

REFERENCE: U-2524D

PROJECT: 34820

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2524D	1	13

CONTENTS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	TITLE SHEET
2	LEGEND
3-8	RETAINING WALL ENVELOPES
9-13	SOIL TEST RESULTS

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY GUILFORD
PROJECT DESCRIPTION GREENSBORO WESTERN LOOP
US 220 (BATTLEGROUND AVE.) TO SR 2303
(LAWNDALE DR.)
SITE DESCRIPTION
RETAINING WALL 4: RIGHT OF -L- STA. 425+00
RETAINING WALL 5: RIGHT OF -L- STA. 448+50
RETAINING WALL 6: RIGHT OF -L- STA. 470+50
RETAINING WALL 7: LEFT OF -LREV- STA. 491+00
RETAINING WALL 8: RIGHT OF -LREV- STA. 491+00
RETAINING WALL 9: LEFT OF -LREV- STA. 496+50
RETAINING WALL 10: RIGHT OF -LREV- STA. 496+50
RETAINING WALL 11: RIGHT OF -L- STA. 453+00

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) 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT 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 THE 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.

- NOTES:
1. THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N.C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.
 2. 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.

PERSONNEL

N.D. MOHS

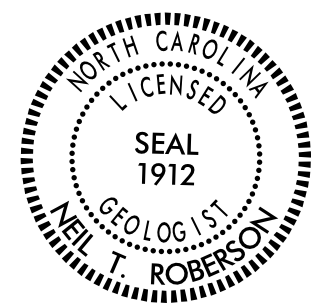
INVESTIGATED BY N.D. MOHS

DRAWN BY N.D. MOHS

CHECKED BY N.T. ROBERSON

SUBMITTED BY N.T. ROBERSON

DATE AUGUST 2015



DocuSigned by:
Neil Roberson 5/19/2016
4061D9A8C6C649C SIGNATURE DATE

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS GEOTECHNICAL ENGINEERING UNIT SUBSURFACE INVESTIGATION

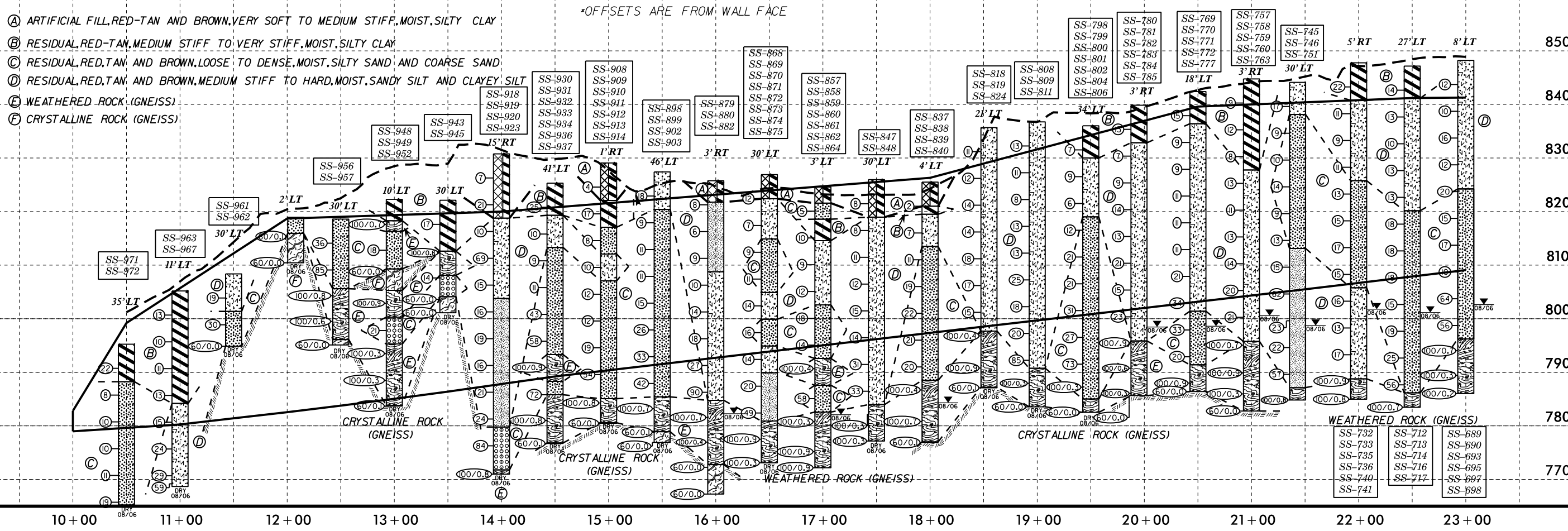
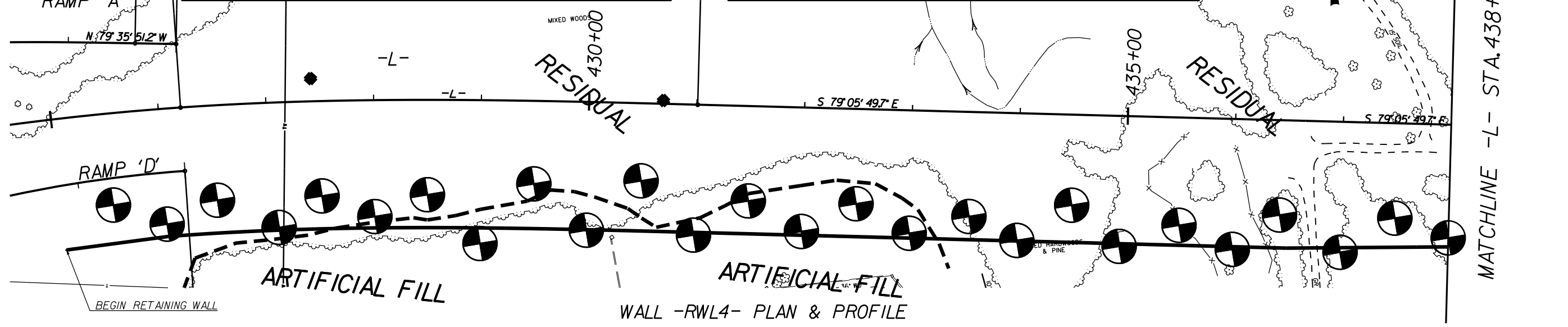
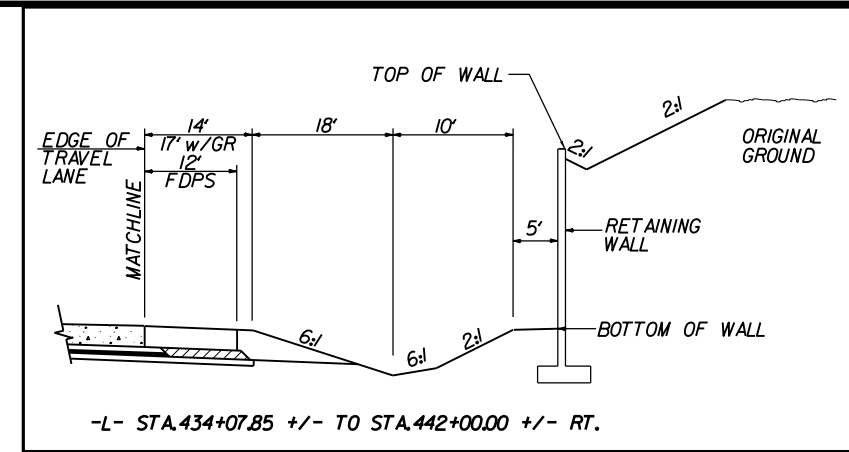
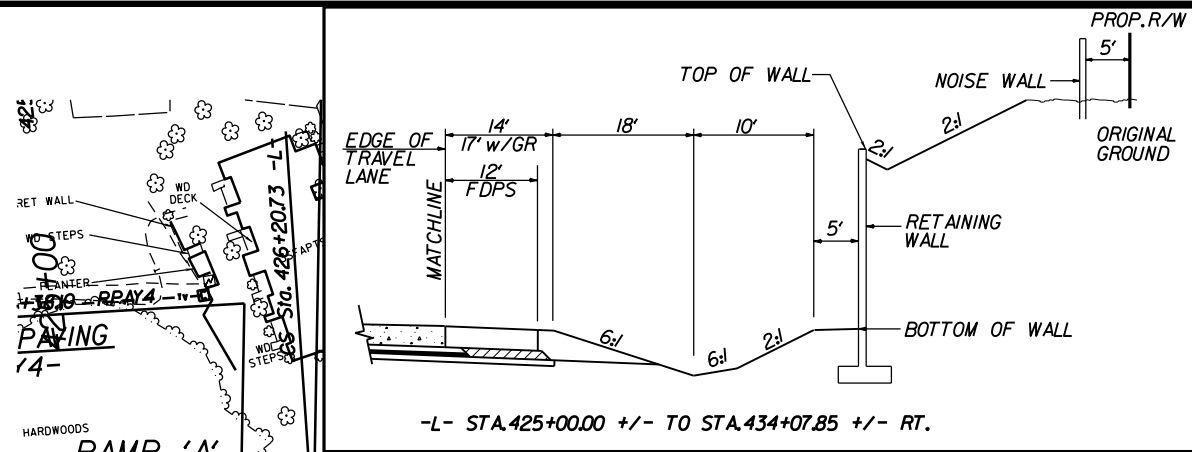
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION		GRADATION		ROCK DESCRIPTION		TERMS AND DEFINITIONS	
SOIL IS CONSIDERED 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 THE STANDARD PENETRATION TEST (ASTM T 209, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6		WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.		HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED, 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:		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, SUCH 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		ANGULARITY OF GRAINS		WEATHERED ROCK (WR)		CRYSTALLINE ROCK (CR)	
GENERAL CLASS. GRANULAR MATERIALS (<= 35% PASSING #200) SILT-CLAY MATERIALS (> 35% PASSING #200) ORGANIC MATERIALS		THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.		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.	
MINERALOGICAL COMPOSITION		COMPRESSION		NON-CRYSTALLINE ROCK (NCR)		COASTAL PLAIN SEDIMENTARY ROCK (CP)	
MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.		SLIGHTLY COMPRESSIBLE LL < 31 MODERATELY COMPRESSIBLE LL = 31 - 50 HIGHLY COMPRESSIBLE LL > 50		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.	
COMPRESSION		PERCENTAGE OF MATERIAL		WEATHERING			
SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		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		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. IF TESTED, WOULD YIELD SPT REFUSAL 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. IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF VERY SEVERE (V. SEV.) ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF 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.			
GROUND WATER		MISCELLANEOUS SYMBOLS		ROCK HARDNESS			
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		ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION SOIL SYMBOL ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT INFERRED SOIL BOUNDARY INFERRED ROCK LINE ALLUVIAL SOIL BOUNDARY 25/025 DIP & DIP DIRECTION OF ROCK STRUCTURES SPT DMT TEST BORING AUGER BORING CORE BORING MONITORING WELL PIEZOMETER INSTALLATION SLOPE INDICATOR INSTALLATION CONE PENETROMETER TEST SOUNDING ROD TEST BORING WITH CORE SPT N-VALUE		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 GROUDED OR GOUGED 0.05 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 GROUDED 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 FINGERNAIL.			
TEXTURE OR GRAIN SIZE		RECOMMENDATION SYMBOLS		ABBREVIATIONS			
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		UNDERCUT EXCAVATION UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL SHALLOW UNDERCUT UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK		AR - AUGER REFUSAL MED. - MEDIUM VST - VANE SHEAR TEST BT - BORING TERMINATED MICA - MICACEOUS WEA. - WEATHERED CL. - CLAY MOD. - MODERATELY UNIT WEIGHT CPT - COARSE PENETRATION TEST NP - NON PLASTIC DRY UNIT WEIGHT CSE. - COARSE ORG. - ORGANIC PMT - PRESSUREMETER TEST SAMPLE ABBREVIATIONS DMT - DILATOMETER TEST SAP. - SAPROLITIC SD. - SAND, SANDY S - BULK DPT - DYNAMIC PENETRATION TEST SL. - SILTY, SILTY SS - SPLIT SPOON e - VOID RATIO F - FINE SO. - SAND, SANDY ST - SHELBY TUBE FOSS. - FOSSILIFEROUS FRAC. - FRACTURED, FRACTURES SLI. - SLIGHTLY TCR - TRICONE REFUSAL RS - ROCK FRAGS. - FRAGMENTS W - MOISTURE CONTENT RT - RECOMPACTED TRIAXIAL HI. - HIGHLY V - VERY CBR - CALIFORNIA BEARING RATIO			
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 LL - LIQUID LIMIT - SATURATED - USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE PL - PLASTIC LIMIT - WET - (W) SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE OM - OPTIMUM MOISTURE SHRINKAGE LIMIT - MOIST - (M) SOLID; AT OR NEAR OPTIMUM MOISTURE SL - SHRINKAGE LIMIT - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE		DRILL UNITS: ADVANCING TOOLS: HAMMER TYPE: <input type="checkbox"/> CME-45C <input type="checkbox"/> CLAY BITS <input checked="" type="checkbox"/> AUTOMATIC <input type="checkbox"/> MANUAL <input type="checkbox"/> CME-55 <input type="checkbox"/> 6" CONTINUOUS FLIGHT AUGER <input checked="" type="checkbox"/> CME-550 <input checked="" type="checkbox"/> 8" HOLLOW AUGERS <input type="checkbox"/> HARD FACED FINGER BITS <input type="checkbox"/> VANE SHEAR TEST <input type="checkbox"/> TUNG-CARBIDE INSERTS <input type="checkbox"/> PORTABLE HOIST <input type="checkbox"/> CASING <input type="checkbox"/> W/ ADVANCER <input type="checkbox"/> TRICONE <input type="checkbox"/> *STEEL TEETH <input type="checkbox"/> TRICONE <input type="checkbox"/> *TUNG.-CARB. <input type="checkbox"/> CORE BIT		TERM SPACING MORE THAN 10 FEET 3 TO 10 FEET 1 TO 3 FEET 0.16 TO 1 FOOT LESS THAN 0.16 FEET VERY WIDE WIDE MODERATELY CLOSE CLOSE VERY CLOSE		TERM THICKNESS 4 FEET 1.5 - 4 FEET 0.16 - 1.5 FEET 0.03 - 0.16 FEET < 0.008 - 0.03 FEET VERY THICKLY BEDDED THICKLY BEDDED THINLY BEDDED VERY THINLY BEDDED THICKLY LAMINATED THINLY LAMINATED	
PLASTICITY		INDURATION		FRACURE SPACING		BEDDING	
NON PLASTIC SLIGHTLY PLASTIC MODERATELY PLASTIC HIGHLY PLASTIC PLASTICITY INDEX (PI) 0-5 6-15 16-25 26 OR MORE DRY STRENGTH VERY LOW SLIGHT MEDIUM HIGH		FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF 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.		FRACURE SPACING		BEDDING	
COLOR							
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.							

8/17/99

PARSONS
FALCON, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO. U-2524D	SHEET NO. 3
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



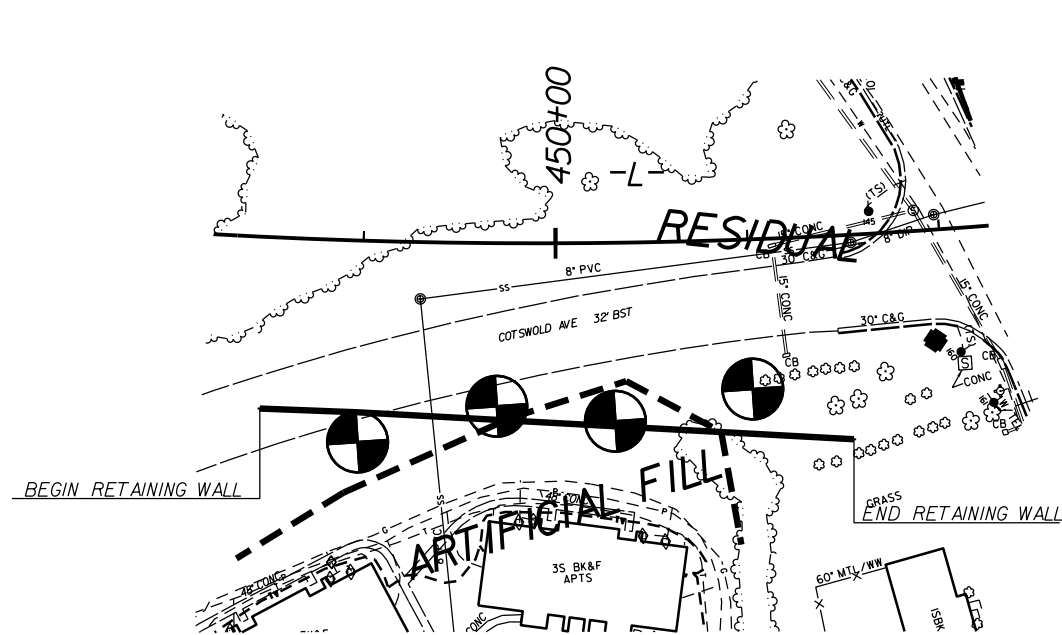
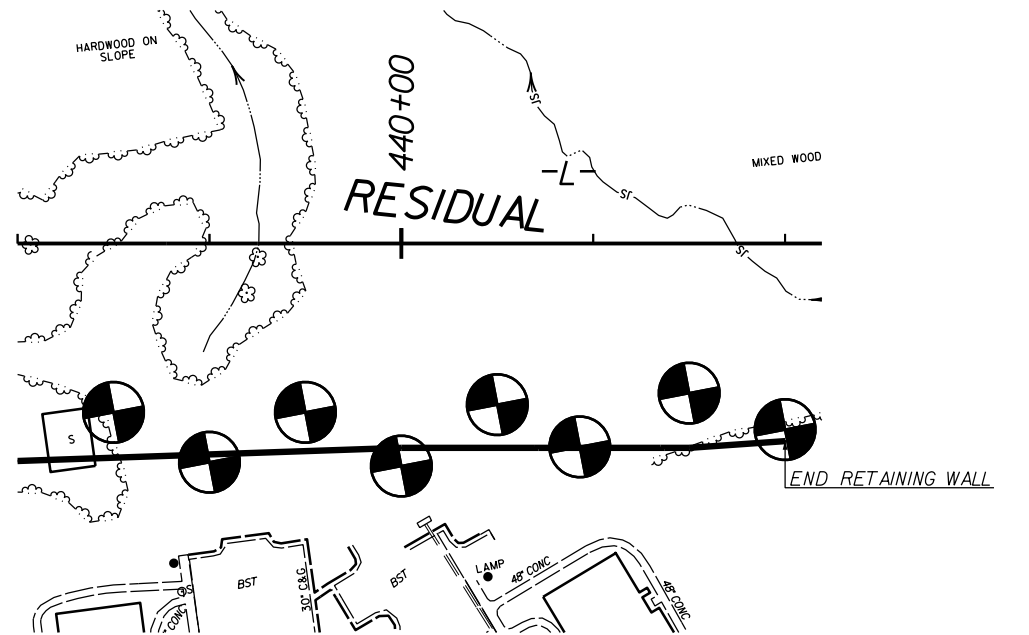
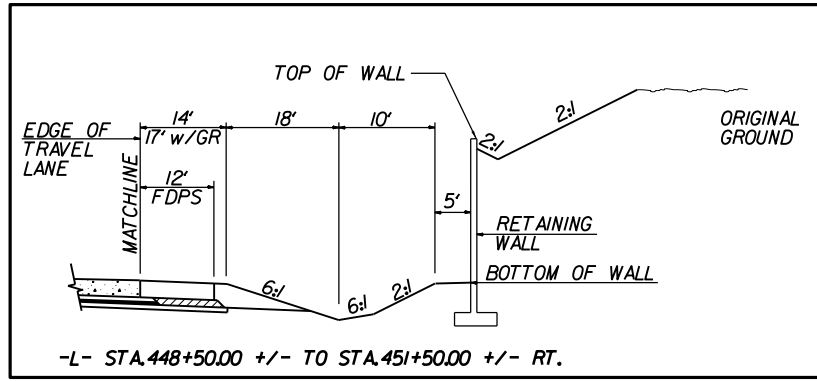
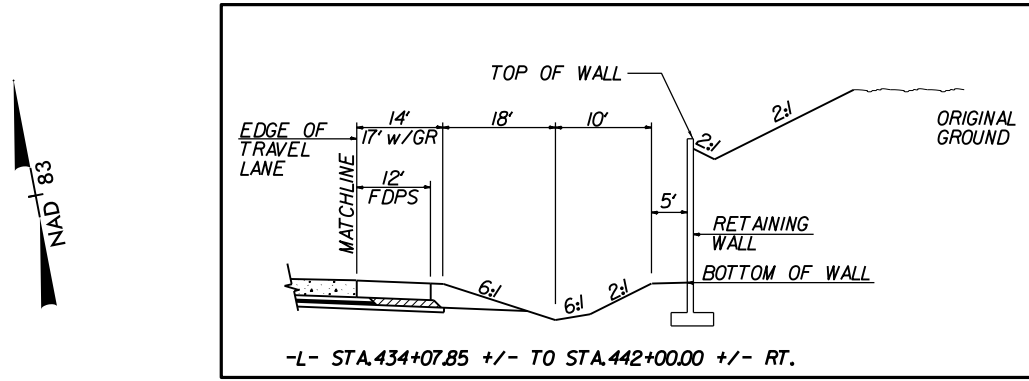
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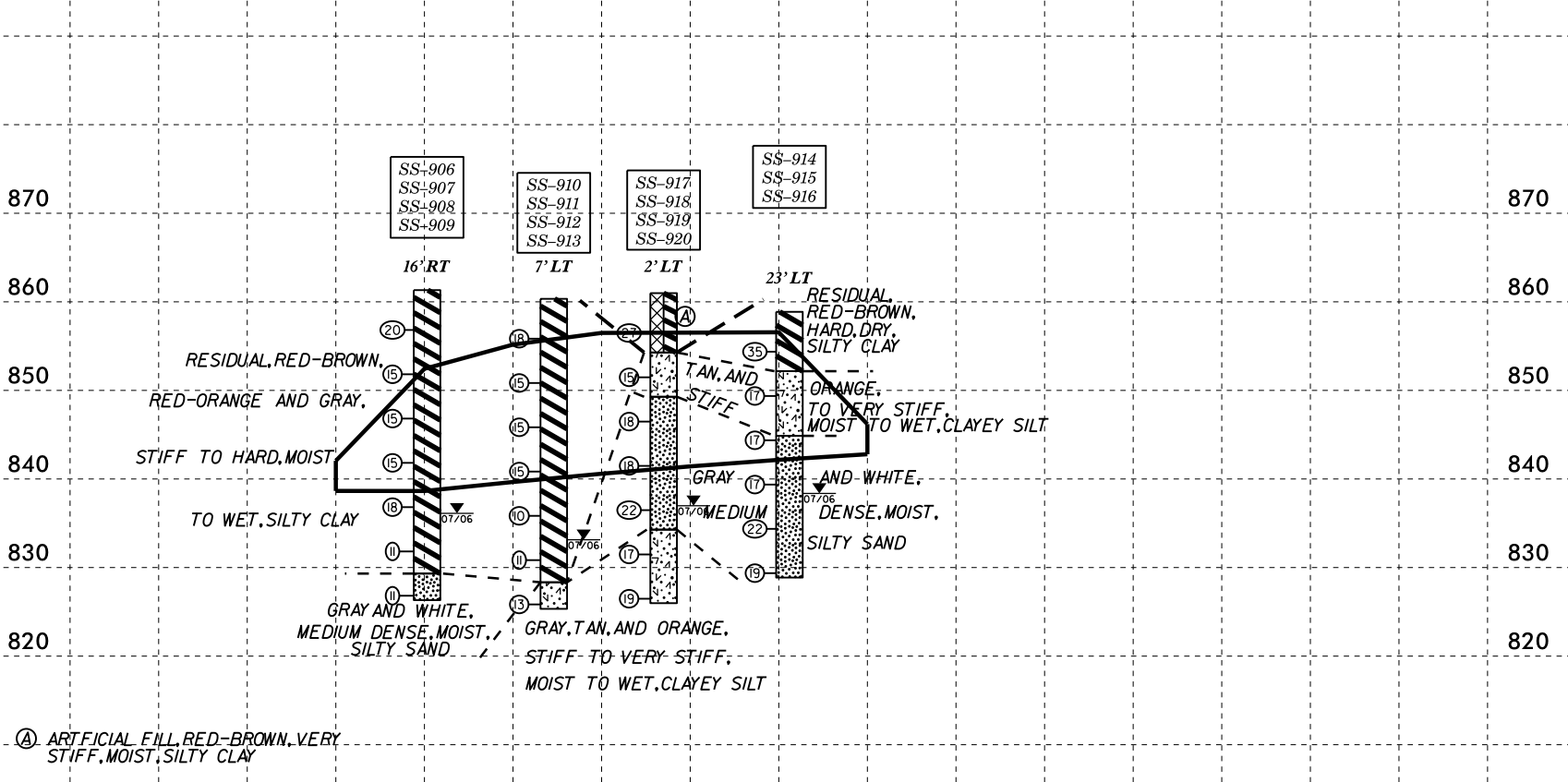
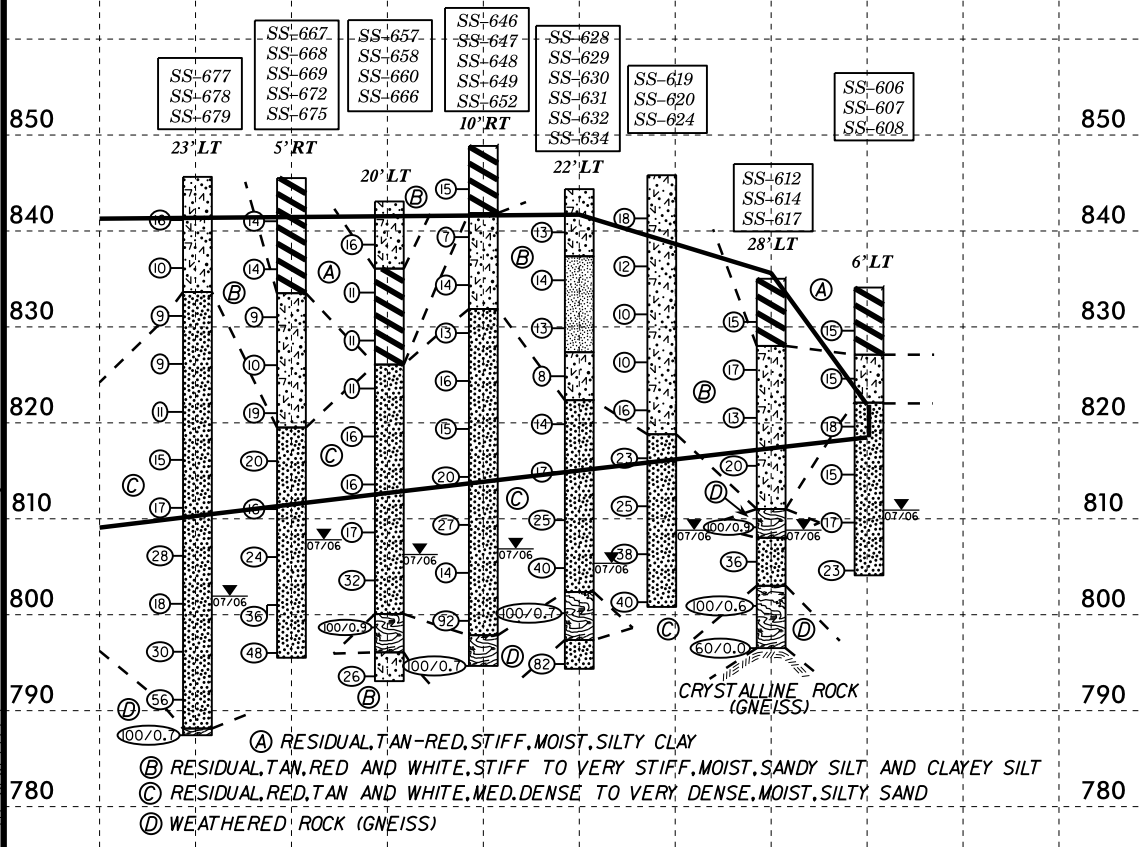
PARSONS
RALEIGH, NORTH CAROLINA
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
U-2524D	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



WALL -RWL4- PLAN & PROFILE *OFFSETS ARE FROM WALL FACE

WALL -RWL5- PLAN & PROFILE *OFFSETS ARE FROM WALL FACE

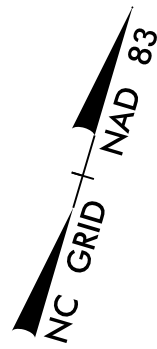


- (A) RESIDUAL TAN-RED, STIFF, MOIST, SILTY CLAY
- (B) RESIDUAL TAN, RED AND WHITE, STIFF TO VERY STIFF, MOIST, SANDY SILT AND CLAYEY SILT
- (C) RESIDUAL, RED, TAN AND WHITE, MED. DENSE TO VERY DENSE, MOIST, SILTY SAND
- (D) WEATHERED ROCK (GNEISS)

- (A) ARTIFICIAL FILL RED-BROWN, VERY STIFF, MOIST, SILTY CLAY

REVISIONS

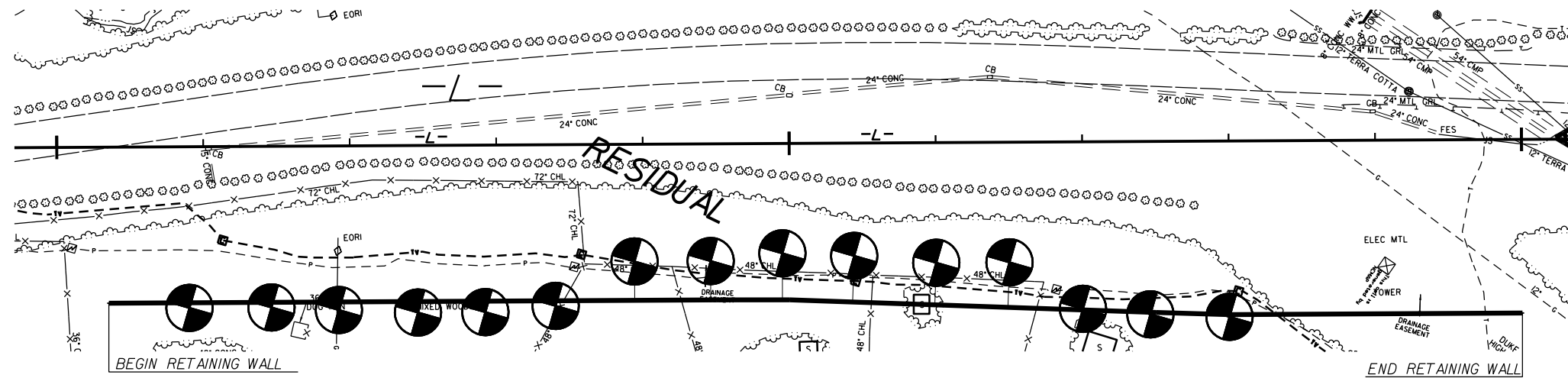
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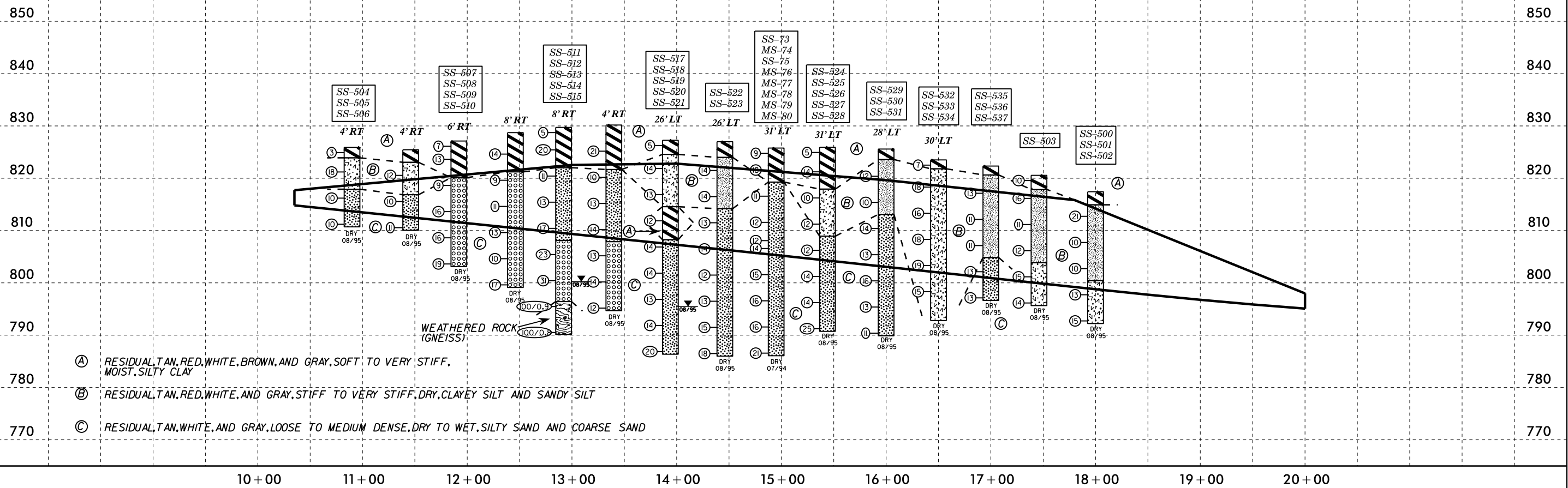
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WALL -RWL6- PLAN & PROFILE

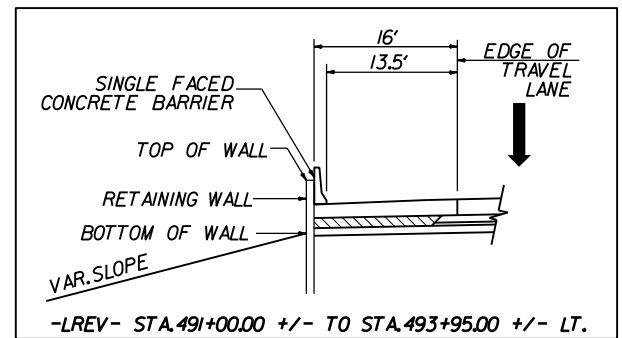
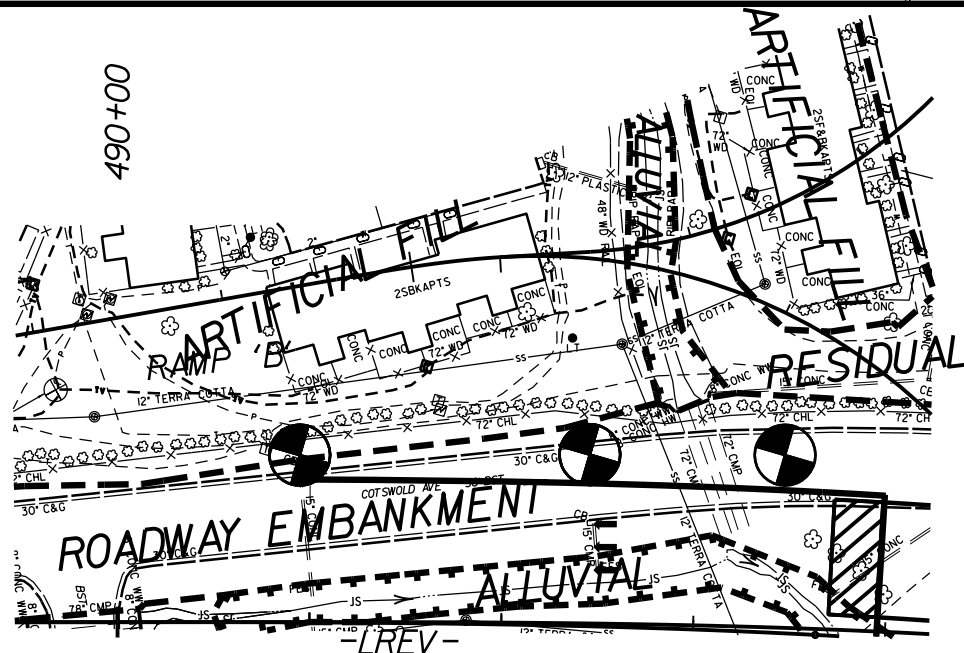
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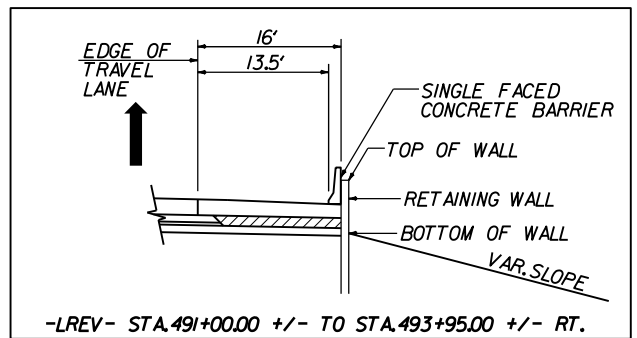
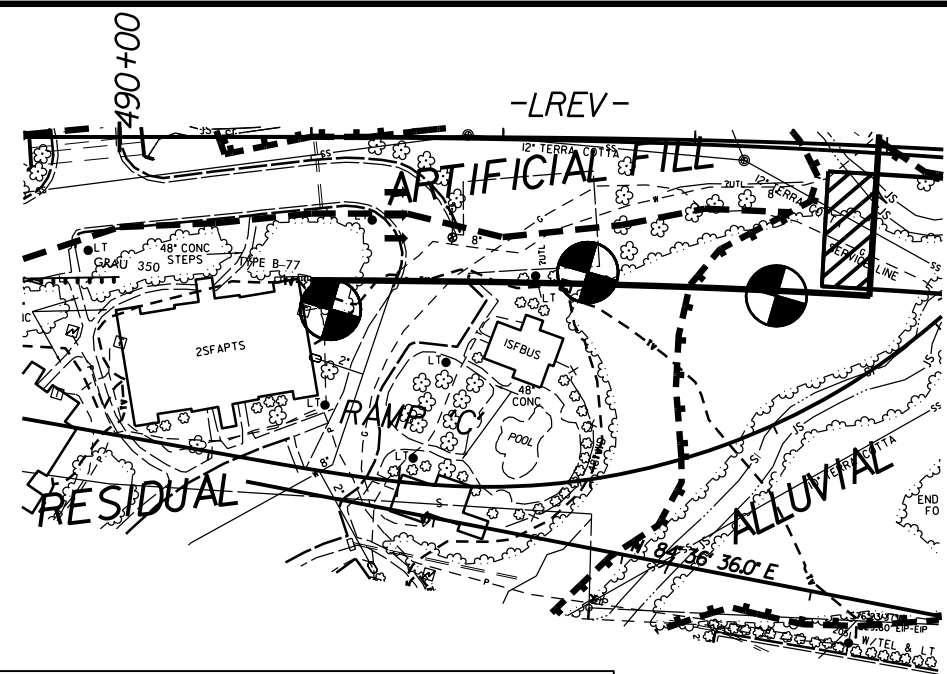
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- Ⓑ RESIDUAL, TAN, RED, WHITE, AND GRAY, STIFF TO VERY STIFF, DRY, CLAYEY SILT AND SANDY SILT
- Ⓒ RESIDUAL, TAN, WHITE, AND GRAY, LOOSE TO MEDIUM DENSE, DRY TO WET, SILTY SAND AND COARSE SAND

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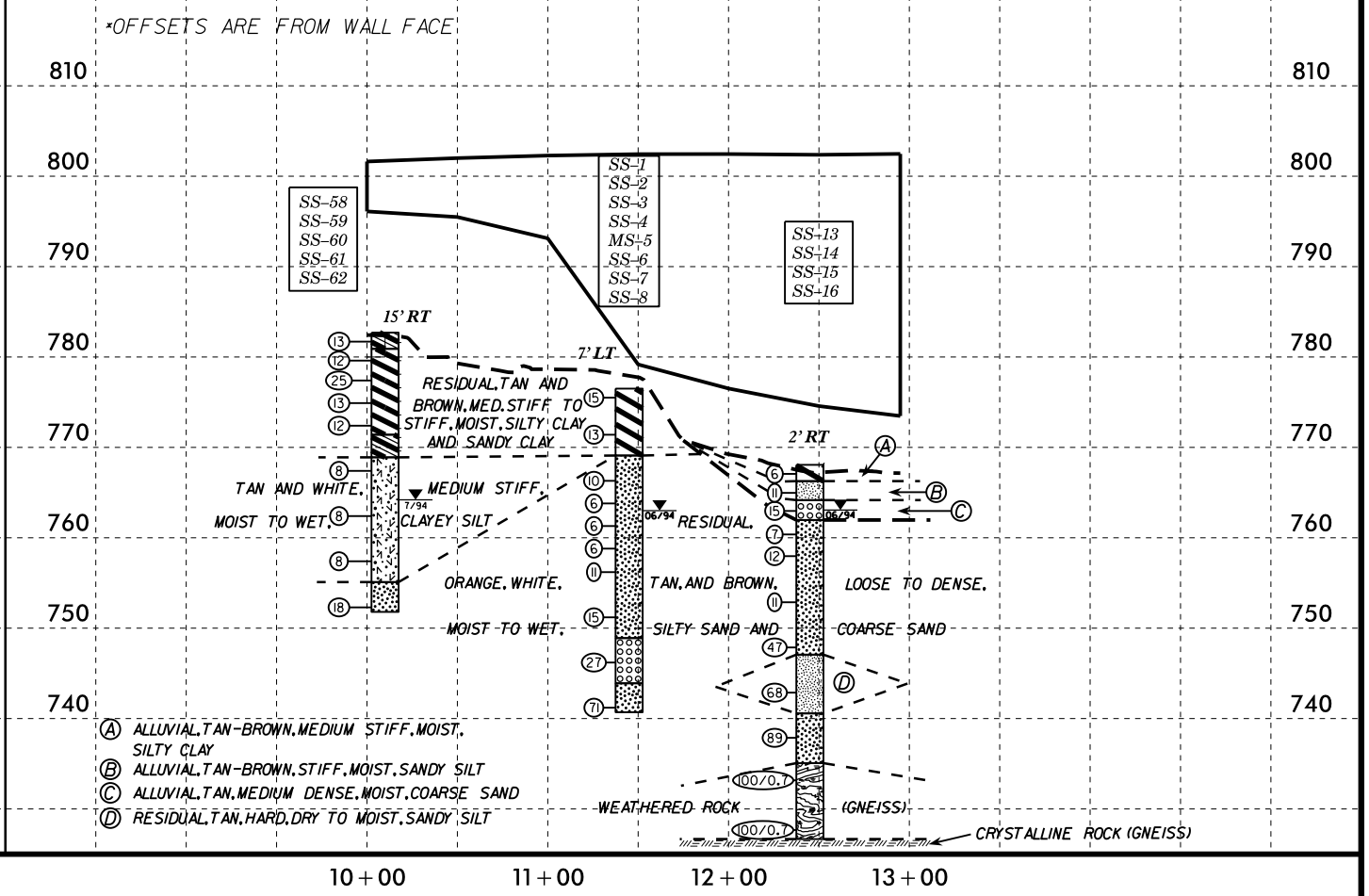
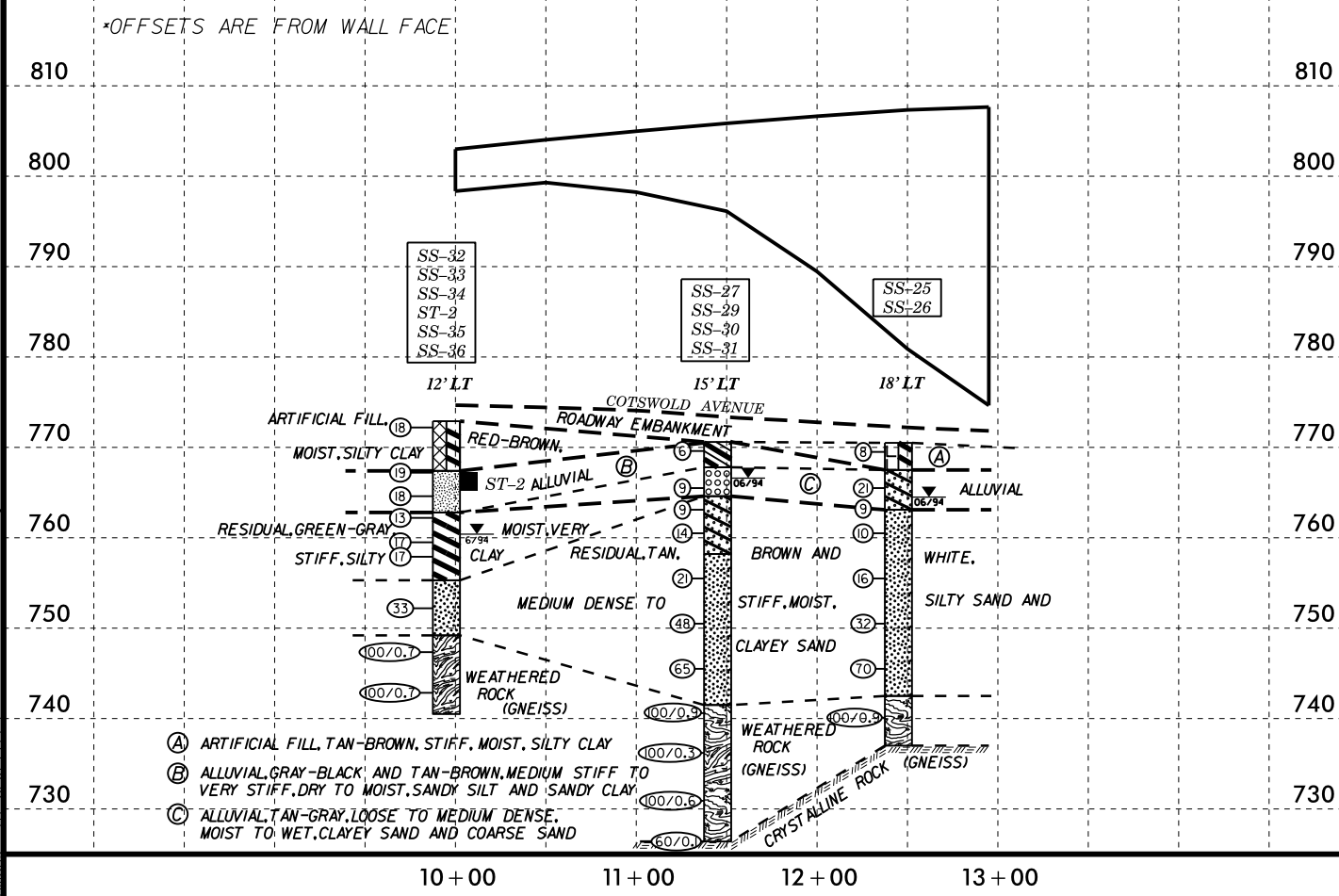
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RW SHEET NO.	
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PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



WALL -RWL7- PLAN & PROFILE
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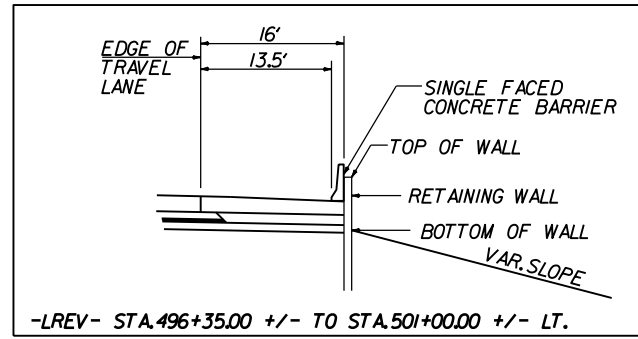
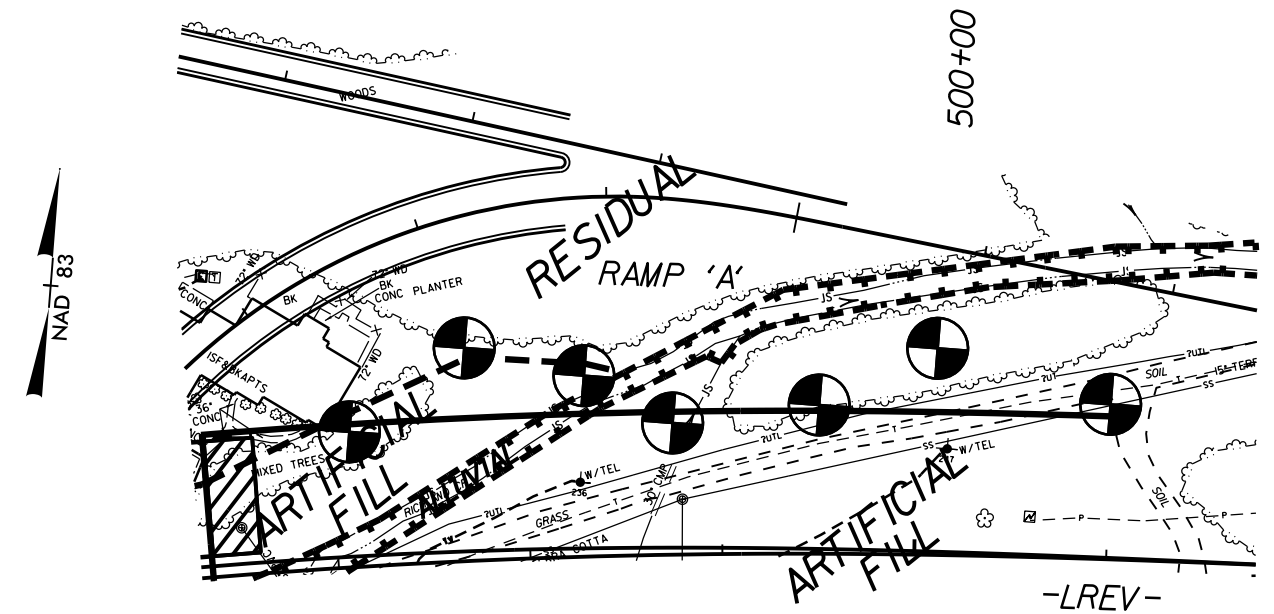
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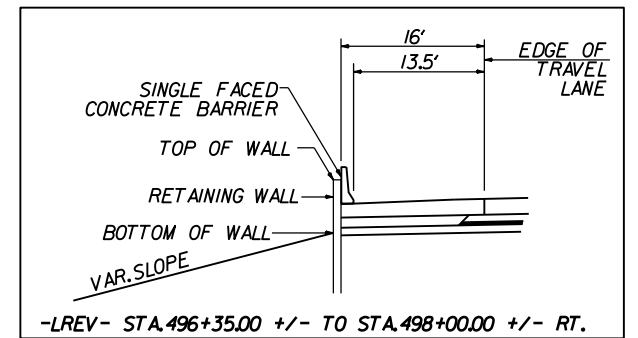
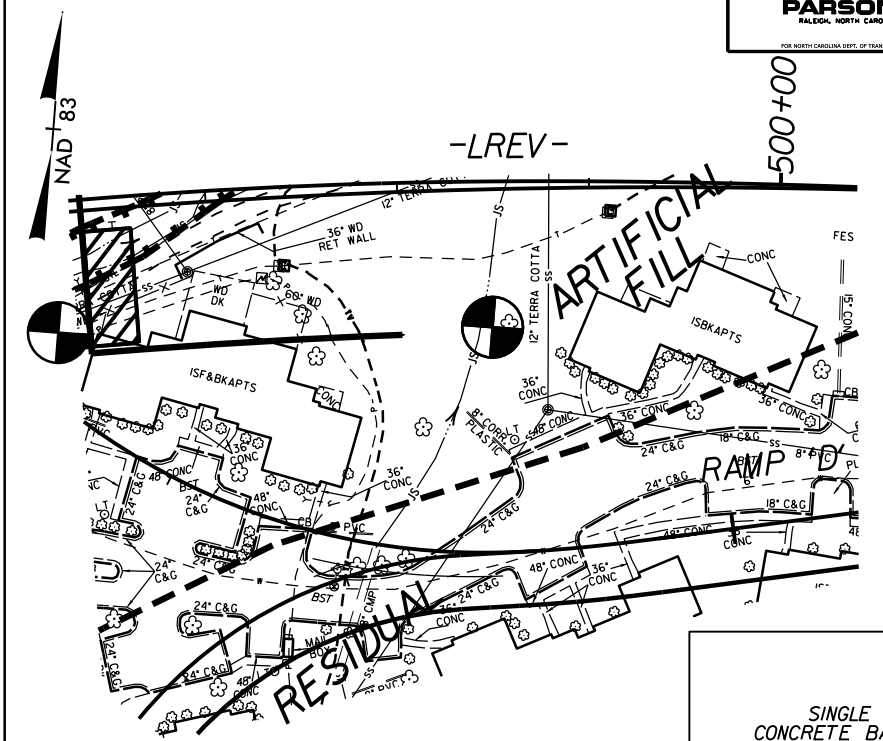
REVISIONS

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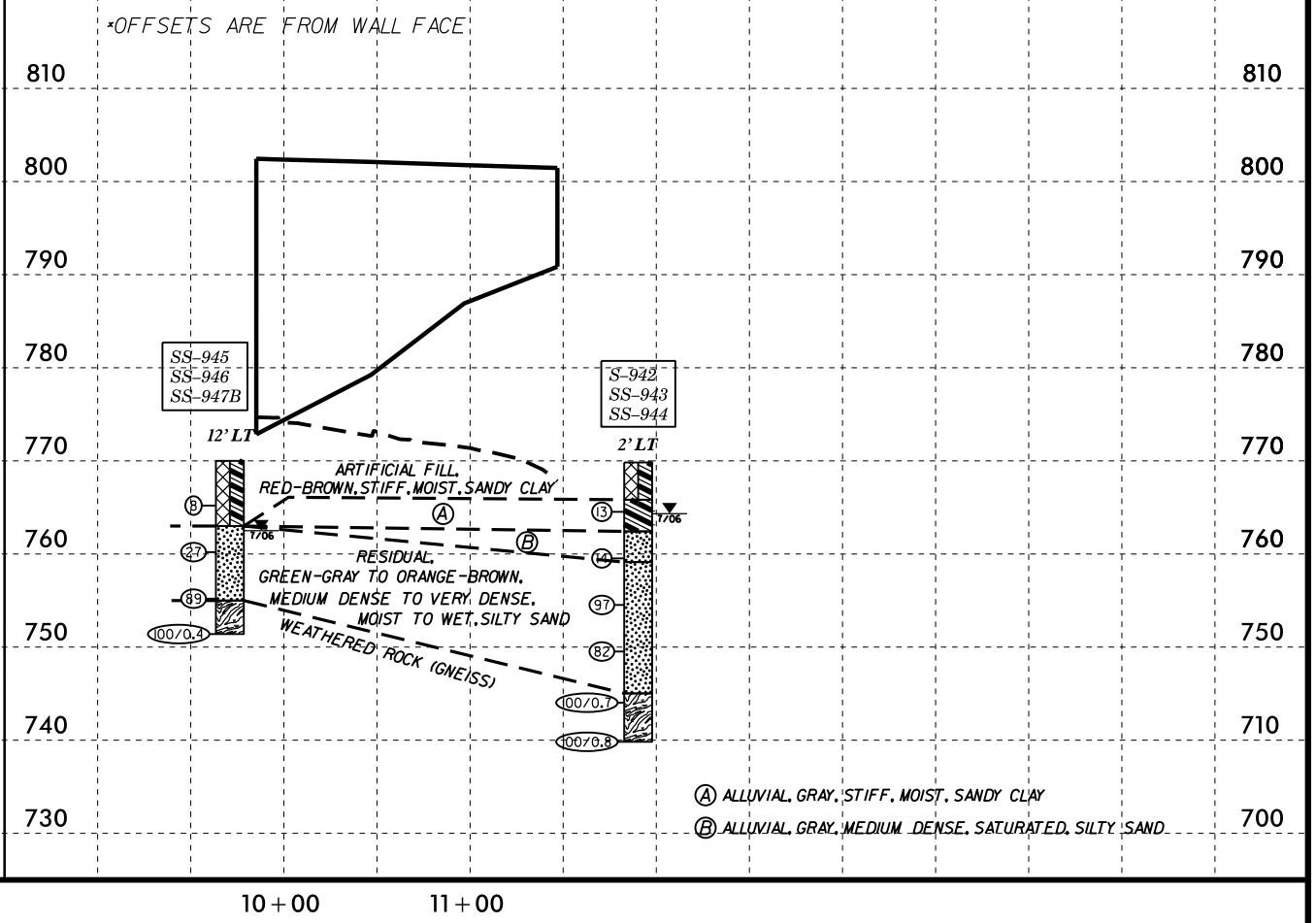
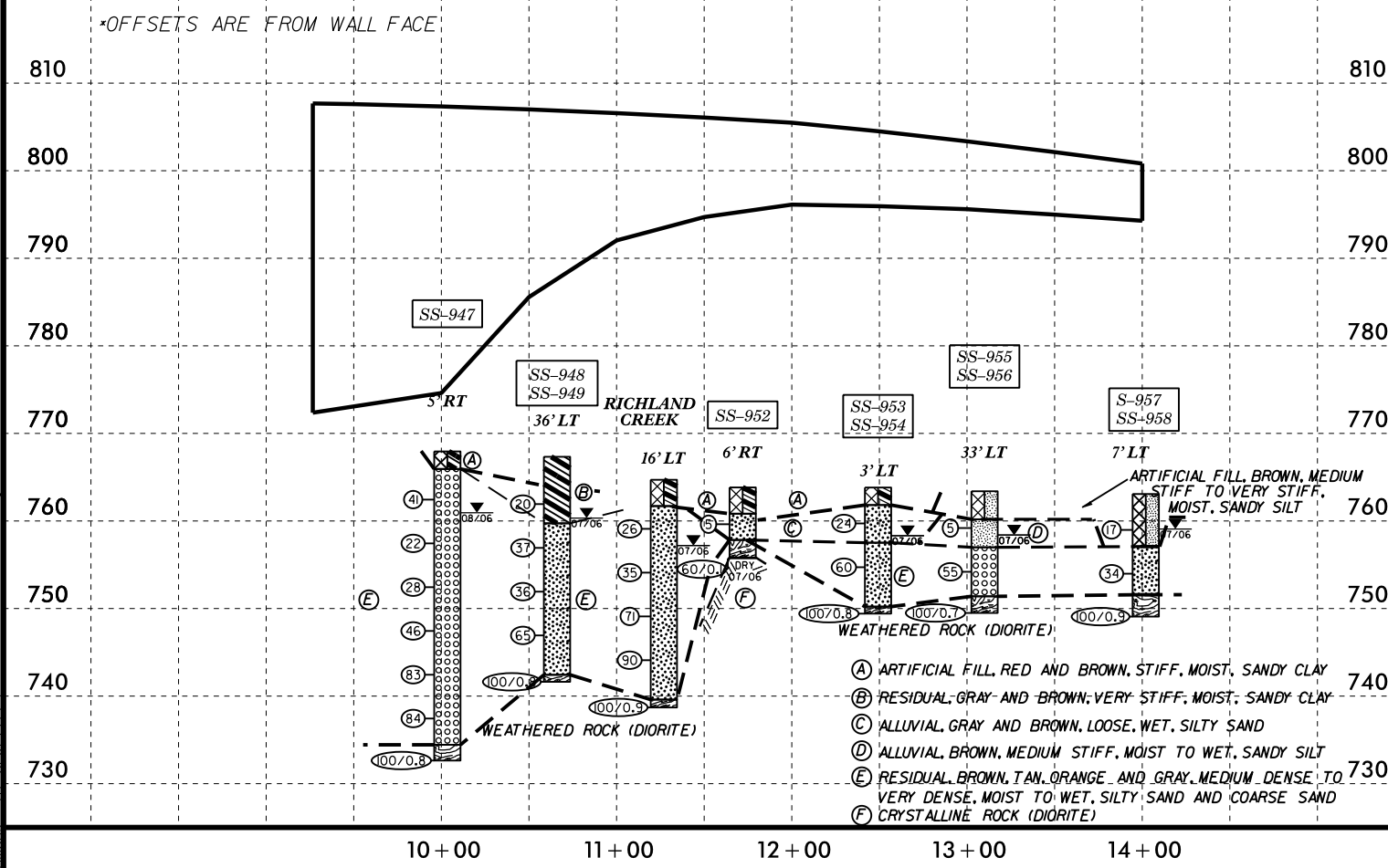
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



WALL -RWL9- PLAN & PROFILE



WALL -RWL10- PLAN & PROFILE

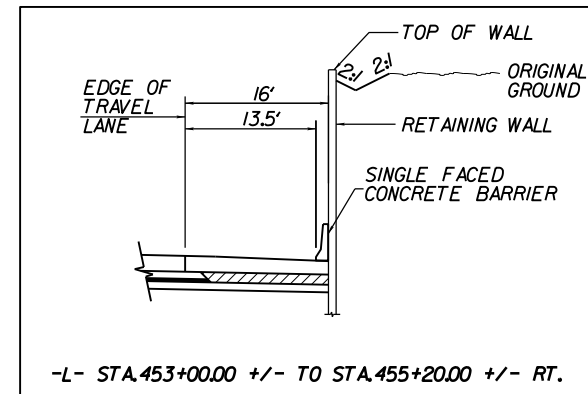
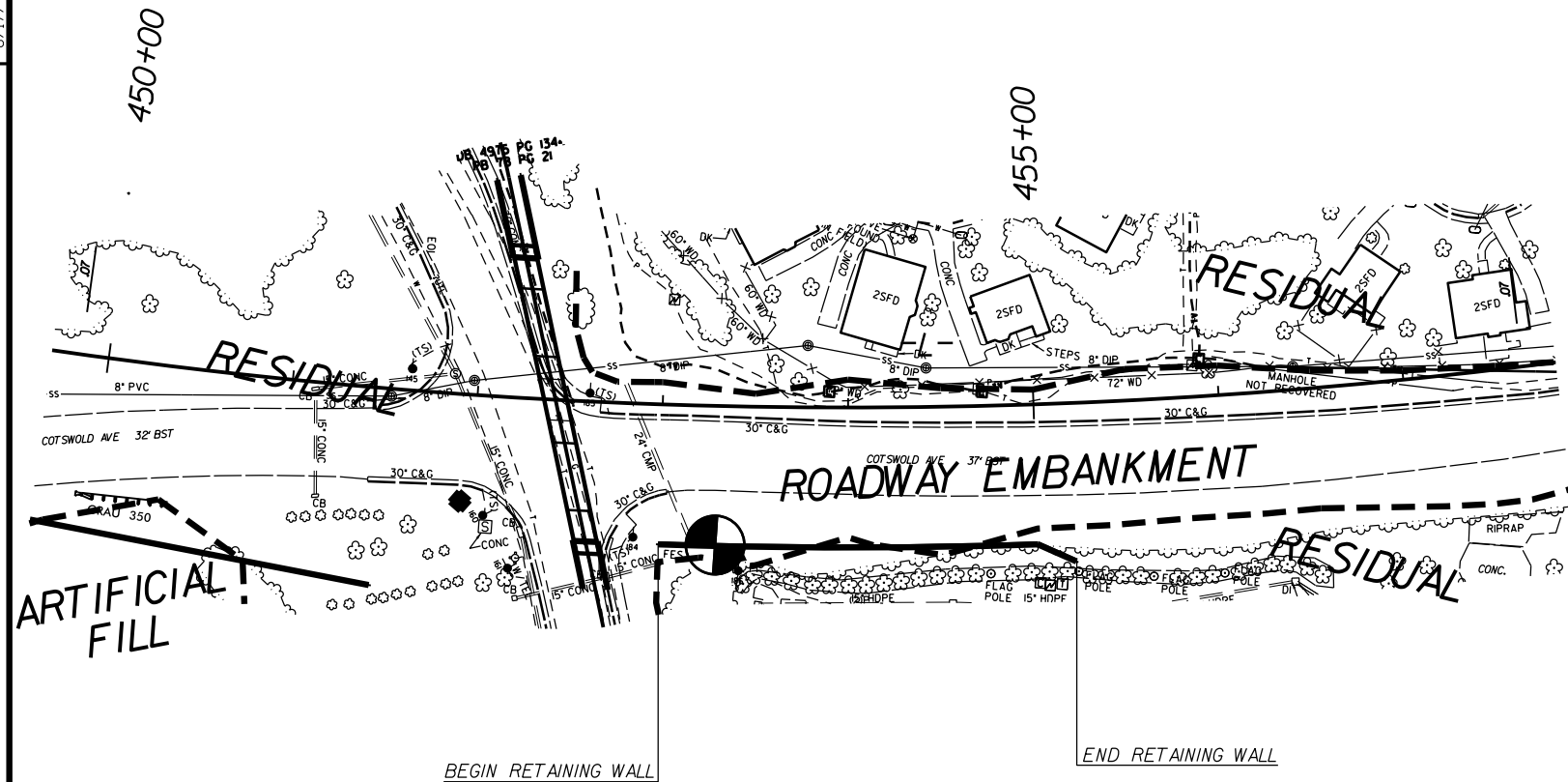


REVISIONS

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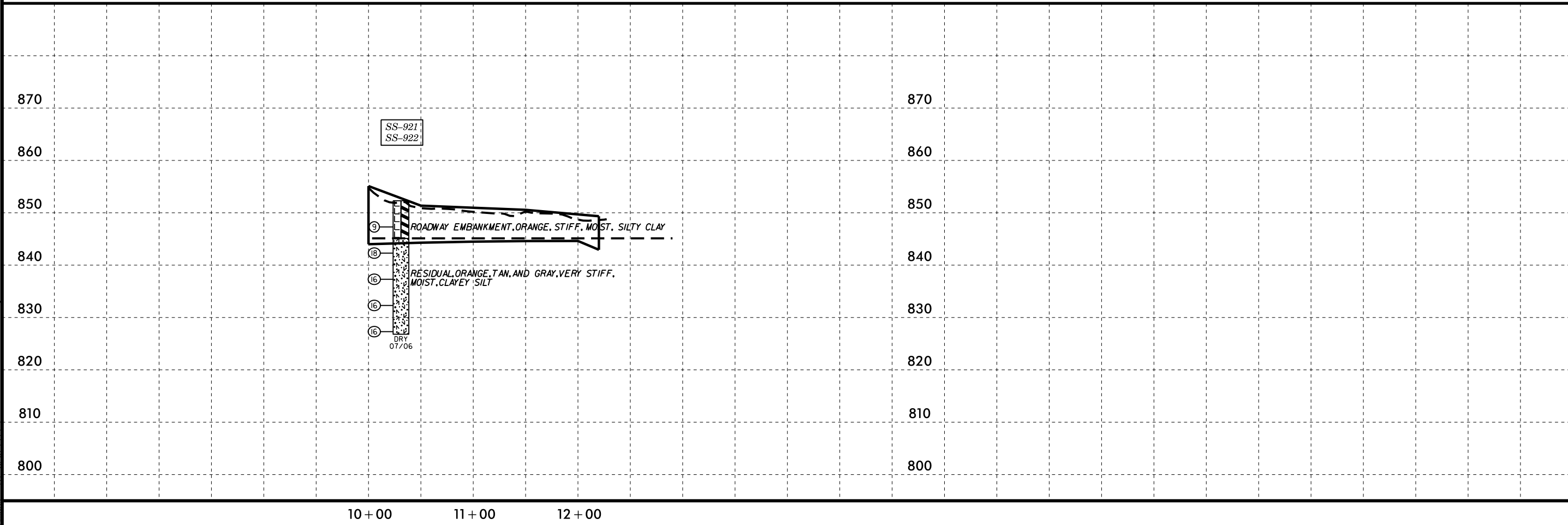
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ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



WALL -RWLII- PLAN & PROFILE

REVISIONS

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 12/22/24



RETAINING WALL 4

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		
SS-677	23 LT	23+51	3.5-5.0	A-5(0)	46	NP	25.0	36.0	12.4	26.6	100	86	46	-	-
SS-678	23 LT	23+51	8.5-10.0	A-5(0)	44	NP	18.0	47.9	19.8	14.3	100	93	43	-	-
SS-679	23 LT	23+51	13.5-15.0	A-2-5(0)	46	NP	30.7	46.7	14.4	8.2	99	86	28	-	-
SS-667	5 RT	24+00	3.5-5.0	A-7-5(15)	64	21	5.9	37.5	19.8	36.8	100	98	64	-	-
SS-668	5 RT	24+00	8.5-10.0	A-7-5(6)	59	11	12.9	41.1	23.4	22.5	100	94	54	-	-
SS-669	5 RT	24+00	13.5-15.0	A-5(0)	58	NP	19.9	48.9	21.0	10.2	100	93	38	-	-
SS-672	5 RT	24+00	28.5-30.0	A-2-4(0)	39	NP	37.5	43.6	10.7	8.2	99	78	26	-	-
SS-675	5 RT	24+00	43.5-45.0	A-2-4(0)	35	NP	33.2	48.1	12.6	6.1	96	82	25	-	-
SS-657	20 LT	24+51	3.5-5.0	A-5(5)	58	9	19.0	32.5	17.7	30.7	100	91	53	-	-
SS-658	20 LT	24+51	8.5-10.0	A-7-5(9)	64	19	17.2	35.8	20.4	26.6	100	89	53	-	-
SS-660	20 LT	24+51	18.5-20.0	A-2-5(0)	55	NP	59.6	14.5	17.7	8.2	100	68	27	-	-
SS-666	20 LT	24+51	48.5-50.0	A-5(1)	45	8	18.8	47.7	25.3	8.2	100	92	44	-	-
SS-646	10 RT	25+00	3.5-5.0	A-7-5(6)	55	15	17.4	38.5	15.5	28.7	100	92	50	-	-
SS-647	10 RT	25+00	8.5-10.0	A-5(5)	57	8	10.0	42.8	26.7	20.5	100	97	56	-	-
SS-648	10 RT	25+00	12.5-15.0	A-5(9)	54	10	9.0	33.6	34.9	22.5	100	97	67	-	-
SS-649	10 RT	25+00	18.5-20.0	A-2-5(0)	51	NP	25.6	48.3	20.0	6.1	100	88	34	-	-
SS-652	10 RT	25+00	33.5-35.0	A-2-4(0)	34	NP	36.6	37.9	17.3	8.2	99	80	33	-	-
SS-628	22 LT	25+50	3.5-5.0	A-5(4)	55	9	27.2	25.9	18.5	28.4	100	86	51	-	-
SS-629	22 LT	25+50	8.5-10.0	A-4(0)	39	3	18.8	45.6	25.3	10.2	100	92	46	-	-
SS-630	22 LT	25+50	13.5-15.0	A-4(0)	39	6	27.4	34.4	24.0	14.2	93	77	42	-	-
SS-631	22 LT	25+50	18.5-20.0	A-5(0)	51	7	26.8	42.0	23.0	8.2	93	80	37	-	-
SS-632	22 LT	25+50	23.5-25.0	A-2-5(0)	45	NP	31.9	45.0	16.9	6.1	100	81	31	-	-
SS-634	22 LT	25+50	33.5-35.0	A-2-4(0)	40	NP	38.7	42.0	13.2	6.1	100	78	26	-	-
SS-619	CL	25+93	3.5-5.0	A-5(7)	53	8	12.4	28.6	28.7	30.4	100	94	64	-	-
SS-620	CL	25+93	8.5-10.0	A-5(2)	52	8	25.3	36.1	20.4	18.2	100	87	44	-	-
SS-624	CL	25+93	28.5-30.0	A-2-5(0)	42	NP	32.2	48.2	13.5	6.1	100	85	27	-	-
SS-612	28 LT	26+50	3.5-5.0	A-7-5(1)	41	11	25.9	41.1	8.6	24.3	100	88	39	-	-
SS-614	28 LT	26+50	13.5-15.0	A-5(0)	59	NP	15.2	49.8	28.9	6.1	100	94	45	-	-
SS-617	28 LT	26+50	28.5-30.0	A-2-4(0)	35	NP	33.4	53.1	9.4	4.1	99	85	21	-	-
SS-606	6 LT	27+01	3.5-5.0	A-7-5(26)	68	31	9.1	19.7	22.6	48.6	100	95	75	-	-
SS-607	6 LT	27+01	8.5-10.0	A-5(1)	49	5	27.6	34.2	17.9	20.3	100	87	43	-	-
SS-608	6 LT	27+01	13.5-15.0	A-2-5(0)	41	NP	45.6	41.5	8.8	4.1	100	77	18	-	-

RETAINING WALL 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		
SS-906	16 RT	10+52	3.5-5.0	A-7-5(8)	61	17	12.8	40.1	12.5	34.6	100	96	53	-	-
SS-907	16 RT	10+52	13.5-15.0	A-7-5(8)	59	16	14.0	40.5	21.1	24.4	100	94	54	-	-
SS-908	16 RT	10+52	18.5-20.0	A-7-5(1)	50	12	33.2	34.0	18.6	14.2	96	74	38	-	-
SS-909	16 RT	10+52	33.5-35.0	A-2-5(0)	51	4	29.7	41.3	16.8	12.2	96	81	35	-	-
SS-910	7 LT	11+23	3.5-5.0	A-7-5(17)	64	23	18.5	19.1	23.7	38.7	100	88	67	-	-
SS-911	7 LT	11+23	13.5-15.0	A-7-5(8)	59	15	14.2	37.6	23.7	24.4	100	97	55	-	-
SS-912	7 LT	11+23	23.5-25.0	A-7-5(7)	59	12	20.8	32.3	28.6	18.3	100	87	55	-	-
SS-913	7 LT	11+23	33.5-35.0	A-5(3)	50	6	22.6	29.9	33.3	14.2	99	86	54	-	-
SS-917	2 LT	11+85	3.5-5.0	A-7-5(8)	60	14	22.2	26.4	14.8	36.6	100	86	56	-	-
SS-918	2 LT	11+85	8.5-10.0	A-5(1)	48	7	31.7	29.7	18.2	20.3	98	77	44	-	-
SS-919	2 LT	11+85	13.5-15.0	A-2-5(0)	42	NP	33.4	38.3	12.1	16.3	96	78	34	-	-
SS-920	2 LT	11+85	28.5-30.0	A-5(2)	44	10	34.4	25.0	26.3	14.2	90	65	43	-	-
SS-914	23 LT	12+56	3.5-5.0	A-7-5(8)	56	16	23.2	24.2	16.0	36.6	98	83	56	-	-
SS-915	23 LT	12+56	8.5-10.0	A-5(2)	53	7	29.5	29.5	22.7	18.3	98	79	46	-	-
SS-916	23 LT	12+56	13.5-15.0	A-2-5(0)	43	NP	43.5	26.7	15.6	14.2	95	64	34	-	-

8/17/99

RETAINING WALL 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		
SS-504	4 RT	10+90	0.0-1.5	A-7-6(9)	45	18	22.2	20.0	19.4	38.4	96	80	58	-	-
SS-505	4 RT	10+90	3.7-5.2	A-5(0)	42	NP	34.7	28.1	19.0	18.2	97	74	40	-	-
SS-506	4 RT	10+90	8.7-10.2	A-2-5(0)	41	NP	41.8	30.7	21.4	6.1	81	58	26	-	-
SS-507	6 RT	11+92	0.0-1.5	A-7-5(15)	54	21	17.8	15.8	18.0	48.5	100	88	69	-	-
SS-508	6 RT	11+92	2.5-4.0	A-7-5(4)	51	13	29.1	26.7	22.0	22.2	97	77	47	-	-
SS-509	6 RT	11+92	7.5-9.0	A-1-b(0)	43	NP	48.9	25.5	21.6	4.0	77	48	23	-	-
SS-510	6 RT	11+92	17.5-19.0	A-1-b(0)	37	NP	50.3	23.8	19.8	6.1	73	45	22	-	-
SS-511	8 RT	12+92	0.0-1.5	A-7-6(11)	42	18	19.8	16.0	17.8	46.5	100	86	67	-	-
SS-512	8 RT	12+92	3.3-4.8	A-7-5(14)	56	21	17.8	22.6	29.3	30.3	100	87	64	-	-
SS-513	8 RT	12+92	8.3-9.8	A-2-5(0)	44	NP	40.8	28.1	23.0	8.1	96	68	33	-	-
SS-514	8 RT	12+92	18.3-19.8	A-2-4(0)	29	NP	40.4	33.5	22.0	4.0	77	58	24	-	-
SS-515	8 RT	12+92	23.3-24.8	A-1-b(0)	32	NP	44.2	28.9	22.8	4.0	73	49	23	-	-
SS-517	26 LT	13+94	0.0-1.5	A-7-6(15)	49	25	18.4	17.0	18.2	46.5	97	84	65	-	-
SS-518	26 LT	13+94	4.4-5.9	A-5(0)	42	NP	34.5	31.1	22.2	12.1	97	76	38	-	-
SS-519	26 LT	13+94	14.4-15.9	A-7-5(5)	48	14	28.5	25.1	32.3	14.1	98	79	50	-	-
SS-520	26 LT	13+94	19.4-20.9	A-2-5(0)	41	NP	38.6	29.5	23.8	8.1	89	66	31	-	-
SS-521	26 LT	13+94	24.4-25.9	A-4(0)	38	NP	41.4	28.7	23.8	6.1	81	55	28	-	-
SS-522	26 LT	14+46	4.5-6.0	A-4(0)	36	NP	36.8	25.5	29.7	8.1	95	70	40	-	-
SS-523	26 LT	14+46	14.5-16.0	A-2-5(0)	44	NP	38.0	28.5	25.5	8.1	92	69	35	-	-
SS-73	31 LT	14+96	3.2-4.7	A-7-5(7)	54	18	31.0	23.0	20.0	26.0	100	80	50	-	-
MS-74	31 LT	14+96	8.2-9.7											20.2	-
SS-75	31 LT	14+96	13.2-14.7	A-2-5(0)	41	NP	46.0	28.0	18.0	8.0	90	61	21	-	-
MS-76	31 LT	14+96	18.2-19.7											20.6	-
MS-77	31 LT	14+96	23.2-24.7											23.9	-
MS-78	31 LT	14+96	28.2-29.7											24.9	-
MS-79	31 LT	14+96	33.2-34.7											26.4	-
MS-80	31 LT	14+96	38.2-39.7											22.9	-
SS-524	31 LT	15+44	0.0-1.5	A-7-6(11)	43	19	20.4	15.8	19.4	44.4	100	86	66	-	-
SS-525	31 LT	15+44	3.7-5.2	A-7-5(5)	51	21	27.1	24.8	29.9	18.2	100	82	51	-	-
SS-526	31 LT	15+44	8.7-10.2	A-5(0)	42	NP	34.5	24.4	30.9	10.1	96	72	42	-	-
SS-527	31 LT	15+44	18.7-20.2	A-2-5(0)	41	NP	38.8	25.9	27.3	8.1	84	61	33	-	-
SS-528	31 LT	15+44	28.7-30.2	A-2-4(0)	40	NP	37.0	31.1	25.9	6.1	82	62	30	-	-
SS-529	28 LT	16+00	4.2-5.7	A-4(0)	38	NP	38.2	27.3	24.4	10.1	100	73	39	-	-
SS-530	28 LT	16+00	14.2-15.7	A-2-5(0)	45	NP	39.0	26.1	26.9	8.1	89	64	34	-	-
SS-531	28 LT	16+00	24.2-25.7	A-2-4(0)	38	NP	39.4	27.3	25.3	8.1	79	57	30	-	-
SS-532	30 LT	16+50	0.0-1.5	A-7-5(22)	61	28	16.0	13.1	16.4	54.5	100	90	73	-	-
SS-533	30 LT	16+50	4.2-5.7	A-5(0)	41	NP	34.9	25.9	25.1	14.1	100	74	43	-	-
SS-534	30 LT	16+50	14.2-15.7	A-5(0)	43	NP	35.4	27.1	27.5	10.1	90	68	38	-	-
SS-535	CL	17+00	4.2-5.7	A-4(0)	40	NP	31.1	25.3	31.5	12.1	100	80	48	-	-
SS-536	CL	17+00	9.2-10.2	A-5(0)	45	NP	33.9	30.9	27.1	8.1	98	77	39	-	-
SS-537	CL	17+00	19.2-20.7	A-2-4(0)	37	NP	40.8	28.9	24.2	6.1	96	68	33	-	-
SS-503	CL	17+46	0.0-1.5	A-7-5(31)	75	36	13.3	13.9	16.2	56.6	100	92	75	-	-
SS-500	CL	18+00	3.7-5.2	A-4(0)	39	4	28.9	33.1	25.9	12.1	100	80	43	-	-
SS-501	CL	18+00	8.7-10.2	A-4(0)	39	7	34.3	32.9	26.7	6.1	100	79	38	-	-
SS-502	CL	18+00	18.7-20.2	A-5(0)	41	NP	36.0	29.1	28.9	6.1	96	73	38	-	-

RETAINING WALL 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		
SS-32	12 LT	9+95	0.1-1.5	A-7-6(14)	51	29	20.0	23.0	14.0	43.0	100	89	60	-	-
SS-33	12 LT	9+95	4.0-5.5	A-7-5(16)	60	27	19.0	20.0	22.0	39.0	100	88	65	-	-
SS-34	12 LT	9+95	9.0-10.5	A-4(2)	25	10	27.0	30.0	19.0	24.0	97	82	46	-	-
ST-2	12 LT	9+95	10.0-12.0	A-4(2)	24	9	26.0	30.0	15.0	29.0	91	78	44	22.6	-
SS-35	12 LT	9+95	14.0-15.5	A-7-6(5)	44	16	24.0	26.0	28.0	22.0	88	73	50	-	-
SS-36	12 LT	9+95	24.0-25.5	A-2-4(0)	31	NP	43.0	36.0	19.0	2.0	82	60	21	-	-
SS-27	15 LT	11+45	0.4-1.5	A-6(4)	31	11	23.0	28.0	27.0	22.0	100	87	54	-	-
SS-29	15 LT	11+45	4.1-5.6	A-1-b(0)	21	NP	56.0	32.0	5.0	7.0	79	50	11	-	-
SS-30	15 LT	11+45	6.5-8.0	A-2-6(0)	39	11	41.0	31.0	22.0	6.0	74	52	25	-	-
SS-31	15 LT	11+45	14.1-15.6	A-2-4(0)	37	5	43.0	31.0	22.0	4.0	71	47	26	-	-
SS-25	18 LT	12+47	4.0-5.5	A-2-6(0)	27	11	35.0	31.0	16.0	18.0	93	75	35	-	-
SS-26	18 LT	12+47	9.0-10.5	A-2-4(0)	38	8	40.0	35.0	21.0	4.0	78	58	24	-	-

RETAINING WALL 8

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		
SS-58	15 RT	10+10	0.0-1.5	A-6(10)	39	19	15.0	25.0	21.0	39.0	100	92	66	-	-
SS-59	15 RT	10+10	2.1-3.6	A-7-6(11)	42	21	13.0	25.0	19.0	43.0	100	93	68	21.3	-
SS-60	15 RT	10+10	4.3-5.8	A-7-6(9)	44	18	9.0	38.0	20.0	33.0	100	98	62	-	-
SS-61	15 RT	10+10	6.8-8.3	A-7-5(5)	46	11	28.0	26.0	30.0	16.0	99	81	52	-	-
SS-62	15 RT	10+10	14.3-15.8	A-5(2)	47	7	31.0	30.0	33.0	6.0	93	72	45	30.5	-
SS-1	7 LT	11+44	0.0-1.5	A-7-6(5)	47	24	26.0	20.0	17.0	37.0	95	78	55	-	-
SS-2	7 LT	11+44	4.1-5.6	A-7-5(4)	49	14	35.0	24.0	23.0	18.0	98	75	44	-	-
SS-3	7 LT	11+44	9.2-10.7	A-2-5(0)	48	10	34.0	26.0	26.0	14.0	78	60	35	25.1	-
SS-4	7 LT	11+44	11.7-13.2	A-2-5(0)	44	4	37.0	33.0	24.0	6.0	90	68	33	34.3	-
MS-5	7 LT	11+44	14.2-15.7											37.0	-
SS-6	7 LT	11+44	16.7-18.2	A-2-5(0)	41	NP	40.0	31.0	23.0	6.0	92	66	33	37.3	-
SS-7	7 LT	11+44	29.3-30.8	A-1-b(0)	30	NP	45.0	33.0	16.0	6.0	71	49	20	-	-
SS-8	7 LT	11+44	34.3-35.8	A-1-b(0)	30	NP	38.0	36.0	22.0	4.0	78	58	26	-	-
SS-13	2 RT	12+43	2.1-3.6	A-4(8)	31	10	7.0	26.0	39.0	28.0	100	97	75	-	-
SS-14	2 RT	12+43	4.6-5.6	A-1-b(0)	23	5	58.0	22.0	8.0	12.0	68	38	16	-	-
SS-15	2 RT	12+43	14.2-15.7	A-2-4(0)	36	8	41.0	28.0	25.0	6.0	89	62	33	-	-
SS-16	2 RT	12+43	24.2-25.7	A-4(1)	34	6	29.0	39.0	26.0	6.0	100	84	39	-	-

RETAINING WALL 9

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		
SS-947	5' RT	10+04	4.5-6.0	A-1-b(0)	25	6	43.3	28.3	10.2	18.3	65	47	22		-
SS-948	36' LT	10+66	4.4-5.9	A-6(5)	31	13	13.2	36.0	26.4	24.4	93	86	57		-
SS-949	36' LT	10+66	9.4-10.9	A-2-4(0)	36	7	46.3	30.1	17.5	6.1	75	50	22		-
SS-952	6' RT	11+73	3.2-4.7	A-2-4(0)	22	NP	59.1	23.4	7.3	10.2	96	57	20		-
SS-953	3' LT	12+50	3.1-4.6	A-2-4(0)	20	NP	55.7	28.5	7.7	8.1	80	52	16		-
SS-954	3' LT	12+50	8.1-9.6	A-2-4(0)	28	NP	50.4	32.5	11.0	6.1	82	53	19		-
SS-955	33' LT	13+11	3.2-4.7	A-4(4)	31	10	17.7	31.7	26.2	24.4	98	88	58		-
SS-956	33' LT	13+11	8.2-9.7	A-1-b(0)	29	5	49.0	31.7	13.2	6.1	78	48	20		-
S-957	7' LT	14+02	2.0-3.0	A-4(3)	30	10	15.0	38.4	22.2	24.4	100	95	55		-
SS-958	7' LT	14+02	8.1-9.6	A-2-4(0)	30	5	38.4	35.8	17.7	8.1	93	69	30		-

RETAINING WALL 10

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		
SS-945	12' LT	9+72	3.8-5.0	A-6(5)	40	16	22.4	27.6	21.5	28.5	86	73	48		-
SS-946	12' LT	9+72	8.8-10.3	A-2-4(0)	39	3	29.7	39.6	24.6	6.1	76	61	30		-
SS-947B	12' LT	9+72	13.8-15.3	A-2-5(0)	44	7	43.5	30.7	21.7	4.1	79	56	25		-
S-942	2' LT	11+98	1.0-2.0	A-6(8)	39	18	20.1	22.0	23.4	34.6	93	80	59		-
SS-943	2' LT	11+98	9.3-10.7	A-2-4(0)	28	5	54.9	27.0	12.0	6.1	88	53	20		-
SS-944	2' LT	11+98	14.3-15.8	A-2-4(0)	28	2	44.1	30.9	18.9	6.1	97	66	31		-

RETAINING WALL 11

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		
SS-921	CL	10+31	4.0-5.5	A-7-6(9)	42	22	24.2	22.2	12.9	40.7	93	79	54		-
SS-922	CL	10+31	9.0-10.5	A-5(2)	55	10	30.5	30.7	12.3	26.4	98	79	43		-

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