CONTENTS

SHEET NO.

2 3-7

8-10

24D

ら N

REFERENCE

TITLE SHEET LEGEND SITE PLAN(S) PROFILE(S)

DESCRIPTION

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS GEOTECHNICAL ENGINEERING UNIT

STRUCTURE SUBSURFACE INVESTIGATION

COUNTY _____GUILFORD

PROJECT DESCRIPTION GREENSBORO WESTERN LOOP FROM OLD BATTLEGROUND ROAD TO

LAWNDALE DRIVE

SITE DESCRIPTION SOUND BARRIER WALL 6: FROM -L- 452+79 LEFT TO -SPBY8- 0+49 LEFT

4820 m PROJEC

STATE	STATE PROJECT REPERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U–2524D	1	10

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 SOLI TEST DATA AVAILABLE MAY BE REVEWED OR INSPECTED IN RALEICH BY CONTACTING THE N.C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT 1919) TO7-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOLI TEST DATA A RE NOT PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARES 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 BORCHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU UNI-FLACE)TEST DATA CAN BE RELIED ON ONLY TO THE DECREE OF RELIABILITY INHERENT IN THE STANDARD TEST WETHO. THE OBSERVED WATER LEVELS OR SOL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOL MOISTURE CONDITIONS MAY YARY 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 INTERRETATIONS MADE, OR OPNION 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 IMINSELF 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: I. 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. 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

B. SMITH, PG

L. GONZALEZ

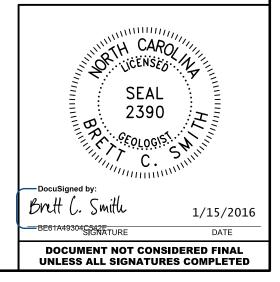
T. ALLRED

INVESTIGATED BY _B. SMITH, PG

DRAWN BY <u>B. SMITH, PG</u>

CHECKED BY _____. B. WORLEY, PG

SUBMITTED BY	SUMMIT DESIGN AND <u>ENGINEERING SERVICES, PLL</u> C
DATE NOV	EMBER 2015



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			
SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-C BE PENETRATED WITH A CONTINUOUS FLIGHT			WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE.			HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED. AN INF ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFU			
ACCORDING TO THE STANDARD PENETRATION	TEST (AASHTO T 206, ASTM D	D1586). SOIL CLASSIFICATION	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.			SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER			
IS BASED ON THE AASHTO SYSTEM. BASI CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASH			ANGULARITY OF GRAINS			BLOWS IN NON-COA REPRESENTED BY A			ANSITION BETWEEN SOIL AND ROCK IS OFTEN
AS MINERALOGICAL COMPOSITION, ANGU	ARITY, STRUCTURE, PLASTICIT	TY,ETC. FOR EXAMPLE,	THE ANGULARI	TY OR ROUNDNESS OF SOIL GRAINS IS DE		ROCK MATERIALS A	RE TYPICALL	Y DIVIDED AS FOLLO	WS:
VERY STIFF, GRAY, SILTY CLAY, MOIST WITH SOIL LEGEND AND	AASHTO CLASSIFI			NGULAR, SUBROUNDED, OR ROUNDED.		WEATHERED ROCK (WR)		NON-COASTAL PLA	NIN MATERIAL THAT WOULD YIELD SPT N VALUE: OOT IF TESTED.
GENERAL GRANULAR MATERIALS	SILT-CLAY MATERIALS	ORGANIC MATERIALS		MINERALOGICAL COMPOSI		CRYSTALLINE	P.P.		GRAIN IGNEOUS AND METAMORPHIC ROCK THAT
CLASS. (≤ 35% PASSING ■200)	(> 35% PASSING *200)			MES SUCH AS QUARTZ, FELDSPAR, MICA, TA N DESCRIPTIONS WHEN THEY ARE CONSID		ROCK (CR)		WOULD YIELD SPT	REFUSAL IF TESTED. ROCK TYPE INCLUDES GR
GROUP A-1 A-3 A-2 CLASS. A-1-a A-1-b A-2-4 A-2-5 A-2-6 I	A-4 A-5 A-6 A-7	A-1, A-2 A-4, A-5 A-3 A-6, A-7		COMPRESSIBILITY		NON-CRYSTALLINE		FINE TO COARSE	GRAIN METAMORPHIC AND NON-COASTAL PLAIN
000000000000000000000000000000000000000	A7.6		SLIC	HTLY COMPRESSIBLE	LL < 31	ROCK (NCR)			CK THAT WOULD YEILD SPT REFUSAL IF TESTED. IDES PHYLLITE, SLATE, SANDSTONE, ETC.
SYMBOL 000000000000000000000000000000000000				ERATELY COMPRESSIBLE	LL = 31 - 50 LL > 50	COASTAL PLAIN SEDIMENTARY ROCK			EDIMENTS CEMENTED INTO ROCK, BUT MAY NOT ICK TYPE INCLUDES LIMESTONE, SANDSTONE, CEME
% PASSING ■10 50 MX		GRANULAR SILT- MUCK,	110	PERCENTAGE OF MATER		(CP)		SHELL BEDS, ETC.	
*40 30 MX 50 MX 51 MN		SOILS SOILS PEAT		GRANULAR SILT - CLAY				WEAT	HERING
*200 15 MX 25 MX 10 MX 35 MX 35 MX 35 MX 3	5 MX 36 MN 36 MN 36 MN 36 MN		ORGANIC MATERIA TRACE OF ORGANIC M		OTHER MATERIAL TRACE 1 - 10%		FRESH, CRYST ER IF CRYSTA		NTS MAY SHOW SLIGHT STAINING. ROCK RINGS UND
MATERIAL PASSING #40			LITTLE ORGANIC MAT	TER 3 - 5% 5 - 12%	LITTLE 10 - 20%				, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF
LL – – 40 MX 41 MN 40 MX	1 MN 40 MX 41 MN 40 MX 41 MN	SOILS WITH	MODERATELY ORGANIC	C 5 - 10% 12 - 20% > 10% > 20%	SOME 20 - 35% HIGHLY 35% AND ABOVE	(V SLI.) CRYST	FALS ON A BF	ROKEN SPECIMEN FACE	SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLO
	I MN 10 MX 10 MX 11 MN 11 MN	MODERATE DRGANIC		GROUND WATER			CRYSTALLINE		
GROUP INDEX Ø Ø Ø 4 M	8 MX 12 MX 16 MX NO MX	AMOUNTS OF SOILS) AND DISCOLORATION EXTENDS INTO ROCK UP TO . IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAP
USUAL TYPES STONE FRAGS. OF MAJOR GRAVEL, AND SAUD SAUD SAUD	SILTY CLAYEY	MATTER		WATER LEVEL IN BORE HOLE IMMEDIA					RYSTALLINE ROCKS RING UNDER HAMMER BLOWS.
MATERIALS SAND SAND GRAVEL AND SAND	SOILS SOILS			STATIC WATER LEVEL AFTER 24 H	IOURS				ISCOLORATION AND WEATHERING EFFECTS. IN
GEN. RATING EXCELLENT TO GOOD	FAIR TO POOR	FAIR TO POOR UNSUITABLE	E PW	PERCHED WATER, SATURATED ZONE, OR	WATER BEARING STRATA				DULL AND DISCOLORED, SOME SHOW CLAY. ROCK HAS SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPA
AS SUBURAUE		PUUR		SPRING OR SEEP			FRESH ROCK.		
	L - 30 ; PI OF A-7-6 SUBGROUP IS		0	MISCELLANEOUS SYMBO	1.5				OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS
	RANGE OF STANDARD	RANGE OF UNCONFINED		MISCELLANEOUS STMBU	L3				KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF ST IST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRUC
PRIMARY SOIL TYPE COMPACTNESS OR CONSISTENCY	PENETRATION RESISTENCE	COMPRESSIVE STRENGTH		BANKMENT (RE) 25/025 DIP & DIP DIRE	CTION	<u>IF TE</u>	STED, WOULD	YIELD SPT REFUSAL	
	(N-VALUE)	(TONS/FT ²)		SPT					DR STAINED, ROCK FABRIC CLEAR AND EVIDENT BUT IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLIN
GENERALLY VERY LOOSE	< 4 4 TO 10		SOIL SYMBOL	DPT DMT TEST BOR	ING SLOPE INDICATOR INSTALLATION	TO SC	DME EXTENT.	SOME FRAGMENTS OF S	STRONG ROCK USUALLY REMAIN.
GRANULAR MEDIUM DENSE	10 TO 30	N/A			CONE PENETROMETER			YIELD SPT N VALUES	
(NON-COHESIVE) DENSE VERY DENSE	30 TO 50 > 50		THAN ROADWA		TEST				OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERN SOIL STATUS.WITH ONLY FRAGMENTS OF STRONG F
VERY SOFT	< 2	< 0.25	- INFERRED SO	IL BOUNDARY - CORE BORING	SOUNDING ROD	(V SEV.) REMAI	INING. SAPROL	ITE IS AN EXAMPLE O	F ROCK WEATHERED TO A DEGREE THAT ONLY MIN
GENERALLY SOFT SILT-CLAY MEDIUM STIFF	2 TO 4 4 TO 8	0.25 TO 0.5 0.5 TO 1.0		CK LINE MONITORING WE					MAIN. <u>IF TESTED, WOULD YIELD SPT N VALUES < 10</u>
MATERIAL STIFF	8 TO 15	1 TO 2		-	WITH CORE				OT DISCERNIBLE.OR DISCERNIBLE ONLY IN SMALL # NY BE PRESENT AS DIKES OR STRINGERS. SAPROLIT
(COHESIVE) VERY STIFF HARD	15 TO 30 > 30	2 TO 4	ALLUVIAL SO	IL BOUNDARY A PIEZOMETER INSTALLATION	- SPT N-VALUE	ALSO	AN EXAMPLE.		
	OR GRAIN SIZE			RECOMMENDATION SYMB	א ור			ROCK H	IARDNESS
U.S. STD. SIEVE SIZE 4 1		270		UNCLASSIFIED EXCAVATION -				CHED BY KNIFE OR SHA DWS OF THE GEOLOGIST	ARP PICK. BREAKING OF HAND SPECIMENS REQUIRES
OPENING (MM) 4.76 2.				UNSUITABLE WASTE	ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF				NLY WITH DIFFICULTY. HARD HAMMER BLOWS REQU
BOULDER COBBLE GRAVEL	COARSE FINE		SHALLOW UNDERCUT	UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK	EMBANKMENT OR BACKFILL		TACH HAND S		
(BLDR.) (COB.) (GR.)	SAND SAND (CSE.SD.) (F SD			ABBREVIATIONS					GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE
GRAIN MM 305 75 2	I	0.05 0.005	AR - AUGER REFUSAL	MED MEDIUM	VST - VANE SHEAR TEST		DERATE BLON		SIST'S PICK. HAND SPECIMENS CAN BE DETACHED
SIZE IN. 12 3	6.25	0.05 0.005	BT - BORING TERMINATE	D MICA MICACEOUS	WEA WEATHERED				S DEEP BY FIRM PRESSURE OF KNIFE OR PICK POI
SOIL MOISTURE ·	CORRELATION OF	TERMS	CL CLAY CPT - CONE PENETRATIO	MOD MODERATELY NN TEST NP - NON PLASTIC	γ - UNIT WEIGHT $\gamma_{ m d}$ - DRY UNIT WEIGHT		BE EXCAVATED		PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF
	MOTETURE	FIELD MOISTURE DESCRIPTION	CSE COARSE	ORG ORGANIC	-				KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS
(ATTERBERG LIMITS) DESC	RIPTION	TIEED MOISTORE DESCRIPTION	DMT - DILATOMETER TE DPT - DYNAMIC PENETRA		ST <u>SAMPLE ABBREVIATIONS</u> S - BULK	FROM	CHIPS TO SE	EVERAL INCHES IN SIZE	E BY MODERATE BLOWS OF A PICK POINT. SMALL.T
		IQUID; VERY WET, USUALLY	e - VOID RATIO	SD SAND, SANDY	SS - SPLIT SPOON			OKEN BY FINGER PRES	SURE. CAVATED READILY WITH POINT OF PICK. PIECES 1 I
	T.) FROM BELO	W THE GROUND WATER TABLE	F - FINE	SL SILT, SILTY	ST - SHELBY TUBE				BY FINGER PRESSURE, CAN BE SCRATCHED READLY
PLASTIC	SEMISOL ID:	REQUIRES DRYING TO	 FOSS FOSSILIFEROUS FRAC FRACTURED, FRAC 	SLI SLIGHTLY CTURES TCR - TRICONE REFUSAL	RS – ROCK RT – RECOMPACTED TRIAXIAL	FINGE			
RANGE < - WET		IMUM MOISTURE	FRAGS FRAGMENTS HI HIGHLY	W - MOISTURE CONTENT	CBR - CALIFORNIA BEARING		TURE SP		BEDDING
PLL PLASTIC LIMIT				V - VERY		VERY WIDE	MOR	SPACING RE THAN 10 FEET	TERM THICKNESS
	T - (M) SOLID; AT O	OR NEAR OPTIMUM MOISTURE	DRILL UNITS:	ADVANCING TOOLS:	HAMMER TYPE:	WIDE	:	3 TO 10 FEET	THICKLY BEDDED 1.5 - 4 FEE
SL SHRINKAGE LIMIT			CME-45C			MODERATELY CLI CLOSE		1 TO 3 FEET 0.16 TO 1 FOOT	THINLY BEDDED 0.16 - 1.5 FE VERY THINLY BEDDED 0.03 - 0.16 F
- DRY		ADDITIONAL WATER TO		6* CONTINUOUS FLIGHT AUGER		VERY CLOSE		5 THAN Ø.16 FEET	THICKLY LAMINATED 0.008 - 0.03
		THUR MUISIONE	CME-55	8" HOLLOW AUGERS	CORE SIZE:				THINLY LAMINATED < 0.008 FEE
	ASTICITY			HARD FACED FINGER BITS	вн				NING OF MATERIAL BY CEMENTING, HEAT, PRESSL
	TICITY INDEX (PI)	DRY STRENGTH	Х СМЕ-550		-N		NUCKS, INDUK		NING OF MATERIAL BY CEMENTING, HEAT, PRESSU I FINGER FREES NUMEROUS GRAINS:
NON PLASTIC SLIGHTLY PLASTIC	0-5 6-15	VERY LOW SLIGHT	VANE SHEAR TEST	TUNGCARBIDE INSERTS	HAND TOOLS:	FRIABLE			BY HAMMER DISINTEGRATES SAMPLE.
MODERATELY PLASTIC HIGHLY PLASTIC	16-25 26 OR MORE	MEDIUM HIGH		CASING W/ ADVANCER	POST HOLE DIGGER	MODERATELY			BE SEPARATED FROM SAMPLE WITH STEEL PROBE
		пісн	PORTABLE HOIST	TRICONESTEEL TEETH	HAND AUGER				Y WHEN HIT WITH HAMMER.
	COLOR		4 🗂	TRICONE TUNGCARB.	SOUNDING ROD	INDURATED			DIFFICULT TO SEPARATE WITH STEEL PROBE; BREAK WITH HAMMER.
DESCRIPTIONS MAY INCLUDE COLOR OR COL				CORE BIT	VANE SHEAR TEST				R BLOWS REQUIRED TO BREAK SAMPLE:
MODIFIERS SUCH AS LIGHT, DARK, STR	EAKED, ETC. ARE USED TO D	DESCRIBE APPEARANCE.		X 2.25" Hollow Stem Augers		EXTREMELY	INDURATED		KS ACROSS GRAINS.

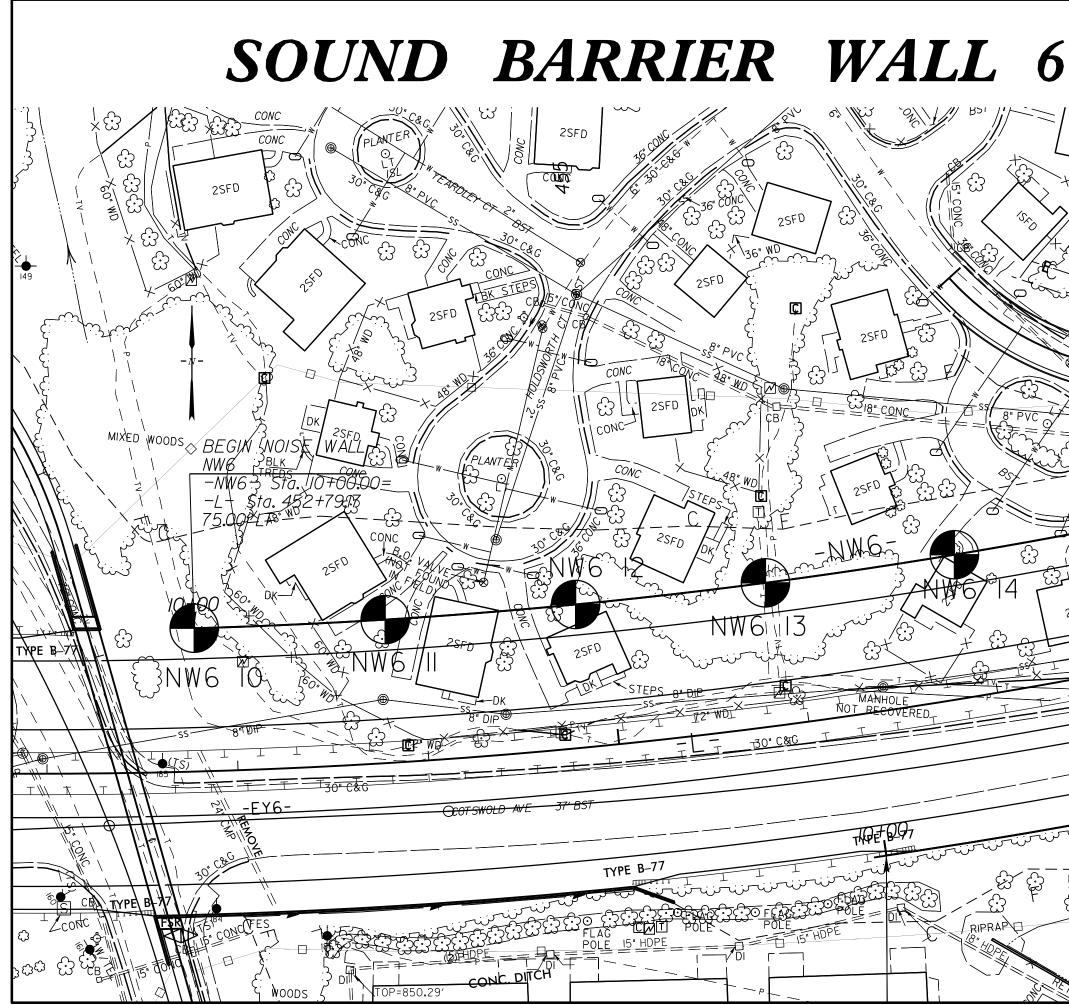
SHEET NO.

PROJECT REFERENCE NO.

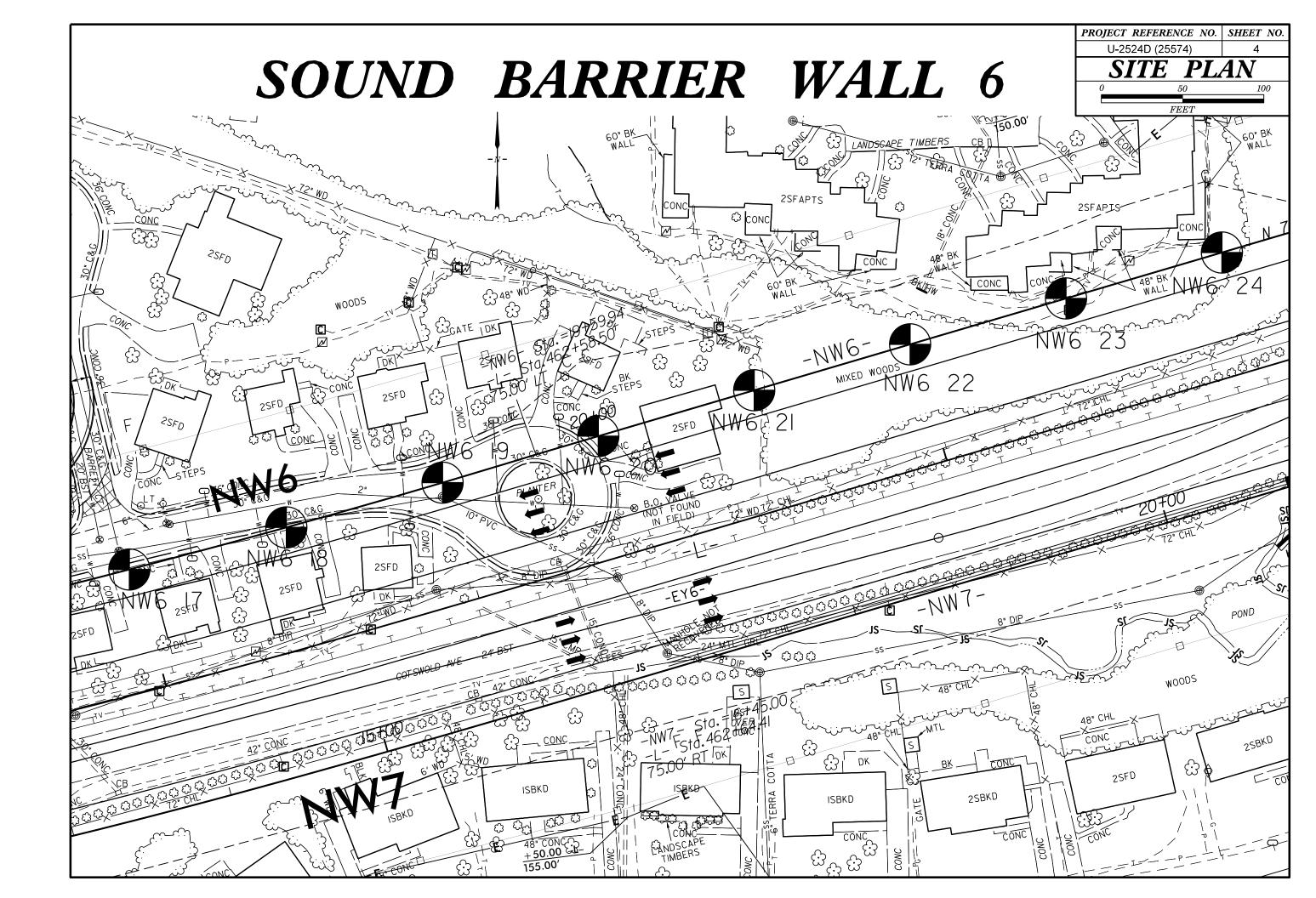
U-2524D

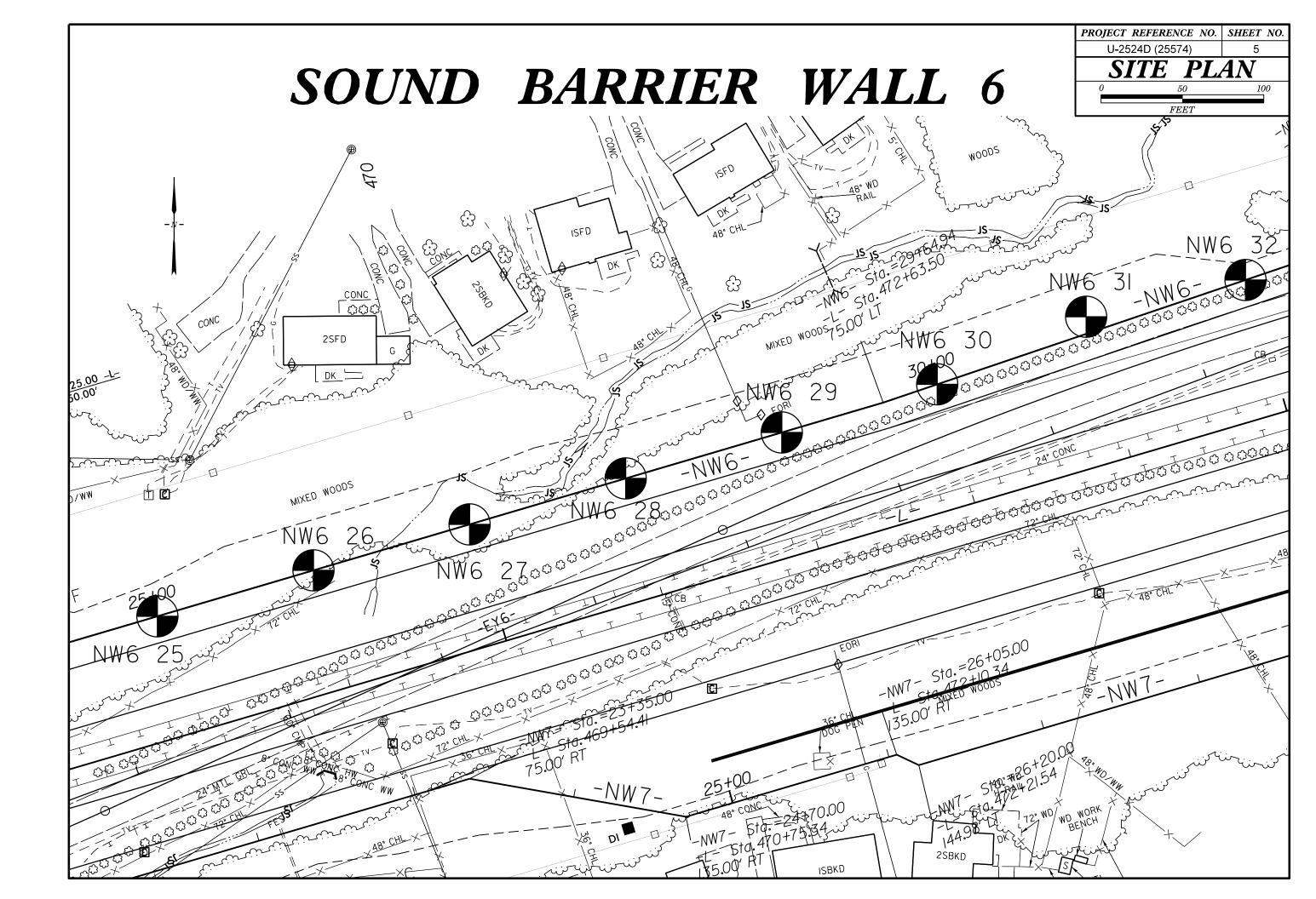
2

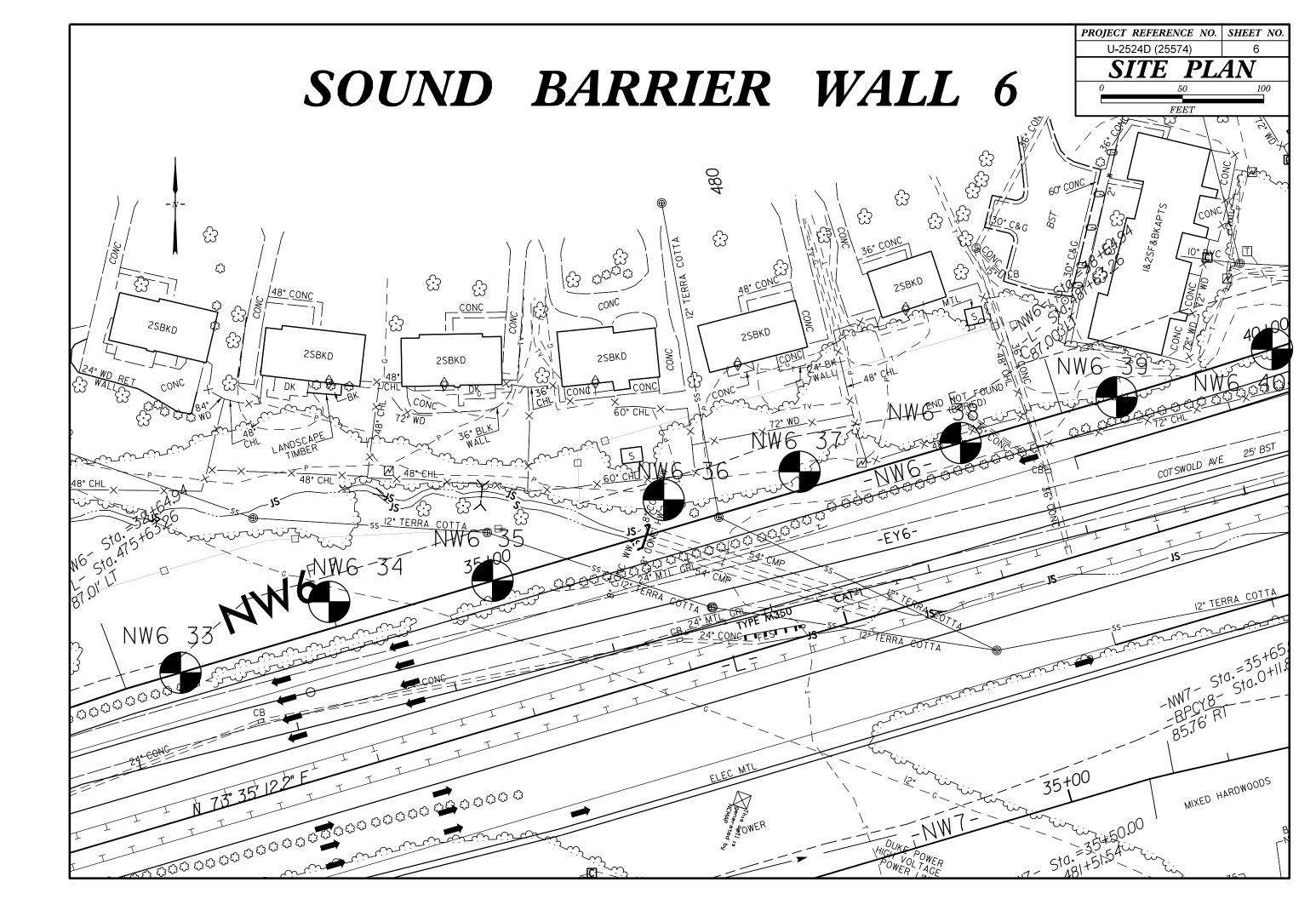
	TERMS AND DEFINITIONS
ED. AN INFERRED) SPT REFUSAL.	ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.
1 FOOT PER 60 IS OFTEN	AQUIFER - A WATER BEARING FORMATION OR STRATA.
15 UFTEN	ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.
T N VALUES >	ARGILLACEOUS - 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.
DCK THAT	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.
NCLUDES GRANITE,	CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.
AL PLAIN IF TESTED. C.	COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.
MAY NOT YIELD STONE, CEMENTED	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.
	$\underline{\text{DIKE}}$ - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.
RINGS UNDER	$\underline{\text{DIP}}$ - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.
COATINGS IF OPEN, HAMMER BLOWS IF	<u>DIP DIRECTION (DIP AZIMUTH)</u> - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.
DCK UP TO AL FELDSPAR R BLOWS.	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.
S. IN	FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM
AY. ROCK HAS H AS COMPARED	PARENT MATERIAL.
	FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.
FELDSPARS DULL	FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.
OSS OF STRENGTH	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
EVIDENT BUT ARE KAOLINIZED	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.
RE DISCERNIBLE DF STRONG ROCK T ONLY MINOR	PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.
VALUES < 100 BPF	RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.
IN SMALL AND S. SAPROLITE IS	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
IS REQUIRES	ROCK.
BLOWS REQUIRED	<u>SILL</u> - 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.
EEP CAN BE DETACHED	$\underline{SLICKENSIDE}$ - 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
OR PICK POINT. BLOWS OF THE	A 140 LB, HAMMEN FALLING 30 INCHES REDUIRED ID PRODUCE A PENEINATION OF IFOUI INTO SUL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.
I FRAGMENTS NT. SMALL, THIN	<u>STRATA CORE RECOVERY (SREC.)</u> - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.
. PIECES 1 INCH HED READILY BY	<u>STRATA ROCK QUALITY DESIGNATION (SROD</u> - 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.
THICKNESS	BENCH MARK:
4 FEET	ELEVATION: FEET
1.5 - 4 FEET .16 - 1.5 FEET	
03 - 0.16 FEET	NOTES:
08 - 0.03 FEET < 0.008 FEET	Elevations obtained using u2524c_ls_tin.tin (file dated 7/24/15) FIAD = Filled Immediately After Drilling
EAT, PRESSURE, ETC.	
, i neosone, e i c.	
.	
TEEL PROBE:	
PROBE:	

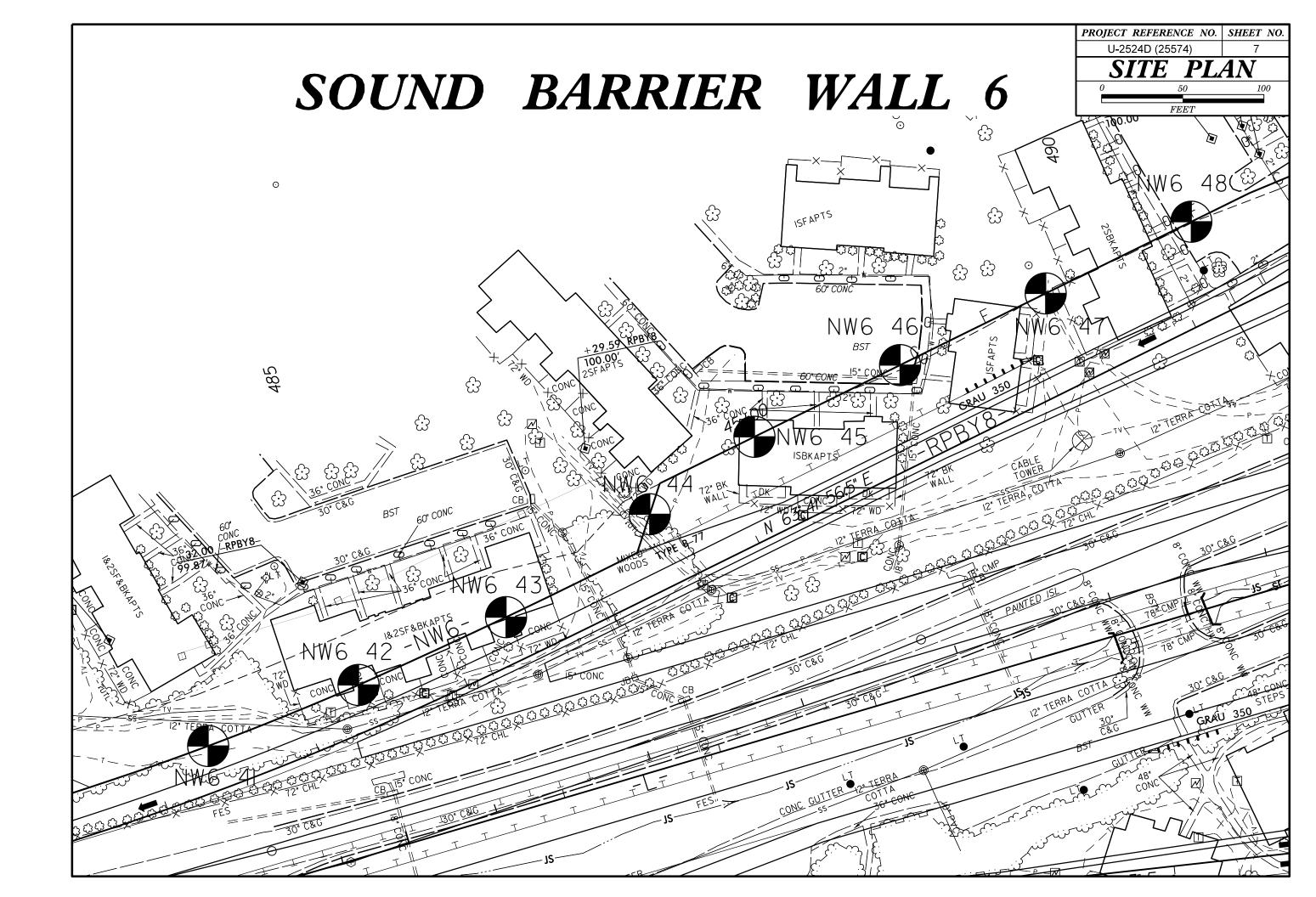


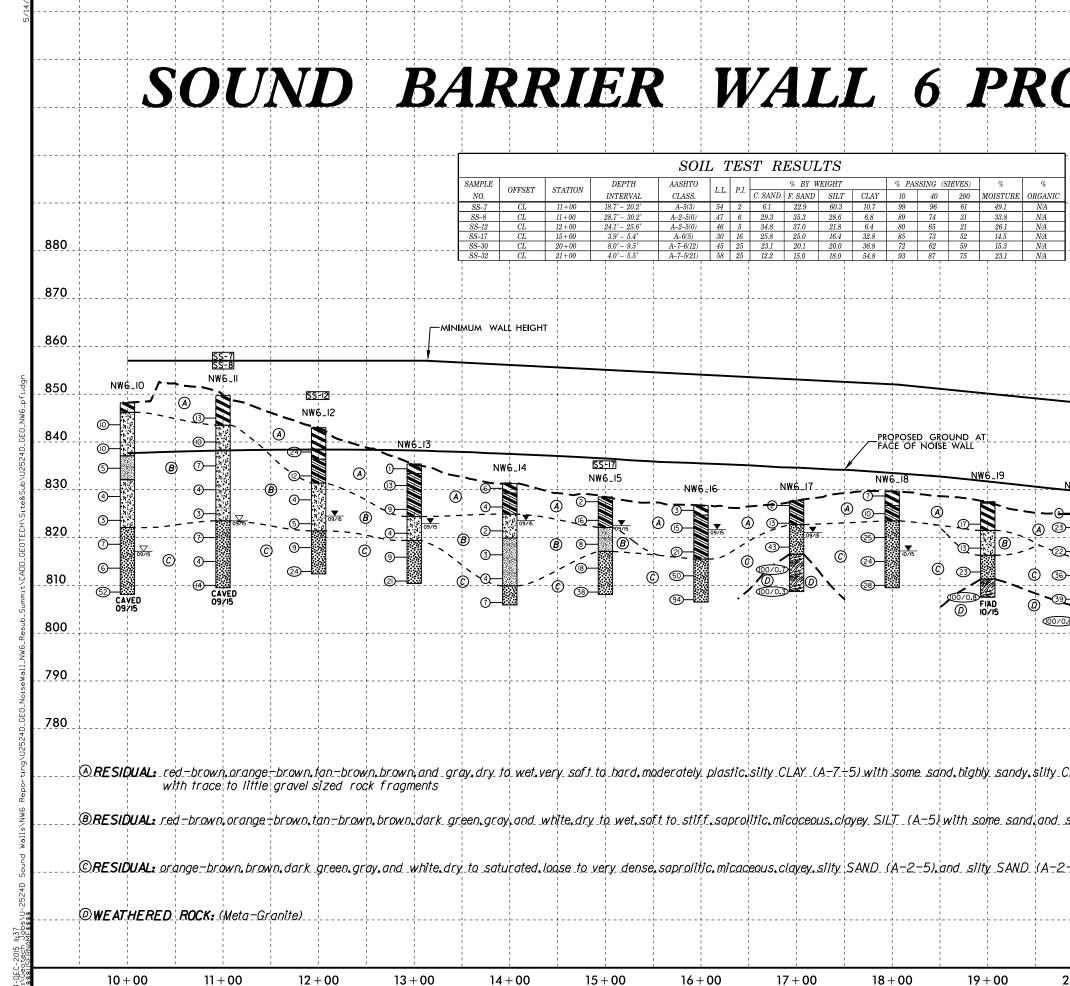
PROJECT REFERENCE NO. SHEET NO. U-2524D (25574) 3 SITE PLAN 50100 7. HT48" WDXL FEET2 2SFD 16 CONG 25.00′ 8 35 25.00′ 8 35 සි සි. A JAKOO -Y7À-+ 00.00 33.48 40.00' \mathfrak{G} **F** 2SF CONC . 67 ಟ දා ß ୍ମ6 ₩6 2SFD V GSFD £3**`** 2SFD റ് / -NW RIPRAP WOODS ğ/ -37 CONC. <u>م</u>] ه ÷ F DETENTION BASIN 华??? [c]



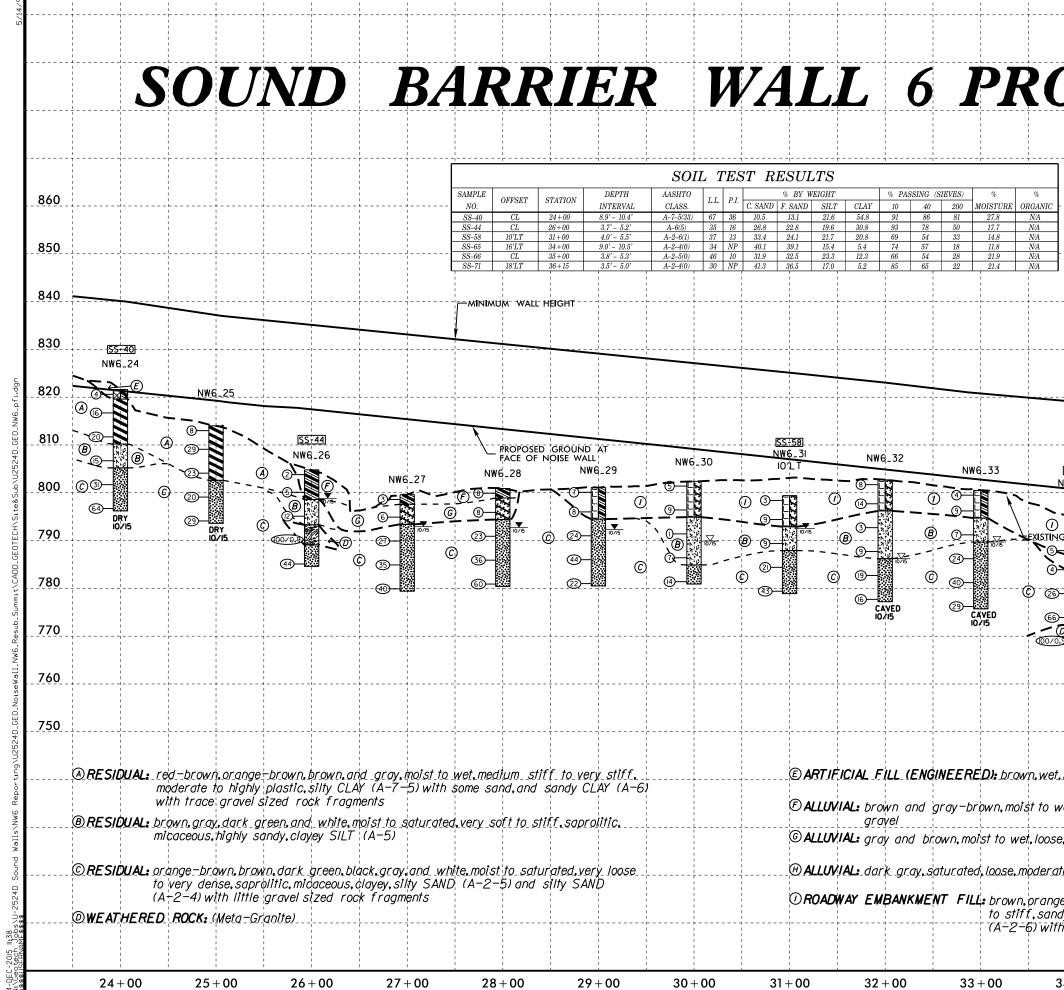








i		PROJEC	CT REFERENCE NO.	SHEET NO.
·	 		J–2524D	8
		ROADWA ENG	AY DESIGN INEER	HYDRAULICS ENGINEER
		P	NCOMPLETE	PLANS
) F	ILE			
/#`				
			JMENT NOT CONSI SS ALL SIGNATURE	
	 		· · · · · · · · · · · · · · · · · · ·	
				880
				870
		· · · · · · · · · · · · · · · · · · ·		860
				850
				840
<u>SS-30</u>	[<u>SS-32</u>]	EX		
NW6_20	NW6_2I	NW6_22	W6_23	830
	32			
	25 X	2	Ø®- N	820 (A)
10/15	26- 1	¢∽®	@_ N.	
	A 68 A A	<u>/</u> @		
· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·		© 800
				D 790
				780
CLAY (A-7-	6), and _sandy_CL	AY_(A-6)		
sandy_SILT_	(A-4) with little	to some clay		
		-		
-4) with tra	ice to little_grave	el sized _rock_fr	agments	
20+00	21 + 00	22 + 00	23+00)



1			1	1	PROJECT	REFERENCE NO). 9	SHEET NO.
				- 	ROADWAY		HYDRAL	
					ENGIN	IEER	ENGIN	IEER
				 	IN	COMPLE'	TE PLA	NS
		TT		,		NOT COB FOR I	Kr # Acutain	
			E					
1				1 1 1		MENT NOT C		
, , , , ,			, , , , ,	 	· · · · · · · · · · · · · · · · · · ·			
				- 				
					, , ,			040
					<u> </u>			860
				1 				
<u>+</u>				 	, , ,	; ;;		850
				 	1 1 1	1 1 1 1		I I I
				1				840
			+					040
				- 				
			+	 		; 		830
				 	1 1 1	1 1 1 1 1 1		
1				1 1 1	1			820
			- L		i ' '	;		
				1	1			
					.––––––––––			810
<u>[SS+65</u>]				 	1 1 1	1 1 1 1 1 1		
<u>NW6</u> _34				1 1 1				800
-16°ET		ISS	5+66					
			6_35		<u>[SS-71]</u>	NWG	37	-
	JND_L	NE 0	<u>></u>	⊾	1W6_36 18'LT		L-T	790
	5 H	6—	×.	71	©/Г	≻ ⊕ -		-
		<u></u>	10/15	<u>\@</u>	FY -	@	()	780
		0 	(© 0-	1 1 10/15	0—	10/15	
		<u>28</u> —		24		©	C	770
	0		- -	<u> </u>	DV/4		×	
					0	(3)— [2]		
			+			; 		760
 			1	1 1 1	 			
				1 1 1	 			750
	'				 	F		
	1	_			, 			
, <i>so</i> ft,s	sandy	_CLAY_(A-6)_with	b_tr_ace_c	rganic_r	natter		
vet	t to	stiff mr	derately	braanic	sandv Cl	AY (A-6) with t	ace
e, mode	rately	organi	¢,clayey	SAND (A	1-2-6) v	vith trace	e gravel	
4-1		-1						
nely_or	ganid	, сіауеу,	.siJty_SAI ¦	ג <i>⊔_</i> (A=2	בט			
je-broi	wn,lid	ht tan-	brown, lic	ht gray.	and gray	, dry to	wet,soft	
dy 'CLA	Y (A	-6) , and	very loo	se to me	dium de	nse, clay	ey SANL).
<i>וו וו</i> ודופ ¦	yr av		trace org	ןטוווכ וחסו ¦	, ei			
					, 			
<u>'</u> 34 + 00)	35	+00	36 -	+ 00	37 +	+ 00	
		55		50-		577		

