

Safety is a Part of Your Contract

INDEX TO DRAWINGS	
1	VICINITY MAP, LOCATION MAP, INDEX TO DWGS. AND TABULATION OF BENCHMARK
2	PLAN AND PROFILE
3	PLAN AND PROFILE
4	PLAN AND PROFILE
5	TYPICAL DESIGN SECTIONS
6	TYPICAL DESIGN SECTIONS
7	BORROW AREA
8	MISCELLANEOUS DETAILS
9	TRAFFIC CONTROL PLAN AND SETTLEMENT GAGE DETAIL
10	HYDROGRAPH
11	SOIL BORINGS
12	SOIL BORING LEGEND

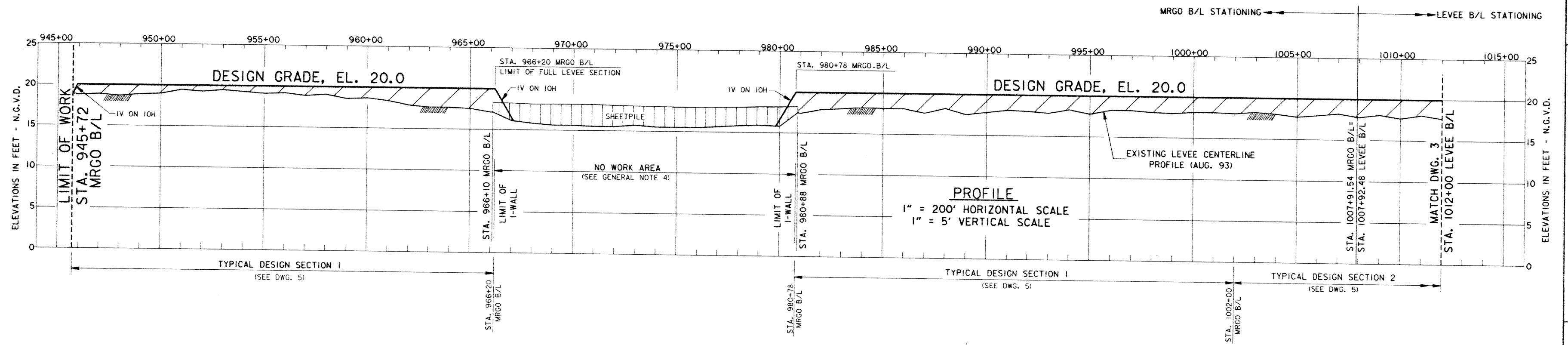
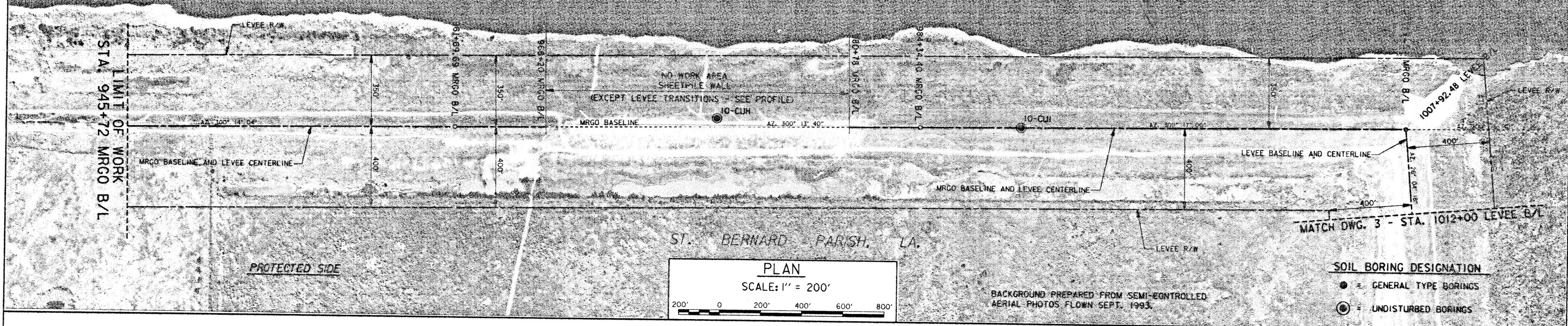
TABULATION OF BENCHMARK		
DESIGNATION	DESCRIPTION	ELEV.
P.B.M.	OPPOSITE APPROXIMATE STA. 1120+00, MARK IS TOP OF 1" PIPE AROUND WHICH IS A 2" PIPE. IT IS 43' N.E. OF C/L OF OLD HWY. 46, 5 FEET BELOW SURFACE OF HWY. 26 FEET N.E. OF N.E. END OF GUARD RAIL ALONG OLD HWY. 46. P.B.M. IS 189° DUE EAST OF INTERSECTION OF OLD HWY. 46 AND CHALMETTE EXT. LEVEE. 3 YELLOW POSTS ARE AROUND B.M. WITH WITNESS SIGNS.	3.977

LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY
 CHALMETTE AREA PLAN
 HURRICANE PROTECTION LEVEE
 CHALMETTE EXTENSION, THIRD ENLARGEMENT
 STA. 945+72 MRGO B/L TO STA. 1113+00 LEVEE B/L
 ST. BERNARD PARISH, LA.



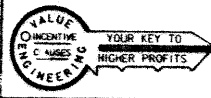
SYMBOL	DESCRIPTION	DATE	APPROVED
REVISIONS			
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LOUISIANA			
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY CHALMETTE AREA PLAN, CHALMETTE EXTENSION HURRICANE PROTECTION LEVEE THIRD ENLARGEMENT STA. 945+72 MRGO B/L TO STA. 1113+00 LEVEE B/L ST. BERNARD PARISH, LA.			
VICINITY MAP, LOCATION MAP, INDEX TO DWGS. AND TABULATION OF BENCHMARK			
DESIGNED BY: D. GARRETT	SOLICITATION NO. DACW29-95-B-0052	CADD FILE: A08001.DGN	
DRAWN BY: PHIL MARCHESE	APPROVED BY: <i>[Signature]</i>	PLOT DATE: 17 NOV 94	PLOT SCALE: 10
CHECKED BY: S. CONRAVEY	DATE: FEBRUARY 1995	FILE NO. H-8-40580	
SUBMITTED BY: <i>[Signature]</i>	APPROVED BY: <i>[Signature]</i>	DWG. 1 OF 12	

Safety is a Part
of Your Contract

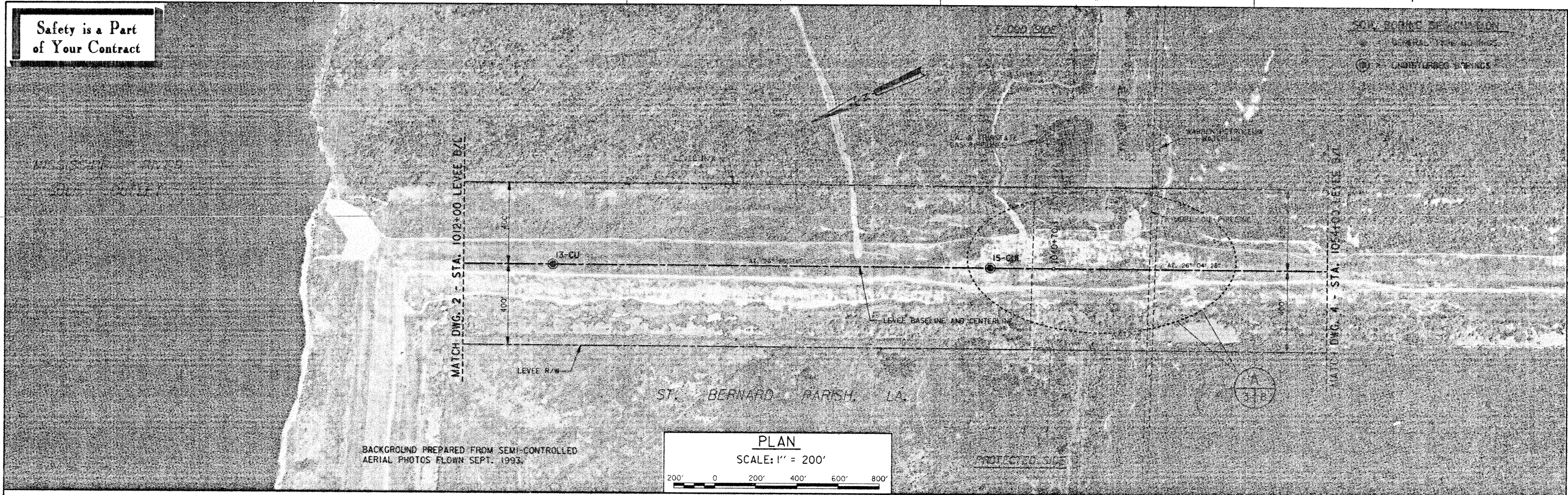


- GENERAL NOTES:
1. ALL ELEVATIONS SHOWN ARE REFERENCED TO NATIONAL GEODETIC VERTICAL DATUM (NGVD).
 2. ALL AZIMUTHS ARE TRUE SOUTH PLANE AZIMUTHS TURNED IN A CLOCKWISE DIRECTION FROM 0°00'00" (DUE SOUTH).
 3. SEE DWG. 1 FOR "BENCHMARK" DESCRIPTION.
 4. NO LEVEE WORK WILL BE PERMITTED FROM STA. 966+20 TO STA. 980+78, EXCEPT AS REQUIRED TO TIE-IN TO THE PROPOSED WORK OR THE EXISTING LEVEE, AND TO RESTORE THE EXISTING LEVEE TO ORIGINAL CONDITION IF DISTURBED DURING CONSTRUCTION OPERATIONS.
 5. LEVEE C/L STATIONING IS THE SAME AS MRGO B/L STATIONING FROM STA. 945+72 TO STA. 1007+91.54; AND THE SAME AS LEVEE B/L STATIONING FROM STA. 1007+92.48 TO STA. 1113+00.
 6. ACCESS TO THE WORK SITE IS AVAILABLE VIA NEW HIGHWAY 46.
 7. FOR LOGS OF BORINGS TAKEN ALONG THE LEVEE SHOWN IN PLAN VIEW, SEE DWG. 11.
 8. DIMENSIONS AND/OR ELEVATIONS MARKED +/- ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ACTUAL DIMENSIONS IN THE FIELD.
 9. ATTACHMENT DRAWINGS SHOWING EXISTING LEVEE CROSS SECTIONS WITH SUPERIMPOSED LEVEE DESIGN SECTIONS ARE AVAILABLE UPON REQUEST.

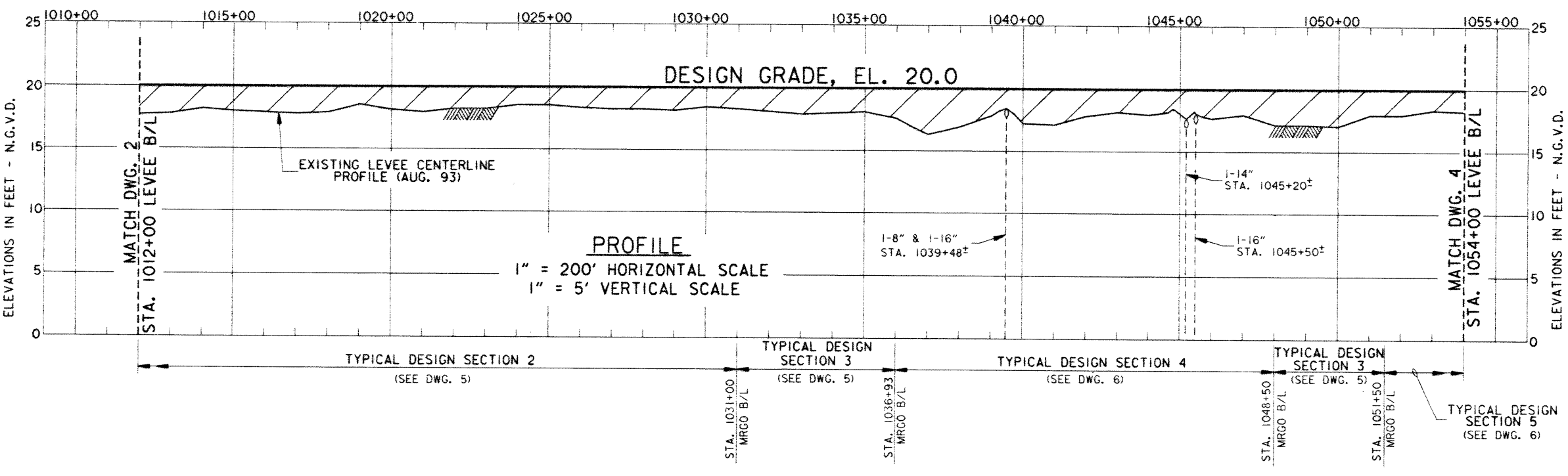
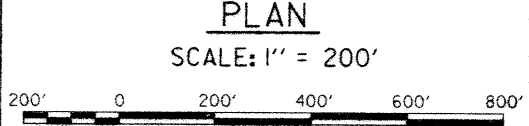
SYMBOL	DESCRIPTION	DATE	APPROVED
REVISIONS			
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LOUISIANA			
LAKE PONCHARTRAIN, LOUISIANA AND VICINITY CHALMETTE AREA PLAN, CHALMETTE EXTENSION HURRICANE PROTECTION LEVEE THIRD ENLARGEMENT STA. 945+72 MRGO B/L TO STA. 1113+00 LEVEE B/L ST. BERNARD PARISH, LA.			
PLAN AND PROFILE STA. 945+72 TO STA. 1012+00			
DESIGNED BY: D. GARRETT	DATE: FEB. 1995	PLOT SCALE: 200	PLOT DATE: 2 MAR. 1995
DRAWN BY: PHIL MARCHESE	CADD FILE: 40580.02.DGN	FILE NO. H-8-40580	
CHECKED BY: S. CONRAYEY	SUBMITTED BY: S. CONRAYEY	SOLICITATION NO. DACW29-95-B-0052	DWG. 2 OF 12



Safety is a Part
of Your Contract



BACKGROUND PREPARED FROM SEMI-CONTROLLED
AERIAL PHOTOS FLOWN SEPT. 1993.



- NOTES:
- FOR GENERAL NOTES, SEE DWG. 2.
 - SEE DWG. 8 FOR PIPELINE CROSSING DETAILS.

SYMBOL	DESCRIPTION	DATE	APPROVED
REVISIONS			

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

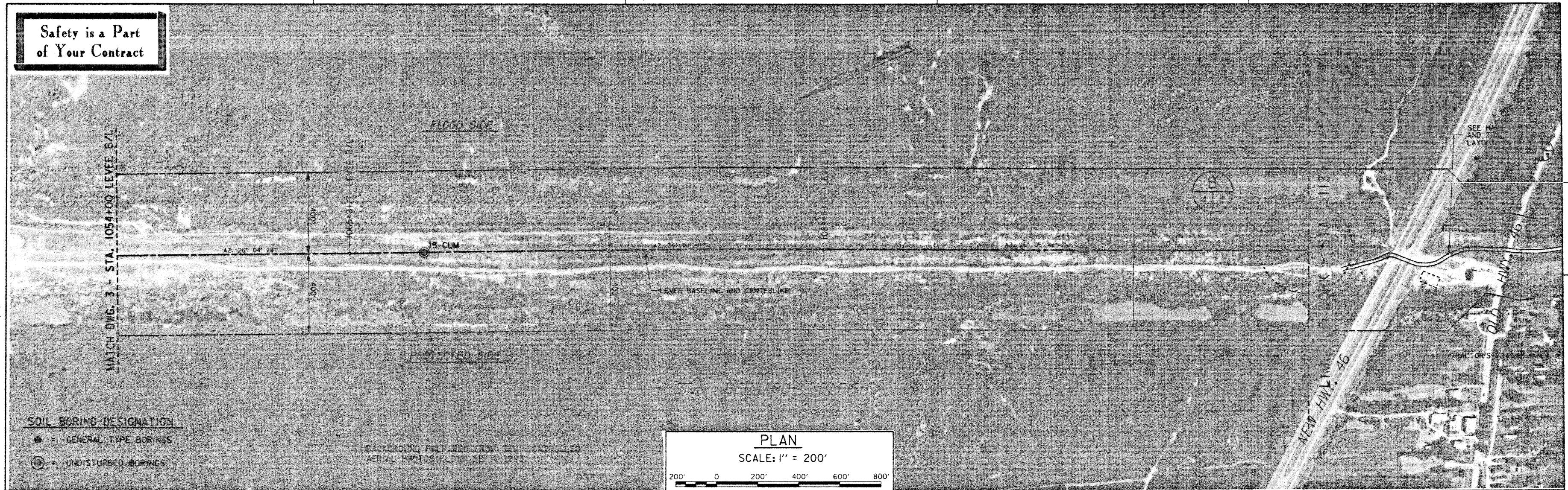
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY
CHALMETTE AREA PLAN, CHALMETTE EXTENSION
HURRICANE PROTECTION LEVEE
THIRD ENLARGEMENT
STA. 945+72 MRGO B/L TO STA. 1113+00 LEVEE B/L
ST. BERNARD PARISH, LA.

PLAN AND PROFILE
STA. 1012+00 TO STA. 1054+00

DESIGNED BY: D. GARRETT	DATE: FEB. 1995	PLOT SCALE: 200	PLOT DATE: 2 MAR. 1995
DRAWN BY: PHIL MARCHESE	CHECKED BY: S. CONRAVEY	SUBMITTED BY: S. CONRAVEY	DESIGN ENGINEER
CADD FILE: 405803.DGN	SOLICITATION NO. DACW29-95-B-0052	FILE NO. H-8-40580	DWG. 3 OF 12

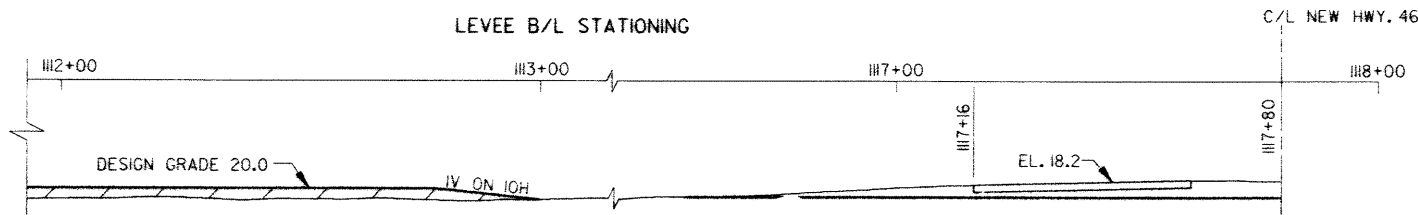
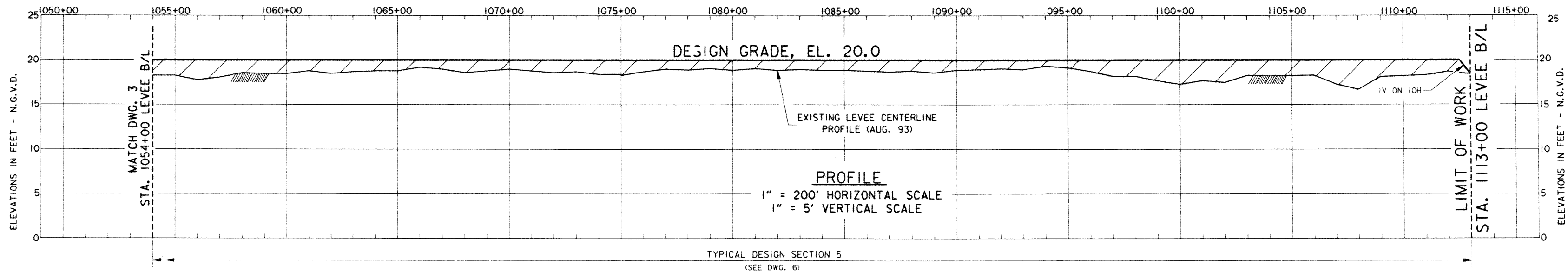


Safety is a Part of Your Contract



SOIL BORING DESIGNATION
 ● = GENERAL TYPE BORINGS
 ○ = UNDISTURBED BORINGS

PLAN
 SCALE: 1" = 200'
 200' 0 200' 400' 600' 800'



DETAIL
 N.T.S. (B) 4 4

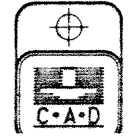
NOTE:
 FOR GENERAL NOTES, SEE DWG. 2.

SYMBOL	DESCRIPTION	DATE	APPROVED
REVISIONS			

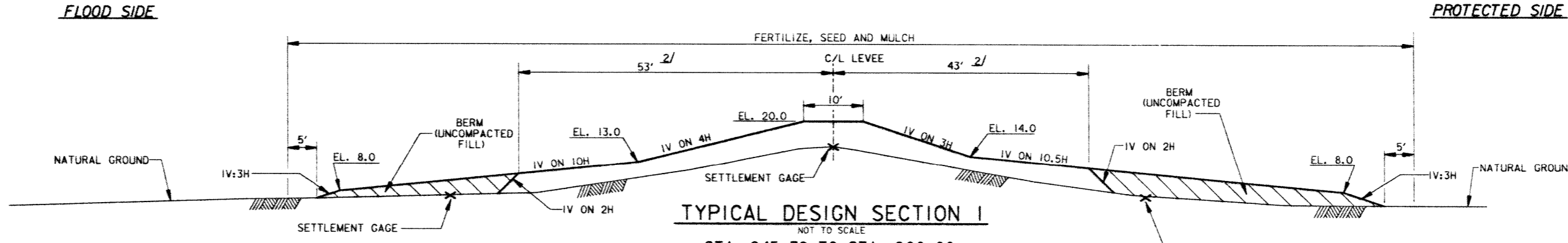
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
 CORPS OF ENGINEERS
 NEW ORLEANS, LOUISIANA
 LAKE PONCHARTRAIN, LOUISIANA AND VICINITY
 CHALMETTE AREA PLAN, CHALMETTE EXTENSION
 HURRICANE PROTECTION LEVEE
 THIRD ENLARGEMENT
 STA. 945+72 MRGO B/L TO STA. 1113+00 LEVEE B/L
 ST. BERNARD PARISH, LA.

PLAN AND PROFILE
 STA. 1054+00 TO STA. 1113+00

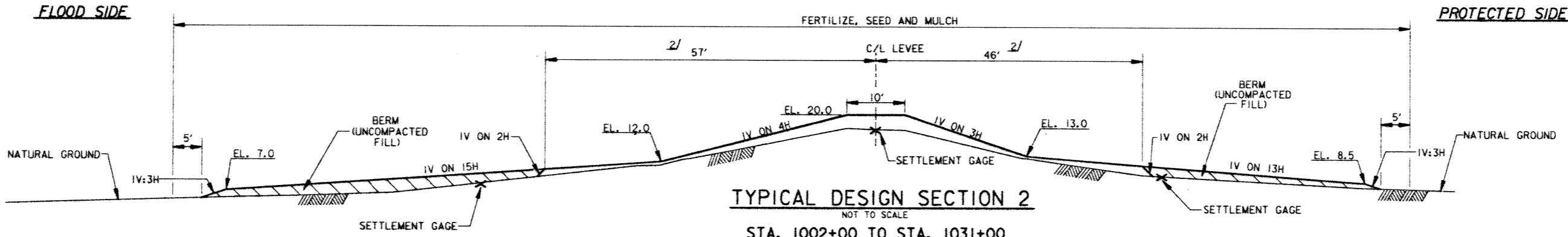
DESIGNED BY: D. GARRETT	DATE: FEB. 1995	PLOT SCALE: 200	PLOT DATE: 2 MAR. 1995
DRAWN BY: PHIL MARCHESE	CHECKED BY: S. CONRAVEY	CADD FILE: 40580L04.DWG	FILE NO. H-8-40580
SUBMITTED BY: S. CONRAVEY	SOLICITATION NO. DACW99-95-R-0052	DWG. 4 OF 12	



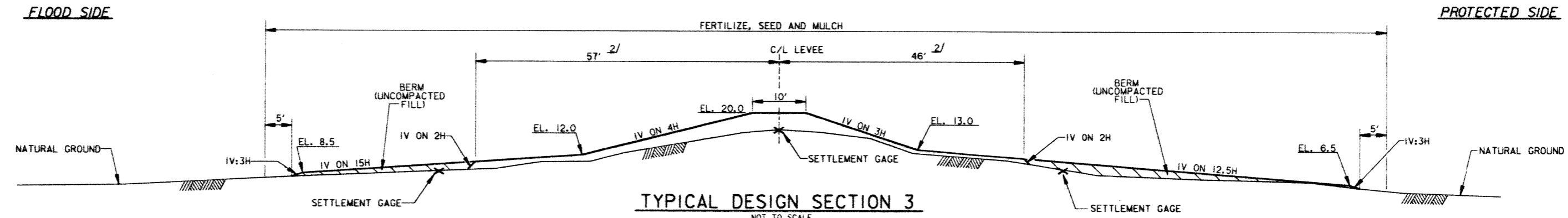
Safety is a Part of Your Contract



TYPICAL DESIGN SECTION 1
 NOT TO SCALE
 STA. 945+72 TO STA. 966+20
 (TRANSITION INTO I-WALL
 NO WORK AREA - SEE PROFILE, DWG. 2)
 STA. 980+78 TO STA. 1002+00



TYPICAL DESIGN SECTION 2
 NOT TO SCALE
 STA. 1002+00 TO STA. 1031+00



TYPICAL DESIGN SECTION 3
 NOT TO SCALE
 STA. 1031+00 TO STA. 1036+93
 STA. 1048+50 TO STA. 1051+50

- NOTES:**
- 1/ PROVIDE 25' SMOOTH TRANSITION WITHIN EACH SECTION.
 - 2/ THE MAIN LEVEE AND BERM WITHIN THE DIMENSIONED ZONE IS TO BE SEMI-COMPACTED FILL. AREAS OF UNCOMPACTED FILL ARE LABELED ON THE SECTIONS.

SYMBOL	DESCRIPTION	DATE	APPROVED
REVISIONS			

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

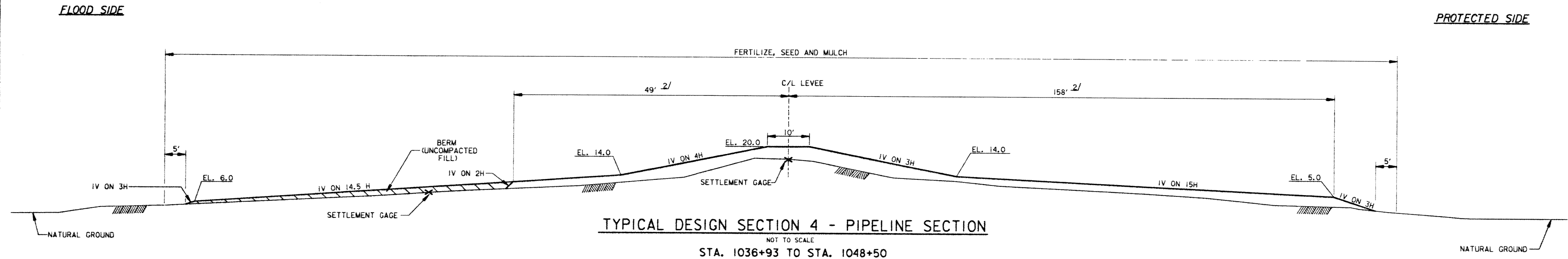
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY
 CHALMETTE AREA PLAN, CHALMETTE EXTENSION
HURRICANE PROTECTION LEVEE
 THIRD ENLARGEMENT
 STA. 945+72 MRGO B/L TO STA. 1113+00 LEVEE B/L
 ST. BERNARD PARISH, LA.

TYPICAL DESIGN SECTIONS

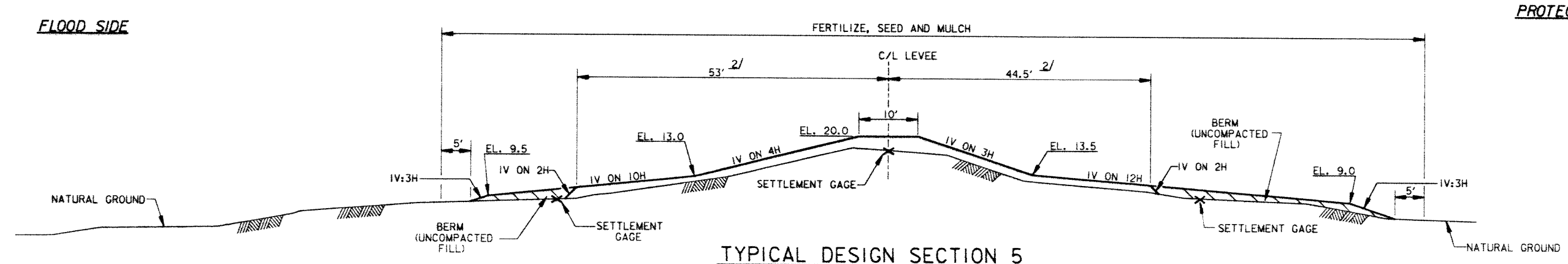
DESIGNED BY: D. GARRETT	DATE: FEB. 1995	PLOT SCALE: 10	PLOT DATE: 3 FEB. 1995
DRAWN BY: PHIL MARCHESE	CHECKED BY: S. CONRAVEY	FILE NO. H-8-40580	
SUBMITTED BY: S. CONRAVEY	SOLICITATION NO. DACW29-95-B-0052	DWG. 5 OF 12	



Safety is a Part
of Your Contract



TYPICAL DESIGN SECTION 4 - PIPELINE SECTION
NOT TO SCALE
STA. 1036+93 TO STA. 1048+50
SEE PLAN OF BYPASS ROAD AT PIPELINE CROSSING
FOR BARRICADE, ROAD RAMP AND PIPELINE BRIDGE
GEOMETRY THROUGH THE AREA - DWG. 8.



TYPICAL DESIGN SECTION 5
NOT TO SCALE
STA. 1051+50 TO STA. 1113+00

- NOTES:**
- 1/ PROVIDE 25' SMOOTH TRANSITION WITHIN EACH SECTION.
 - 2/ THE MAIN LEVEE AND BERM WITHIN THE DIMENSIONED ZONE IS TO BE SEMI-COMPACTED FILL. AREAS OF UNCOMPACTED FILL ARE LABELED ON THE SECTIONS.

SYMBOL	DESCRIPTION	DATE	APPROVED
REVISIONS			

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

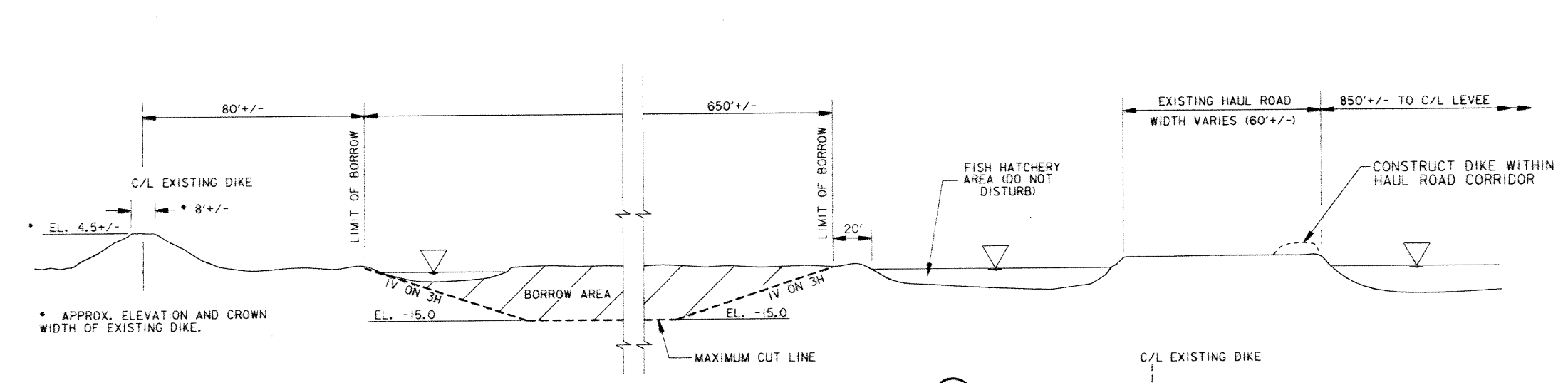
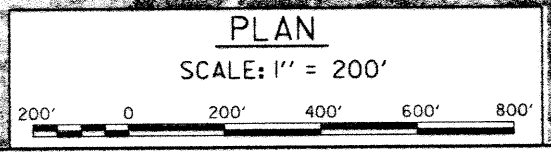
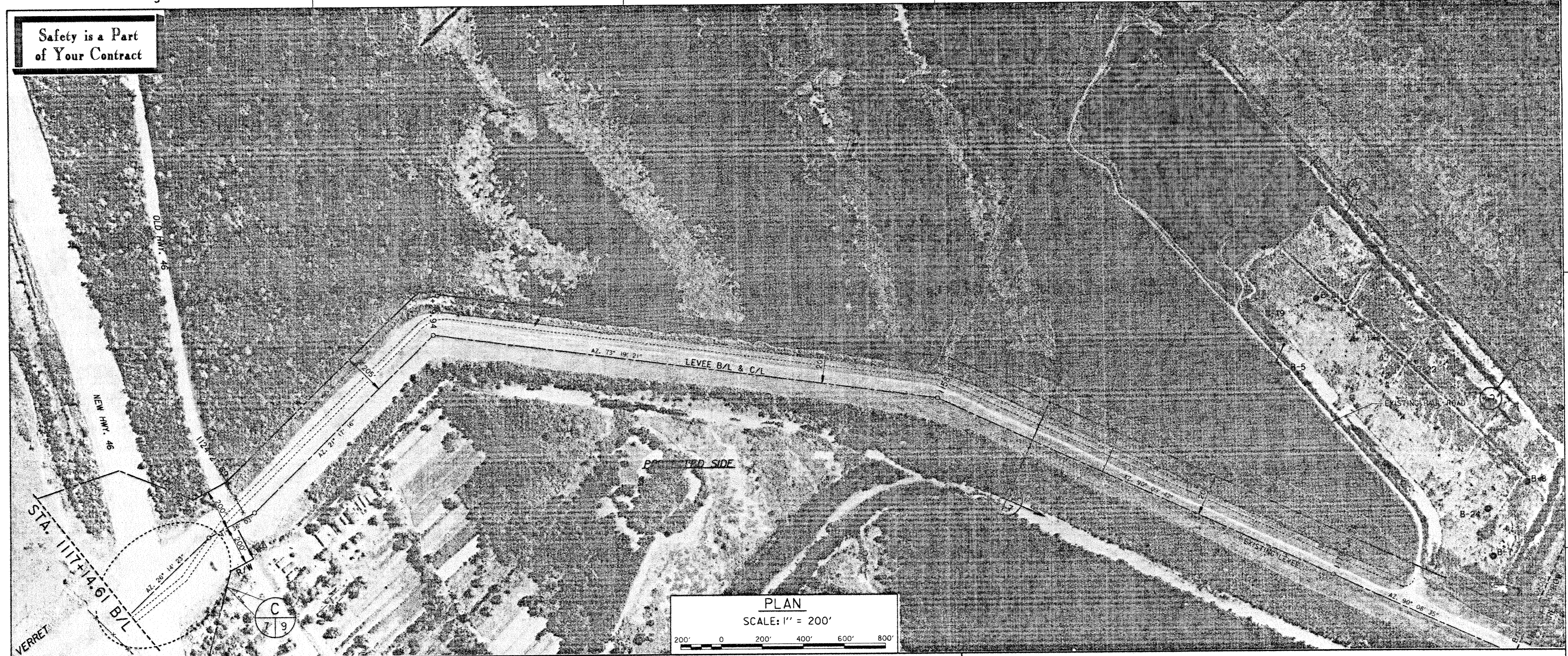
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY
CHALMETTE AREA PLAN, CHALMETTE EXTENSION
HURRICANE PROTECTION LEVEE
THIRD ENLARGEMENT
STA. 945+72 MRGO B/L TO STA. 1113+00 LEVEE B/L
ST. BERNARD PARISH, LA.

TYPICAL DESIGN SECTIONS

DESIGNED BY: D. GARRETT	DATE: FEB. 1995	PLOT SCALE: 10	PLOT DATE: 3 FEB. 1995
DRAWN BY: PHIL MARCHESE	CADD FILE: 40580L06.DGN	FILE NO. H-8-40580	
CHECKED BY: S. CONRAVEY	SOLICITATION NO. DACW29-95-B-0052	DWG. 6 OF 12	

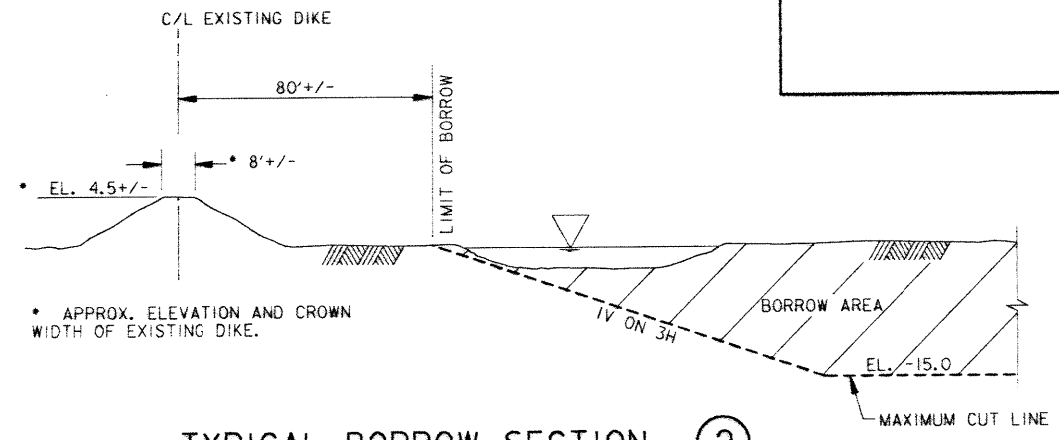


Safety is a Part of Your Contract

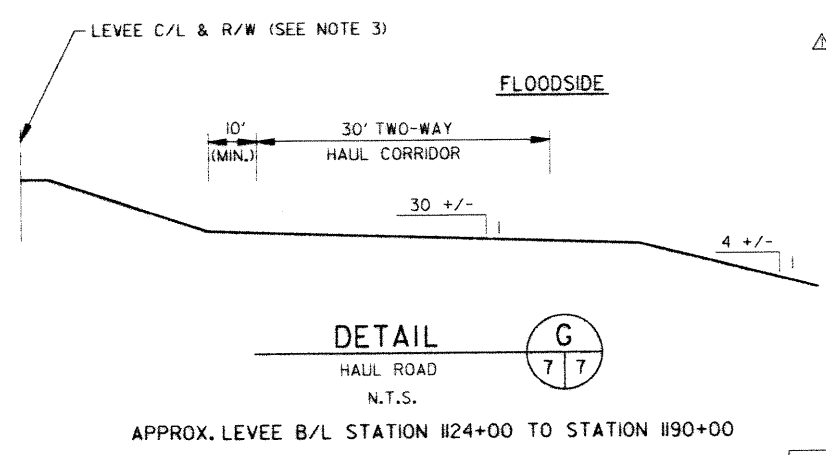


- NOTES:**
1. THE CONTRACTOR SHALL MAKE OPTIMUM USE OF THE BORROW AREA AND SHALL SUBMIT A WRITTEN EXCAVATION PLAN AS DESCRIBED IN THE SPECIFICATIONS.
 2. DO NOT DISTURB DRAINAGE STRUCTURE.
 3. THE BORROW AREA IS SUBJECT TO FLOODING BY HIGH TIDES AND STORM SURGES. THE CONTRACTOR SHALL CONSTRUCT A DIKE AROUND THE BORROW PIT TO MAINTAIN WORKING IN THE DRY. THE EXISTING DIKE ON THE SOUTH AND WEST SIDES OF THE BORROW AREA AND THE EXISTING ROAD AND LEVEE ON THE NORTH SIDE SHALL BE INCORPORATED INTO THE CONTRACTOR'S BORROW PIT DEWATERING PLAN. THE CONTRACTOR SHALL RESTORE THE INTEGRITY OF THE DIKES AND CONSTRUCT A NEW DIKE ON THE EAST SIDE OF THE BORROW PIT.
 4. THE STAGE OF PROTECTION BY THE DIKE SYSTEM SHALL BE FOR A WATER ELEVATION OF 4.0 N.G.V.D.
 5. CYPRESS STUMPS AND ROOTS MAY BE ENCOUNTERED IN THE LOWER ZONES (ELEVATION/VERTICAL ZONE) OF THE BORROW PIT. TO THE EXTENT THAT ADEQUATE QUANTITIES OF MATERIAL ARE AVAILABLE, THE CONTRACTOR WILL BE ALLOWED TO EXCAVATE AROUND OR LEAVE THE STUMPS IN-PLACE.

TYPICAL BORROW SECTION 1
NOT TO SCALE
⊥ TO STA. 1173+00 C/L



TYPICAL BORROW SECTION 2
NOT TO SCALE



- NOTES:**
1. SEE DWG. 9 FOR SURFACING AND STONE PAD REQUIREMENTS IN THE VICINITY OF OLD HWY. 46
 2. RESTORE LEVEE BERM AREA BY GRADING THE AREA SO AS NOT TO POND WATER AGAINST THE LEVEE AND ON THE BERM. THE GRADE AND SECTION OF THE EXISTING BERM SHALL BE CLOSELY MAINTAINED USING EXISTING BERM FILL DURING FINAL GRADING. ALL DISTURBED AREAS SHALL BE FERTILIZED AND SEEDDED.
 3. THE PROTECTED SIDE BERM OF THE LEVEE IS BEING USED AS AN ACCESS ROAD BY ANOTHER CONTRACTOR CONSTRUCTING A PUMPING STATION WEST OF THE BORROW AREA.

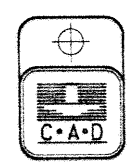
SYMBOL	DESCRIPTION	DATE	APPROVED
△	REVISED DETAIL G & THE R/W LIMITS	5/26/95	RJY

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

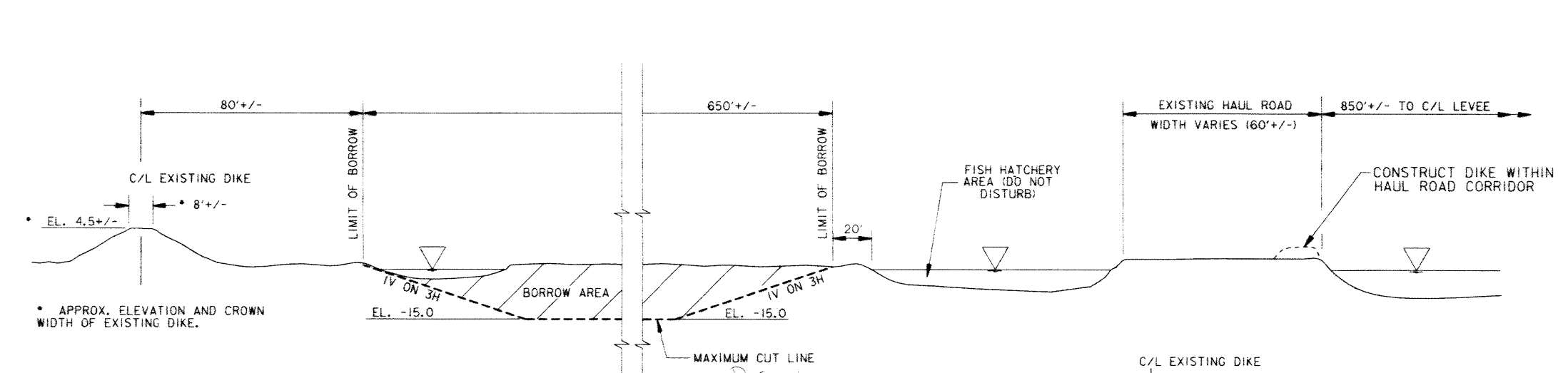
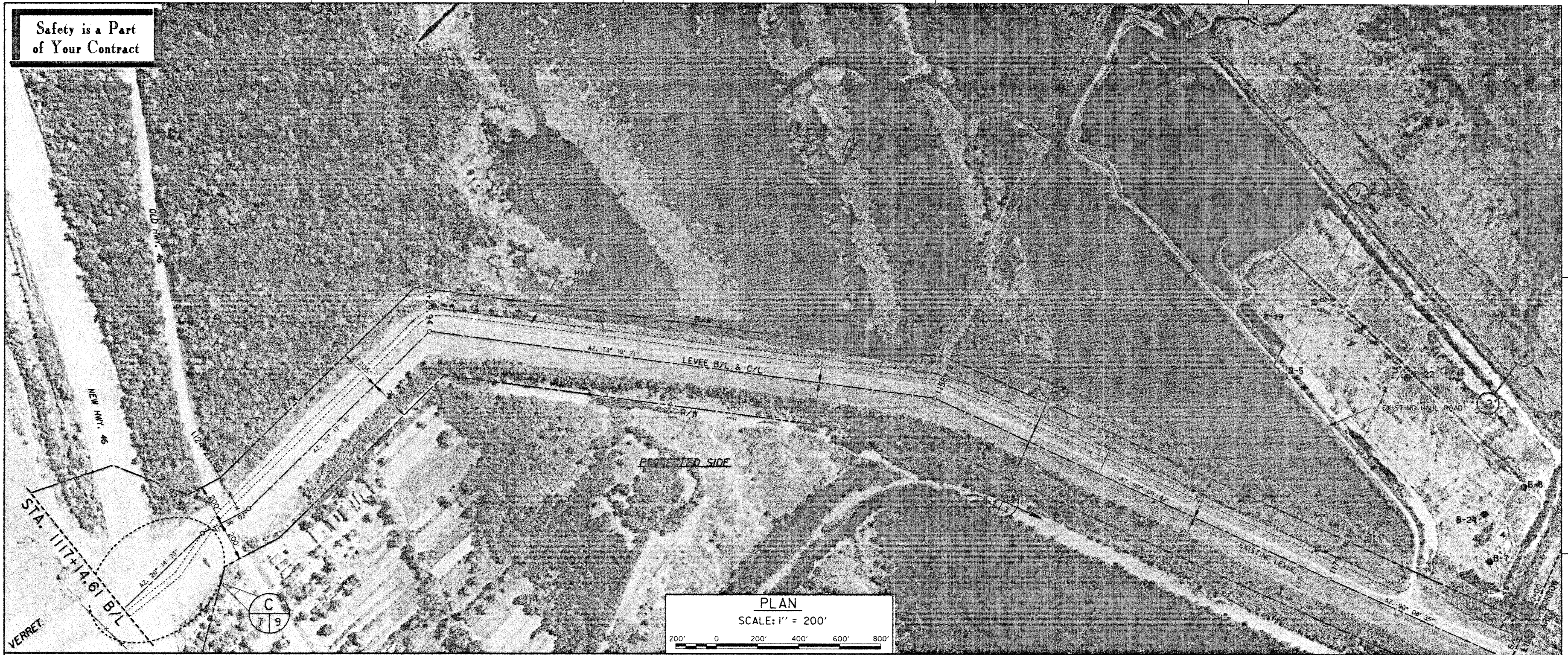
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY
CHALMETTE AREA PLAN, CHALMETTE EXTENSION
HURRICANE PROTECTION LEVEE
THIRD ENLARGEMENT
STA. 945+72 MRGO B/L TO STA. 1113+00 LEVEE B/L
ST. BERNARD PARISH, LA.

BORROW AREA

DESIGNED BY: D. GARRETT	DATE: FEB. 1995	PLOT SCALE: 200	PLOT DATE: 2 MAR. 1995
DRAWN BY: PHIL MARCHESE	CADD FILE: 4086L07.DGN	FILE NO. H-8-40580	
CHECKED BY: S. CONRAYEY	SUBMITTED BY: S. CONRAYEY	SOLICITATION NO. DACW29-95-B-0052	DWG. 7 OF 12

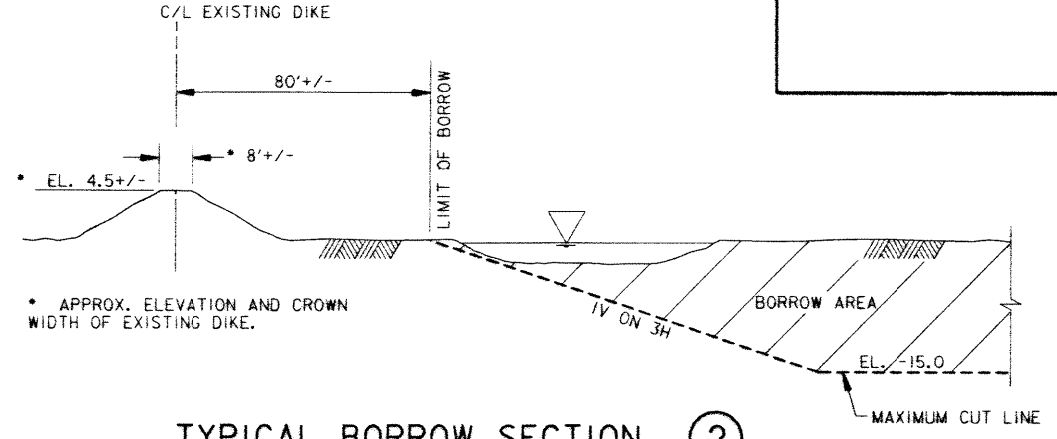


Safety is a Part of Your Contract

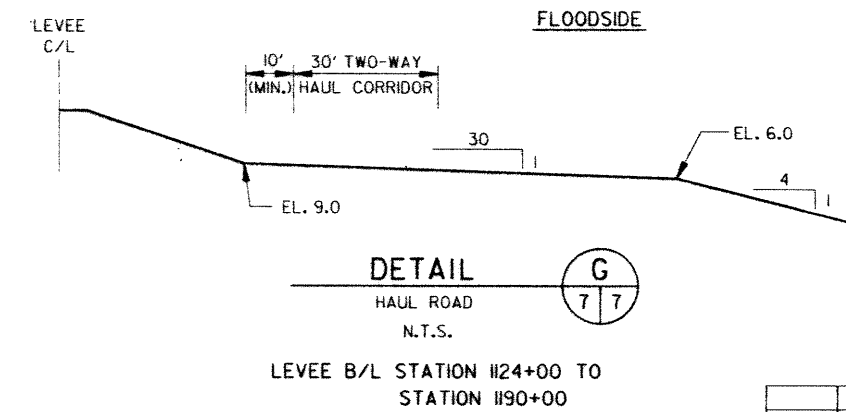


- NOTES:
1. THE CONTRACTOR SHALL MAKE OPTIMUM USE OF THE BORROW AREA AND SHALL SUBMIT A WRITTEN EXCAVATION PLAN AS DESCRIBED IN THE SPECIFICATIONS.
 2. DO NOT DISTURB DRAINAGE STRUCTURE.
 3. THE BORROW AREA IS SUBJECT TO FLOODING BY HIGH TIDES AND STORM SURGES. THE CONTRACTOR SHALL CONSTRUCT A DIKE AROUND THE BORROW PIT TO MAINTAIN WORKING IN THE DRY. THE EXISTING DIKE ON THE SOUTH AND WEST SIDES OF THE BORROW AREA AND THE EXISTING ROAD AND LEVEE ON THE NORTH SIDE SHALL BE INCORPORATED INTO THE CONTRACTOR'S BORROW PIT DEWATERING PLAN. THE CONTRACTOR SHALL RESTORE THE INTEGRITY OF THE DIKES AND CONSTRUCT A NEW DIKE ON THE EAST SIDE OF THE BORROW PIT.
 4. THE STAGE OF PROTECTION BY THE DIKE SYSTEM SHALL BE FOR A WATER ELEVATION OF 4.0 N.G.V.D.
 5. CYPRESS STUMPS AND ROOTS MAY BE ENCOUNTERED IN THE LOWER ZONES (ELEVATION/VERTICAL ZONE) OF THE BORROW PIT. TO THE EXTENT THAT ADEQUATE QUANTITIES OF MATERIAL ARE AVAILABLE, THE CONTRACTOR WILL BE ALLOWED TO EXCAVATE AROUND OR LEAVE THE STUMPS IN-PLACE.

TYPICAL BORROW SECTION 1
NOT TO SCALE
⊥ TO STA. 1173+00 C/L



TYPICAL BORROW SECTION 2
NOT TO SCALE



- NOTES:
1. RESTORE LEVEE BERM AREA TO DESIGN GRADE AND SECTION.
 2. UPON COMPLETION OF HAUL OPERATIONS FOR LEVEE CONSTRUCTION, GRADE LEVEE BERM AREA HAUL ROAD, TAKE COMPLIANCE SURVEYS, ADD SEMI-COMPACTED FILL TO RESTORE AREA TO DESIGN GRADE AND SECTION, SEED AND FERTILIZE. (SEE SPECIFICATIONS FOR DETAILS.)

SYMBOL	DESCRIPTION	DATE	APPROVED
REVISIONS			

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

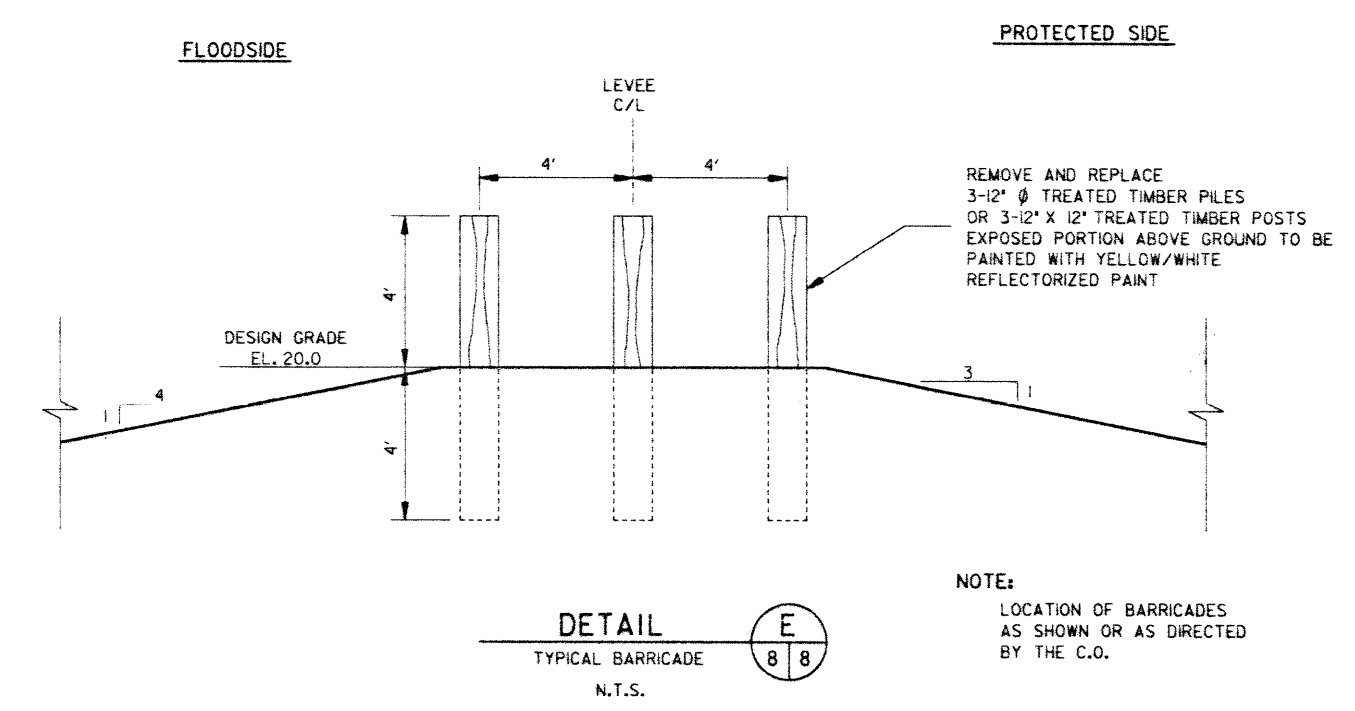
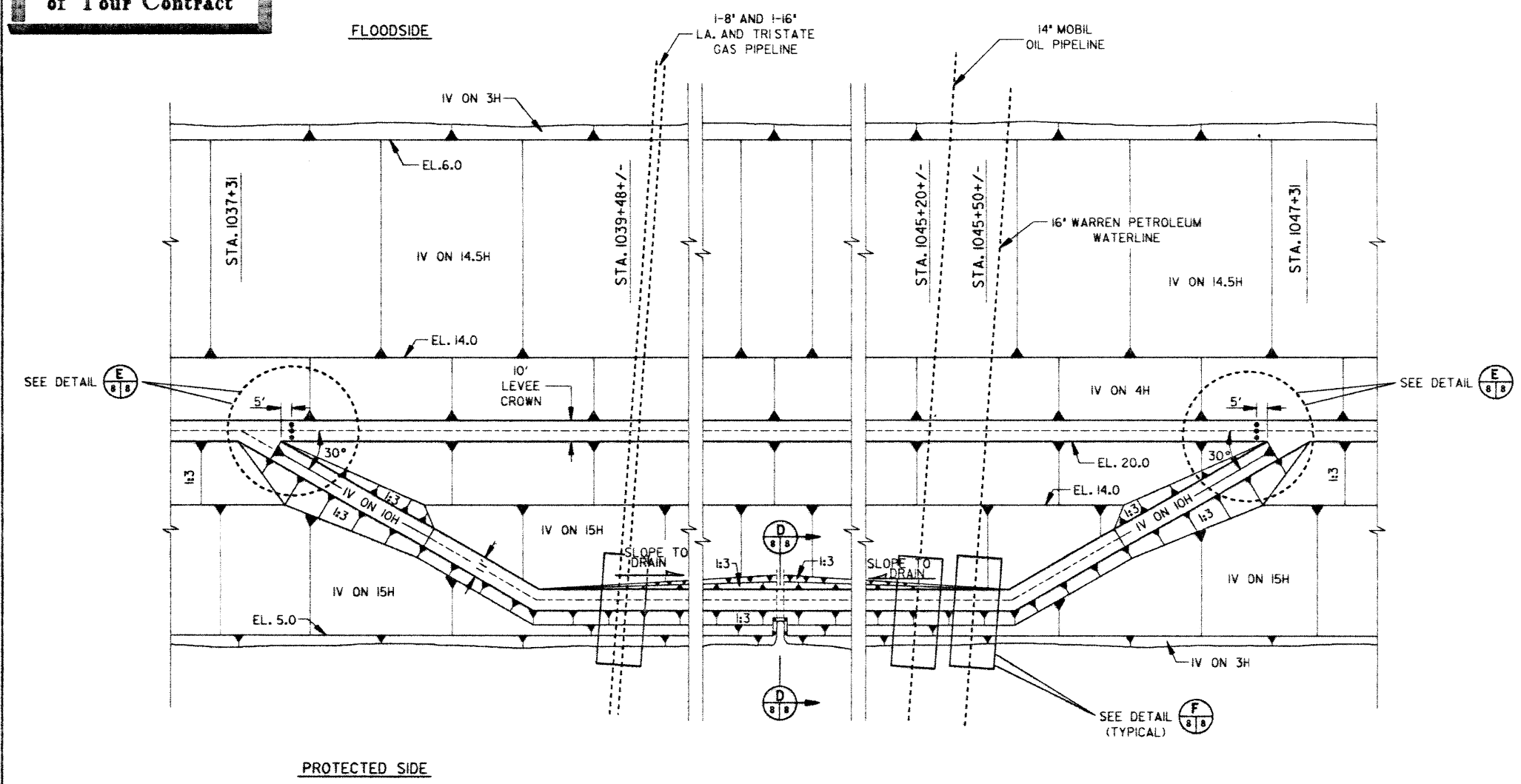
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY
CHALMETTE AREA PLAN, CHALMETTE EXTENSION
HURRICANE PROTECTION LEVEE
THIRD ENLARGEMENT
STA. 945+72 MRGO B/L TO STA. 1113+00 LEVEE B/L
ST. BERNARD PARISH, LA.

BORROW AREA

DESIGNED BY: D. GARRETT	DATE: FEB. 1995	PLOT SCALE: 200	PLOT DATE: 2 MAR. 1995
DRAWN BY: PHIL MARCHESE	CHECKED BY: S. CONRAVEY	CADD FILE: 405R0107.DGN	FILE NO. H-8-40580
SUBMITTED BY: S. CONRAVEY	DESIGN ENGINEER	SOLICITATION NO. DACW29-95-B-0052	DWG. 7 OF 12

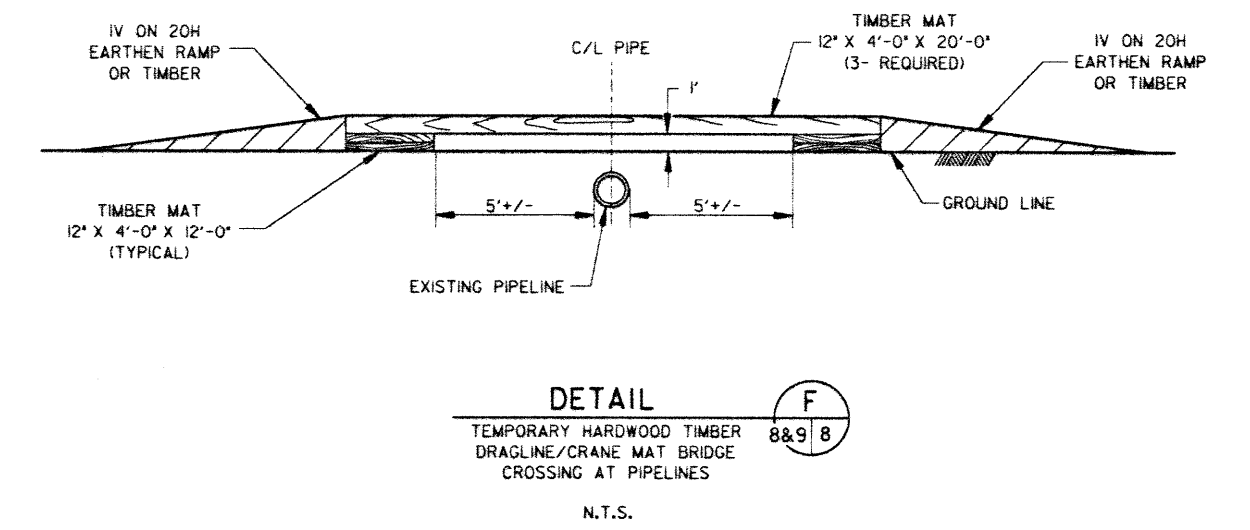


**Safety is a Part
of Your Contract**

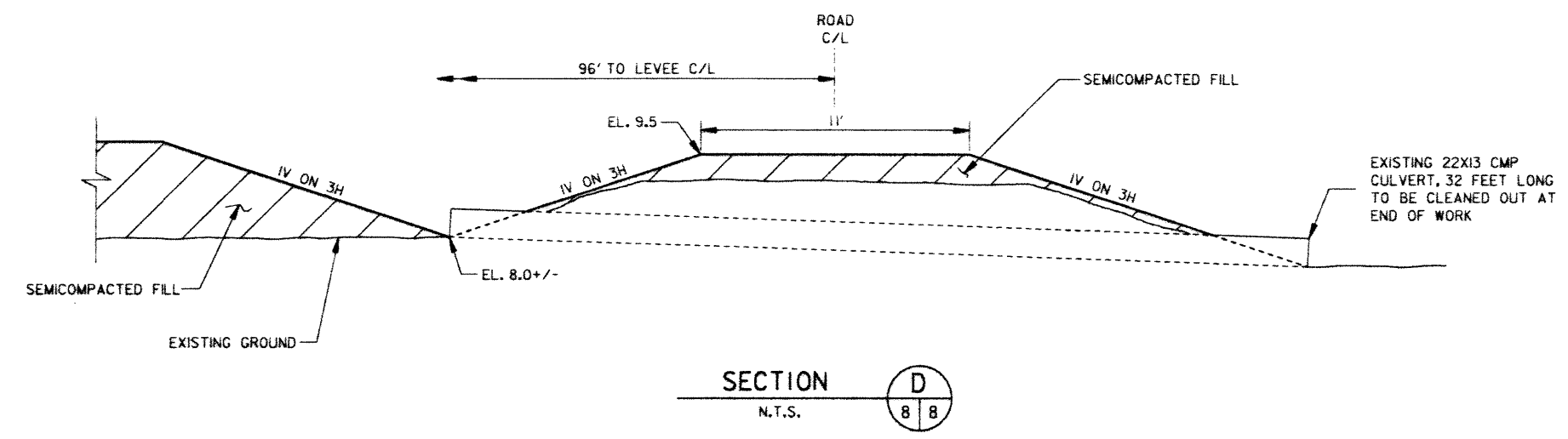


DETAIL A
PLAN OF BYPASS ROAD
AT PIPELINE CROSSINGS
N.T.S.

NOTE:
SEE TYPICAL DESIGN SECTION 4
ON DWG. 6 FOR LEVEE DESIGN DETAILS.

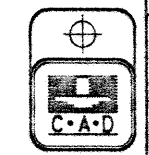


DETAIL F
TEMPORARY HARDWOOD TIMBER
DRAGLINE/CRANE MAT BRIDGE
CROSSING AT PIPELINES
N.T.S.

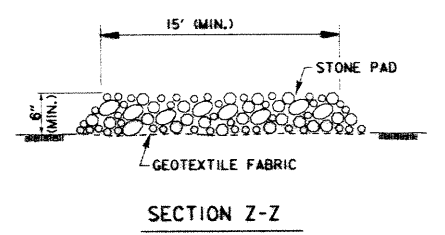
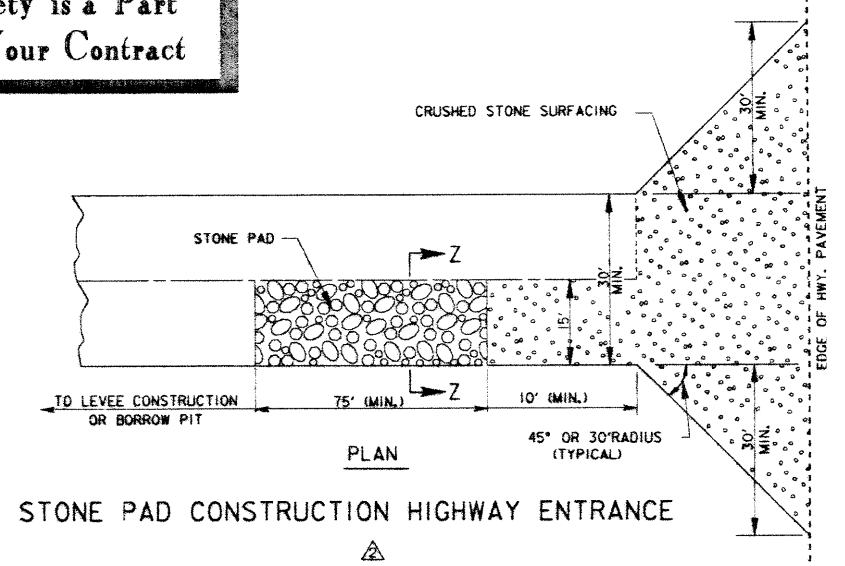


SECTION D
N.T.S.

SYMBOL	DESCRIPTION	DATE	APPROVED
REVISIONS			
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LOUISIANA			
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY CHALMETTE AREA PLAN, CHALMETTE EXTENSION HURRICANE PROTECTION LEVEE THIRD ENLARGEMENT STA. 945+72 MRGO B/L TO STA. 1113+00 LEVEE B/L ST. BERNARD PARISH, LA.			
MISCELLANEOUS DETAILS			
DESIGNED BY: D. GARRETT	DATE: FEB. 1995	PLOT SCALE: 10	PLOT DATE: 8 FEB. 95
DRAWN BY: T.J.T.	CHECKED BY: S. CONRAVEY	CADD FILE: 405BOL.DWG	FILE NO. H-8-40580
SUBMITTED BY: S. CONRAVEY	SOLICITATION NO. DACW29-95-B-0052	DWG. 8 OF 12	



Safety is a Part of Your Contract



STONE PAD GRADATION

Stone Size	% Smaller Than
10	100
4	40-100
2	15-50
0.75	0-15

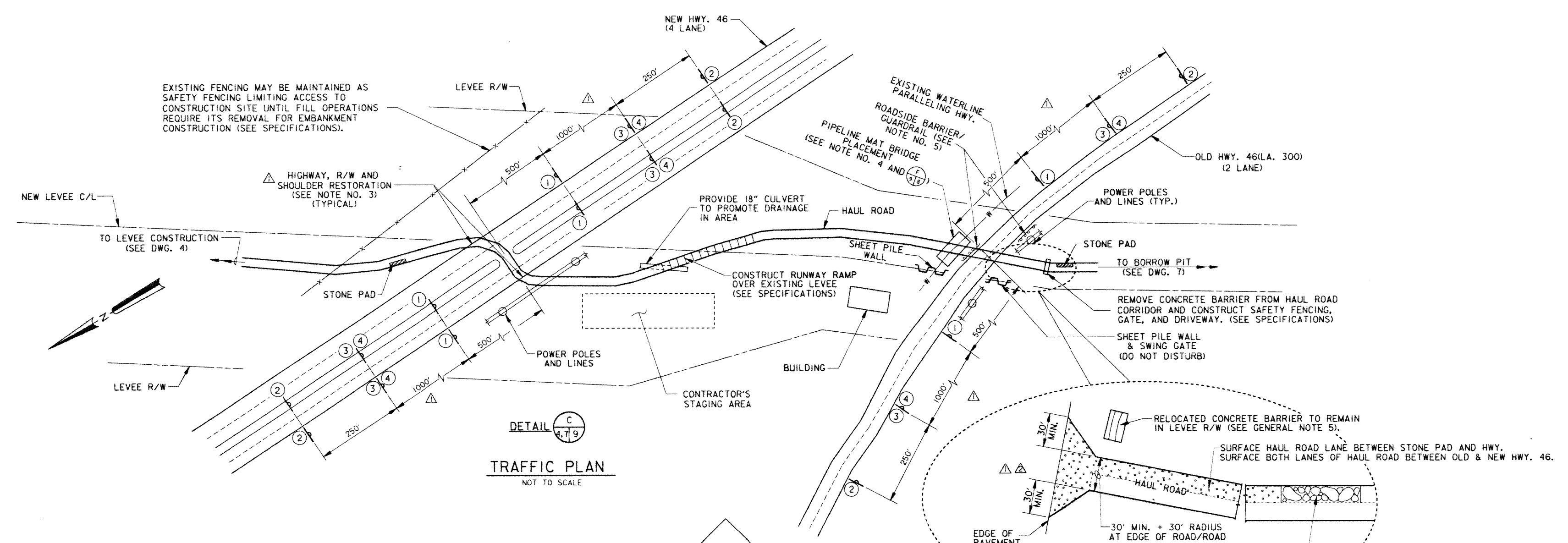
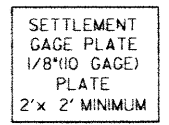
NOTES:

1. A STONE PAD IS TO BE LOCATED AT POINTS OF VEHICULAR EGRESS ONTO OLD & NEW HWY. 46 TO REDUCE THE AMOUNT OF MUD TRANSPORTED ONTO THE HIGHWAY. AN OPERATIONAL MECHANICAL SWEEPER SHALL BE ON STANDBY AT THE TRUCK CROSSING SITE DURING ALL HAUL OPERATION TIMES TO ASSIST IN KEEPING THE HIGHWAYS CLEAN. WHEN THE MECHANICAL SWEEPERS FAIL TO REMOVE CLUMPS OF MATERIAL, THE CLUMPS SHALL BE PHYSICALLY REMOVED WITH HAND TOOLS.
2. THE STONE SHALL CONFORM TO STONE PAD GRADATION TABLE SHOWN ON THIS DETAIL.
3. THE LENGTH OF THE PAD MUST BE AT LEAST 75 FEET AND IT MUST EXTEND THE FULL WIDTH OF THE HAUL ROAD LANE BEING USED TO ENTER THE HWY.
4. A GEOTEXTILE FABRIC UNDERLIER IS REQUIRED AS PART OF THE STONE PAD. THE GEOTEXTILE FABRIC SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
5. A 6" MINIMUM CRUSHED STONE SURFACING SHALL BE MAINTAINED ON THE HAUL ROAD LANE BETWEEN THE STONE PAD LANE AND THE HWY.; THE FULL WIDTH OF THE HAUL ROAD (30' MINIMUM) AND 50' RADIUS AREAS WITHIN 30' OF THE EDGE OF THE HIGHWAY; AND ON THE FULL WIDTH OF THE HAUL ROAD AND RAMP LOCATED BETWEEN OLD AND NEW HWY. 46.

SETTLEMENT GAGE

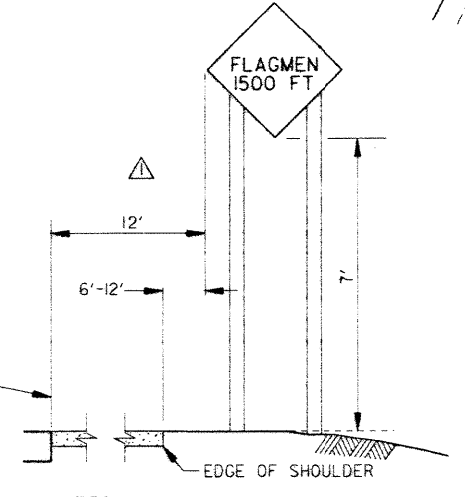
SHOULD THE CONTRACTOR ELECT TO PLACE SETTLEMENT GAGES FOR MEASUREMENT OF FOUNDATION SETTLEMENT, INSTALLATION OF GAGES SHALL BE IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS AND THE FOLLOWING: THE GAGES SHALL BE LOCATED AS SHOWN ON THE APPLICABLE DESIGN SECTION AND THE LONGITUDINAL DISTANCE BETWEEN GAGES SHALL NOT EXCEED 300 FEET. THE DISTANCE BETWEEN THE LIMITS OF WORK AND THE GAGES NEAREST THE LIMITS OF WORK SHALL NOT EXCEED 150 FEET. IF GAGES ARE SPACED FURTHER APART THAN 300 FT., OR FURTHER THAN 150 FT. FROM THE LIMITS OF WORK, MEASUREMENT AND PAYMENT FOR SETTLEMENT WILL BE LIMITED TO 150 FEET EACH SIDE OF EACH GAGE.

THE SETTLEMENT MEASUREMENT RANGE FOR EACH SETTLEMENT GAGE SHALL BE FOR A DISTANCE OF 150 FEET IN EACH DIRECTION FROM EACH SETTLEMENT GAGE, OR TO THE LIMIT OF WORK, AS APPLICABLE, MEASURED ALONG THE CENTERLINE OF THE LEVEE, EXCEPT WHERE SETTLEMENT GAGES ARE PLACED AT LESS THAN 300 FEET INTERVALS, IN WHICH CASE, THE SETTLEMENT MEASUREMENT RANGE SHALL BE TO A POINT 1/2 THE DISTANCE BETWEEN SETTLEMENT GAGES.

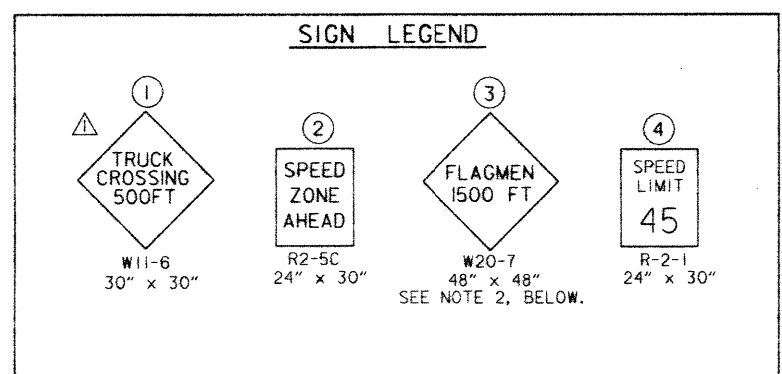


GENERAL NOTES:

1. ALL SIGNS ARE REFERENCED TO THE U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION'S MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. FOUR FLAGMEN SHALL DIRECT TRAFFIC (2 AT OLD HWY. 46 & 2 AT NEW HWY. 46) AT ALL TIMES DURING HAUL OPERATIONS. FLAGMAN SIGNS SHALL BE POSTED WITH THE SPEED LIMIT SIGNS. THE FLAGMEN SIGNS SHALL BE COVERED OR REMOVED WHEN FLAGMEN ARE NOT DIRECTING TRAFFIC.
3. RESTORE ASPHALT ROAD SHOULDER, HIGHWAY, AND HIGHWAY R/W TO PRECONSTRUCTION CONDITIONS, OR BETTER FOR BOTH NEW AND OLD HWY. 46. THE NEW HWY. 46 SHOULDERS SHALL BE RESURFACED (ASPHALTED) IN ACCORDANCE WITH LADOTD SPECIFICATIONS FOR A MINIMUM LENGTH OF 50' PLUS ANY ADDITIONAL AREAS OVER WHICH THE CONTRACTOR'S OPERATIONS DAMAGE THE SHOULDER ASPHALT SURFACING.
4. PRIOR TO COMMENCING HAUL OPERATIONS IN THE AREA, THE CONTRACTOR SHALL PLACE PIPELINE MAT BRIDGES OVER THE WATERLINE.
5. THE CONTRACTOR SHALL REMOVE (PRIOR TO HAUL OPERATIONS) AND REPLACE (AFTER COMPLETION OF HAUL OPERATIONS) THE EXISTING ROADSIDE BARRIER/GUARDRAILS ALONG OLD HWY. 46 (LA. 300), THE EXISTING FENCING (INCL. CABLE & STEEL PILE FENCE/BARRIER) & GATES LOCATED WITHIN THE EMBANKMENT OR HAUL ROAD CORRIDOR AREAS & THE CONCRETE BARRIER (WEST OF OLD HWY. 46).
6. ALL HAUL ROAD SURFACING, STONE PADS, CULVERTS AND RAMPS ARE TO BE LEFT IN PLACE. THE AREA IS TO BE DRESSED SO AS NOT TO POND WATER AND ALL DISTURBED NON-SURFACED AREAS SEEDED & FERTILIZED.



- NOTES:**
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
 2. FLASHING WARNING LIGHTS AND/OR FLAGS MAY BE USED TO CALL ATTENTION TO THE EARLY WARNING SIGNS.



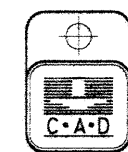
SYMBOL	DESCRIPTION	DATE	APPROVED
△	REVISED HAUL ROAD AND ARCA RESTORATION DETAILS.	5/26/95	R.J.Y.
△	REVISED SIGN LAYOUT AND DRIVEWAY DETAIL.	4/3/95	S.C.

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

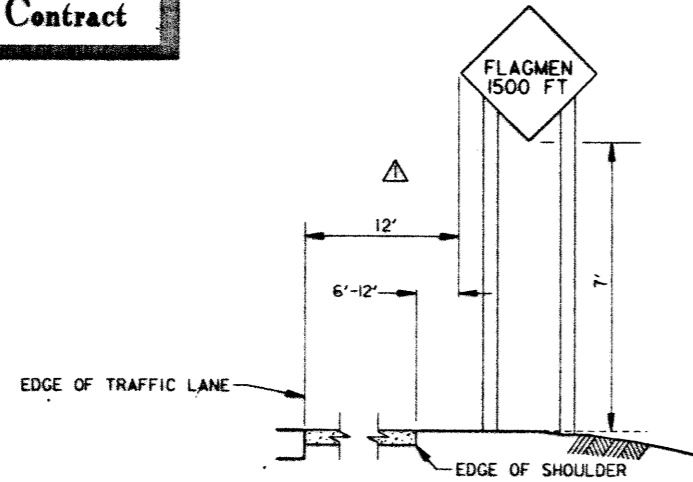
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY
CHALMETTE AREA PLAN, CHALMETTE EXTENSION
HURRICANE PROTECTION LEVEE
THIRD ENLARGEMENT
STA. 945+72 MRGO B/L TO STA. 1113+00 LEVEE B/L
ST. BERNARD PARISH, LA.

TRAFFIC CONTROL PLAN AND SETTLEMENT GAGE DETAIL

DESIGNED BY: D. GARRETT	DATE: FEB. 1995	PLOT SCALE: 10	PLOT DATE: 3 APRIL 1995
DRAWN BY: PHIL MARCHESE	CADD FILE: 405809.DGN	FILE NO. H-8-40580	
CHECKED BY: S. CONRAVEY	SUBMITTED BY: S. CONRAVEY	SOLICITATION NO. DACW29-95-B-0052	DWG. 9 OF 12

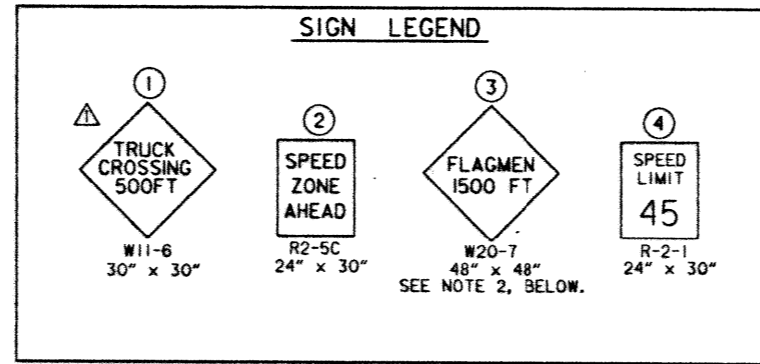


**Safety is a Part
of Your Contract**



NOTES:

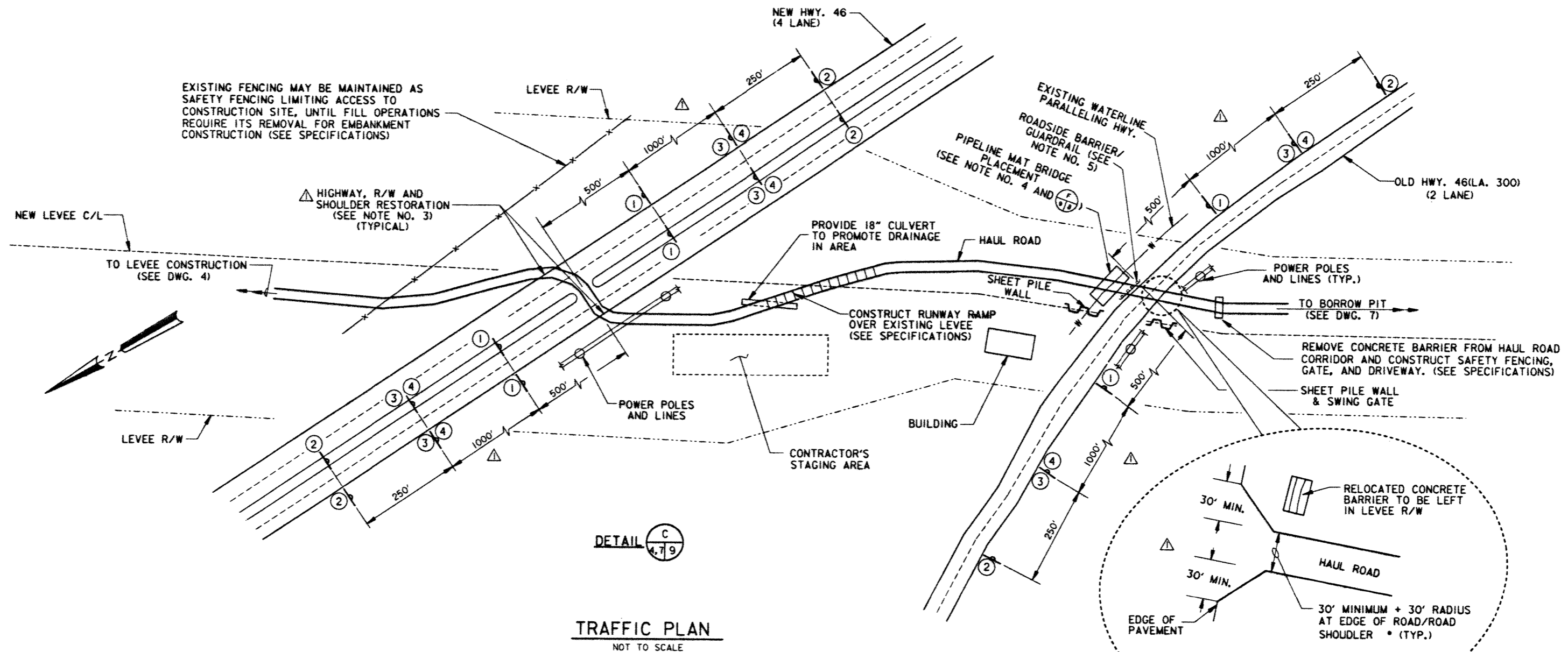
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. FLASHING WARNING LIGHTS AND/OR FLAGS MAY BE USED TO CALL ATTENTION TO THE EARLY WARNING SIGNS.



SETTLEMENT GAGE

SHOULD THE CONTRACTOR ELECT TO PLACE SETTLEMENT GAGES FOR MEASUREMENT OF FOUNDATION SETTLEMENT, INSTALLATION OF GAGES SHALL BE IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS AND THE FOLLOWING: THE GAGES SHALL BE LOCATED AS SHOWN ON THE APPLICABLE DESIGN SECTION AND THE LONGITUDINAL DISTANCE BETWEEN GAGES SHALL NOT EXCEED 300 FEET. THE DISTANCE BETWEEN THE LIMITS OF WORK AND THE GAGES NEAREST THE LIMITS OF WORK SHALL NOT EXCEED 150 FEET. IF GAGES ARE SPACED FURTHER APART THAN 300 FT., OR FURTHER THAN 150 FT. FROM THE LIMITS OF WORK, MEASUREMENT AND PAYMENT FOR SETTLEMENT WILL BE LIMITED TO 150 FEET EACH SIDE OF EACH GAGE.

THE SETTLEMENT MEASUREMENT RANGE FOR EACH SETTLEMENT GAGE SHALL BE FOR A DISTANCE OF 150 FEET IN EACH DIRECTION FROM EACH SETTLEMENT GAGE, OR TO THE LIMIT OF WORK, AS APPLICABLE, MEASURED ALONG THE CENTERLINE OF THE LEVEE, EXCEPT WHERE SETTLEMENT GAGES ARE PLACED AT LESS THAN 300 FEET INTERVALS, IN WHICH CASE, THE SETTLEMENT MEASUREMENT RANGE SHALL BE TO A POINT 1/2 THE DISTANCE BETWEEN SETTLEMENT GAGES.



TRAFFIC PLAN
NOT TO SCALE

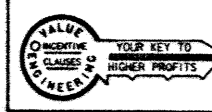
GENERAL NOTES:

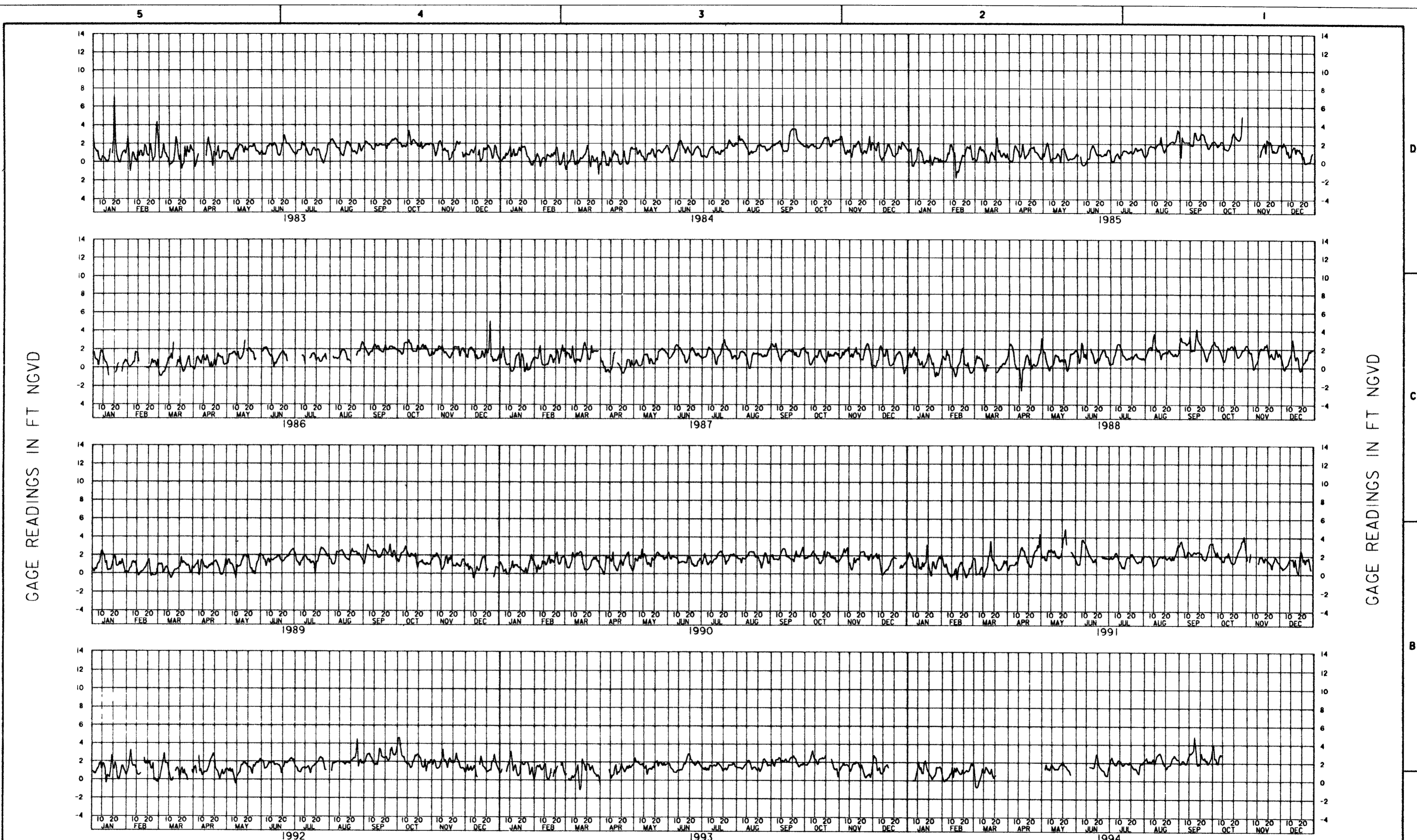
1. ALL SIGNS ARE REFERENCED TO THE U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION'S MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. IF THE CONTRACTOR USES FLAGMEN, FLAGMEN SIGNS SHALL BE POSTED WITH THE TRUCK CROSSING AND SPEED LIMIT SIGNS. THE FLAGMEN SIGNS SHALL BE COVERED OR REMOVED WHEN FLAGMEN ARE NOT DIRECTING TRAFFIC.
3. RESTORE ASPHALT ROAD SHOULDER, HIGHWAY, AND HIGHWAY R/W TO PRECONSTRUCTION CONDITIONS.
4. PRIOR TO COMMENCING HAUL OPERATIONS IN THE AREA, THE CONTRACTOR SHALL PLACE PIPELINE MAT BRIDGES OVER THE WATERLINE.
5. THE CONTRACTOR SHALL REMOVE (PRIOR TO HAUL OPERATIONS) AND REPLACE (AFTER COMPLETION OF HAUL OPERATIONS) THE EXISTING ROADSIDE BARRIER/GUARDRAIL ALONG OLD HWY. 46 (LA. 300).

SYMBOL	DESCRIPTION	DATE	APPROVED
△	REVISED SIGN LAYOUT AND DRIVEWAY		
	DETAIL	4/3/95	S.C.

REVISIONS			

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LOUISIANA			
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY CHALMETTE AREA PLAN, CHALMETTE EXTENSION HURRICANE PROTECTION LEVEE THIRD ENLARGEMENT STA. 945+72 MRGO B/L TO STA. 1113+00 LEVEE B/L ST. BERNARD PARISH, LA.			
TRAFFIC CONTROL PLAN AND SETTLEMENT GAGE DETAIL			
DESIGNED BY: D. GARRETT	DATE: FEB. 1995	PLOT SCALE: 10	PLOT DATE: 3 APRIL 1995
DRAWN BY: PHIL MARCHESI	CADD FILE: 408BOLDR.DGN	FILE NO. H-8-40580	
CHECKED BY: S. CONRAVEY	SUBMITTED BY: S. CONRAVEY	SOLICITATION NO. DACW29-95-B-0052	DRG. 9 OF 12





GAGE READINGS IN FT NGVD

GAGE READINGS IN FT NGVD

INTRACOASTAL WATERWAY NEAR PARIS ROAD BRIDGE
 NEW ORLEANS, LOUISIANA
 GAGE ZERO IS N.G.V.D.
 STATION 76040

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
 CORPS OF ENGINEERS
 NEW ORLEANS, LOUISIANA
 LAKE PONCHARTRAIN, LOUISIANA AND VICINITY
 CHALMETTE AREA PLAN, CHALMETTE EXTENSION
 HURRICANE PROTECTION LEVEE
 THIRD ENLARGEMENT
 STA. 945+72 MRGO B/L TO STA 1113+00 LEVEE B/L
 ST BERNARD PARISH, LA

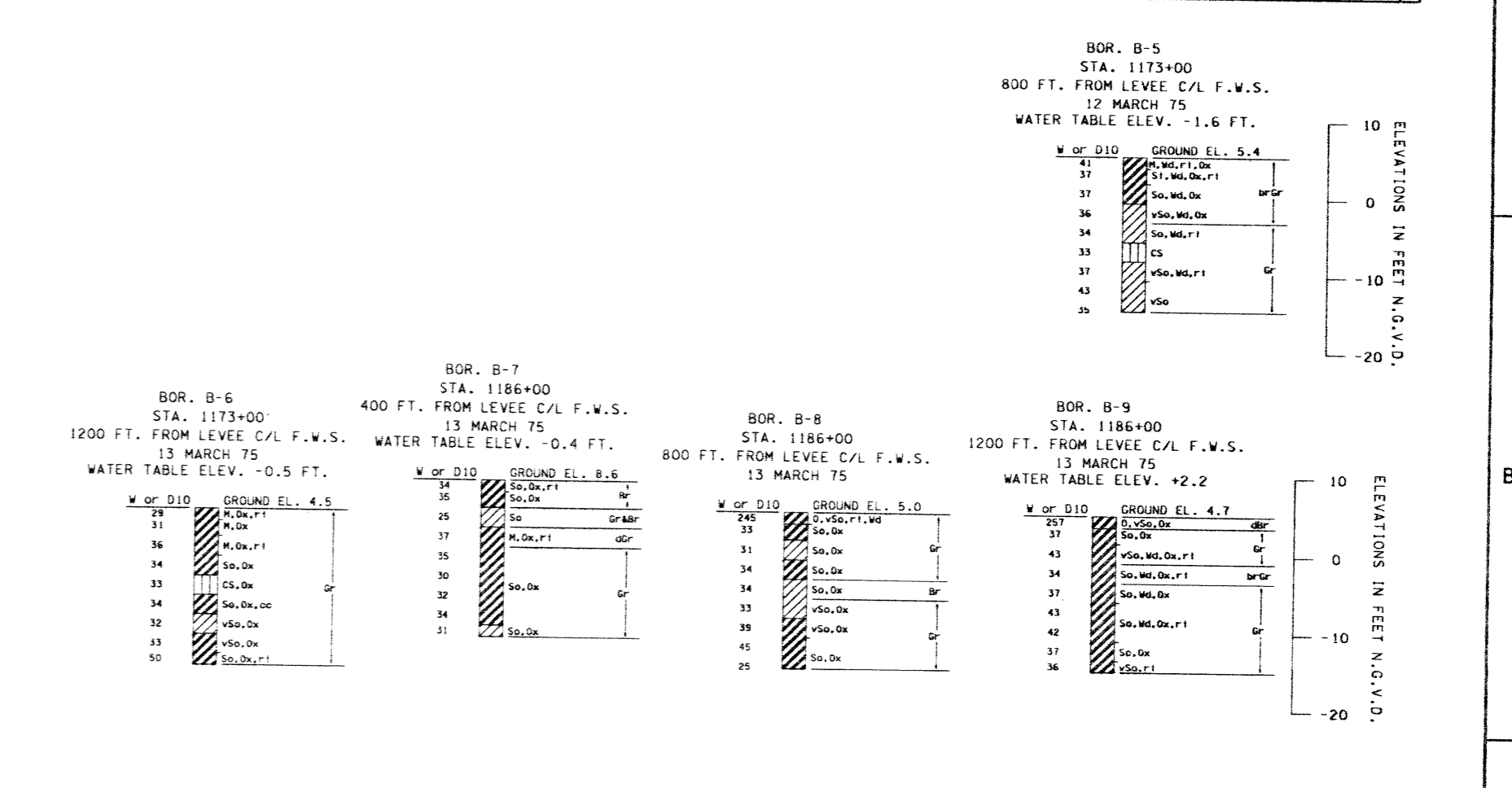
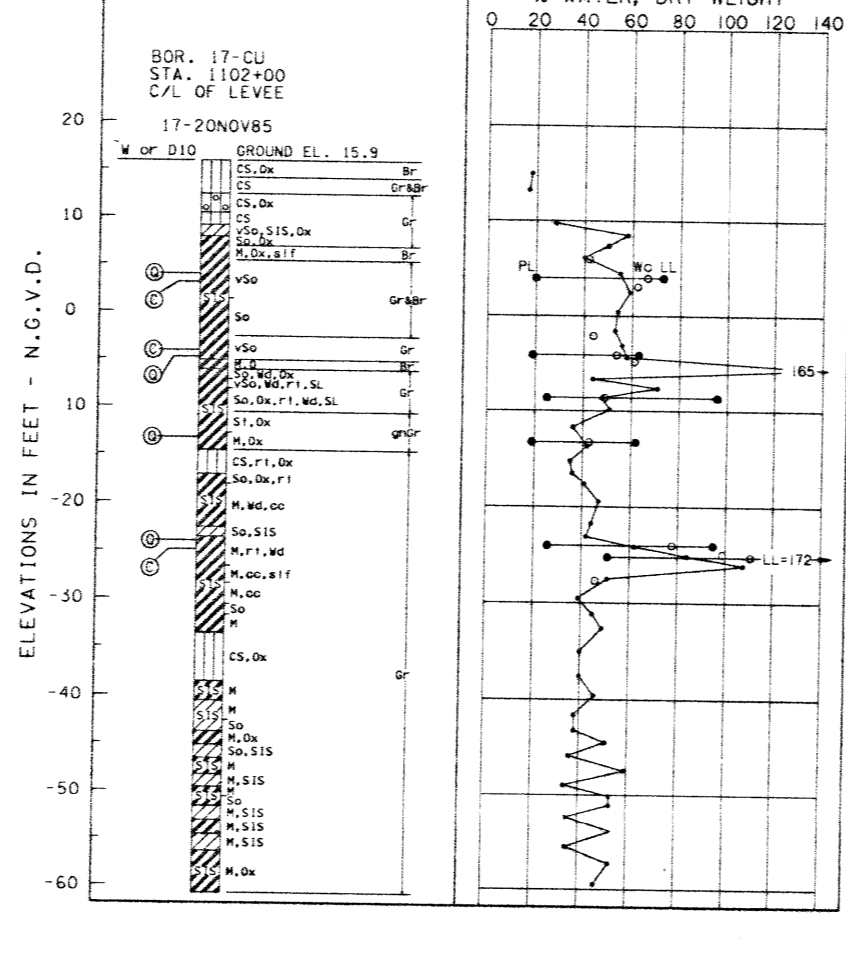
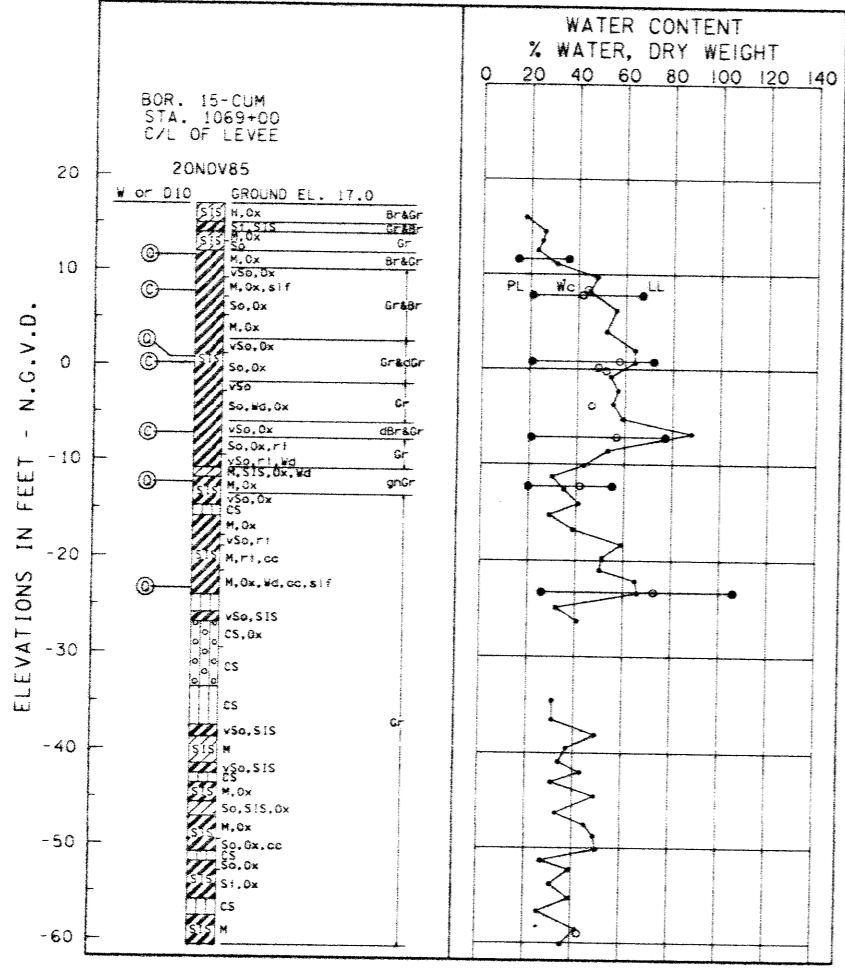
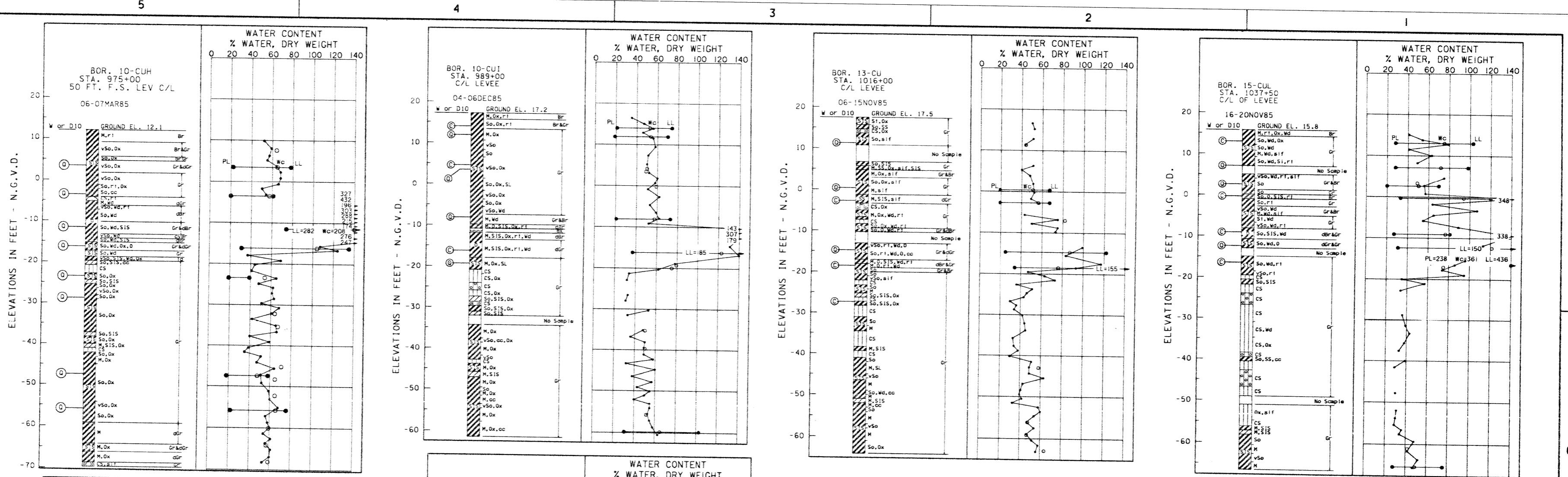
HYDROGRAPH

DESIGNED BY: D. GARRETT	DATE: FEB 1995	PLOT SCALE: 10	PLOT DATE: 8 FEB. 1995
DRAWN BY: PAUL MARCHESE	CHECKED BY: S. COMRAVEY	CARD FILE: 080010.00	FILE NO. H-8-40580
SUBMITTED BY: S. COMRAVEY		SOLICITATION NO. DACW29-95-B-0052	DWG. 10 OF 12

Safety is a Part
of Your Contract

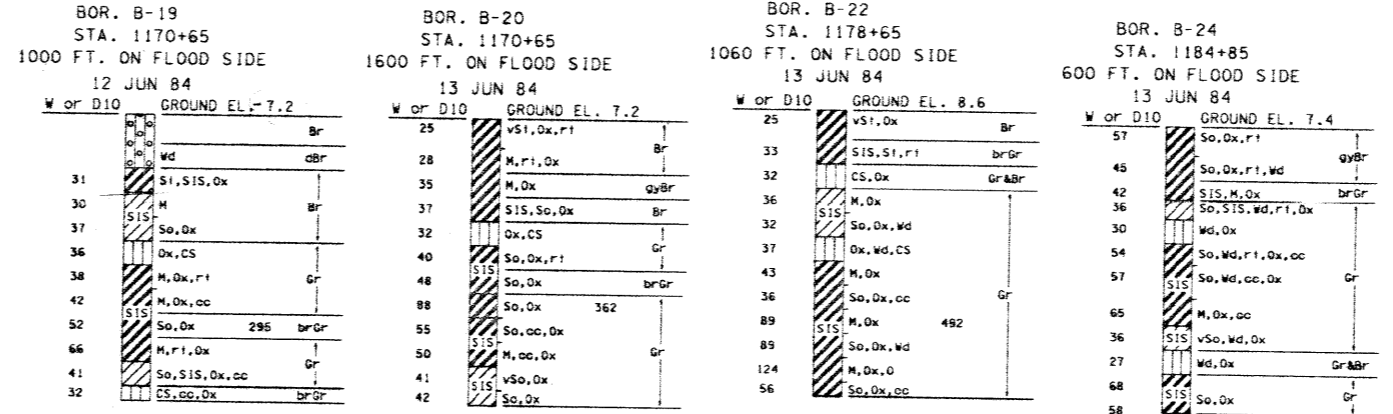


PATH NAME = /G/INW/76040/STAGE//1DAY/OBSERVED/

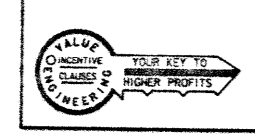


Safety is a Part of Your Contract

- NOTES:**
- BORROW BORINGS B-5 THRU B-9 WERE TAKEN WITH A HAND AUGER.
 - BORROW BORINGS B-19, B-20, B-22, AND B-24 WERE TAKEN BY WIRELINE.



SYMBOL	DESCRIPTION	DATE	APPROVED
REVISIONS			
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS			
CORPS OF ENGINEERS			
NEW ORLEANS, LOUISIANA			
LAKE PONCHARTRAIN, LOUISIANA AND VICINITY			
CHALMETTE AREA PLAN, CHALMETTE EXTENSION			
HURRICANE PROTECTION LEVEE			
THIRD ENLARGEMENT			
STA. 945+72 MRGO B/L TO STA. 1113+00 LEVEE B/L			
ST. BERNARD PARISH, LA.			
SOIL BORINGS			
DESIGNED BY: D. GARRETT	DATE: FEB. 1995	PLOT SCALE: 10	PLOT DATE: 8 FEB. 1995
DRAWN BY: PHIL MARCHESE	CADD FILE: 405801.LDD	FILE NO. H-8-40580	
CHECKED BY: S. CONRAYEY	SUBMITTED BY: S. CONRAYEY		
SOLICITATION NO. DACW29-95-B-0052		DWG. 11 OF 12	



UNIFIED SOIL CLASSIFICATION

MAJOR DIVISION	TYPE	LETTER SYMBOL	SYM BOL	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	
		CLEAN SAND (Little or No Fines)	GM	SILTY GRAVEL, gravel-sand-silt mixtures	
		SAND WITH FINES (Appreciable Amount of Fines)	GC	CLAYEY GRAVEL, gravel-sand-clay mixtures	
		CLEAN SAND (Little or No Fines)	SW	SAND, Well-Graded, gravelly sands	
	SANDS More than half of coarse fraction is smaller than No. 4 sieve size.	SAND WITH FINES (Appreciable Amount of Fines)	SP	SAND, Poorly-Graded, gravelly sands	
		SANDS WITH FINES (Appreciable Amount of Fines)	SM	SILTY SAND, sand-silt mixtures	
		SANDS 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
			SILTS AND CLAYS (Liquid Limit < 50)	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			
HIGHLY ORGANIC SOILS	OH	ORGANIC CLAYS of medium to high plasticity, organic silts			
	Pt	PEAT, and other highly organic soil			
WOOD	Wd	WOOD			
SHELLS	SI	SHELLS			
NO SAMPLE	NS	No Sample Retrieved			

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	brGr				Organic matter	O
GRAYISH-BROWN	gyBr				Clay strata or lenses	CS
GREENISH-GRAY	gnGr				Silt strata or lenses	SIS
GRAYISH-GREEN	gyGn				Sand strata or lenses	SS
GREEN	Gn				Sandy	S
BLUE	Bl				Gravelly	G
BLUE-GREEN	BlGn				Boulders	B
WHITE	Wh				Slickensides	SL
MOTTLED	Mo				Wood	Wd
					Oxidized	Ox

PLASTICITY CHART
For classification of fine-grained soils in accordance with ASTM D 2487

NOTES:

FIGURES TO LEFT OF BORING UNDER COLUMN " W OR D₁₀"

Are natural water contents in percent dry weight
When underlined denotes D₁₀ 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 test**
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 D₁₀ size of a soil is the grain diameter in millimeters of which 10% of the soil is finer, and 90% coarser than D₁₀.

**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 the contract clause entitled "Differing Site Conditions".
- Ground-water elevations shown on the boring logs represent ground-water surfaces encountered in such borings on the dates shown. Absence of water surface data on certain borings indicates that no ground-water data are available from the boring but does not necessarily mean that ground-water will not be encountered at the locations or within the vertical reaches of such 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.
- Unless otherwise noted:
 - Undisturbed borings, indicated by the letter "U", are taken with a 5" I.D. Piston Type Sampler.
 - General type borings are taken with a 1 7/8" I.D. Tube Sampler and/or a 1 3/8" I.D. Split Spoon Sampler.

Safety is a Part of Your Contract

SYMBOL	DESCRIPTION	DATE	APPROVED
REVISIONS			
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS CORPS OF ENGINEERS NEW ORLEANS, LOUISIANA LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY CHALMETTE AREA PLAN, CHALMETTE EXTENSION HURRICANE PROTECTION LEVEE THIRD ENLARGEMENT STA. 945+72 MRGO B/L TO STA. 1113+00 LEVEE B/L ST. BERNARD PARISH, LA.			
SOIL BORING LEGEND			
DESIGNED BY: D. GARRETT	DATE: FEB. 1995	PLOT SCALE: 10	PLOT DATE: 8 FEB. 1995
DRAWN BY: PHIL MARCHESE	CADD FILE: 40580L12.DGN	FILE NO. H-8-40580	
CHECKED BY: S. CONRAYEY	SUBMITTED BY: S. CONRAYEY	SOLICITATION NO. DACW29-95-B-0052	DWG. 12 OF 12

