

PROJECT: 34820 REFERENCE: U-2524D

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<u>SHEET NO.</u>	<u>DESCRIPTION</u>
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**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  
LAWDALE DRIVE  
SITE DESCRIPTION SOUND BARRIER WALL 6:  
FROM -L- 452+79 LEFT TO -SPBY8- 0+49 LEFT

STATE	STATE PROJECT REFERENCE 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 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:
- 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

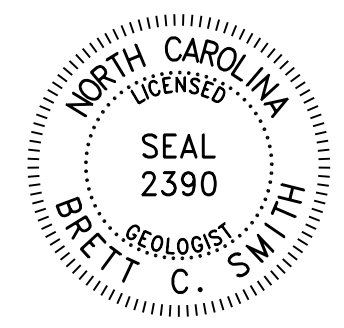
INVESTIGATED BY B. SMITH, PG

DRAWN BY B. SMITH, PG

CHECKED BY B. WORLEY, PG

SUBMITTED BY SUMMIT DESIGN AND ENGINEERING SERVICES, PLLC

DATE NOVEMBER 2015



DocuSigned by:  
Brett C. Smith 1/15/2016  
BE61A49304C542E  
SIGNATURE DATE

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT
SUBSURFACE INVESTIGATION
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

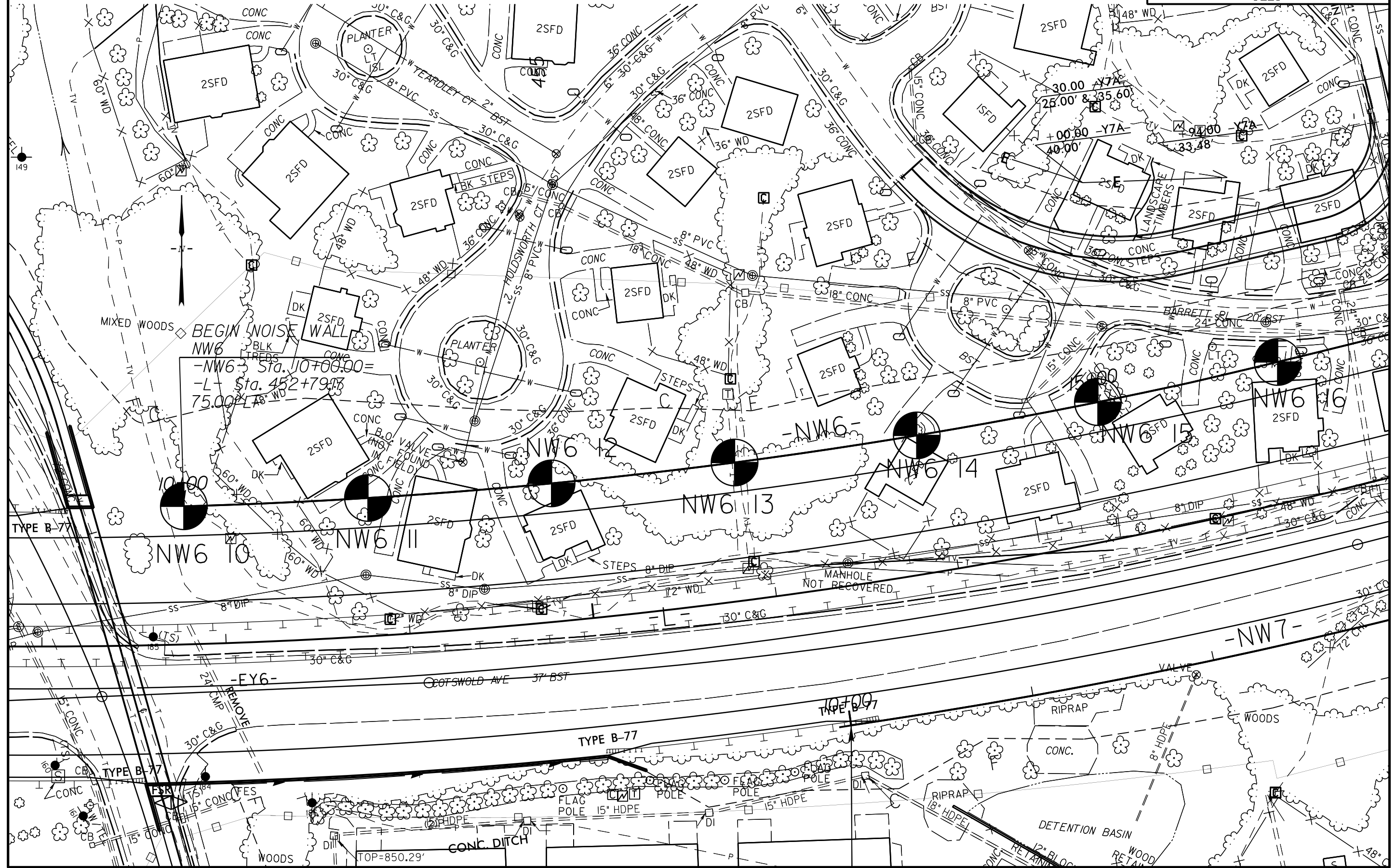
Table with multiple sections: SOIL DESCRIPTION, GRADATION, ROCK DESCRIPTION, TERMS AND DEFINITIONS, SOIL LEGEND AND AASHTO CLASSIFICATION, MINERALOGICAL COMPOSITION, COMPRESSIBILITY, PERCENTAGE OF MATERIAL, GROUND WATER, MISCELLANEOUS SYMBOLS, RECOMMENDATION SYMBOLS, ABBREVIATIONS, SOIL MOISTURE - CORRELATION OF TERMS, PLASTICITY, COLOR, EQUIPMENT USED ON SUBJECT PROJECT, FRACTURE SPACING, BEDDING, INDURATION, and BENCH MARK.

# SITE PLAN

0 50 100

FEET

# SOUND BARRIER WALL 6

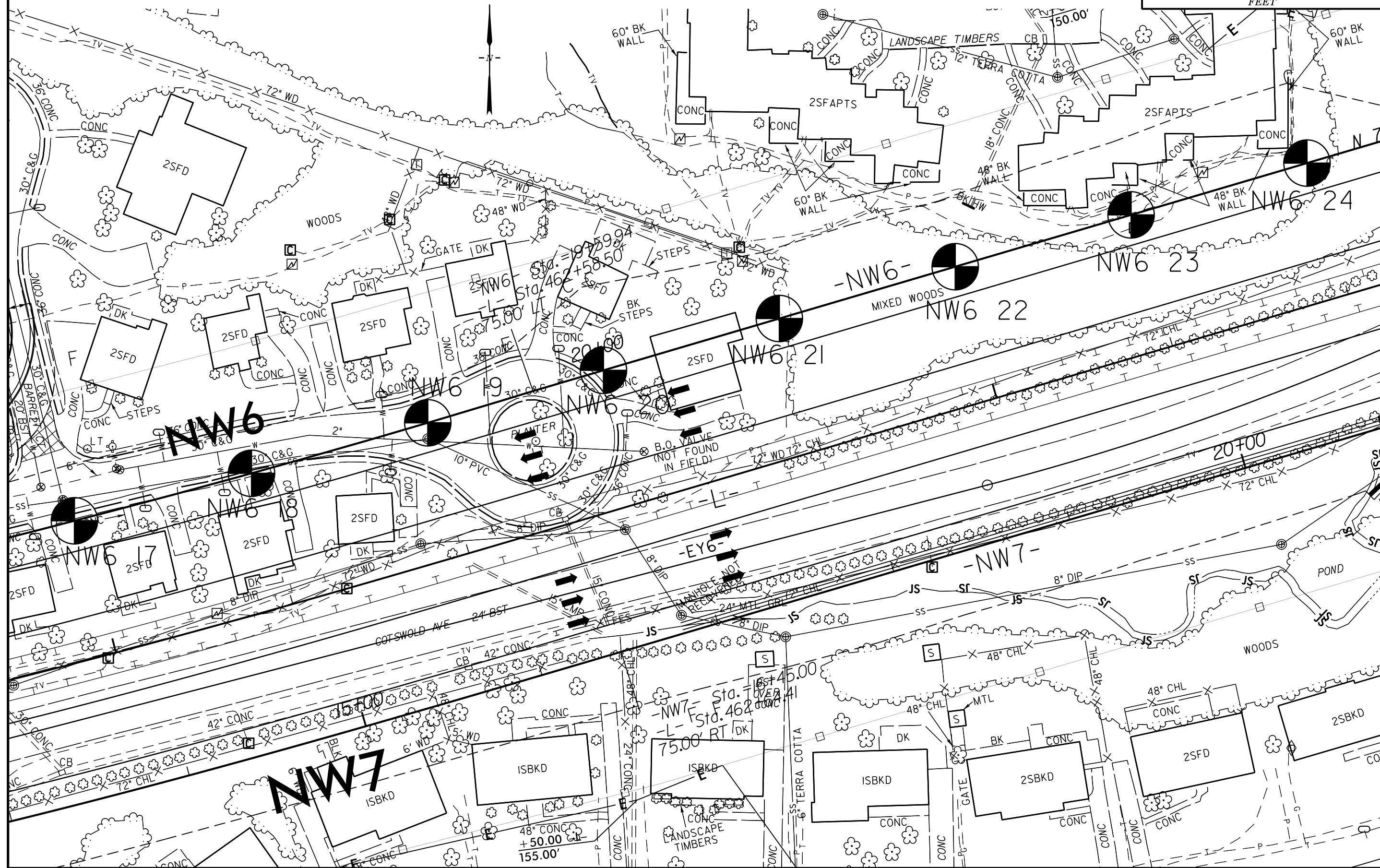
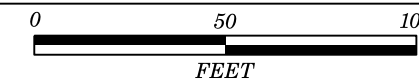


# SOUND BARRIER WALL 6

PROJECT REFERENCE NO. SHEET NO.

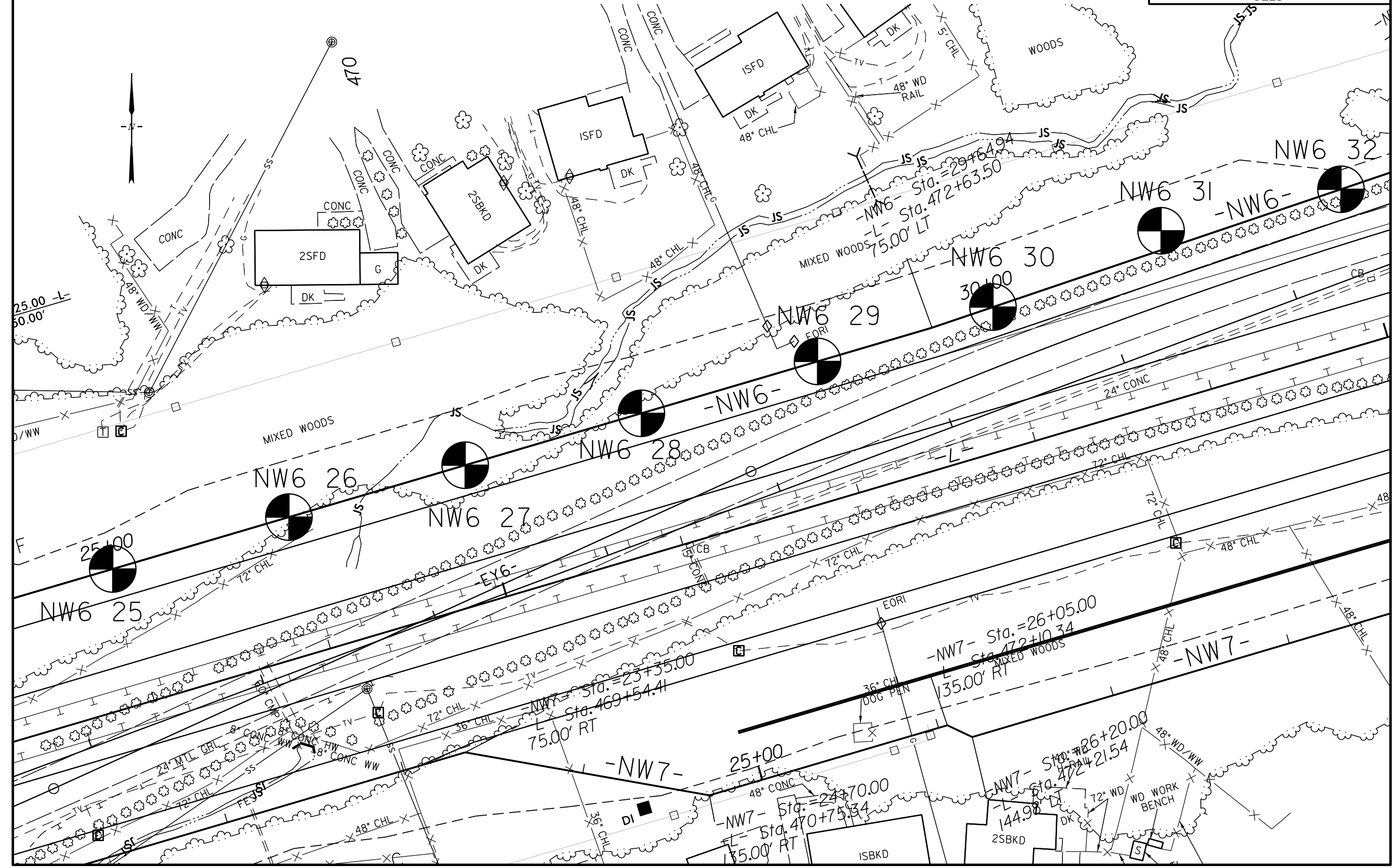
U-2524D (25574) 4

## SITE PLAN



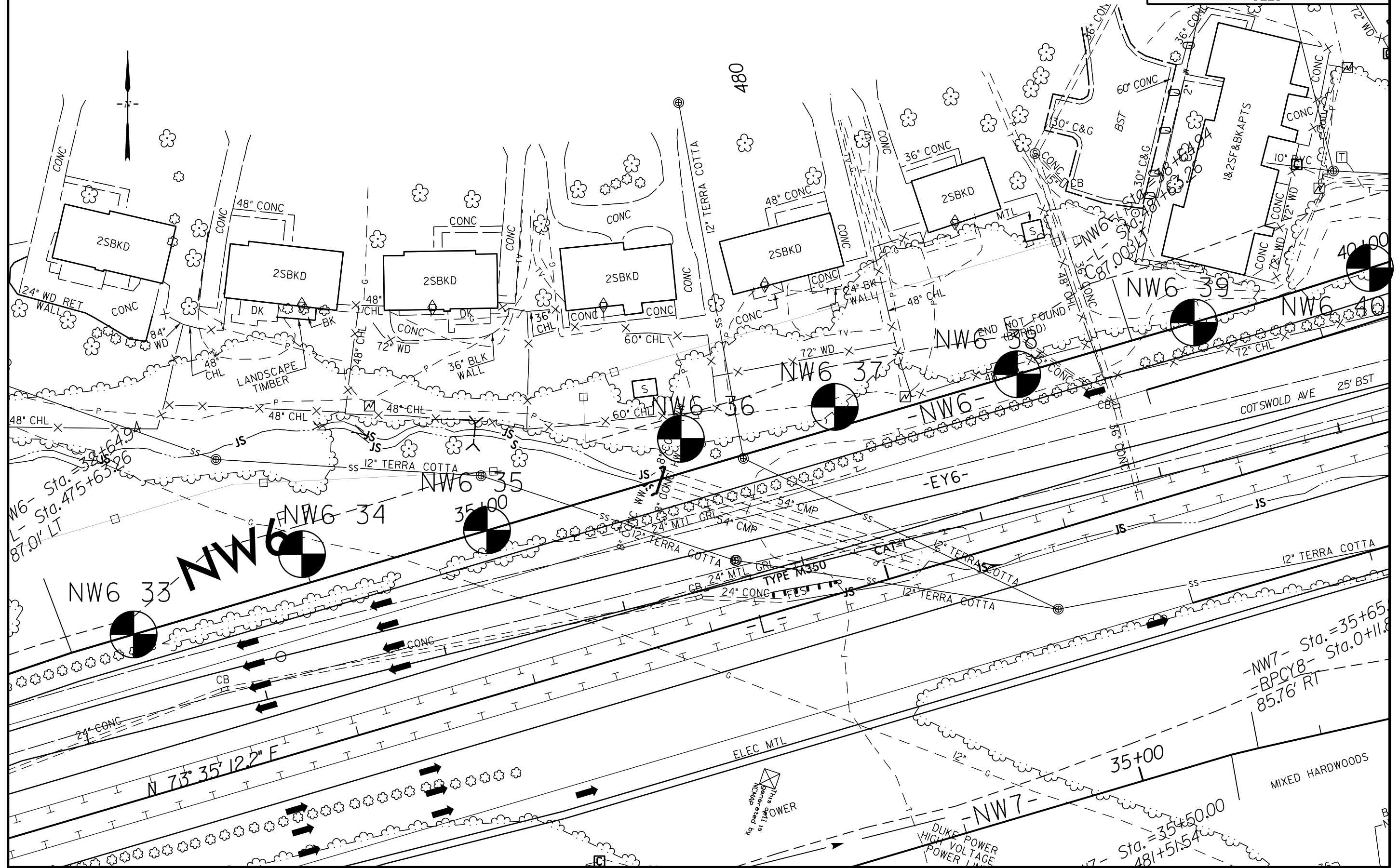
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U-2524D (25574)	5
<b>SITE PLAN</b>	

# SOUND BARRIER WALL 6



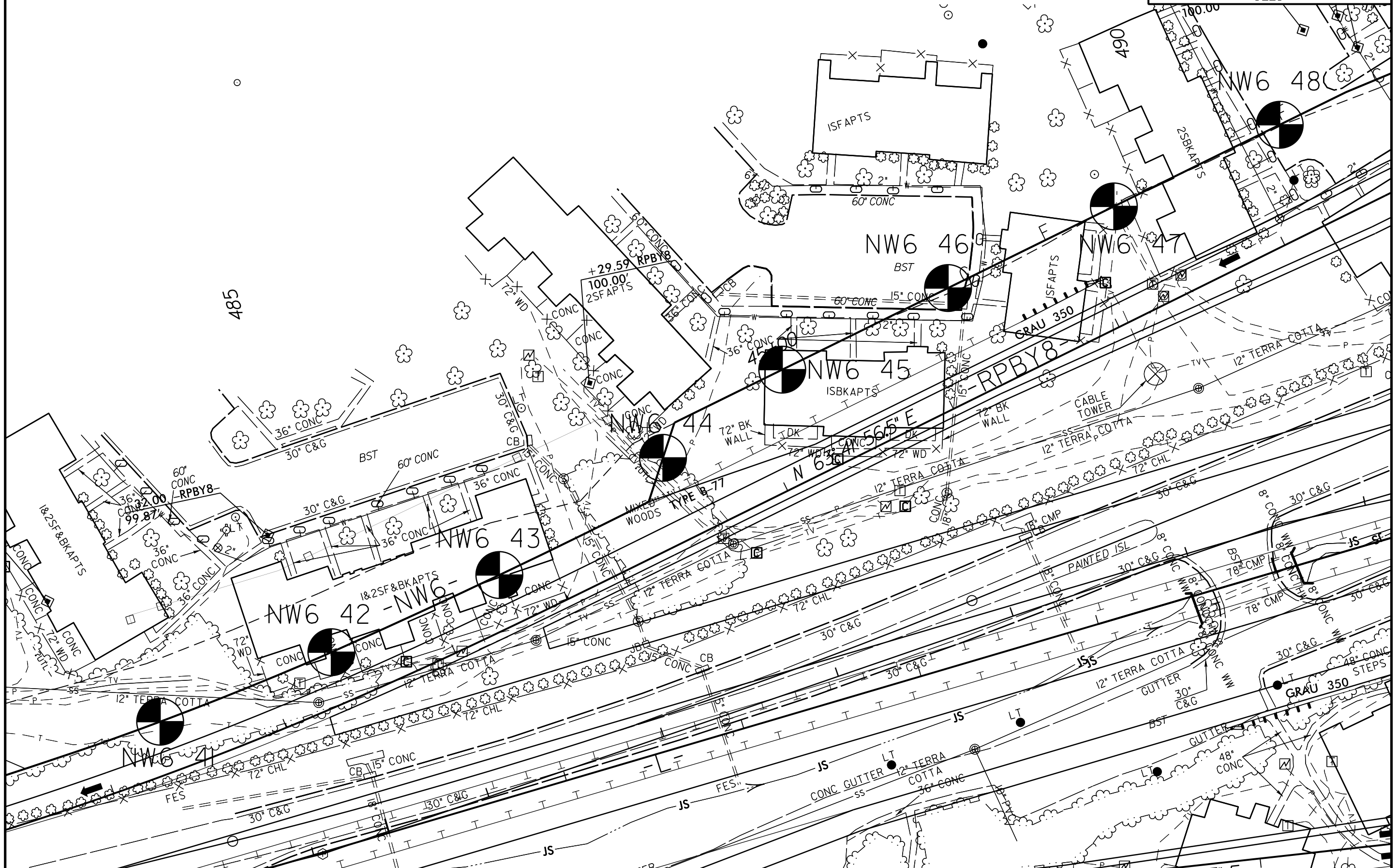
# SOUND BARRIER WALL 6

PROJECT REFERENCE NO.	SHEET NO.
U-2524D (25574)	6
<b>SITE PLAN</b>	
FEET	



PROJECT REFERENCE NO.	SHEET NO.
U-2524D (25574)	7
<b>SITE PLAN</b>	

# SOUND BARRIER WALL 6

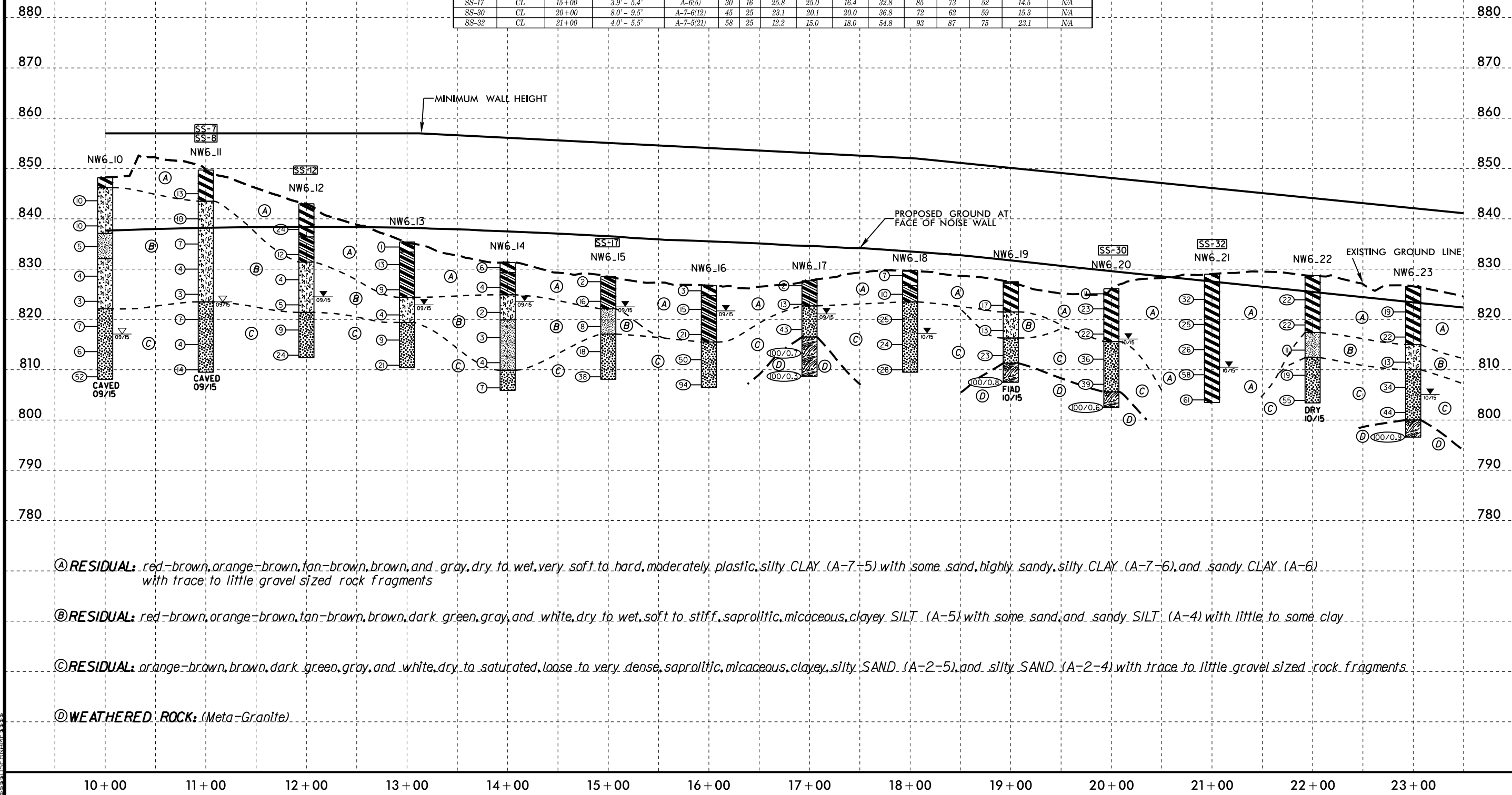


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PROJECT REFERENCE NO. <b>U-2524D</b>	SHEET NO. <b>8</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

# SOUND BARRIER WALL 6 PROFILE

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-7	CL	11+00	18.7' - 20.2'	A-5(3)	54	2	6.1	22.9	60.3	10.7	99	96	61	49.1	NA
SS-8	CL	11+00	28.7' - 30.2'	A-2-5(0)	47	6	29.3	35.3	28.6	6.8	89	74	31	33.8	NA
SS-12	CL	12+00	24.1' - 25.6'	A-2-5(0)	46	5	34.8	37.0	21.8	6.4	80	65	21	26.1	NA
SS-17	CL	15+00	3.9' - 5.4'	A-6(5)	30	16	25.8	25.0	16.4	32.8	85	73	52	14.5	NA
SS-30	CL	20+00	8.0' - 9.5'	A-7-6(12)	45	25	23.1	20.1	20.0	36.8	72	62	59	15.3	NA
SS-32	CL	21+00	4.0' - 5.5'	A-7-5(21)	58	25	12.2	15.0	18.0	54.8	93	87	75	23.1	NA



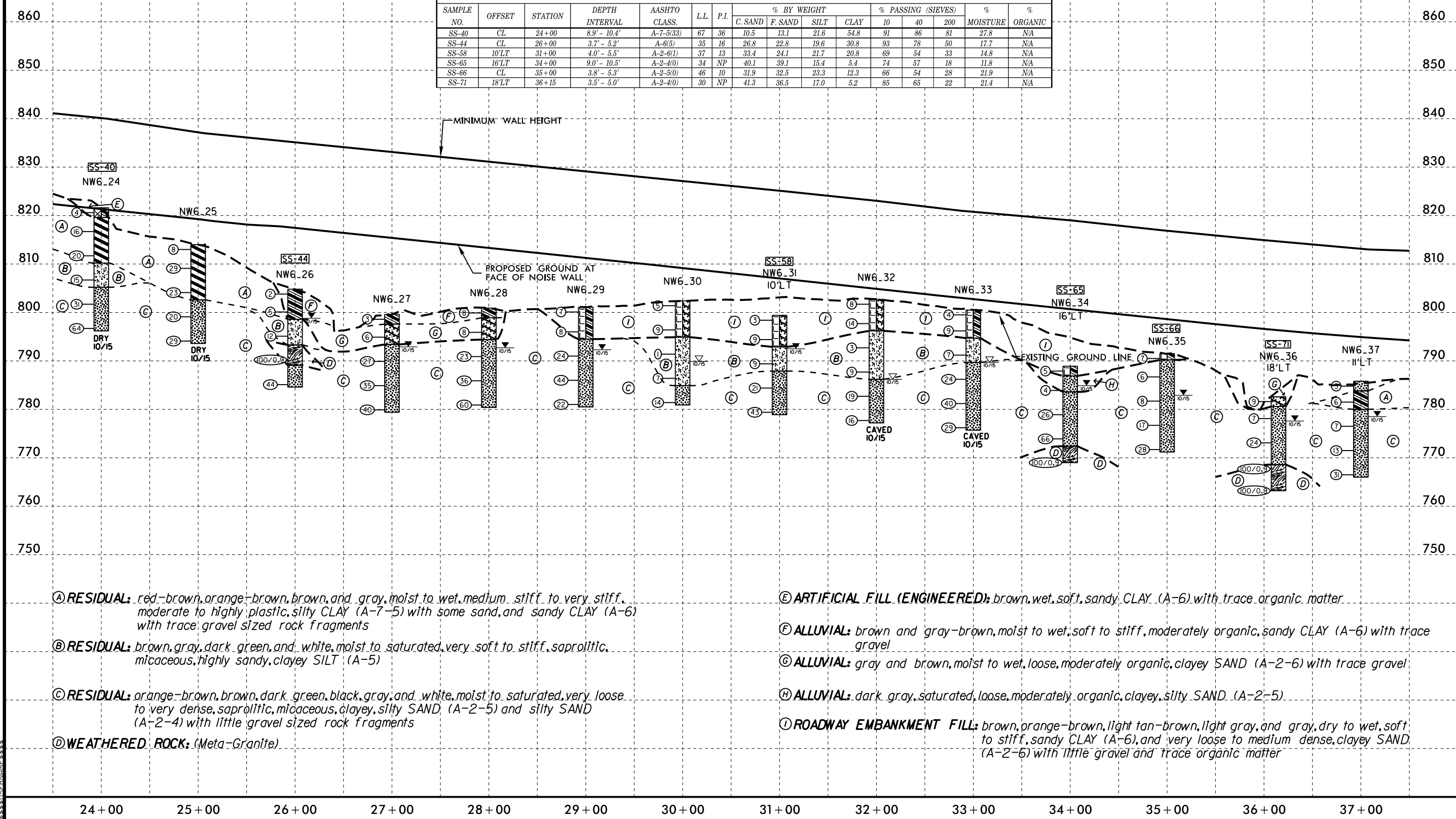
- Ⓐ **RESIDUAL:** red-brown, orange-brown, tan-brown, brown, and gray, dry to wet, very soft to hard, moderately plastic, silty CLAY (A-7-5) with some sand, highly sandy, silty CLAY (A-7-6), and sandy CLAY (A-6) with trace to little gravel sized rock fragments
- Ⓑ **RESIDUAL:** red-brown, orange-brown, tan-brown, brown, dark green, gray, and white, dry to wet, soft to stiff, saprolitic, micaceous, clayey SILT (A-5) with some sand, and sandy SILT (A-4) with little to some clay
- Ⓒ **RESIDUAL:** orange-brown, brown, dark green, gray, and white, dry to saturated, loose to very dense, saprolitic, micaceous, clayey, silty SAND (A-2-5), and silty SAND (A-2-4) with trace to little gravel sized rock fragments
- Ⓓ **WEATHERED ROCK:** (Meta-Granite)

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# SOUND BARRIER WALL 6 PROFILE

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	LL	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-40	CL	24+00	8.9' - 10.4'	A-7-5(33)	67	36	10.5	13.1	21.6	54.8	91	86	81	27.8	NA
SS-44	CL	26+00	3.7' - 5.2'	A-6(5)	35	16	26.8	22.8	19.6	30.8	93	78	50	17.7	NA
SS-58	10'LT	31+00	4.0' - 5.5'	A-2-6(1)	37	13	33.4	24.1	21.7	20.8	69	54	33	14.8	NA
SS-65	16'LT	34+00	9.0' - 10.5'	A-2-4(0)	34	NP	40.1	39.1	15.4	5.4	74	57	18	11.8	NA
SS-66	CL	35+00	3.8' - 5.3'	A-2-5(0)	46	10	31.9	32.5	23.3	12.3	66	54	28	21.9	NA
SS-71	18'LT	36+15	3.5' - 5.0'	A-2-4(0)	30	NP	41.3	36.5	17.0	5.2	85	65	22	21.4	NA



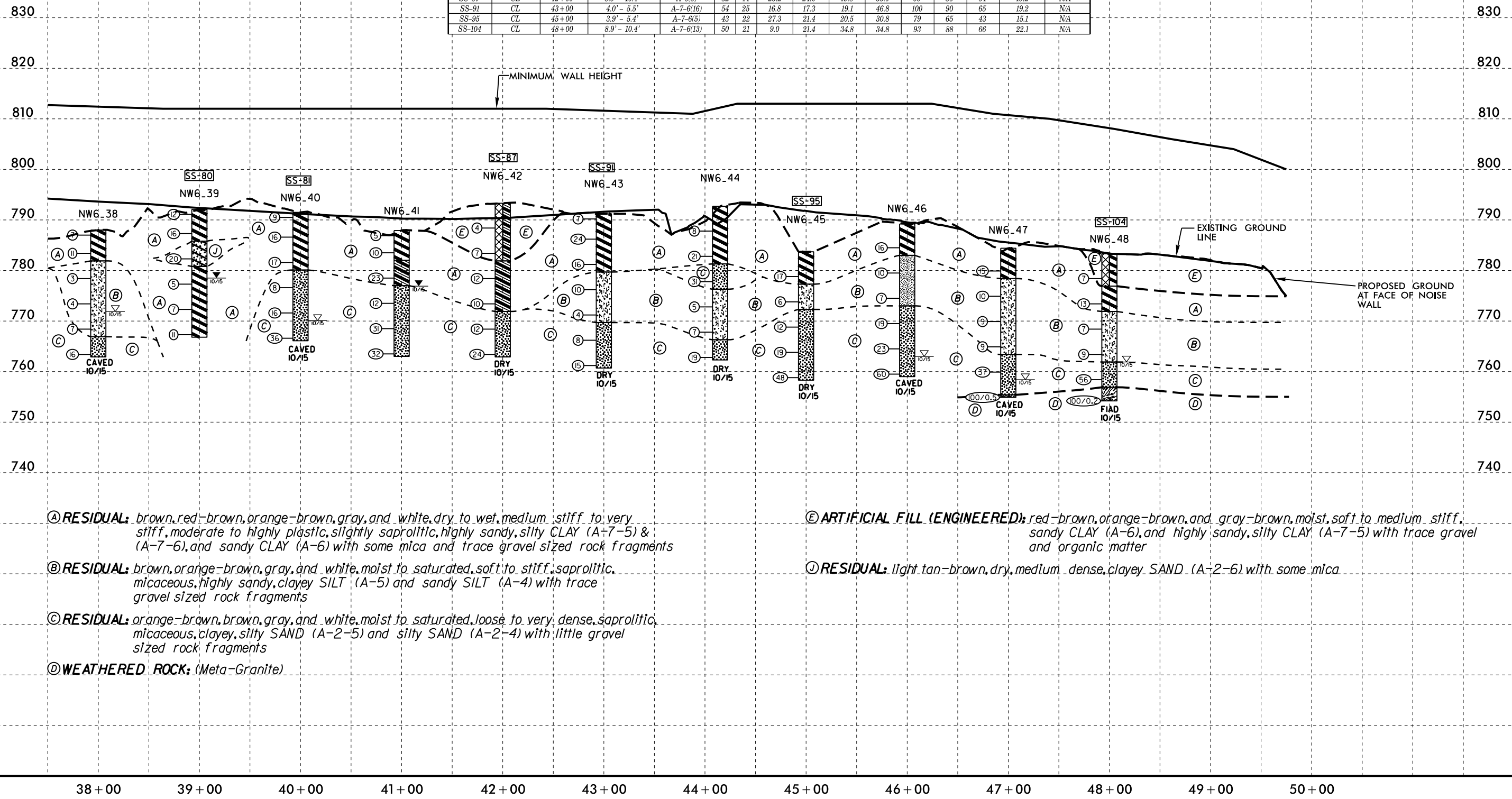
- (A) **RESIDUAL:** red-brown, orange-brown, brown, and gray, moist to wet, medium stiff to very stiff, moderate to highly plastic, silty CLAY (A-7-5) with some sand, and sandy CLAY (A-6) with trace gravel sized rock fragments
- (B) **RESIDUAL:** brown, gray, dark green, and white, moist to saturated, very soft to stiff, saprolitic, micaceous, highly sandy, clayey SILT (A-5)
- (C) **RESIDUAL:** orange-brown, brown, dark green, black, gray, and white, moist to saturated, very loose to very dense, saprolitic, micaceous, clayey, silty SAND (A-2-5) and silty SAND (A-2-4) with little gravel sized rock fragments
- (D) **WEATHERED ROCK:** (Meta-Granite)

- (E) **ARTIFICIAL FILL (ENGINEERED):** brown, wet, soft, sandy CLAY (A-6) with trace organic matter
- (F) **ALLUVIAL:** brown and gray-brown, moist to wet, soft to stiff, moderately organic, sandy CLAY (A-6) with trace gravel
- (G) **ALLUVIAL:** gray and brown, moist to wet, loose, moderately organic, clayey SAND (A-2-6) with trace gravel
- (H) **ALLUVIAL:** dark gray, saturated, loose, moderately organic, clayey, silty SAND (A-2-5)
- (I) **ROADWAY EMBANKMENT FILL:** brown, orange-brown, light tan-brown, light gray, and gray, dry to wet, soft to stiff, sandy CLAY (A-6), and very loose to medium dense, clayey SAND (A-2-6) with little gravel and trace organic matter

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 \$\$\$\$LISERNAME\$\$\$\$

# SOUND BARRIER WALL 6 PROFILE

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-80	CL	39+00	18.8' - 20.3'	A-7-5(3)	42	12	23.4	28.0	41.8	6.8	83	70	47	28.5	NA
SS-81	CL	40+00	8.9' - 10.4'	A-7-6(17)	44	27	25.0	24.1	15.3	35.6	91	76	71	23.7	NA
SS-87	CL	42+00	8.9' - 10.4'	A-6(5)	32	14	23.2	24.0	19.8	33.0	99	86	54	19.2	NA
SS-91	CL	43+00	4.0' - 5.5'	A-7-6(16)	54	25	16.8	17.3	19.1	46.8	100	90	65	19.2	NA
SS-95	CL	45+00	3.9' - 5.4'	A-7-6(5)	43	22	27.3	21.4	20.5	30.8	79	65	43	15.1	NA
SS-104	CL	48+00	8.9' - 10.4'	A-7-6(13)	50	21	9.0	21.4	34.8	34.8	93	88	66	22.1	NA



**(A) RESIDUAL:** brown, red-brown, orange-brown, gray, and white, dry to wet, medium stiff to very stiff, moderate to highly plastic, slightly saprolitic, highly sandy, silty CLAY (A-7-5) & (A-7-6), and sandy CLAY (A-6) with some mica and trace gravel sized rock fragments

**(E) ARTIFICIAL FILL (ENGINEERED):** red-brown, orange-brown, and gray-brown, moist, soft to medium stiff, sandy CLAY (A-6), and highly sandy, silty CLAY (A-7-5) with trace gravel and organic matter

**(B) RESIDUAL:** brown, orange-brown, gray, and white, moist to saturated, soft to stiff, saprolitic, micaceous, highly sandy, clayey SILT (A-5) and sandy SILT (A-4) with trace gravel sized rock fragments

**(J) RESIDUAL:** light tan-brown, dry, medium dense, clayey SAND (A-2-6) with some mica

**(C) RESIDUAL:** orange-brown, brown, gray, and white, moist to saturated, loose to very dense, saprolitic, micaceous, clayey, silty SAND (A-2-5) and silty SAND (A-2-4) with little gravel sized rock fragments

**(D) WEATHERED ROCK:** (Meta-Granite)