APPENDIX B

GEOTECHNICAL ENGINEERING

APPENDIX B

GEOTECHNICAL ENGINEERING

GENERAL

The proposed flood control plans include elements to enhance the channel conveyance (overflow swales) and levee elements. The overflow swales are referred to as the Chain of Wetlands, and the levee elements include the Lamar Street Levee and the Cadillac Heights Levee.

The Chain of Wetlands consists of an upper and lower swale separated at the IH-45 bridge. The upper swale alignment would have an approximate 400-foot average bottom width and would extend from the Cedar Creek confluence downstream to the oxbow at IH-45, a distance of approximately 1.5 miles. The upper swale would be aligned as far west of the Trinity River as possible to avoid adverse impacts to woodlands. The lower swale would have a 600-foot average bottom width between IH-45 and Loop 12, a distance of approximately 2.2 miles, and would be aligned through the Linfield Landfill and Sleepy Hollow Golf Course at the lower end.

The east, or Lamar Street, levee extension would connect the downstream end of the existing Dallas Floodway East Levee, at the east abutment of the old AT&SF RR bridge, with the existing Rochester Park Levee, at the east abutment of the Southern Pacific RR bridge. This levee extension would have an approximate average height of 20 feet and would be about 3 miles long. This extension would not require raising any portion of the existing Floodway East Levee. Approximately 1,000 feet of the Rochester Park Levee would be raised by an amount less than one foot. About 4,500 feet of the existing Rochester Park levee would be made unnecessary by the Lamar Street levee. Although the alignment of this levee extension would be adjacent to several commercial businesses, the majority of these businesses would not require relocation. The Proctor and Gamble storage facility and some smaller commercial structures at the downstream end of the Lamar Levee extension, near State Highway 310, would, however, require relocation.

The west, or Cadillac Heights, levee would begin upstream near Cedar Creek and extend downstream to the existing Central Wastewater Treatment Plant (CWWTP) Levee, would utilize a portion of the existing CWWTP Levee along the northwest corner at the plant entrance and then extend from the west side of the CWWTP Levee to high ground near the intersection of Kiest Boulevard and McGowan Avenue. The average height of this levee would be about 15 feet and the length from the Cedar Creek end to the downstream end near Kiest and McGowan would be approximately 2.3 miles. Construction of this levee may affect a number of commercial structures. Plate C-01, Sequence No. 2, presents a project location map.

GEOLOGIC DESCRIPTION

The area encompassed by the proposed Dallas Floodway Extension is underlain by limestone, marl (defined as halfway between limestone and shale), and shale representing the Austin Chalk Formation of Cretaceous age. More specifically, the project area is underlain by the Middle unit of the Austin Formation. The Middle unit is composed mainly of thinly bedded, laminated marl and shale, often indurated. The Austin Chalk Formation is, in turn, overlain by a thick mantle of alluvial water-bearing sediments which have been deposited by the Trinity River. The soft limestone and calcareous shales of the Austin Chalk outcrop can be found immediately beneath the overburden, beyond the floodplain on either side of the river. Seismic risk is insignificant at the project site.

The alluvial sediments encountered consisted variably of silty and sandy clays. Occasionally, significant lenses of water-bearing sands or gravelly sands were penetrated by exploratory borings. Extremely wet material with high humus content, was encountered near the surface in some areas.

SUBSURFACE INVESTIGATIONS

Subsurface investigations for the Dallas Floodway Extension consisted of a total of 138 borings, 115 completed in 1982, and 23 completed in 1997. The borings completed in 1997 are as follows: 400-410, 412-418, 427, 429, 430, 432 and 437. All other borings shown on the drawings were advanced in 1982. The 1982 borings were along the plan alignments investigated for the 1982 General Design Memorandum, consisting of levees along both sides of the Trinity River channel, as well as channelization of the Trinity River, Five Mile Creek and White Rock Creek. The total number of borings advanced in 1982 was actually greater than 115, but many of the borings were in areas outside the scope of the current plan (1998 General Reevaluation Report). In order to fully maximize drilling resources, subsurface data gained from the borings advanced in 1982 was used extensively in the current design. Additional subsurface investigations should be conducted in order to sample and test soils where information is needed to design a specific structural feature.

A boring location plan is presented on plates B-1 through B-3. The borings provided undisturbed samples from core barrels, Denison barrels, and Shelby tubes. Jar samples and bag samples were obtained from auger cuttings.

SUBSURFACE CONDITIONS

Subsurface soil profiles are presented on plates B-4 through B-14. The profile for the Lamar Levee is on plates B-4 through B-9, and the profile for the Cadillac Heights Levee is on plates B-10 and B-11. The profile for the downstream swale is on plates B-12 and B-13, and the profile for the upstream swale is on plates B-14 and B-15. The profile for the slurry trench is on plate B-16. Please note that many of the boring logs used to construct these profiles are offset from the centerline of the feature. Subsurface conditions encountered consist of the following:

Overburden

The overburden soils along the project alignment consist of undisturbed and disturbed alluvial and residual soils. The project site extends through highly developed urban lands which have undergone reshaping of terrain and quarrying of sands and gravels on a commercial scale. The overburden thickness as encountered in the borings varied considerably. It was less than ten feet thick in some places and more than twenty feet thick in others. Overburden thickness in the floodplain areas was generally in excess of twenty-five feet. For this project, these soils are segregated into three distinct soils groups:

Floodplain. This group is located within the distinct floodplain of the Trinity River and consists of clay of moderate to high plasticity. In general, disturbance of soils within this group has been minimal. Most of the features of the plan are located within the floodplain, and thus will encounter clays and sandy clays characteristic of floodplain deposits. Laboratory testing of these soils confirmed some extremely plastic soils, as shown by high liquid limits (99 in Boring 64), and high plasticity indices (59, also in Boring 64). Soil classifications consisted of CL, CH, SC, SM, with the occasional GC encountered.

Terrace. This group is located out of the floodplain, and forms the naturally occurring gentle bluff found on both sides of the Trinity River. This bluff is more prominent on the north side than the south side, where there isn't a well-defined boundary. The soils are predominantly clayey sands with occasional gravels. Some reshaping and disturbance has occurred. The only portion of the

project located near the terrace is the extreme southern end of the Cadillac Heights levee. This is to be expected, as terrace deposits are by definition the higher boundaries of the floodplain, and form the high ground that the project levees tie into. Laboratory testing of these soils revealed CL, CH, SC, SM and GC soils present. The proportion of coarse-grained soils encountered was higher than encountered in the floodplain. Plasticity of the clays ranged from low to high.

Urban. This group is located out of the floodplain along the south side of the Trinity River, and consists of man-made fills. The soils are intermixed clays, sandy clays, clayey sands, sands, and gravels, and, in the case of the Linfield Landfill, man-made construction debris and garbage such as tires, sheet metal, concrete blocks, ceramic tiles and steel I-beams. No laboratory testing was done on samples taken from the landfill.

Primary

Primary strata consist of weathered and unweathered limestone and shale.

GROUNDWATER

The water table was encountered in numerous borings with considerable variance in depth. Because of this variance, the subsurface profile should be viewed for the respective groundwater levels at each area. Alluvial deposits, as encountered during the borings and as described in the preceding paragraphs, located below the water table will necessitate shoring during excavation operations. Dewatering will be required during construction of the proposed project components. The excavations for the construction of some of the stoplog structures may encounter ground water and may require a dewatering system for construction in the dry. Care of water should also address control of storm runoff.

EXCAVATION EFFORT

The weathered shale and limestone will present no significant excavating problems. Furthermore, the overburden materials are of sufficient thickness over most of the project area that the primary will not be encountered during excavation. Standard excavation equipment should prove adequate for this project. More rigorous excavation equipment (e.g. heavy rippers) should not be needed.

LABORATORY TESTING

Conventional geotechnical testing of selected samples was conducted by the Southwestern Division Laboratory (CESWD) in Dallas, Texas and by the Materials Testing Center at Waterways Experiment Station. Tests for identification included tests for moisture content, grain size analyses, and Atterberg limits. Strength tests included triaxial (Q) tests, direct shear (S) tests, and unconfined compression tests. Testing results, as available in time for publication, are presented on the plates.

LEVEE MATERIAL

Material for construction of the levee embankments will come from required excavation of the overflow swales and, to a lesser extent, from required excavation of the stoplog structures and from the sumps. Subsurface explorations have encountered clays and sandy clays, which are suitable for levee construction. Some materials may require "drying back" prior to compaction. It is estimated that the volume of excavated material will exceed the levee fill requirements by approximately 600,000 cubic yards.

LEVEES

Embankments

The recommended levee section is presented on Plate C-03, Seq No. 4. The crest width of the levees will be 20 feet, and the side slopes of the levee embankments are recommended to be 1V:4H. This side slope configuration is required in order to prevent skin failures common on steeper embankments in the area. On the existing Dallas Floodway, surface failures on the 1V:3H side slopes are quite common, with approximately six occurring per year. The levees surrounding the Central Wastewater Treatment Plant (CWWTP) were originally constructed with slopes ranging from 1V:2.5H to 1V:3.3H. Numerous surface failures of the levees (approximately two per year), prompted the CWWTP to regrade their levee slopes to a 1V:4H slope during 1993-1994. The material used to regrade the CWWTP slopes was excavated from a nearby wetland mitigation area, and consisted mainly of CH soils, but also included CL soils. Since this regrading, there have been no slides on these levees. Preliminary stability analyses, using the Corps' UTEXAS3 program, showed a factor of safety against skin slides less than unity for a 1V:3H side slope, but indicated an adequate factor of safety for a 1V:4H side slope. More detailed slope-stability analyses will be conducted during the detailed design of this project. The UTEXAS 3 analysis used the following data:

Shear Strength	c = 0, phi = 18 deg
Unit weight	Moist: 105 pcf, sat'd: 114 pcf
Type of case analyzed	Steady seepage, no floodwater loading
Type of failure	non-circular
Procedure used	Spencer's

The maximum height of the Lamar Street levee will be 31 feet (at station 67+00), but will generally be less than 20 feet along the remainder of the levee alignment. The maximum height of the Cadillac Heights levee will be less than 26 feet, with an average height of less than 15 feet.

The levee embankments will be constructed of suitable clays (CL and CH) and suitable clayey sands (SC) from the required excavation. The embankment fill should be compacted to a minimum relative compaction of 95 percent standard Proctor density (ASTM 698) at, or slightly above, optimum moisture content.

Underseepage

It is recommended that an inspection trench be excavated along the levee alignments. The purpose of the trench is to disclose undetected utilities or other foundation problems and to reduce potential seepage problems. The inspection trench should be excavated to a depth of 5 feet, with a bottom width of 10 feet. Side slopes on the inspection trench will be 1V:1H. Underseepage is not foreseen to be a problem, due to the generally impervious nature of the alluvial riverbed sediments. However, in order to lengthen the seepage path, the inspection trench will be backfilled with impervious fill material. Alluvial riverbed sediments typically are lensatic in nature; that is, pockets of sandy, permeable material that would readily convey seepage are discontinuous, and can grade both horizontally and vertically into impermeable clay or clayey sand over short distances. Therefore, problem seepage areas are not expected to occur over large, continuous areas.

GEOTECHNICAL PARAMETERS FOR STRUCTURES

The geotechnical parameters for design of structures are as follow:

Floodplain (Clay as CL and CH)

MKT Railroad (Lamar Street Levee)
Martin Luther King, Jr. Boulevard

Above Normal Water Table

Unit weight, moist: 118 pcf (MC = 23%)
Unit weight, dry: 94 pcf

Allowable bearing capacity = 2500 psf

Shear strength (S): c = 0, phi = 18°
Sliding on concrete: c = 0, phi = 12°

At rest, k_o = 0.5
Active, k_a = 0.5
Passive, k_p = 2.0

Below Normal Water Table

Unit weight, moist: 105 pcf, MC = 20%
Unit weight, dry: 88 pcf
Unit weight, saturated: 114 pcf, MC = 30%

Shear strength (S): c = 0, phi = 18°
Sliding on concrete: c = 0, phi = 12°

At rest, k_o = 0.8
Active, k_a = 0.8
Passive, k_p = 2.0

Terrace (Clayey Sand as SC)

Southern Pacific Railroad
Central Expressway

Unit weight, moist: 128 pcf, MC = 13%
Unit weight, dry: 113 pcf
Unit weight, saturated: 135 pcf, MC = 18%

Allowable bearing capacity = 2500 psf

Shear strength (S): c = 0, phi = 28°
Sliding on concrete: c = 0, phi = 19°

At rest, k_o = 0.4
Active, k_a = 0.5
Passive, k_p = 2.6

Urban (Clayey Sand and Sandy Clay as SC and CL-CH)

Sargent Road (Cadillac Heights)

Unit weight, moist: 122 pcf, MC = 18%
Unit weight, dry: 108 pcf
Unit weight, saturated: 130 pcf, MC = 20%

Allowable bearing capacity = 2000 psf

Shear strength (S): c = 0, phi = 25°
Sliding on concrete: c = 0, phi = 17°

At rest, k_o = 0.4
Active, k_a = 0.5
Passive, k_p = 2.4

SLURRY TRENCH

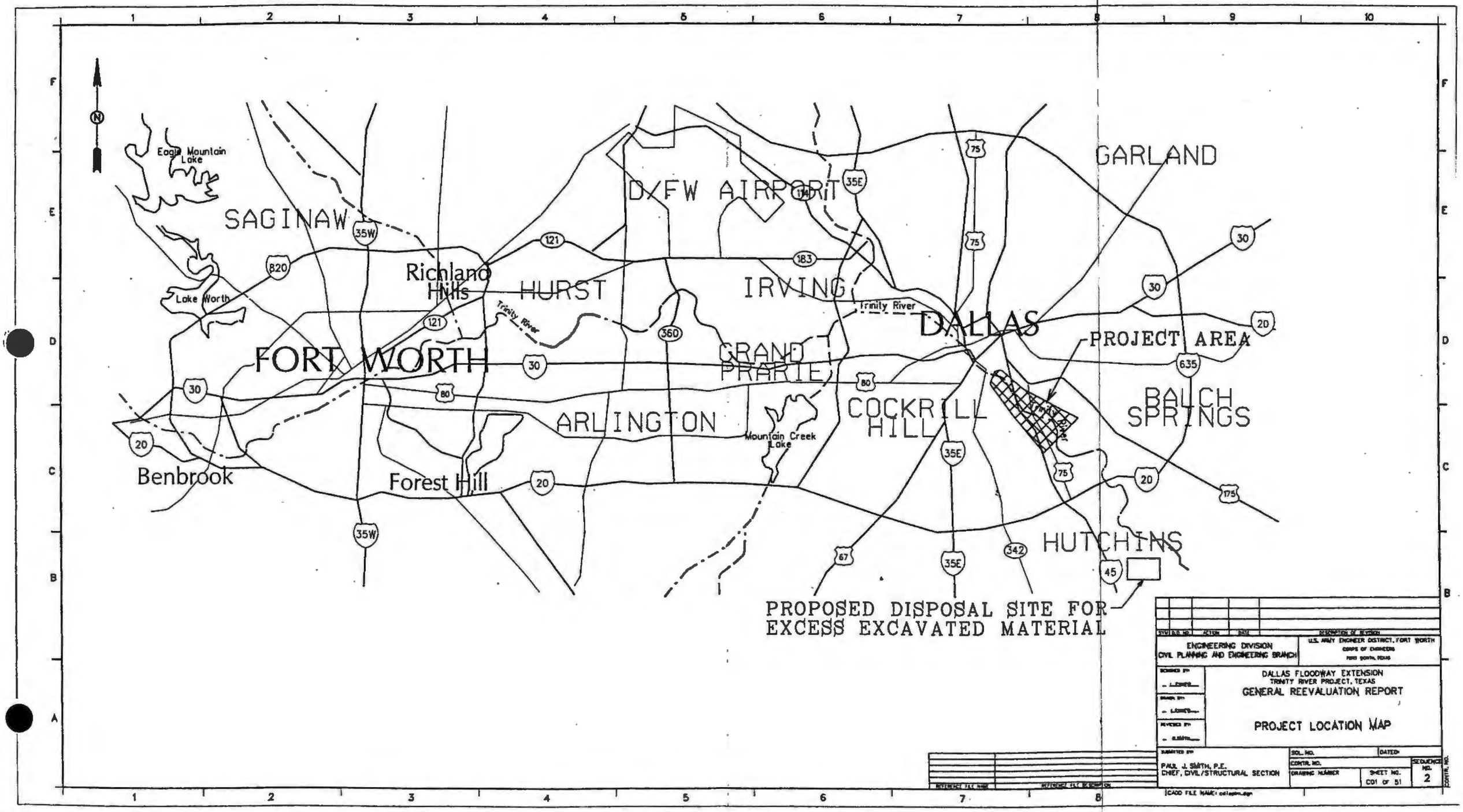
The slurry trench should be constructed between the Linfield Landfill and the downstream swale in order to prevent water migration and thus possible contamination of flood waters. Additionally, the slurry trench will aid in the dewatering of the excavation and construction of the swale in the dry. The slurry trench will be constructed roughly in an L-shape in plan, and will be approximately twenty-five feet deep and two feet wide (minimum). The base of the slurry trench will be excavated into undisturbed clays, or primary strata (shale or limestone). See Plate C-03, Seq. No. 4 for a typical cross section. The fill material for the trench will be a cement-bentonite mixture, with a bentonite-water slurry used to hold the trench open during construction. Table B-1 presents a breakdown of estimated quantities for the slurry trench.

Table B-1
Slurry Trench Quantities

Item	Quantity
Excavation (Class I Non-Hazardous Material)	5,674 cubic yards
Slurry: Bentonite (10% by weight)	996 tons
Backfill: Cement* (6% by weight)	552 tons
Backfill: Soil **	5,334 cubic yards

** Portland cement to be used, in compliance with requirements of ASTM C150.*
*** Typical gradation requirements are as follows:*

Sieve Size	*% Passing, by weight*
3"	*100*
1-1/2"	*95-100*
3/4"	*80-100*
No. 4	*55-100*
No. 10	*40-80*
No. 40	*18-45*
No. 200	*10-25*



STUDY I.D. NO.	ACTION	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION
CIVIL PLANNING AND ENGINEERING BRANCH

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY — LEGNER
DRAWN BY — LEGNER
REVIEWED BY — SMITH

DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS
GENERAL REEVALUATION REPORT

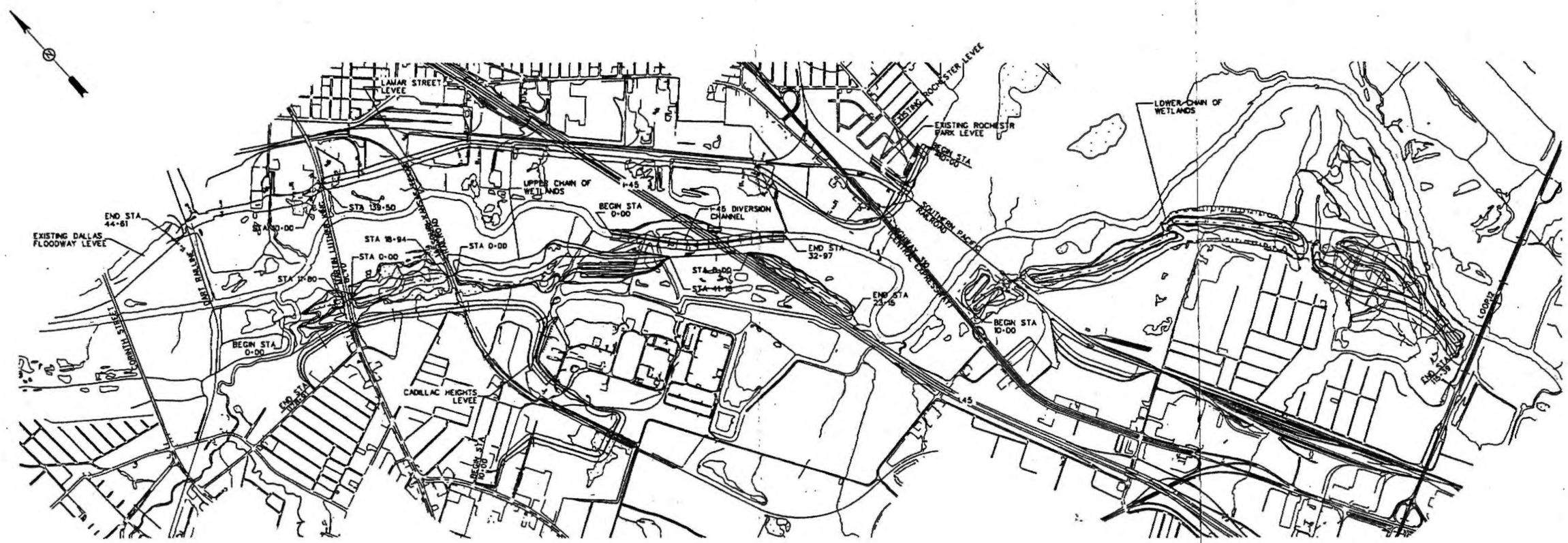
PROJECT LOCATION MAP

SUBMITTED BY
PAUL J. SMITH, P.E.
CHIEF, CIVIL/STRUCTURAL SECTION

SOL. NO. | DATED
CONTR. NO.
DRAWING NUMBER | SHEET NO. 001 OF 51 | SEQUENCE NO. 2

REFERENCE FILE NAME | REFERENCE FILE DESCRIPTION

CADD FILE NAME: collocmap



LEGEND

TRANSPORTATION FEATURES

STRUCTURAL FEATURES

HYDROGRAPHIC FEATURES

UTILITY FEATURES

LAND FEATURES

RECREATION FEATURES

TOPOGRAPHIC FEATURES

BOUNDARY FEATURES

MAP CONTROL FEATURES

PLAN

800 0 800 1600

SCALE IN FEET

NOTE: LEGEND ON THIS SHEET IS APPLICABLE TO SHEETS C04 THROUGH C32

SYM	D.O. NO.	ACTION	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION
CIVIL PLANNING AND ENGINEERING BRANCH

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: —

DRAWN BY: J. MARTINEZ

REVIEWED BY: P. SMITH

DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS
GENERAL REEVALUATION REPORT

SITE LOCATION MAP

SUBMITTED BY:
PAUL J. SMITH, P.E.
CHIEF, CIVIL/STRUCTURAL SECTION

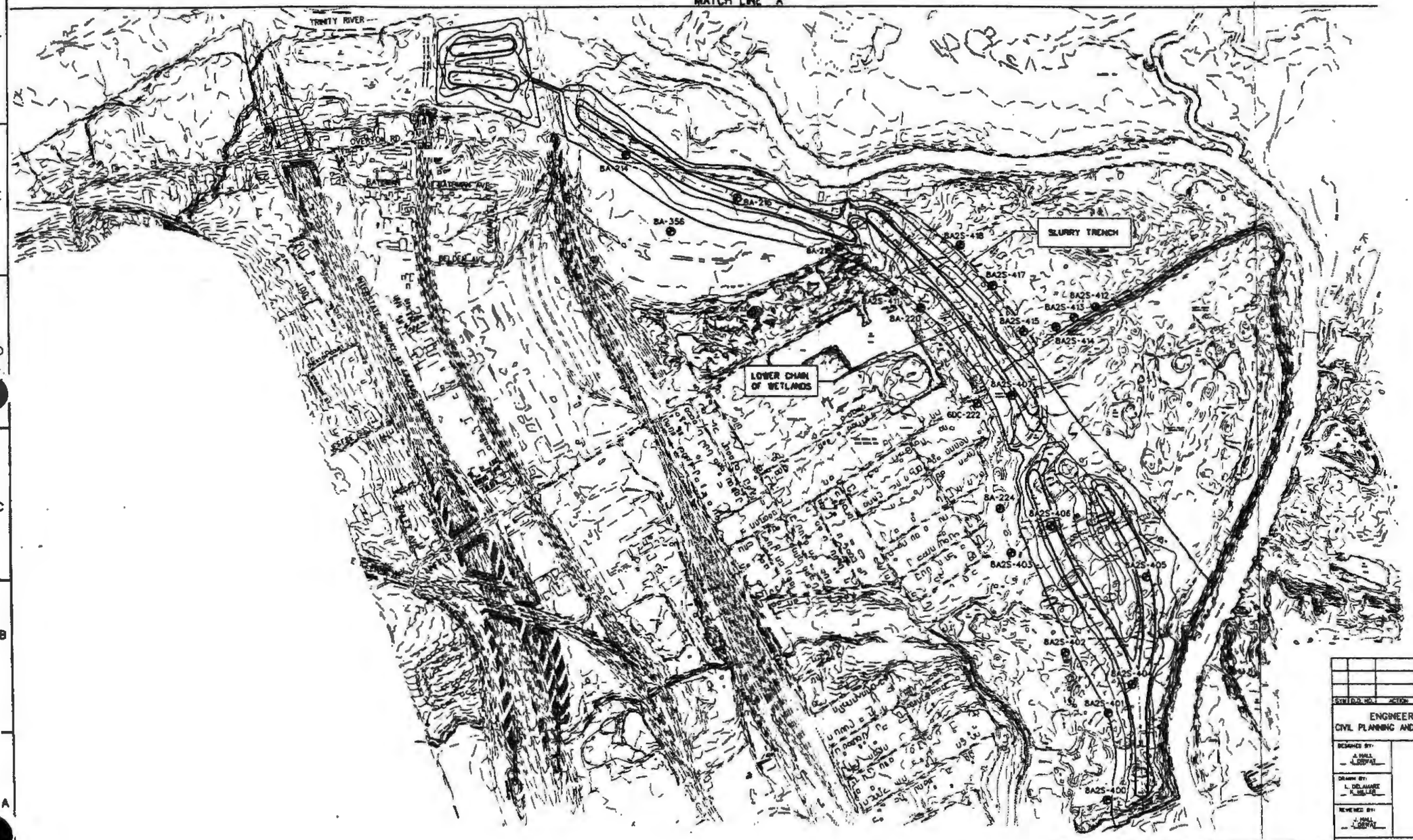
SOL. NO. | DATED:
CONTR. NO.
DRAWING NUMBER | SHEET NO. C02 OF 51 | SEQUENCE NO. 3

CONTR. NO.

CADD FILE NAME: cd1asm.dgn

REFERENCE FILE NAME | REFERENCE FILE DESCRIPTION

MATCH LINE "A"



NOTES:

1. USE THESE SHEETS FOR PROJECT "CONCEPT" ONLY. MINOR VARIATIONS EXIST BETWEEN THE PROJECT FEATURES SHOWN AND THE PROJECT LAYOUT AND DESIGN AS CURRENTLY FORMULATED. REFER TO CIVIL/STRUCTURAL DESIGN AND RELOCATIONS APPENDIX FOR CORRECT LAYOUT.

400 0 400 800
SCALE IN FEET

SYM	P.O. NO.	ACTION	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION
CIVIL PLANNING AND ENGINEERING BRANCH

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: A. HALL, J. DUPRAT
DRAWN BY: L. DELAMARE, K. MILLER
REVIEWED BY: A. HALL, J. DUPRAT

DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS
GENERAL REEVALUATION REPORT

PLAN OF BORINGS I OF III

SUBMITTED BY:
WILLIS L. WALKER, P.E.
CHIEF, GEOTECHNICAL SECTION

SOL. NO.
DATED:
CONTR. NO.
DRAWING NUMBER
SHEET NO. B1 OF 15
SEQUENCE NO. -

ODFEPB1.DGN	SHEET BORDER & TITLE BLOCK
REFERENCE FILE NAME	REFERENCE FILE DESCRIPTION

CADD FILE NAME: ODFEPB1.DGN

MATCH LINE "B"

MATCH LINE "A"

NOTES:

1. USE THESE SHEETS FOR PROJECT "CONCEPT" ONLY. MINOR VARIATIONS EXIST BETWEEN THE PROJECT FEATURES SHOWN AND THE PROJECT LAYOUT AND DESIGN AS CURRENTLY FORMULATED. REFER TO CIVIL/STRUCTURAL DESIGN AND RELOCATIONS APPENDIX FOR CORRECT LAYOUT.

400 0 400 800
SCALE IN FEET

SYM	P.O. NO.	ACTION	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION
CIVIL PLANNING AND ENGINEERING BRANCH

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J. HULL, J. GRIFFAT
DRAWN BY: L. DELAUNAY, K. MILLER
REVIEWED BY: J. HULL, J. GRIFFAT

DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS
GENERAL REEVALUATION REPORT

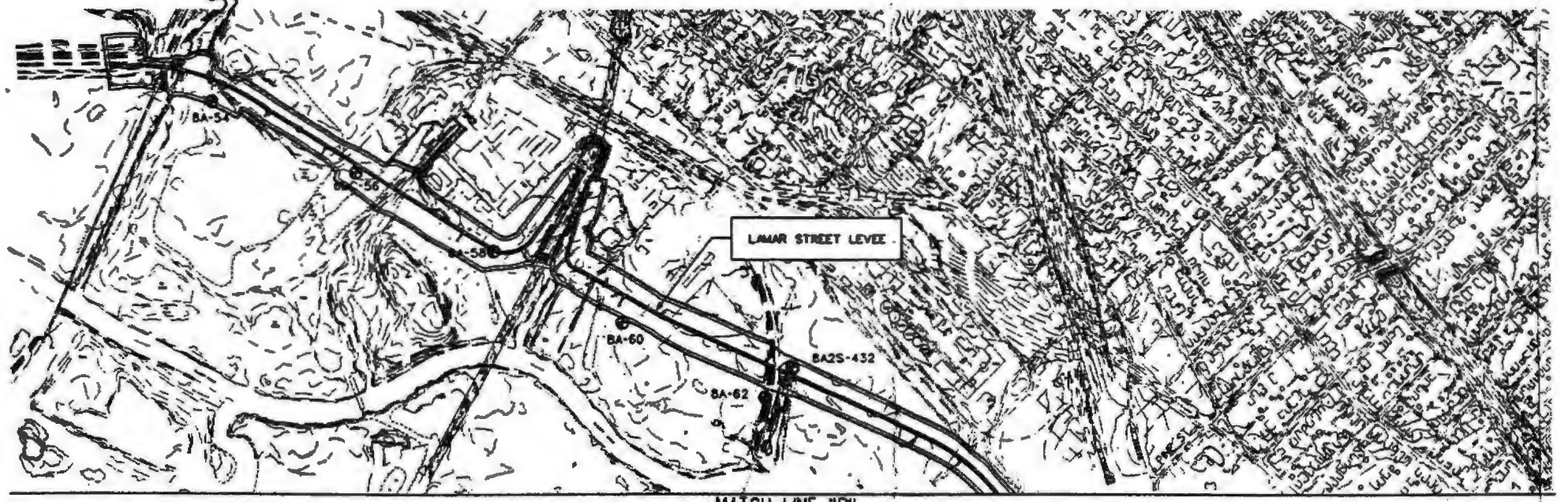
PLAN OF BORINGS II OF III

SUBMITTED BY:
WILLIS L. WALKER, P.E.
CHIEF, GEOTECHNICAL SECTION

SOL. NO. | DATED:
CONTR. NO. | SEQUEN NO.
DRAWING NUMBER | SHEET NO. B2 OF 16

REFERENCE FILE NAME	REFERENCE FILE DESCRIPTION
GDFETBS.DGN	SHEET BORDER AND TITLE BLOCK

CADD FILE NAME: GDFEPB8.DGN



MATCH LINE "B"

N

NOTES:

1. USE THESE SHEETS FOR PROJECT "CONCEPT". ONLY MINOR VARIATIONS EXIST BETWEEN THE PROJECT FEATURES SHOWN AND THE PROJECT LAYOUT AND DESIGN AS CURRENTLY FORMULATED. REFER TO CIVIL/STRUCTURAL DESIGN AND RELOCATIONS APPENDIX FOR CORRECT LAYOUT.

400 0 400 800
SCALE IN FEET

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION
CIVIL PLANNING AND ENGINEERING BRANCH

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: J. HALL, J. GERHAT
DRAWN BY: L. DELAMARE, K. BELTER
REVIEWED BY: J. HALL, J. GERHAT

DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS
GENERAL REEVALUATION REPORT

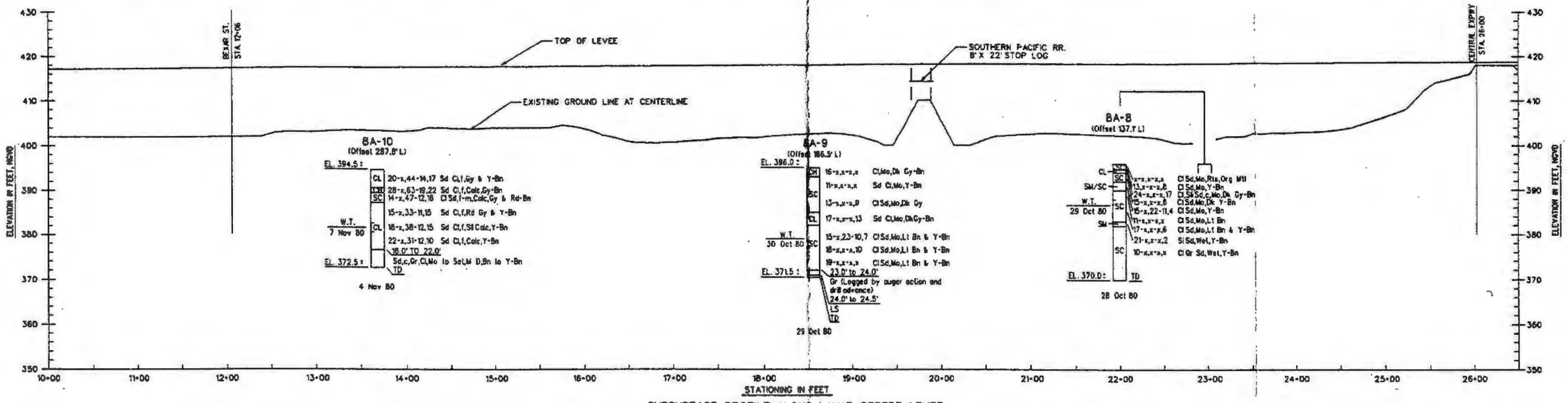
PLAN OF BORINGS - III OF III

SUBMITTED BY:
WILLIS L. WALKER, P.E.
CHIEF, GEOTECHNICAL SECTION

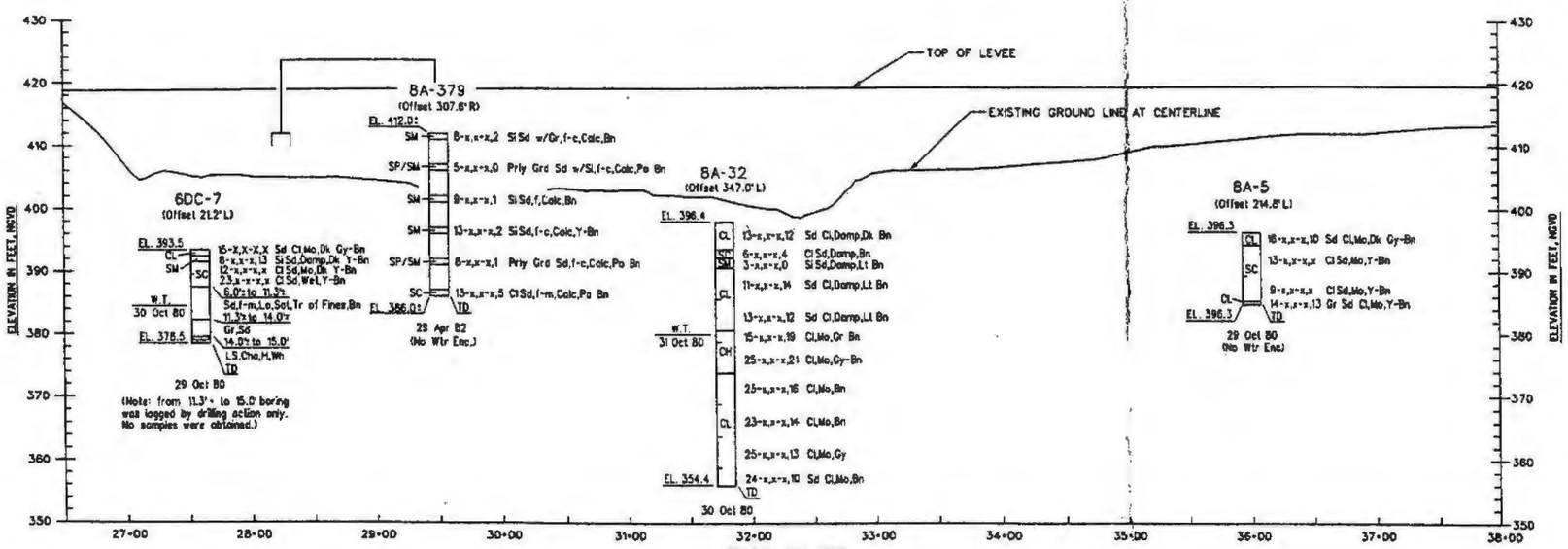
SOL. NO.
CONTR. NO.
DRAWING NUMBER
SHEET NO. 83 OF 16
DATED:
SEQUENCE NO.

COPIED FROM	SHEET BORDER & TITLE BLOCK
REFERENCE FILE NAME	REFERENCE FILE DESCRIPTION

CADD FILE NAME: GDFEPBC.DGN



SUBSURFACE PROFILE ALONG LAMAR STREET LEVEE
(STATION 10+00 TO 26+50)



SUBSURFACE PROFILE - LAMAR STREET LEVEE
(STATION 26+50 THRU 38+00)

NOTES:

1. FOR BORING LOCATIONS, SEE DRAWING NO. B1 THROUGH B3.
2. FOR LEGEND AND GENERAL NOTES, SEE DRAWING B9.
3. USE THESE SHEETS FOR PROJECT "CONCEPT", ONLY. MINOR VARIATIONS EXIST BETWEEN THE PROJECT FEATURES SHOWN AND THE PROJECT LAYOUT AND DESIGN AS CURRENTLY FORMULATED. REFER TO CIVIL/STRUCTURAL DESIGN AND RELOCATIONS APPENDIX FOR CORRECT LAYOUT.

10 0 10 20
VERTICAL SCALE IN FEET

50 0 50 100
HORIZONTAL SCALE IN FEET

SYM	D.O. NO.	ACTION	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION
CIVIL PLANNING AND ENGINEERING BRANCH

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: K. MILLER
DRAWN BY: K. MILLER
REVIEWED BY: C. HALL, J. DRIVAS

DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS
GENERAL REEVALUATION REPORT

LAMAR STREET LEVEE
SUBSURFACE PROFILE
(STATION 10+00 TO 38+00)

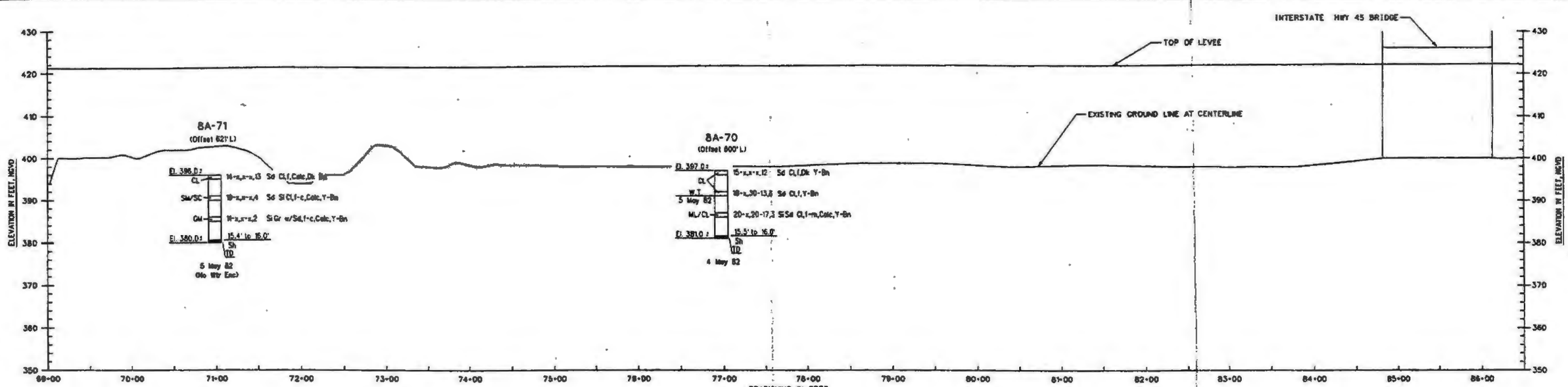
SUBMITTED BY:
WILLIS L. WALKER, P.E.
CHIEF, GEOTECHNICAL SECTION

SOL. NO. | DATED:
CONTR. NO. | SEQUENCE NO.
DRAWING NUMBER | SHEET NO. B4 OF 16

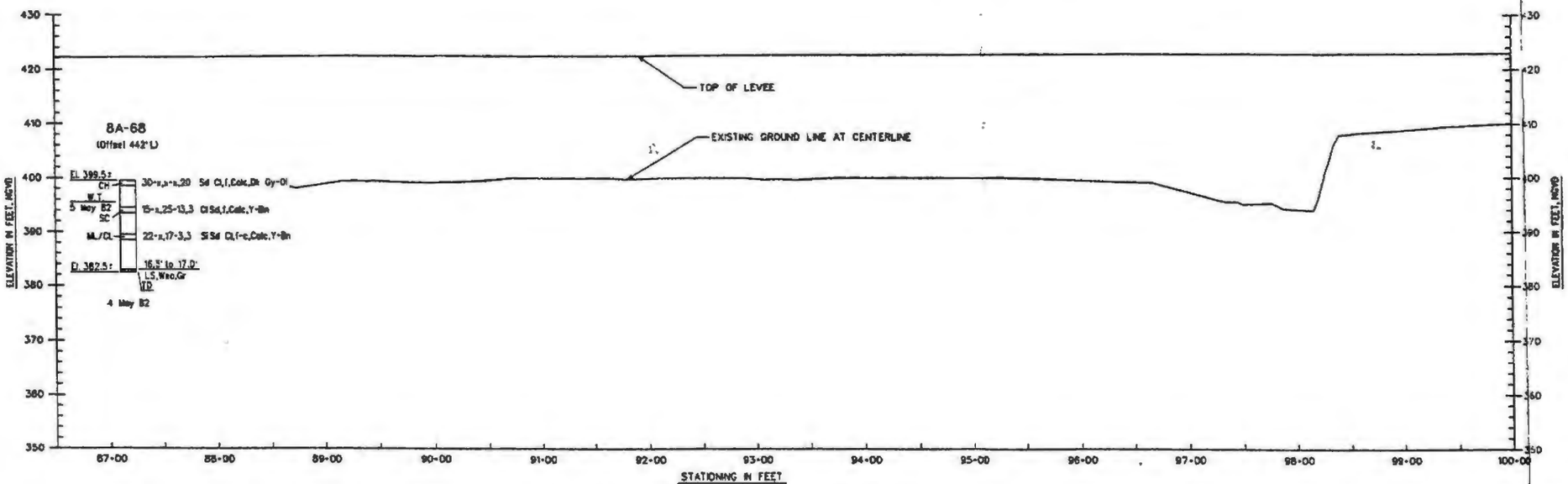
DGFE182.DGN	SHEET BORDER & TITLE BLOCK
REFERENCE FILE NAME	REFERENCE FILE DESCRIPTION

CADD FILE NAME: DGFE15PA.DGN

CONTR. NO.



SUBSURFACE PROFILE ALONG LAMAR STREET LEVEE
(STATION 68+00 TO 86+50)



SUBSURFACE PROFILE ALONG LAMAR STREET LEVEE
(STATION 86+50 TO 100+00)

NOTES:

1. FOR BORING LOCATIONS, SEE DRAWING NO. B1 THROUGH B3.
2. FOR LEGEND AND GENERAL NOTES, SEE DRAWING B9.
3. USE THESE SHEETS FOR PROJECT "CONCEPT", ONLY. MINOR VARIATIONS EXIST BETWEEN THE PROJECT FEATURES SHOWN AND THE PROJECT LAYOUT AND DESIGN AS CURRENTLY FORMULATED. REFER TO CIVIL/STRUCTURAL DESIGN AND RELOCATIONS APPENDIX FOR CORRECT LAYOUT.

10 0 10 20
VERTICAL SCALE IN FEET

50 0 50 100
HORIZONTAL SCALE IN FEET

SYMBOL	NO.	ACTION	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION
CIVIL PLANNING AND ENGINEERING BRANCH

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: K. MILLER
DRAWN BY: K. MILLER
REVIEWED BY: J. HALL, A. DERAT

DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS
GENERAL REEVALUATION REPORT

LAMAR STREET LEVEE
SUBSURFACE PROFILE
(STATION 69+00 TO 100+00)

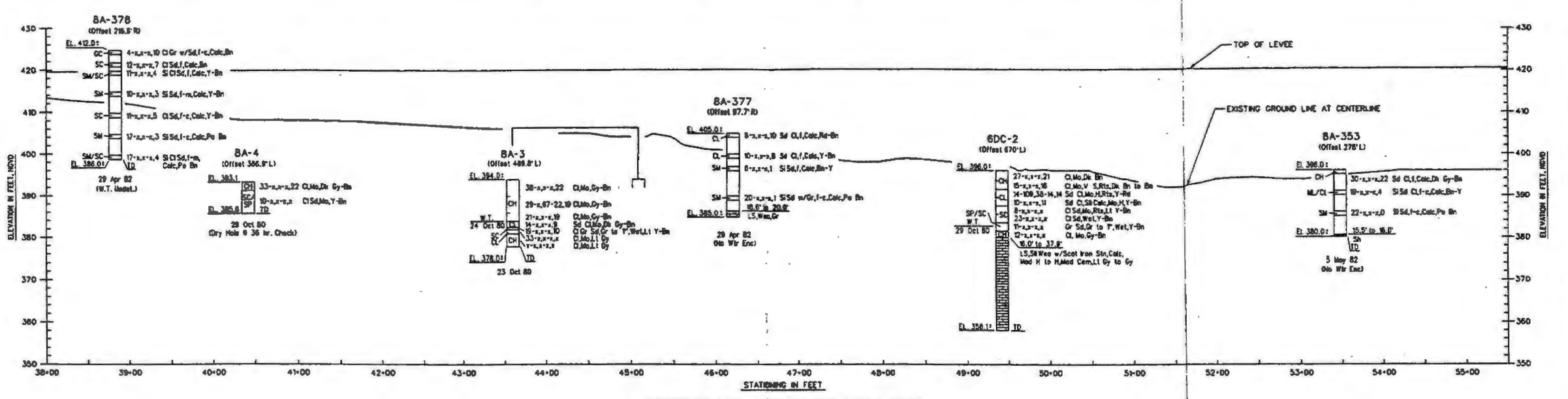
SUBMITTED BY:
WILLIS L. WALKER, P.E.
CHIEF, GEOTECHNICAL SECTION

SOL. NO. | DATED
CONTR. NO. | SEQUENCE NO.
DRAWING NUMBER | SHEET NO. B5 OF 16

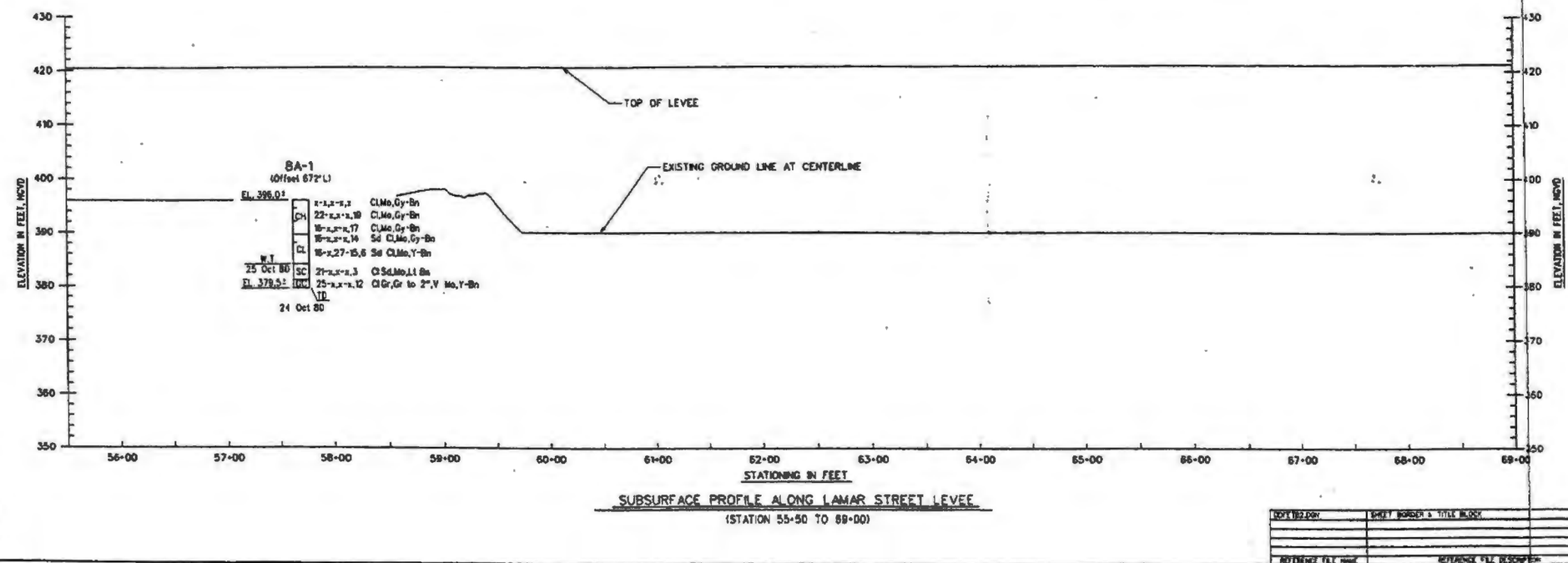
CONTR. NO.

DATE/TIME/DAY | SHEET BORDER & TITLE BLOCK
REFERENCE FILE NAME | REFERENCE FILE DESCRIPTION

CADD FILE NAME: GDEETSPC.DGN



SUBSURFACE PROFILE ALONG LAMAR STREET LEVEE
(STATION 38+00 TO 55+50)



SUBSURFACE PROFILE ALONG LAMAR STREET LEVEE
(STATION 55+50 TO 69+00)

NOTES:

1. FOR BORING LOCATIONS, SEE DRAWING NO. B1 THROUGH B3.
2. FOR LEGEND AND GENERAL NOTES, SEE DRAWING B9.
3. USE THESE SHEETS FOR PROJECT "CONCEPT", ONLY. MINOR VARIATIONS EXIST BETWEEN THE PROJECT FEATURES SHOWN AND THE PROJECT LAYOUT AND DESIGN AS CURRENTLY FORMULATED. REFER TO CIVIL/STRUCTURAL DESIGN AND RELOCATIONS APPENDIX FOR CORRECT LAYOUT.

10 0 10 20
VERTICAL SCALE IN FEET

50 0 50 100
HORIZONTAL SCALE IN FEET

SYM	D.D. NO.	ACTION	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: H. MILLER
DRAWN BY: H. MILLER
REVIEWED BY: A. HALL, A. GERARD

DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS
GENERAL REEVALUATION REPORT

LAMAR STREET LEVEE
SUBSURFACE PROFILE
(STATION 38+00 TO 69+00)

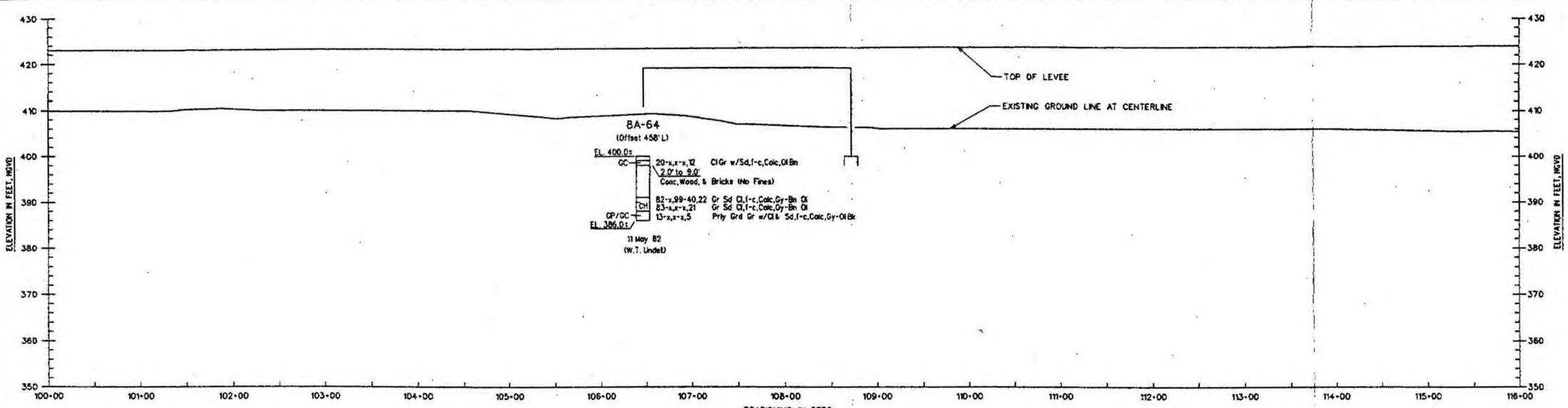
SUBMITTED BY:
WILLIS L. WALKER, P.E.
CHIEF, GEOTECHNICAL SECTION

SOL. NO. | DATED:
CONTR. NO. | SEQUENCE NO.
DRAWING NUMBER | SHEET NO. 85 OF 16

CONTR. NO.

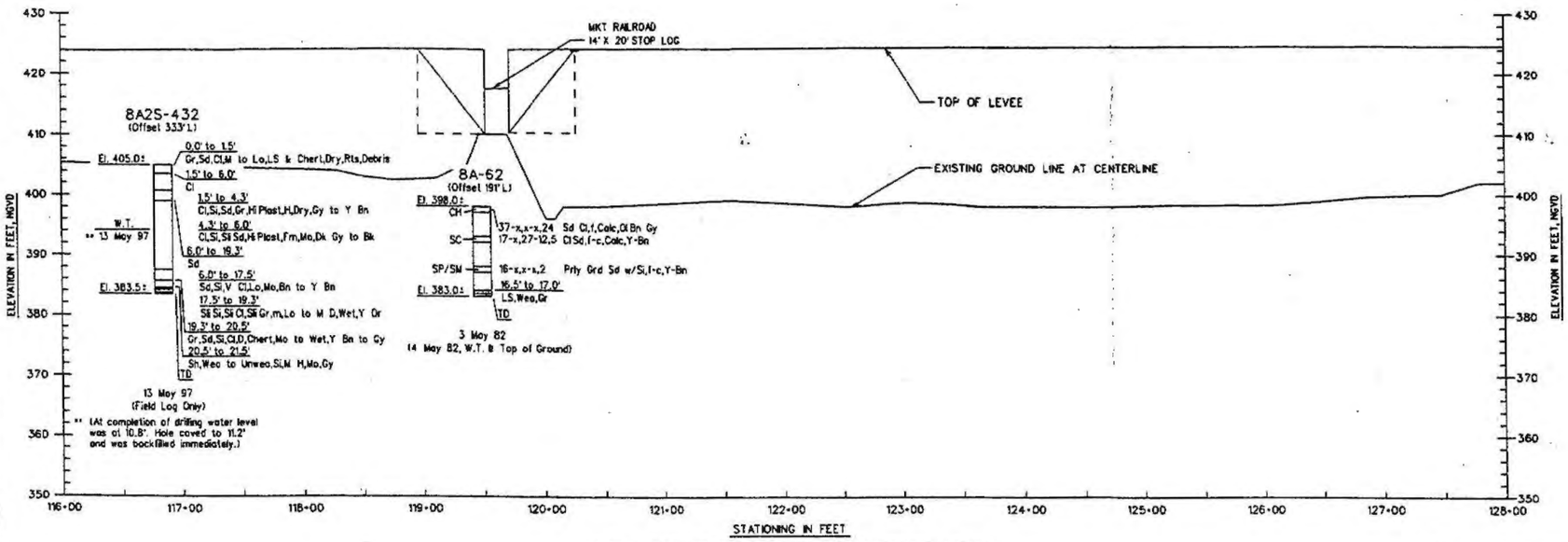
DGFTB2.DGN	SHEET BORDER & TITLE BLOCK
REFERENCE FILE NAME	REFERENCE FILE DESCRIPTION

CADD FILE NAME: GDFEISPB.DGN



SUBSURFACE PROFILE ALONG LAMAR STREET LEVEE

(STATION 100+00 TO 116+00)



SUBSURFACE PROFILE ALONG LAMAR STREET LEVEE

(STATION 116+00 TO 128+00)

NOTES:

1. FOR BORING LOCATIONS, SEE DRAWING NO. B1 THROUGH B3.
2. FOR LEGEND AND GENERAL NOTES, SEE DRAWING B9.
3. USE THESE SHEETS FOR PROJECT "CONCEPT", ONLY. MINOR VARIATIONS EXIST BETWEEN THE PROJECT FEATURES SHOWN AND THE PROJECT LAYOUT AND DESIGN AS CURRENTLY FORMULATED. REFER TO CIVIL/STRUCTURAL DESIGN AND RELOCATIONS APPENDIX FOR CORRECT LAYOUT.

10 0 10 20
VERTICAL SCALE IN FEET

50 0 50 100
HORIZONTAL SCALE IN FEET

SYM	D.O. NO.	ACTION	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION
CIVIL PLANNING AND ENGINEERING BRANCH

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: K. MILLER
DRAWN BY: K. MILLER
REVIEWED BY: J. HALL, J. DRAT

DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS
GENERAL REEVALUATION REPORT

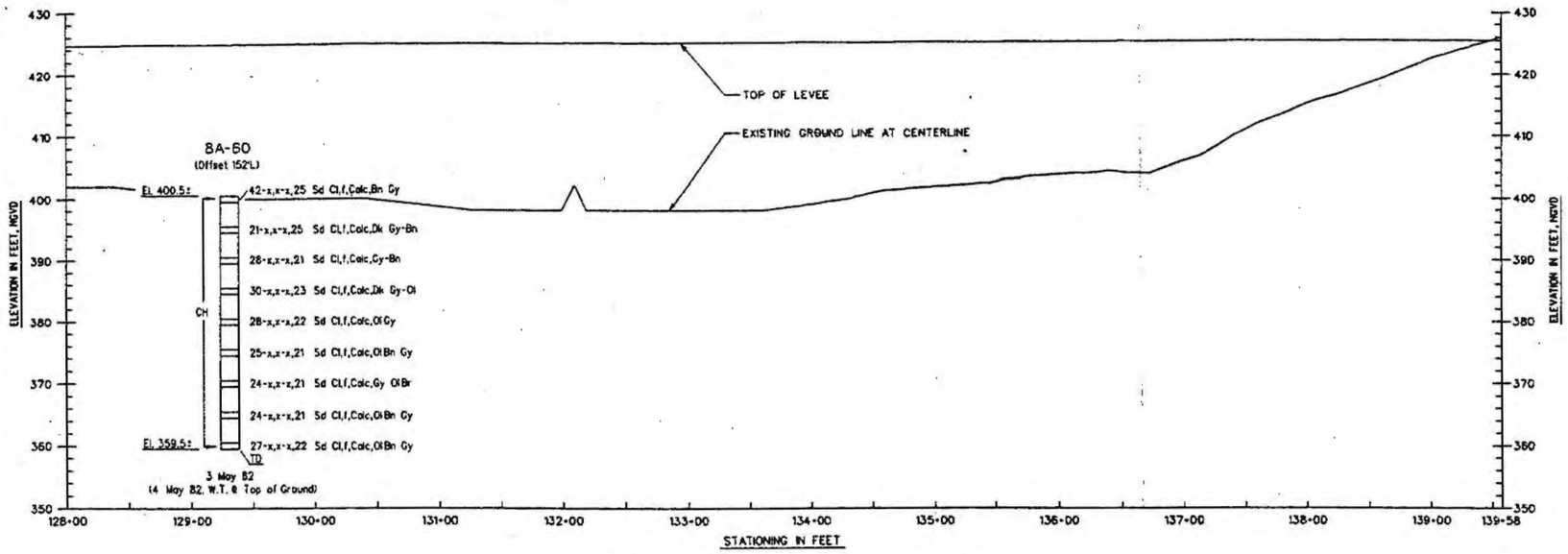
LAMAR STREET LEVEE
SUBSURFACE PROFILE
(STATION 100+00 TO 128+00)

SUBMITTED BY:
WILLIS L. WALKER, P.E.
CHIEF, GEOTECHNICAL SECTION

SOL. NO.
CONTR. NO.
DRAWING NUMBER
SHEET NO. B7 OF 16
DATED:
SEQUENCE NO.

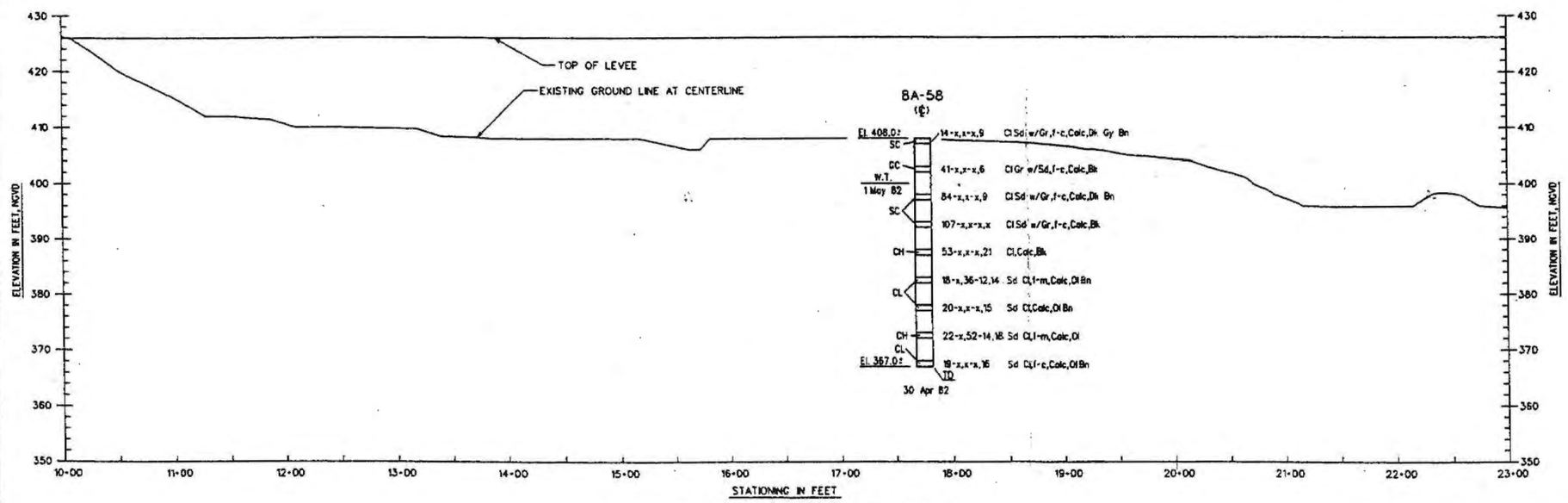
DGFETB2.DGN	SHEET BORDER & TITLE BLOCK
REFERENCE FILE NAME	REFERENCE FILE DESCRIPTION

CADD FILE NAME: GDFE1SPD.DGN



SUBSURFACE PROFILE ALONG LAMAR STREET LEVEE

(STATION 128+00 TO 139+58)



SUBSURFACE PROFILE ALONG LAMAR STREET LEVEE

(STATION 10+00 TO 23+00)

NOTES:

1. FOR BORING LOCATIONS, SEE DRAWING NO. B1 THROUGH B3.
2. FOR LEGEND AND GENERAL NOTES, SEE DRAWING B9.
3. USE THESE SHEETS FOR PROJECT "CONCEPT", ONLY. MINOR VARIATIONS EXIST BETWEEN THE PROJECT FEATURES SHOWN AND THE PROJECT LAYOUT AND DESIGN AS CURRENTLY FORMULATED. REFER TO CIVIL/STRUCTURAL DESIGN AND RELOCATIONS APPENDIX FOR CORRECT LAYOUT.

10 0 10 20
VERTICAL SCALE IN FEET

50 0 50 100
HORIZONTAL SCALE IN FEET

SYM	I.D. NO.	ACTION	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION
CIVIL PLANNING AND ENGINEERING BRANCH

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

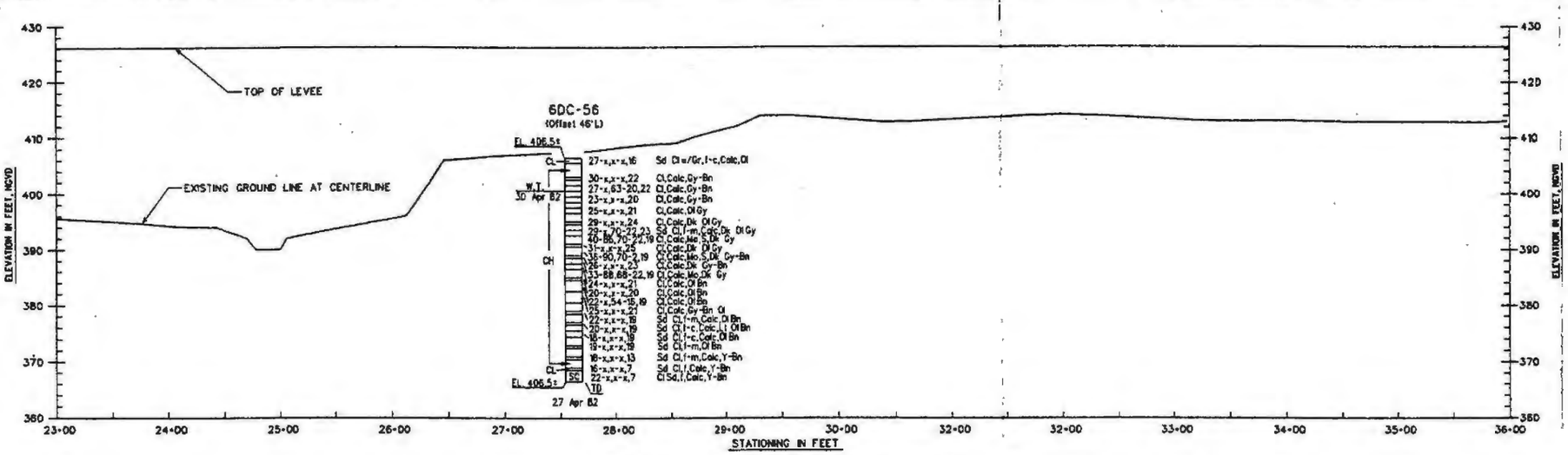
DESIGNED BY: K. MILLER
DRAWN BY: K. MILLER
REVIEWED BY: J. HALL, J. DRIVAT

DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS
GENERAL REEVALUATION REPORT
LAMAR STREET LEVEE
SUBSURFACE PROFILE
(STATION 128+00 TO 139+58)
(STATION 10+00 TO 23+00))

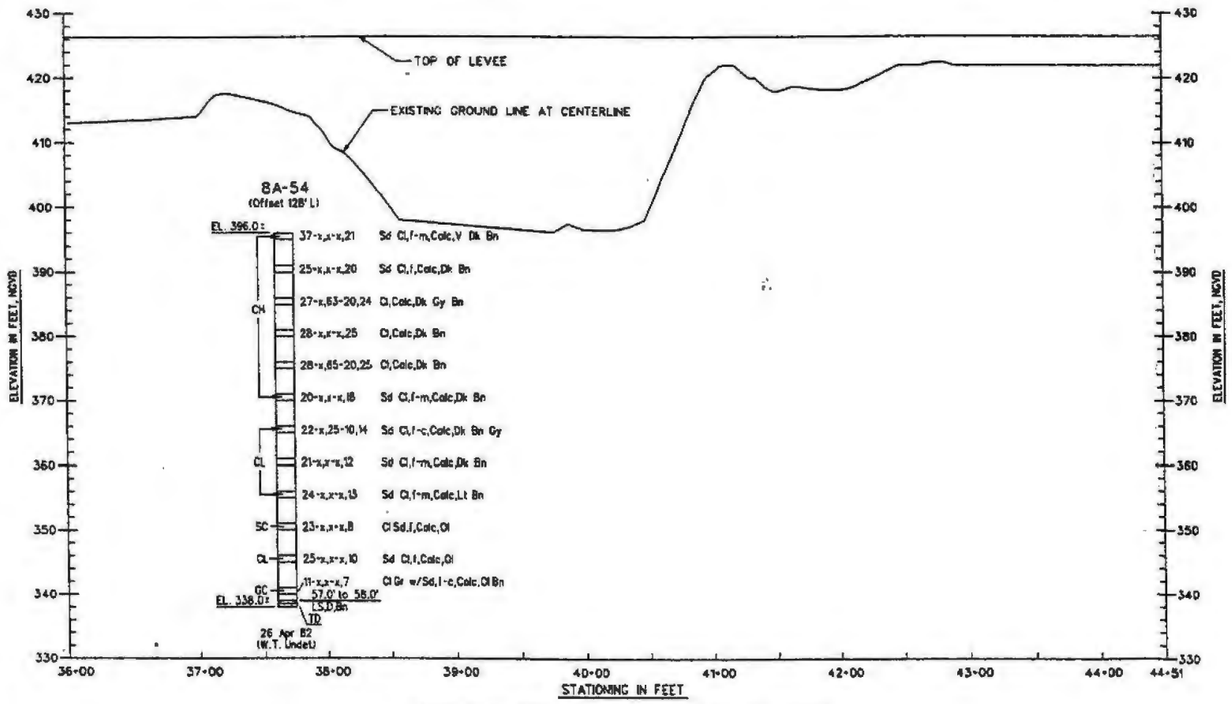
SUBMITTED BY:
WILLIS L. WALKER, P.E.
CHIEF, GEOTECHNICAL SECTION

SOL. NO.
CONTR. NO.
DRAWING NUMBER
SHEET NO. B8 OF 16
DATED:
SEQUENCE NO.

GDFE1B2.DGN | SHEET BORDER & TITLE BLOCK
REFERENCE FILE NAME | REFERENCE FILE DESCRIPTION
CADD FILE NAME: GDFE1SPE.DGN



SUBSURFACE PROFILE ALONG LAMAR STREET LEVEE
(STATION 23+00 TO 36+00)



SUBSURFACE PROFILE ALONG LAMAR STREET LEVEE
(STATION 36+00 TO 44+51)

Abbreviations Used in Visual Descriptions

Cl	Clay or Clayey	Arg	Argillaceous
Sd	Sand or Sandy	Cal	Calcite
Gr	Gravel or Gravelly	Rts	Roots
Li	Lime or Limey	R	Right
Si	Silt or Silty	L	Left
LS	Limestone	TD	Total Depth
Sh	Shale	W.T.	Water Table
SS	Siltstone	Undet	Undetermined
Wea	Weathered	Wtr	Water
Plast	Plasticity	Enc	Encountered
Calc	Calcareous	Cha	Chalky
Sli	Slightly	Tr	Trace
Hi	High or Highly	She	Shells
S	Stiff	Sat	Saturated
Mo	Moist	Org	Organic
V	Very	Mtl	Material
M or m	Medium	Mod	Moderately
f	Fine	Conc	Concrete
c	Coarse	Cob	Cobbles
H	Hard	Lim	Limonite
Lo	Loose	Blky	Blocky
D	Dense	Struc	Structure
So	Soft	Frag	Fragments
Sm	Seam or Seams	Lt	Light
Prly	Poorly	Pa	Pale
Grd	Graded	Bk	Black
Scat	Scattered	Bn	Brown
Cem	Cemented	Y	Yellow
Stn	Stain or Stained	Gy	Gray
Fm	Firm	Rd	Red
Gast	Gastropod	Wh	White
Nod	Nodules	Bl	Blue
Lns	Lenses	Ol	Olive
Aren	Arenaceous	Or	Orange

General Notes:

1. For boring locations, see Sheet No. B1 through B3.
2. Boring offsets (R or L) shown are measured from the centerline facing upstation.
3. The date the boring was completed is shown at the bottom of the log.
4. Numbers listed at the right of the boring logs represent the results of laboratory testing conducted on samples obtained from the approximate depth at which the numbers are shown. The types of laboratory test results presented are moisture (water) content (MC), dry density (UDW), liquid limit (LL), plastic limit (PL), and bar linear shrinkage (BLS). To determine what test results are shown, one must observe the position arrangement of numbers and match them exactly to the following example: MC-UDW-LL-PL-BLS. An "x" at any position in the sequence indicates no information presented.
5. Overburden descriptons are in accordance with laboratory test results (lab logs) unless otherwise indicated. Primary descriptions are in accordance with field logs unless otherwise indicated.
6. The bar linear shrinkage (BLS) test yields a percent shrinkage that correlates approximately with the liquid limit (LL) of clays.
7. Absence of ground water levels opposite boring logs does not necessarily mean that ground water will not be encountered at the location or within the vertical reaches of the boring.
8. Use these sheets for project "concept", only. Minor variations exist between the project features shown and the project layout and design as currently formulated. Refer to Civil/Structural Design and Relocations appendix for correct layout.

Stratigraphic Classification

Sh Shale

LS Limestone

Laboratory Classification

See ASTM D 2487 for complete details on the Unified Soils Classification System.

10 0 10 20
VERTICAL SCALE IN FEET

50 0 50 100
HORIZONTAL SCALE IN FEET

SYM	D.O. NO.	ACTION	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION
CIVIL PLANNING AND ENGINEERING BRANCH

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: K. MILLER
DRAWN BY: K. MILLER
REVIEWED BY: J. HALL, J. DRIVAT

DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS
GENERAL REEVALUATION REPORT

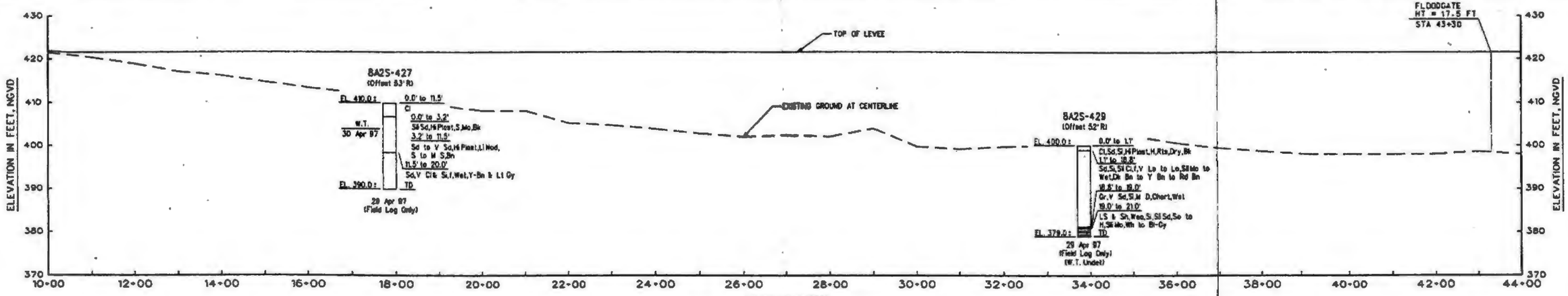
LAMAR STREET LEVEE
SUBSURFACE PROFILE
(STATION 23+00 TO 44+51)

SUBMITTED BY:
WILLIS L. WALKER, P.E.
CHIEF, GEOTECHNICAL SECTION

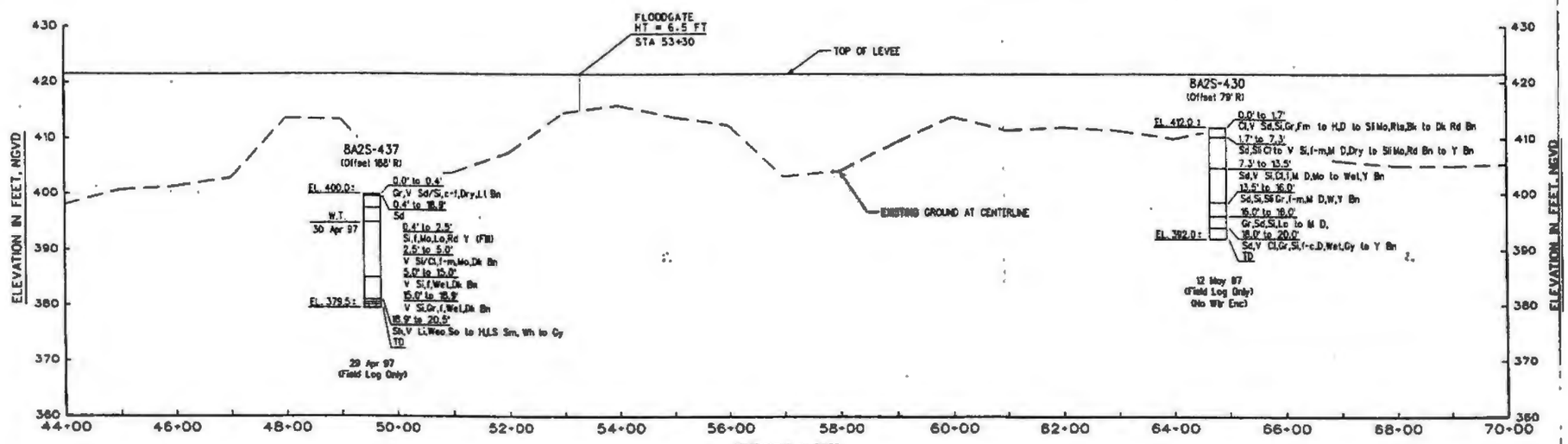
SOL. NO. | DATED:
CONTR. NO.
DRAWING NUMBER | SHEET NO. B9 OF 16 | SEQUENCE NO.

DDFE1B2.DGN	SHEET BORDER & TITLE BLOCK
REFERENCE FILE NAME	REFERENCE FILE DESCRIPTION

CADD FILE NAME: DDFE1SPF.DGN



SUBSURFACE PROFILE ALONG CADILLAC HEIGHTS LEVEE
(STATIONS 10+00 TO 44+00)



SUBSURFACE PROFILE ALONG CADILLAC HEIGHTS LEVEE
(STATIONS 44+00 TO 70+00)

NOTES:

1. FOR BORING LOCATIONS, SEE DRAWING NO. B1 THROUGH B3.
2. FOR LEGEND AND GENERAL NOTES, SEE DRAWING B9.
3. USE THESE SHEETS FOR PROJECT "CONCEPT", ONLY. MINOR VARIATIONS EXIST BETWEEN THE PROJECT FEATURES SHOWN AND THE PROJECT LAYOUT AND DESIGN AS CURRENTLY FORMULATED. REFER TO CIVIL/STRUCTURAL DESIGN AND RELOCATIONS APPENDIX FOR CORRECT LAYOUT.

10 0 10 20
VERTICAL SCALE IN FEET
100 0 100 200
HORIZONTAL SCALE IN FEET

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION
CIVIL PLANNING AND ENGINEERING BRANCH

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: K. MILLER
DRAWN BY: K. MILLER
REVIEWED BY: J. HALL, J. GRAY

DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS
GENERAL REEVALUATION REPORT

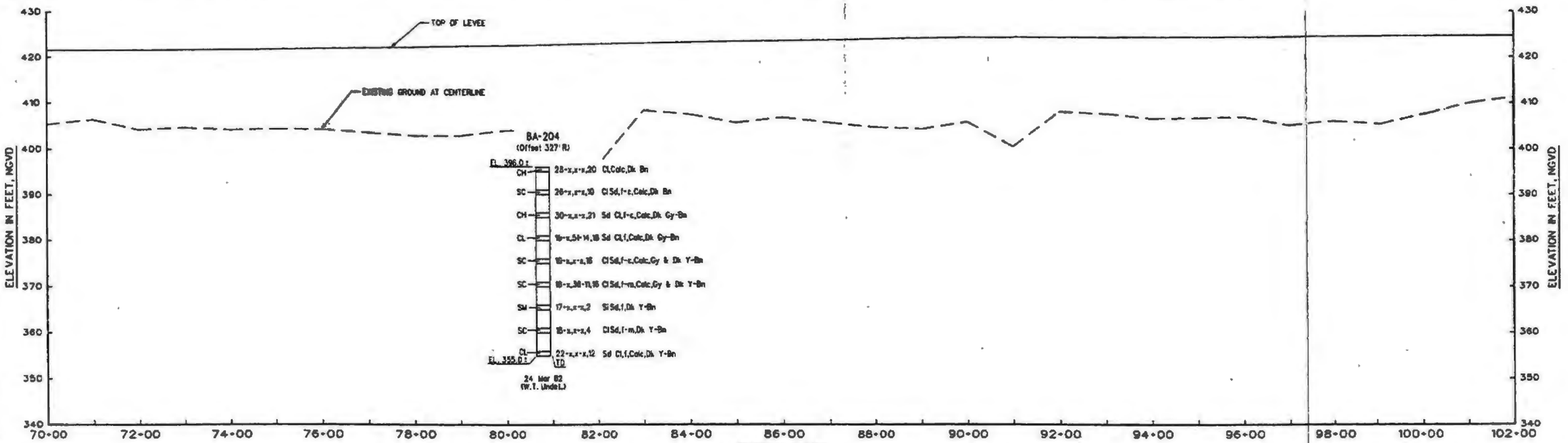
CADILLAC HEIGHTS LEVEE
SUBSURFACE PROFILE
(STATIONS 10+00 THRU 70+00)

SUBMITTED BY:
WILLIS L. WALKER, P.E.
CHIEF, GEOTECHNICAL SECTION

SOL. NO. | DATED:
CONTR. NO. | SEQUENCE NO.
DRAWING NUMBER | SHEET NO. B10 OF 16

DGFE192.DGN	SHEET BORDER & TITLE BLOCKS
REFERENCE FILE NAME	REFERENCE FILE DESCRIPTION

CADD FILE NAME: GDFE2SPA.DGN



SUBSURFACE PROFILE ALONG CADILLAC HEIGHTS LEVEE

(STATIONS 70+00 THRU 102+00)

SUBSURFACE PROFILE ALONG CADILLAC HEIGHTS LEVEE

(STATIONS 102+00 THRU 130+00)

NOTES:

1. FOR BORING LOCATIONS, SEE DRAWING NO. B1 THROUGH B3.
2. FOR LEGEND AND GENERAL NOTES, SEE DRAWING B9.
3. USE THESE SHEETS FOR PROJECT "CONCEPT". ONLY MINOR VARIATIONS EXIST BETWEEN THE PROJECT FEATURES SHOWN AND THE PROJECT LAYOUT AND DESIGN AS CURRENTLY FORMULATED. REFER TO CIVIL/STRUCTURAL DESIGN AND RELOCATIONS APPENDIX FOR CORRECT LAYOUT.

10 0 10 20
VERTICAL SCALE IN FEET

100 0 100 200
HORIZONTAL SCALE IN FEET

SYM	D.R. NO.	ACTION	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION
CIVIL PLANNING AND ENGINEERING BRANCH

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: C. MILLER
DRAWN BY: K. MILLER
REVIEWED BY: J. HALL, J. GERAU

DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS
GENERAL REEVALUATION REPORT

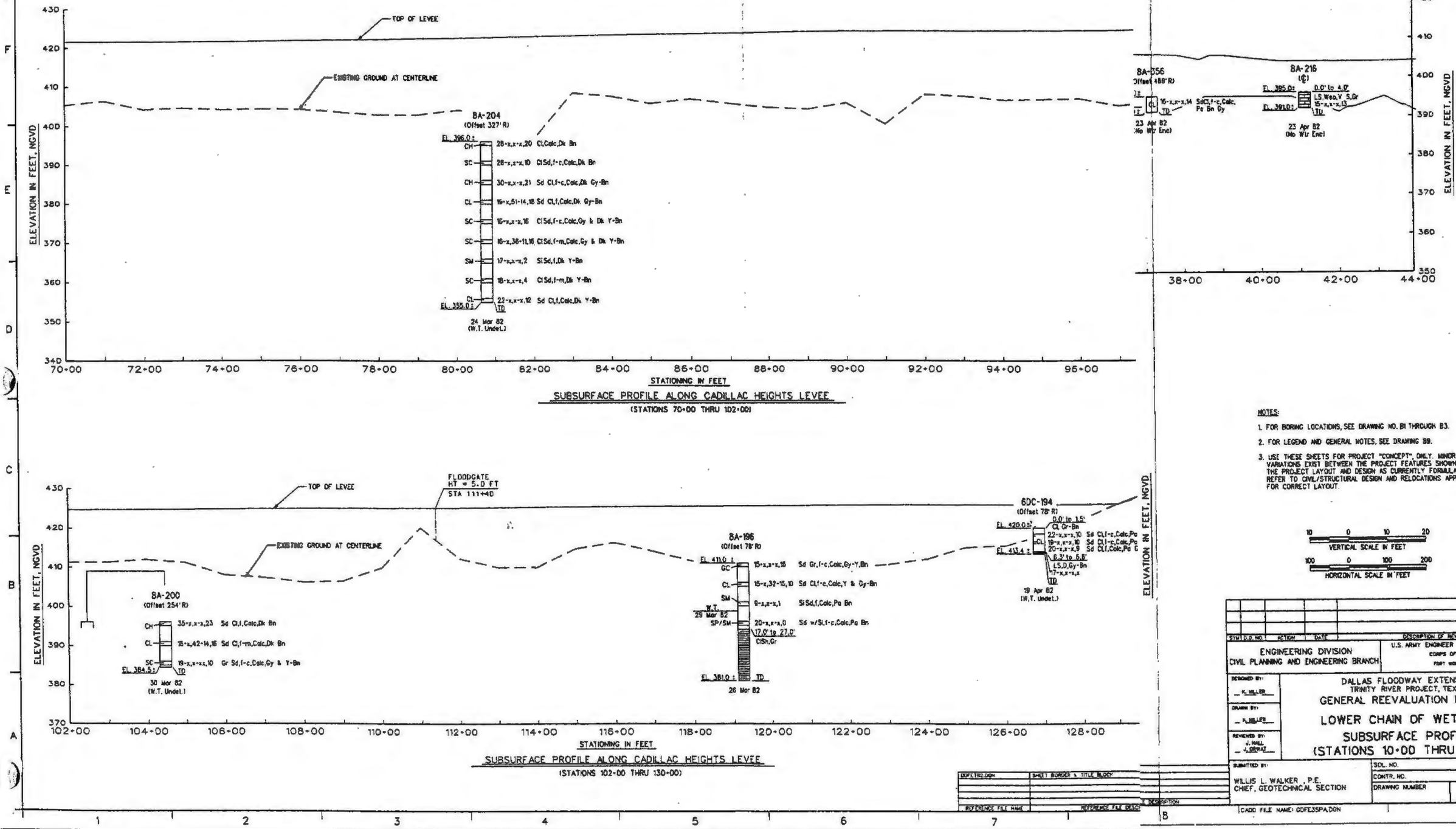
CADILLAC HEIGHTS LEVEE SUBSURFACE PROFILE (STATIONS 70+00 THRU 130+00)

SUBMITTED BY:
WILLIS L. WALKER, P.E.
CHIEF, GEOTECHNICAL SECTION

SOL. NO.
DATED:
CONTR. NO.
SEQUENCE NO.
DRAWING NUMBER
SHEET NO. B11 OF 16

DGFILE1.DGN | SHEET BORDER & TITLE BLOCK
REFERENCE FILE NAME | REFERENCE FILE DESCRIPTION

CADD FILE NAME: GDFE2SP8.DGN



SUBSURFACE PROFILE ALONG CADILLAC HEIGHTS LEVEE
(STATIONS 70+00 THRU 102+00)

SUBSURFACE PROFILE ALONG CADILLAC HEIGHTS LEVEE
(STATIONS 102+00 THRU 130+00)

NOTES:

1. FOR BORING LOCATIONS, SEE DRAWING NO. B1 THROUGH B3.
2. FOR LEGEND AND GENERAL NOTES, SEE DRAWING B9.
3. USE THESE SHEETS FOR PROJECT "CONCEPT" ONLY. MINOR VARIATIONS EXIST BETWEEN THE PROJECT FEATURES SHOWN AND THE PROJECT LAYOUT AND DESIGN AS CURRENTLY FORMULATED. REFER TO CIVIL/STRUCTURAL DESIGN AND RELOCATIONS APPENDIX FOR CORRECT LAYOUT.

VERTICAL SCALE IN FEET
HORIZONTAL SCALE IN FEET

STM D.O. NO.	ACTION	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION
CIVIL PLANNING AND ENGINEERING BRANCH

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

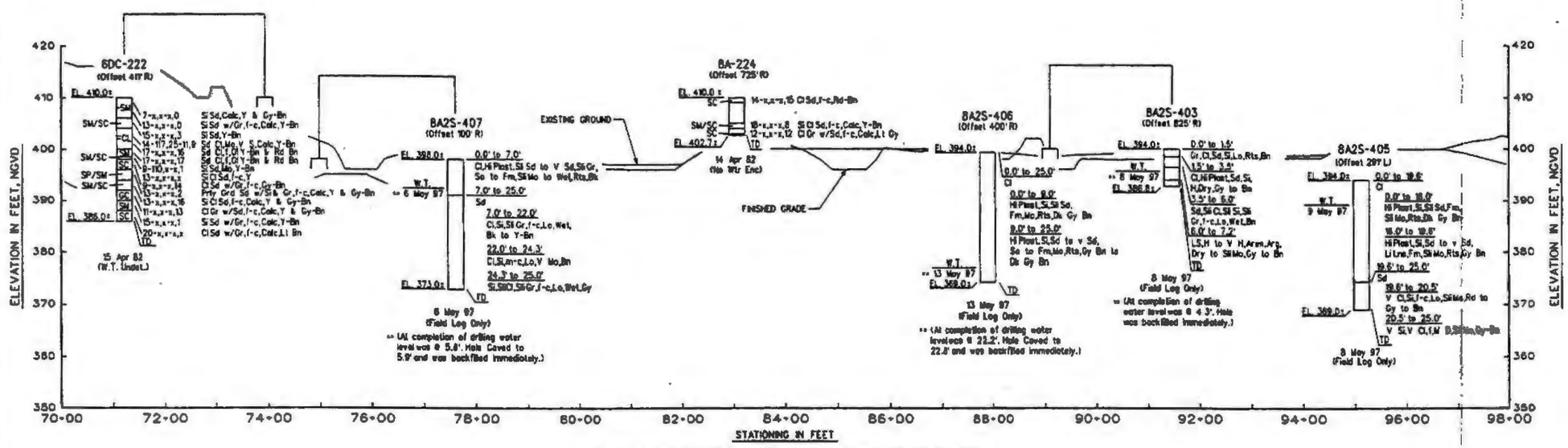
DESIGNED BY: K. MILLER
DRAWN BY: K. MILLER
REVIEWED BY: J. HALL, J. DRAKE

DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS
GENERAL REEVALUATION REPORT
LOWER CHAIN OF WETLANDS
SUBSURFACE PROFILE
(STATIONS 10+00 THRU 70+00)

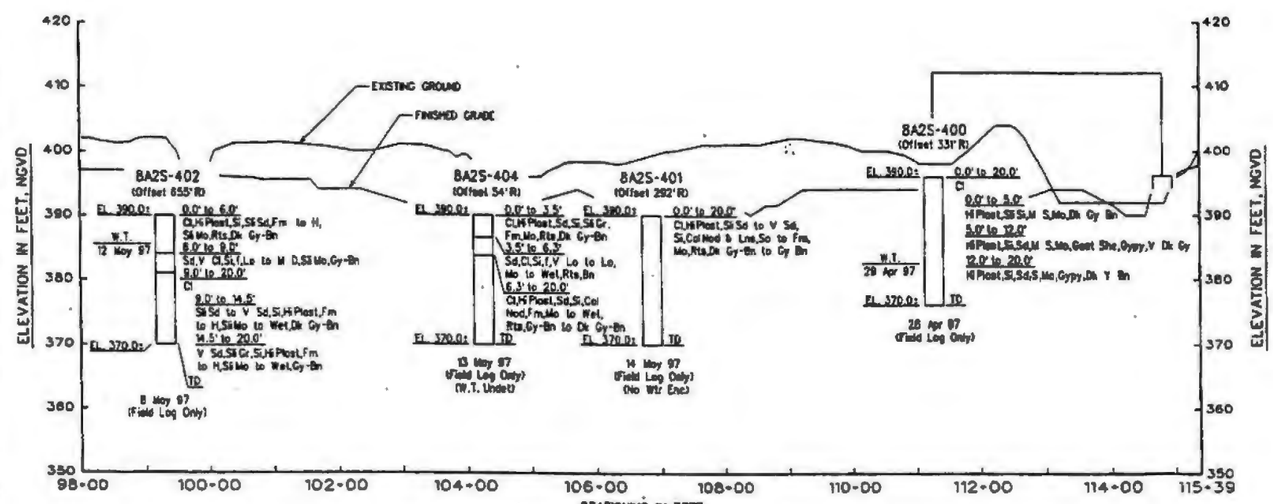
SUBMITTED BY:
WILLIS L. WALKER, P.E.
CHIEF, GEOTECHNICAL SECTION

SOL. NO. | DATED:
CONTR. NO. | SEQUENCE NO.
DRAWING NUMBER | SHEET NO. B12 OF 16

DGN FILE: DGN | SHEET BORDER & TITLE BLOCK
REFERENCE FILE NAME | REFERENCE FILE DESC.
CADD FILE NAME: GDFE35PA.DGN



SUBSURFACE PROFILE ALONG LOWER CHAIN OF WETLANDS
(STATION 70+00 TO 98+00)



SUBSURFACE PROFILE ALONG LOWER CHAIN OF WETLANDS
(STATION 98+00 TO 115+39)

NOTES:

1. FOR BORING LOCATIONS, SEE DRAWING NO. B1 THROUGH B3.
2. FOR LEGEND AND GENERAL NOTES, SEE DRAWING B0
3. USE THESE SHEETS FOR PROJECT "CONCEPT" ONLY. MINOR VARIATIONS EXIST BETWEEN THE PROJECT FEATURES SHOWN AND THE PROJECT LAYOUT AND DESIGN AS CURRENTLY FORMULATED. REFER TO CIVIL/STRUCTURAL DESIGN AND RELOCATIONS APPENDIX FOR CORRECT LAYOUT.

VERTICAL SCALE IN FEET
HORIZONTAL SCALE IN FEET

SYMBOL NO.	NO.	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION
CIVIL PLANNING AND ENGINEERING BRANCH

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY:
DRAWN BY:
REVIEWED BY:

DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS

GENERAL REEVALUATION REPORT

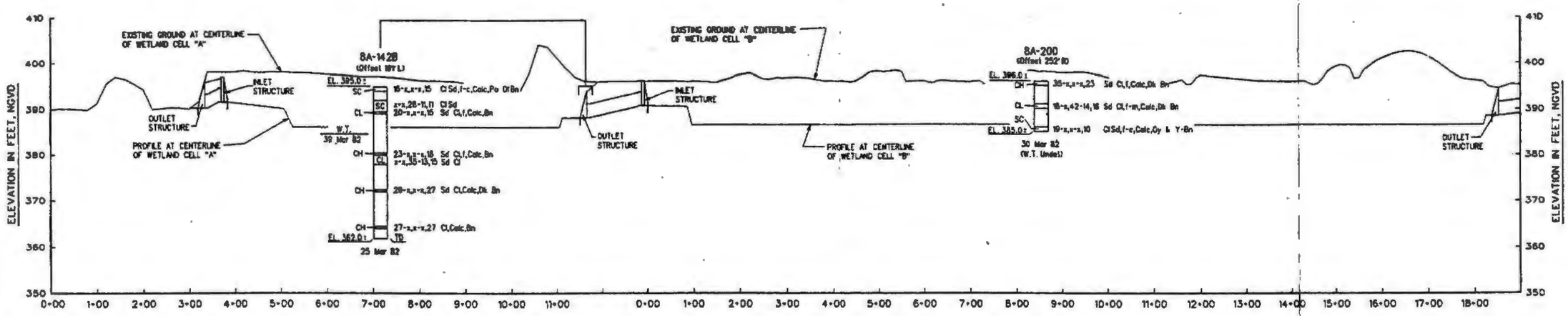
LOWER CHAIN OF WETLANDS
SUBSURFACE PROFILE
(STATIONS 70+00 THRU 115+39)

SUBMITTED BY:
WILLIS L. WALKER, P.E.
CHIEF, GEOTECHNICAL SECTION

SOL. NO. | DATED
CONTR. NO.
DRAWING NUMBER | SHEET NO. B13 OF 16 | SEQUENCE NO.

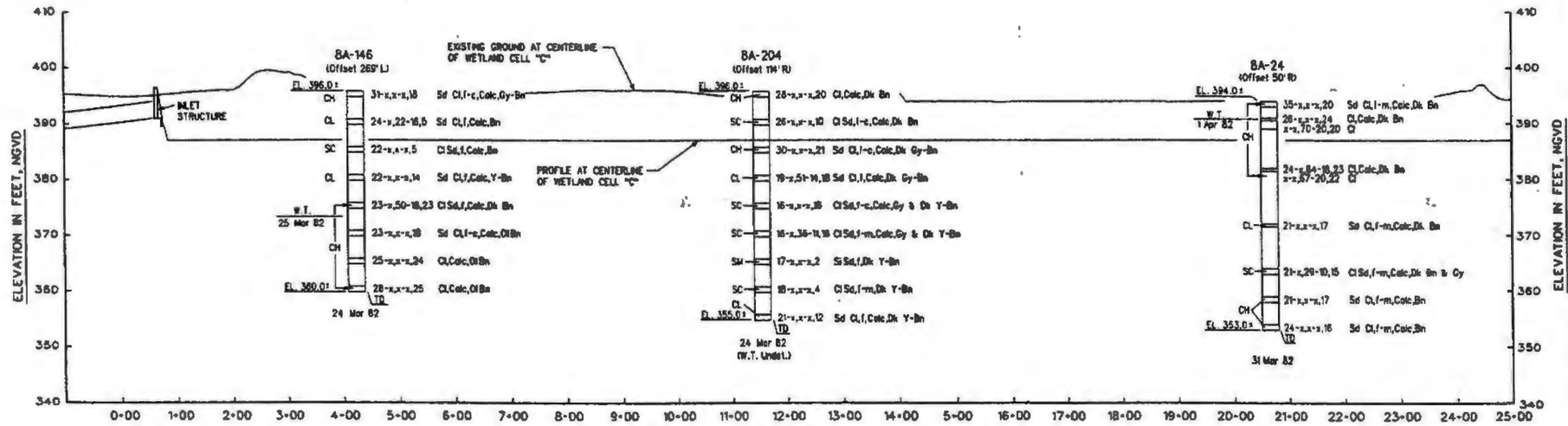
ODFE35DB0 | SHEET BORDER & TITLE BLOCK
REFERENCE FILE NAME | REFERENCE FILE DESCRIPTION

CADD FILE NAME: ODFE35PB1.DGN



SUBSURFACE PROFILE ALONG UPPER CHAIN OF WETLANDS

(WETLAND CELL "A" - STA 0+00 TO 11+00)
(WETLAND CELL "B" - STA 0+00 TO 18+00)



SUBSURFACE PROFILE ALONG UPPER CHAIN OF WETLANDS

(WETLAND CELL "C" - STA 0+00 THRU 25+00)

NOTES:

1. FOR BORING LOCATIONS, SEE DRAWING NO. B1 THROUGH B3.
2. FOR LEGEND AND GENERAL NOTES, SEE DRAWING B9.
3. USE THESE SHEETS FOR PROJECT "CONCEPT", ONLY. MINOR VARIATIONS EXIST BETWEEN THE PROJECT FEATURES SHOWN AND THE PROJECT LAYOUT AND DESIGN AS CURRENTLY FORMULATED. REFER TO CIVIL/STRUCTURAL DESIGN AND RELOCATIONS APPENDIX FOR CORRECT LAYOUT.

10 0 10 20
VERTICAL SCALE IN FEET

100 0 100 200
HORIZONTAL SCALE IN FEET

SYM	D.O. NO.	ACTION	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION
CIVIL PLANNING AND ENGINEERING BRANCH

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: K. MILLER
DRAWN BY: K. MILLER
REVIEWED BY: J. HALL, J. DUNCAN

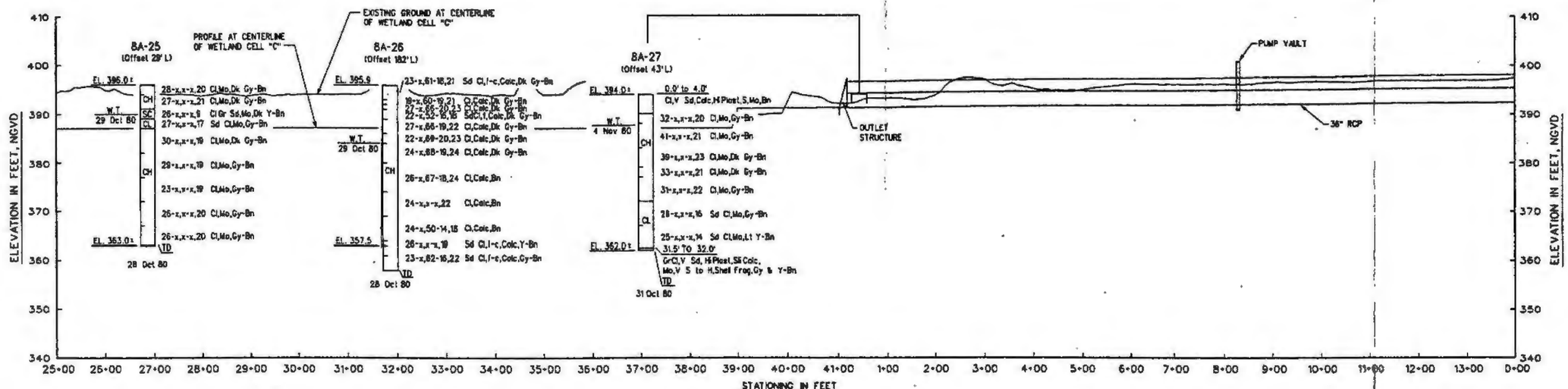
DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS
GENERAL REEVALUATION REPORT
UPPER CHAIN OF WETLANDS
SUBSURFACE PROFILE
(WETLAND A - STA 0+00 TO 11+00)
(WETLAND B - STA 0+00 TO 18+00)
(WETLAND C - STA 0+00 TO 25+00)

SUBMITTED BY:
WILLIS L. WALKER, P.E.
CHIEF, GEOTECHNICAL SECTION

SOL. NO. | DATED:
CONTR. NO. | SEQUENCE NO.
DRAWING NUMBER | SHEET NO. 814 OF 16
CONTR. NO.

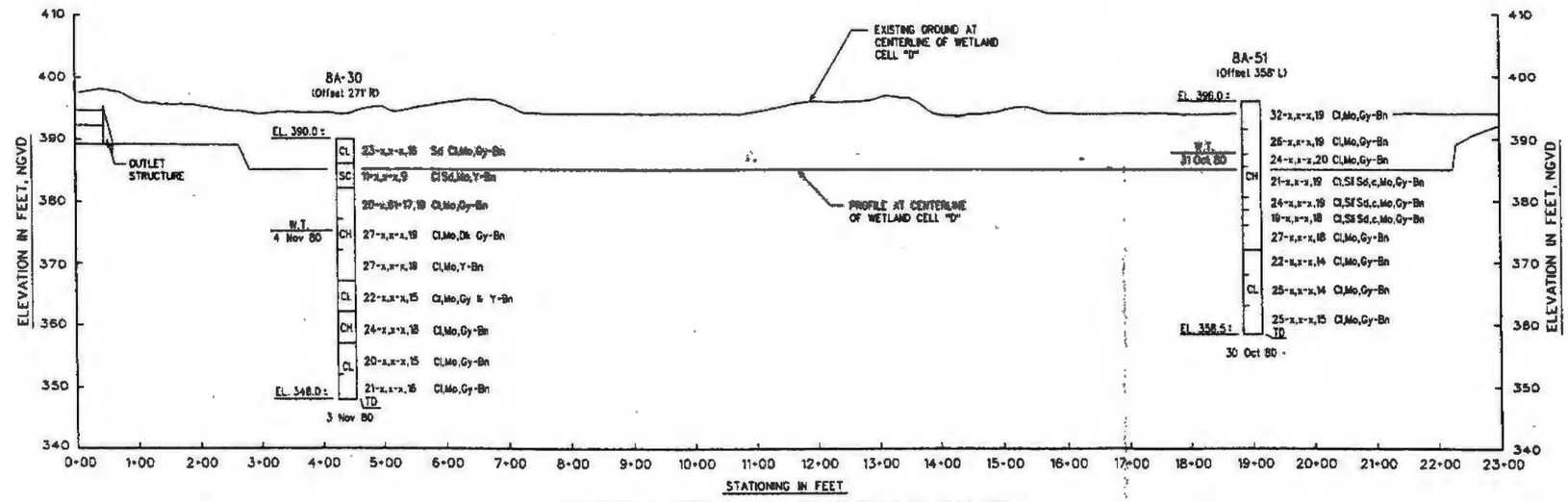
DGN FILE NAME | SHEET BORDER & TITLE BLOCK
REFERENCE FILE NAME | REFERENCE FILE DESCRIPTION

CADD FILE NAME: GDFE45PADGN



SUBSURFACE PROFILE ALONG UPPER CHAIN OF WETLANDS

(WETLAND C - STA. 25+00 TO 41+00)



SUBSURFACE PROFILE ALONG UPPER CHAIN OF WETLANDS

(WETLAND D - STA. 0+00 TO 23+00)

NOTES:

1. FOR BORING LOCATIONS, SEE DRAWING NO. B1 THROUGH B3.
2. FOR LEGEND AND GENERAL NOTES, SEE DRAWING B9.
3. USE THESE SHEETS FOR PROJECT "CONCEPT" ONLY. MINOR VARIATIONS EXIST BETWEEN THE PROJECT FEATURES SHOWN AND THE PROJECT LAYOUT AND DESIGN AS CURRENTLY FORMULATED. REFER TO CIVIL/STRUCTURAL DESIGN AND RELOCATIONS APPENDIX FOR CORRECT LAYOUT.

10 0 10 20
VERTICAL SCALE IN FEET

100 0 100 200
HORIZONTAL SCALE IN FEET

SYM	D.O. NO.	ACTION	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION
CIVIL PLANNING AND ENGINEERING BRANCH

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: K. MILLER
DRAWN BY: K. MILLER
REVIEWED BY: J. HALL, J. BROWN

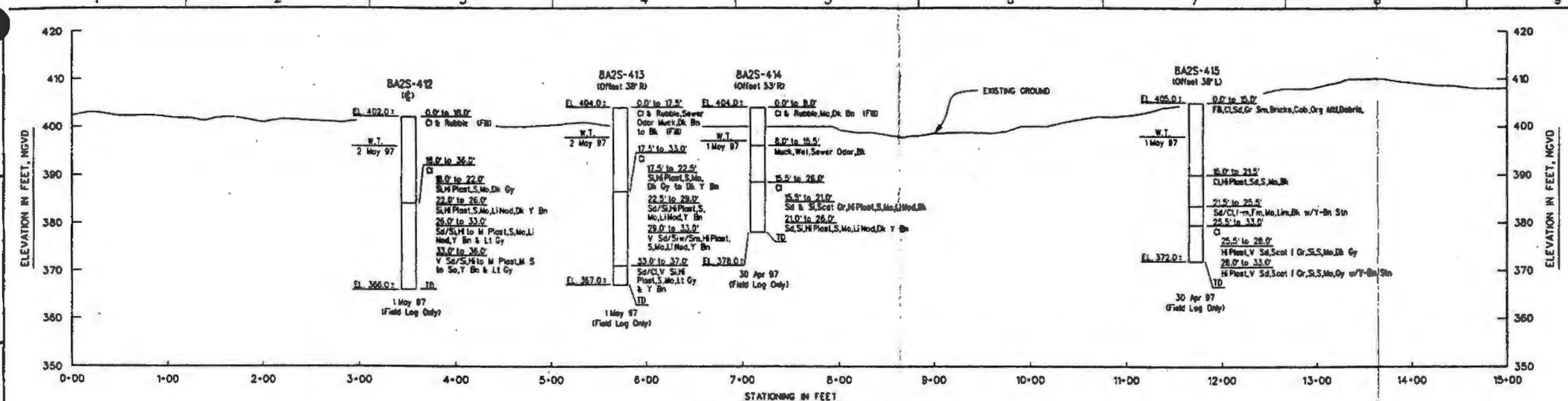
DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS
GENERAL REEVALUATION REPORT
UPSTREAM CHAIN OF WETLANDS
SUBSURFACE PROFILE
(WETLAND C - STA. 25+00 TO 41+00)
(WETLAND D - STA. 0+00 TO 23+00)

SUBMITTED BY:
WILLIS L. WALKER, P.E.
CHIEF, GEOTECHNICAL SECTION

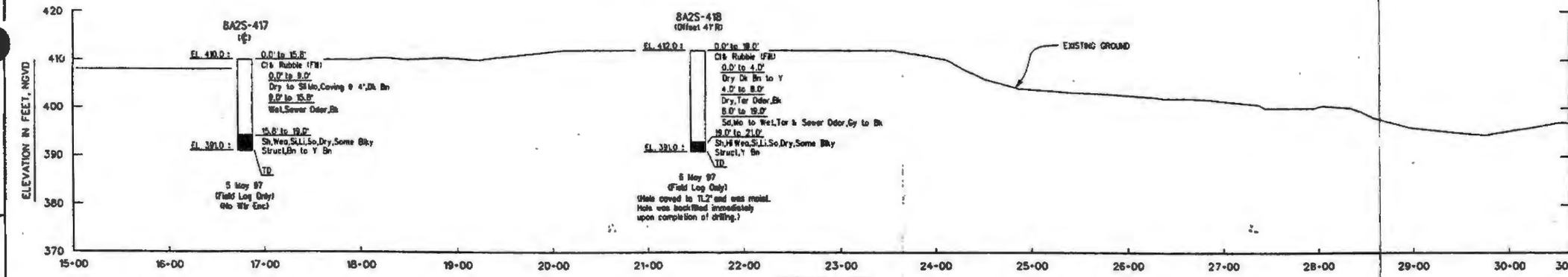
SOL. NO. | DATED:
CONTR. NO.
DRAWING NUMBER | SHEET NO. B15 OF 16 | SEQUENCE NO.

DGN FILE NAME	SHEET BORDER & TITLE BLOCK
REFERENCE FILE NAME	REFERENCE FILE DESCRIPTION

CADD FILE NAME: GDFE-GSFB.DGN



SUBSURFACE PROFILE ALONG SLURRY TRENCH
(STATION 0+00 TO 15+00)



SUBSURFACE PROFILE ALONG SLURRY TRENCH
(STATION 15+00 TO 30+64)

NOTES:

1. FOR BORING LOCATIONS, SEE DRAWING NO. B1 THROUGH B3.
2. FOR LEGEND AND GENERAL NOTES, SEE DRAWING B9.
3. USE THESE SHEETS FOR PROJECT "CONCEPT", ONLY. MINOR VARIATIONS EXIST BETWEEN THE PROJECT FEATURES SHOWN AND THE PROJECT LAYOUT AND DESIGN AS CURRENTLY FORMULATED. REFER TO CIVIL/STRUCTURAL DESIGN AND RELOCATIONS APPENDIX FOR CORRECT LAYOUT.

10 0 10 20
VERTICAL SCALE IN FEET

50 0 50 100
HORIZONTAL SCALE IN FEET

SYM	P.C. NO.	ACTION	DATE	DESCRIPTION OF REVISION

ENGINEERING DIVISION
CIVIL PLANNING AND ENGINEERING BRANCH

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: K. MILLER
DRAWN BY: K. MILLER
REVIEWED BY: J. HILL, J. GRIFFAT

DALLAS FLOODWAY EXTENSION
TRINITY RIVER PROJECT, TEXAS
GENERAL REEVALUATION REPORT
SLURRY TRENCH
SUBSURFACE PROFILE
(STATION 0+00 TO 30+64)

SUBMITTED BY:
WILLIS L. WALKER, P.E.
CHIEF, GEOTECHNICAL SECTION

SOL. NO. | DATED:
CONTR. NO. | SEQUENCE NO.
DRAWING NUMBER | SHEET NO. B16 OF 16

COPIED FROM | SHEET BORDER & TITLE BLOCK
REFERENCE FILE NAME | REFERENCE FILE DESCRIPTION

CADD FILE NAME: GDFESSPA.DGN