

NOTE: SEE SHEET 1A 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.	SUBJECT NO.	TOTAL SHEETS
N.C.	38566.1.1	1	17
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
B-4796	BRZ-1114(4)	P.E.	
		RW & UTIL.	

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LINE	STATION	PLAN	PROFILE	XSECT
-L-	11+70 to 25+10	4	7	
-YI-	11+90 to 29+62	5-6	8	9-16

Soil Test Results Sheet #17

ROADWAY
SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. 38566.1.1 (B-4796) F.A. PROJ. BRZ-1114(4)
COUNTY RANDOLPH
PROJECT DESCRIPTION REPLACEMENT OF BRIDGE NO. 24
OVER WEST FORK LITTLE RIVER ON SR 1114 (PISGAH
COVERED BRIDGE ROAD)

INVENTORY

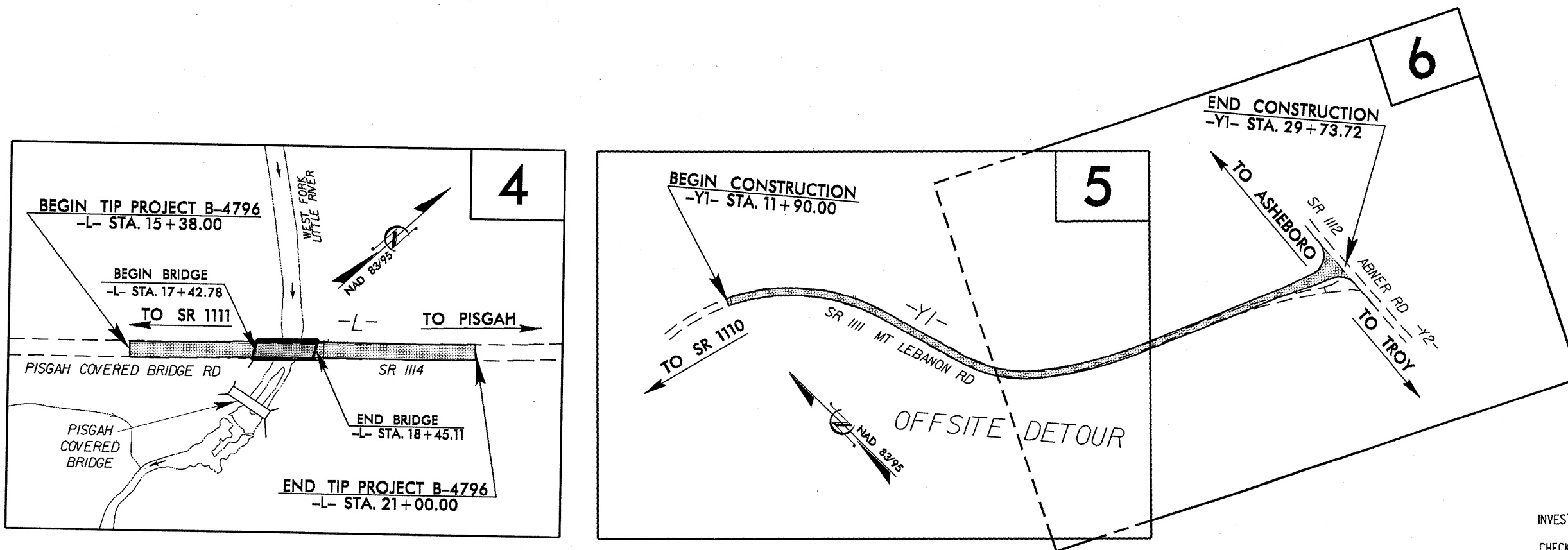
CAUTION NOTICE
THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING, AND DESIGN AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES, AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH 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, OR 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.

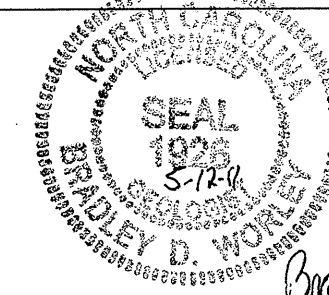
ID: B-4796

CONTRACT: C203030



- PERSONNEL
- B.D. WORLEY**
 - C.M. WHALEN, JR.**
 - C.A. YOUNGBLOOD**
 - J.M. NORDAN**

INVESTIGATED BY **B.D. WORLEY**
CHECKED BY **K.B. MILLER**
SUBMITTED BY **K.B. MILLER**
DATE **MAY 2011**



Bradley D. Worley

DRAWN BY: **D.W. FIELDS and B.D. WORLEY**

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. 38566.11 (B-4796)	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: VERY STIFF, GRAY, SILTY CLAY, MOST WITH INTERBEDDED FINE SAND LAYERS, HEAVY PLASTIC, A-7-6		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.		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 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:		ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. ADQUIFER - 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. FLDAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED 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 (IN 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 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. 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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 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		EQUIPMENT USED ON SUBJECT PROJECT		FRACTURE SPACING		BEDDING																																																																																																																																
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See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

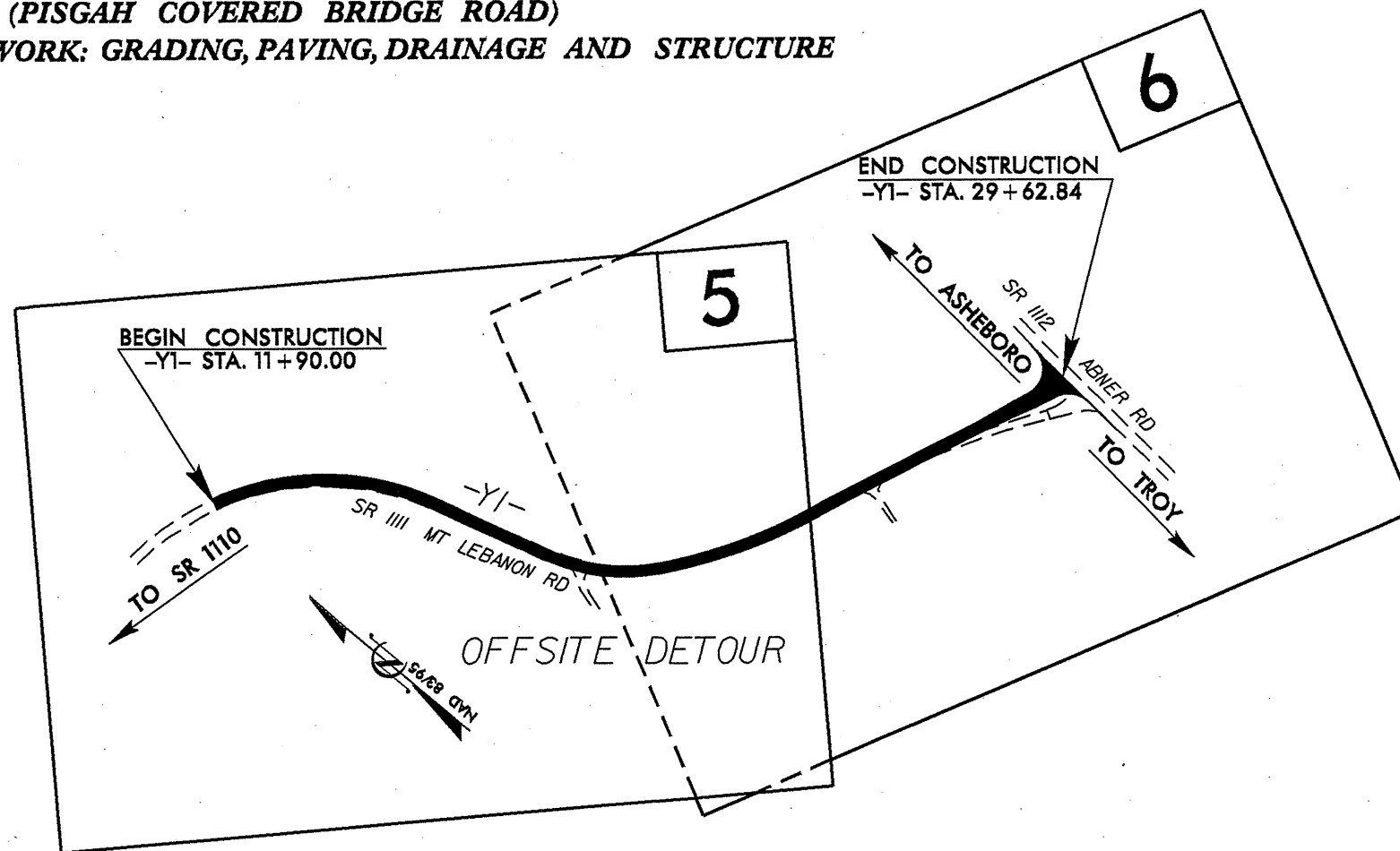
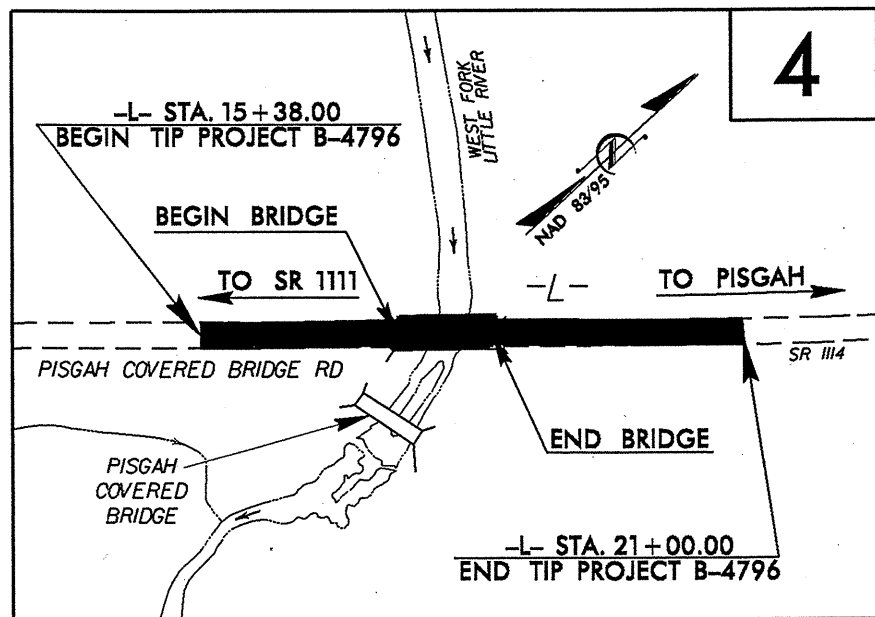
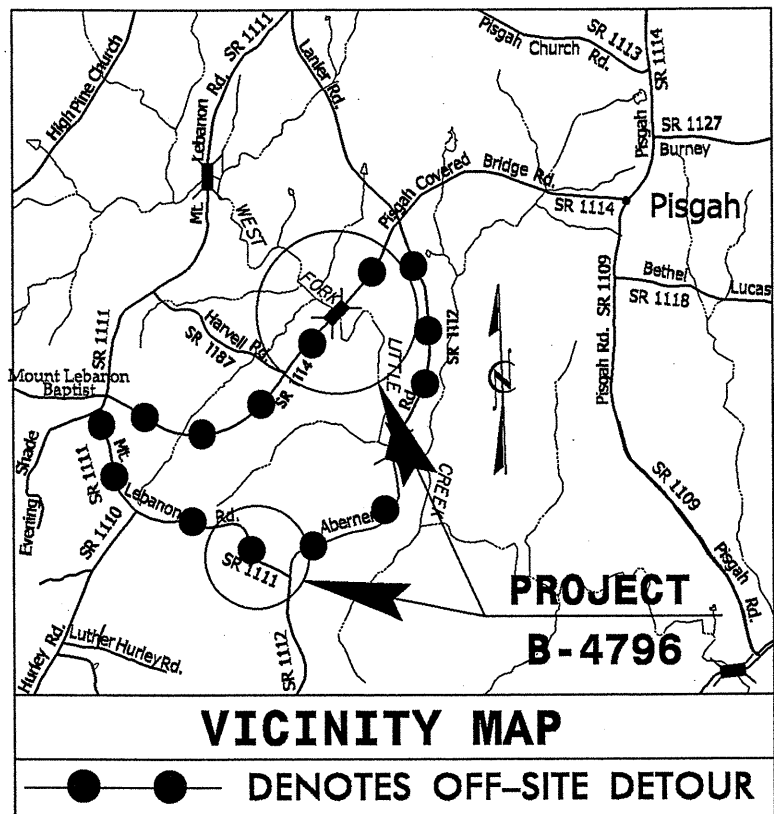
RANDOLPH COUNTY

LOCATION: BRIDGE NO. 24 OVER WEST FORK LITTLE RIVER
AND APPROACHES ON SR 1114
(PISGAH COVERED BRIDGE ROAD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4796	2A	17
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38566.1.1	BRZ-1114(4)	PE	

TIP PROJECT: B-4796

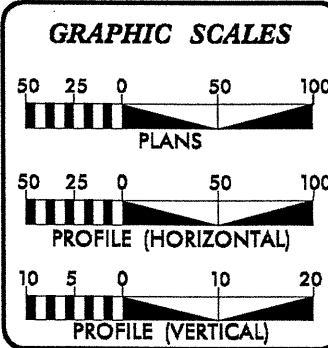


This project is not within any municipal boundaries.
Clearing on this project shall be performed to the limits established by Method __.

Design Exception for grade and vertical alignment is required

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

CONTRACT:



DESIGN DATA

ADT 2013 =	710
ADT 2035 =	1100
DHV =	60 %
D =	10 %
T =	3 % *
V =	60 MPH
* (TTST 1% + DUAL 2%)	
FUNC CLASS =	LOCAL
SUBREGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4796 =	±0.087 MI
LENGTH STRUCTURE TIP PROJECT B-4796 =	±0.019 MI
LENGTH PROJECT TIP PROJECT B-4796 =	0.106 MI

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: DECEMBER 19, 2011	REKHA PATEL, PE PROJECT ENGINEER
LETTING DATE: JANUARY 15, 2013	SAMUEL L. ST. CLAIR PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

STATE HIGHWAY DESIGN ENGINEER P.E.

12-MAY-2011 11:41 S:\Contracts\Investigations\TIP\B4796_GEO_ROWY\CADD_GEO\TECH\PlanProf\B4796_Rdy_tsh.dgn bdw@ncdot.gov AT GEC24823



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

May 10, 2011

STATE PROJECT: 38566.1.1 (B-4796)
F.A. PROJECT: BRZ-1114(4)
COUNTY: Randolph
DESCRIPTION: Replacement of Bridge No. 24 over West Fork of Little River on SR 1114
(Pisgah Covered Bridge Road)
SUBJECT: Geotechnical Report - Inventory

Project Description

The project consists of raising the grade of -L- (SR 1114 - Pisgah Covered Bridge Road) and the in-place replacement of bridge number 24 over the West Fork of Little River. The project also includes the paving and realignment of -Y1- (SR 1111 - Mt. Lebanon Road). -Y1- will be used as an off-site detour during the construction of the new structure on -L-.

The geotechnical investigation was conducted in February and March 2011 utilizing NCDOT Geotechnical Engineering Unit personnel. Borings on both -L- and -Y1- were advanced using a hand auger. Soil samples were collected and submitted to the Materials and Test Unit for laboratory analysis. Dynamic Cone Penetrometer (DCP) test were performed along the existing -Y1- to provide additional information for paving.

The following alignments were investigated for this project:

<u>Line</u>	<u>Station(±)</u>
-L-	11+70 to 25+10
-Y1-	11+90 to 29+62

Areas of Special Geotechnical Interest

- 1) Plastic Soils- Medium to Highly plastic clays occur near ground surface along the length of the -Y1- proposed alignment.

<u>Line</u>	<u>Station(±)</u>
-Y1-	11+90 to 29+62

Physiography, Geology and Surface Water

The project is located in the central portion of the Piedmont Physiographic Province, approximately 13 miles south of Asheboro, N.C. Topography in the area is generally gently rolling. The project area is comprised of rural farmland, pine forest, and residential development.

Geologically the project area consists of Cambrian/Late Proterozoic-age felsic metavolcanic rock of the Uwharrie Formation. No crystalline rock outcrops were located in the project area.

Surface water is drained from the project by ditches adjacent to existing roads that empty to the West Fork of Little River.

Soils Properties

Alluvial soils were observed in the creek bed of the West Fork of Little River. The creek cuts through residual soils in the vicinity of the project.

Soils encountered along -L- and -Y1- are residual in origin and are derived from weathering of the underlying felsic metavolcanic rock of the Uwharrie Formation.

Soils found along -L- consist mainly of residual, orange to tan, medium stiff to stiff, fine sandy silt (A-4) and residual, orange-brown, medium stiff, silty clay (A-7-6). Soils encountered along -Y1- consists primarily of residual, red-brown to tan, medium stiff to stiff, silty clay (A-7-5 and A-7-6). The silty clays encountered near surface along -Y1- range from medium to high plasticity.

Rock Properties

No weathered rock or crystalline rock was encountered during this roadway investigation.

Ground Water

Ground water was not encountered in the hand auger borings performed during this investigation. Water levels across the project vary due to topographic relief and soil permeability. Groundwater may fluctuate with seasonal precipitation.

Respectfully Submitted,

Bradley D. Worley, P.G.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING UNIT
1589 MAIL SERVICE CENTER
RALEIGH NC 27699-1589

TELEPHONE: 919-250-4088
Fax: 919-250-4237

www.ncdot.gov/doh/preconstruct/highway/geotech

LOCATION:
CENTURY CENTER COMPLEX
ENTRANCE B-2
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

EARTHWORK BALANCE SHEET
 Volumes in Cubic Yards
 DATE: 10/1/2012

PROJECT: B-4796

COUNTY: Randolph

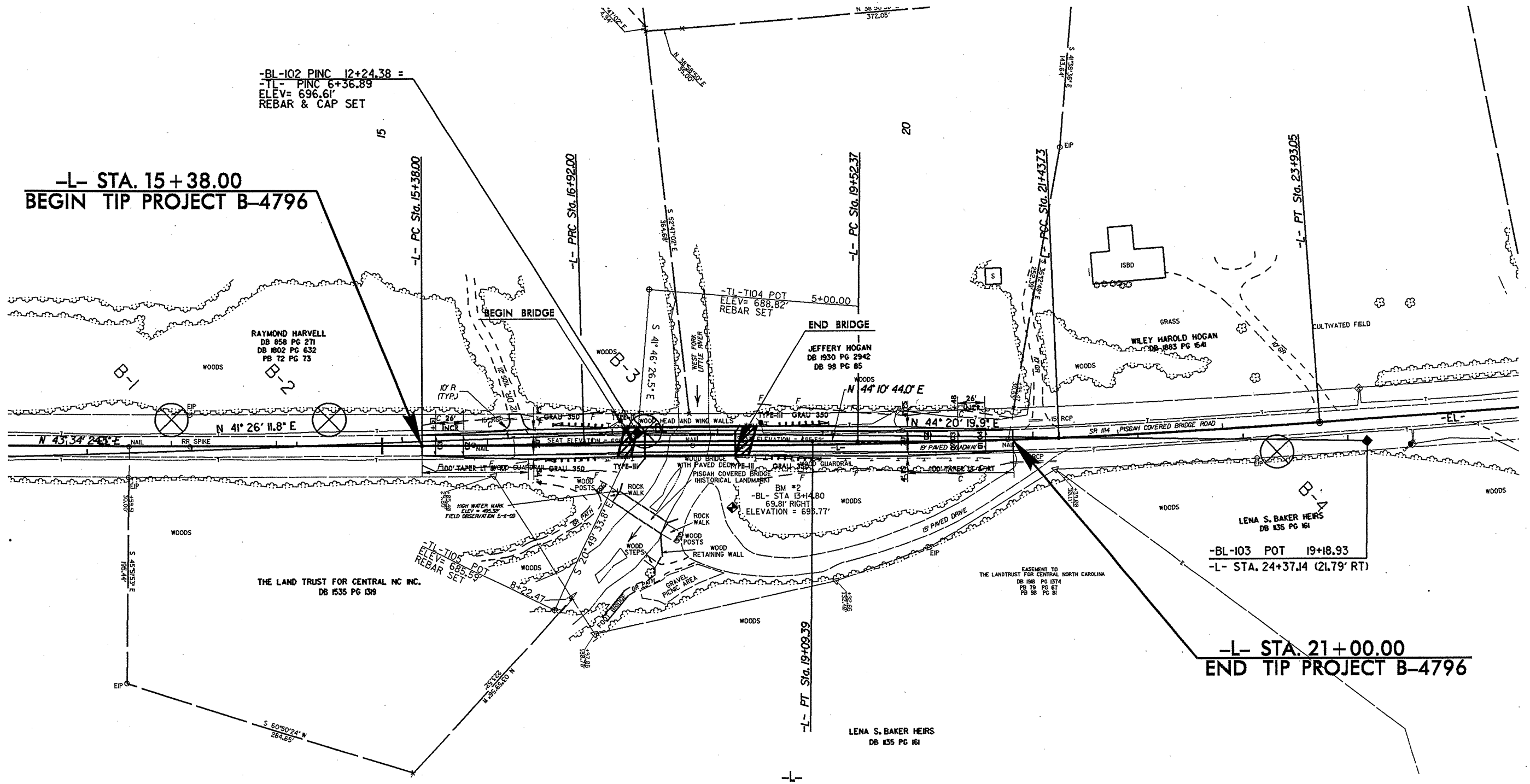
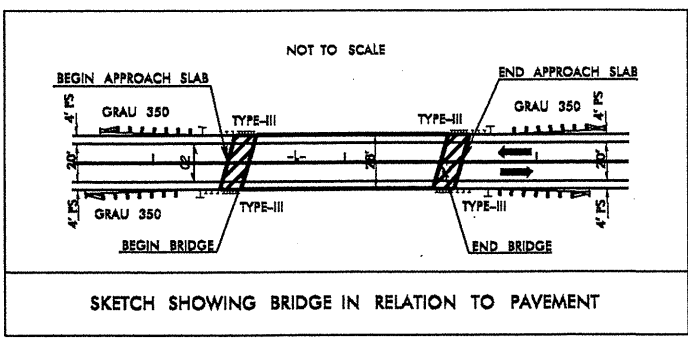
COMPILED BY: SS

SHEET 1 OF 1 SHEETS

STATION	STATION	EXCAVATION					EMBANKMENT				BORROW	WASTE				
		TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMBANK. +20%		ROCK	SUITABLE	UNSUIT.	TOTAL	
-L- STA. 15+38.00 BRIDGE	-L- STA. 17+42.78 (BB)	5				5	200		200	240	235					
-L- STA. 18+45.11 (EB)	-L- STA. 21+00.00	137				137	985		985	1,182	1,045					
SUBTOTAL		142				142	1,185		1,185	1,422	1,280					
-Y1- STA. 11+90.00	-Y1- STA. 29+62.84	3,270		650	2,707	563	911		911	1,093	530			3,357	3,357	
SUBTOTAL		3,270		650	2,707	563	911		911	1,093	530			3,357	3,357	
TOTAL		3,412		650	2,707	705	2,096		2,096	2,515	1,810			3,357	3,357	
EST. SHOULDER MATERIAL							568		568	682	682					
ADDITIONAL UNDERCUT (PER GEOTECH)				300			300		300	360	360			300	300	
PROJECT TOTAL		3,412		950	2,707	705	2,964		2,964	3,557	2,852			3,657	3,657	
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT											143					
GRAND TOTAL		3,412		950	2,707	705	2,964		2,964	3,557	2,995			3,657	3,657	
SAY		3,450									3,025					

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.
 NOTE: APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, BREAKING OF EXISTING PAVEMENT, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING".
 CONTINGENCY ITEM PER GEOTECH:
 EST. SELECT GRANULAR MATERIAL = 950 CY

PROJECT REFERENCE NO. B-4796	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR <input type="checkbox"/> ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR <input type="checkbox"/> CONSTRUCTION	



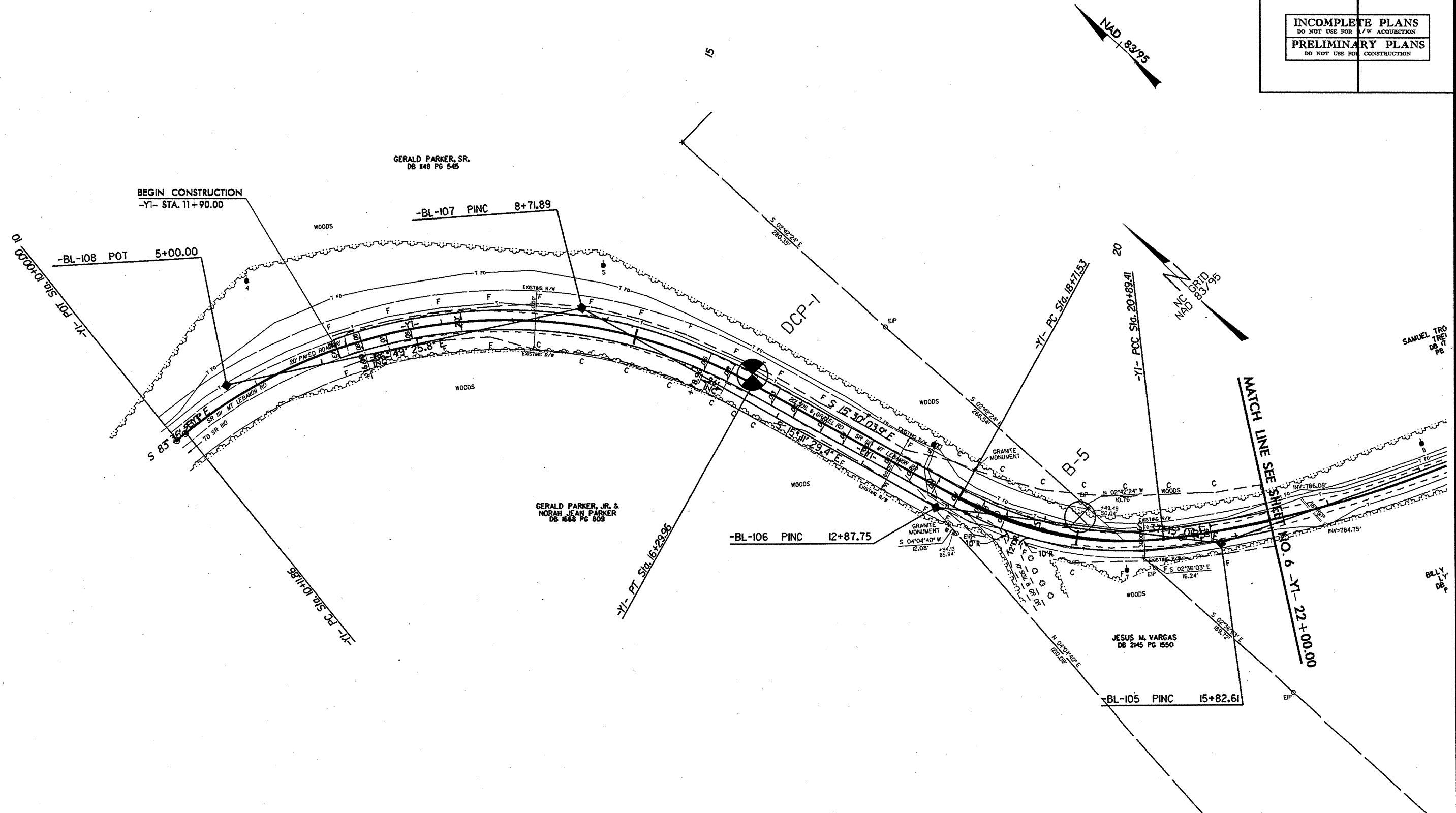
PI Sta 16+15.00 $\Delta = 1' 28' 14.0''$ (LT) $D = 0' 57' 17.7''$ $L = 154.00'$ $T = 77.00'$ $R = 6,000.00'$ $SE = NC$	PI Sta 18+00.71 $\Delta = 2' 04' 33.5''$ (RT) $D = 0' 57' 17.7''$ $L = 217.40'$ $T = 108.71'$ $R = 6,000.00'$ $SE = NC$	PI Sta 20+48.07 $\Delta = 2' 50' 52.2''$ (LT) $D = 1' 29' 17.5''$ $L = 191.36'$ $T = 95.70'$ $R = 3,850.00'$ $SE = NC$	PI Sta 22+68.40 $\Delta = 1' 51' 18.7''$ (LT) $D = 0' 44' 38.8''$ $L = 249.32'$ $T = 124.67'$ $R = 7,700.00'$
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SEE SHEET 7 FOR -L- PROFILE

8/17/99
 25-APP-20111A39
 S:\Transfer\10c\10c1\B4796.GEO\ROWY\CADD\GEO\TECH\Plan\Prof\B4796_GEO.psh04.dgn
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8/17/99

PROJECT REFERENCE NO. B-4796	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



BEGIN CONSTRUCTION
-YI- STA. 11+90.00

-BL-108 POT 5+00.00

-BL-107 PINC 8+71.89

-BL-106 PINC 12+87.75

-BL-105 PINC 15+82.61

MATCH LINE SEE SHEET O-6 -YI- 22+00.00

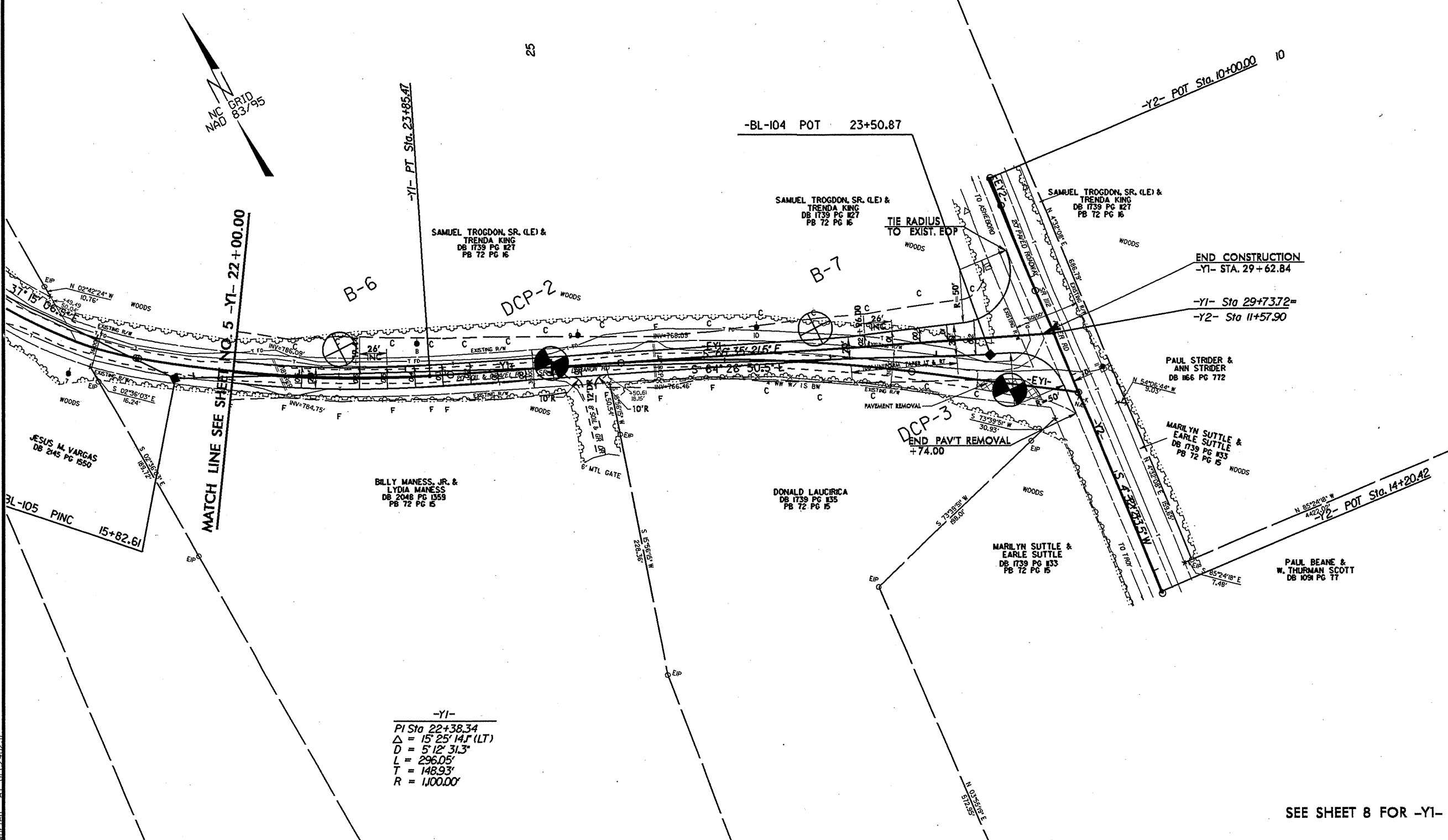
-YI-		
PI Sta 13+63.30	PI Sta 19+84.13	PI Sta 22+38.34
$\Delta = 68^{\circ}06'19.3"$ (RT)	$\Delta = 35^{\circ}40'03.5"$ (LT)	$\Delta = 15^{\circ}25'14.1"$ (LT)
D = 11' 01" 06.3"	D = 16' 22" 12.8"	D = 5' 12" 31.3"
L = 618.10'	L = 217.88'	L = 296.05'
T = 351.44'	T = 112.60'	T = 148.93'
R = 520.00'	R = 350.00'	R = 1100.00'
SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS

SEE SHEET 8 FOR -YI- PROFILE

25-APR-2011 14:26 S:\Transfer\Wor\1001\B4796_GEO_RDWY\CADD_GEO\RDWY\PlanPrj\B4796_GEO_01.psh\05.dgn

PROJECT REFERENCE NO. B-4796	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

8/17/99
 25-APR-2011 14:18
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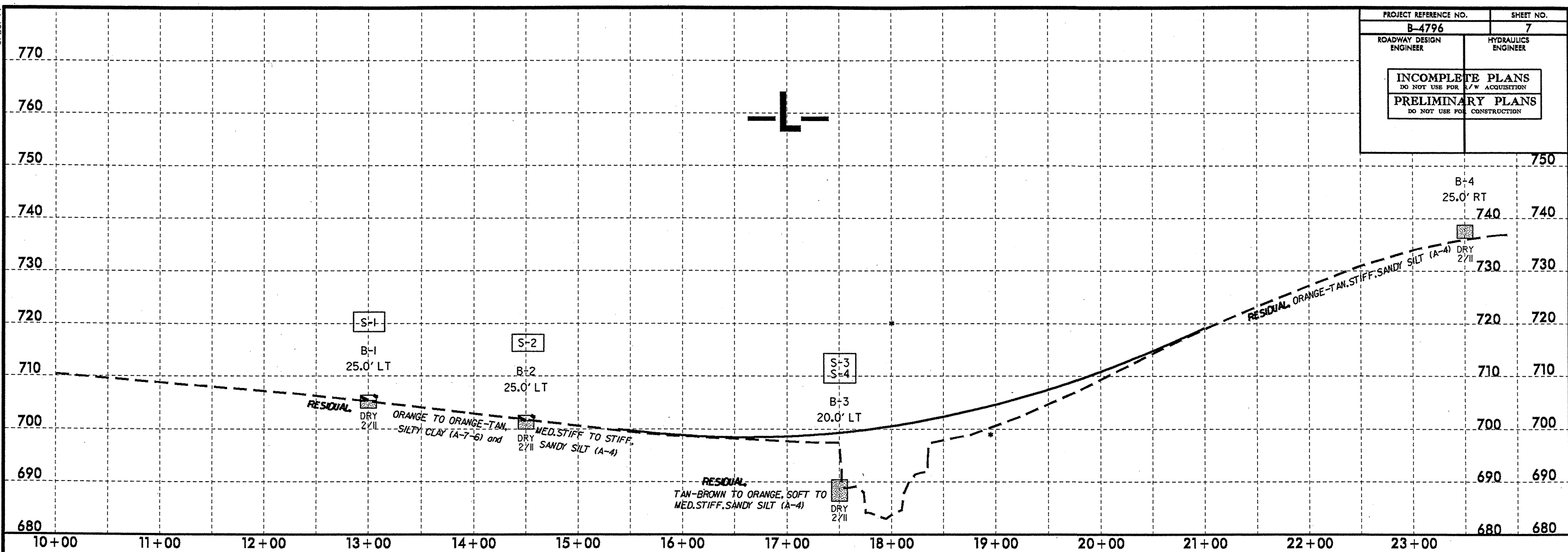


-Y1-
 PI Sta 22+38.34
 $\Delta = 15^\circ 25' 14.1''$ (LT)
 $D = 5' 12' 31.3''$
 $L = 296.05'$
 $T = 148.93'$
 $R = 1,100.00'$

SEE SHEET 8 FOR -Y1- PROFILE

5/28/99

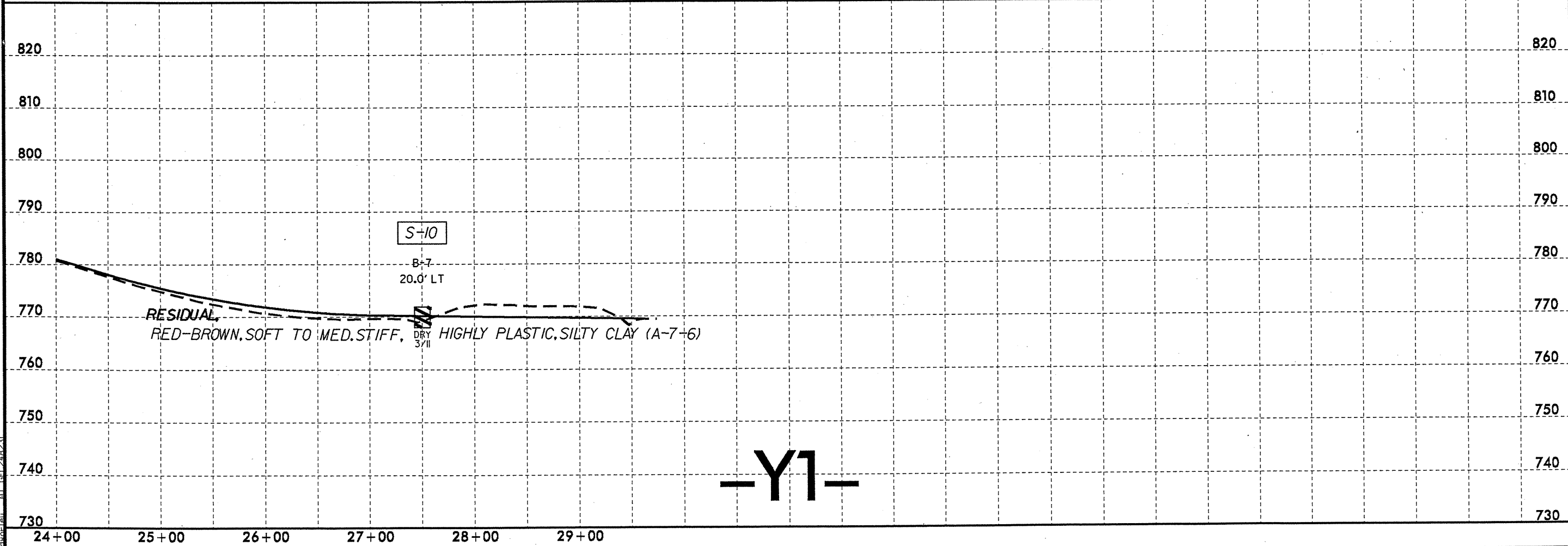
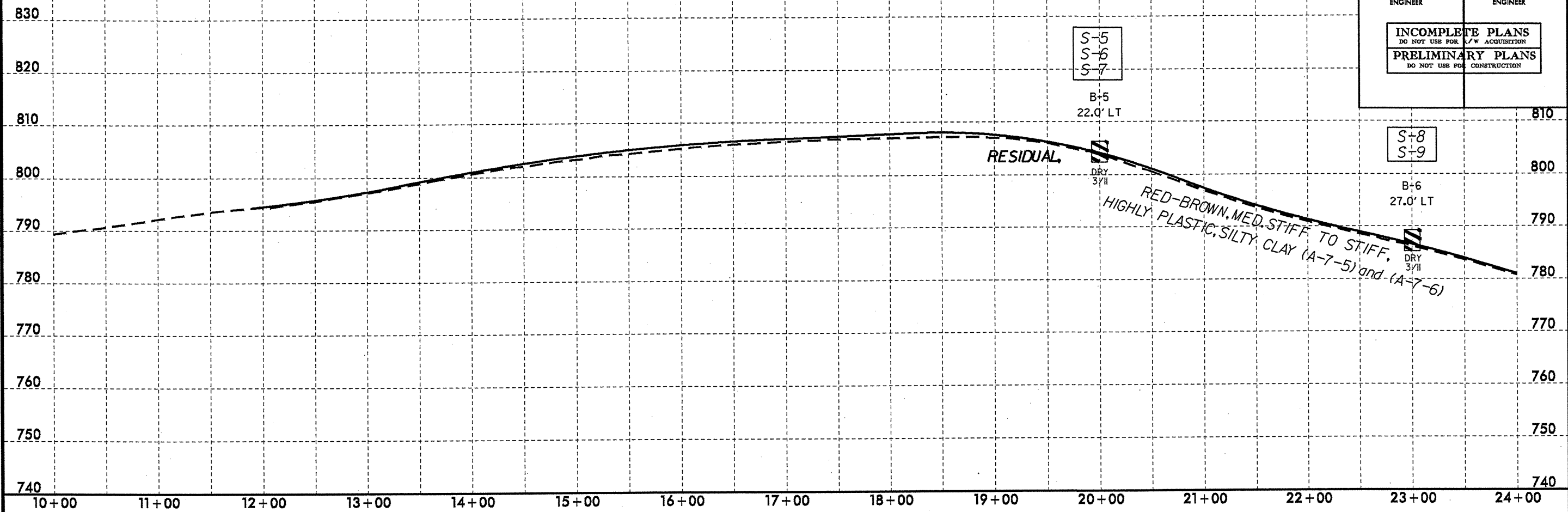
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5/28/99

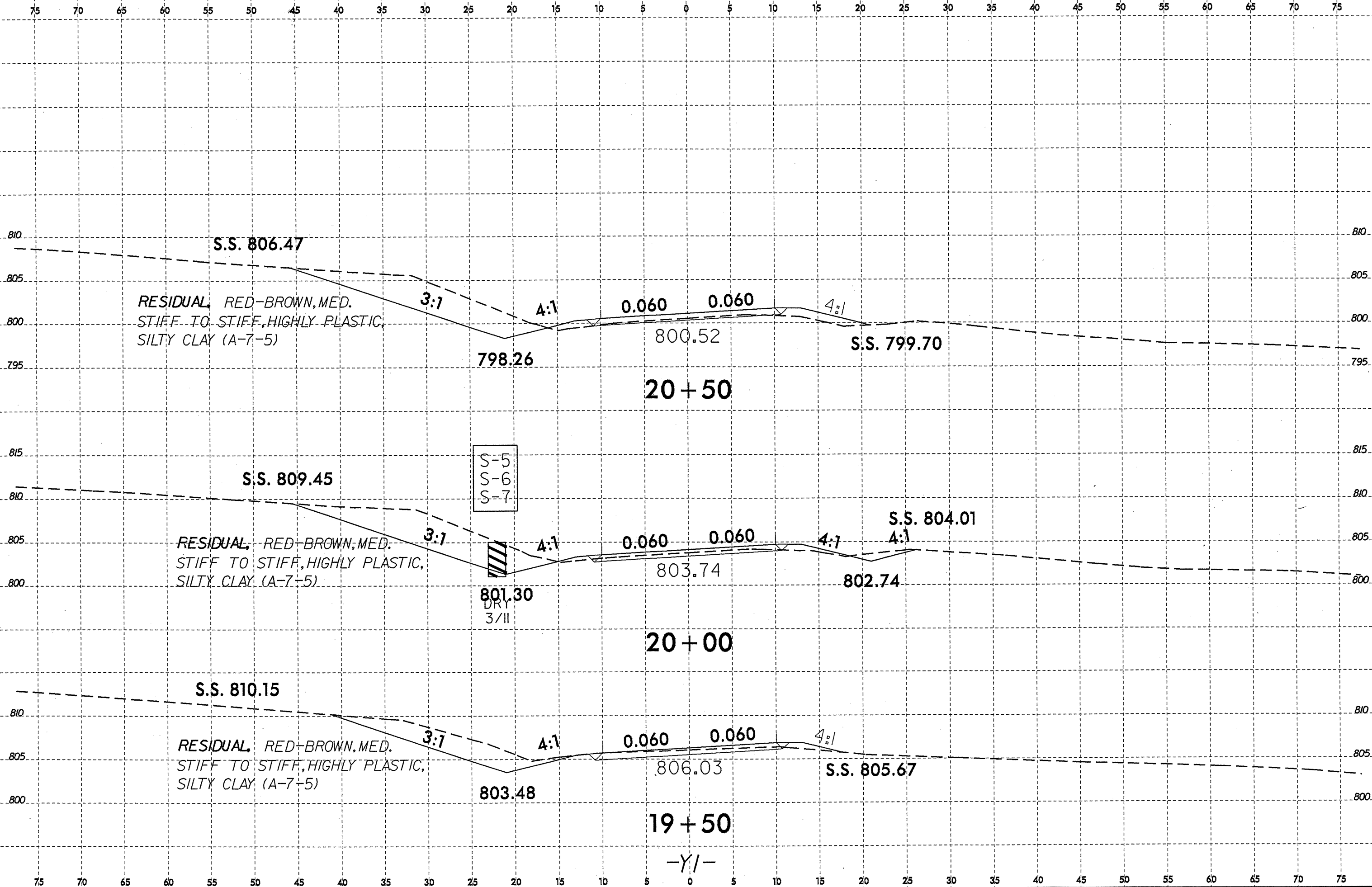
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



-Y1-

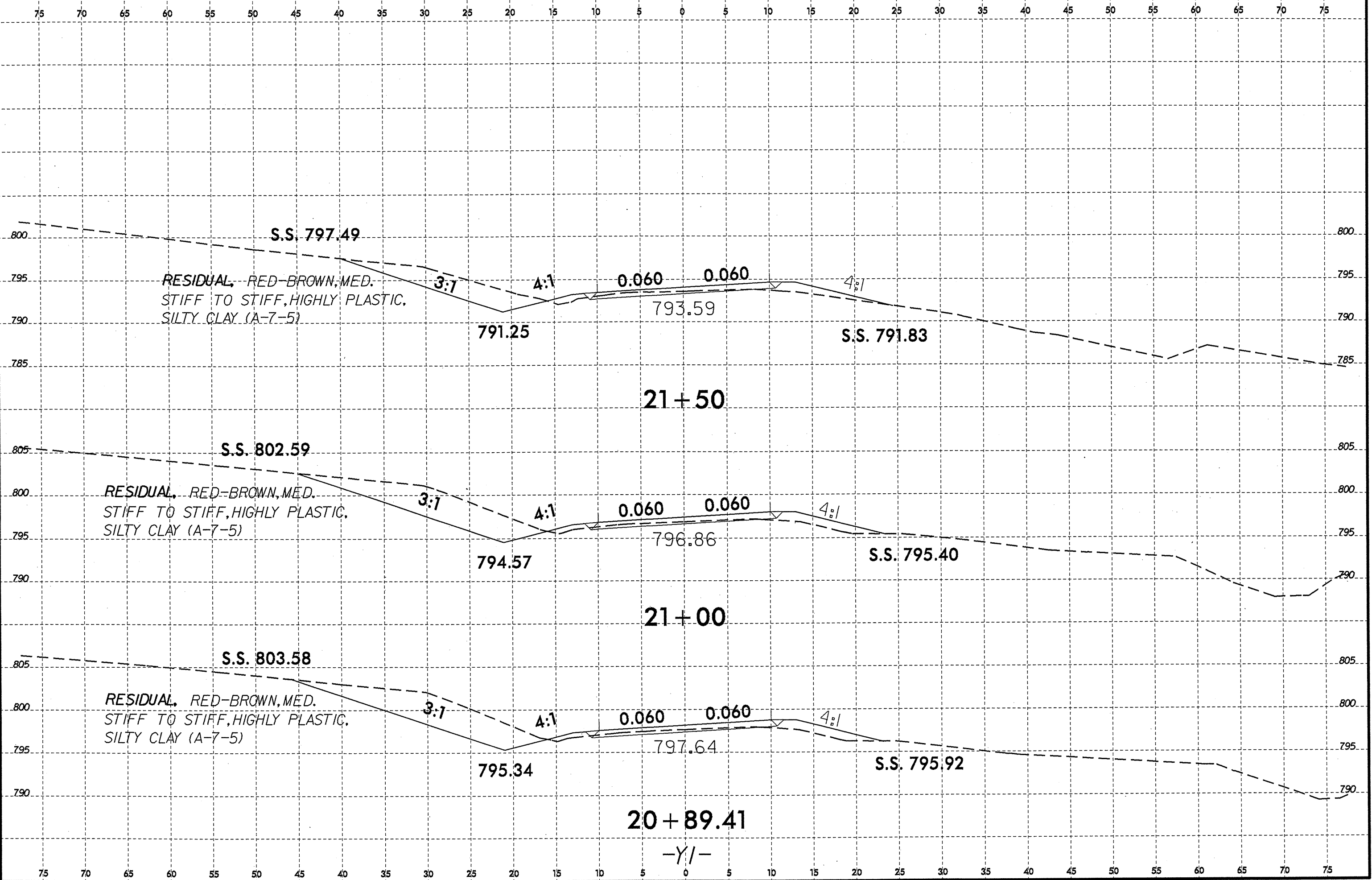
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8/23/99



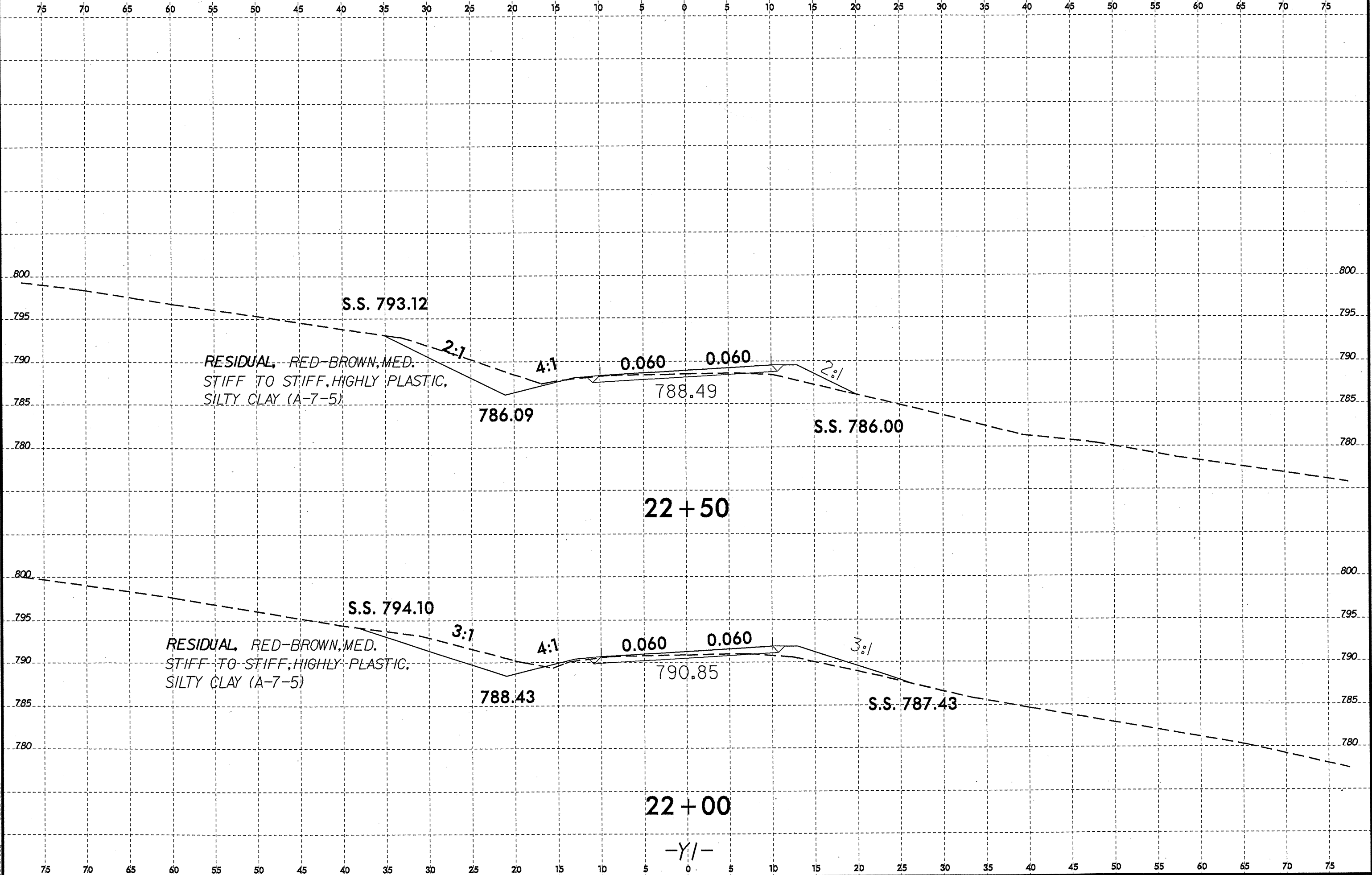
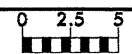
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-Y/-

8/23/99



S.S. 793.12
RESIDUAL, RED-BROWN, MED.
STIFF TO STIFF, HIGHLY PLASTIC,
SILTY CLAY (A-7-5)

2:1

4:1

0.060

0.060

2:1

786.09

788.49

S.S. 786.00

22 + 50

S.S. 794.10
RESIDUAL, RED-BROWN, MED.
STIFF TO STIFF, HIGHLY PLASTIC,
SILTY CLAY (A-7-5)

3:1

4:1

0.060

0.060

3:1

788.43

790.85

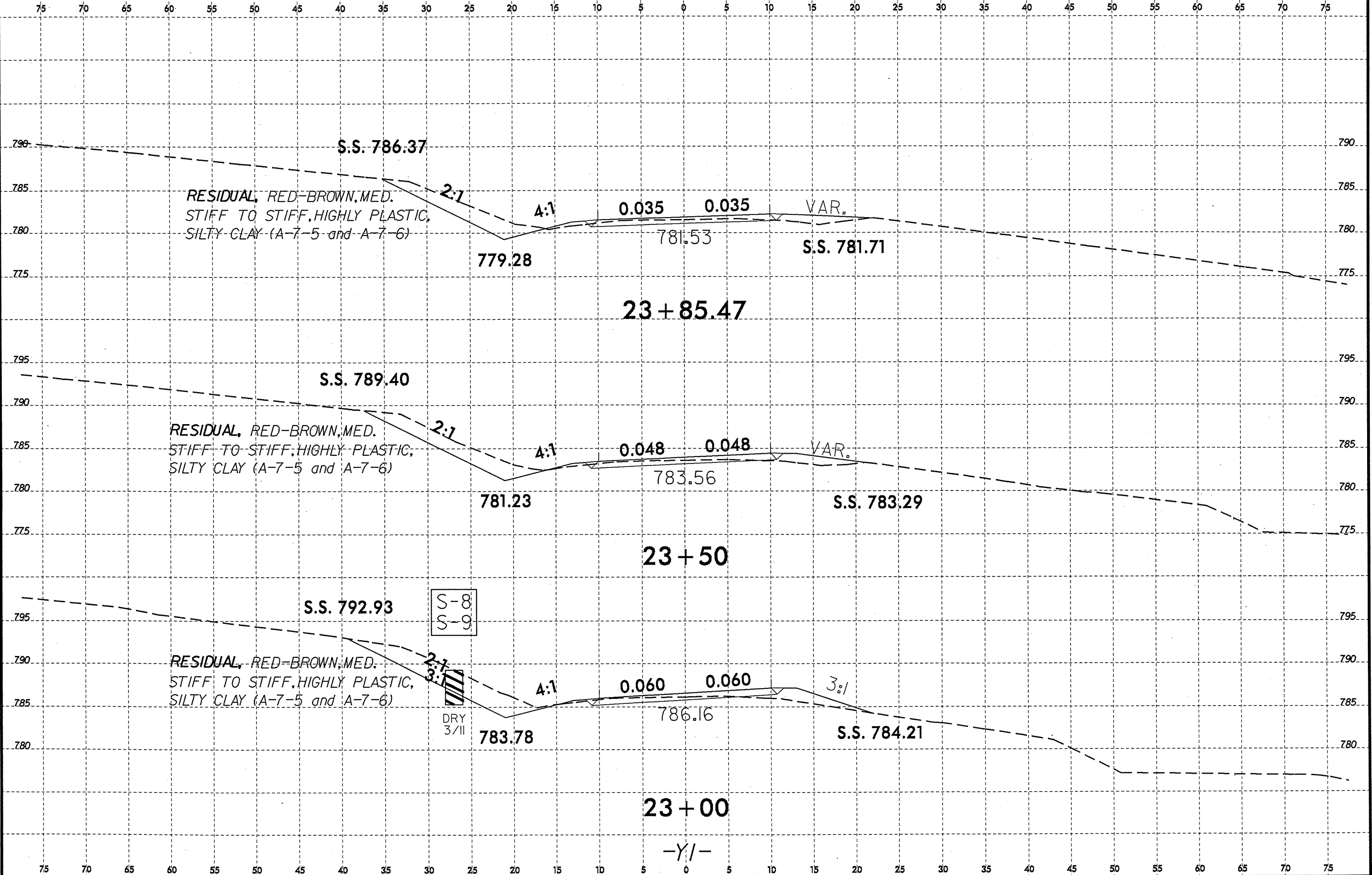
S.S. 787.43

22 + 00

-Y/-

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RESIDUAL, RED-BROWN, MED.
STIFF TO STIFF, HIGHLY PLASTIC,
SILTY CLAY (A-7-5 and A-7-6)

RESIDUAL, RED-BROWN, MED.
STIFF TO STIFF, HIGHLY PLASTIC,
SILTY CLAY (A-7-5 and A-7-6)

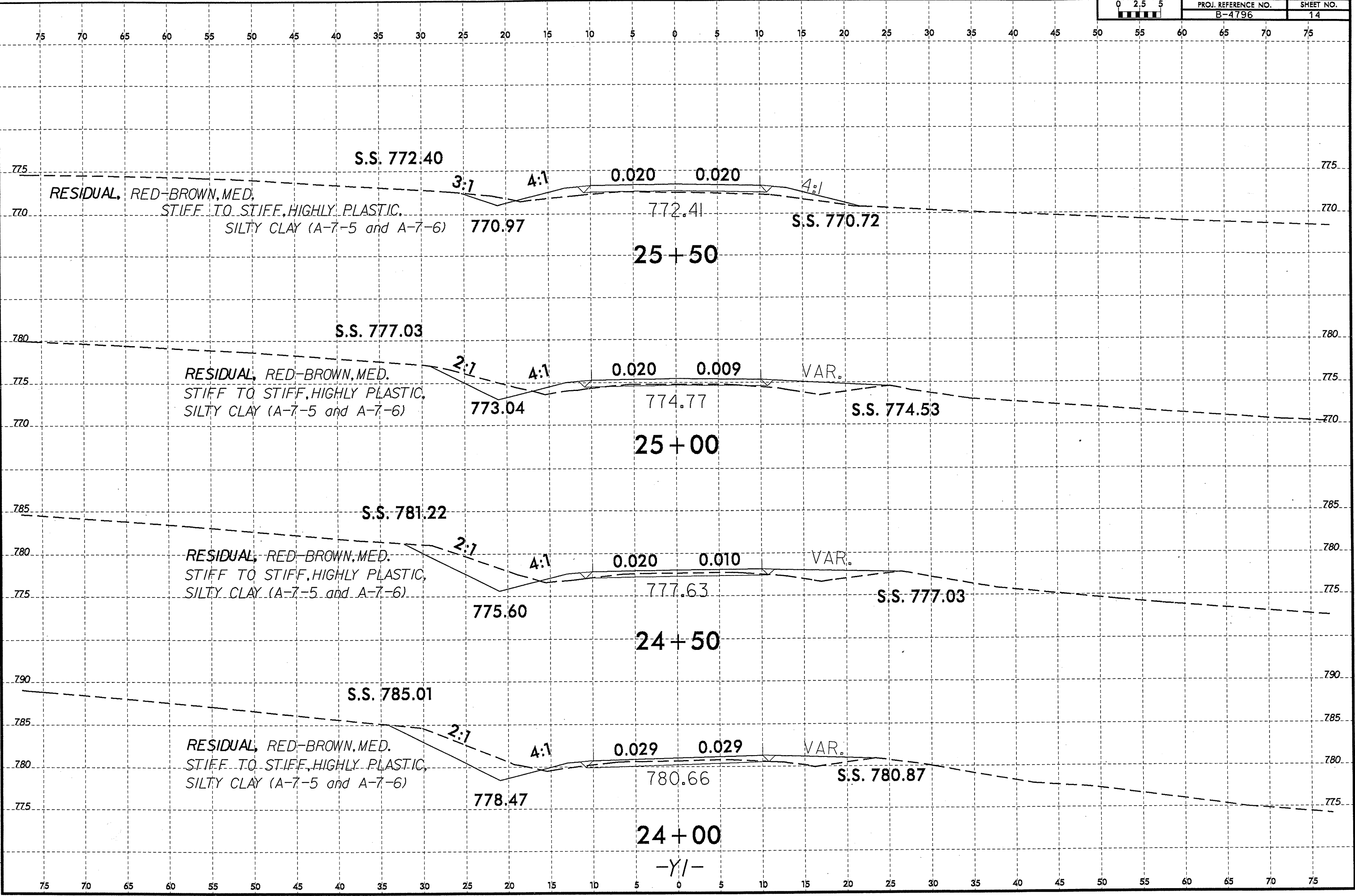
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S-8
S-9

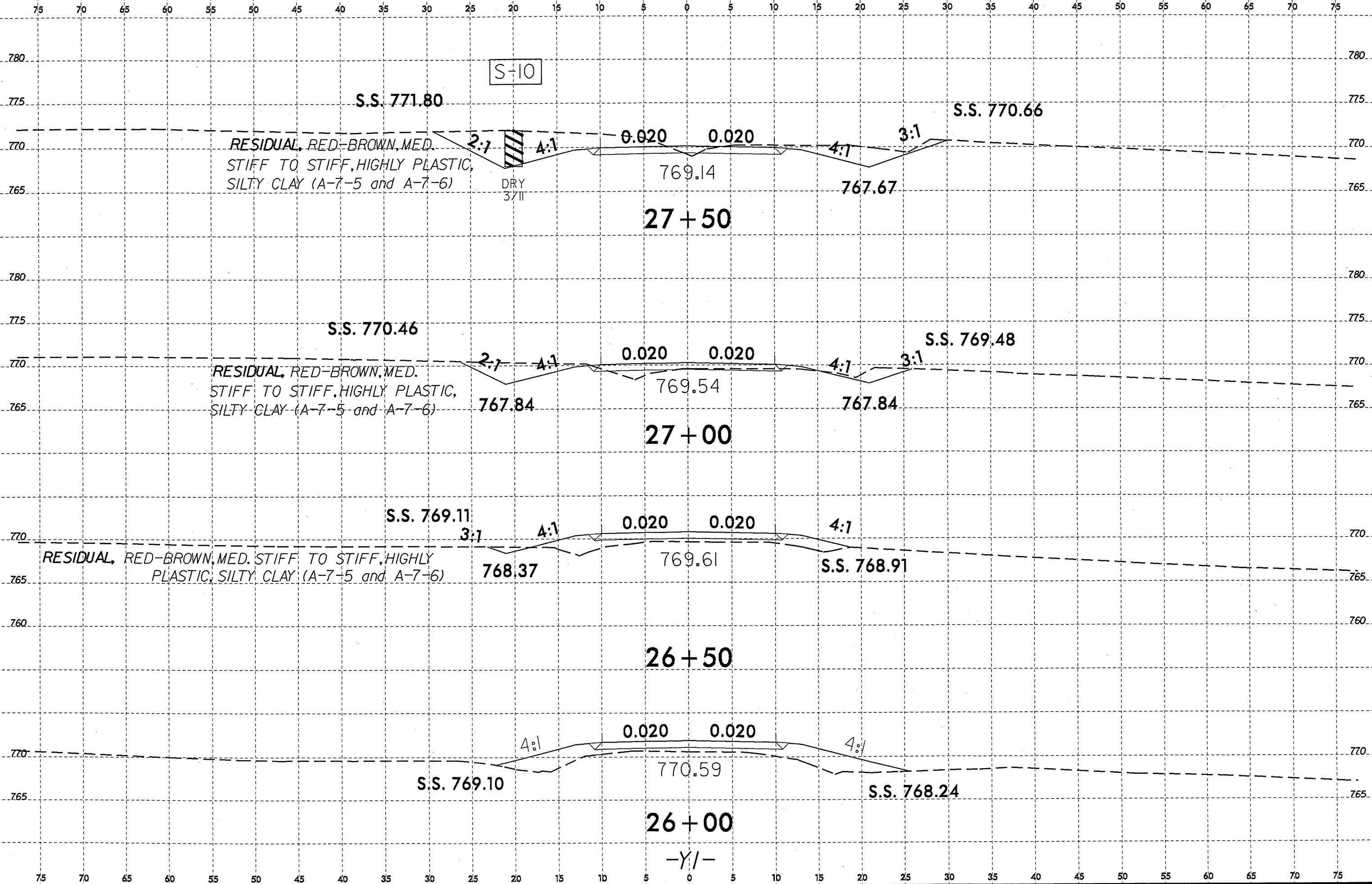
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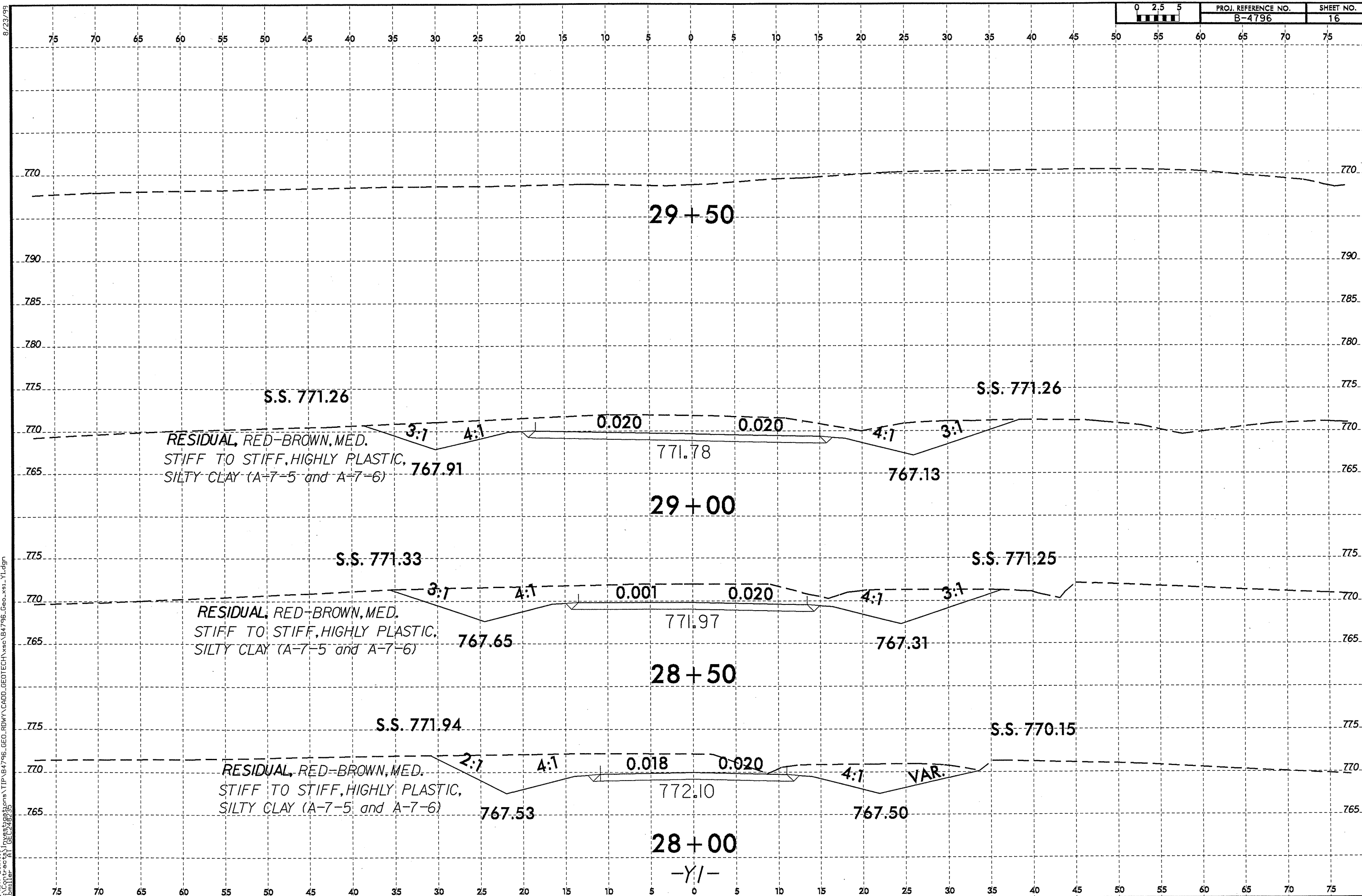


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-Y/-



12-MAY-2011 16:04
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 Smith A1 06/23/09

B-1

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-1	25.0 LT	13+00	0.5-1.0	A-7-6(32)	58	30	2.8	5.3	41.0	50.9	100	98	93	-	-

B-2

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-2	25.0 LT	14+50	1.0-2.0	A-4(2)	36	4	21.8	22.4	35.5	20.3	100	87	61	-	-

B-3

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	10 LT	17+50	1.0-1.5	A-4(3)	27	4	1.4	10.8	61.3	26.4	100	99	92	-	-
S-4	10 LT	17+50	3.0-3.5	A-4(0)	22	3	12.6	23.0	46.1	18.3	94	90	67	-	-

B-5

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-5	22 LT	20+00	0.5-1.0	A-7-5(40)	64	34	0.6	2.8	38.0	58.6	100	100	98	-	-
S-6	22 LT	20+00	1.5-2.0	A-7-5(30)	60	25	1.2	5.3	34.9	58.6	100	99	96	-	-
S-7	22 LT	20+00	3.5-4.0	A-7-5(47)	77	37	0.8	2.6	17.8	78.8	100	99	98	-	-

B-6

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-8	27 LT	23+00	0.3-1.0	A-7-6(12)	41	15	3.2	26.5	29.9	40.4	100	99	79	-	-
S-9	27 LT	23+00	1.5-2.2	A-7-6(33)	59	30	0.8	10.9	25.7	62.6	100	100	93	-	-

B-7

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-10	20 LT	27+50	0.5-1.0	A-7-6(21)	46	20	1.8	5.9	43.6	48.7	99	98	94	-	-