

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	34839.1.1 (U-2579G)	1	15

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

STRUCTURE
SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. 34839.1.1 (U-2579G) F.A. PROJ. _____

COUNTY FORSYTH

PROJECT DESCRIPTION BRIDGE NO. 366 ON SR 2667
(HASTINGS HILL RD.) OVER I-40 BUS /US 421

SITE DESCRIPTION _____

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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) 290-4088. 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.

PERSONNEL

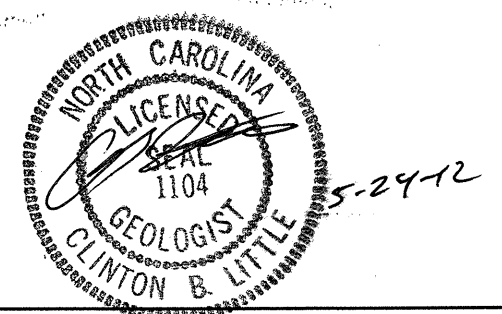
Mactec Engineering
and Consulting, Inc.

INVESTIGATED BY R. Q. CALLAWAY

CHECKED BY C. B. LITTLE

SUBMITTED BY C. B. LITTLE

DATE MAY 2012



PROJECT: 34839.1.1 ID: U-2579G

DRAWN BY: C. E. BURRIS

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

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

PROJECT REFERENCE NO. 34839.1.I (U-2579G)	SHEET NO. 2
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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 T208, 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, GRANULY CLAY, 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. 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 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 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (ISREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (ISROD) - 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																																																																								
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SOIL MOISTURE - CORRELATION OF TERMS				EQUIPMENT USED ON SUBJECT PROJECT				FRACTURE SPACING				BEDDING																																																																				
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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.																																																																																

SHANNON WILSON NELSON
JILL WHITE NELSON

PROJECT REFERENCE NO. SHEET

34839.1.I (U-2579G) 3

SITE PLAN

0 50 100

FEET

SKEW = 138° 32' 48"

POPE L. E. BUILDING CO. INC.

TOE PROTECTION W/
CLASS "B" RIPRAP
EST 72 TONS
EST 194 SY FF
SEE DETAIL#6

END W.W. FENCE
TIE TO EXISTING
-Y4- STA. 129+50.00

-Y5A POT STA. 68+06.51
-Y4 POT STA. 129+64.57

REMOVE FES
END P.S. CONSTRUCTION
-Y4- 132+00.00 LT

RETAIN
REMOVE
FALSE SUMP
RETAIN AND
EXTEND

END W.W. FENCE
TIE TO EXISTING

G.P. SWISHER HEIRS

TO SR 4208

N 44° 06' 33.7" W
TO SR 2377

REMOVE

FUTURE LANE

FALSE SUMP

RETAIN AND EXTEND

FOR SWITCH TRANSITION
STD. 225.09

SHOULDER BERM GUTTER
END BRIDGE TO 69+80 -Y5A- RT

LARRY D. THOMPSON
JANET THOMPSON

2SFD

RETAIN

FALSE SUMP

-BY15-420

-BY17-559

PROP. BARRIAGE

HASTINGS HILL RD

N 23° 17' 45.8" W
20' BST

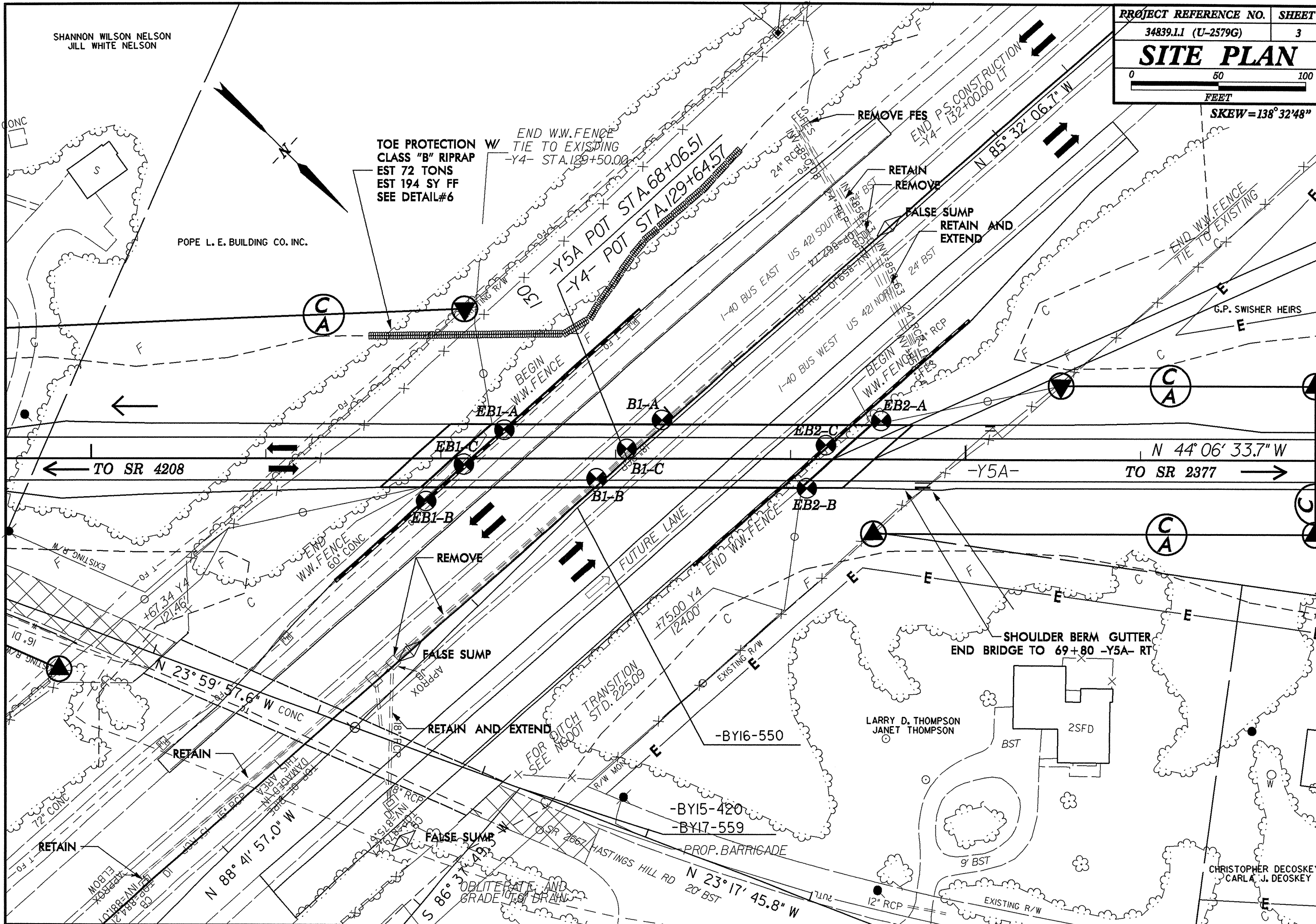
LARRY D. THOMPSON
JANET THOMPSON

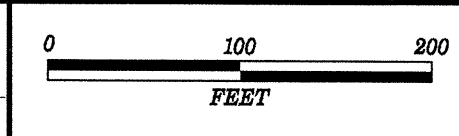
BST

9' BST

EXISTING R/W

CHRISTOPHER DECOSKEY
CARLA J. DECOSKEY

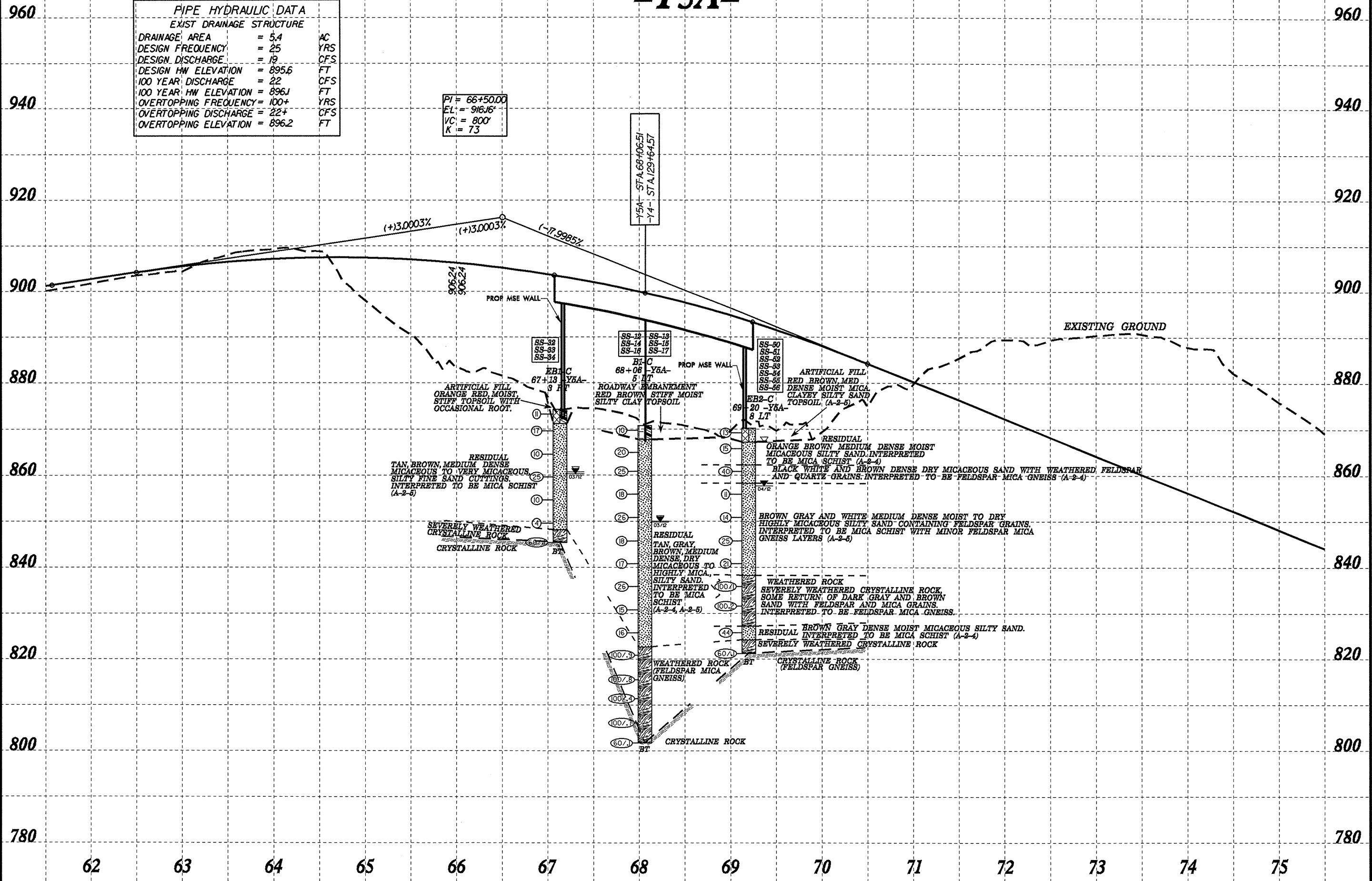




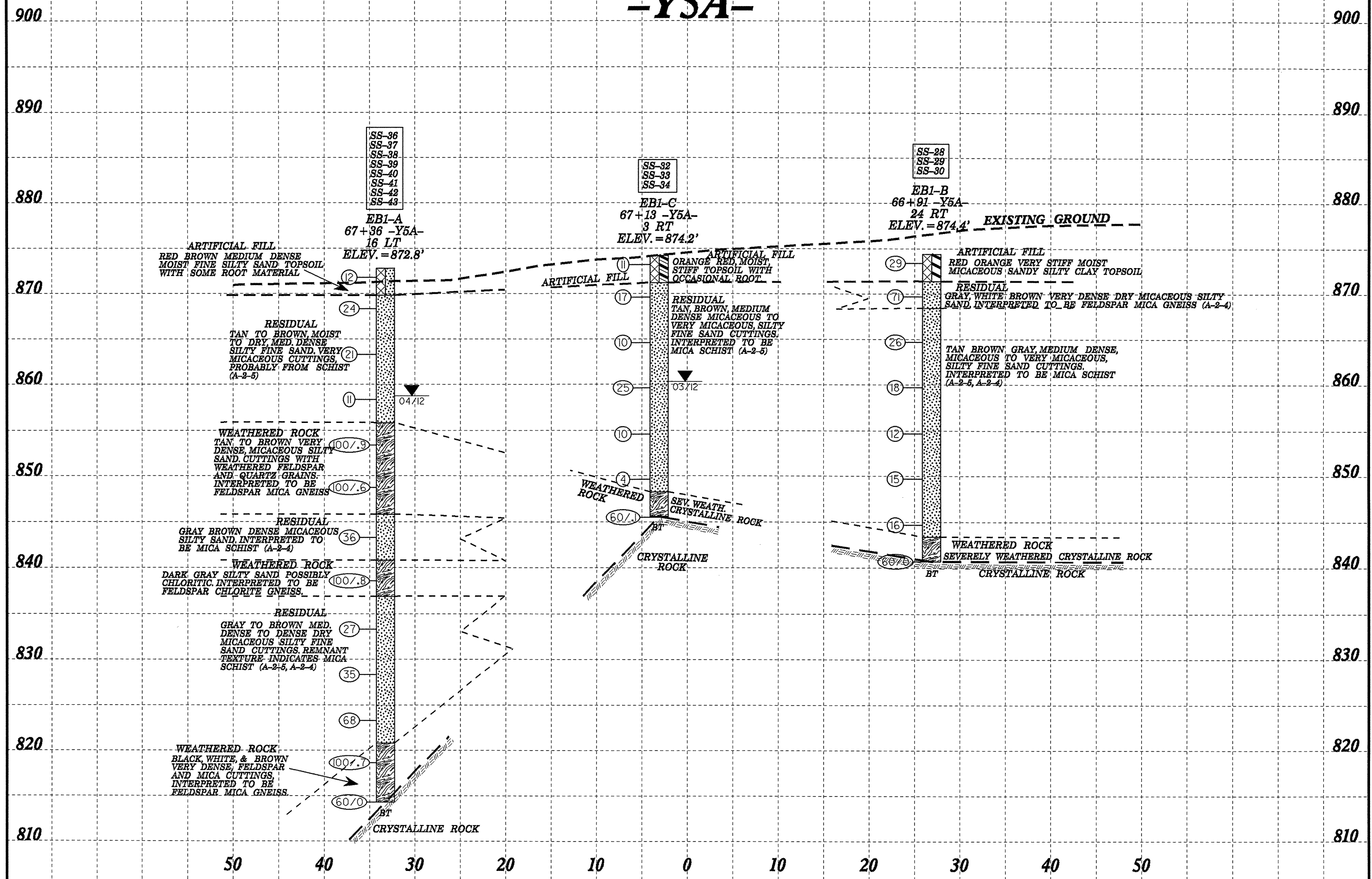
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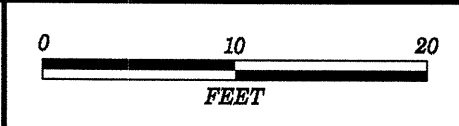
PIPE HYDRAULIC DATA		
EXIST DRAINAGE STRUCTURE		
DRAINAGE AREA	= 5.4	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 19	CFS
DESIGN HW ELEVATION	= 895.6	FT
100 YEAR DISCHARGE	= 22	CFS
100 YEAR HW ELEVATION	= 896.1	FT
OVERTOPPING FREQUENCY	= 100+	YRS
OVERTOPPING DISCHARGE	= 22+	CFS
OVERTOPPING ELEVATION	= 896.2	FT

PI = 66+50.00
 EL = 916.16'
 VC = 800'
 K = 73

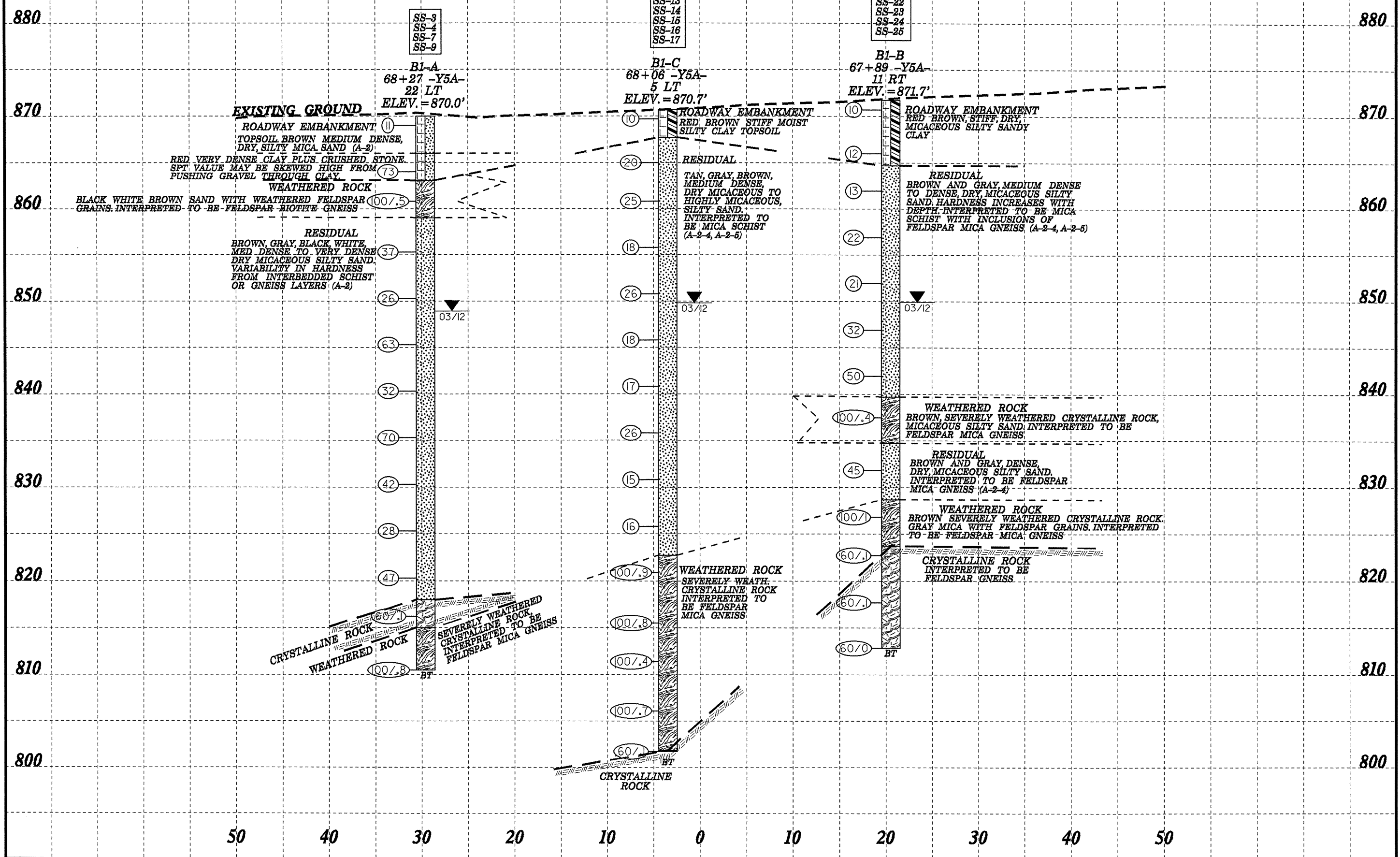


-Y5A-

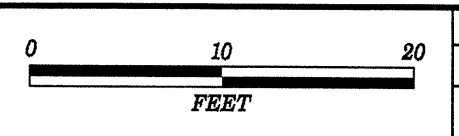




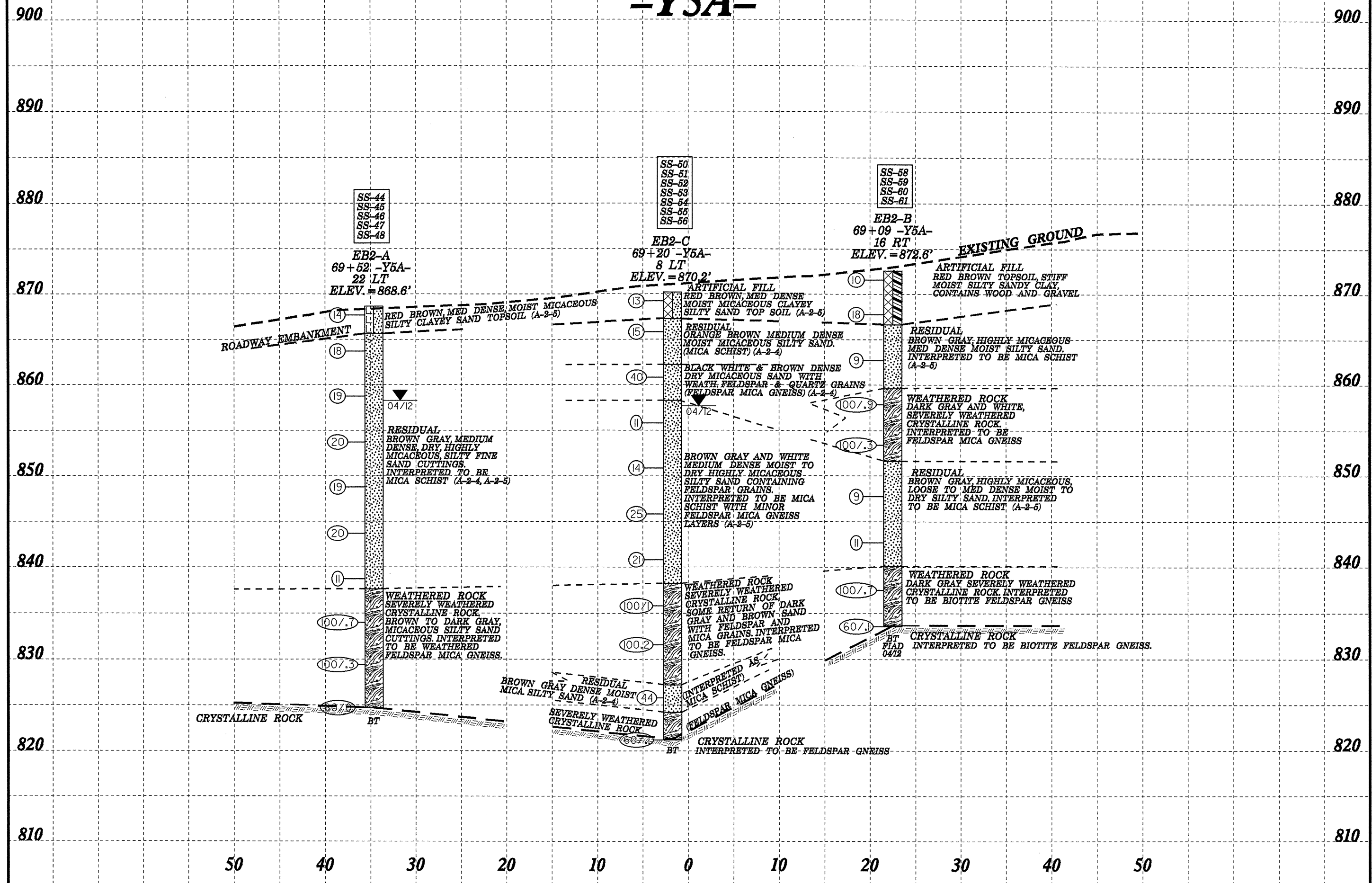
-Y5A-



-Y5A-



PROJECT REFERENCE NO.	SHEET
34839.1.1 (U-2579G)	7
SECTION THROUGH EB2 STA. 69+24.84 -Y5A- SKEW = 138° 32' 48"	



WBS 34839.1.1		TIP U2579G		COUNTY FORSYTH		GEOLOGIST Contract Geologist										
SITE DESCRIPTION BRIDGE 366 ON SR 2667 OVE I-40 BUS / US421							GROUND WTR (ft)									
BORING NO. EB1A		STATION 67+36		OFFSET 16 ft LT		ALIGNMENT -Y5A-										
COLLAR ELEV. 872.8 ft		TOTAL DEPTH 58.5 ft		NORTHING 862,112		EASTING 1,662,388										
DRILL RIG/HAMMER EFF./DATE MAC2425 CME-55 85% 09/02/2009		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic												
DRILLER Contract Driller		START DATE 04/02/12		COMP. DATE 04/02/12		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	LOG G	SOIL AND ROCK DESCRIPTION	ELEV. (ft)	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
875															872.8	0.0
	872.8	0.0	2	4	8									M		
870	869.3	3.5	9	12	12									M		
	866.3	8.5	7	10	11									D		
865	859.3	13.5	4	5	6									D		
	854.3	18.5	8	92/4										D		
860	849.3	23.5	33	50	50/1									D		
	844.3	28.5	18	16	20									D		
855	839.3	33.5	48	52/3										D		
	834.3	38.5	9	11	16									D		
850	829.3	43.5	11	15	20									D		
	824.3	48.5	25	28	40									D		
845	819.3	53.5	75	25/2										D		
	814.3	58.5	60/0											D		
840																
835																
830																
825																
820																
815																

NCDOT BORE SINGLE U2579G_GEO_BH_BRD0366_FORSYTH.GPJ_NC_DOT.GDT 5/22/12

WBS 34839.1.1		TIP U2579G		COUNTY FORSYTH		GEOLOGIST Contract Geologist										
SITE DESCRIPTION BRIDGE 366 ON SR 2667 OVE I-40 BUS / US421							GROUND WTR (ft)									
BORING NO. EB1B		STATION 66+91		OFFSET 24 ft RT		ALIGNMENT -Y5A-										
COLLAR ELEV. 874.4 ft		TOTAL DEPTH 33.7 ft		NORTHING 862,108		EASTING 1,662,448										
DRILL RIG/HAMMER EFF./DATE MAC2425 CME-55 85% 09/02/2009		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic												
DRILLER Contract Driller		START DATE 03/30/12		COMP. DATE 03/30/12		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	LOG G	SOIL AND ROCK DESCRIPTION	ELEV. (ft)	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
875															874.4	0.0
	874.4	0.0	4	12	17											
870	870.7	3.7	12	22	49											
	865.7	8.7	17	16	10											
865	860.7	13.7	5	7	11											
	855.7	18.7	4	6	6											
860	850.7	23.7	3	7	8											
	845.7	28.7	49	10	6											
855	840.7	33.7	60/0													
850																
845																
840																
835																
830																
825																
820																
815																

NCDOT BORE SINGLE U2579G_GEO_BH_BRD0366_FORSYTH.GPJ_NC_DOT.GDT 5/22/12



NCDOT GEOTECHNICAL ENGINEERING UNIT

BORELOG REPORT

WBS 34839.1.1		TIP U2579G		COUNTY FORSYTH		GEOLOGIST Contract Geologist								
SITE DESCRIPTION BRIDGE 366 ON SR 2667 OVE I-40 BUS / US421							GROUND WTR (ft)							
BORING NO. EB1C		STATION 67+13		OFFSET 3 ft RT		ALIGNMENT -Y5A-	0 HR. 13.5							
COLLAR ELEV. 874.2 ft		TOTAL DEPTH 28.7 ft		NORTHING 862,109		EASTING 1,662,418	24 HR. 13.9							
DRILL RIG/HAMMER EFF./DATE MAC2425 CME-55 85% 09/02/2009				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic								
DRILLER Contract Driller		START DATE 03/30/12		COMP. DATE 03/30/12		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
875	874.2	0.0											GROUND SURFACE	0.0
	870.6	3.6	4	5	6	11							ARTIFICIAL FILL	
870			7	8	9						SS-32		ORANGE RED, MOIST, STIFF TOPSOIL WITH OCCASIONAL ROOT.	3.0
	865.6	8.6	5	5	5	10							RESIDUAL	
865													TAN, BROWN, MEDIUM DENSE MICACEOUS TO VERY MICACEOUS, SILTY FINE SAND CUTTINGS. INTERPRETED TO BE MICA SCHIST (A-2-5)	
	860.6	13.6	12	12	13	25					SS-33			
860														
	855.6	18.6	4	4	6	10								
855														
	850.6	23.6	3	2	2	4					SS-34			
850														
	845.6	28.6	60/1			60/1							WEATHERED ROCK	26.0
													DRILLER NOTED HARD DRILLING. INTERPRETED TO BE SEVERELY WEATHERED CRYSTALLINE ROCK.	28.6
													CRYSTALLINE ROCK	28.7
													SPT REFUSAL	
													Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 845.5 ft IN CRYSTALLINE ROCK	

NCDOT BORE DOUBLE U2579G_GEO_BH_BRD0366_FORSYTH.GPJ NC_DOT.GDT 5/22/12

WBS 34839.1.1		TIP U2579G		COUNTY FORSYTH		GEOLOGIST Contract Geologist										
SITE DESCRIPTION BRIDGE 366 ON SR 2667 OVE I-40 BUS / US421							GROUND WTR (ft)									
BORING NO. B1A		STATION 68+27		OFFSET 22 ft LT		ALIGNMENT -Y5A-										
COLLAR ELEV. 870.0 ft		TOTAL DEPTH 59.5 ft		NORTHING 862,173		EASTING 1,662,321										
DRILL RIG/HAMMER EFF./DATE MAC2425 CME-55 85% 09/02/2009		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic												
DRILLER Contract Driller		START DATE 03/28/12		COMP. DATE 03/28/12		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
870	870.0	0.0	4	4	7										870.0	0.0
ROADWAY EMBANKMENT TOPSOIL. BROWN MEDIUM DENSE, DRY, SILTY MICACEOUS SAND (A-2)																
865	865.0	5.0	34	32	41										866.0	4.0
ROADWAY EMBANKMENT RED VERY DENSE CLAY PLUS CRUSHED STONE. SPT VALUE MAY BE SKEWED HIGH FROM PUSHING GRAVEL THROUGH CLAY.																
860	861.3	8.7	100/5												863.0	7.0
WEATHERED ROCK BLACK WHITE BROWN SAND WITH WEATHERED FELDSPAR GRAINS. INTERPRETED TO BE FELDSPAR BIOTITE GNEISS																
855	856.3	13.7	3	10	27										859.0	11.0
RESIDUAL BROWN, GRAY, BLACK, WHITE, MED DENSE TO VERY DENSE DRY MICACEOUS SILTY SAND. VARIABILITY IN HARDNESS FROM INTERBEDDED SCHIST OR GNEISS LAYERS (A-2)																
850	851.3	18.7	5	7	19											
845	846.3	23.7	15	37	26											
840	841.3	28.7	11	15	17											
835	836.3	33.7	21	35	35											
830	831.3	38.7	28	27	15											
825	826.3	43.7	11	9	19											
820	821.3	48.7	29	19	28											
815	816.3	53.7	60/1													
	811.3	58.7	23	77/3											810.5	59.5
CRYSTALLINE ROCK SPT REFUSAL AND PRESUMED ROCK																
WEATHERED ROCK SEVERELY WEATHERED CRYSTALLINE ROCK, MICACEOUS SILTY SAND IN SAMPLE. INTERPRETED TO BE FELDSPAR MICA GNEISS																
Boring Terminated at Elevation 810.5 ft IN SEVERELY WEATHERED CRYSTALLINE ROCK																
BORING TERMINATED IN WEATHERED ROCK, BELOW SPT REFUSAL																

NCDOT BORE SINGLE U2579G_GEO_BH_BRD0366_FORSYTH.GPJ NC_DOT_GDT_5/22/12

WBS 34839.1.1		TIP U2579G		COUNTY FORSYTH		GEOLOGIST Contract Geologist										
SITE DESCRIPTION BRIDGE 366 ON SR 2667 OVE I-40 BUS / US421							GROUND WTR (ft)									
BORING NO. B1B		STATION 67+89		OFFSET 11 ft RT		ALIGNMENT -Y5A-										
COLLAR ELEV. 871.7 ft		TOTAL DEPTH 58.9 ft		NORTHING 862,169		EASTING 1,662,371										
DRILL RIG/HAMMER EFF./DATE MAC2425 CME-55 85% 09/02/2009		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic												
DRILLER Contract Driller		START DATE 03/29/12		COMP. DATE 03/29/12		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
875															871.7	0.0
ROADWAY EMBANKMENT RED BROWN, STIFF, DRY, MICACEOUS SILTY SANDY CLAY. LOCATION IS IN MEDIAN; SOIL WAS DISTURBED																
870	871.7	0.0	3	4	6										864.7	7.0
RESIDUAL BROWN AND GRAY, MEDIUM DENSE TO DENSE, DRY, MICACEOUS SILTY SAND. HARDNESS INCREASES WITH DEPTH. INTERPRETED TO BE MICA SCHIST WITH INCLUSIONS OF FELDSPAR MICA GNEISS (A-2-4)																
865	867.0	4.7	7	6	6											
860	862.9	8.8	4	5	8											
855	857.9	13.8	7	9	13											
850	852.9	18.8	23	12	9											
845	847.9	23.8	8	15	17											
840	842.9	28.8	15	30	20											
835	837.9	33.8	100/4													
WEATHERED ROCK BROWN, SEVERELY WEATHERED CRYSTALLINE ROCK, MICACEOUS SILTY SAND. INTERPRETED TO BE FELDSPAR MICA GNEISS																
830	832.8	38.9	19	24	21											
RESIDUAL BROWN AND GRAY, DENSE, DRY, MICACEOUS SILTY SAND. INTERPRETED TO BE FELDSPAR MICA GNEISS (A-2-4)																
825	827.8	43.9	20	80/5												
WEATHERED ROCK BROWN SEVERELY WEATHERED CRYSTALLINE ROCK. GRAY MICA WITH FELDSPAR GRAINS. INTERPRETED TO BE FELDSPAR MICA GNEISS																
820	822.8	48.9	60/1													
CRYSTALLINE ROCK THREE SUCCESSIVE DRIVES OF SPT REFUSAL. INTERPRETED TO BE FELDSPAR GNEISS																
815	817.8	53.9	60/1													
	812.8	58.9	60/0												812.8	58.9
Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 812.8 ft IN CRYSTALLINE ROCK																

NCDOT BORE SINGLE U2579G_GEO_BH_BRD0366_FORSYTH.GPJ NC_DOT_GDT_5/22/12



NCDOT GEOTECHNICAL ENGINEERING UNIT

BORELOG REPORT

WBS 34839.1.1	TIP U2579G	COUNTY FORSYTH	GEOLOGIST Contract Geologist
SITE DESCRIPTION BRIDGE 366 ON SR 2667 OVE I-40 BUS / US421			GROUND WTR (ft)
BORING NO. B1C	STATION 68+06	OFFSET 5 ft LT	ALIGNMENT -Y5A-
COLLAR ELEV. 870.7 ft	TOTAL DEPTH 69.0 ft	NORTHING 862,170	EASTING 1,662,347
DRILL RIG/HAMMER EFF./DATE MAC2425 CME-55 85% 09/02/2009		DRILL METHOD Mud Rotary	HAMMER TYPE Automatic
DRILLER Contract Driller	START DATE 03/28/12	COMP. DATE 03/29/12	SURFACE WATER DEPTH N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
875																
870	870.7	0.0	3	4	6									870.7	0.0	GROUND SURFACE
														867.7	3.0	ROADWAY EMBANKMENT RED BROWN STIFF MOIST SILTY CLAY TOPSOIL
865	866.0	4.7	11	10	10											RESIDUAL TAN, GRAY, BROWN, MEDIUM DENSE, DRY MICACEOUS TO HIGHLY MICACEOUS, SILTY SAND. INTERPRETED TO BE MICA SCHIST (A-2-4, A-2-5)
860	861.8	8.9	8	11	14											
855	856.8	13.9	8	10	8											
850	851.8	18.9	5	9	17											
845	846.8	23.9	8	8	10											
840	841.8	28.9	3	5	12											
835	836.8	33.9	9	11	15											
830	831.8	38.9	5	6	9											
825	826.8	43.9	4	5	11											
820	821.8	48.9	34	66/4										822.7	48.0	
815	816.8	53.9	67	26	74/3											
810	811.8	58.9	100/4													
805	806.8	63.9	32	68/2												
	801.8	68.9	60/1											801.8	68.9	CRYSTALLINE ROCK PRESUMED CRYSTALLINE ROCK: SPT REFUSAL. Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 801.7 ft IN CRYSTALLINE ROCK

NCDOT BORE DOUBLE U2579G_GEO BH_BRDG0366_FORSYTH.GPJ_NC_DOT.GDT 5/22/12

WBS 34839.1.1		TIP U2579G		COUNTY FORSYTH		GEOLOGIST Contract Geologist									
SITE DESCRIPTION BRIDGE 366 ON SR 2667 OVE I-40 BUS / US421						GROUND WTR (ft)									
BORING NO. EB2A		STATION 69+52		OFFSET 22 ft LT		ALIGNMENT -Y5A-									
COLLAR ELEV. 868.6 ft		TOTAL DEPTH 43.9 ft		NORTHING 862,263		EASTING 1,662,234									
0 HR. 8.8		24 HR. 10.4													
DRILL RIG/HAMMER EFF./DATE MAC2425 CME-55 85% 09/02/2009				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic									
DRILLER Contract Driller		START DATE 04/03/12		COMP. DATE 04/03/12		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
870	868.6	0.0												868.6 GROUND SURFACE 0.0	
865	864.7	3.9	4	6	8							SS-44	D	ROADWAY EMBANKMENT RED BROWN, MED DENSE, MOIST MICACEOUS SILTY CLAYEY SAND TOPSOIL (A-2-5)	3.0
860	859.7	8.9	9	9	9								D	RESIDUAL BROWN GRAY, MEDIUM DENSE, DRY, HIGHLY MICACEOUS, SILTY FINE SAND CUTTINGS. INTERPRETED TO BE MICA SCHIST (A-2-4, A-2-5)	
855	854.7	13.9	7	9	10							SS-45	M		
850	849.7	18.9	6	9	11								D		
845	844.7	23.9	7	9	10							SS-46	D		
840	839.7	28.9	6	9	11								D		
835	834.7	33.9	3	5	6							SS-47	M		
830	829.7	38.9	68	327.2								SS-48		WEATHERED ROCK SEVERELY WEATHERED CRYSTALLINE ROCK. BROWN TO DARK GRAY, MICACEOUS SILTY SAND CUTTINGS. INTERPRETED TO BE WEATHERED FELDSPAR MICA GNEISS.	31.0
825	824.7	43.9												Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 824.7 ft ON CRYSTALLINE ROCK	43.9

NCDOT BORE SINGLE U2579G_GEO_BH_BRD0366_FORSYTH.GPJ NC_DOT_GDT 5/22/12

WBS 34839.1.1		TIP U2579G		COUNTY FORSYTH		GEOLOGIST Contract Geologist									
SITE DESCRIPTION BRIDGE 366 ON SR 2667 OVE I-40 BUS / US421						GROUND WTR (ft)									
BORING NO. EB2B		STATION 69+09		OFFSET 16 ft RT		ALIGNMENT -Y5A-									
COLLAR ELEV. 872.6 ft		TOTAL DEPTH 39.0 ft		NORTHING 862,259		EASTING 1,662,291									
0 HR. 3.8		24 HR. FIAD													
DRILL RIG/HAMMER EFF./DATE MAC2425 CME-55 85% 09/02/2009				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic									
DRILLER Contract Driller		START DATE 04/04/12		COMP. DATE 04/04/12		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
875	872.6	0.0												872.6 GROUND SURFACE 0.0	
870	868.7	3.9	6	4	6								M	ARTIFICIAL FILL RED BROWN TOPSOIL, STIFF MOIST SILTY SANDY CLAY, CONTAINS WOOD AND GRAVEL	6.0
865	863.7	8.9	6	8	10								M	RESIDUAL BROWN GRAY, HIGHLY MICACEOUS MED DENSE MOIST SILTY SAND. INTERPRETED TO BE MICA SCHIST (A-2-5)	
860	858.7	13.9	4	4	5							SS-58	D		
855	853.7	18.9	38	627.4								SS-59		WEATHERED ROCK DARK GRAY AND WHITE, SEVERELY WEATHERED CRYSTALLINE ROCK. INTERPRETED TO BE FELDSPAR MICA GNEISS	13.0
850	848.7	23.9													
845	843.7	28.9	2	3	6							SS-60	M	RESIDUAL BROWN GRAY, HIGHLY MICACEOUS, LOOSE TO MED DENSE MOIST TO DRY SILTY SAND. INTERPRETED TO BE MICA SCHIST (A-2-5)	21.0
840	838.7	33.9	3	5	6								D		
835	833.7	38.9	10	42	587.2							SS-61		WEATHERED ROCK DARK GRAY SEVERELY WEATHERED CRYSTALLINE ROCK. INTERPRETED TO BE BIOTITE FELDSPAR GNEISS	32.5
														CRYSTALLINE ROCK SPT REFUSAL, CRYSTALLINE ROCK, INTERPRETED TO BE BIOTITE FELDSPAR GNEISS. Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 833.6 ft IN CRYSTALLINE ROCK	38.9

NCDOT BORE SINGLE U2579G_GEO_BH_BRD0366_FORSYTH.GPJ NC_DOT_GDT 5/22/12



NCDOT GEOTECHNICAL ENGINEERING UNIT
BORELOG REPORT

WBS 34839.1.1	TIP U2579G	COUNTY FORSYTH	GEOLOGIST Contract Geologist
SITE DESCRIPTION BRIDGE 366 ON SR 2667 OVE I-40 BUS / US421			GROUND WTR (ft)
BORING NO. EB2C	STATION 69+20	OFFSET 8 ft LT	ALIGNMENT -Y5A-
COLLAR ELEV. 870.2 ft	TOTAL DEPTH 49.0 ft	NORTHING 862,250	EASTING 1,662,266
DRILL RIG/HAMMER EFF./DATE MAC2425 CME-55 85% 09/02/2009		DRILL METHOD Mud Rotary	HAMMER TYPE Automatic
DRILLER Contract Driller	START DATE 04/03/12	COMP. DATE 04/03/12	SURFACE WATER DEPTH N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)	
875																
870	870.2	0.0	3	5	8									870.2	GROUND SURFACE	0.0
														867.2	ARTIFICIAL FILL RED BROWN, MED DENSE MOIST MICACEOUS CLAYEY SILTY SAND TOP SOIL (A-2-5)	3.0
865	866.8	3.4	5	6	9									862.2	RESIDUAL ORANGE BROWN MEDIUM DENSE MOIST MICACEOUS SILTY SAND. INTERPRETED TO BE MICA SCHIST (A-2-4)	8.0
860	861.8	8.4	19	21	19									858.2	RESIDUAL BLACK WHITE AND BROWN DENSE DRY MICACEOUS SAND WITH WEATHERED FELDSPAR AND QUARTZ GRAINS. INTERPRETED TO BE FELDSPAR MICA GNEISS (A-2-4)	12.0
855	856.8	13.4	5	5	6										RESIDUAL BROWN GRAY AND WHITE MEDIUM DENSE MOIST TO DRY HIGHLY MICACEOUS SILTY SAND CONTAINING FELDSPAR GRAINS. INTERPRETED TO BE MICA SCHIST WITH MINOR FELDSPAR MICA GNEISS LAYERS (A-2-5)	
850	851.8	18.4	6	6	8											
845	846.8	23.4	6	10	15											
840	841.8	28.4	7	10	11											
835	836.8	33.4	9	47	53					100/1				838.2	WEATHERED ROCK SEVERELY WEATHERED CRYSTALLINE ROCK, SOME RETURN OF DARK GRAY AND BROWN SAND WITH FELDSPAR AND MICA GRAINS. INTERPRETED TO BE FELDSPAR MICA GNEISS.	32.0
830	831.8	38.4	100/2							100/2						
825	826.8	43.4	11	11	33									827.2	RESIDUAL BROWN GRAY DENSE MOIST MICACEOUS SILTY SAND. INTERPRETED TO BE MICA SCHIST (A-2-4)	43.0
	824.2													824.2		46.0
	821.8	48.4	33	67/1										821.3	WEATHERED ROCK SEVERELY WEATHERED CRYSTALLINE ROCK. INTERPRETED TO BE FELDSPAR MICA GNEISS	48.9
										60/1				821.2	CRYSTALLINE ROCK SPT REFUSAL, INTERPRETED TO BE FELDSPAR GNEISS	49.0
															Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 821.2 ft IN CRYSTALLINE ROCK	

NCDOT BORE DOUBLE U2579G GEO.BH.BRDG0366 FORSYTH.GPJ NC DOT.GDT 5/22/12

TEST RESULTS

PROJECT: 34839.1.1 (U-2579G)

COUNTY: FORSYTH

SITE DESCRIPTION: BRIDGE NO. 366 ON SR 2667 (HASTINGS HILL RD.) OVER I-40 BUS/US 421

SHEET

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SOIL SAMPLE RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS	N	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC	UNIT WT. (d)	VOID RATIO
								C. SAND	F. SAND	SILT	CLAY	10	40	200				
EB1-A																		
SS-36	16 LT.	67+36 -Y5A-	3.5-5.0	A-2-5(0)	24	45	NP	32.2	46.1	13.7	8.1	100	85	25				
SS-37	16 LT.	67+36 -Y5A-	13.5-15.0	A-2-5(0)	11	47	NP	37.0	39.8	15.1	8.1	97	76	26				
SS-38	16 LT.	67+36 -Y5A-	18.5-19.4	A-2-4(0)	100/9	34	NP	40.4	41.9	11.6	6.1	75	59	15				
SS-39	16 LT.	67+36 -Y5A-	28.5-30.0	A-2-4(0)	36	35	NP	46.9	30.3	14.7	8.1	87	61	21				
SS-40	16 LT.	67+36 -Y5A-	33.5-34.3	A-1-b(0)	100/8	32	NP	44.9	32.6	14.5	8.1	59	41	15				
SS-41	16 LT.	67+36 -Y5A-	38.5-40.0	A-2-5(0)	27	47	NP	27.3	53.6	13.0	6.1	98	87	23				
SS-42	16 LT.	67+36 -Y5A-	48.5-50.0	A-2-4(0)	68	31	NP	26.1	43.3	20.5	10.1	100	88	35				
SS-43	16 LT.	67+36 -Y5A-	53.5-54.2	A-2-4(0)	100/7	28	NP	46.3	35.4	10.2	8.1	97	70	19				
EB1-B																		
SS-28	24 RT.	66+91 -Y5A-	3.7-5.2	A-2-4(0)	71	32	NP	43.3	38.2	10.4	8.1	100	78	20				
SS-29	24 RT.	66+91 -Y5A-	13.7-15.2	A-2-5(0)	18	43	NP	35.0	44.3	14.7	6.1	98	83	23				
SS-30	24 RT.	66+91 -Y5A-	23.7-25.2	A-2-4(0)	15	38	NP	33.0	47.5	15.5	4.0	100	88	23				
EB1-C																		
SS-32	3 RT.	67+13 -Y5A-	3.6-5.1	A-2-5(0)	17	49	NP	39.4	40.0	14.5	6.1	100	81	24				
SS-33	3 RT.	67+13 -Y5A-	13.6-15.1	A-2-5(0)	25	41	NP	32.4	44.7	18.9	4.0	100	84	27				
SS-34	3 RT.	67+13 -Y5A-	23.6-25.1	A-2-5(0)	4	47	NP	42.1	43.7	10.2	4.0	99	78	17				
B1-A																		
SS-3	22 LT.	68+27 -Y5A-	8.7-9.2	A-2-4(0)	100/5	28	NP	41.3	41.1	13.5	4.0	95	77	18				
SS-4	22 LT.	68+27 -Y5A-	13.7-15.2	A-2-5(0)	37	44	NP	50.4	33.9	13.7	2.0	100	73	17				
SS-7	22 LT.	68+27 -Y5A-	43.7-45.2	A-2-4(0)	28	35	NP	30.1	45.5	20.4	4.0	91	78	24				
SS-9	22 LT.	68+27 -Y5A-	58.7-59.5	A-1-b(0)	100/8	37	NP	36.3	32.9	22.8	8.0	60	46	19				
B1-B																		
SS-20	11 RT.	67+89 -Y5A-	8.8-10.3	A-2-5(0)	13	43	NP	21.1	52.4	18.6	8.0	100	94	29				
SS-21	11 RT.	67+89 -Y5A-	18.8-20.3	A-2-4(0)	21	39	NP	55.6	27.5	10.9	6.0	97	61	17				
SS-22	11 RT.	67+89 -Y5A-	28.8-30.3	A-2-4(0)	50	36	NP	47.3	36.1	12.5	4.0	100	74	17				
SS-23	11 RT.	67+89 -Y5A-	33.8-34.2	A-2-4(0)	100/4	31	NP	49.3	30.9	15.7	4.0	95	65	19				
SS-24	11 RT.	67+89 -Y5A-	38.9-40.4	A-2-4(0)	45	35	NP	40.5	39.1	16.3	4.0	94	73	20				
SS-25	11 RT.	67+89 -Y5A-	43.9-44.9	A-2-4(0)	100	32	NP	37.7	41.5	16.8	4.0	100	80	22				
B1-C																		
SS-12	5 LT.	68+06 -Y5A-	13.9-15.4	A-2-4(0)	18	37	NP	25.9	45.9	20.2	8.0	91	82	27				
SS-13	5 LT.	68+06 -Y5A-	23.9-25.4	A-2-5(0)	18	45	NP	41.5	29.7	22.8	6.0	100	74	30				
SS-14	5 LT.	68+06 -Y5A-	33.9-35.4	A-2-5(0)	26	46	NP	54.6	27.5	13.9	4.0	94	60	17				
SS-15	5 LT.	68+06 -Y5A-	43.9-45.4	A-2-4(0)	16	38	NP	30.3	48.1	15.5	6.0	100	88	23				
SS-16	5 LT.	68+06 -Y5A-	48.9-49.8	A-2-4(0)	100/9	35	NP	39.5	41.7	12.7	6.0	100	79	20				
SS-17	5 LT.	68+06 -Y5A-	58.9-59.3	A-2-4(0)	100/4	34	NP	35.9	38.5	21.6	4.0	93	76	25				
EB2-A																		
SS-44	22 LT.	69+52 -Y5A-	0.0-1.5	A-2-5(0)	14	47	NP	37.0	34.2	12.6	16.2	100	78	32				
SS-45	22 LT.	69+52 -Y5A-	8.9-10.4	A-2-4(0)	19	38	NP	26.5	51.0	14.5	8.1	100	90	26				
SS-46	22 LT.	69+52 -Y5A-	18.9-20.4	A-2-5(0)	19	47	NP	45.1	38.8	8.0	8.1	96	72	18				
SS-47	22 LT.	69+52 -Y5A-	28.9-30.4	A-2-5(0)	11	47	NP	48.9	35.2	9.8	6.1	100	71	18				
SS-48	22 LT.	69+52 -Y5A-	33.9-34.6	A-2-4(0)	100/7	34	NP	55.2	32.0	8.8	4.0	100	66	15				
EB2-B																		
SS-58	16 RT.	69+09 -Y5A-	8.9-10.4	A-2-5(0)	9	44	NP	47.1	30.2	16.6	6.0	100	72	24				
SS-59	16 RT.	69+09 -Y5A-	13.9-14.8	A-2-4(0)	100/9	29	NP	46.1	36.1	13.8	4.0	100	76	19				
SS-60	16 RT.	69+09 -Y5A-	23.9-25.4	A-2-5(0)	9	56	NP	46.5	34.6	14.8	4.0	100	71	21				
SS-61	16 RT.	69+09 -Y5A-	33.9-35.1	A-2-4(0)	100/7	33	NP	56.0	30.4	11.6	2.0	90	59	14				

TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS	N	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVES			%	%	UNIT	VOID
								C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC	WT. (d)	RATIO
EB2-C																		
SS-50	8 LT.	69+20 -Y5A-	0.0-1.5	A-2-5(0)	13	45	NP	34.2	44.1	11.6	10.1	98	81	24				
SS-51	8 LT.	69+20 -Y5A-	8.4-9.9	A-2-4(0)	40	36	NP	55.8	30.7	7.4	6.1	97	63	15				
SS-52	8 LT.	69+20 -Y5A-	18.4-19.9	A-2-5(0)	14	41	NP	20.8	57.2	13.9	8.1	100	93	26				
SS-53	8 LT.	69+20 -Y5A-	28.4-29.9	A-2-5(0)	21	41	NP	25.5	53.6	12.8	8.1	100	91	25				
SS-54	8 LT.	69+20 -Y5A-	33.4-34.9	A-2-4(0)	100	29	NP	41.7	44.7	9.6	4.0	100	81	16				
SS-55	8 LT.	69+20 -Y5A-	43.4-44.9	A-2-4(0)	44	36	NP	33.2	46.1	14.7	6.1	89	76	21				
SS-56	8 LT.	69+20 -Y5A-	48.4-49.0	A-2-4(0)	100/6	36	NP	46.9	36.3	12.8	4.0	100	73	19				