

NOTE: SEE SHEET 2A FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-2965	1	22
WS NO.	F.A. PROJ. NO.	DESCRIPTION	
32782.1.1	BRSTP-064B(2)	P.E.	
32782.2.2	BRSTP-064B(2)	R.O.W./UTILITIES	
32782.3.1	BRSTP-064B(2)	CONST.	

CONTENTS

LINE	STATION	PLAN	PROFILE
-L-	11+50 TO 46+00	4-6	8,9
-Y1-	12+50 TO 16+30	6	10
-Y2-	10+00 TO 13+15	6	11
-Y3-	11+50 TO 14+93	5	12
-Y4-	10+00 TO 18+00	5,7	13
-Y5-	10+00 TO 11+50	7	14
-Y6-	10+00 TO 11+00	4	15
-Y7-	11+50 TO 13+00	4	16
-Y8-	10+00 TO 11+00	4	17
-DRIVE-	10+00 TO 12+58	6	18
-R-	10+00 TO 12+51	6	19

CROSS SECTIONS	STATION	SHEET
-L-	27+00 TO 29+50	20-21
-L-	42+00 TO 43+00	22

ROADWAY
SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. 32782.1.1 (B-2965) F.A. PROJ. BRSTP-064B(1)
COUNTY EDGEcombe
PROJECT DESCRIPTION BRIDGE NO. 24 OVER THE TAR RIVER ON
US 64 BUSINESS NC 33 (MAIN ST.) FROM US 258 NC 111-122
(MUTUAL BLVD) TO SR 1308 (ALBERMARLE AVE)
INVENTORY

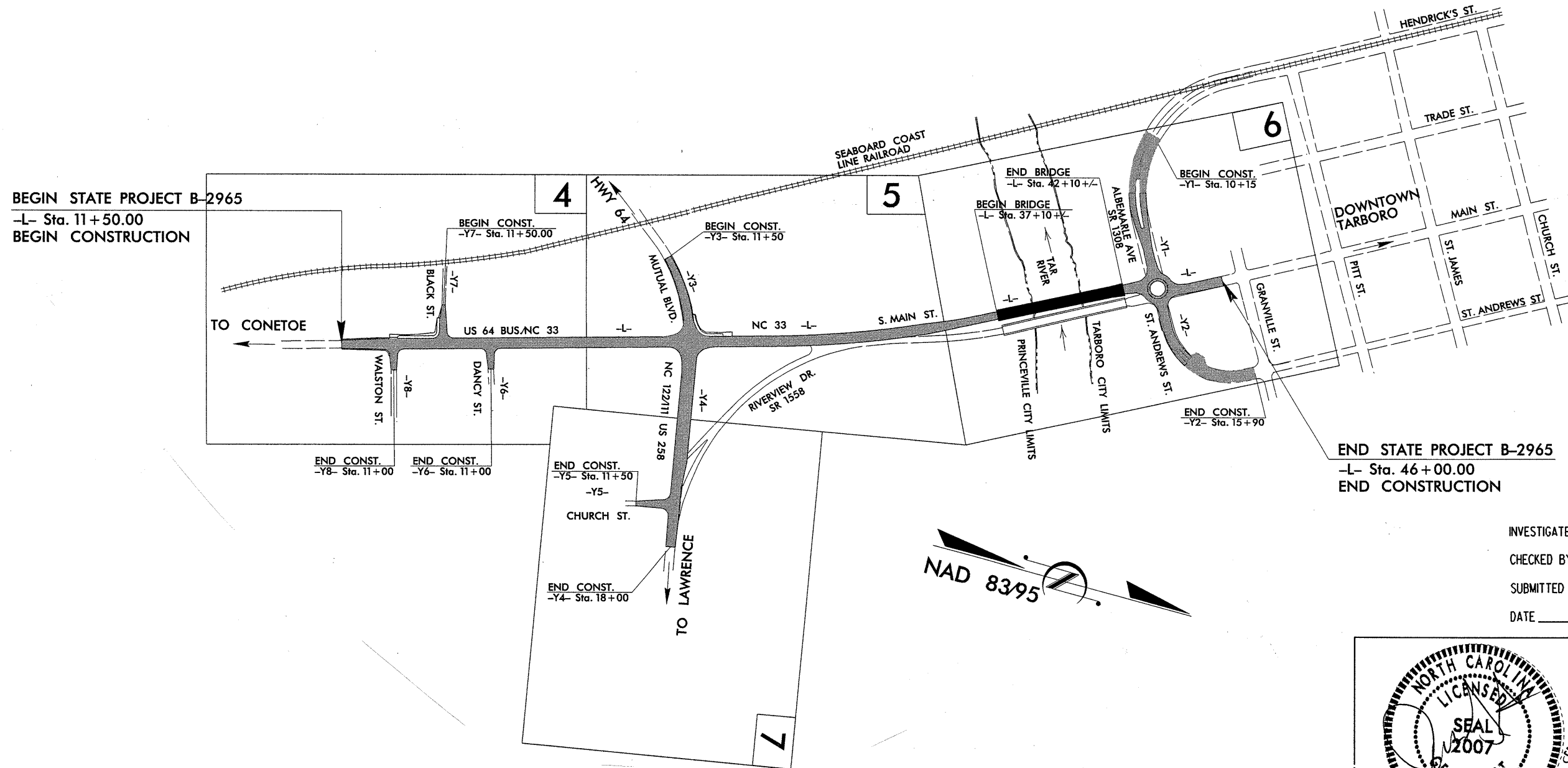
CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING, AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES, AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N.C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (919) 250-4088. NEITHER THE SUBSURFACE PLANS AND REPORTS, NOR THE FIELD BORING LOGS, ROCK CORES, OR SOIL TEST DATA ARE PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE, THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION, AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THIS PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

CONTRACT: C202039 ID: B-2965

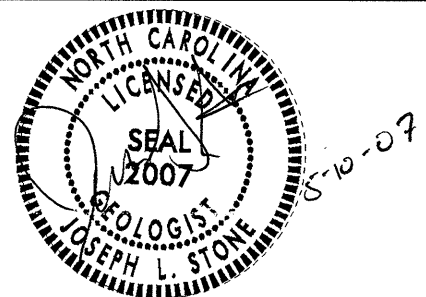


BEGIN STATE PROJECT B-2965
-L- Sta. 11 + 50.00
BEGIN CONSTRUCTION

END STATE PROJECT B-2965
-L- Sta. 46 + 00.00
END CONSTRUCTION

PERSONNEL
TJB
JRS
LWD

INVESTIGATED BY J.L. STONE
CHECKED BY D.N. ARGENBRIGHT
SUBMITTED BY D.N. ARGENBRIGHT
DATE MAY 2007



DRAWN BY: JLS, CMK

NOTE - THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N.C. DEPARTMENT OF TRANSPORTATION AS BEING ACCURATE NOR IS IT CONSIDERED TO BE PART OF THE PLANS, SPECIFICATIONS, OR CONTRACT FOR THE PROJECT.

NOTE - BY HAVING REQUESTED THIS INFORMATION THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

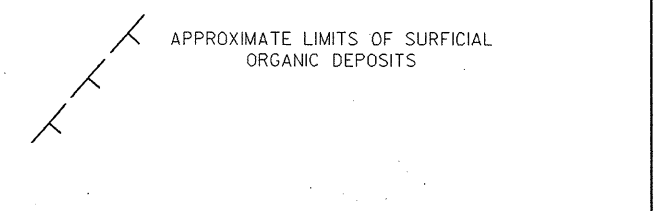
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

PROJECT REFERENCE NO. B-2965	SHEET NO. 2
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SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION	GRADATION	ROCK DESCRIPTION	TERMS AND DEFINITIONS
SOIL IS CONSIDERED TO BE THE UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER, AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO STANDARD PENETRATION TEST (AASHTO T206, ASTM D-1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY SHALL INCLUDE: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. EXAMPLE: <i>VERY STIFF, GRN, SKTY CLK, MOST WITH INTERBEDDED FINE SAND LAYERS, HIGH PLASTIC, A-7-6</i>	WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORM - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. (ALSO POORLY GRADED) GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLES OF TWO OR MORE SIZES. ANGULARITY OF GRAINS THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.	HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT IF TESTED, WOULD YIELD SPT REFUSAL, AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. IN NON-COASTAL PLAIN MATERIAL, THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS: NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED. FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC. FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC. COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.	ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. AQUIFER - A WATER BEARING FORMATION OR STRATA. ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND. ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, AS SHALE, SLATE, ETC. ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE. CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE. COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE. CORE RECOVERY (REC) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK. DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL. DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH. FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE. FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES. FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLOGGED FROM PARENT MATERIAL. FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM. FORMATION (FM) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD. JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED. LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT. LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS. MOTTLED (MOT) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM. RESIDUAL (RES) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK. ROCK QUALITY DESIGNATION (ROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. SAPROLITE (SAP) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK. SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (TS) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.
SOIL LEGEND AND AASHTO CLASSIFICATION	MINERALOGICAL COMPOSITION	WEATHERING	
GENERAL CLASS. GRANULAR MATERIALS (<= 35% PASSING #200) SILT-CLAY MATERIALS (> 35% PASSING #200) ORGANIC MATERIALS	MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHENEVER THEY ARE CONSIDERED OF SIGNIFICANCE.	FRESH - ROCK FRESH CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING, ROCK RINGS UNDER HAMMER IF CRYSTALLINE. VERY SLIGHT (V SL) - ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN, CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY, ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE. SLIGHT (SL) - ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED, CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS. MODERATE (MOD) - SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY. ROCK HAS DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED WITH FRESH ROCK. MODERATELY SEVERE (MOD. SEV) - ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES 'CLUNK' SOUND WHEN STRUCK. <i>IF TESTED, WOULD YIELD SPT REFUSAL</i> SEVERE (SEV) - ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT, SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. <i>IF TESTED, YIELDS SPT N VALUES > 100 BPF</i> VERY SEVERE (V SEV) - ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT THE MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE SUCH THAT ONLY MINOR VESTIGES OF THE ORIGINAL ROCK FABRIC REMAIN. <i>IF TESTED, YIELDS SPT N VALUES < 100 BPF</i> COMPLETE - ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.	
SOIL LEGEND AND AASHTO CLASSIFICATION	COMPRESSION	GROUND WATER	
GROUP CLASS. A-1, A-1.5, A-2, A-2.5, A-3, A-4, A-4.5, A-5, A-6, A-6.5, A-7, A-7.5, A-7.6, A-8	SLIGHTLY COMPRESSIBLE LIQUID LIMIT LESS THAN 31 MODERATELY COMPRESSIBLE LIQUID LIMIT EQUAL TO 31-50 HIGHLY COMPRESSIBLE LIQUID LIMIT GREATER THAN 50	WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING STATIC WATER LEVEL AFTER 24 HOURS PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA SPRING OR SEEP	
SOIL LEGEND AND AASHTO CLASSIFICATION	PERCENTAGE OF MATERIAL	MISCELLANEOUS SYMBOLS	
% PASSING: 10, 40, 200	ORGANIC MATERIAL GRANULAR SOILS SILT-CLAY SOILS OTHER MATERIAL TRACE OF ORGANIC MATTER 2-3% 3-5% TRACE 1-10% LITTLE ORGANIC MATTER 3-5% 5-12% LITTLE 10-20% MODERATELY ORGANIC 5-10% 12-20% SOME 20-35% HIGHLY ORGANIC >10% >20% HIGHLY 35% AND ABOVE	ROADWAY EMBANKMENT (RED) WITH SOIL DESCRIPTION SOIL SYMBOL ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT INFERRERD SOIL BOUNDARY INFERRERD ROCK LINE ALLUVIAL SOIL BOUNDARY DIP & DIP DIRECTION OF ROCK STRUCTURES SOUNDING ROD	SPT TEST BORING AUGER BORING CORE BORING MONITORING WELL PIEZOMETER INSTALLATION SLOPE INDICATOR INSTALLATION SPT N-VALUE SPT REFUSAL
SOIL LEGEND AND AASHTO CLASSIFICATION	GROUND WATER	ABBREVIATIONS	
LIQUID LIMIT PLASTIC INDEX GROUP INDEX USUAL TYPES OF MAJOR MATERIALS GEN. RATING AS A SUBGRADE	TRACE OF ORGANIC MATTER 2-3% 3-5% TRACE 1-10% LITTLE ORGANIC MATTER 3-5% 5-12% LITTLE 10-20% MODERATELY ORGANIC 5-10% 12-20% SOME 20-35% HIGHLY ORGANIC >10% >20% HIGHLY 35% AND ABOVE	AR - AUGER REFUSAL BT - BORING TERMINATED CL - CLAY CPT - CONE PENETRATION TEST CSE - COARSE DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST e - VOID RATIO F - FINE FOSS - FOSSILIFEROUS FRAC. - FRACTURED, FRACTURES FRAGS. - FRAGMENTS HI - HIGHLY MED. - MEDIUM MICA - MICACEOUS MOD. - MODERATELY NP - NON PLASTIC ORG. - ORGANIC PMT - PRESSUREMETER TEST SAP. - SAPROLITIC SD. - SAND, SANDY SL. - SILT, SILTY SLI - SLIGHTLY TCR - TRICONE REFUSAL w - MOISTURE CONTENT V - VEGETATION VST - VANE SHEAR TEST WEA. - WEATHERED w - UNIT WEIGHT w _d - DRY UNIT WEIGHT	
SOIL LEGEND AND AASHTO CLASSIFICATION	TEXTURE OR GRAIN SIZE	EQUIPMENT USED ON SUBJECT PROJECT	
U.S. STD. SIEVE SIZE OPENING (MM)	4 10 40 60 200 270 0.75 2.00 0.42 0.25 0.075 0.053	DRILL UNITS: MOBILE B- BK-51 CME-45C CME-550 PORTABLE HOIST CME-45B ADVANCING TOOLS: CLAY BITS 6" CONTINUOUS FLIGHT AUGER 8" HOLLOW AUGERS HARD FACED FINGER BITS TUNG-CARBIDE INSERTS CASING w/ ADVANCER TRICONE 2 1/8" STEEL TEETH TRICONE TUNG-CARB. CORE BIT HAMMER TYPE: AUTOMATIC MANUAL CORE SIZE: B N H HAND TOOLS: POST HOLE DIGGER HAND AUGER SOUNDING ROD VANE SHEAR TEST	
SOIL LEGEND AND AASHTO CLASSIFICATION	TEXTURE OR GRAIN SIZE	ROCK HARDNESS	
BOULDER (BLDR.) COBBLE (COB.) GRAVEL (GR.) COARSE SAND (CSE, SD.) FINE SAND (F SD.) SILT (SL.) CLAY (CL.)	GRAIN SIZE MM IN. 305 12 75 3 2.0 0.25 0.05 0.005	VERY HARD - CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK. HARD - CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY HARD - CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM HARD - CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT - CAN BE GROOVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY SOFT - CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.	
SOIL LEGEND AND AASHTO CLASSIFICATION	SOIL MOISTURE - CORRELATION OF TERMS	FRACTURE SPACING	
SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION GUIDE FOR FIELD MOISTURE DESCRIPTION	LL - LIQUID LIMIT PL - PLASTIC LIMIT OM - OPTIMUM MOISTURE SL - SHRINKAGE LIMIT - SATURATED - (SAT.) USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE - WET - (W) SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE - MOIST - (M) SOLID; AT OR NEAR OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE	TERM SPACING VERY WIDE MORE THAN 10 FEET WIDE 3 TO 10 FEET MODERATELY CLOSE 1 TO 3 FEET CLOSE 0.16 TO 1 FEET VERY CLOSE LESS THAN 0.16 FEET	
SOIL LEGEND AND AASHTO CLASSIFICATION	PLASTICITY	BEDDING	
NONPLASTIC LOW PLASTICITY MED. PLASTICITY HIGH PLASTICITY	PLASTICITY INDEX (PI) DRY STRENGTH VERY LOW SLIGHT MEDIUM HIGH	TERM THICKNESS VERY THICKLY BEDDED > 4 FEET THICKLY BEDDED 1.5 - 4 FEET THINLY BEDDED 0.16 - 1.5 FEET VERY THINLY BEDDED 0.03 - 0.16 FEET THICKLY LAMINATED 0.008 - 0.03 FEET THINLY LAMINATED < 0.008 FEET	
SOIL LEGEND AND AASHTO CLASSIFICATION	COLOR	INDURATION	
DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.		FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF THE MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC. FRIABLE RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE. MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER. INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER. EXTREMELY INDURATED SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.	



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

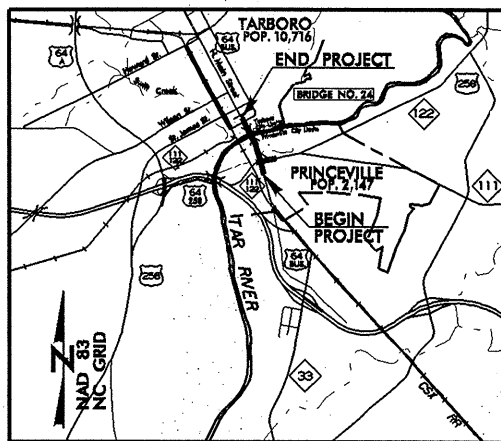
EDGECOMBE COUNTY

**LOCATION: BRIDGE NO. 24 OVER THE TAR RIVER ON
US 64 BUSINESS /NC 33 (MAIN ST.) FROM US 258/NC 111-122
(MUTUAL BLVD) TO SR 1308 (ALBEMARLE AVE)**

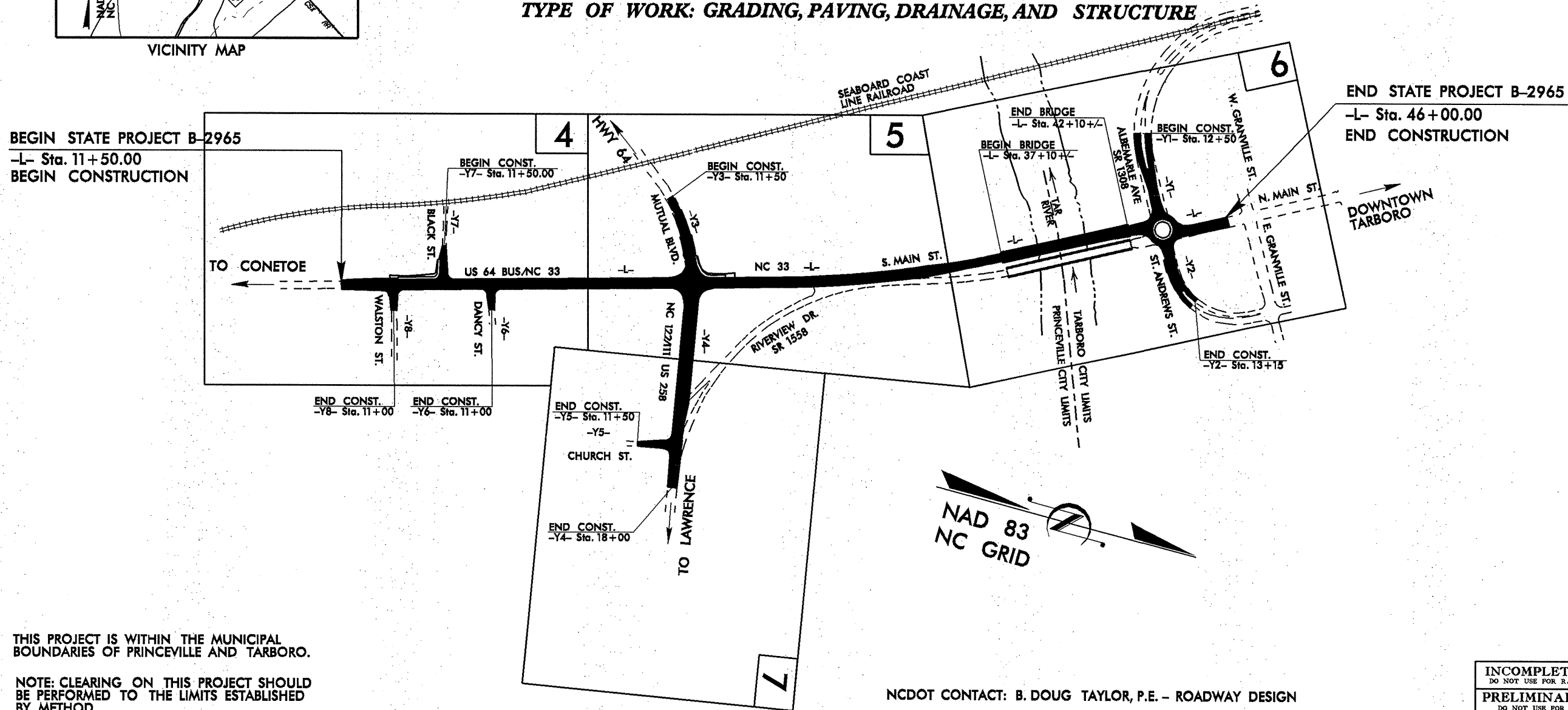
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-2965	2A	22
WBS NO.	P.A. PROJ. NO.	DESCRIPTION	
32782.1.1	BRSTP-064B(1)	P.E.	

TIP PROJECT: B-2965



VICINITY MAP



THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF PRINCEVILLE AND TARBORO.

NOTE: CLEARING ON THIS PROJECT SHOULD BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD _____.

NCDOT CONTACT: B. DOUG TAYLOR, P.E. - ROADWAY DESIGN

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:

<p>GRAPHIC SCALES</p> <p>50 25 0 50 100 PLANS</p> <p>50 25 0 50 100 PROFILE (HORIZONTAL)</p> <p>10 5 0 10 20 PROFILE (VERTICAL)</p>	<p>DESIGN DATA</p> <p>ADT 2008 = 13,350 ADT 2028 = 17,950 DHY = 10 % D = 60 % T = 5 % * V = 40 MPH & 25 MPH ON BRIDGE & NORTH INCLUDING ROUNDAABOUT * TTST 3 % DUAL 2 % FUNC CLASS: COLLECTOR</p>	<p>PROJECT LENGTH</p> <p>LENGTH ROADWAY TIP PROJECT B-2965 = 0.559 MILES LENGTH STRUCTURE TIP PROJECT B-2965 = 0.095 MILES TOTAL LENGTH TIP PROJECT B-2965 = 0.654 MILES</p>	<p>Prepared in the Office of:</p> <p>MULKEY ENGINEERS & CONSULTANTS</p> <p>2006 STANDARD SPECIFICATIONS</p> <p>RIGHT OF WAY DATE: JULY 20, 2007 LETTING DATE: JULY 15, 2008</p> <p>PAMELA R. WILLIAMS PROJECT ENGINEER</p> <p>JEFF RECK, P.E. HYDRAULICS ENGINEER</p>	<p>HYDRAULICS ENGINEER</p> <p>SIGNATURE: _____ P.E.</p> <p>ROADWAY DESIGN ENGINEER</p> <p>SIGNATURE: _____ P.E.</p>	<p>DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA</p> <p>STATE HIGHWAY DESIGN ENGINEER</p>
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

March 16, 2007

STATE PROJECT: 32782.1.1 B-2965
F.A. PROJECT: BRSTP-064B(1)
COUNTY: Edgecombe
DESCRIPTION: Bridge No. 24 over the Tar River on US 64 Business / NC 33 (Main St.) from US 258/NC 111-122 (Mutual Blvd.) to SR 1308 (Albemarle Ave.)

SUBJECT: Geotechnical Report – Inventory

Project Description

The proposed project is located in Edgecombe County, within the Tarboro and Princeville city limits. Based on the current plans, proposed construction consists of relocating the bridge crossing and associated approaches to the west of the existing structure, widening of existing US 64Bus./ NC33 and associated side streets, as well as the addition of a roundabout at the northern end of the project area. The investigation of subsurface conditions was confined to areas of proposed construction.

The following lines were investigated for this project:

<u>Line</u>	<u>Station</u>
-L-	11+50 to 46+00
-Y1-	12+50 to 16+30
-Y2-	10+00 to 13+15
-Y3-	11+50 to 14+93
-Y4-	10+00 to 18+00
-Y5-	10+00 to 11+50
-Y6-	10+00 to 11+00
-Y7-	11+50 to 13+00
-Y8-	10+00 to 11+00
-DRIVE-	10+00 to 12+58
-R-	10+00 to 12+51

Areas of Special Geotechnical Interest

1) The following sections were found to exhibit seasonal high ground water, or the potential for ground water related construction problems:

<u>Line</u>	<u>Station (±)</u>
-L-	11+50 to 15+00
-Y6-	10+00 to 11+50
-Y7-	11+50 to 13+00
-Y8-	10+00 to 11+00

2) The following sections contain cohesive soils which have the potential to cause subgrade stability and/or long term settlement problems:

<u>Line</u>	<u>Station (±)</u>
-L-	11+50 to 16+75
-L-	26+70 to 31+00
-L-	35+25 to 37+50
-Y8-	10+00 to 11+00

3) The following section contains organic deposits which may have the potential to cause embankment stability and/or long term settlement problems:

<u>Line</u>	<u>Station (±)</u>
-L-	26+85 to 28+93

Physiography and Geology

This project is located in Edgecombe County within the Coastal Plain Physiographic Province. Topography along the project is flat to gently sloping with relatively good surface drainage. Ground elevations along the project range from 7± feet above sea level along the bed of the Tar River to 51± feet above sea level within the surrounding upland areas. Surface water along the project flows directly into the Tar River.

This roadway portion of this project is underlain by upland sediments of probable Pleistocene Age.

Ground Water

Ground water data was collected during January 2006 during which period the area experienced normal precipitation conditions. Ground water elevations ranged from 29± to 31± feet above sea level along the upland areas and 28± feet within the flood plain.

Soils

Soils encountered during this investigation are separated into 4 categories: upland soils, roadway embankment soils, floodplain soils and artificial fill.

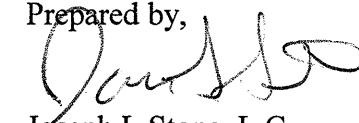
Upland soils encountered are comprised of 4 to 6 feet of loose to medium dense sand and silty sand (A-3, A-2-4), 2 to 16 feet of soft to stiff sandy and clayey silt (A-4), and 2 to 3 feet of medium stiff sandy and silty clay (A-6, A-7-5). The silts (A-4) contained 15 percent moisture while the clays (A-6, A-7-5) had a natural moisture content of 18 percent.

Soils found within the floodplain consisted of 1 to 2 feet of very soft sandy silt (A-4) with little organic matter and 2± feet of very loose silty sand (A-2-4) with little organic matter. Laboratory analysis found that these soils contained 3.1 to 4.6 percent organic components and a natural moisture content of 29 to 32 percent respectively. Vane shear tests indicate shear strength values are 10 psf. Approximately 1 to 4 feet of very soft to medium stiff gray silty clay underlies the organic sediments. Vane shear tests performed in these soils ranged from 63 psf to 793 psf.

Soils classified as roadway embankment were comprised of 6 feet or more of medium dense silty sand (A-2-4).

Soils classified as artificial fill were comprised of 1± foot of loose silty sand (A-2-4) with rock fragments and 5± feet of loose sand (A-3).

Prepared by,



Joseph L. Stone, L.G.

Project Engineering Geologist

LOCATION	EVCAVATION					EMBANKMENT				BORROW	WASTE			
	TOTAL EXCAVATION	ROCK	UNDERCUT	UNSUITABLE	SUITABLE	TOTAL EMBANKMENT	ROCK	EARTH EMBANKMENT	EMBANKMENT PLUS 25%		ROCK	SUITABLE	UNSUITABLE	TOTAL
-L-														
11+50.00 TO 37+10.00	541		546		541	11850		11850	14813	14272			546	546
42+10.00 TO 42+84.14	64		300	56	8	470		470	588	580			356	356
44+04.34 TO 46+00.00	42				42	78		78	98	56				
-R-														
10+00.00 TO 12+51.33	56				56	661		661	826	770				
-Y1-														
10+85.00 TO 15+70.12	108				108	450		450	563	455				
-Y2-														
10+60.00 TO 15+85.00	98				98	246		246	308	210				
-Y3-														
11+50.00 TO 14+73.87	385				385	99		99	124			261		261
-Y4-														
10+20.11 TO 18+00.00	1067				1067	467		467	584			483		483
-Y5-														
10+20.07 TO 11+00.00	57				57	31		31	39			18		18
-Y6-														
10+20.00 TO 11+00.00	49				49	6		6	8			41		41
-Y7-														
11+50.00 TO 12+80.00	20				20	16		16	20					
-Y8-														
10+20.00 TO 11+00.00	9				9	7		7	9					
SUBTOTAL	2496		846	56	2440	14381		14381	17980	16343		803	902	1705
TOTAL	2496		846	56	2440	14381		14381	17980	16343		803	902	1705
WASTE TO REPLACE BORROW										-803		-803		-803
ADDITIONAL UNDERCUT			1100			1100		1100	1375	1375			1100	1100
PROJECT TOTAL	2496		1946	56	2440	15481		15481	19355	16915			2002	2002
5% TO REPLACE BORROW										850				
GRAND TOTAL	2496		1946	56	2440	15481		15481	19355	17765			2002	2002
SAY	2600									18000				

EST. DDE = 30 CY

EST. SELECT GRANULAR MATERIAL = 2500 CY

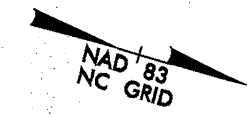
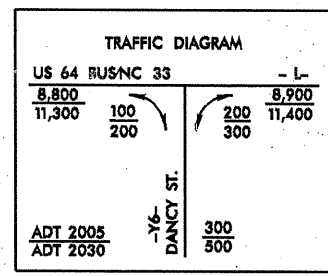
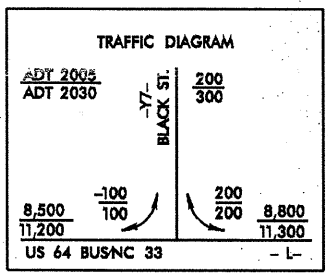
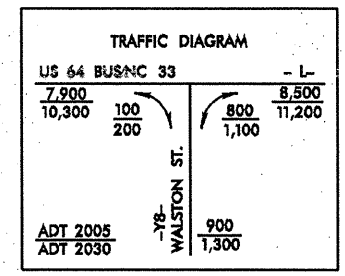
NOTE: EARTHWORK QUANTITIES ARE CALCULATED BY THE ROADWAY DESIGN UNIT. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B2965-1" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 782003246111 EASTING: 2435088463111 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99993740

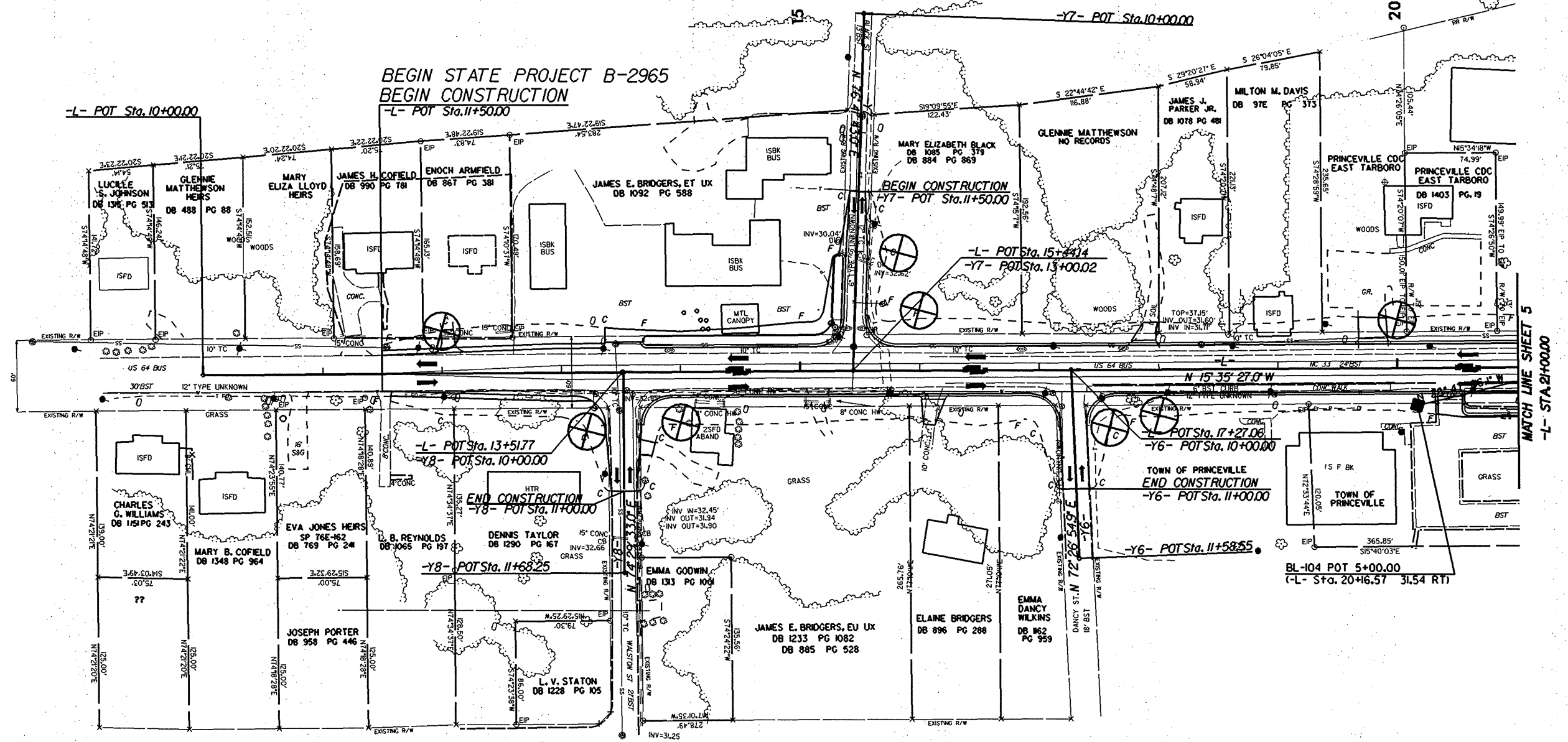
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B2965-1" TO +L STATION 11+5000 IS S 18° 46' 11.2" E DIST = 1313.8943 FT

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS MVD 29



FOR -L- PROFILE SEE SHEET 8
 FOR -Y6- PROFILE SEE SHEET 11
 FOR -Y7- PROFILE SEE SHEET 11
 FOR -Y8- PROFILE SEE SHEET 11

REVISIONS



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REVISIONS

-L- -Y3-

PI Sta 32+52.79 PI Sta 12+62.88

$\Delta = 11^{\circ} 42' 06.8" (LT)$ $\Delta = 35^{\circ} 23' 36.4" (RT)$

$D = 1' 25' 56.6"$ $D = 8' 48' 53.0"$

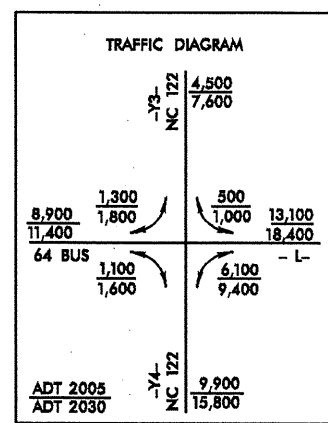
$L = 816.95'$ $L = 401.53'$

$T = 409.90'$ $T = 207.40'$

$R = 4000.00'$ $R = 650.00'$

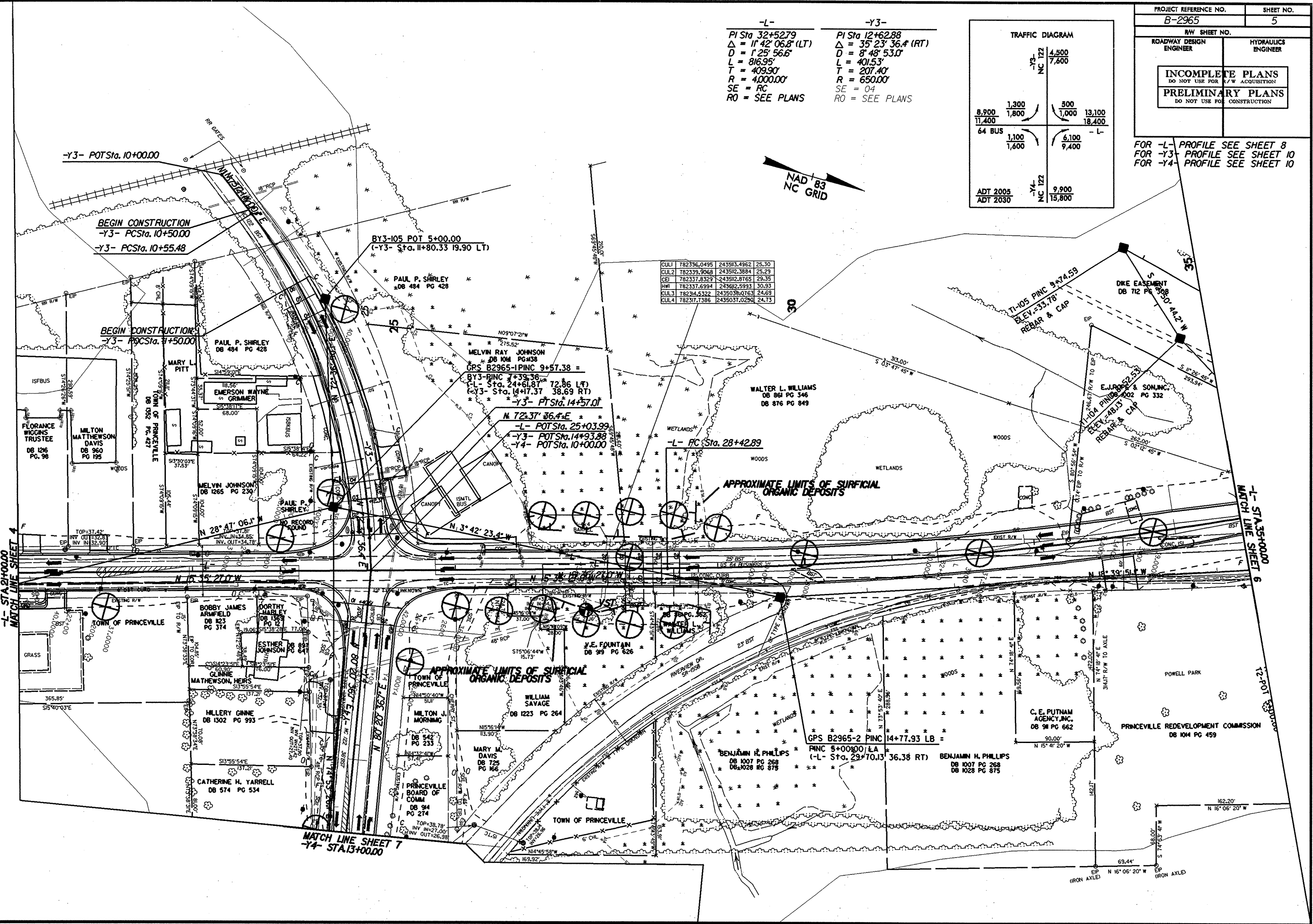
SE = RC SE = 04

RO = SEE PLANS RO = SEE PLANS



PROJECT REFERENCE NO. B-2965	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

FOR -L- PROFILE SEE SHEET 8
 FOR -Y3- PROFILE SEE SHEET 10
 FOR -Y4- PROFILE SEE SHEET 10



CUL1	782336.0495	243503.4962	25.30
CUL2	782339.9068	243502.3884	25.29
CE1	782337.8329	243502.8765	29.35
HW1	782337.6994	243502.5993	30.93
CUL3	782344.5322	243503.0163	24.69
CUL4	782317.1386	243503.0290	24.73

-L- STA 21+00.00 MATCH LINE SHEET 4

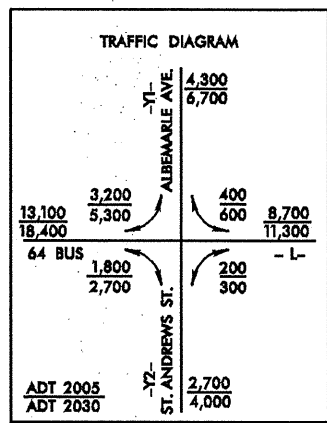
-L- STA 35+00.00 MATCH LINE SHEET 6

MATCH LINE SHEET 7 -Y4- STA 13+00.00

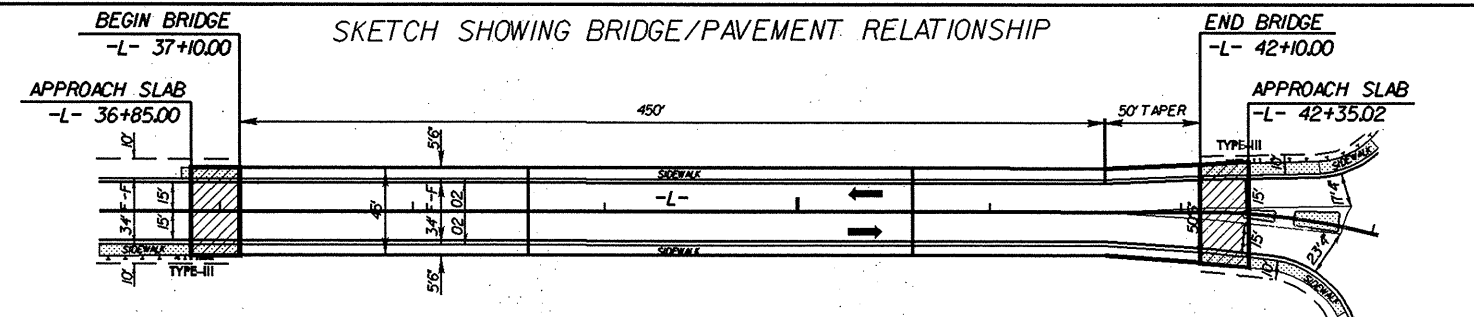
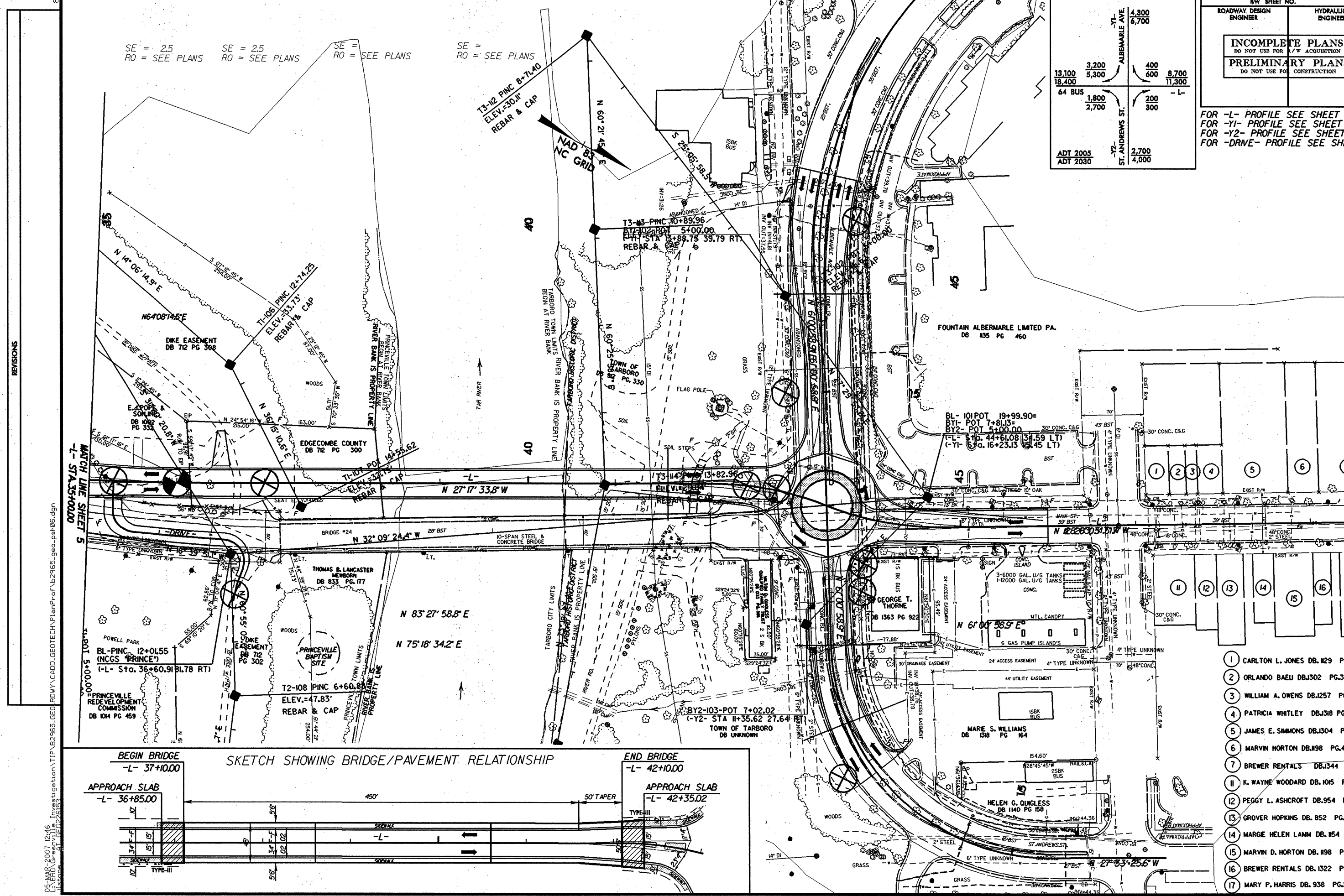
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PROJECT REFERENCE NO. B-2965	SHEET NO. 6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

FOR -L- PROFILE SEE SHEET 9
 FOR -Y1- PROFILE SEE SHEET 10
 FOR -Y2- PROFILE SEE SHEET 10
 FOR -DRIVE- PROFILE SEE SHEET 9



SE = 2.5 SE = 2.5 SE =
 RO = SEE PLANS RO = SEE PLANS RO = SEE PLANS

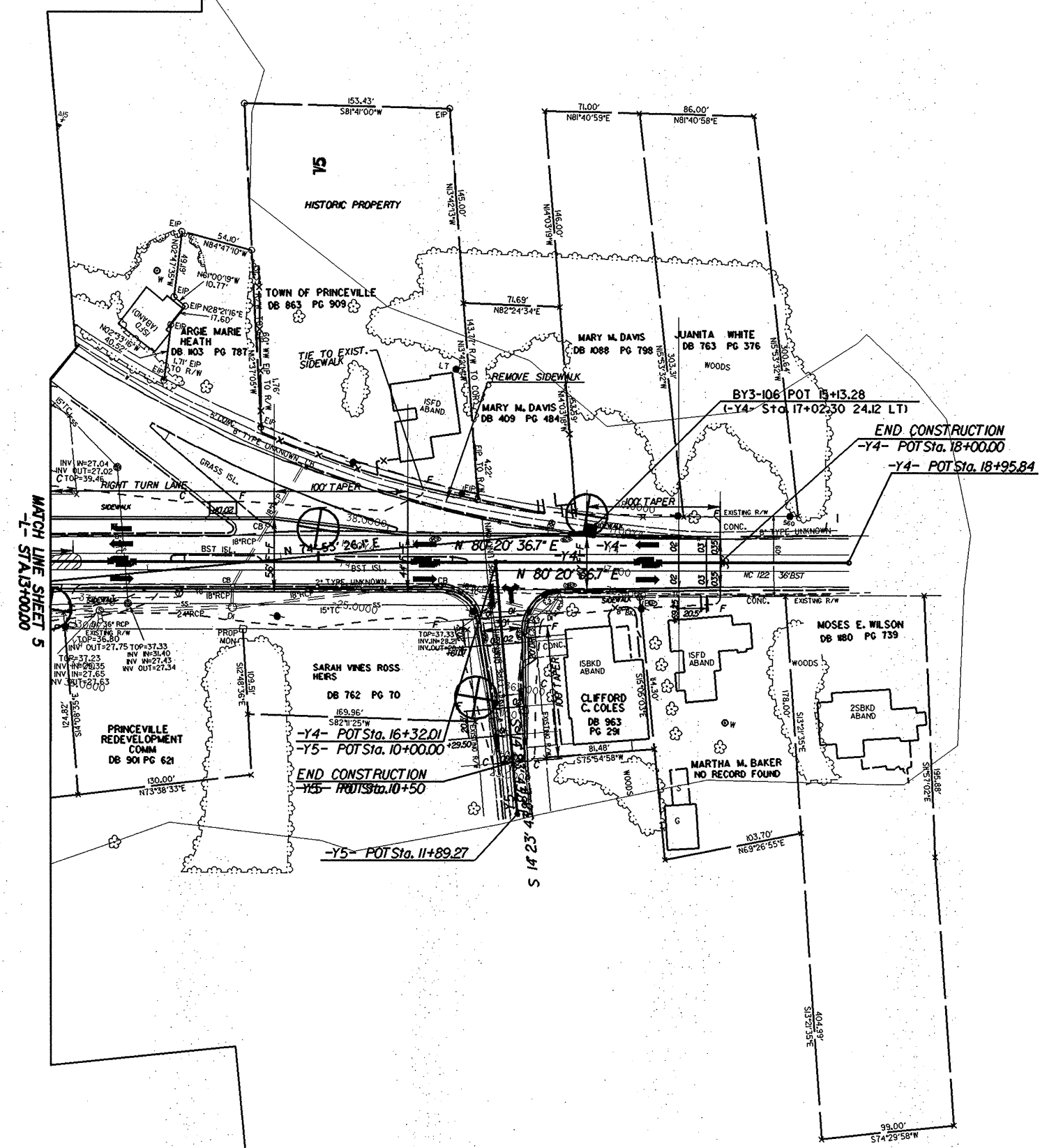


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PROJECT REFERENCE NO.		SHEET NO.	
B-2965		7	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

FOR -Y4- PROFILE SEE SHEET 10
FOR -Y5- PROFILE SEE SHEET 11



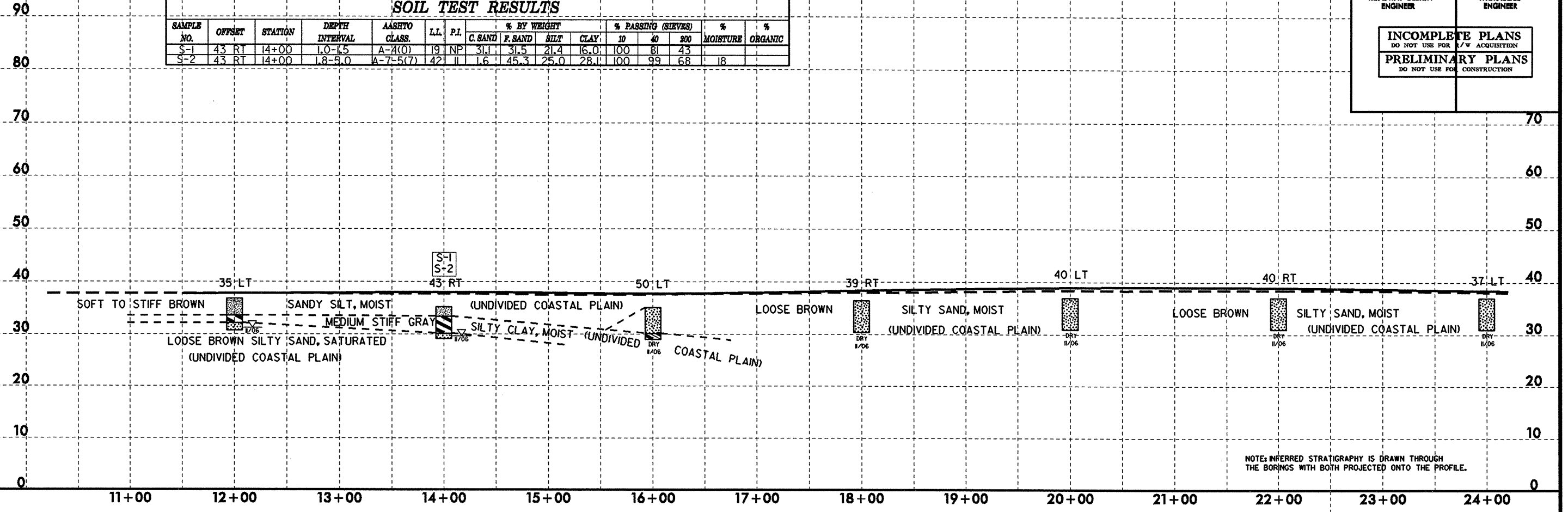
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PROJECT REFERENCE NO.		SHEET NO.	
B-2965		8	
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PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

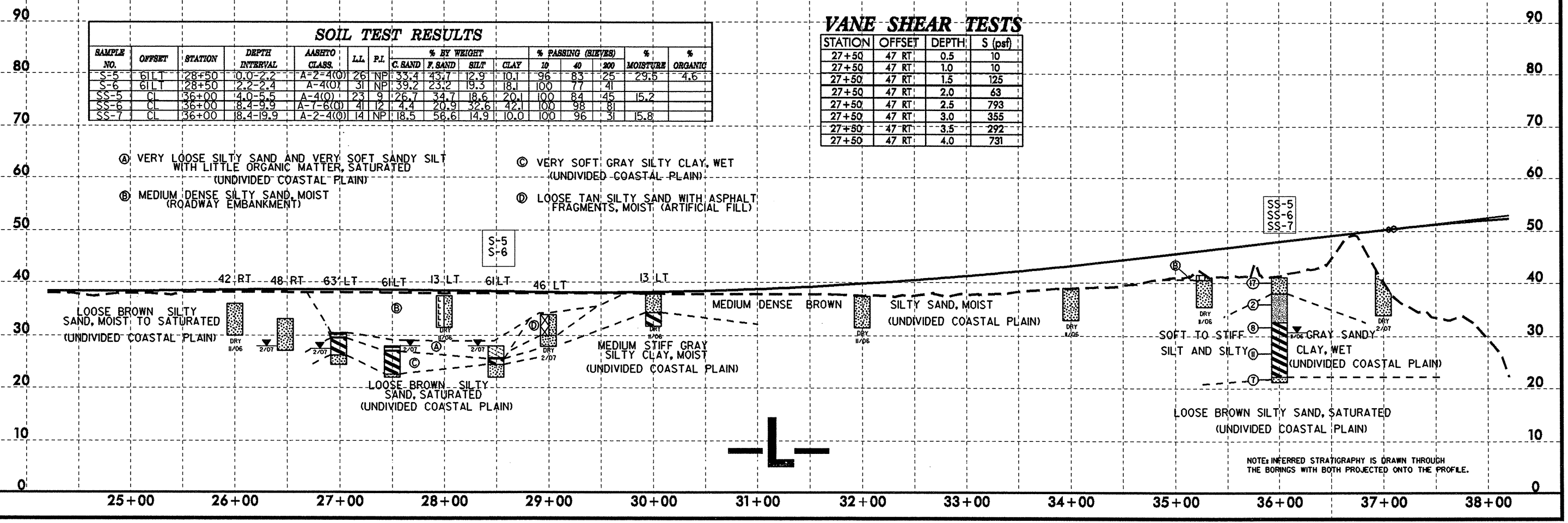
SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	#10	#40	#200		
S-1	43 RT	14+00	1.0-1.5	A-2(0)	19	NP	31.1	31.5	21.4	16.0	100	81	43		
S-2	43 RT	14+00	1.8-5.0	A-7-5(7)	42	11	1.6	45.3	25.0	28.1	100	99	68	18	



SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	#10	#40	#200		
S-5	61 LT	28+50	10.0-2.2	A-2-4(0)	26	NP	33.4	43.7	12.9	10.1	96	83	25	29.5	4.6
S-6	61 LT	28+50	2.2-2.4	A-4(0)	31	NP	39.2	23.2	19.3	18.1	100	77	41		
SS-5	CL	36+00	4.0-5.5	A-4(0)	23	9	26.7	34.7	18.6	20.1	100	84	45	15.2	
SS-6	CL	36+00	8.4-9.9	A-7-6(0)	41	12	4.4	20.9	32.6	42.1	100	98	81		
SS-7	CL	36+00	18.4-19.9	A-2-4(0)	14	NP	18.5	56.6	14.9	10.0	100	96	31	15.8	

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
27+50	47 RT	0.5	10
27+50	47 RT	1.0	10
27+50	47 RT	1.5	125
27+50	47 RT	2.0	63
27+50	47 RT	2.5	793
27+50	47 RT	3.0	355
27+50	47 RT	3.5	292
27+50	47 RT	4.0	731

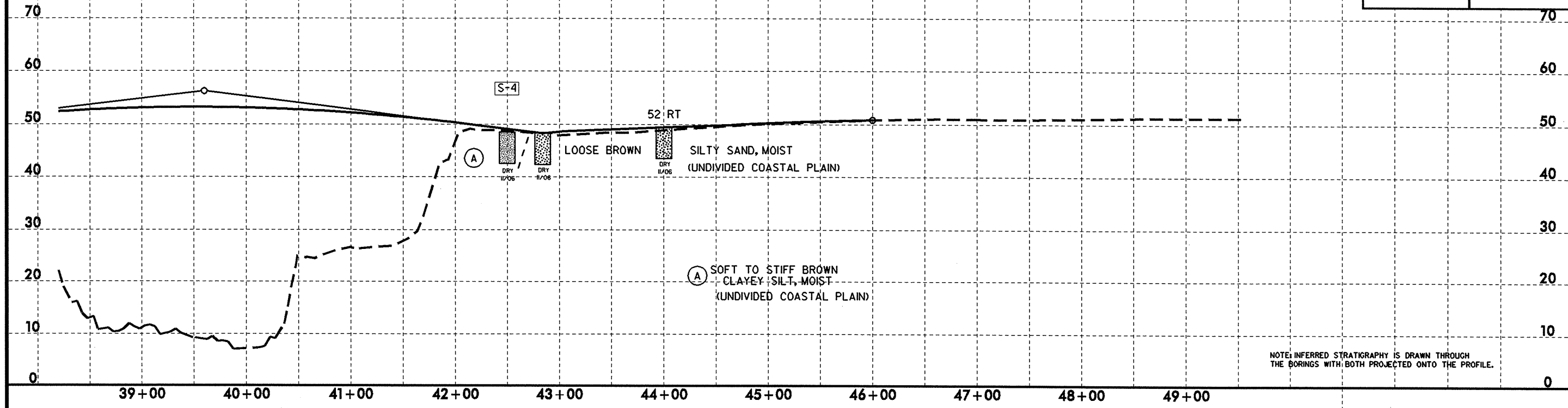


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PROJECT REFERENCE NO. <i>B-2965</i>		SHEET NO. 9	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	PL	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-4	CL	42+50	0.0-6.0	A-4(0)	21	NP	25.1	13.6	25.2	36.1	100	80	66		

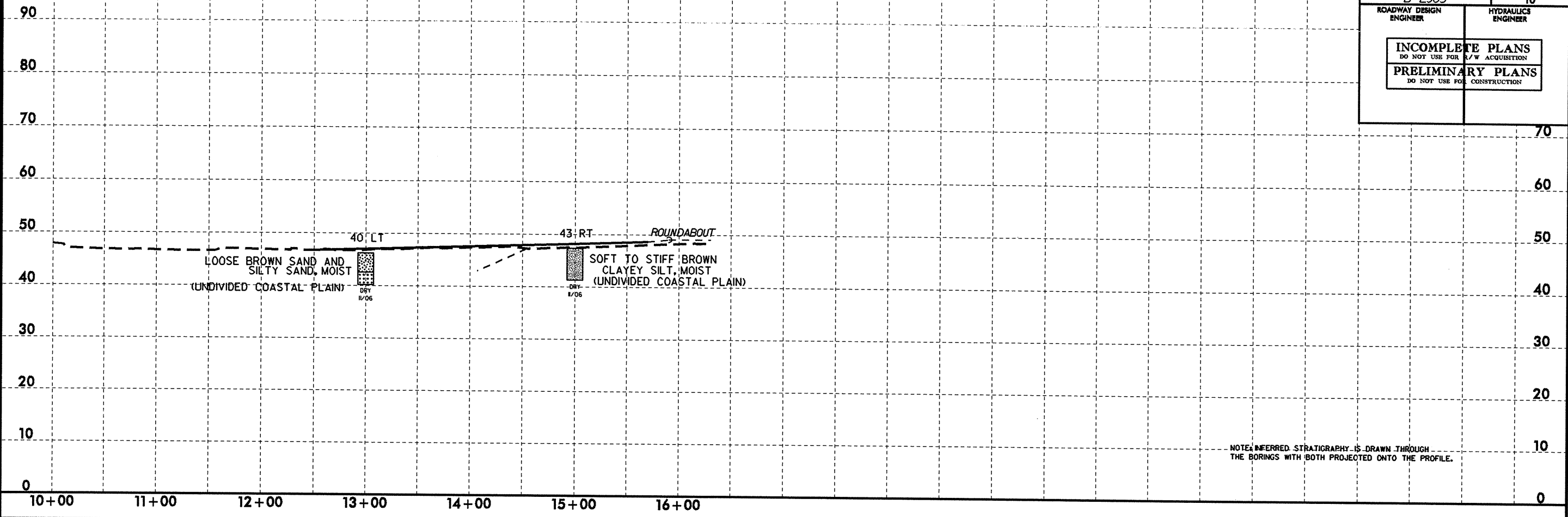


NOTE: INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE PROFILE.

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PROJECT REFERENCE NO. B-2965		SHEET NO. 10	
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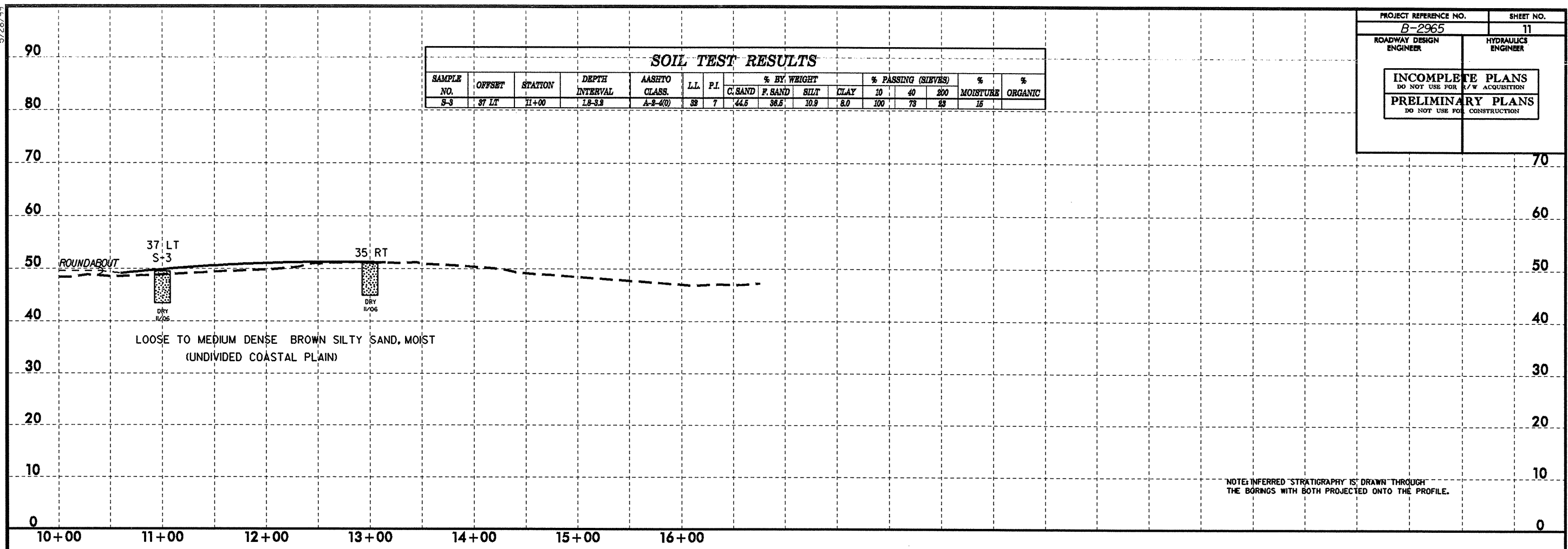
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5/28/99

PROJECT REFERENCE NO. <i>B-2965</i>		SHEET NO. 11	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR S/W ACQUISITION			
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-3	37 LT	11+00	1.8-3.3	A-3-4(0)	38	7	44.6	36.6	10.9	8.0	100	73	33	16	

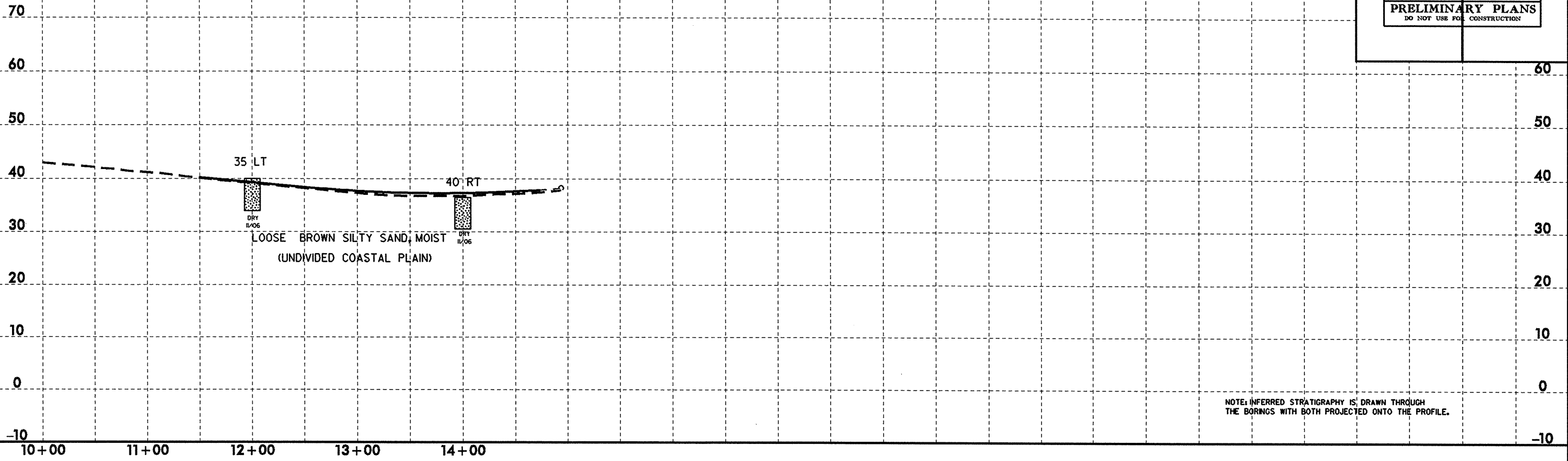


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PROJECT REFERENCE NO. <i>B-2965</i>	SHEET NO. 12
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PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

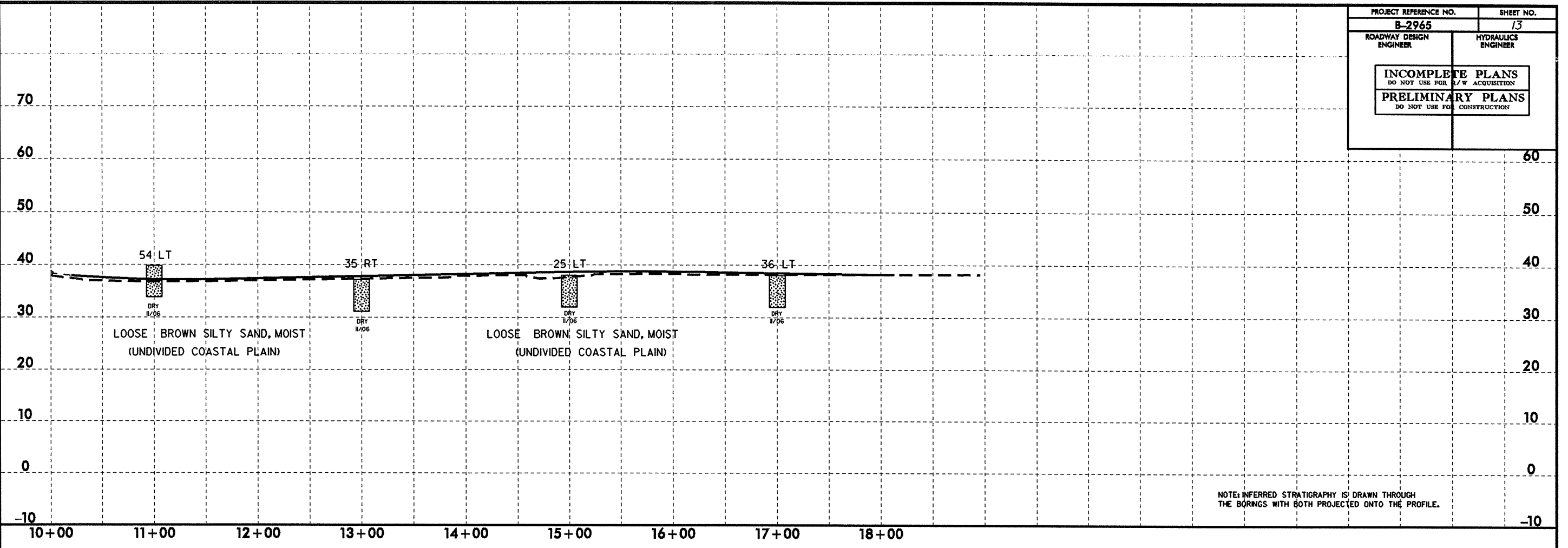


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PROJECT REFERENCE NO.		SHEET NO.	
B-2965		13	
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PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

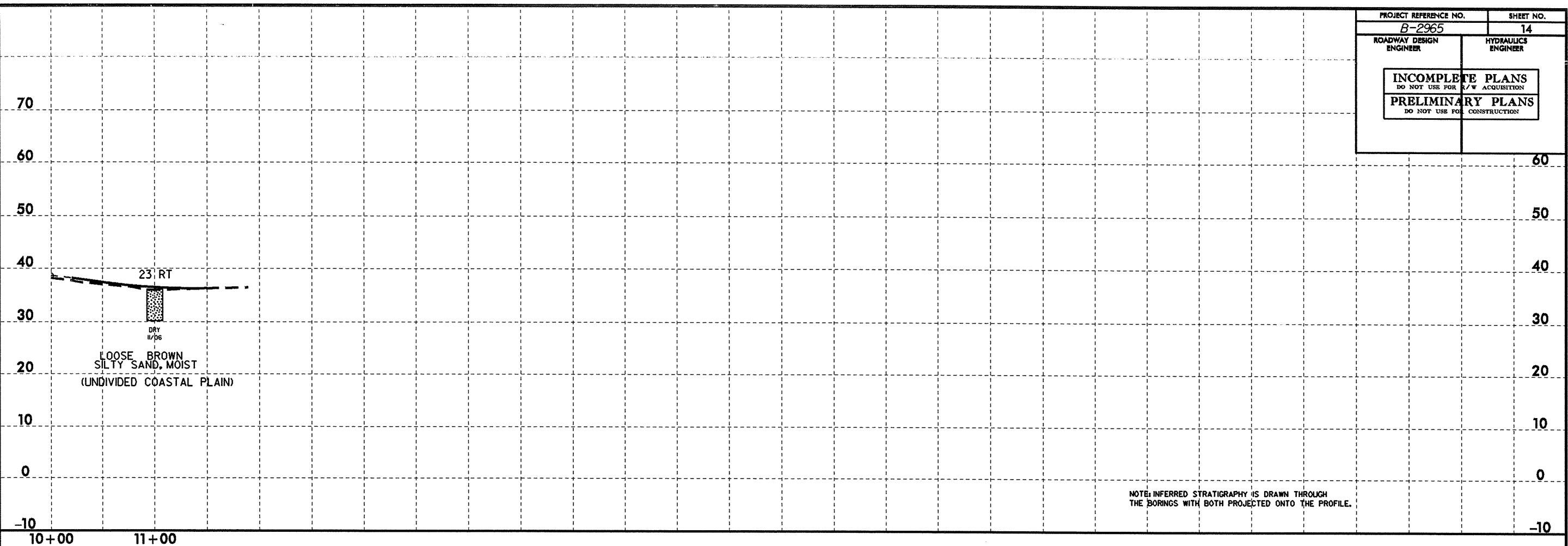


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5/28/95

PROJECT REFERENCE NO. B-2965	SHEET NO. 14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

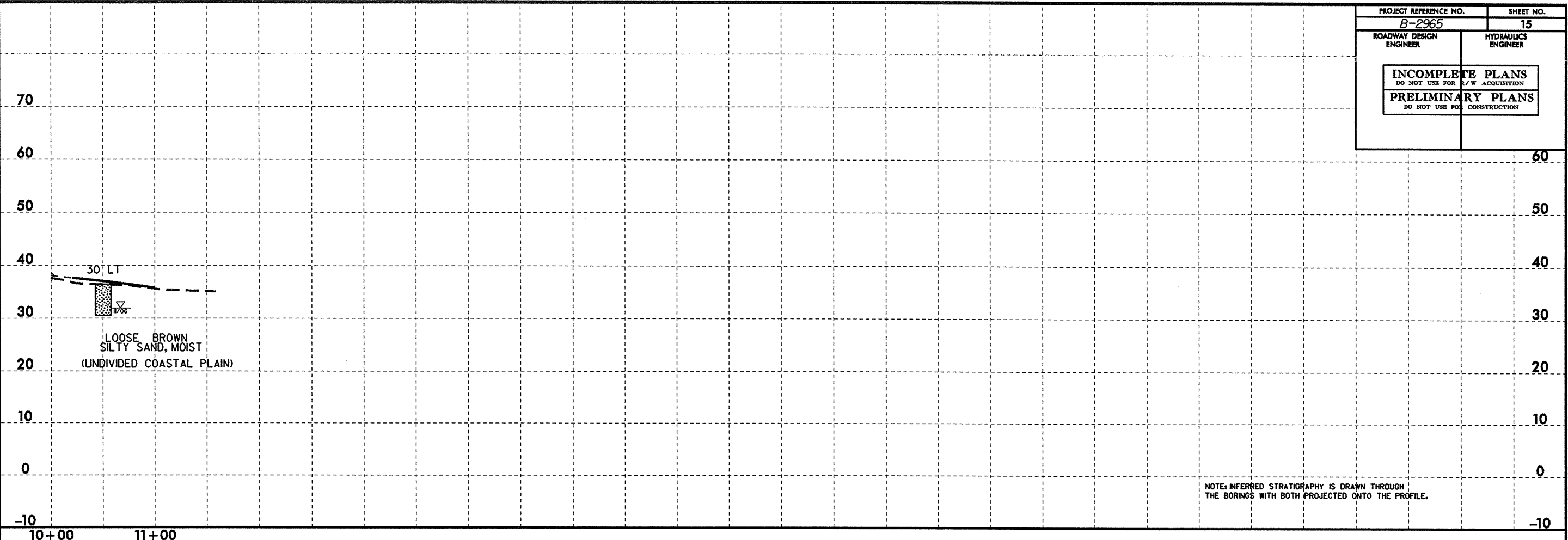


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5/28/99

PROJECT REFERENCE NO. <i>B-2965</i>	SHEET NO. 15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS <small>DO NOT USE FOR A/W ACQUISITION</small>	
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	



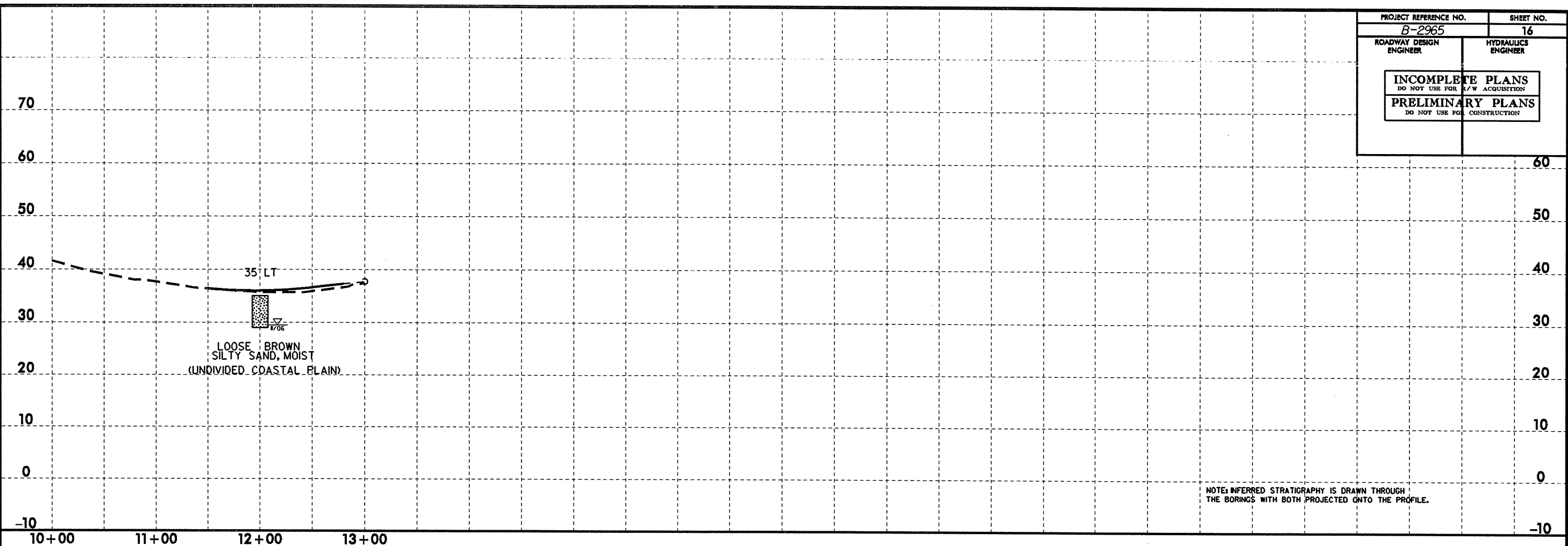
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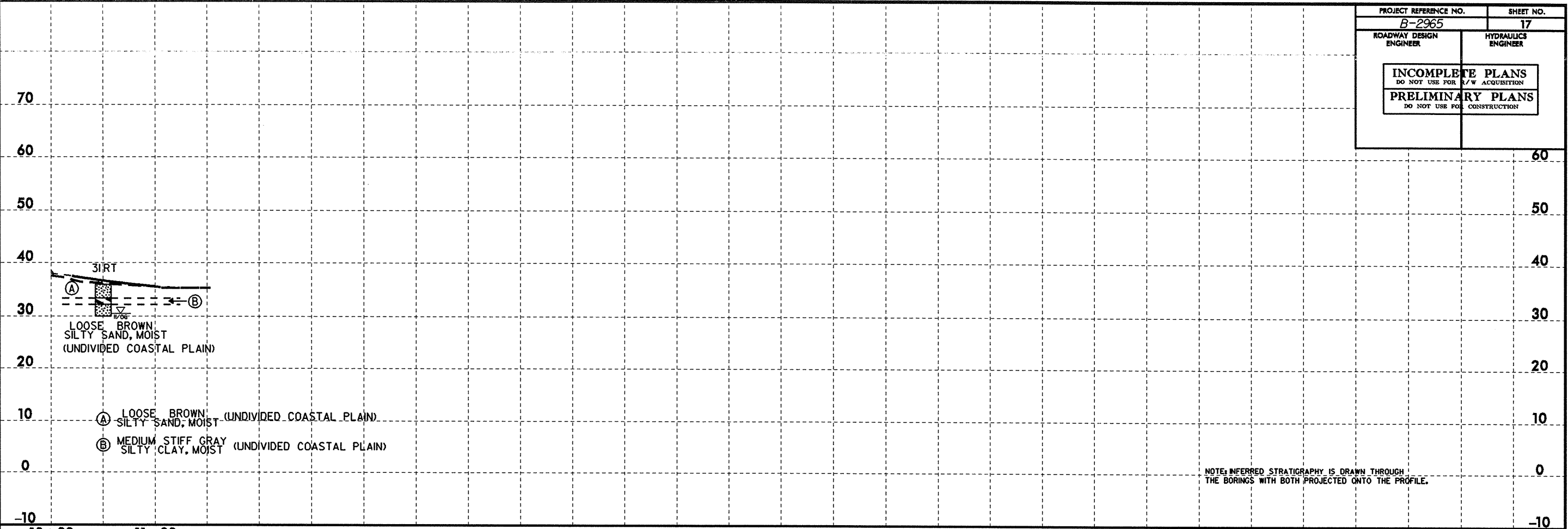
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INCOMPLETE PLANS <small>DO NOT USE FOR ACQUISITION</small>	
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	



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PROJECT REFERENCE NO.		SHEET NO.	
B-2965		17	
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PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

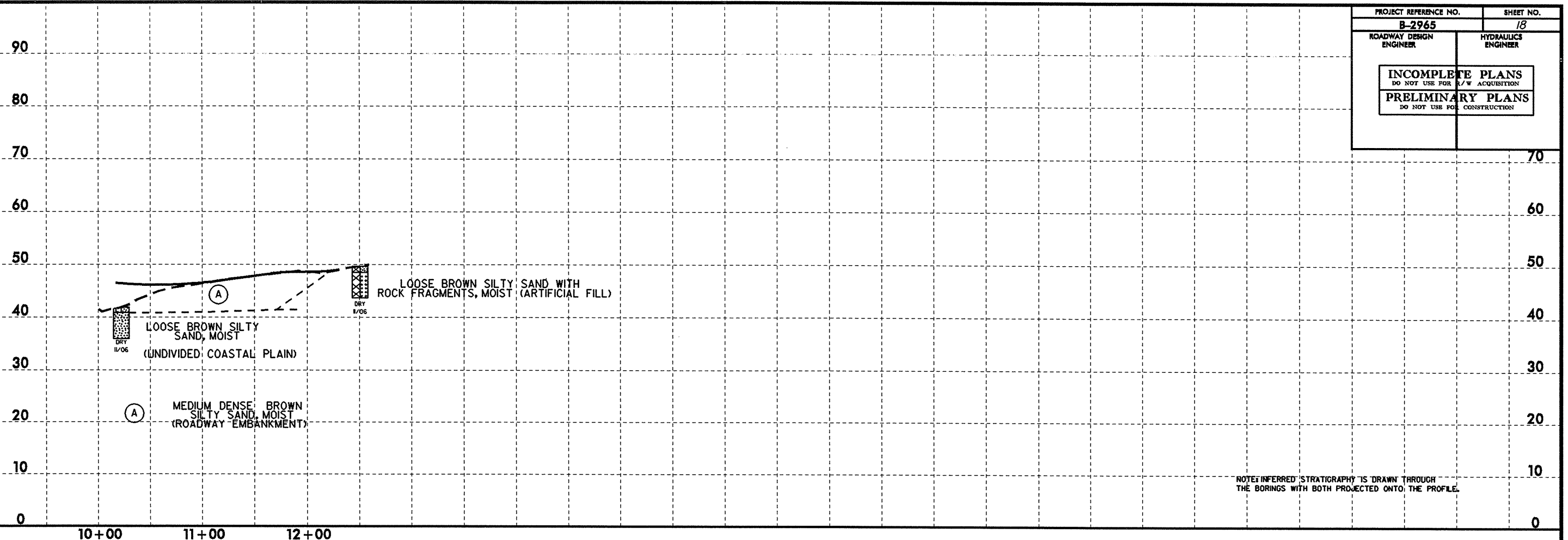


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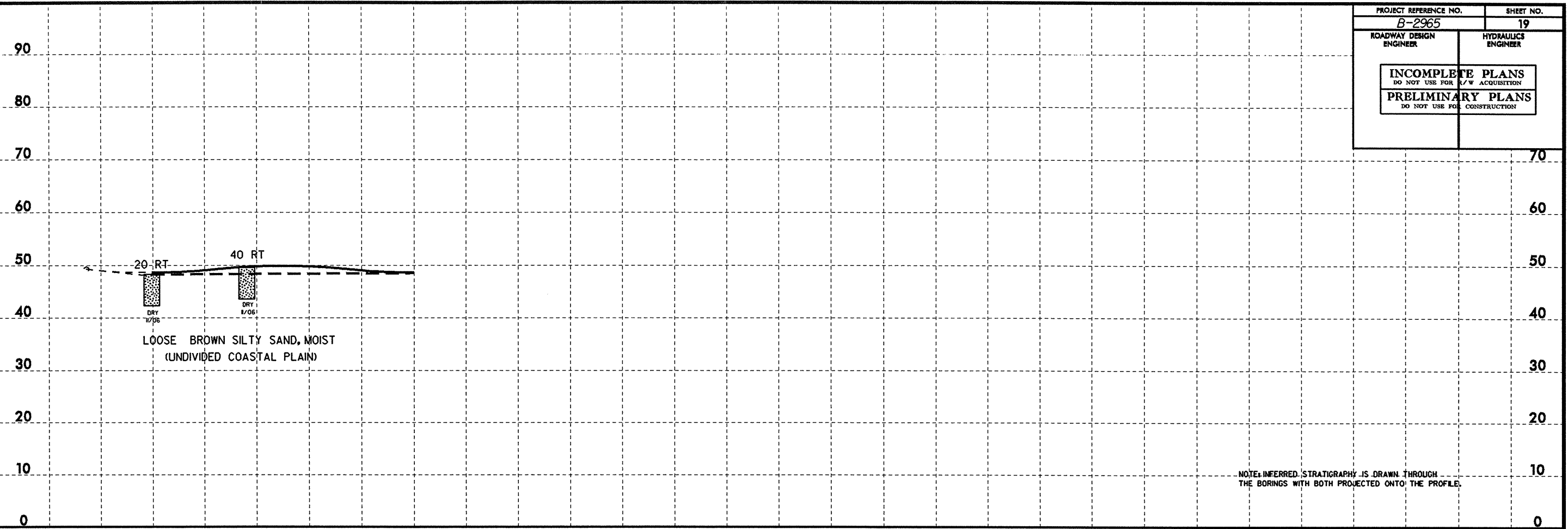
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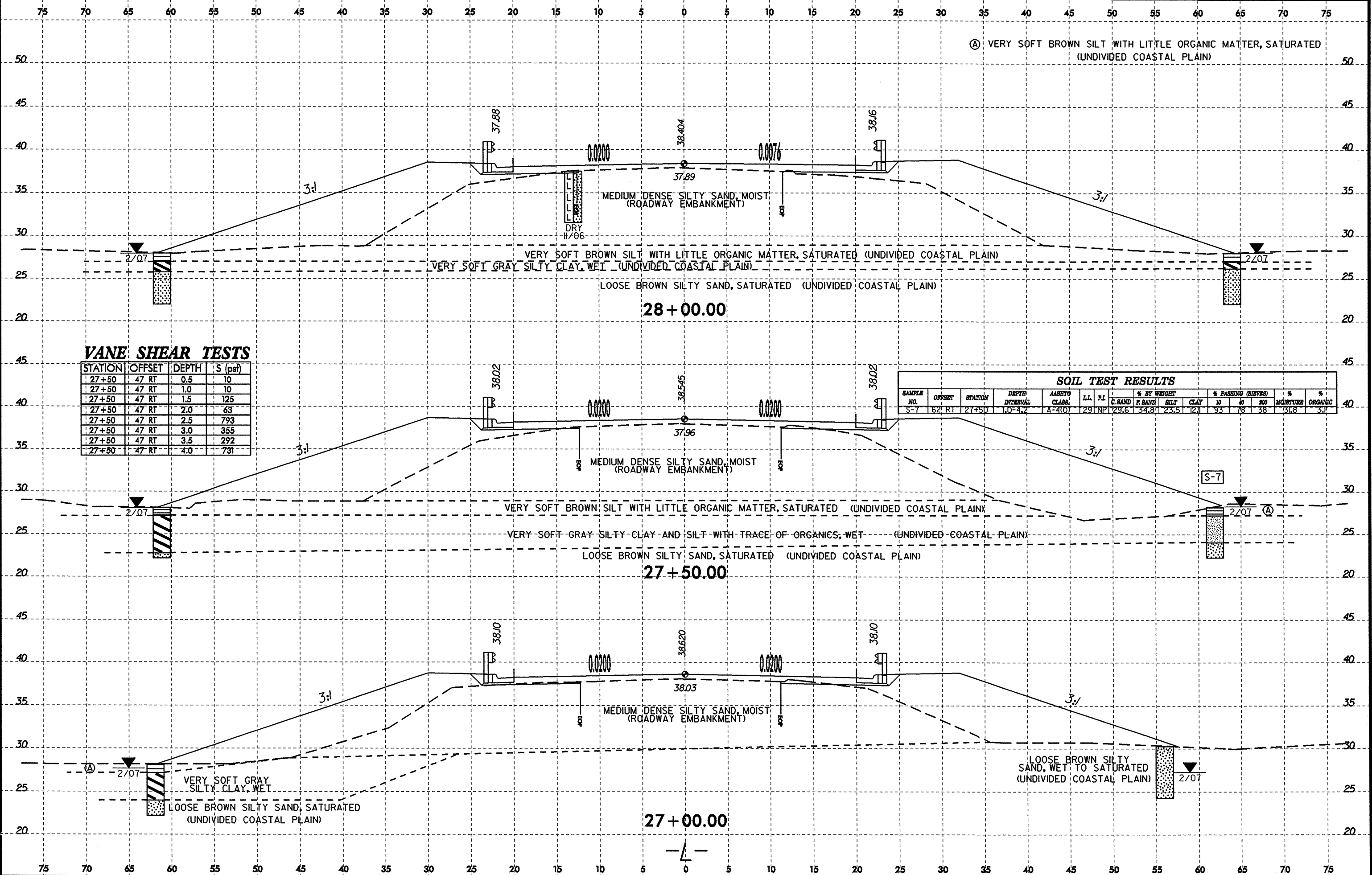
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PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



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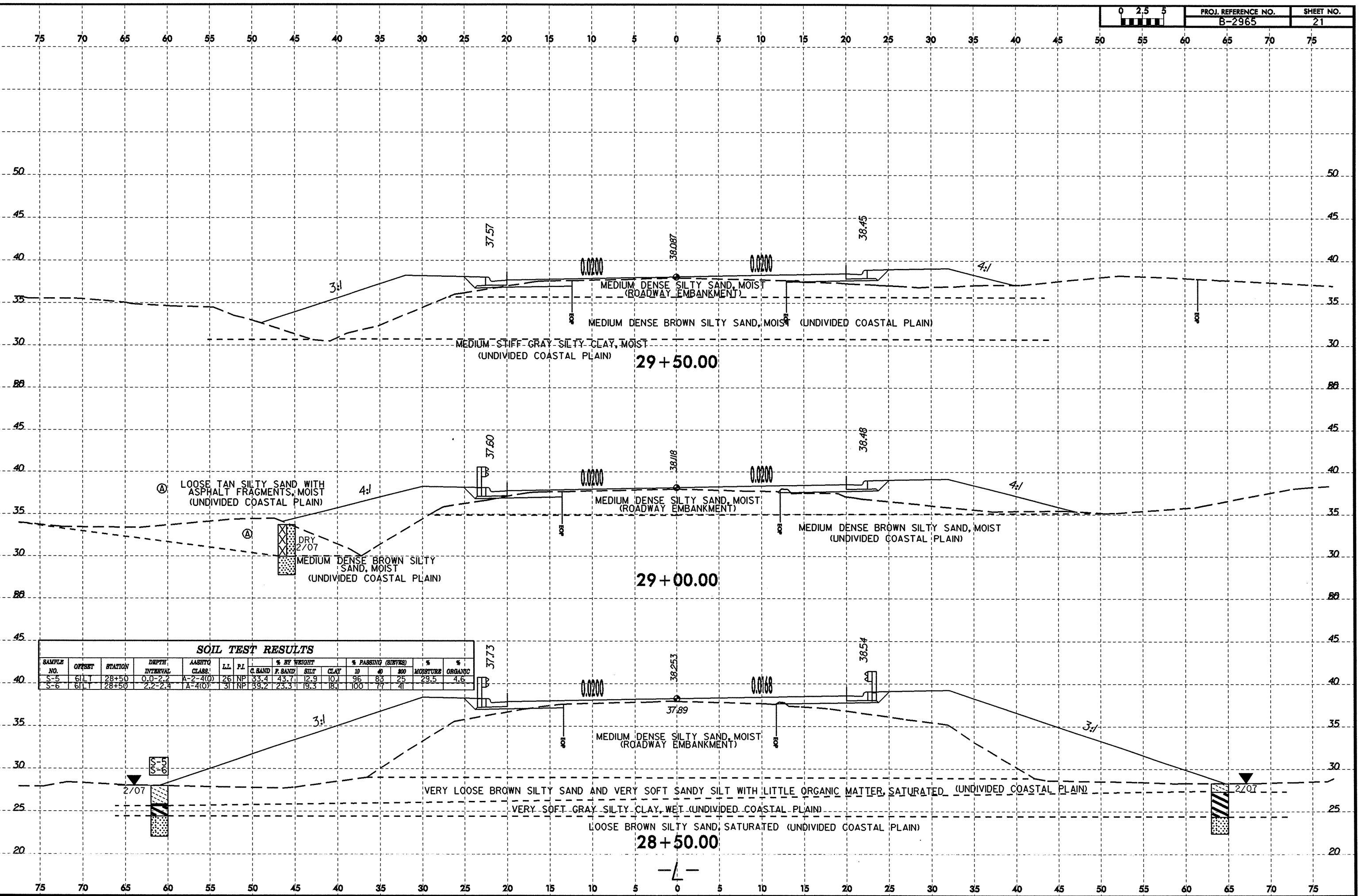
VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
27+50	47 RT	0.5	10
27+50	47 RT	1.0	10
27+50	47 RT	1.5	125
27+50	47 RT	2.0	63
27+50	47 RT	2.5	793
27+50	47 RT	3.0	355
27+50	47 RT	3.5	292
27+50	47 RT	4.0	731

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	LABORATORY CLASS.	LL	PL	% BY WEIGHT				% PASSING (SIEVES)		% MOISTURE	% ORGANIC	
							C. SAND	F. SAND	SILT	CLAY	10	40			800
S-7	62 RT	27+50	1.0-4.2	A-4(0)	29	NP	29.6	34.8	23.5	12	93	78	38	31.8	3.1

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SOIL TEST RESULTS

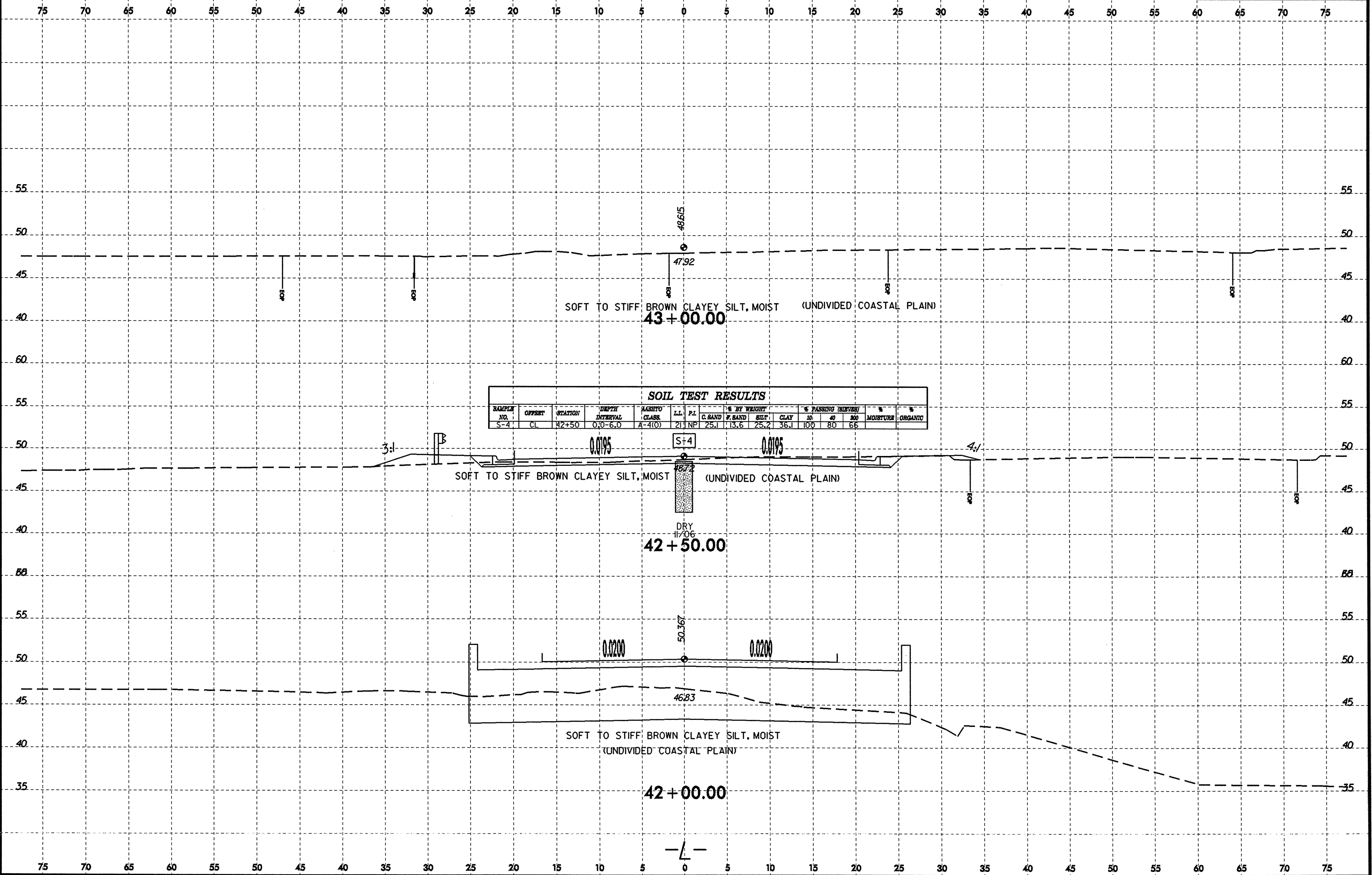
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	PI	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	800		
S-5	61.1	28+50	0.0-2.2	A-2-4(O)	26	NP	33.4	43.7	12.9	10.1	96	83	25	29.5	4.6
S-6	61.1	28+50	2.2-2.4	A-4(O)	31	NP	39.2	23.3	19.3	18.1	100	77	41		

28+50.00

29+00.00

29+50.00

8/23/99



SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	MASHED CLASS.	LL	PL	% BY WEIGHT				% PASSING (SIEVES)			MOISTURE	ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-4	CL	42+50	0.0-6.0	A-4(0)	21	NP	25.1	13.6	25.2	36.1	100	80	66		

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STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	32782.1.1 (B-2965)	1	22
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
32782.1.1	BRSTP-064B(1)	P.E.	
		RW & UTIL.	

NOTE: SEE SHEET 3 FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

CONTENTS

LINE	STATION	PLAN	PROFILE
-L-	11+50 TO 16+00	4-6	8,9
-Y1-	12+50 TO 16+30	6	10
-Y2-	10+00 TO 13+15	6	11
-Y3-	11+50 TO 14+93	5	12
-Y4-	10+00 TO 18+00	5,7	13
-Y5-	10+00 TO 11+50	7	14
-Y6-	10+00 TO 11+00	4	15
-Y7-	11+50 TO 13+00	4	16
-Y8-	10+00 TO 11+00	4	17
-DRIVE-	10+00 TO 12+58	6	18
-R-	10+00 TO 12+51	6	19

CROSS SECTIONS	STATION	SHEET
-L-	27+00 TO 29+50	20-21
-L-	42+00 TO 43+00	22

ROADWAY
SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. 32782.1.1 (B-2965) F.A. PROJ. BRSTP-064B(1)
COUNTY EDGEcombe
PROJECT DESCRIPTION BRIDGE NO. 24 OVER THE TAR RIVER ON
US 64 BUSINESS/NC 33 (MAIN ST.) FROM US 258/NC 111-122
(MUTUAL BLVD) TO SR 1308 (ALBERMARLE AVE)

RECOMMENDATIONS

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING, AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES, AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (919) 250-4088. NEITHER THE SUBSURFACE PLANS AND REPORTS, NOR THE FIELD BORING LOGS, ROCK CORES, OR SOIL TEST DATA ARE PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION, AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THIS PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

CONTRACT: ID: B-2965

PERSONNEL

TJB

JRS

LWD

INVESTIGATED BY J.L. STONE

CHECKED BY D.N. ARGENBRIGHT

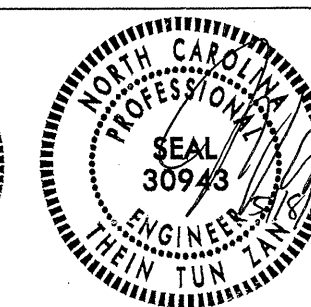
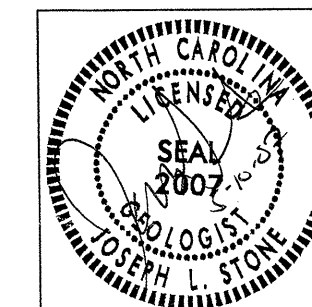
SUBMITTED BY D.N. ARGENBRIGHT

DATE MAY 2007

DRAWN BY: JLS, CMK

NOTE - THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS BEING ACCURATE NOR IS IT CONSIDERED TO BE PART OF THE PLANS, SPECIFICATIONS, OR CONTRACT FOR THE PROJECT.

NOTE - BY HAVING REQUESTED THIS INFORMATION THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.




NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

PROJECT REFERENCE NO. B-2965	SHEET NO. 2
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SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION	GRADATION	ROCK DESCRIPTION	TERMS AND DEFINITIONS
SOIL IS CONSIDERED TO BE THE UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER, AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO STANDARD PENETRATION TEST (ASTM D-1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY SHALL INCLUDE: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. EXAMPLE: <i>VERY STIFF, GRAY, SILTY CLAY, MOST WITH INTERBEDDED FINE SAND LAYERS, HARD PLASTIC, A-7-6</i>	WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORM - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. (ALSO POORLY GRADED) GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLES OF TWO OR MORE SIZES. ANGULARITY OF GRAINS THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR , SUBANGULAR , SUBROUNDED , OR ROUNDED .	HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT IF TESTED, WOULD YIELD SPT REFUSAL, AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS, IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS: WEATHERED ROCK (WR) - NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED. CRYSTALLINE ROCK (CR) - FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC. NON-CRYSTALLINE ROCK (NCR) - FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC. COASTAL PLAIN SEDIMENTARY ROCK (CP) - COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.	ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. AQUIFER - A WATER BEARING FORMATION OR STRATA. ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND. ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, AS SHALE, SLATE, ETC. ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE. CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE. COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE. CORE RECOVERY (REC) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK. DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL. DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH. FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE. FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES. FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLOGGED FROM PARENT MATERIAL. FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM. FORMATION (FM) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD. JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED. LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT. LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS. MOTTLED (MOT) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM. RESIDUAL (RES) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK. ROCK QUALITY DESIGNATION (RQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. SAPROLITE (SAP) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK. SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (TS) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.
SOIL LEGEND AND AASHTO CLASSIFICATION	MINERALOGICAL COMPOSITION	WEATHERING	
GENERAL CLASS. GRANULAR MATERIALS (<= 35% PASSING #200) SILT-CLAY MATERIALS (> 35% PASSING #200) ORGANIC MATERIALS	MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHENEVER THEY ARE CONSIDERED OF SIGNIFICANCE.	FRESH - ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING, ROCK RINGS UNDER HAMMER IF CRYSTALLINE. VERY SLIGHT (V SL) - ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN, CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY, ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE. SLIGHT (SL) - ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED, CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS. MODERATE (MOD) - SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY. ROCK HAS DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED WITH FRESH ROCK. MODERATELY SEVERE (MOD. SEV.) - ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES 'CLUNK' SOUND WHEN STRUCK. <i>IF TESTED, WOULD YIELD SPT REFUSAL</i> SEVERE (SEV.) - ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED, ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. <i>IF TESTED, YIELDS SPT N VALUES < 100 BPF</i> VERY SEVERE (V SEV.) - ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED, ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT THE MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE SUCH THAT ONLY MINOR VESTIGES OF THE ORIGINAL ROCK FABRIC REMAIN. <i>IF TESTED, YIELDS SPT N VALUES < 100 BPF</i> COMPLETE - ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.	
COMPRESSIBILITY	PERCENTAGE OF MATERIAL	GROUND WATER	
SLIGHTLY COMPRESSIBLE MODERATELY COMPRESSIBLE HIGHLY COMPRESSIBLE	GRANULAR MATERIAL TRACE OF ORGANIC MATTER 2 - 3% LITTLE ORGANIC MATTER 3 - 5% MODERATELY ORGANIC 5 - 10% HIGHLY ORGANIC >10%	WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING STATIC WATER LEVEL AFTER 24 HOURS PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA SPRING OR SEEP	
CONSISTENCY OR DENSENESS	MISCELLANEOUS SYMBOLS	ROCK HARDNESS	
PRIMARY SOIL TYPE COMPACTNESS OR CONSISTENCY RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE) RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²)	ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION SOIL SYMBOL ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT INFERRED SOIL BOUNDARY INFERRED ROCK LINE ALLUVIAL SOIL BOUNDARY DIP & DIP DIRECTION OF ROCK STRUCTURES SOUNDING ROD	VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK. HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY HARD CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM HARD CAN BE GROOVED OR GOUGED 0.85 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY SOFT CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.	
TEXTURE OR GRAIN SIZE	ABBREVIATIONS	INDURATION	
U.S. STD. SIEVE SIZE OPENING (MM) 4 10 40 60 200 270 4.76 2.00 0.42 0.25 0.075 0.053	AR - AUGER REFUSAL BT - BORING TERMINATED CL - CLAY CPT - CONE PENETRATION TEST CSC - COARSE DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST e - VOID RATIO F - FINE FOSS - FOSSILIFEROUS FRAC - FRACTURED, FRACTURES FRAGS - FRAGMENTS HL - HIGHLY MED - MEDIUM MICA - MICACEOUS MOD - MODERATELY NP - NON PLASTIC ORG - ORGANIC PMT - PRESSUREMETER TEST SAP - SAPROLITIC SD - SAND, SANDY SL - SILT, SILTY SLI - SLIGHTLY TCR - TRICONE REFUSAL # - MOISTURE CONTENT V - VERY VST - VANE SHEAR TEST WEA - WEATHERED % - DRY WEIGHT % - DRY UNIT WEIGHT	FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF THE MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC. FRIABLE - RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE. MODERATELY INDURATED - GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER. INDURATED - GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER. EXTREMELY INDURATED - SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.	
SOIL MOISTURE - CORRELATION OF TERMS	EQUIPMENT USED ON SUBJECT PROJECT	FRACTURE SPACING	BEDDING
SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION GUIDE FOR FIELD MOISTURE DESCRIPTION	DRILL UNITS: <input type="checkbox"/> MOBILE B- <input type="checkbox"/> BK-51 <input type="checkbox"/> CME-45C <input type="checkbox"/> CME-550 <input type="checkbox"/> PORTABLE HOIST <input checked="" type="checkbox"/> CME-45B	TERM SPACING VERY WIDE MORE THAN 10 FEET WIDE 3 TO 10 FEET MODERATELY CLOSE 1 TO 3 FEET CLOSE 0.16 TO 1 FEET VERY CLOSE LESS THAN 0.16 FEET	TERM THICKNESS VERY THICKLY BEDDED > 4 FEET THICKLY BEDDED 1.5 - 4 FEET THINLY BEDDED 0.16 - 1.5 FEET VERY THINLY BEDDED 0.03 - 0.15 FEET THICKLY LAMINATED 0.008 - 0.03 FEET THINLY LAMINATED < 0.008 FEET
PLASTICITY	ADVANCING TOOLS: <input type="checkbox"/> CLAY BITS <input type="checkbox"/> 6" CONTINUOUS FLIGHT AUGER <input type="checkbox"/> 8" HOLLOW AUGERS <input type="checkbox"/> HARD FACED FINGER BITS <input type="checkbox"/> TUNG-CARBIDE INSERTS <input checked="" type="checkbox"/> CASING <input type="checkbox"/> W/ ADVANCER <input checked="" type="checkbox"/> TRICONE 2 1/4" * STEEL TEETH <input type="checkbox"/> TRICONE * TUNG-CARB. <input type="checkbox"/> CORE BIT	HAMMER TYPE: <input checked="" type="checkbox"/> AUTOMATIC <input type="checkbox"/> MANUAL CORE SIZE: <input type="checkbox"/> -B <input type="checkbox"/> -N <input type="checkbox"/> -H HAND TOOLS: <input checked="" type="checkbox"/> POST HOLE DIGGER <input type="checkbox"/> HAND AUGER <input type="checkbox"/> SOUNDING ROD <input checked="" type="checkbox"/> VANE SHEAR TEST	NOTES:  PROPOSED UNDERCUT EXCAVATION  UNSUITABLE UNCLASSIFIED EXCAVATION  APPROXIMATE LIMITS OF SURFICIAL ORGANIC DEPOSITS
COLOR			BENCH MARK: ELEVATION: _____ FT.
NONPLASTIC PLASTICITY INDEX (PI) DRY STRENGTH VERY LOW LOW PLASTICITY 0-5 SLIGHT MED. PLASTICITY 6-15 MEDIUM HIGH PLASTICITY 16-25 HIGH 26 OR MORE HIGH			
DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.			

See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

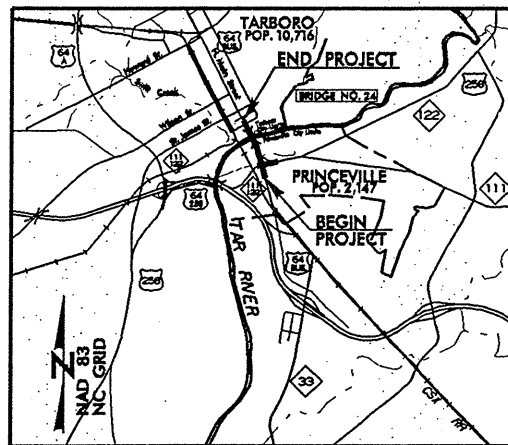
EDGECOMBE COUNTY

LOCATION: BRIDGE NO. 24 OVER THE TAR RIVER ON
US 64 BUSINESS /NC 33 (MAIN ST.) FROM US 258/NC 111-122
(MUTUAL BLVD) TO SR 1308 (ALBEMARLE AVE)

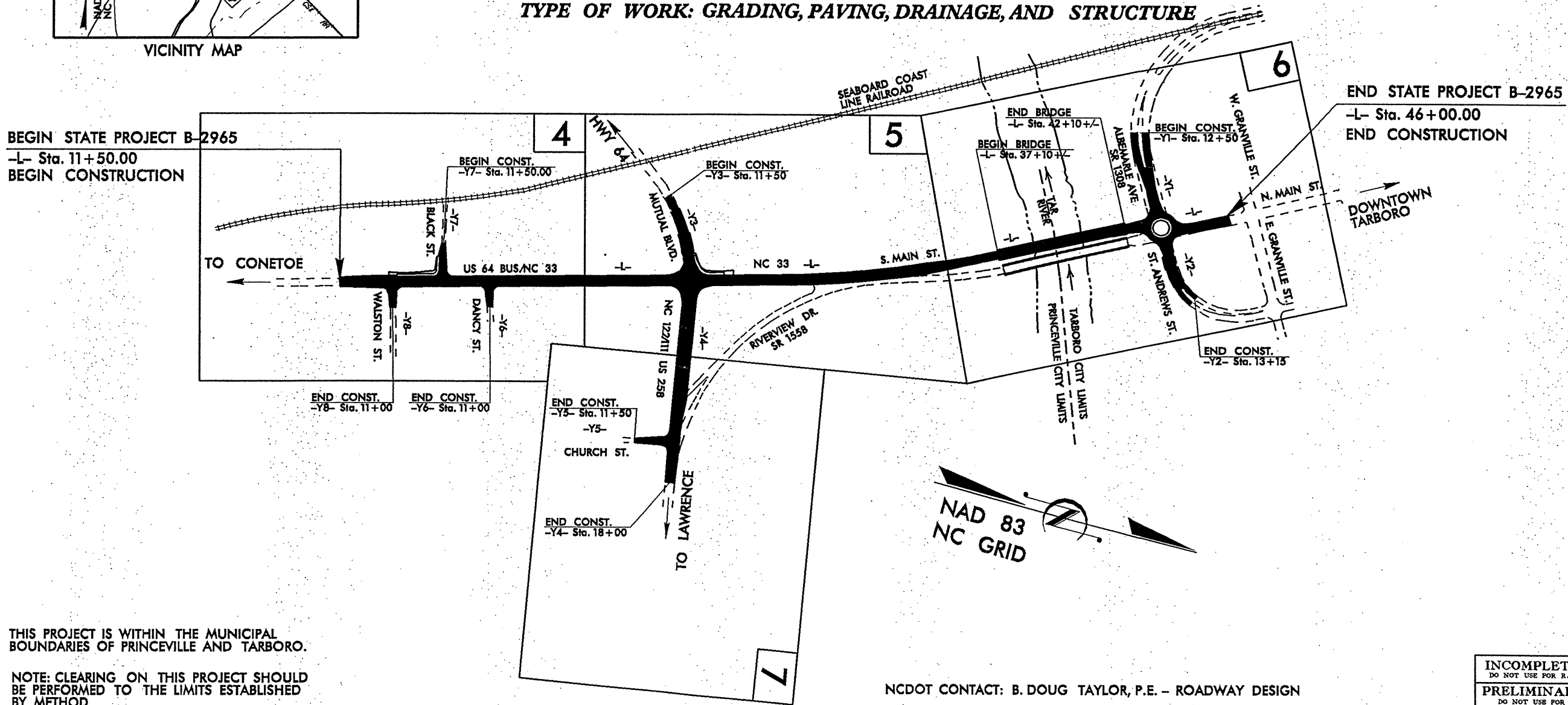
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-2965	3	22
FIG. NO.	F.A. PROJ. NO.	DESCRIPTION	
32782.1.1	BRSTP-064B(1)	P.E.	

TIP PROJECT: B-2965



VICINITY MAP



BEGIN STATE PROJECT B-2965
-L- Sta. 11+50.00
BEGIN CONSTRUCTION

END STATE PROJECT B-2965
-L- Sta. 46+00.00
END CONSTRUCTION

THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF PRINCEVILLE AND TARBORO.

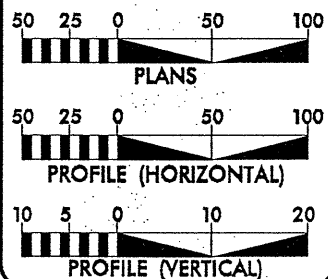
NOTE: CLEARING ON THIS PROJECT SHOULD BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD _____.

NCDOT CONTACT: B. DOUG TAYLOR, P.E. - ROADWAY DESIGN

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:

GRAPHIC SCALES



DESIGN DATA

ADT 2008 = 13,350
ADT 2028 = 17,950
DHV = 10 %
D = 60 %
T = 5 % *
V = 40 MPH &
25 MPH ON BRIDGE &
NORTH INCLUDING
ROUNDBOUT
* TTST 3 % DUAL 2 %
FUNC CLASS: COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-2965 = 0.559 MILES
LENGTH STRUCTURE TIP PROJECT B-2965 = 0.095 MILES
TOTAL LENGTH TIP PROJECT B-2965 = 0.654 MILES

Prepared in the Office of:
MULKEY
ENGINEERS & CONSULTANTS

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JULY 20, 2007

LETTING DATE:
JULY 15, 2008

PAMELA R. WILLIAMS
PROJECT ENGINEER

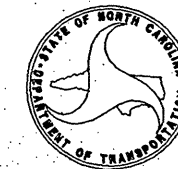
JEFF RECK, P.E.
HYDRAULICS ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.
ROADWAY DESIGN
ENGINEER

SIGNATURE: _____ P.E.
STATE HIGHWAY DESIGN ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



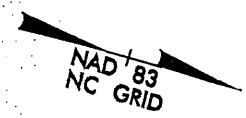
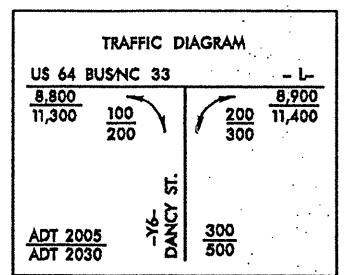
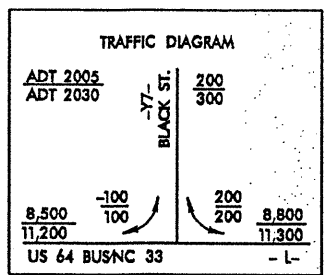
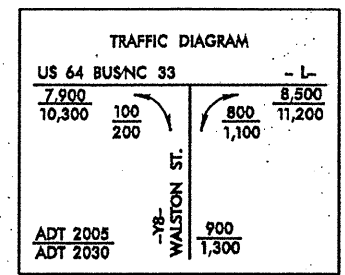
P.E.
STATE HIGHWAY DESIGN ENGINEER

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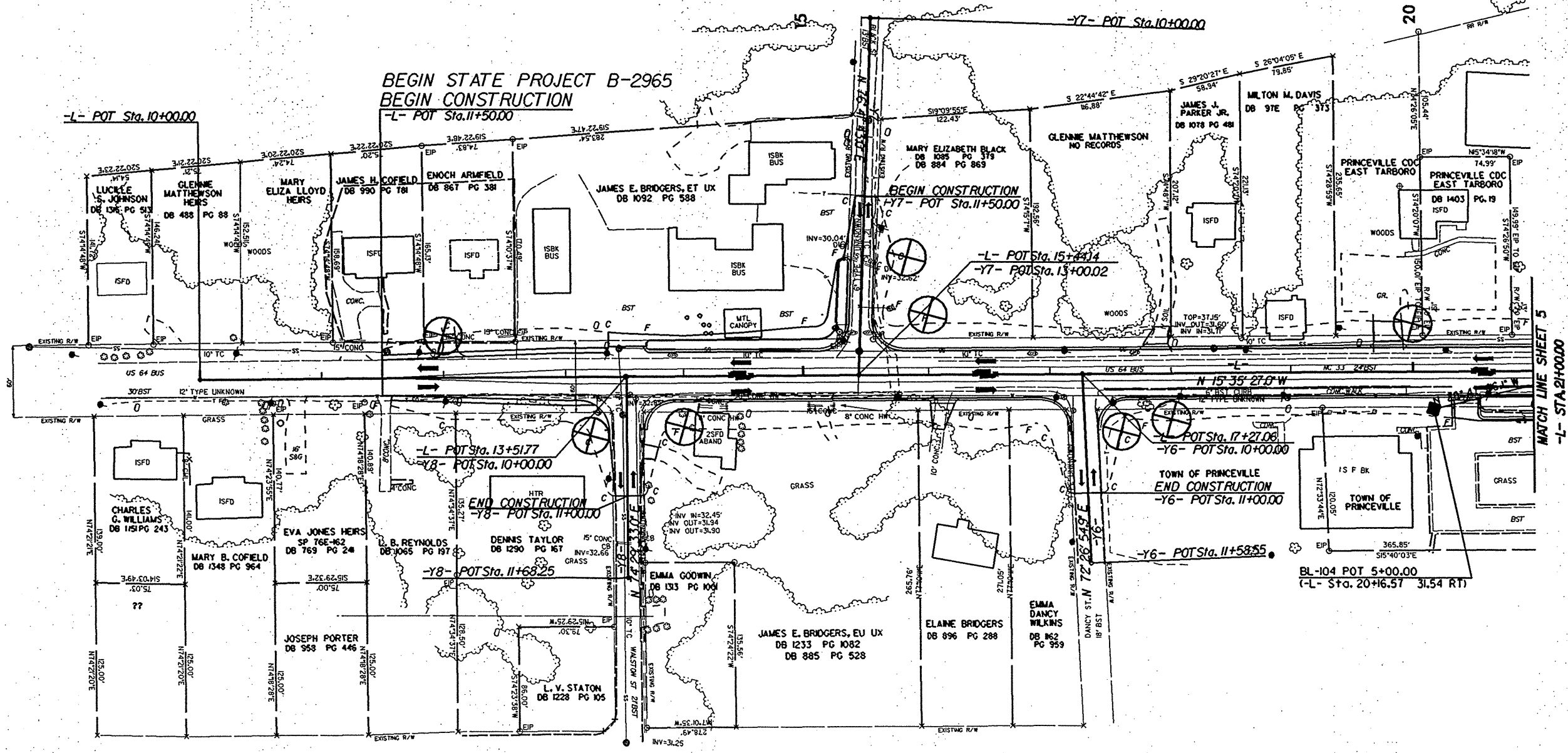
PROJECT REFERENCE NO. B-2965	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY MCDOT FOR MONUMENT "B2965-1" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING 782003.246(11) EASTING 2435088.463(11) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99993740 THE N.C. LAMBERT GRID BEARINGS AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B2965-1" TO L- STATION 11+50.00 IS S 18° 46' 11.2" E DIST = 1,313.8943 FT ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS MVD 29



FOR -L- PROFILE SEE SHEET 8
 FOR -Y6- PROFILE SEE SHEET 11
 FOR -Y7- PROFILE SEE SHEET 11
 FOR -Y8- PROFILE SEE SHEET 11



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REVISIONS

8/17/99

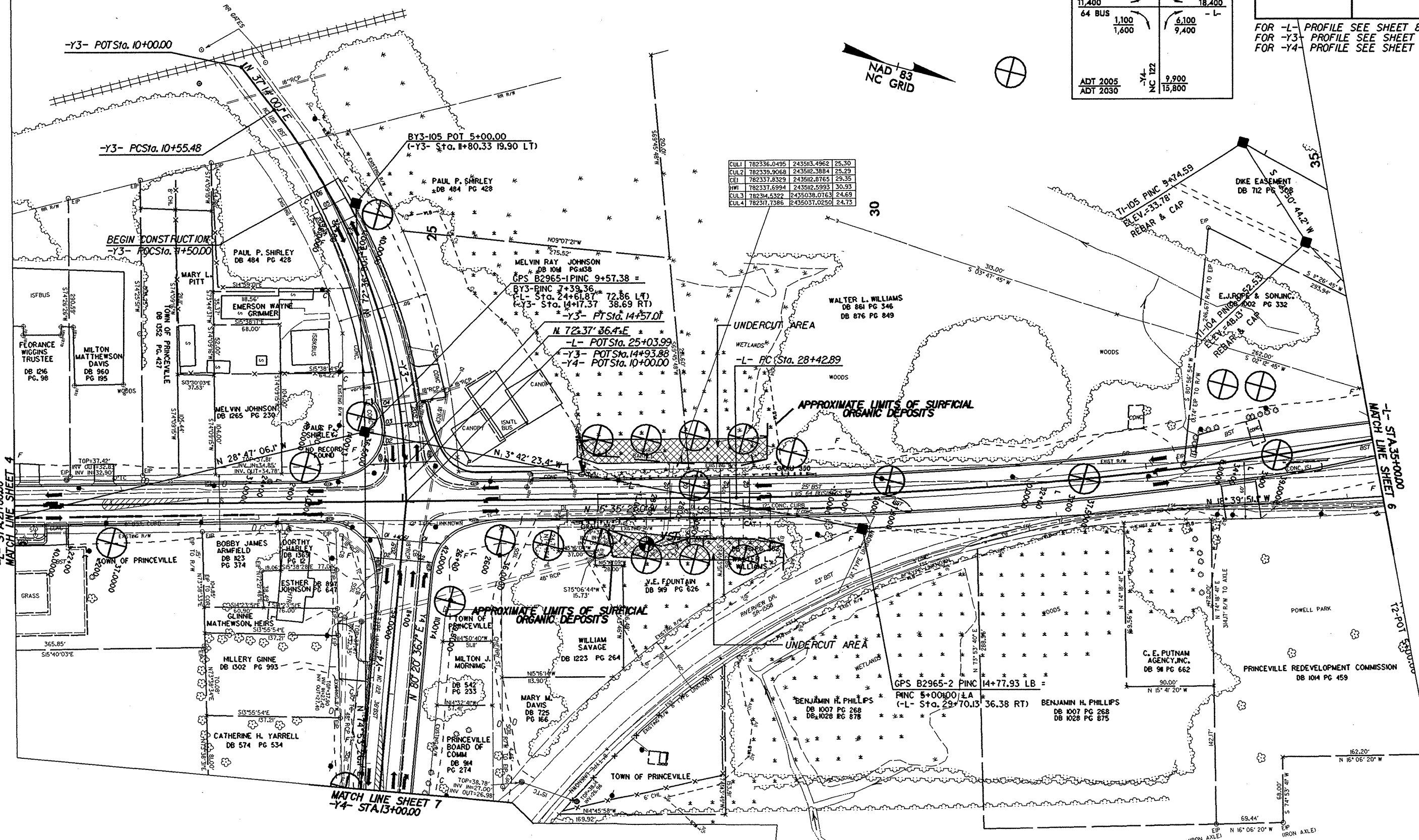
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REVISIONS

PROJECT REFERENCE NO. B-2965	SHEET NO. 5
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

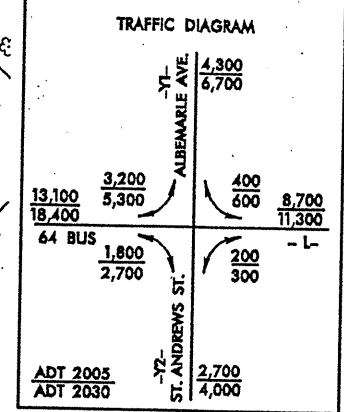
FOR -L- PROFILE SEE SHEET 8
 FOR -Y3- PROFILE SEE SHEET 10
 FOR -Y4- PROFILE SEE SHEET 10

TRAFFIC DIAGRAM			
	-Y3- NC 122	4,500	7,600
8,900	1,300	500	13,100
11,400	1,800	1,000	18,400
64 BUS	1,100	6,100	-L-
	1,600	9,400	
ADT 2005	-Y4- NC 122	9,900	
ADT 2030		15,800	

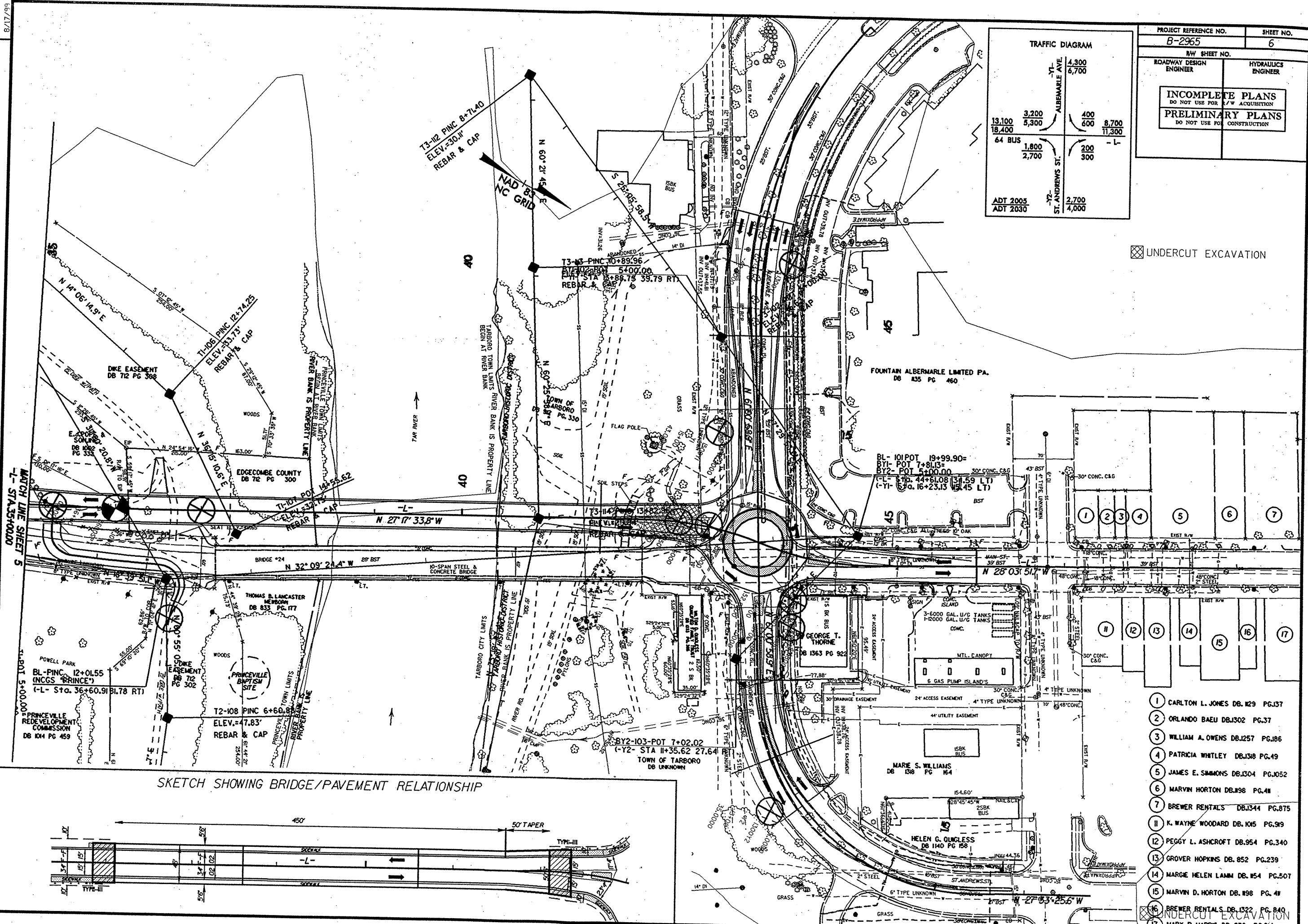


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CUL2	782339.9068	243502.3884	25.29
CE1	782337.8329	243502.6765	29.35
HW1	782337.6994	243502.5993	30.93
CUL3	782344.5322	2435038.0763	24.69
CUL4	782317.7386	2435037.0250	24.73

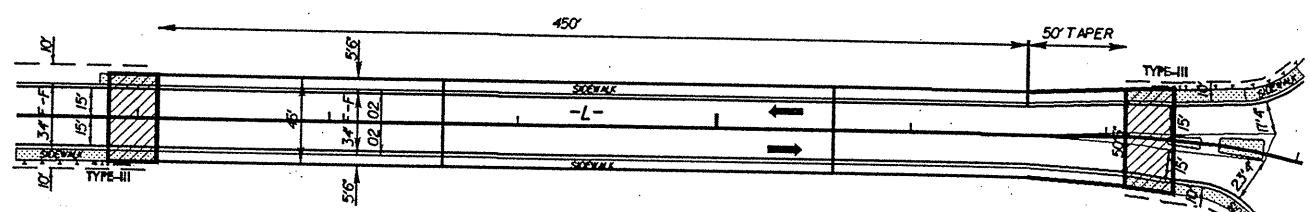
PROJECT REFERENCE NO. B-2965		SHEET NO. 6	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR L/W ACQUISITION			
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



UNDERCUT EXCAVATION



SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP



- 1 CARLTON L. JONES DB. 129 PG.137
- 2 ORLANDO BAEU DB.1302 PG.37
- 3 WILLIAM A. OWENS DB.1257 PG.186
- 4 PATRICIA WHITLEY DB.1318 PG.49
- 5 JAMES E. SIMMONS DB.1304 PG.1052
- 6 MARVIN HORTON DB.1198 PG.41
- 7 BREWER RENTALS DB.1344 PG.875
- 11 K. WAYNE WOODARD DB. 1015 PG.919
- 12 PEGGY L. ASHCROFT DB.954 PG.340
- 13 GROVER HOPKINS DB. 852 PG.239
- 14 MARGE HELEN LANN DB. 1154 PG.507
- 15 MARVIN D. HORTON DB. 1198 PG. 41
- 16 BREWER RENTALS DB. 1322 PG. 840
- 17 MARY P. HARRIS DB. 1198 PG. 211

REVISIONS

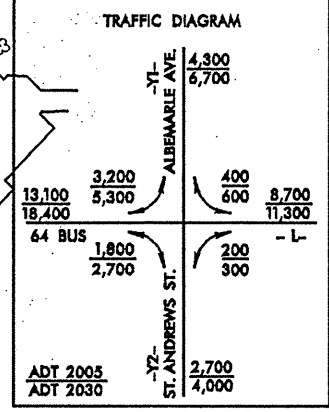
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8/17/99

INCOMPLETE PLANS
DO NOT USE FOR A/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

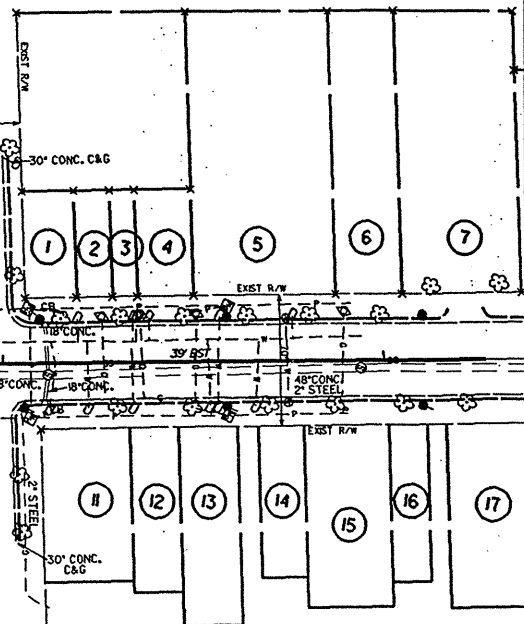
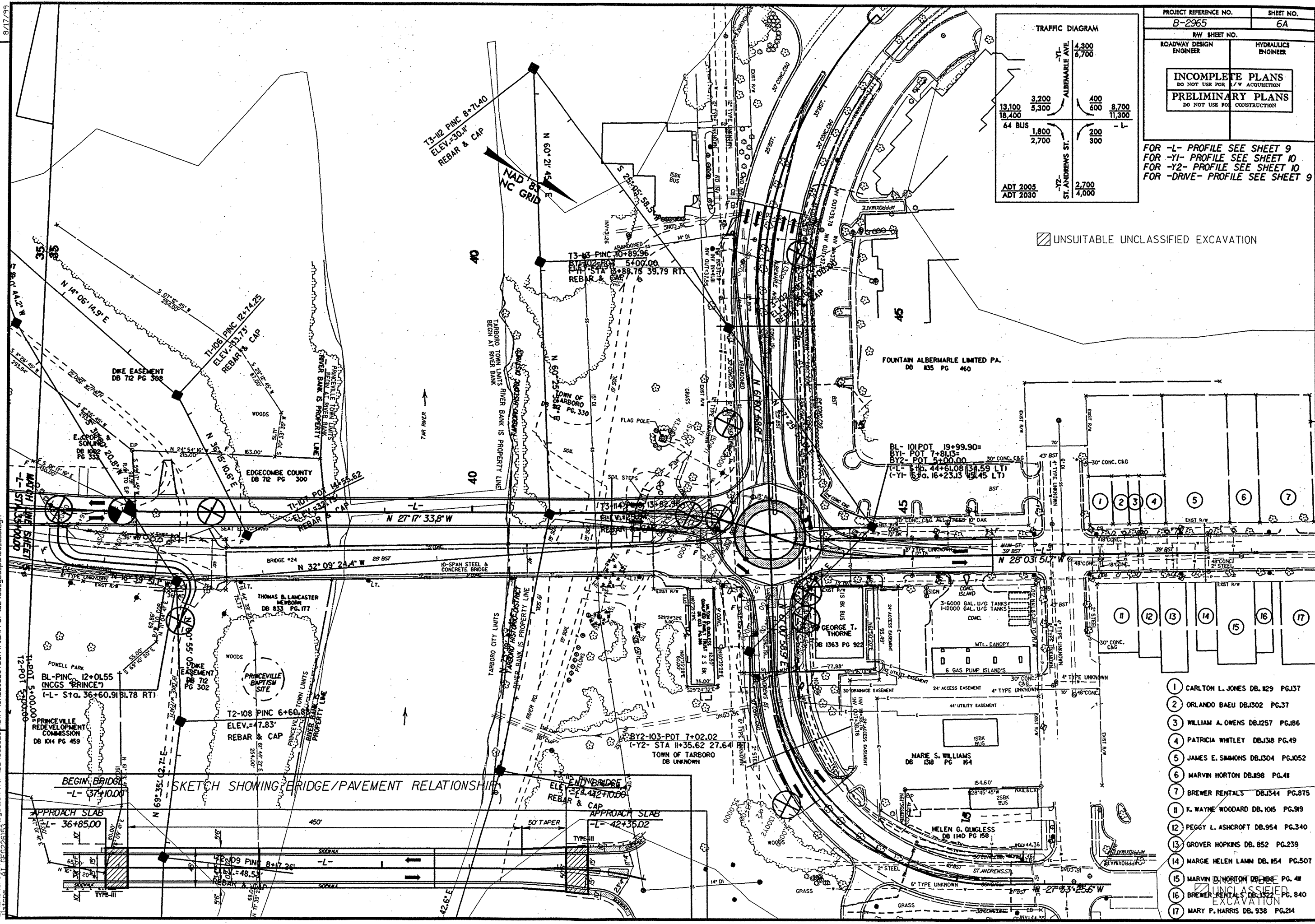
FOR -L- PROFILE SEE SHEET 9
FOR -Y1- PROFILE SEE SHEET 10
FOR -Y2- PROFILE SEE SHEET 10
FOR -DRIVE- PROFILE SEE SHEET 9



UNSUITABLE UNCLASSIFIED EXCAVATION

REVISIONS

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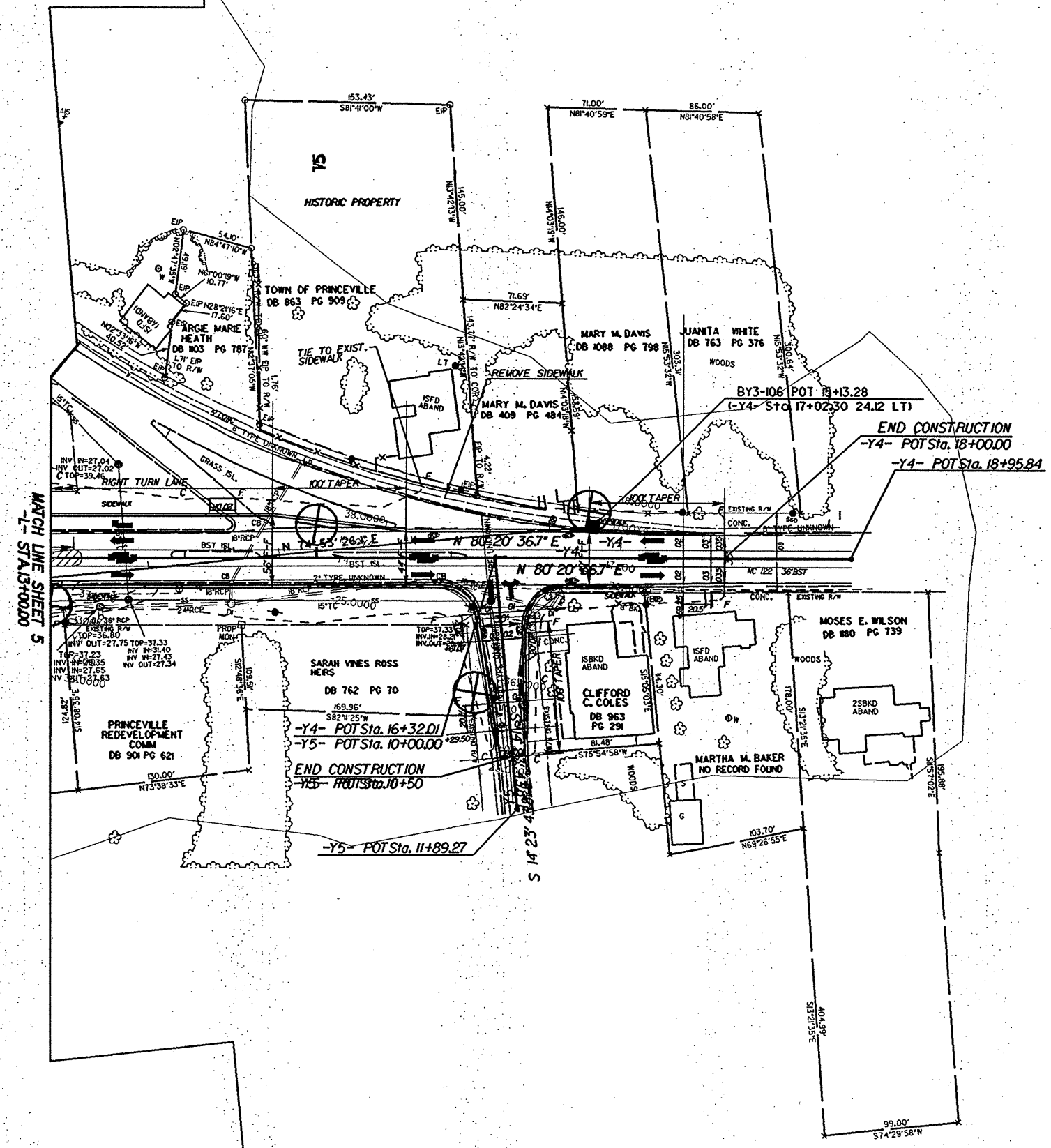


- 1 CARLTON L. JONES DB. 129 PG.137
- 2 ORLANDO BAEU DB.J302 PG.37
- 3 WILLIAM A. OWENS DB.1257 PG.186
- 4 PATRICIA WHITLEY DB.J38 PG.49
- 5 JAMES E. SIMMONS DB.J304 PG.1052
- 6 MARVIN HORTON DB.198 PG.41
- 7 BREWER RENTALS DB.J344 PG.875
- 11 K. WAYNE WOODARD DB.105 PG.99
- 12 PEGGY L. ASHCROFT DB.954 PG.340
- 13 GROVER HOPKINS DB. 852 PG.239
- 14 MARGE HELEN LAMM DB. 154 PG.507
- 15 MARVIN HORTON DB. 155 PG. 41
- 16 BREWER RENTALS DB.1522 PG. 840
- 17 MARY P. HARRIS DB. 938 PG.214

UNCLASSIFIED EXCAVATION

PROJECT REFERENCE NO. B-2965	SHEET NO. 7
RWY SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

FOR -Y4- PROFILE SEE SHEET 10
 FOR -Y5- PROFILE SEE SHEET 11



REVISIONS

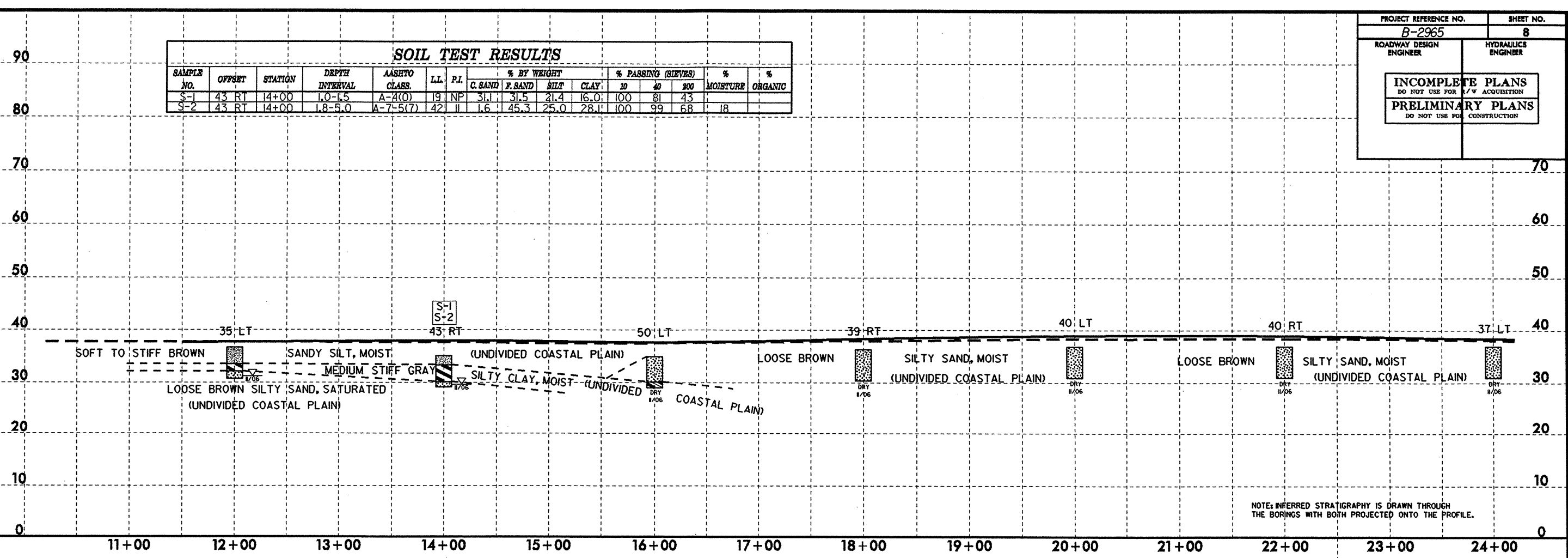
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5/28/99

PROJECT REFERENCE NO. B-2965		SHEET NO. 8	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-1	43 RT	14+00	1.0-1.5	A-4(0)	19	NP	31.1	31.5	21.4	16.0	100	81	43		
S-2	43 RT	14+00	1.8-5.0	A-7-5(7)	42	11	1.6	45.3	25.0	28.1	100	99	68	18	



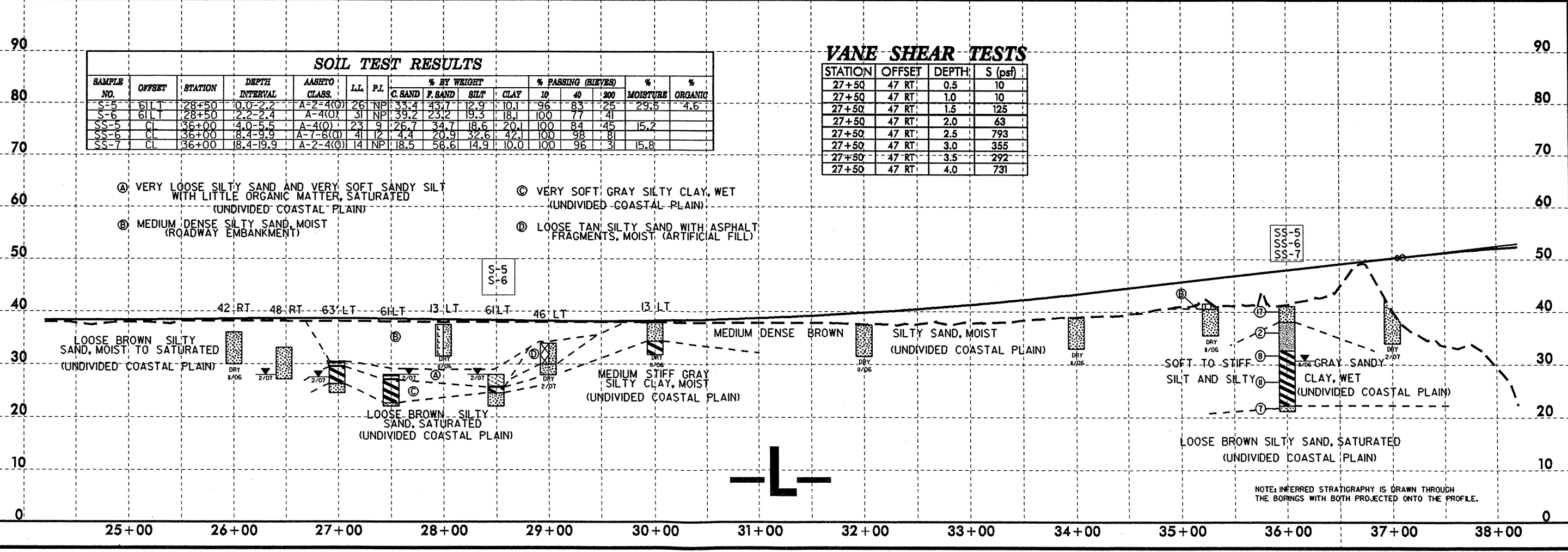
NOTE: INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE PROFILE.

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-5	61 LT	28+50	10.0-2.2	A-2-4(0)	26	NP	33.4	43.7	12.9	10.1	96	83	25	29.5	4.6
S-6	61 LT	28+50	2.2-2.4	A-4(0)	31	NP	39.2	23.2	19.3	18.1	100	77	41		
SS-5	CL	36+00	4.0-5.5	A-4(0)	23	9	26.7	34.7	18.6	20.1	100	84	45	15.2	
SS-6	CL	36+00	8.4-9.9	A-7-6(0)	41	12	4.4	20.9	32.6	42.1	100	98	81		
SS-7	CL	36+00	18.4-19.9	A-2-4(0)	14	NP	18.5	56.6	14.9	10.0	100	96	31	15.8	

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
27+50	47 RT	0.5	10
27+50	47 RT	1.0	10
27+50	47 RT	1.5	125
27+50	47 RT	2.0	63
27+50	47 RT	2.5	793
27+50	47 RT	3.0	355
27+50	47 RT	3.5	292
27+50	47 RT	4.0	731

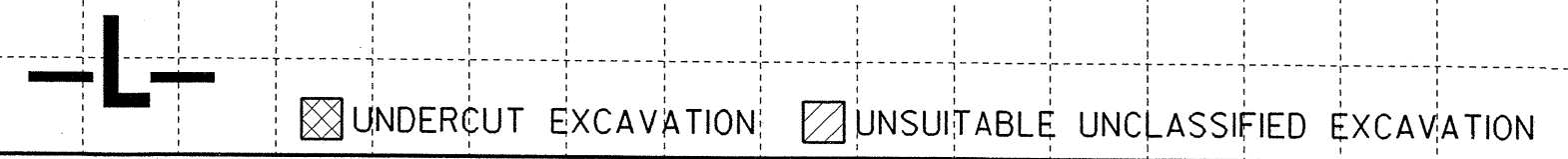
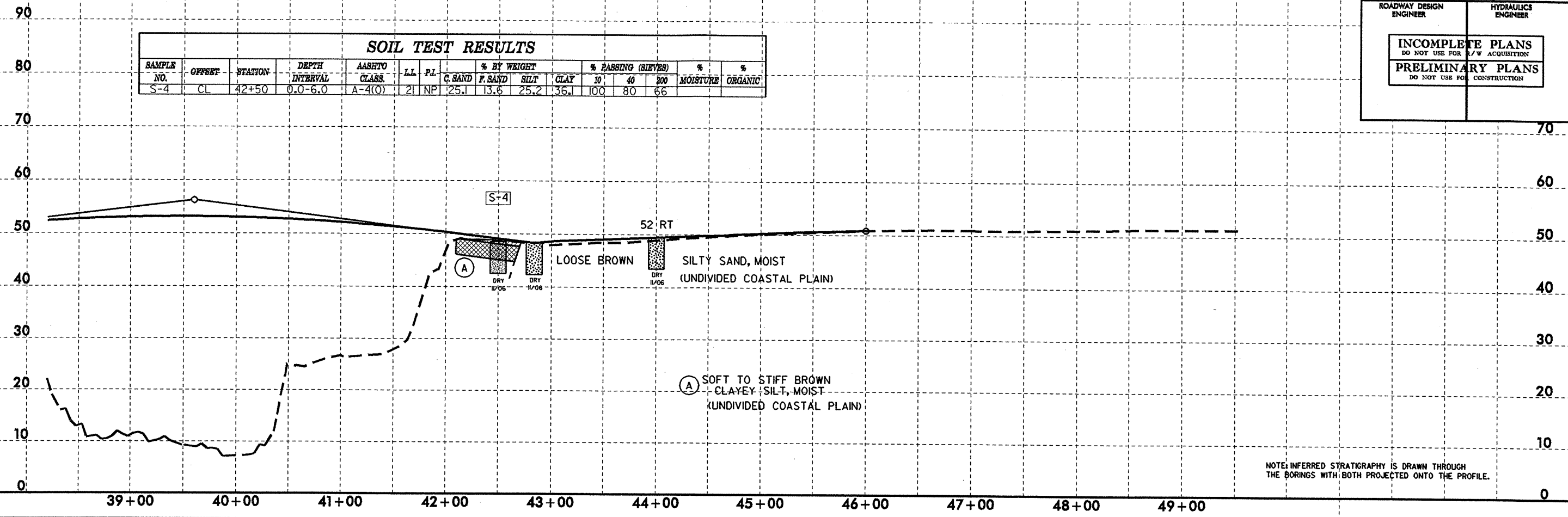
- Ⓐ VERY LOOSE SILTY SAND AND VERY SOFT SANDY SILT WITH LITTLE ORGANIC MATTER, SATURATED (UNDIVIDED COASTAL PLAIN)
- Ⓑ MEDIUM DENSE SILTY SAND, MOIST (ROADWAY EMBANKMENT)
- Ⓒ VERY SOFT, GRAY SILTY CLAY, WET (UNDIVIDED COASTAL PLAIN)
- Ⓓ LOOSE TAN, SILTY SAND WITH ASPHALT FRAGMENTS, MOIST (ARTIFICIAL FILL)



NOTE: INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE PROFILE.

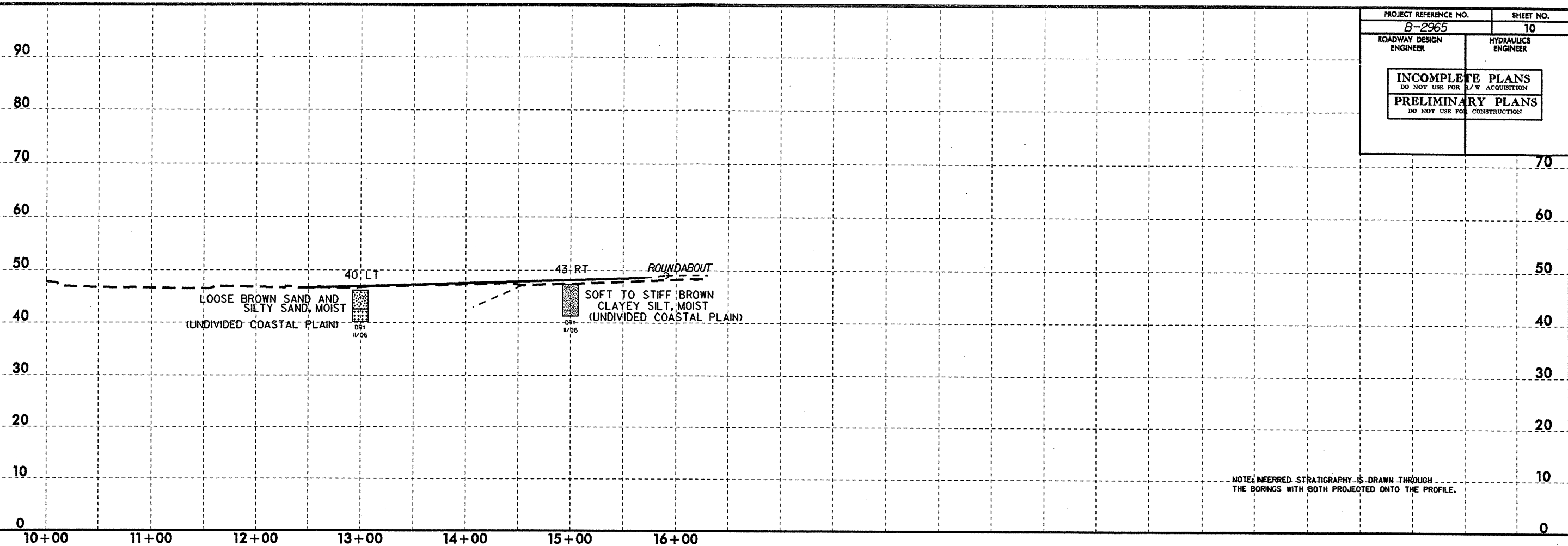
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 Al PR 2/13/03

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	PL	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							G. SAND	F. SAND	SILT	CLAY	10	40	200		
S-4	CL	42+50	0.0-6.0	A-4(0)	21	NP	25.1	13.6	25.2	36.1	100	80	66		



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PROJECT REFERENCE NO. B-2965		SHEET NO. 10	
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INCOMPLETE PLANS DO NOT USE FOR E/W ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



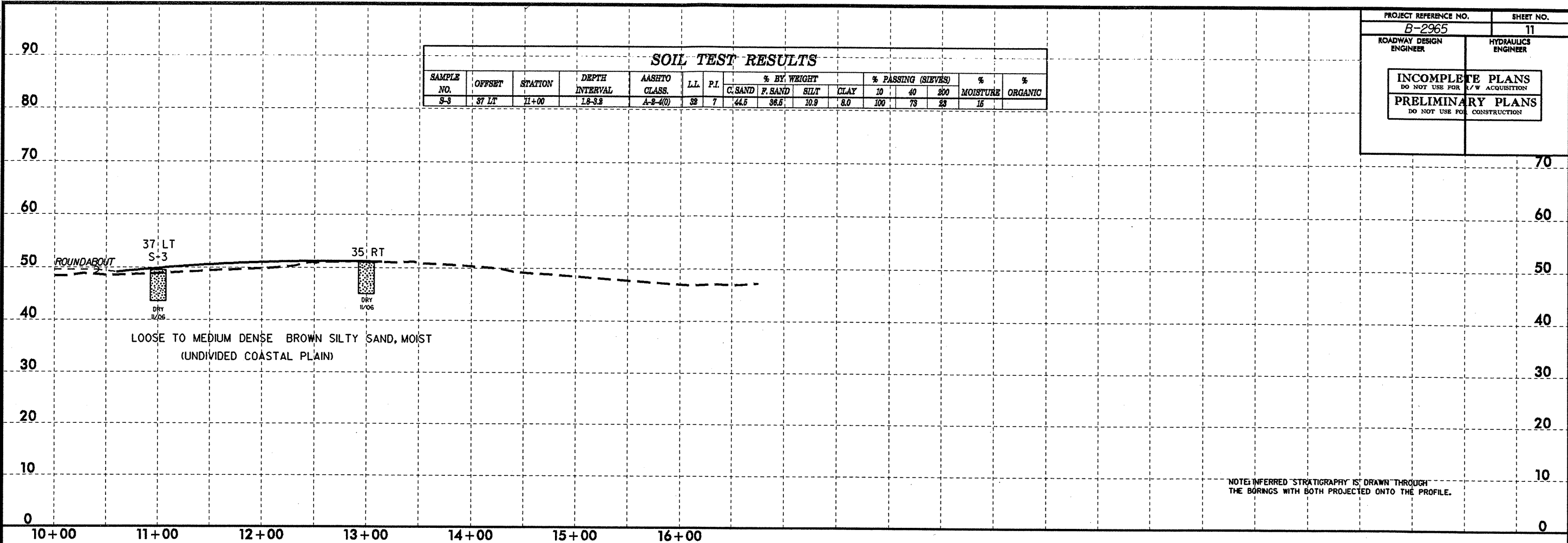
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5/28/99

PROJECT REFERENCE NO. B-2965		SHEET NO. 11	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-3	37 LT	11+00	1.8-3.3	A-2-4(0)	38	7	44.6	38.6	10.9	8.0	100	78	33	16	

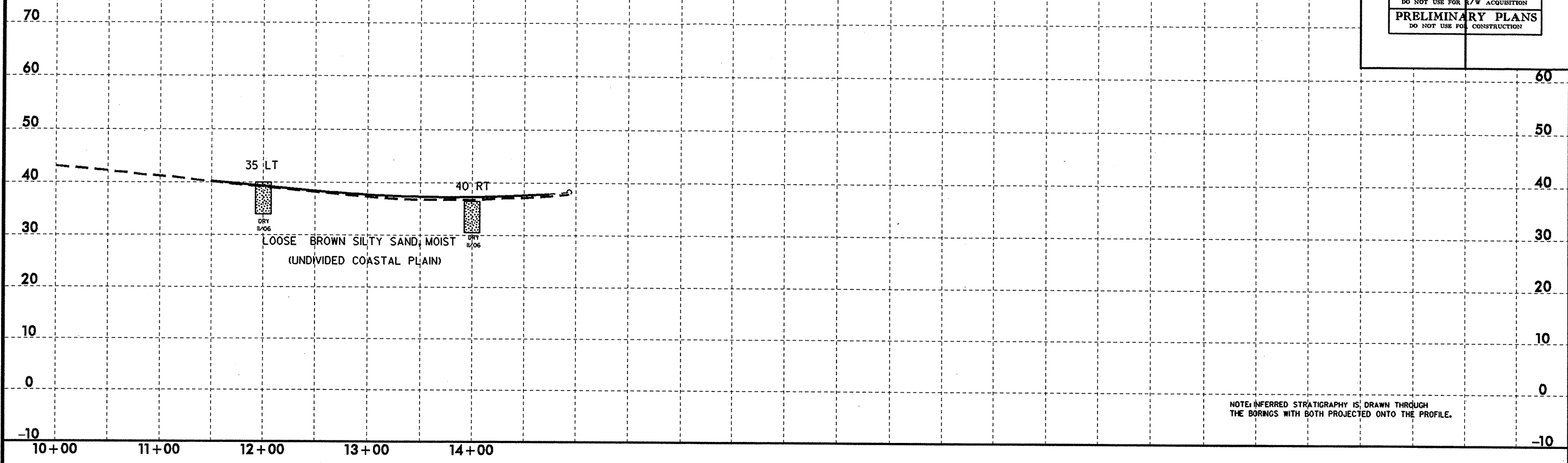


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5/28/99

PROJECT REFERENCE NO. B-2965	SHEET NO. 12
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

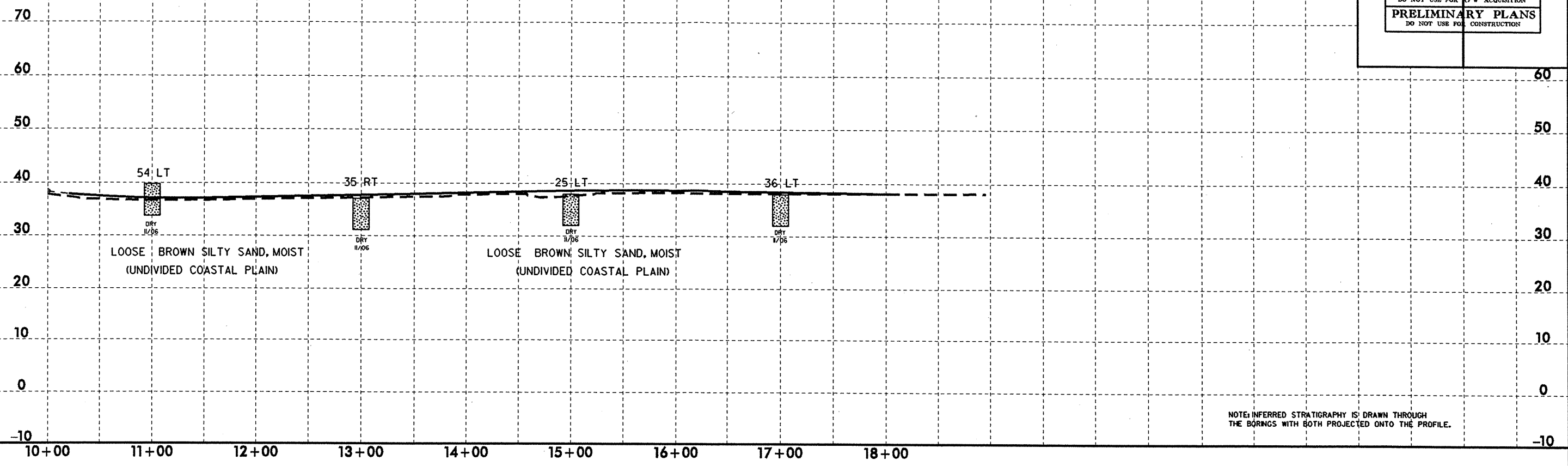


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5/28/99

PROJECT REFERENCE NO. B-2965	SHEET NO. 13
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



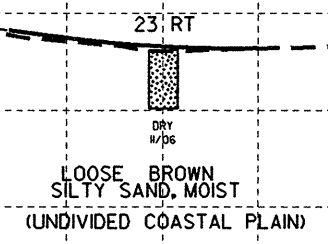
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-Y4-

5/28/99

PROJECT REFERENCE NO. B-2965	SHEET NO. 14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/C ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

70
60
50
40
30
20
10
0
-10



60
50
40
30
20
10
0
-10

NOTE: INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE PROFILE.

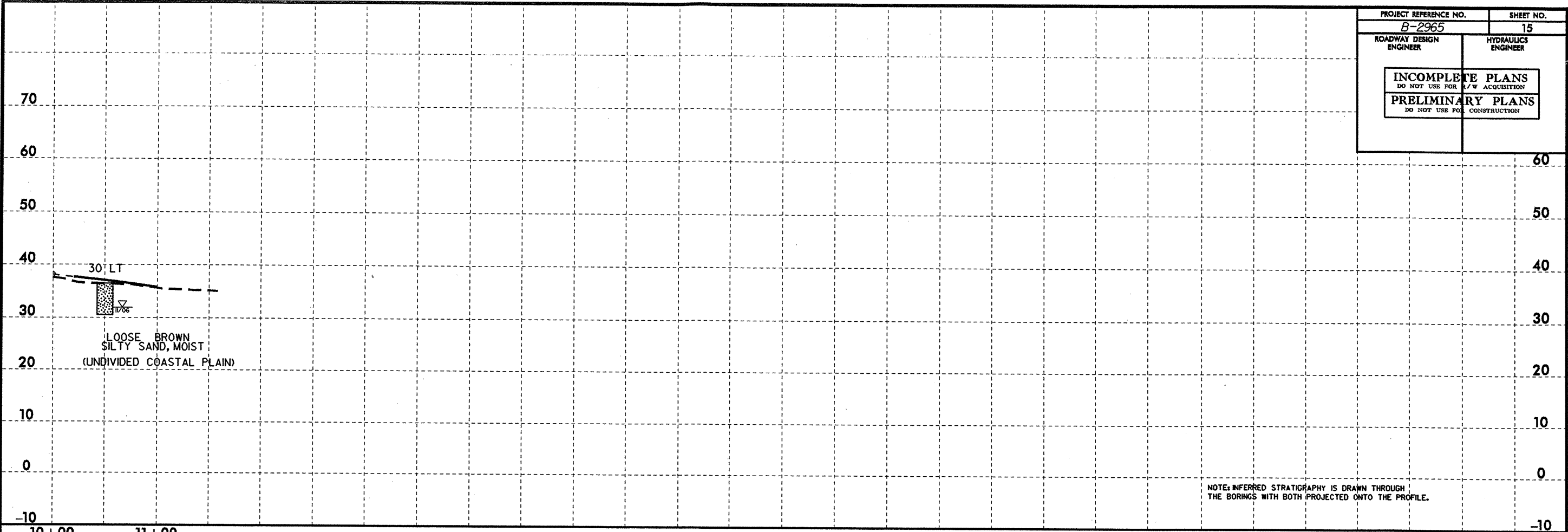
10+00 11+00

-Y5-

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 At 6622513

5/28/99

PROJECT REFERENCE NO. <i>B-2965</i>	SHEET NO. 15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

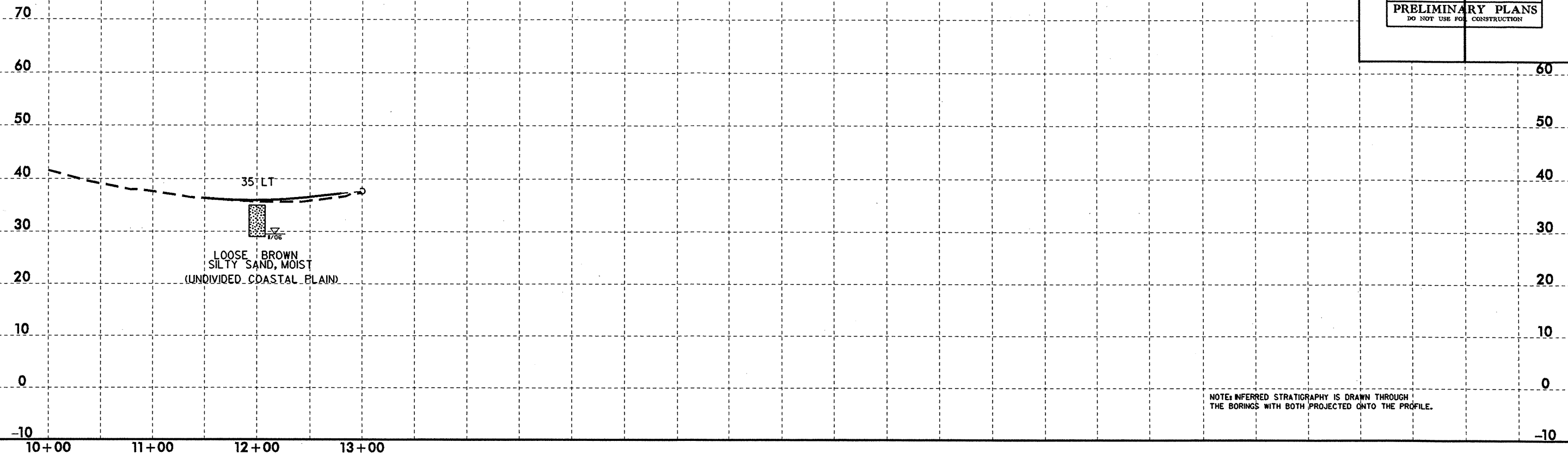


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5/28/99

PROJECT REFERENCE NO. B-2965	SHEET NO. 16
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS <small>DO NOT USE FOR ACQUISITION</small>	
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	



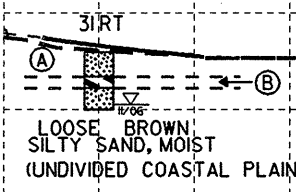
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PROJECT REFERENCE NO. B-2965	SHEET NO. 17
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

70
60
50
40
30
20
10
0
-10

60
50
40
30
20
10
0
-10



(A) LOOSE BROWN SILTY SAND, MOIST (UNDIVIDED COASTAL PLAIN)
 (B) MEDIUM STIFF GRAY SILTY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)

10+00 11+00

NOTE: INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE PROFILE.

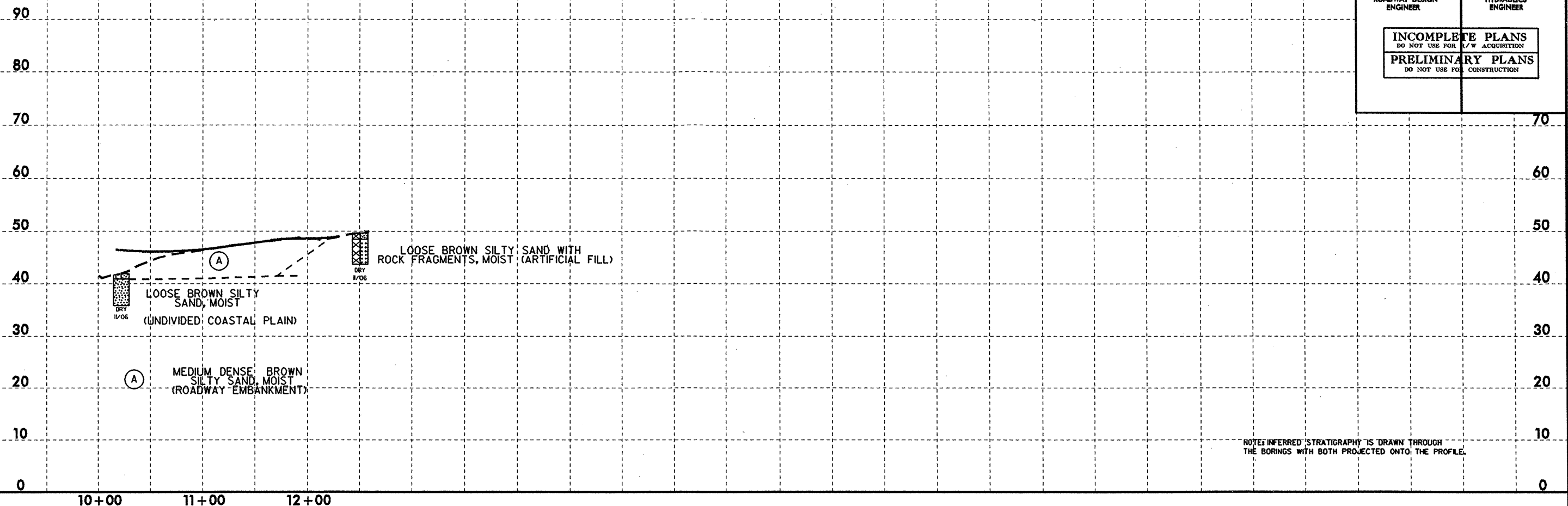
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5/28/99

PROJECT REFERENCE NO. B-2965		SHEET NO. 18	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

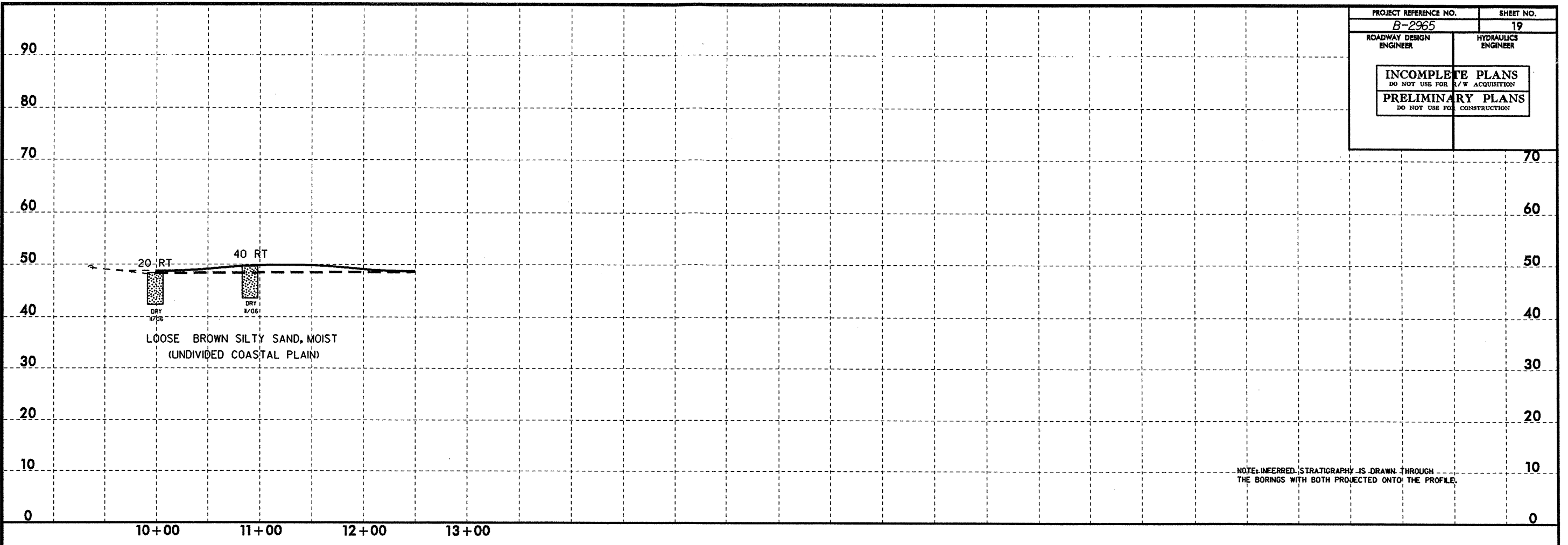


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-DRIVE-

5/28/99

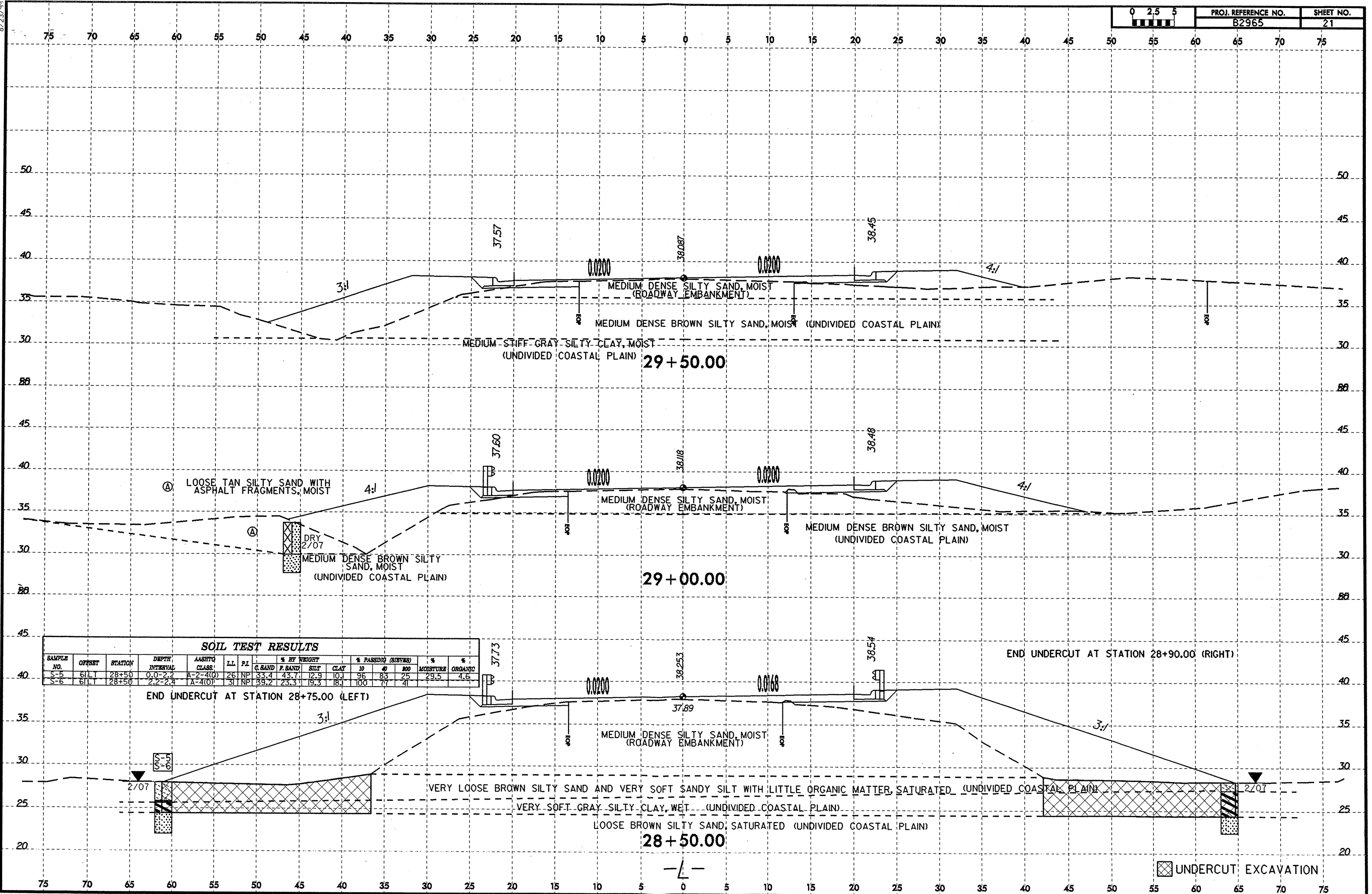
PROJECT REFERENCE NO. B-2965	SHEET NO. 19
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



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SOIL TEST RESULTS

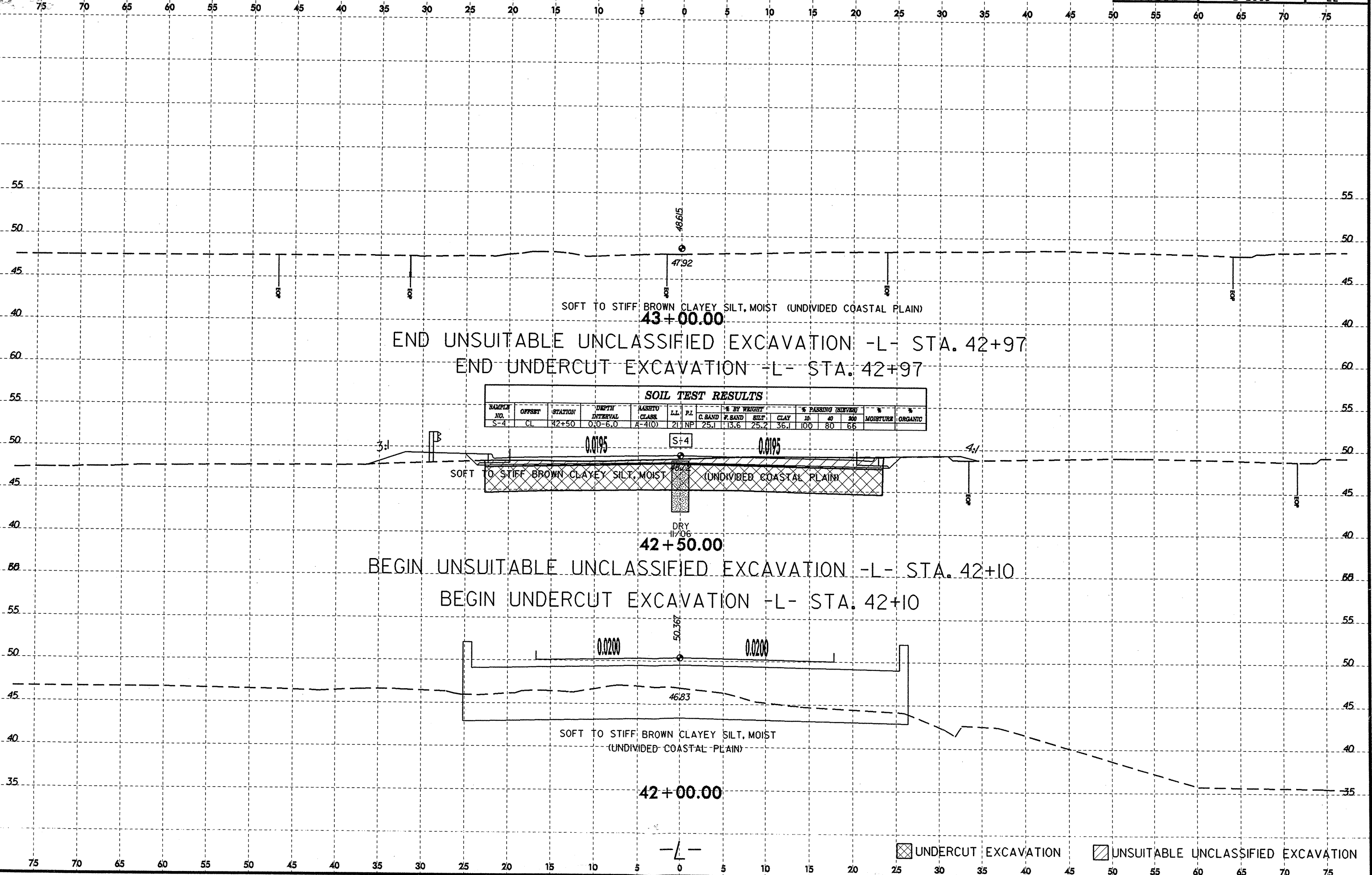
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASTHO CLASS.	LL	PL	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							G. SAND	F. SAND	SILT	CLAY	#10	#40	#200		
S-5	61L	28+50	0.0-2.2	A-2-4(O)	26	NP	83.4	43.7	12.9	10.1	96	83	25	29.5	4.6
S-6	61L	28+50	2.2-2.4	A-4(O)	31	NP	59.2	23.3	19.3	18.1	100	77	41		

END UNDERCUT AT STATION 28+75.00 (LEFT)

END UNDERCUT AT STATION 28+90.00 (RIGHT)

UNDERCUT EXCAVATION

8/23/99



SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	ASHBY CLASS	LL	PL	% BY WEIGHT				% PASSING (SIEVES)			MOISTURE	ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-4	CL	42+50	0.0-6.0	A-4(O)	21	NP	25.1	13.6	25.2	36.1	100	80	66		

02-JUL-2007 14:15
 I:\proj\proj\proj\station\trp\b2965\geo\rdwy\c&c\d.geotech\src\b2965_geo_xsr_1.dgn
 User: geotech