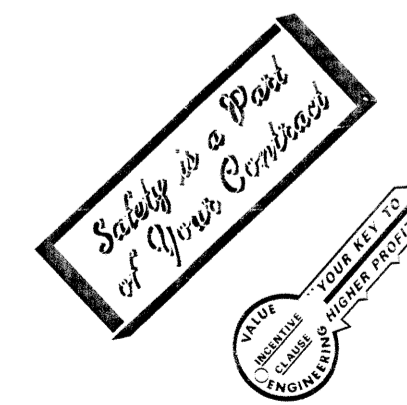
NOTES:	
FIGURES TO LEFT OF BORING UNDER COLUMN "W OR D ₁₀ "	
Are natural water contents in percent dry weight	
When underlined denotes D ₁₀ size in mm*	
FIGURES TO LEFT OF BORING UNDER COLUMNS "LL" AND "PL"	
Are liquid and plastic limits, respectively	
SYMBOLS TO LEFT OF BORING	
▽ Ground-water surface and date observed	
⊙ Denotes location of consolidation test**	
⊕ Denotes location of consolidated-drained direct shear test**	
⊗ Denotes location of consolidated-undrained triaxial compression test**	
⊚ Denotes location of unconsolidated-undrained triaxial compression test**	
⊙ Denotes location of sample subjected to consolidation test and each of the above three types of shear tests**	
FW Denotes free water encountered in boring or sample	
FIGURES TO RIGHT OF BORING	
Are values of cohesion in lbs./sq. ft. from unconfined compression tests	
In parenthesis are driving resistances in blows per foot determined with a standard split spoon sampler (1 3/8" I.D., 2" O.D.) and a 140 lb. driving hammer with a 30" drop	
Where underlined with a solid line denotes laboratory permeability in centimeters per second of undisturbed sample	
Where underlined with a dashed line denotes laboratory permeability in centimeters per second of sample remoulded to the estimated natural void ratio	
*The D ₁₀ size of a soil is the grain diameter in millimeters of which 10% of the soil is finer, and 90% coarser than D ₁₀	
**Results of these tests are available for inspection in the U.S. Army Engineer District Office, if these symbols appear beside the boring logs on the drawings	

TYPICAL NOTES:

While the borings are representative of subsurface conditions at their respective locations and for their respective vertical reaches, local variations characteristic of the subsurface materials of the region are anticipated and, if encountered, such variations will not be considered as differing materially within the purview of clause 4 of the contract.

Ground-water elevations shown on the boring logs represents ground-water surfaces encountered on the dates shown. Absence of water surface data on certain borings implies that no ground-water data is available, but does not necessarily mean that ground water will not be encountered at the locations or within the vertical reaches of these borings.

Consistency of cohesive soils shown on the boring logs is based on driller's log and visual examination and is approximate, except within those vertical reaches of the borings where shear strengths from unconfined compression tests are shown.



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SOIL BORINGS LEGEND			
DESIGNED: N.E.	DRAWN: E.M.M.	CHECKED: R.P.L.	DATE: NOV. 1962
SCALE AS SHOWN		FILE NO. H-8-29466	
SUBMITTED: [Signature]		SPEC. NO. DACW29-63-B-0012	DWG. 14 OF 14