

PROJECT DESCRIPTION

THE LOR-90-10.76 PROJECT WILL BE COMPLETED USING A DESIGN-BUILD APPROACH, AND WILL INCLUDE THE FOLLOWING IMPROVEMENTS:

- FULL-DEPTH PAVEMENT REPLACEMENT FOR BOTH DIRECTIONS OF IR 90 BEGINNING FROM JUST NORTH OF THE OHIO TURNPIKE TOLL BOOTH TO THE MERGE OF SR 2 AND IR 90 WITH NO ADDITIONAL LANES BEING ADDED TO THIS SECTION OF IR 90.
- FULL-DEPTH PAVEMENT REPLACEMENT FOR BOTH DIRECTIONS OF SR 2 FROM IMMEDIATELY WEST OF MIDDLE RIDGE ROAD TO THE MERGE WITH IR 90.
- THE ADDITION OF A THIRD LANE IN EACH DIRECTION OF IR-90 WITHIN THE EXISTING GRASS MEDIAN BEGINNING AT THE MERGE WITH SR 2 AND ENDING IMMEDIATELY WEST OF FRENCH CREEK BRIDGE AND SLIGHTLY WEST OF THE SR 611 INTERCHANGE. A SHORT SECTION OF IR 90 FROM SLM 13.17 TO SLM 13.57 (AT SR 57 INTERCHANGE) WAS PREVIOUSLY WIDENED TO THREE LANES AND WILL ONLY REQUIRE RESURFACING.
- FULL-DEPTH PAVEMENT REPLACEMENT ON ALL RAMPS AT THE SR 254 (DETROIT ROAD) INTERCHANGE.
- THE PROFILE OF IR 90 AND THE RAMPS AT THE SR 254 INTERCHANGE ARE ANTICIPATED TO REMAIN ESSENTIALLY UNCHANGED.

IN ADDITION TO THE PAVEMENT REPLACEMENT AND ADDITIONAL LANE CONSTRUCTION, FIVE (5) NOISE BARRIER WALLS TOTALLY APPROXIMATELY 19,300 FEET ARE PROPOSED WITHIN THE OVERALL PROJECT LIMITS AS FOLLOWS:

- WALL A ALONG THE IR 90 EASTBOUND OUTSIDE SHOULDER BETWEEN THE OHIO TURNPIKE AND SR 2 INTERCHANGE WITH A LENGTH OF APPROXIMATELY 1,700 FEET.
- WALL D (NE QUAD) ALONG THE NORTH EDGE OF THE OFF-RAMP FROM WESTBOUND IR 90 TO SR 57 WITH A LENGTH OF APPROXIMATELY 1,000 FEET.
- WALL E ALONG THE IR 90 EASTBOUND OUTSIDE SHOULDER BETWEEN THE GULF ROAD OVERPASS AND SR 254 WITH A LENGTH OF APPROXIMATELY 2,600 FEET.
- WALL F ALONG THE IR 90 EASTBOUND OUTSIDE SHOULDER BETWEEN SR 254 AND FRENCH CREEK ROAD WITH A LENGTH OF APPROXIMATELY 8,800 FEET.
- WALL G ALONG THE IR 90 EASTBOUND OUTSIDE SHOULDER BETWEEN FRENCH CREEK ROAD AND SR 611 WITH A LENGTH OF APPROXIMATELY 5,200 FEET.
- THE WALLS ARE PLANNED TO BE LOCATED APPROXIMATELY 5 FEET BEHIND THE PROPOSED EDGE OF PAVEMENT OR GUARDRAIL.

HISTORIC RECORDS

NUMEROUS HISTORIC BORINGS ARE AVAILABLE WITHIN THE PROJECT LIMITS, HOWEVER, WITH AGREEMENT FROM ODOT DISTRICT 3, AND SINCE THE HISTORIC BORINGS DID NOT MEET CURRENT SGE REQUIREMENTS, NO HISTORIC INFORMATION WAS USED AS PART OF THE EXPLORATIONS PERFORMED FOR THIS PROJECT AND ARE NOT INCLUDED IN THESE SHEETS.

GEOLOGY

THIS PROJECT SITE IS IN A PORTION OF OHIO WHICH WAS GLACIATED AND WITHIN THE ERIE LAKE PLAIN PHYSIOGRAPHIC REGION. THIS PORTION OF THE STATE IS CHARACTERIZED AS AN ICE-AGE LAKE BASIN SEPARATED FROM MODERN LAKE ERIE BY SHORELINE CLIFFS WITH MAJOR STREAMS IN DEEP GORGES. PLEISTOCENE-AGE LACUSTRINE SAND, SILT, CLAY, AND WAVE-PLANED GLACIAL TILL OVER DEVONIAN- AND MISSISSIPPIAN-AGE SHALES AND SANDSTONES ARE TYPICALLY PRESENT. THE ODNR "OHIO KARST AREAS" MAP INDICATES THAT THIS SITE IS NOT IN AN AREA OF KNOWN KARST FEATURES. ADDITIONALLY, THIS PROJECT IS NOT LOCATED IN AN AREA OF OHIO SUBJECT TO SEVERE SLOPE FAILURES, AND NO MAPPED ABANDONED UNDERGROUND MINES ARE REPORTED IN THIS AREA.

RECONNAISSANCE

SITE RECONNAISSANCE VISITS FOR THE ROADWAY BORINGS WERE MADE BY S&ME PERSONNEL ON JULY 12, 2022, AND AGAIN ON OCTOBER 18 THROUGH 20, 2022, TO OBSERVE THE PROJECT SITE WITH RESPECT TO DRILLING ACCESS AND SAFETY, AND FIELD MARK THE PLANNED BORING LOCATIONS. THE EXISTING PAVEMENTS APPEARED TO BE IN FAIR TO GOOD CONDITION, WITH ISOLATED AREAS IN POOR CONDITION. TRANSVERSE, LONGITUDINAL, AND "ALLIGATOR" CRACKING WERE OBSERVED THROUGHOUT THE PROJECT ALIGNMENT. EMBANKMENT SIDE SLOPES WERE GENERALLY SHALLOW (RANGING FROM APPROXIMATELY 4H:1V TO 6H:1V) WITH A SECTION BETWEEN FRENCH CREEK ROAD AND SR 611 HAVING 2H:1V SLOPES ON THE EMBANKMENT AT EITHER END OF THE BRIDGE OVER THE RAILROAD TRACKS.

SITE RECONNAISSANCE VISITS FOR THE NOISE WALL BORINGS WERE MADE BY S&ME PERSONNEL ON MAY 9 AND MAY 12, 2023, TO OBSERVE THE PROJECT SITE WITH RESPECT TO DRILLING ACCESS AND SAFETY, AND FIELD MARK THE PLANNED BORING LOCATIONS.

EMBANKMENT SIDE SLOPES WITHIN THE PROPOSED ALIGNMENTS OF WALLS A, E AND F WERE GENERALLY SHALLOW (RANGING FROM APPROXIMATELY 4H:1V TO 6H:1V) WHERE PREDOMINANTLY NATURAL SOIL IS PRESENT BELOW A FEW FEET OF FILL ASSOCIATED WITH THE CONSTRUCTION OF IR 90. THE SR 57 RAMP WHERE WALL D IS PROPOSED IS SITUATED WHERE THE EXISTING FILL EMBANKMENT FOR THE RAMP GAINS HEIGHT TO THE EAST AND THE SLOPE INCLINATION VARIES FROM SHALLOW (4H:1V TO 6H:1V) TO STEEP (2H:1V). THE AMOUNT OF FILL WITHIN THE LENGTH OF FOUNDATIONS FOR WALL D IS EXPECTED TO VARY. FINALLY, APPROXIMATELY 2,500 FEET OF WALL G IS PROPOSED TO BE CONSTRUCTED WITHIN THE FILL EMBANKMENT APPROACHES FOR THE BRIDGE OVER THE RAILROAD TRACKS WHICH HAS APPROXIMATELY 2H:1V SLOPES. WALL FOUNDATIONS IN THIS AREA ARE EXPECTED TO BE PREDOMINANTLY OR ENTIRELY WITHIN EXISTING EMBANKMENT FILL. THE REMAINDER OF WALL G NORTH OF THE FILL EMBANKMENT RETURNS TO GENERALLY SHALLOWER SLOPES AS PREVIOUSLY DESCRIBED FOR WALLS A, E AND F.

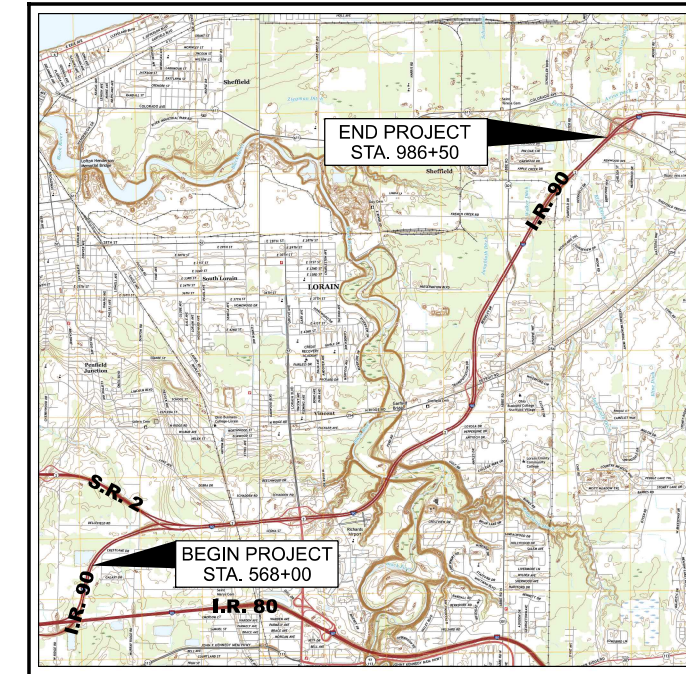
SUBSURFACE EXPLORATION

THE GEOTECHNICAL EXPLORATION FOR THIS PROJECT WAS PERFORMED IN TWO PHASES. THE FIRST PHASE INCLUDED 113 SUBGRADE BORINGS BETWEEN OCTOBER 31, 2022, AND APRIL 7, 2023. THESE TYPE A SUBGRADE BORINGS WERE SPACED APPROXIMATELY 400 FEET APART ALONG IR 90, SR 2 AND THE RAMPS AT THE SR 254 INTERCHANGE. BEGINNING AT THE APPROXIMATE PROPOSED SUBGRADE LEVEL, AT LEAST 6 FEET OF CONTINUOUS SOIL SPT SAMPLING WAS ATTEMPTED. WHERE AUGER REFUSAL WAS ENCOUNTERED IN BEDROCK PRIOR TO REACHING THE PROPOSED BORING DEPTH, THE BORINGS WERE TERMINATED. WITH NO CORING OF BEDROCK BEING PERFORMED. THE LOCATIONS OF THE BORINGS WERE VARIED BETWEEN THE EXISTING INSIDE TRAVEL LANES, THE INSIDE PAVED SHOULDERS, AND THE AREAS OF PROPOSED WIDENING IN THE EXISTING INTERSTATE MEDIAN.

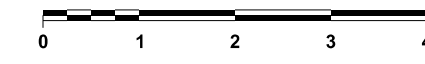
WHERE BORINGS WERE ADVANCED THROUGH EXISTING PAVEMENT, PORTABLE, GENERATOR DRIVEN CORING MACHINES EQUIPPED WITH DIAMOND-IMPREGNATED DRILLING BITS WERE USED TO ADVANCE MOST THE BORINGS THROUGH THE EXISTING PAVEMENT SECTION.

SUBSURFACE EXPLORATION CONTINUED ON NEXT PAGE

LEGEND		ODOT CLASS	CLASSIFIED MECH./VISUAL	
DESCRIPTION				
	GRAVEL	A-1-a	1	22
	GRAVEL WITH SAND	A-1-b	6	20
	GRAVEL WITH SAND AND SILT	A-2-4	14	19
	GRAVEL WITH SAND, SILT AND CLAY	A-2-6	4	7
	COARSE AND FINE SAND	A-3a	18	26
	SANDY SILT	A-4a	77	150
	SILT	A-4b	8	5
	SILT AND CLAY	A-6a	133	236
	SILTY CLAY	A-6b	76	199
	CLAY	A-7-6	57	131
	TOTAL		394	815
	SHALE	VISUAL		
	SANDSTONE	VISUAL		
	PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		
	ROOTMAT = X = APPROXIMATE THICKNESS	VISUAL		
	BORING LOCATION - PLAN VIEW.			
	DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.			
WC	INDICATES WATER CONTENT IN PERCENT.			
N ₆₀	INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.			
X/D"	NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X/D"= NUMBER OF BLOWS (UNCORRECTED) FOR D" OF PENETRATION AT REFUSAL.			
X/Y/D"	NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X= NUMBER OF BLOWS FOR FIRST 6 INCHES (UNCORRECTED). Y/D"= NUMBER OF BLOWS (UNCORRECTED) FOR D" OF PENETRATION AT REFUSAL.			
X/Y/Z/D"	NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X= NUMBER OF BLOWS FOR FIRST 6 INCHES (UNCORRECTED). Y= NUMBER OF BLOWS FOR SECOND 6 INCHES (UNCORRECTED). Z/D"= NUMBER OF BLOWS (UNCORRECTED) FOR D" OF PENETRATION AT REFUSAL.			
W	INDICATES FREE WATER ELEVATION.			
	INDICATES WATER LEVEL AT COMPLETION OF DRILLING.			
	INDICATES A PLASTIC MATERIAL WITH A MOISTURE CONTENT EQUAL TO OR GREATER THAN THE LIQUID LIMIT MINUS 3.			
NQ	"N" SERIES ROCK CORE BARREL OF "Q" WIRELINE BIT SIZE.			
TR	INDICATES TOP OF ROCK ELEVATION.			
SS	INDICATES A SPLIT SPOON SAMPLE.			
NP	INDICATES A NON-PLASTIC SAMPLE.			
LOI	INDICATES ORGANIC CONTENT BY LOSS ON IGNITION, AASHTO T267.			
Qu	INDICATES UNCONFINED COMPRESSION TEST, ASTM D7012.			



LOCATION MAP
SCALE IN MILES



PARTICLE SIZE DEFINITIONS

12"	3"	2.0 mm	0.42 mm	0.074 mm	0.005 mm
BOULDERS	COBBLES	GRAVEL	COARSE SAND	FINE SAND	SILT
		No. 10 SIEVE	No. 40 SIEVE	No. 200 SIEVE	CLAY

INDEX OF SHEETS					
EXPLORATION NOTES (CONT.), SHEET 2					
SUMMARY OF SOIL TEST DATA, SHEETS 3-7					
LOCATION FROM STA.	TO STA.	PLAN & PROFILE SHEET(S)	CROSS SECTION	NOISE BARRIER WALL INCLUDED	
IR 90	568+00	629+00	8 - 11	—	WALL A (SHEETS 8-9)
SR 2 EB	609+50	624+00	12	—	--
SR 2	609+00	624+00	13	—	--
IR 90/SR 2	624+00	711+00	14 - 19	—	—
IR 90 WB RAMP TO SR 57			20	—	WALL D
IR 90	711+00	827+00	21 - 28	—	WALL E (SHEETS 25-27)
SR 254 RAMP TO IR 90 WB			29	—	—
IR 90 EB RAMP TO SR 254			30	—	—
IR 90 WB RAMP TO SR 254			31	—	—
SR 254 RAMP TO IR 90 EB			32	—	—
IR 90	827+00	928+50	33 - 40	—	WALL F
	928+50		41 - 43	—	WALL G
BORING LOG/ROCK CORE PHOTOS, SHEETS 44 - 99					

RECON.	S&ME	7/12/22, 10/18/22 - 10/20/23
		5/9/23, 5/12/23
DRILLING	S&ME	10/31/22 - 4/7/23, 5/15/23 - 7/11/23
DRAWN	KAH	7/17/23 - 9/3/23, 11/13/23 - 11/21/23
REVIEWED	BKS	8/27/23 - 9/3/23, 11/13/23 - 11/21/23

DESIGN AGENCY

DESIGNER
KAH

REVIEWER
BKS 11-17-23

PROJECT ID
107714

SUBSET	TOTAL
1	99

SHEET	TOTAL
X	X

SUBSURFACE EXPLORATION (CONTINUED)

THE SECOND PHASE INCLUDED 101 TYPE E4 NOISE BARRIER WALL BORINGS DRILLED BETWEEN MAY 15 AND JULY 13, 2023, WITHIN THE LIMITS OF THE PROPOSED WALL LOCATIONS. THESE NOISE BARRIER WALL BORINGS WERE SPACED APPROXIMATELY 200 FEET APART ALONG THE PROPOSED WALL ALIGNMENTS. S&ME PERFORMED NINE (9) BORINGS FOR WALL A, SIX (6) BORINGS FOR WALL D, 14 BORINGS FOR WALL E, 45 BORINGS FOR WALL F, AND 27 BORINGS FOR WALL G. MOST OF THE BORINGS WERE LOCATED WITHIN APPROXIMATELY 5 FEET OUTSIDE THE EDGE OF THE EXISTING SHOULDER PAVEMENT; HOWEVER, AT LOCATIONS WHERE STEEP EMBANKMENT SLOPES OR EXISTING GUARDRAIL WERE PRESENT AT THE EDGE OF THE EXISTING PAVEMENT, THE BORINGS WERE ADVANCED THROUGH THE EXISTING SHOULDER PAVEMENT. IN EACH NOISE WALL BORING, SPT SAMPLING WAS ATTEMPTED AT 2.5-FOOT INTERVALS. THE BORINGS WERE EITHER EXTENDED TO A DEPTH OF 25 FEET, OR WHERE BEDROCK WAS ENCOUNTERED PRIOR TO REACHING 25 FEET, THE BORINGS WERE EXTENDED A MINIMUM OF APPROXIMATELY 5 FEET INTO BEDROCK. AT THE REQUEST OF ODOT D3, FIVE (5) FEET OF BEDROCK WERE CORED AT SEVEN (7) BORING LOCATIONS WITHIN THE LIMITS OF WALL F.

WITHIN THE LIMITS OF WALL D, AT FOUR (4) LOCATIONS WHERE NOISE WALL BORINGS WERE ADVANCED THROUGH THE EXISTING CONCRETE, OR COMPOSITE SHOULDER PAVEMENT, A PORTABLE, GENERATOR DRIVEN CORING MACHINE EQUIPPED WITH A DIAMOND-IMPREGNATED DRILLING BIT WAS USED TO ADVANCE THE BORINGS THROUGH THE EXISTING PAVEMENT SECTION.

THE BORINGS WERE ADVANCED BY TRUCK- OR ATV-MOUNTED DRILL RIGS USING A 2¼-INCH OR 3¼-INCH I.D. HOLLOW-STEM AUGER, DISTURBED, BUT REPRESENTATIVE, SOIL SAMPLES WERE PROCURED BY LOWERING A 2-INCH O.D. SPLIT-BARREL SAMPLER TO THE BOTTOM OF THE BORING, AND THEN DRIVING THE SAMPLER INTO THE SOIL WITH BLOWS FROM A 140-POUND HAMMER FREELY FALLING 30 INCHES (AASHTO T206 STANDARD PENETRATION TEST, SPT), IN ACCORDANCE WITH THE ODOT (SGE), THE HAMMER SYSTEMS ON THE DRILL RIGS WERE CALIBRATED IN ACCORDANCE WITH ASTM D4633. DRILL RIG CALIBRATION DATA ARE AS FOLLOWS:

- S&ME CME 550X RIG WAS CALIBRATED ON 3/4/2021 WITH A DRILL ROD ENERGY RATIO OF 78.7%;
- S&ME ATV D50 RIG WAS CALIBRATED ON 6/7/2022 WITH A DRILL ROD ENERGY RATIO OF 69.8%;
- A SECOND S&ME ATV D50 RIG WAS CALIBRATED ON 6/6/2022 WITH A DRILL ROD ENERGY RATIO OF 85.4%;
- OTB SIMCO 2800 RIG WAS CALIBRATED ON 12/22/2022 WITH A DRILL ROD ENERGY RATIO OF 83.2%; AND
- OTB MOBILE B-57 RIG WAS CALIBRATED ON 12/22/2022 WITH A DRILL ROD ENERGY RATIO OF 91.0% WHICH HAS BEEN LIMITED TO 90% PER SECTION 404.3 OF THE ODOT SGE.

SPT SAMPLES WERE EXAMINED IMMEDIATELY AFTER RECOVERY AND REPRESENTATIVE PORTIONS WERE PRESERVED IN AIRTIGHT GLASS JARS. UPON COMPLETION OF EACH BORING, GROUNDWATER OBSERVATIONS WERE RECORDED AND THE BORING WAS BACKFILLED USING SOIL CUTTINGS. WHERE BORINGS WERE PERFORMED WITHIN PAVED AREAS, THE PAVEMENT SURFACE WAS REPAIRED WITH COLD-PATCH ASPHALT.

EXPLORATION FINDINGS - SUBGRADE EXPLORATION

THE THICKNESS OF THE EXISTING PAVEMENT WITH A COMPOSITE SECTION MEASURED FROM THE PAVEMENT CORES CONSISTS OF 2-3/4 TO 9-1/2 INCHES OF ASPHALT OVER 5-1/4 TO 11-1/4 INCHES OF CONCRETE. REINFORCEMENT WAS NOTED WITHIN THE EXISTING CONCRETE PAVEMENT IN MANY OF THE RECOVERED PAVEMENT CORES. IN AREAS WHERE THE EXISTING PAVEMENT CONSISTED OF ONLY ASPHALT, THE THICKNESS OF THE CORES RANGED FROM 9-1/2 TO 17-1/4 INCHES.

THE BORINGS DRILLED DURING THE SUBGRADE EXPLORATION ENCOUNTERED PRIMARILY COHESIVE SOILS (A-4a, A-6a, A-6b, AND A-7-6) CONTAINING ISOLATED AND GENERALLY DISCONTINUOUS ZONES OF GRANULAR SOIL (A-1-a, A-1-b, A-3a, A-2-4, AND A-2-6). A FEW COBBLES WERE NOTED WITHIN THE BORINGS, AND BEDROCK WAS ENCOUNTERED IN SIX (6) BORINGS (B-001-0-22, B-014-2-22, B-036-0-22, B-037-0-22, B-039-0-22, AND B-041-0-22). BORING B-015-0-22 ENCOUNTERED UNSUITABLE A-4b (SILT) SOIL WITHIN 3 FEET OF THE ANTICIPATED SUBGRADE LEVEL, AND BORING B-083-0-22 ENCOUNTERED MODERATELY ORGANIC SOIL (LOI = 6%) AT A DEPTH OF 5 FEET. SEVERAL OTHER BORINGS RECOVERED SAMPLES WHICH WERE NOTED AS BEING SLIGHTLY ORGANIC. TEST RESULTS FROM TWENTY (20) BORINGS MEASURED SULFATE CONCENTRATIONS EXCEEDING 5,000 PPM WITH AN ADDITIONAL FOUR (4) BORINGS ENCOUNTERING CONCENTRATIONS EXCEEDING 3,000 PPM.

DURING DRILLING, SEEPAGE OR GROUNDWATER WAS NOTED IN 22 BORINGS (ROUGHLY 19% OF THE BORINGS) AT DEPTHS RANGING FROM 0.3 TO 6.6 FEET BELOW THE EXISTING GROUND SURFACE. AT THE END OF DRILLING (EOD) IN SEVEN (7) BORINGS, WATER WAS MEASURED AT DEPTHS RANGING FROM 1.5 TO 8.0 FEET, EITHER INSIDE THE HOLLOW-STEM AUGER OR IN THE BORE HOLE AFTER THE AUGERS HAD BEEN PULLED AND THE HOLE CAVED.

EXPLORATION FINDINGS - NOISE BARRIER WALL EXPLORATION

NOISE BARRIER WALL A

WALL A INCLUDES NINE (9) BORINGS, NUMBERED B-002-1-23 THROUGH B-006-1-23 AND ENCOUNTERED 3 TO 20 INCHES OF ROOTMAT OR 6 TO 15 INCHES OF GRANULAR FILL AT THE SURFACE. FILL OR POSSIBLE/PROBABLE FILL WAS ENCOUNTERED TO DEPTHS OF 3.0 TO 8.5 FEET AND CONSISTED OF STIFF TO HARD SILT AND CLAY (A-6a) AND SILTY CLAY (A-6b) OR MEDIUM-DENSE TO DENSE GRAVEL WITH SAND AND SILT (A-2-4) AND SANDY SILT (A-4a).

NATURAL SOIL WAS ENCOUNTERED IN ALL BORINGS EXCEPT B-006-1-23 TO DEPTHS RANGING FROM 8.5 TO 20.5 FEET AND PREDOMINANTLY CONSISTED OF STIFF TO HARD SANDY SILT (A-4a), SILT (A-4b), SILT AND CLAY (A-6a), SILTY CLAY (A-6b) AND CLAY (A-7-6) WITH OCCASIONAL DISCONTINUOUS LAYERS OF MEDIUM-DENSE TO VERY-DENSE SANDY SILT (A-4a) OR SILT (A-4b).

SHALE OR SANDSTONE BEDROCK WAS ENCOUNTERED AT DEPTHS RANGING FROM 3.0 TO 20.5 FEET TO THE TERMINATION DEPTHS OF THE BORINGS WHICH RANGED FROM 10.5 TO 25.0 FEET. THE SHALE BEDROCK ENCOUNTERED IN BORINGS B-002-1-23 THROUGH B-005-2-23 WAS GENERALLY DESCRIBED AS MODERATELY TO SEVERELY WEATHERED AND VERY-WEAK TO WEAK. THE SANDSTONE BEDROCK ENCOUNTERED IN BORINGS B-006-1-23 AND B-006-2-23 WAS GENERALLY DESCRIBED AS SEVERELY WEATHERED AND VERY-WEAK TO WEAK.

SEEPAGE OR GROUNDWATER WAS NOTED AT DEPTHS RANGING FROM 6.0 TO 18.5 FEET IN BORINGS B-002-1-23, B-002-2-23, B-005-1-23, B-006-1-23, AND B-006-2-23.

NOISE BARRIER WALL D

WALL D INCLUDES SIX (6) BORINGS NUMBERED B-032-1-23 THROUGH B-032-6-23. TWO (2) INCHES OF ROOTMAT WAS ENCOUNTERED AT BORINGS B-032-4-23 AND B-032-5-23 AND 9 TO 10 INCHES OF CONCRETE OR 11 INCHES OF ASPHALT WERE ENCOUNTERED AT THE REMAINING BORINGS. FILL OR POSSIBLE/PROBABLE FILL WAS ENCOUNTERED TO DEPTHS OF 8.0 TO 13.0 FEET AND CONSISTED OF STIFF TO HARD SILT AND CLAY (A-6a), SILTY CLAY (A-6b) AND CLAY (A-7-6) OR LOOSE TO VERY-DENSE GRAVEL WITH SAND (A-1-b) AND GRAVEL WITH SAND, SILT AND CLAY (A-2-4).

NATURAL SOIL WAS ENCOUNTERED IN ALL BORINGS TO A DEPTH OF 25.0 FEET AND PREDOMINANTLY CONSISTED OF STIFF TO HARD SANDY SILT (A-4a), SILT AND CLAY (A-6a), SILTY CLAY (A-6b) AND CLAY (A-7-6). BEDROCK WAS NOT ENCOUNTERED IN THE BORINGS FOR WALL D.

SEEPAGE OR GROUNDWATER WAS NOTED AT DEPTHS RANGING FROM 6.0 TO 21.0 FEET IN BORINGS B-032-1-23, B-032-3-23, B-032-4-23, AND B-032-5-23.

EXPLORATION FINDINGS - NOISE BARRIER WALL EXPLORATION (CONTINUED)

NOISE BARRIER WALL E

WALL E INCLUDES 14 BORINGS INCLUDING B-047-1-23 THROUGH B-054-1-23 AND ENCOUNTERED 15 INCHES OF ROOTMAT MIXED WITH GRANULAR FILL IN BORING B-047-1-23 OR 9 TO 14 INCHES OF GRANULAR FILL AT THE SURFACE IN ALL REMAINING BORINGS EXCEPT B-053-2-23. FILL OR POSSIBLE/PROBABLE FILL WAS ENCOUNTERED IN BORINGS B-050-1-23 THROUGH B-054-1-23 TO DEPTHS OF 3.0 TO 8.0 FEET AND CONSISTED OF STIFF TO HARD SILT AND CLAY (A-6a), SILTY CLAY (A-6b) AND CLAY (A-7-6) OR LOOSE TO MEDIUM-DENSE GRAVEL WITH SAND AND SILT (A-2-4) AND SANDY SILT (A-4a). A ZONE OF MEDIUM-STIFF SOIL WAS ENCOUNTERED IN BORING B-052-2-23 AND A SAMPLE FROM BORING B-051-2-23 TESTED FOR ORGANIC CONTENT RETURNED A LOI OF 2.5%.

NATURAL SOIL WAS ENCOUNTERED IN ALL BORINGS TO DEPTHS RANGING FROM 19.0 TO 25.0 FEET AND PREDOMINANTLY CONSISTED OF STIFF TO HARD SANDY SILT (A-4a), SILT AND CLAY (A-6a), SILTY CLAY (A-6b) AND CLAY (A-7-6) WITH OCCASIONAL DISCONTINUOUS LAYERS OF VERY-DENSE GRAVEL WITH SAND AND SILT (A-2-4). SHALE BEDROCK WAS ENCOUNTERED IN BORINGS B-047-1-23 AND B-048-1-23 AT DEPTHS RANGING FROM 19.0 TO 21.5 FEET TO THE TERMINATION DEPTHS OF THE BORINGS AT 23.8 FEET. THE SHALE BEDROCK WAS GENERALLY DESCRIBED AS HIGHLY TO SEVERELY WEATHERED AND VERY-WEAK TO WEAK.

NO SEEPAGE OR GROUNDWATER WAS NOTED IN THE BORINGS PERFORMED FOR WALL E.

NOISE BARRIER WALL F

WALL F INCLUDES 45 BORINGS NUMBERED B-061-1-23 THROUGH B-083-2-23 AND ENCOUNTERED 2.0 TO 5.0 INCHES OF ROOTMAT IN 17 BORINGS, 7.0 TO 18.0 INCHES OF GRANULAR FILL IN 20 BORINGS OR 7.5 TO 9.5 INCHES OF ASPHALT OVER 5.5 TO 9 INCHES OF GRANULAR BASE (WITH NO GRANULAR BASE NOTED IN B-076-2-23) IN BORINGS B-071-1-23, B-076-2-23 AND B-081-2-23. FILL OR POSSIBLE/PROBABLE FILL WAS ENCOUNTERED IN ALL BORINGS TO DEPTHS OF 1.5 TO 5.5 FEET (TO 8.0 FEET IN ONLY BORING B-078-2-23) AND CONSISTED OF STIFF TO HARD SANDY SILT (A-4a), SILT AND CLAY (A-6a), SILTY CLAY (A-6b) AND CLAY (A-7-6) OR LOOSE TO MEDIUM-DENSE GRAVEL WITH SAND (A-1-b), GRAVEL WITH SAND AND SILT (A-2-4), COARSE AND FINE SAND (A-3a) AND SANDY SILT (A-4a). A FEW ZONES OF MEDIUM-STIFF SOIL WERE ENCOUNTERED IN BORINGS B-076-2-23, B-077-2-23 AND B-079-1-23.

NATURAL SOIL WAS ENCOUNTERED IN ALL BORINGS TO DEPTHS RANGING FROM 6.5 TO 18.0 FEET AND PREDOMINANTLY CONSISTED OF STIFF TO HARD SANDY SILT (A-4a), SILT (A-4b), SILT AND CLAY (A-6a), SILTY CLAY (A-6b) AND CLAY (A-7-6) WITH OCCASIONAL DISCONTINUOUS LAYERS OF MEDIUM-DENSE TO VERY-DENSE GRAVEL WITH SAND AND SILT (A-2-4) AND SANDY SILT (A-4a). A ZONE OF MEDIUM-STIFF SOIL WAS ENCOUNTERED IN BORING B-083-1-23.

BETWEEN BORINGS B-061-1-23 AND B-070-2-23, SHALE BEDROCK WAS ENCOUNTERED BETWEEN 6.5 AND 12.0 FEET. BETWEEN BORINGS B-071-1-23 AND B-083-2-23, SHALE BEDROCK WAS ENCOUNTERED BETWEEN 11.0 AND 18.0 FEET. BEDROCK WAS CORED IN SEVEN (7) BORINGS (B-061-1-23, B-064-1-23, B-066-2-23, B-068-2-23, B-070-2-23, B-073-2-23 AND B-076-1-23). THE SHALE BEDROCK WAS GENERALLY DESCRIBED AS SLIGHTLY TO SEVERELY WEATHERED, VERY-WEAK TO SLIGHTLY STRONG, WITH FEW MODERATELY STRONG ZONES. UNCONFINED COMPRESSIVE STRENGTH TESTS WERE PERFORMED ON TWO SAMPLES AND RANGED FROM 1,371 PSI IN B-061-1-23 TO 6,789 PSI IN B-076-1-23.

SEEPAGE OR GROUNDWATER WAS NOTED AT A DEPTH OF 16.0 FEET IN BORINGS B-077-1-23 AND B-082-1-23, AND AT DEPTHS OF 3.5 AND 6.0 FEET IN BORING B-083-1-23.

NOISE BARRIER WALL G

WALL G INCLUDES 27 BORINGS NUMBERED FROM B-086-1-23 THROUGH B-098-4-23 AND ENCOUNTERED 2.0 INCHES OF ROOTMAT IN BORINGS B-096-1-23 AND B-096-2-23, 18.0 INCHES OF GRANULAR FILL IN BORINGS B-092-2-23 THROUGH B-095-1-23 OR 6.0 INCHES OF GRANULAR FILL IN B-095-2-23. BORINGS B-086-1-23 THROUGH B-092-1-23 ENCOUNTERED 10 TO 17 INCHES OF ASPHALT OVER 6 TO 9 INCHES OF GRANULAR BASE AND BORINGS B-097-1-23 THROUGH B-098-4-23 ENCOUNTERED 4 INCHES OF ASPHALT OVER 4 TO 6 INCHES OF GRANULAR BASE.

EMBANKMENT FILL WITHIN THE APPROACH EMBANKMENTS FOR THE BRIDGE OVER THE RAILROAD WAS ENCOUNTERED IN BORINGS B-086-1-23 THROUGH B-092-1-23 TO DEPTHS OF 13.0 TO 25.0 FEET (THE ENTIRETY OF BORINGS B-086-1-23 THROUGH B-090-1-23) AND CONSISTED OF VERY-STIFF TO HARD SANDY SILT (A-4a), SILT AND CLAY (A-6a), SILTY CLAY (A-6b) AND CLAY (A-7-6) OR MEDIUM-DENSE TO DENSE SANDY SILT (A-4a). A FEW ZONES OF STIFF SOIL WERE ENCOUNTERED IN BORINGS B-087-1-23, B-008-1-23, B-088-2-23, B-089-2-23 AND B-091-1-23.

FILL OR POSSIBLE/PROBABLE FILL WAS ENCOUNTERED IN BORINGS B-092-2-23 THROUGH B-098-4-23 TO DEPTHS OF 3.0 TO 8.0 FEET AND CONSISTED OF STIFF TO HARD SANDY SILT (A-4a), SILT AND CLAY (A-6a), SILTY CLAY (A-6b) AND CLAY (A-7-6) OR MEDIUM-DENSE TO VERY-DENSE GRAVEL WITH SAND AND SILT (A-2-4) AND COARSE AND FINE SAND (A-3a). A ZONE OF LOOSE GRAVEL (A-1-a) WAS ENCOUNTERED IN BORING B-098-4-23.

NATURAL SOIL WAS ENCOUNTERED IN BORINGS B-092-2-23 THROUGH B-098-4-23 TO DEPTHS RANGING FROM 15.5 TO 25.0 FEET AND PREDOMINANTLY CONSISTED OF STIFF TO HARD SANDY SILT (A-4a), SILT (A-4b), SILT AND CLAY (A-6a), SILTY CLAY (A-6b) AND CLAY (A-7-6) WITH OCCASIONAL DISCONTINUOUS LAYERS OF MEDIUM-DENSE TO VERY-DENSE COARSE AND FINE SAND (A-3a), SANDY SILT (A-4a) AND SILT (A-4b).

SHALE BEDROCK WAS ENCOUNTERED IN BORINGS B-092-2-23 THROUGH B-097-1-23 AND B-098-1-23 AT DEPTHS RANGING FROM 15.5 TO 22.0 FEET TO THE TERMINATION DEPTHS OF THE BORINGS RANGING FROM 20.7 TO 25.0 FEET. THE SHALE BEDROCK WAS GENERALLY DESCRIBED AS HIGHLY TO SEVERELY WEATHERED AND VERY-WEAK TO WEAK.

SEEPAGE OR GROUNDWATER WAS NOTED AT A DEPTH OF 23.0 FEET IN BORING B-092-1-23, AT 15.5 FEET IN BORINGS B-092-2-23 THROUGH B-093-2-23 AND AT 18.0 FEET IN BORING B-094-1-23. FURTHER NORTH, SEEPAGE OR GROUNDWATER WAS NOTED AT DEPTHS OF 3.0 FEET, 2.0 FEET AND 4.0 FEET IN BORINGS B-098-1-23, B-098-2-23 AND B-098-3-23, RESPECTIVELY.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JULY 2022 (SUBGRADE EXPLORATION) AND JANUARY 2023 (NOISE BARRIER WALL STRUCTURE EXPLORATION).

AVAILABLE INFORMATION

THE SOIL, BEDROCK, AND GROUNDWATER INFORMATION COLLECTED FOR THIS SUBSURFACE EXPLORATION THAT CAN BE CONVENIENTLY DISPLAYED ON THE GEOTECHNICAL PROFILE SHEETS HAS BEEN PRESENTED. GEOTECHNICAL REPORTS, IF PREPARED, ARE AVAILABLE FOR REVIEW ON THE OFFICE OF CONTRACT SALES WEBSITE.

Table with 5 columns: BORING ID, SAMPLE ELEVATION, SAMPLE DEPTH, Qu (PSI), LITHOLOGY. Rows include B-061-1-23 and B-076-1-23.

Table with 5 columns: BORING ID, SAMPLE ID, SAMPLE ELEVATION, SAMPLE DEPTH, LOI (%). Rows include B-008-0-22, B-051-2-23, B-053-0-22, B-075-0-22, B-083-0-22.

LOR-90-10.76

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GEOTECHNICAL PROFILE - ROADWAY EXPLORATION NOTES (CONTINUED)

DESIGN AGENCY



DESIGNER

KAH

REVIEWER

BKS 11-17-23

PROJECT ID

107714

SUBSET TOTAL

2 99

SHEET TOTAL

X X

LOR-90-10.76

MODEL: Sheet PAPER: SIZE: 17x11 (in.) DATE: 11/21/2023 TIME: 3:53:53 PM USER: kharpier T:\Columbus-11700\Projects\2021\17525A_ODOT D3_LOR-90-10.76 Noise Walls_Sheffield OH\GEOCAD\107714\400-Engineering\Geotechnical\Sheets\107714_YD002-Summary of Lab Test Data.dgn

SUMMARY OF SOIL TEST DATA
IR 90 MAINLINE

Table with columns: EXPLORATION ID., STATION & OFFSET, FROM - TO, SAMPLE ID, N60, % REC, % HP, % tsf, % GR, % CS, % FS, % SILT, % CLAY, LL, PL, PI, WC, ODOT CLASS (GI), ppm SO4. Rows include test data for stations B-029-0-22 through B-054-0-22.

DESIGN AGENCY: KAH
DESIGNER: KAH
REVIEWER: BKS
PROJECT ID: 107714
SUBSET: 4 / 99
SHEET: X / X

GEOTECHNICAL PROFILE - ROADWAY
SUMMARY OF SOIL TEST DATA

SUMMARY OF SOIL TEST DATA
RAMP FROM IR 90 TO SR 2

EXPLORATION ID., STATION & OFFSET	FROM - TO	SAMPLE ID	N ₆₀	% REC	tsf HP	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	ppm SO ₄
B-014-1-22 Sta. 614+92, 74' LT Latitude: 41.405808 N Longitude: 82.148290 W	2.0 - 3.5 3.5 - 5.0 5.0 - 6.5 6.5 - 8.0	SS-1 SS-2 SS-3 SS-4	20 15 24 23	44 33 61 89	- 1.5-4.0 1.5-2.0	0 25	8 9 35	36 35 19	37 19 14	19 21 19 13	21 15 13	15 6 6	6 6 15	13 12 18 15	A-4a (4) A-2-4 (0) A-6b (VISUAL) A-6b (VISUAL)	140 - - -
B-014-2-22 Sta. 621+53, 103' LT Latitude: 41.405069 N Longitude: 82.146426 W	2.0 - 2.6 2.6 - 3.5 3.5 - 4.8	SS-1A SS-1B SS-2	63 63 -	100 55 60	1.5-3.5 4.5	2 11	5 9	13 18	43 41	37 28 21 25	28 15 14	15 11	13 11	13 6 20	A-6a (9) A-1-a (VISUAL) A-6a (6)	180 - -
B-014-3-22 Sta. 625+76, 109' LT Latitude: 41.404410 N Longitude: 82.144231 W	2.0 - 2.7 2.7 - 3.5 3.5 - 5.0 5.0 - 6.5 6.5 - 8.0	SS-1A SS-1B SS-2 SS-3 SS-4	28 28 49 40 14	100 40 100 56 11	3.5-4.5 - - 3.5	11 - 29 -	4 7	23 34	35 22	27 8 8 28	42 NP NP CLAY	11 NP NP	31 NP NP	20 10 8 11 13	A-7-6 (14) A-2-4 (VISUAL) A-2-4 (0) A-4a (VISUAL) A-4a (VISUAL)	300 - - - -
B-014-4-22 Sta. 629+63, 107' LT Latitude: 41.404089 N Longitude: 82.142787 W	2.0 - 3.5 3.5 - 4.4 5.0 - 6.5 6.5 - 8.0	SS-1 SS-2 SS-3 SS-4	23 100 19 16	100 100 100	4.5 - 2.0-2.5	13 20	6 10	16 24	38 34	27 12 NP	39 NP	24 NP	15 NP	10 8 7 17	A-6a (8) A-4a (2) A-4a (VISUAL) A-6a (VISUAL)	640 - - -
B-016-0-22 Sta. 634+66, 57' LT Latitude: 41.403862 N Longitude: 82.141443 W	2.0 - 3.5 3.5 - 5.0 5.0 - 6.5 6.5 - 8.0	SS-1 SS-2 SS-3 SS-4	17 60 33 36	44 100 72 100	2.0-4.5 2.5 4.0	3 24	7 6	24 14	34 37	32 19 25	30 15 14	15 11	14 9 11 18	14 9 11 18	A-6a (8) A-6a (5) A-6a (VISUAL) A-6a (VISUAL)	540 - - -

SUMMARY OF SOIL TEST DATA
RAMP FROM SR 254 TO IR 90 WESTBOUND

EXPLORATION ID., STATION & OFFSET	FROM - TO	SAMPLE ID	N ₆₀	% REC	tsf HP	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	ppm SO ₄
B-057-1-22 Sta. 817+88, 238' LT Latitude: 41.422513 N Longitude: 82.084042 W	2.0 - 2.6 2.6 - 3.5 3.5 - 5.0 5.0 - 6.5 6.5 - 8.0	SS-1A SS-1B SS-2 SS-3 SS-4	15 15 14 14 17	100 64 72 61 78	- 4.0 3.5-4.5 4.0	13 7	26 8	45 11	9 30	7 44 28	NP	15	NP	14 14 14 15 15	A-3a (0) A-6a (VISUAL) A-6a (9) A-6a (VISUAL) A-6a (VISUAL)	800 - - - -
B-057-2-22 Sta. 95+62, 141' RT OF SR 254 CL Latitude: 41.423493 N Longitude: 82.084565 W	2.0 - 2.5 2.5 - 3.5 3.5 - 5.0 5.0 - 6.5 6.5 - 8.0	SS-1A SS-1B SS-2 SS-3 SS-4	15 15 7 8 6	100 50 61 72 72	- - - -	64 15	15 35	13 41	5 5	3 4 4	NP NP	NP	NP	4 9 10 15 21	A-1-a (0) A-1-b (VISUAL) A-1-b (0) A-1-b (VISUAL) A-1-b (VISUAL)	180 - - - -

SUMMARY OF SOIL TEST DATA
RAMP FROM IR 90 EASTBOUND TO SR 254

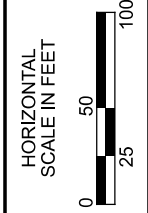
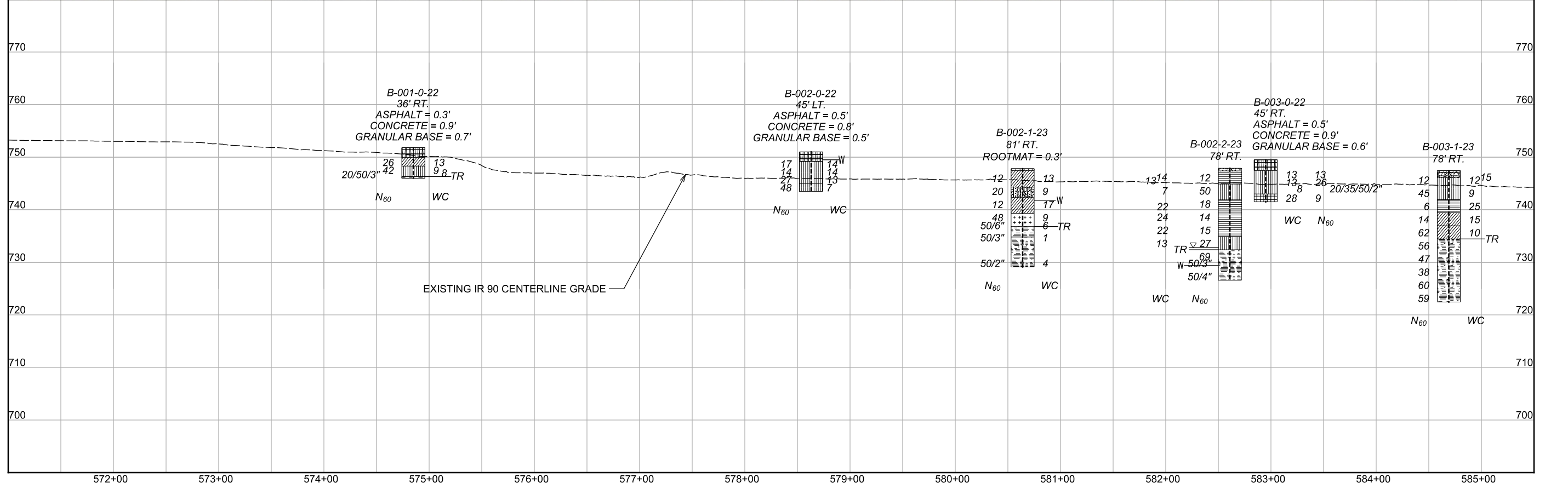
EXPLORATION ID., STATION & OFFSET	FROM - TO	SAMPLE ID	N ₆₀	% REC	tsf HP	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	ppm SO ₄
B-058-1-22 Sta. 823+15, 340' RT Latitude: 41.424548 N Longitude: 82.081754 W	2.0 - 3.5 3.5 - 5.0 5.0 - 6.5 6.5 - 8.0	SS-1 SS-2 SS-3 SS-4	33 21 17 21	100 67 78 83	- 4.5+ 3.0-4.5 4.0-4.5	8 6	20 9	42 11	13 30	17 44 23	18	13	5	8 13 15 14	A-3a (0) A-4a (8) A-4a (VISUAL) A-4a (VISUAL)	433 - - -
B-058-2-22 Sta. 105+76, 134' RT OF SR 254 CL Latitude: 41.424567 N Longitude: 82.081157 W	1.5 - 3.0 3.0 - 4.5 4.5 - 6.0 6.0 - 6.7 6.7 - 6.8 6.8 - 7.5	SS-1 SS-2 SS-3 SS-4A SS-4B SS-4C	47 22 17 10 10 10	67 94 56 100 100 25	- - - -	11 6	26 28	43 52	12 8	8 6 NP	NP	NP	NP	8 17 20 23 31 23	A-3a (0) A-3a (0) A-3a (VISUAL) A-3a (VISUAL) A-6b (VISUAL) A-3a (VISUAL)	213 - - - - -

SUMMARY OF SOIL TEST DATA
RAMP FROM IR 90 WESTBOUND TO SR 254

EXPLORATION ID., STATION & OFFSET	FROM - TO	SAMPLE ID	N ₆₀	% REC	tsf HP	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	ppm SO ₄
B-059-1-22 Sta. 96+79, 226' LT OF SR 254 CL Latitude: 41.425337 N Longitude: 82.084680 W	2.0 - 3.5 3.5 - 5.0 5.0 - 6.5 6.5 - 7.4 7.4 - 8.0	SS-1 SS-2 SS-3 SS-4A SS-4B	26 54 29 35 35	78 100 72 100 86	- 3.0-4.5 4.5+	10 19	18 30	38 27	18 15	16 9 NP	20	15	5	12 10 12 11 13	A-3a (0) A-3a (0) A-6a (VISUAL) A-6a (VISUAL) A-4a (VISUAL)	540 - - - -
B-059-2-22 Sta. 829+45, 193' LT Latitude: 41.425335 N Longitude: 82.083713 W	2.0 - 2.3 2.3 - 3.5 3.5 - 5.0 5.0 - 6.5 6.5 - 7.4 7.4 - 8.0	SS-1A SS-1B SS-2 SS-3 SS-4A SS-4B	25 25 21 17 15 15	100 73 78 72 100 43	3.0 3.0-4.5 3.0-4.5 -	4 7	6 9	11 32	26 26 26	26 35 27 16	35 18 11	17 11	17	12 15 15 21 15	A-4a (VISUAL) A-6b (11) A-6a (4) A-2-6 (VISUAL) A-2-6 (VISUAL) A-6a (VISUAL)	- 400 - - -

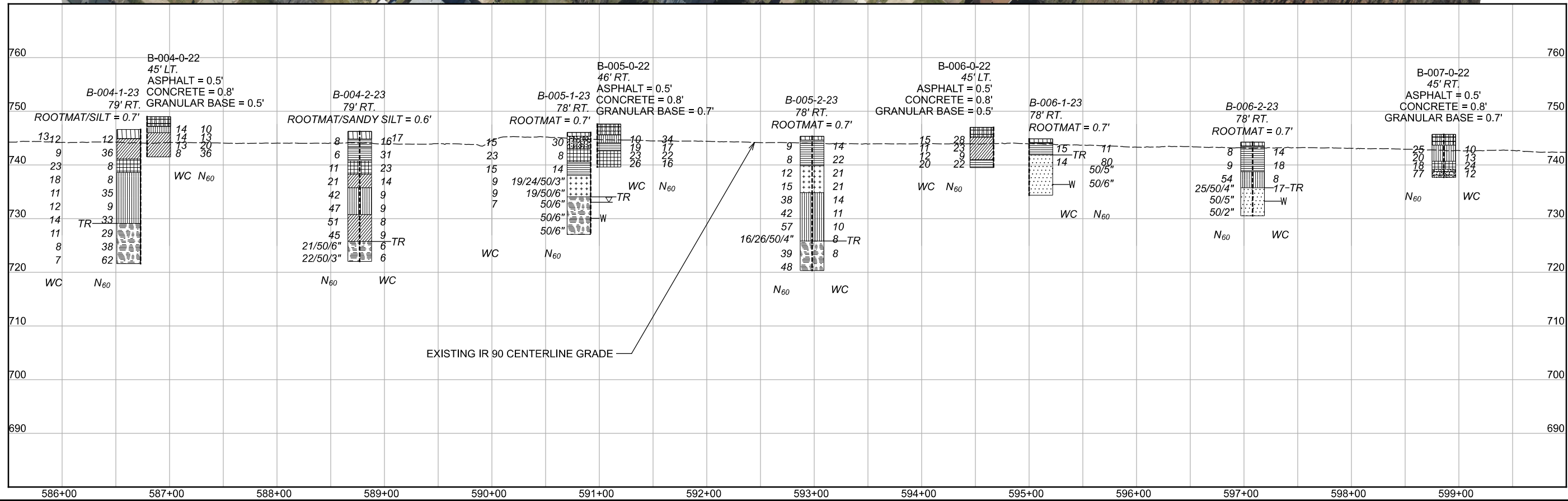
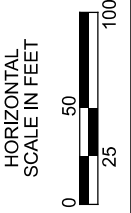
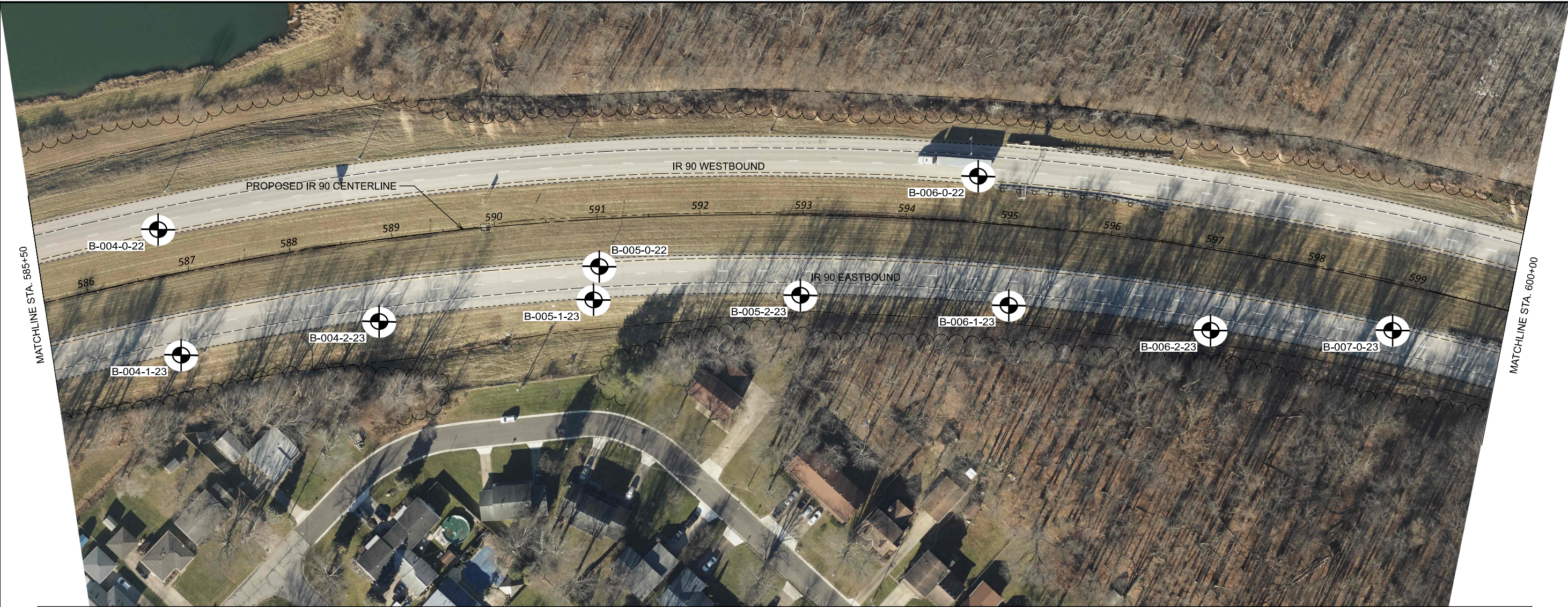
SUMMARY OF SOIL TEST DATA
RAMP FROM SR 254 TO IR 90 EASTBOUND

EXPLORATION ID., STATION & OFFSET	FROM - TO	SAMPLE ID	N ₆₀	% REC	tsf HP	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	ppm SO ₄
B-060-1-22 Sta. 106+11, 155' LT OF SR 254 CL Latitude: 41.425337 N Longitude: 82.0814366 W	1.5 - 3.0 3.0 - 3.3 3.3 - 4.5 4.5 - 6.0 6.0 - 7.5	SS-1 SS-2A SS-2B SS-3 SS-4	31 40 40 40 32	78 100 93 94 89	3.5-4.5 4.5+	10 8	10 19	14 45	26 15	40 13 NP	28	17	11	11 14 9 9	A-6a (7) A-6a (VISUAL) A-3a (0) A-3a (VISUAL) A-3a (VISUAL)	913 - - - -
B-060-2-22 Sta. 831+68, 209' RT Latitude: 41.426154 N Longitude: 82.082256 W	2.1 - 3.6 3.6 - 5.1 5.1 - 5.8 5.8 - 6.6 6.6 - 8.1	SS-1 SS-2 SS-3A SS-3B SS-4	17 11 25 25 75	94 72 100 80 100	3.5-4.5 3.5-4.5 3.0-4.5 -	5 5	9 9	14 17	33 25	39 44 NP	27 29	15 17	12 12	12 13 10 9	A-6a (8) A-6a (8) A-6a (VISUAL) A-3a (VISUAL) A-3a (VISUAL)	853 - - - -



GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 571+00 TO STA. 585+50

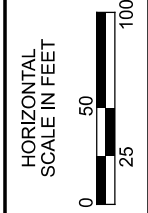
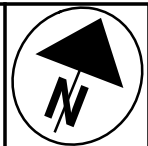
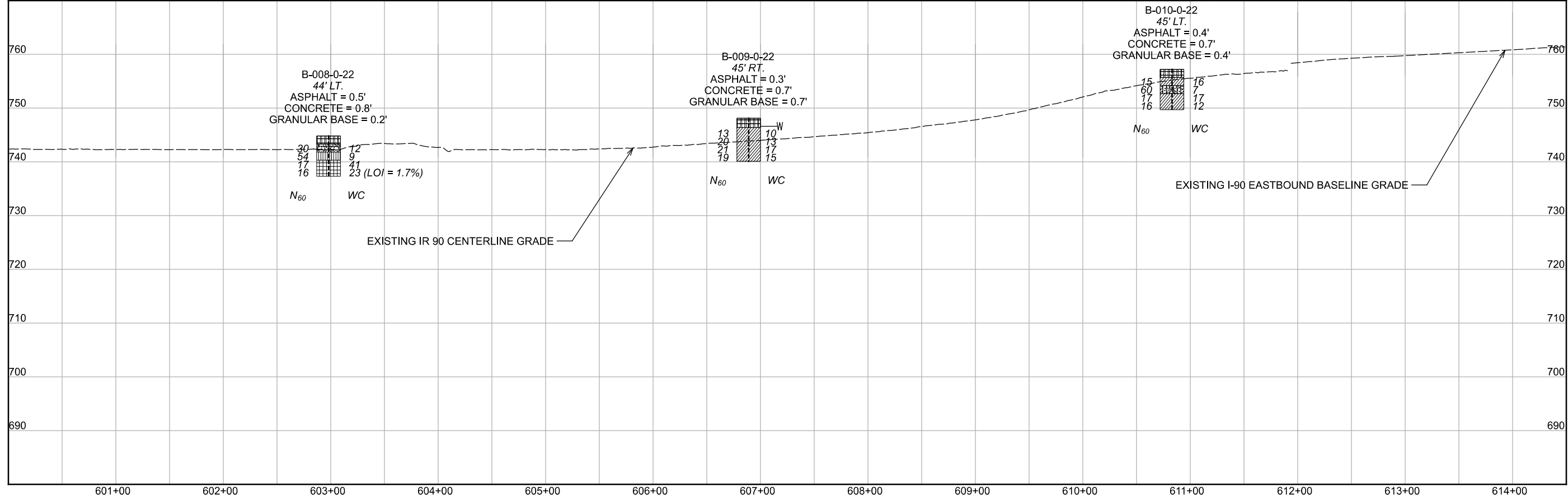
DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-17-23	
PROJECT ID	
107714	
SUBSET	TOTAL
8	99
SHEET	TOTAL
X	X



GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 585+50 TO STA. 600+00

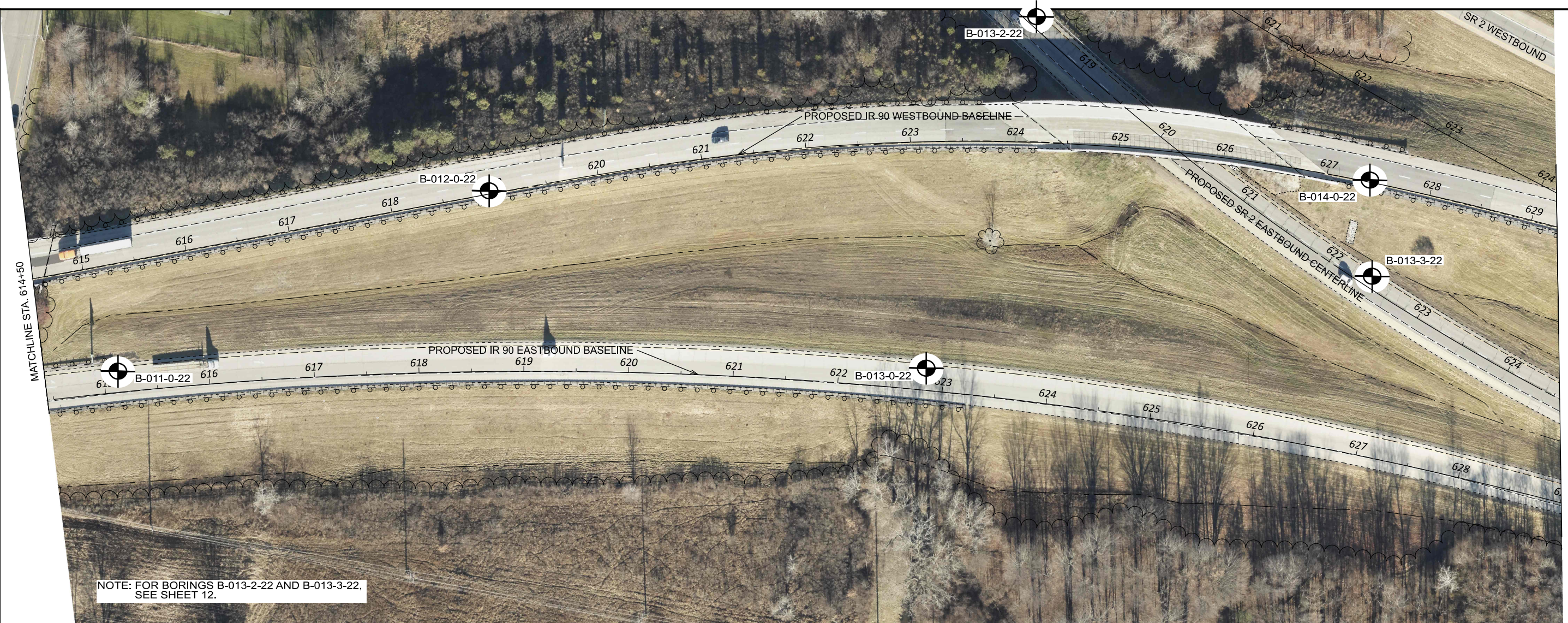
DESIGN AGENCY

 DESIGNER
KAH
 REVIEWER
BKS 9-7-23
 PROJECT ID
107714
 SUBSET TOTAL
9 99
 SHEET TOTAL
X X

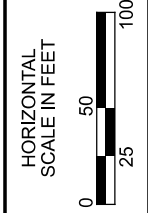
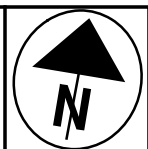
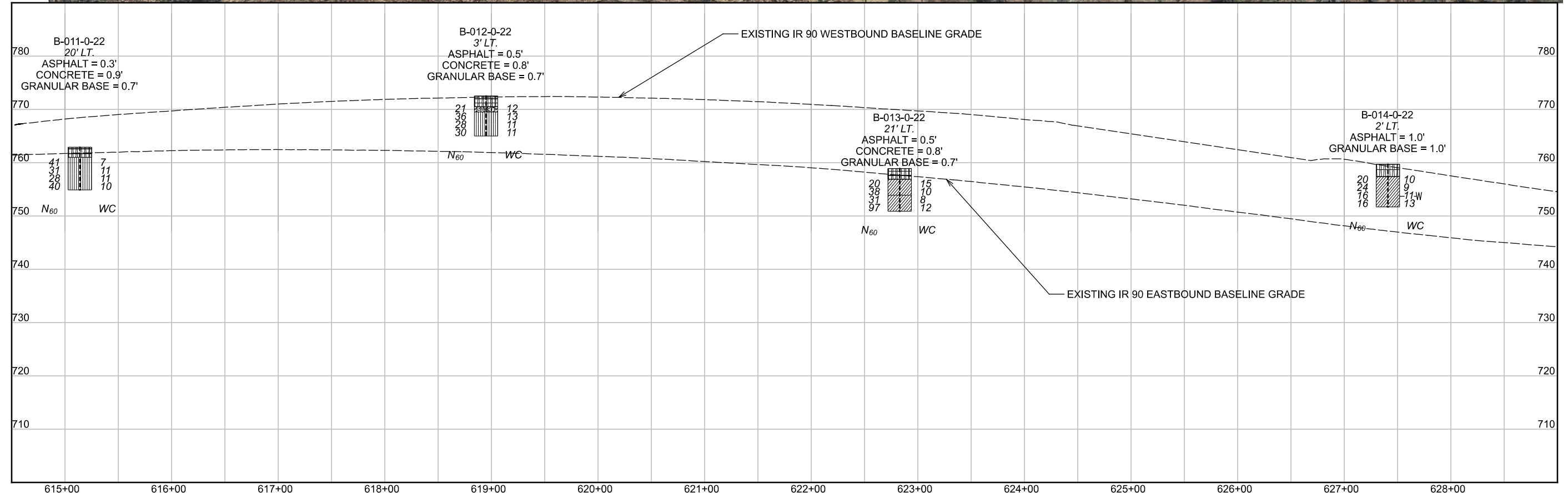


GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 600+00 TO STA. 614+50

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-17-23	
PROJECT ID	
107714	
SUBSET	TOTAL
10	99
SHEET	TOTAL
X	X

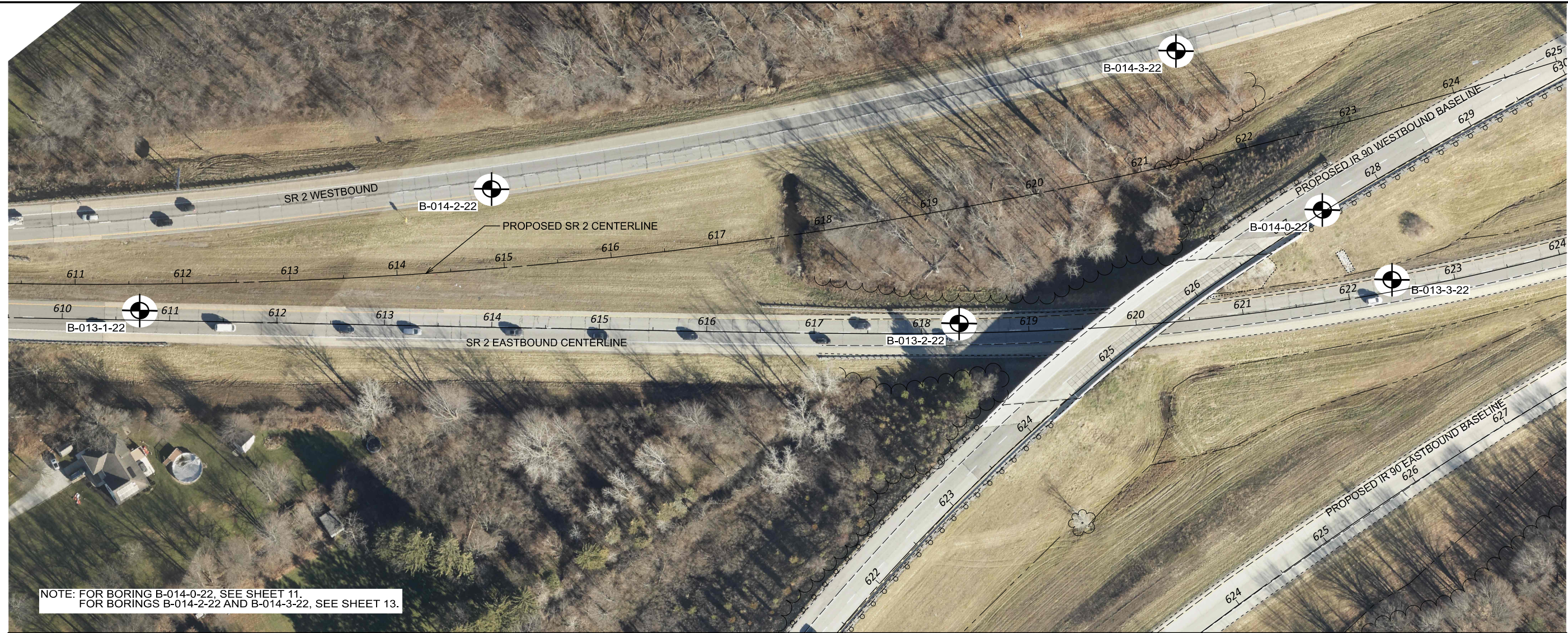


NOTE: FOR BORINGS B-013-2-22 AND B-013-3-22, SEE SHEET 12.

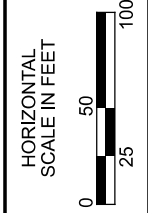
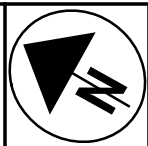
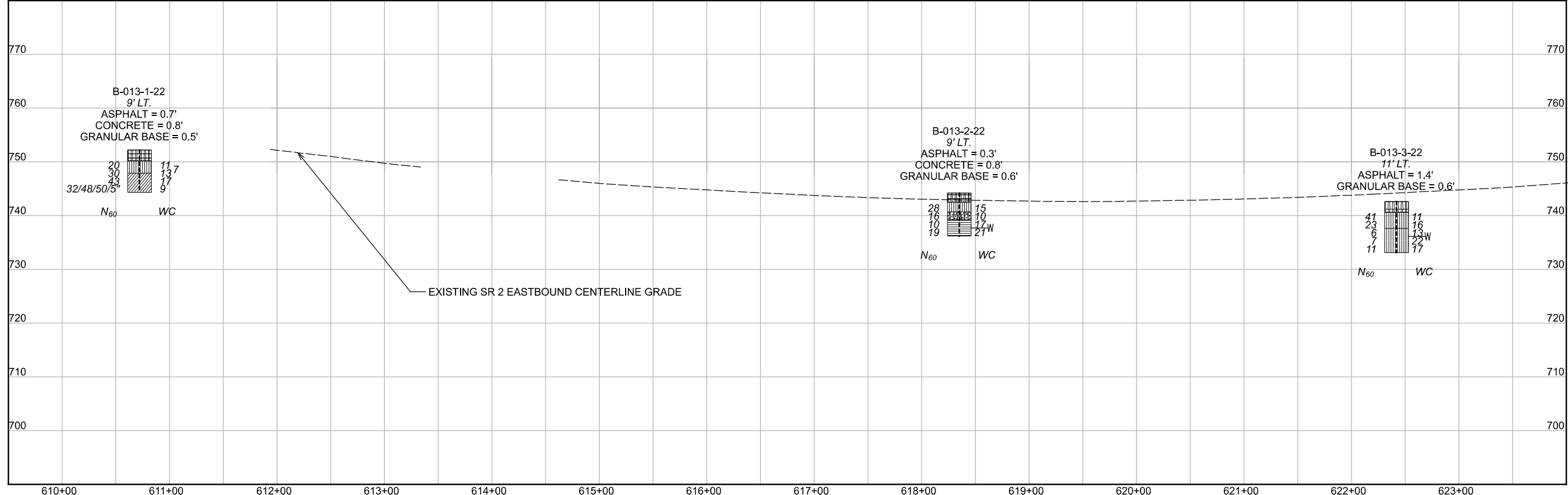


GEOTECHNICAL PROFILE - ROADWAY
 LOR-90-10.76
 STA. 614+50 TO STA. 629+00

DESIGN AGENCY	
DESIGNER	KAH
REVIEWER	BKS 11-17-23
PROJECT ID	107714
SUBSET	TOTAL
11	99
SHEET	TOTAL
X	X



NOTE: FOR BORING B-014-0-22, SEE SHEET 11.
FOR BORINGS B-014-2-22 AND B-014-3-22, SEE SHEET 13.

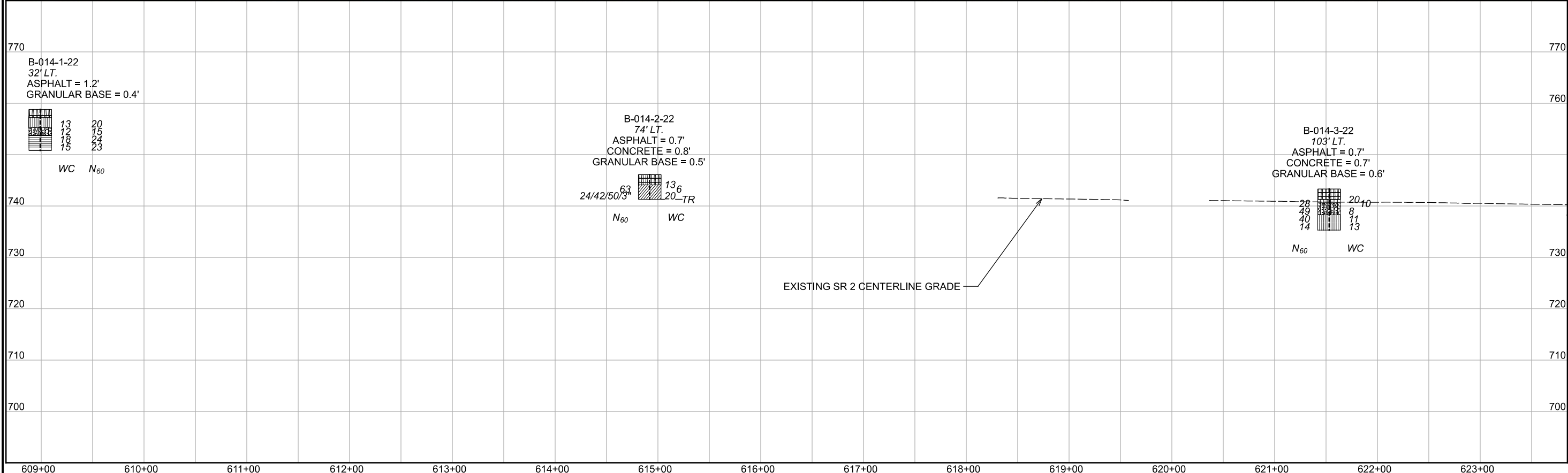


GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 609+50 TO STA. 624+00 - SR 2 EASTBOUND

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-17-23	
PROJECT ID	
107714	
SUBSET	TOTAL
12	99
SHEET	TOTAL
X	X



NOTE: FOR BORINGS B-013-1-22, B-013-2-22 AND B-013-3-22, SEE SHEET 12. FOR BORING B-014-0-22, SEE SHEET 11.



HORIZONTAL SCALE IN FEET

GEOTECHNICAL PROFILE - ROADWAY
 LOR-90-10.76
 STA. 609+00 TO STA. 624+00 - SR 2

DESIGN AGENCY

DESIGNER

KAH

REVIEWER

BKS 11-17-23

PROJECT ID

107714

SUBSET

13

TOTAL

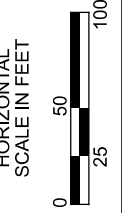
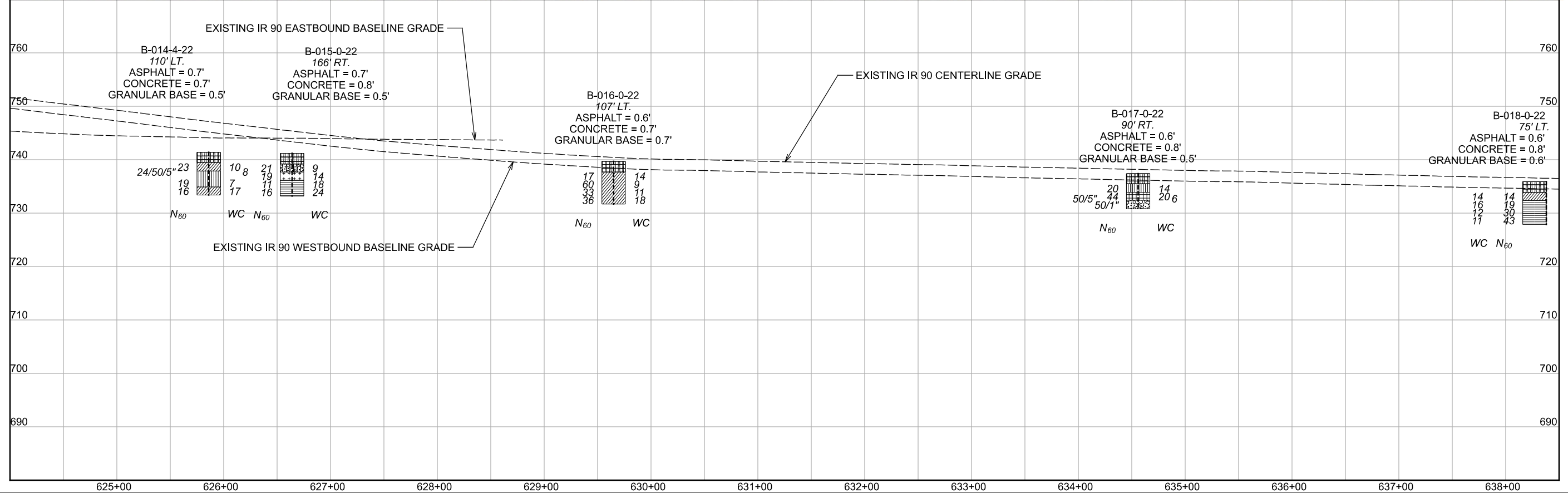
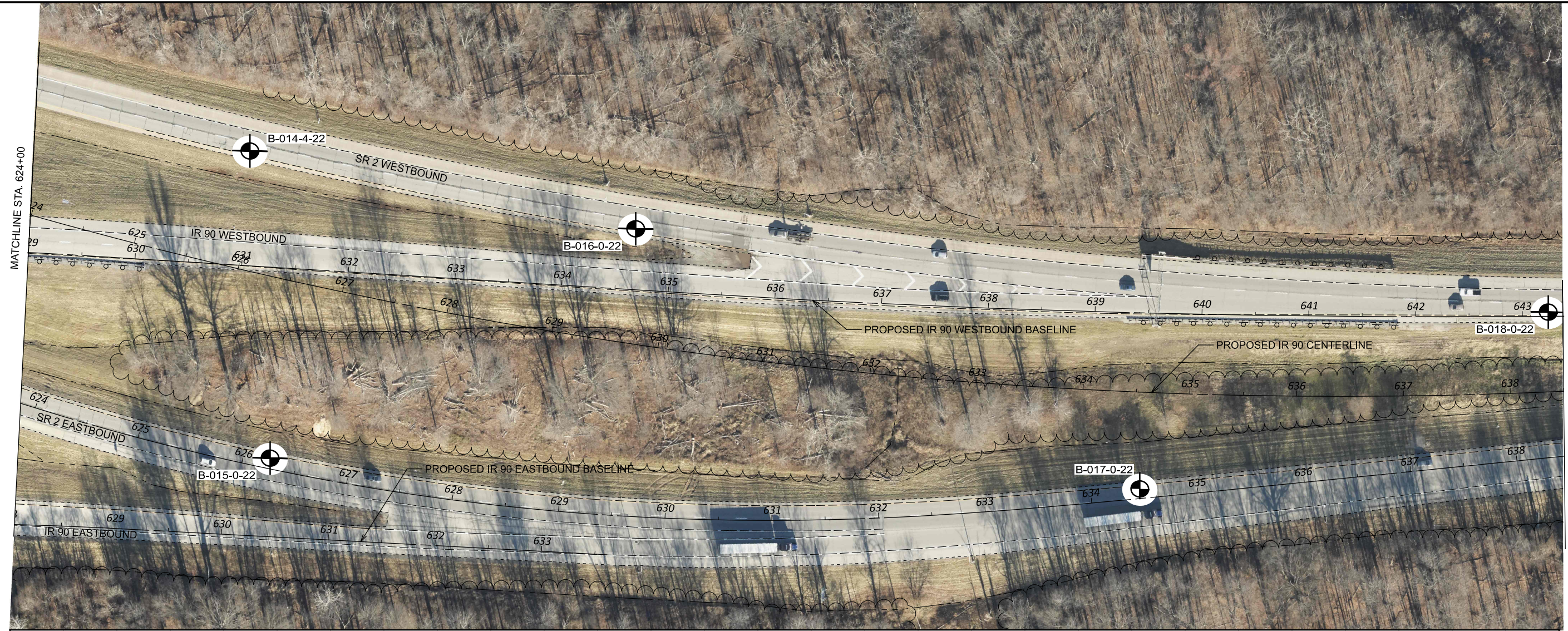
99

SHEET

X

TOTAL

X



MATCHLINE STA. 638+50

GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 624+00 TO STA. 638+50

DESIGN AGENCY



DESIGNER

KAH

REVIEWER

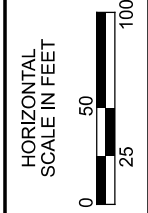
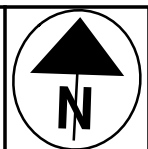
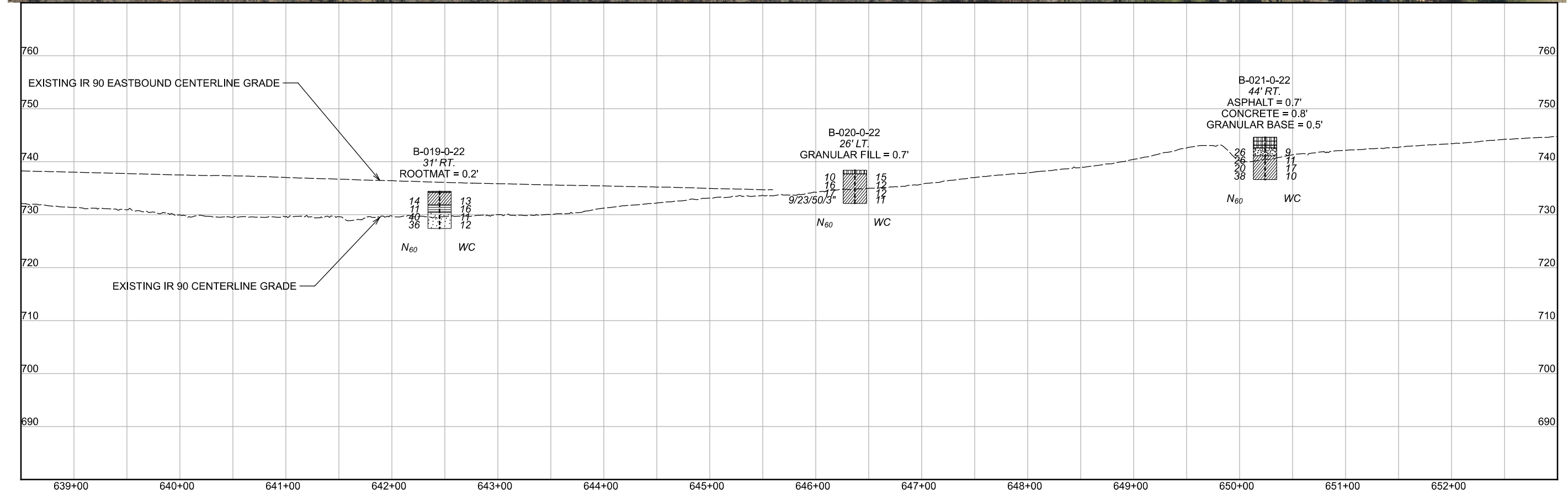
BKS 11-17-23

PROJECT ID

107714

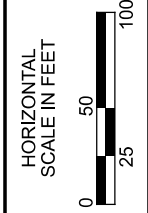
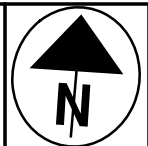
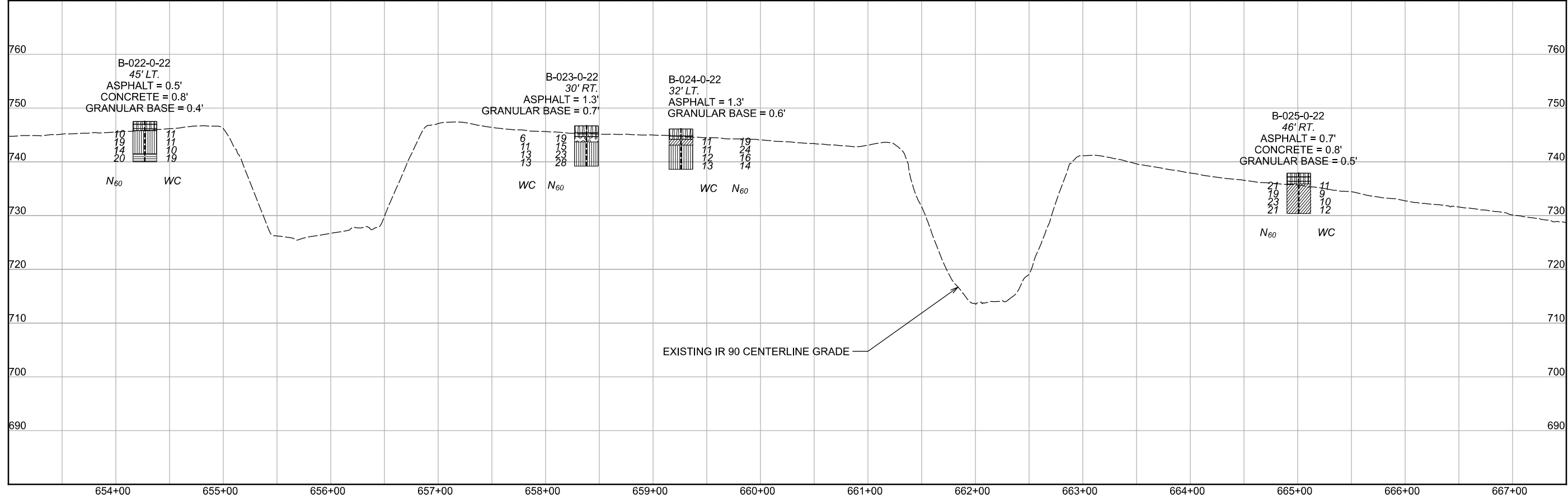
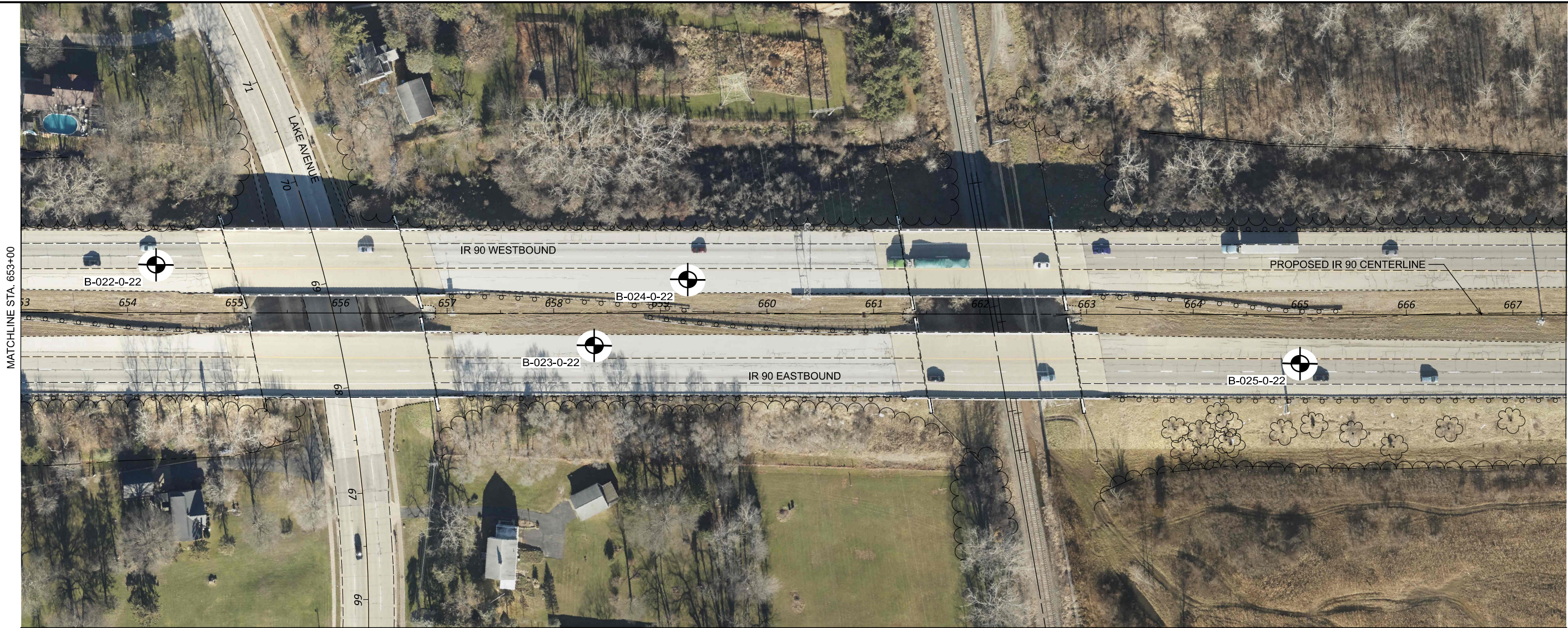
SUBSET	TOTAL
14	99

SHEET	TOTAL
X	X



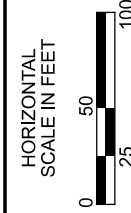
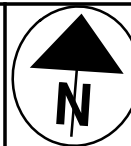
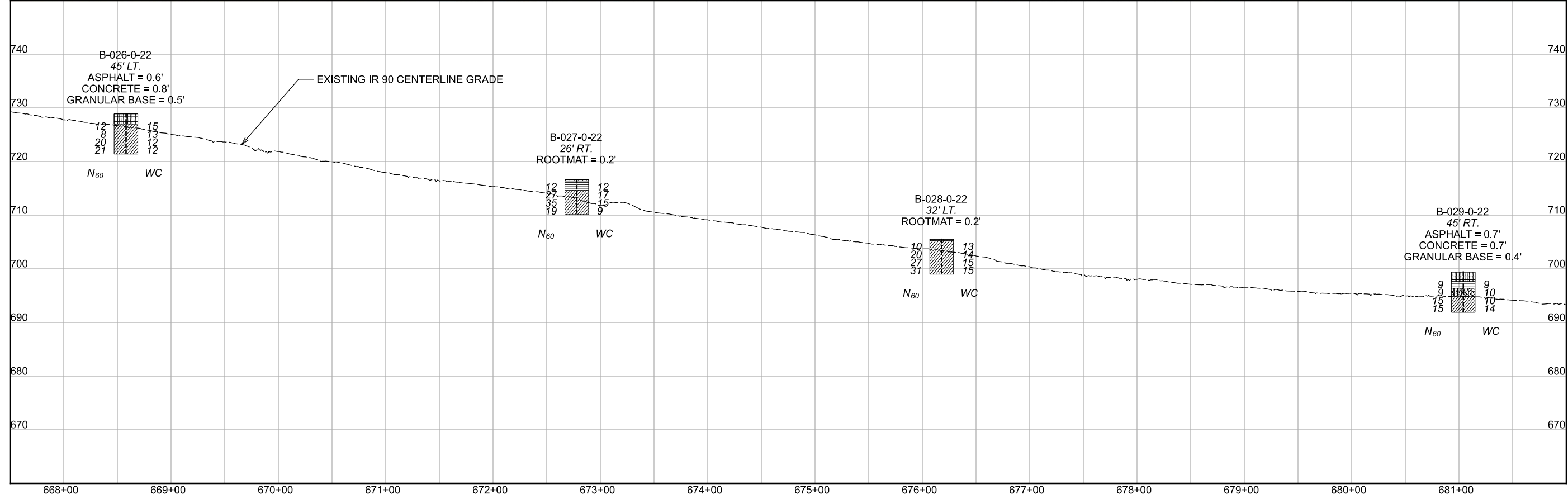
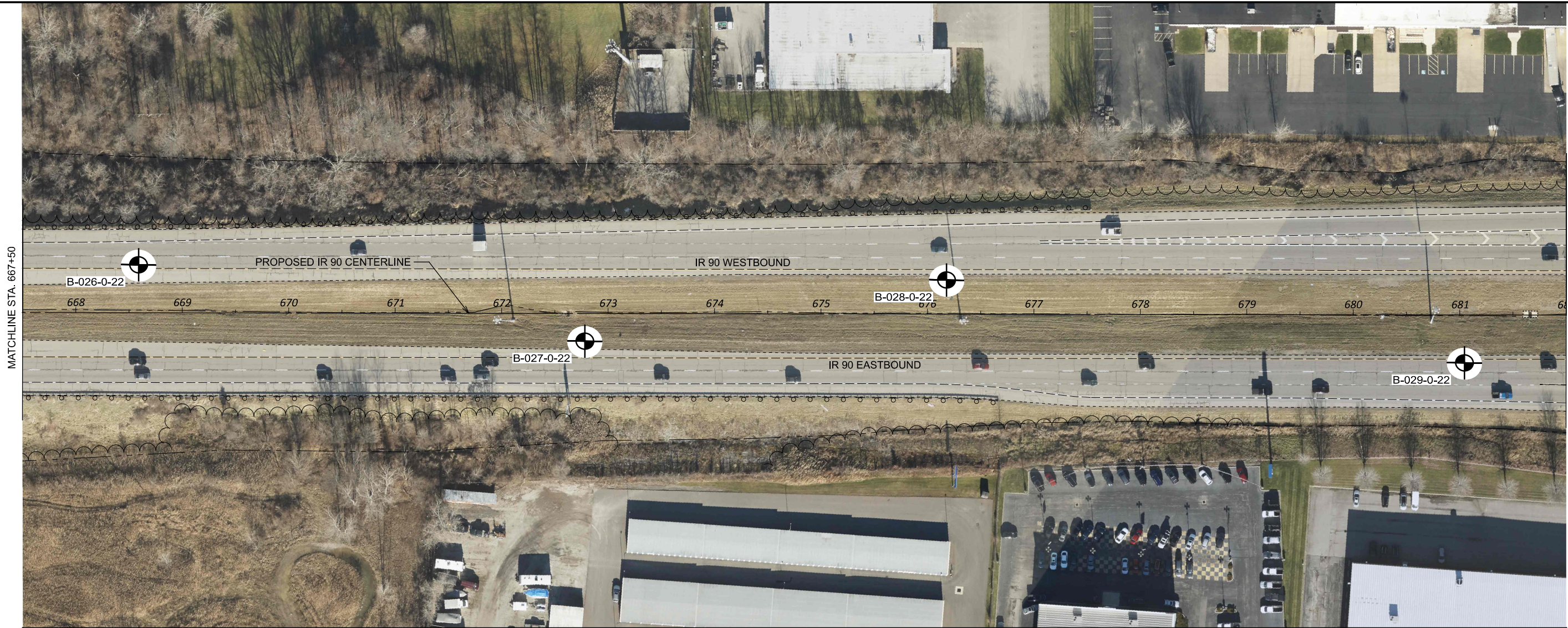
GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 638+50 TO STA. 653+00

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-17-23	
PROJECT ID	
107714	
SUBSET	TOTAL
15	99
SHEET	TOTAL
X	X



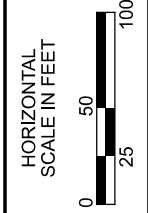
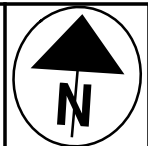
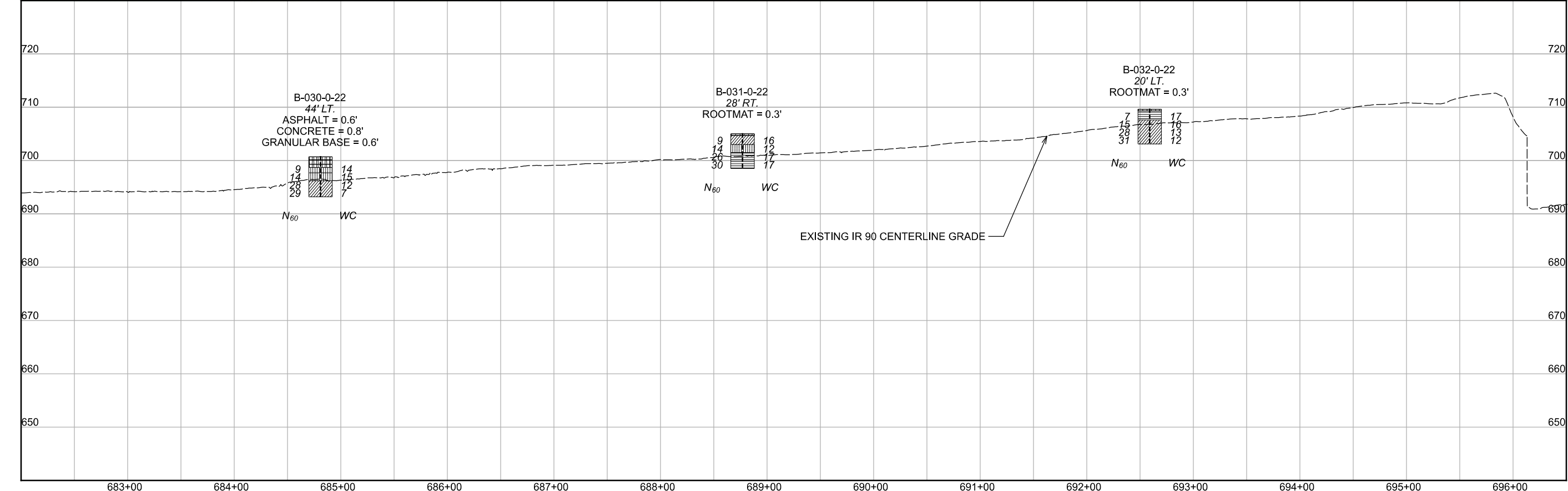
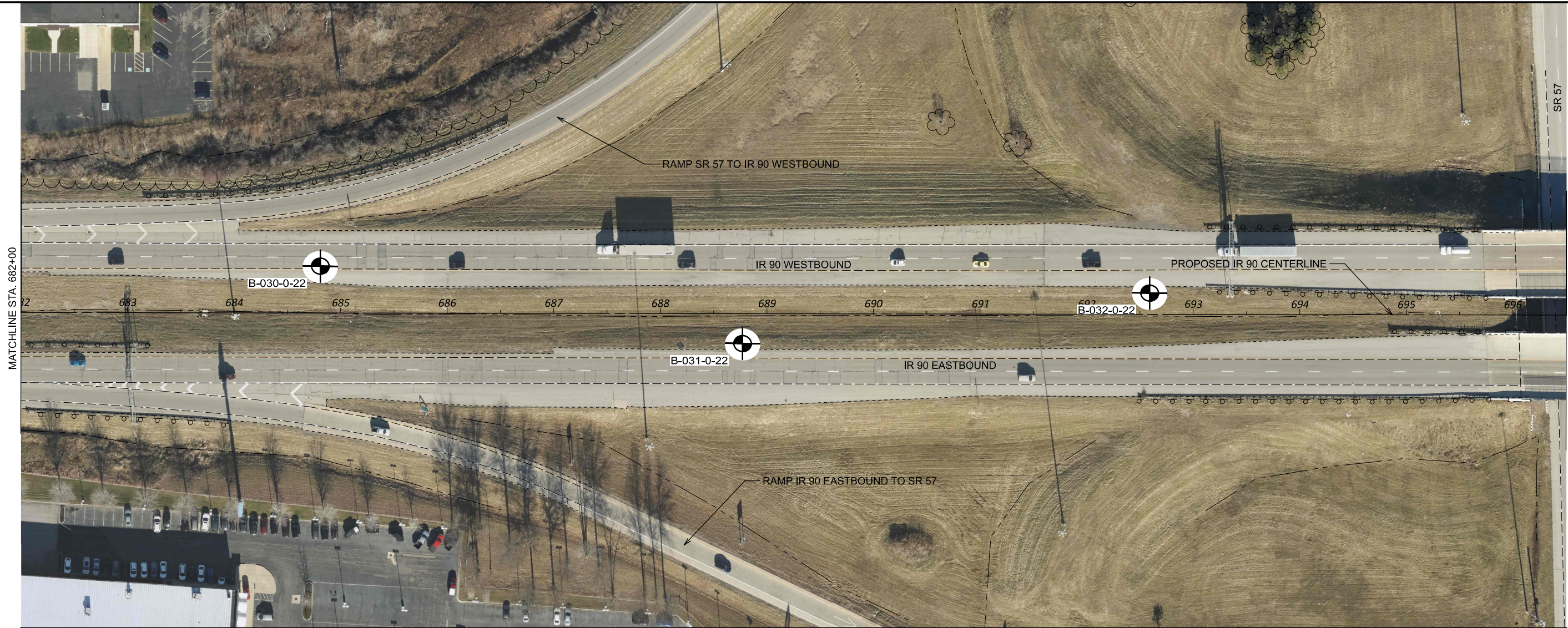
GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 653+00 TO STA. 667+50

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-18-23	
PROJECT ID	
107714	
SUBSET	TOTAL
16	99
SHEET	TOTAL
X	X



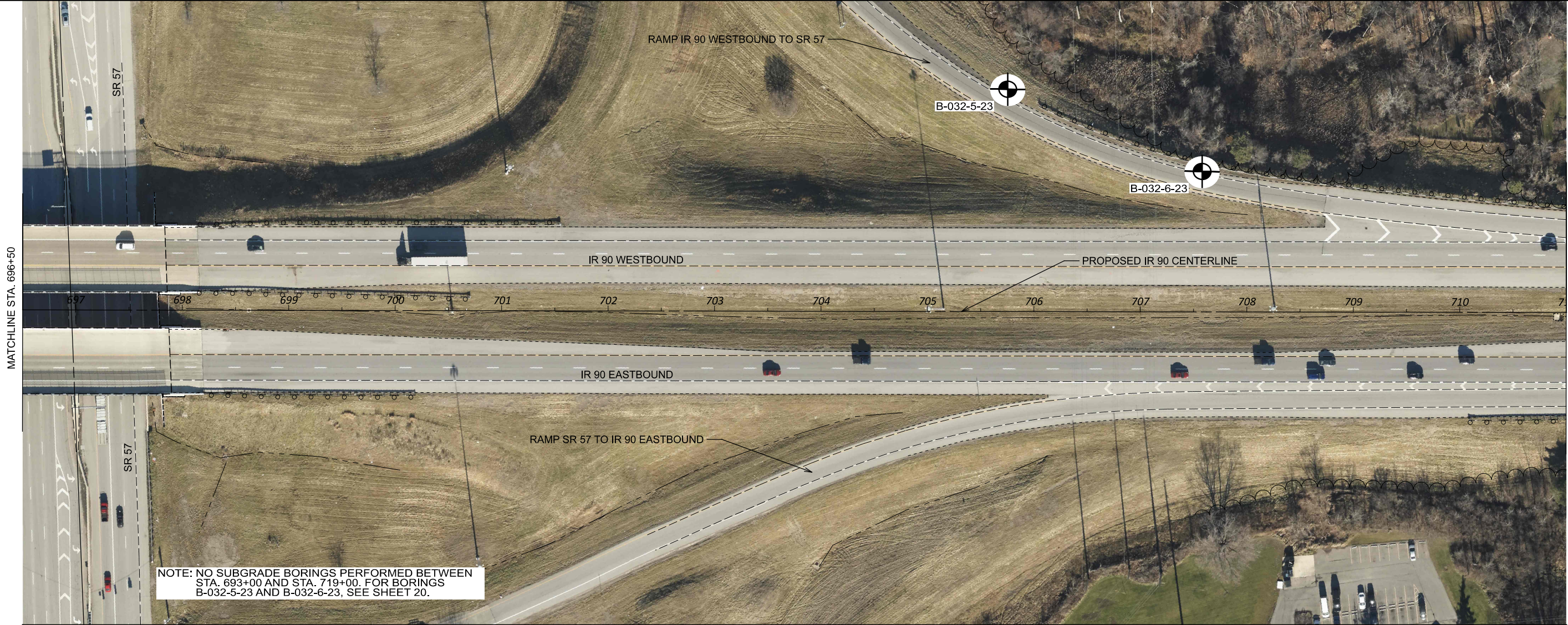
GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 667+50 TO STA. 682+00

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-18-23	
PROJECT ID	
107714	
SUBSET	TOTAL
17	99
SHEET	TOTAL
X	X

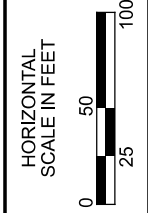
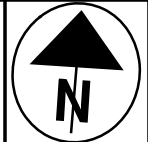


GEOTECHNICAL PROFILE - ROADWAY
 LOR-90-10.76
 STA. 682+00 TO STA. 696+50

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-18-23	
PROJECT ID	
107714	
SUBSET	TOTAL
18	99
SHEET	TOTAL
X	X



NOTE: NO SUBGRADE BORINGS PERFORMED BETWEEN STA. 693+00 AND STA. 719+00. FOR BORINGS B-032-5-23 AND B-032-6-23, SEE SHEET 20.



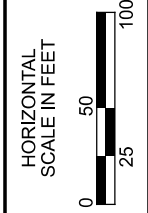
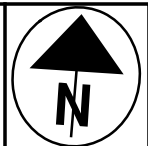
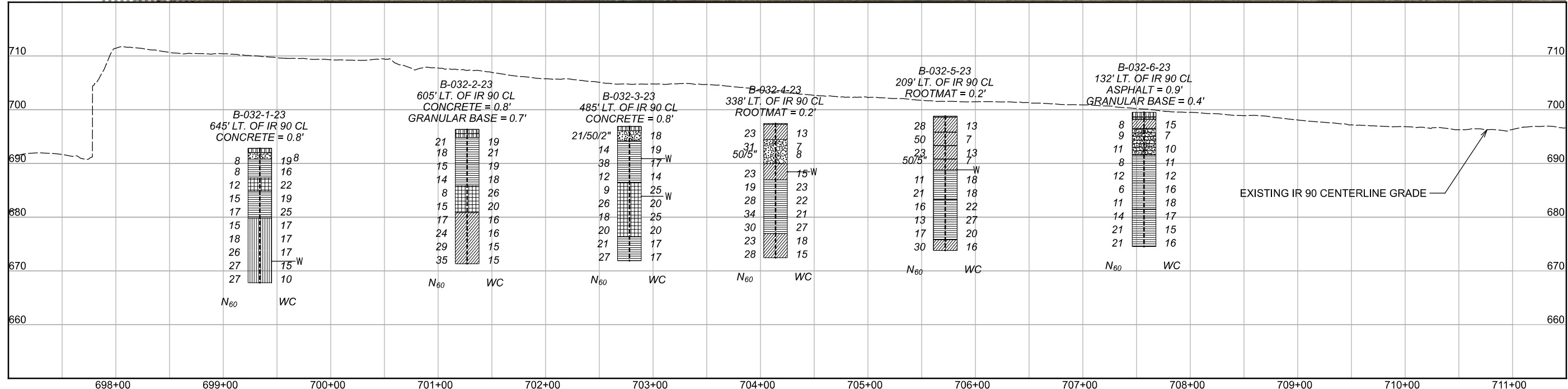
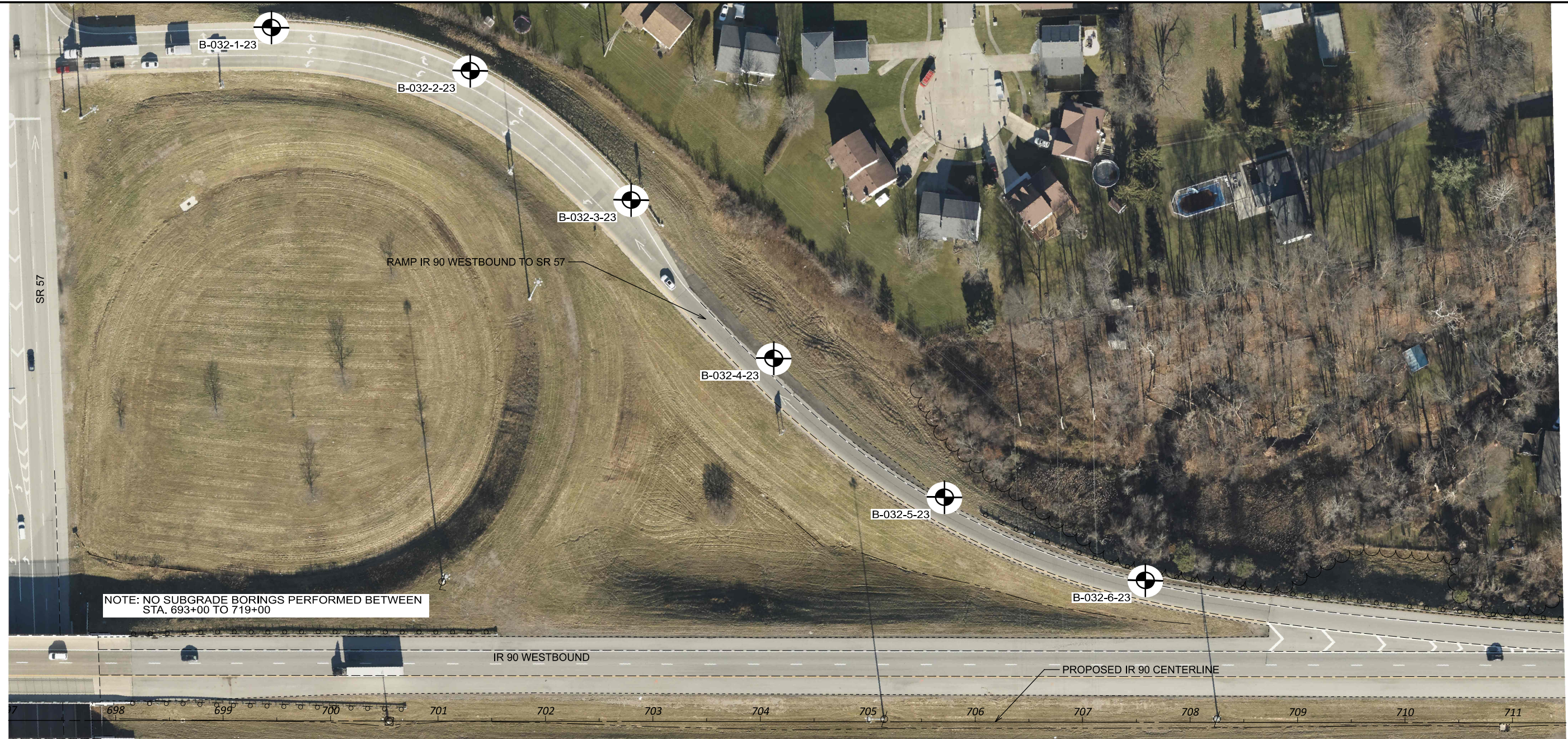
GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 696+50 TO STA. 711+00



DESIGNER	
KAH	
REVIEWER	
BKS 11-18-23	
PROJECT ID	
107714	
SUBSET	TOTAL
19	99
SHEET	TOTAL
X	X

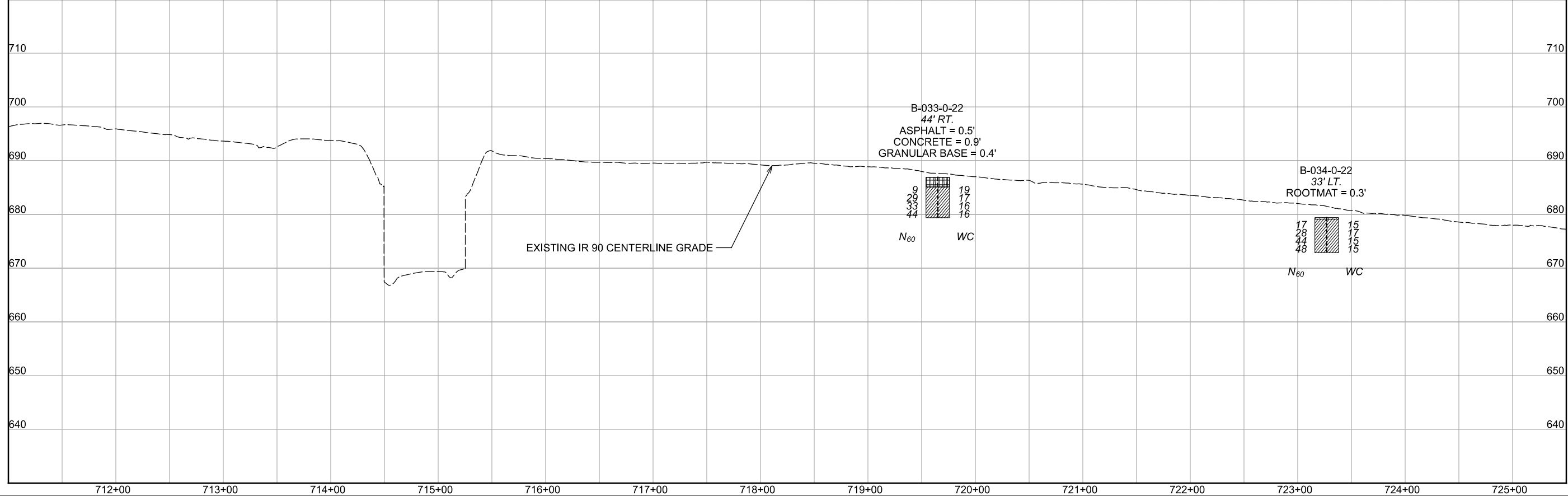
MATCHLINE STA. 696+50


MATCHLINE STA. 711+00




GEOTECHNICAL PROFILE - ROADWAY
 LOR-90-10.76
 RAMP IR 90 WESTBOUND TO SR 57

DESIGN AGENCY	
DESIGNER	KAH
REVIEWER	BKS 11-17-23
PROJECT ID	107714
SUBSET	TOTAL
20	99
SHEET	TOTAL
X	X






HORIZONTAL SCALE IN FEET



GEOTECHNICAL PROFILE - ROADWAY
 LOR-90-10.76
 STA. 711+00 TO STA. 725+50

DESIGN AGENCY



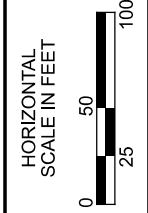
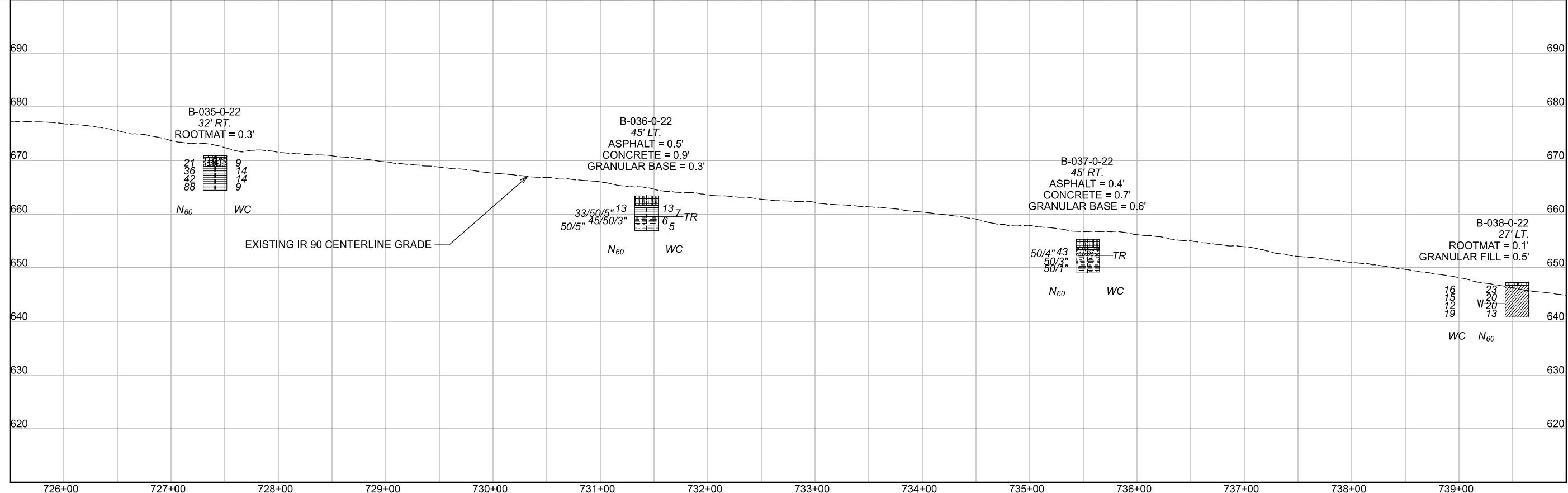
DESIGNER
KAH

REVIEWER
BKS 11-18-23

PROJECT ID
107714

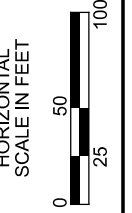
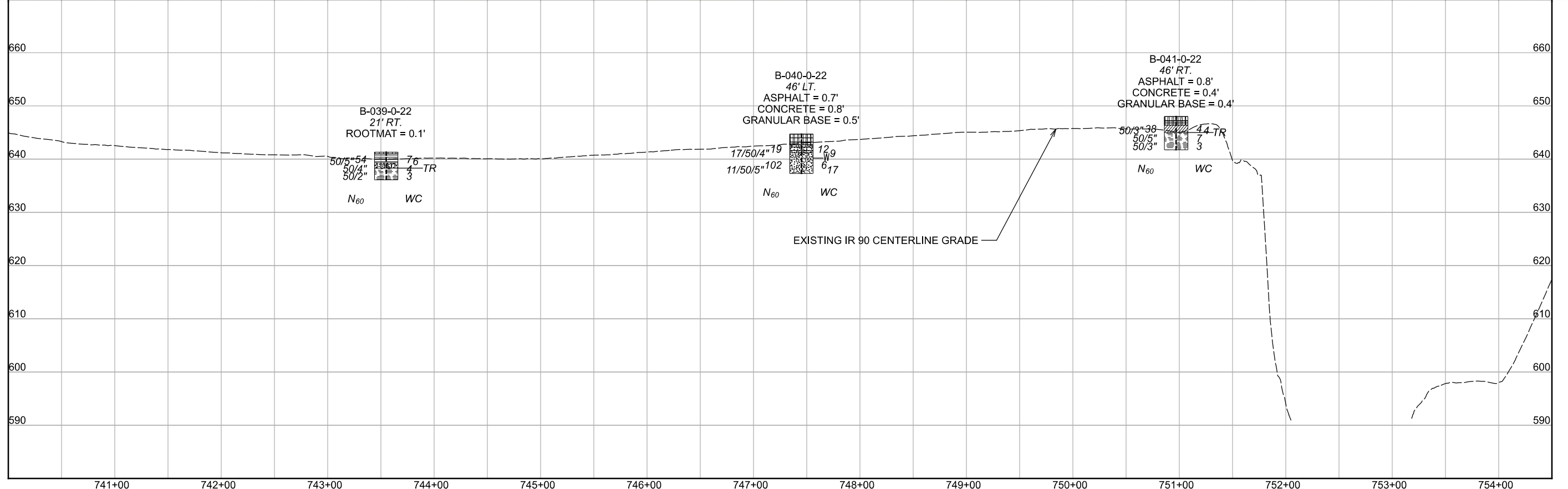
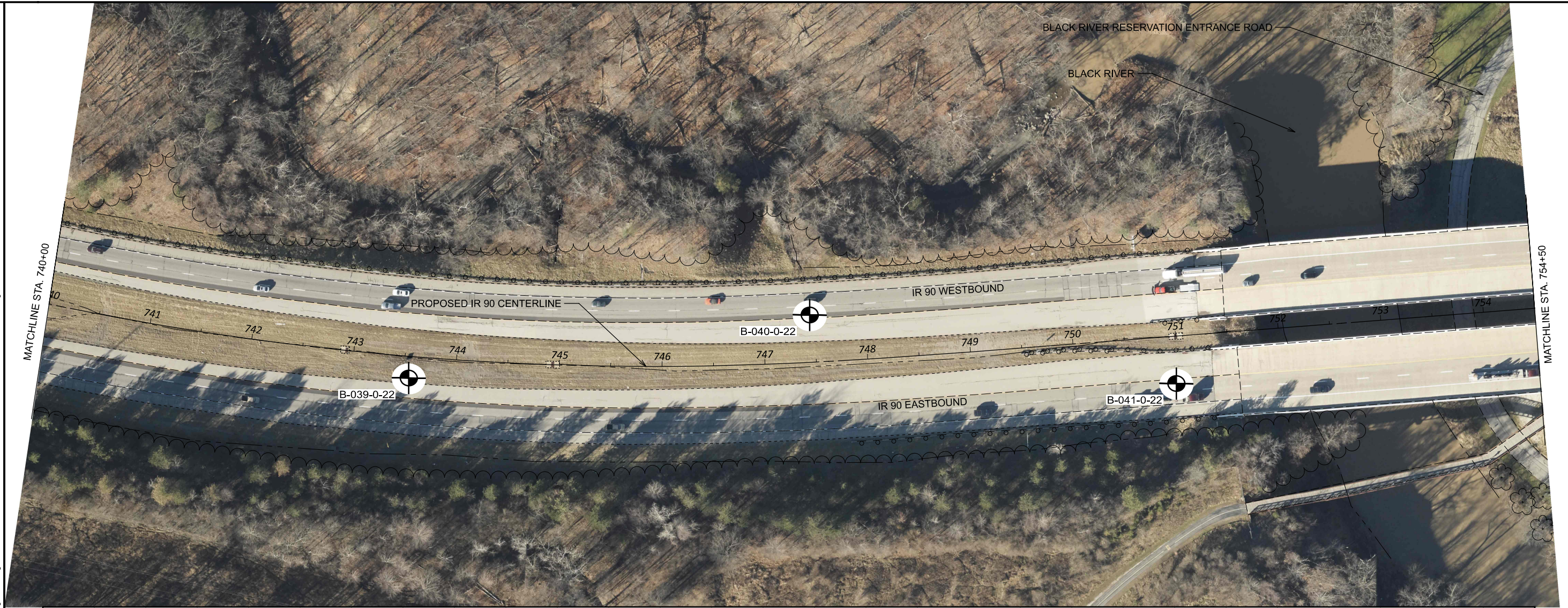
SUBSET	TOTAL
21	99

SHEET	TOTAL
X	X



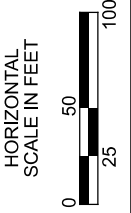
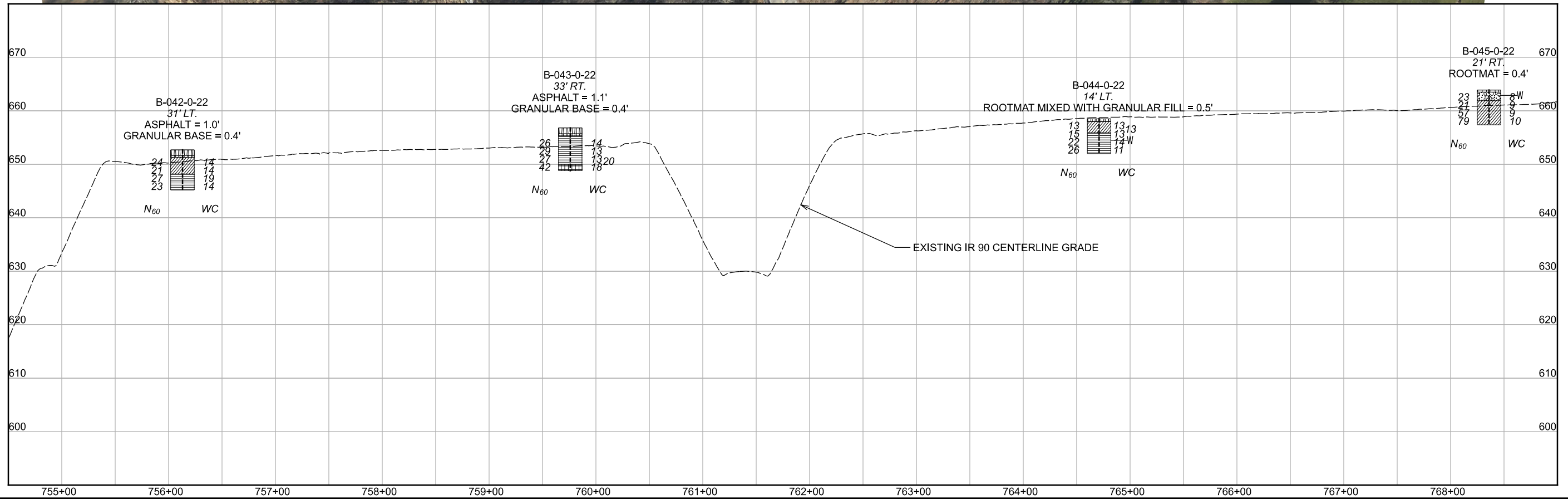
GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 725+50 TO STA. 740+00

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-17-23	
PROJECT ID	
107714	
SUBSET	TOTAL
22	99
SHEET	TOTAL
X	X



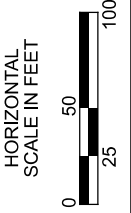
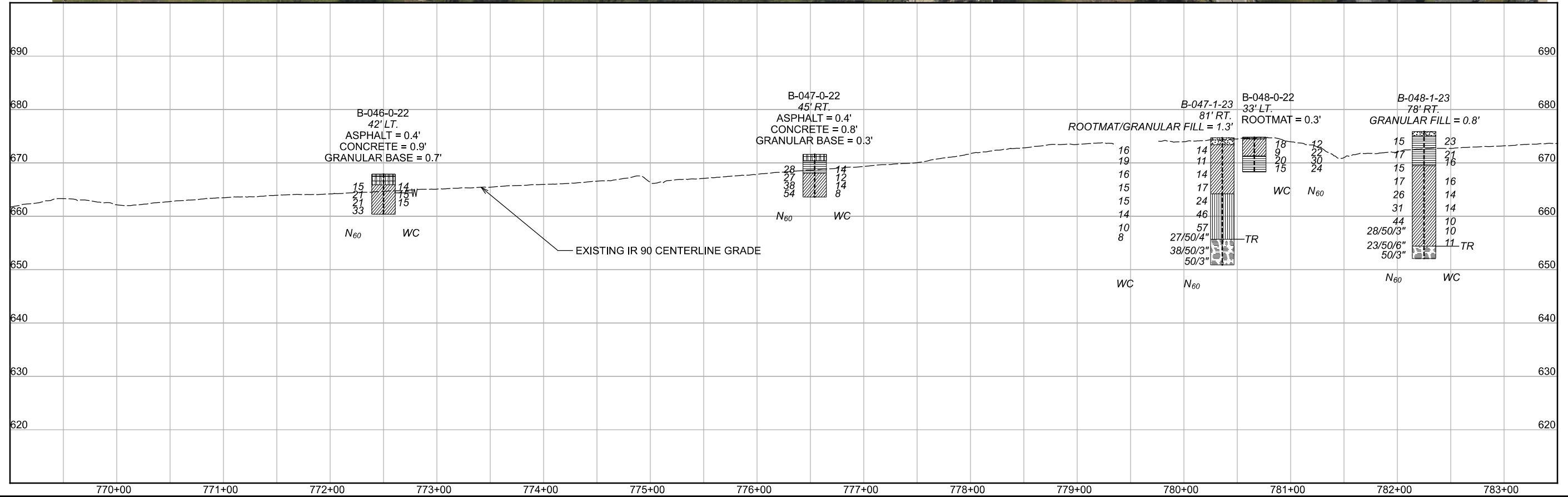
GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 740+00 TO STA. 754+50

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-18-23	
PROJECT ID	
107714	
SUBSET	TOTAL
23	99
SHEET	TOTAL
X	X



GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 754+50 TO STA. 769+00

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-17-23	
PROJECT ID	
107714	
SUBSET	TOTAL
24	99
SHEET	TOTAL
X	X

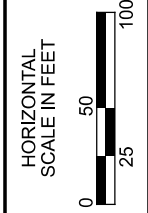
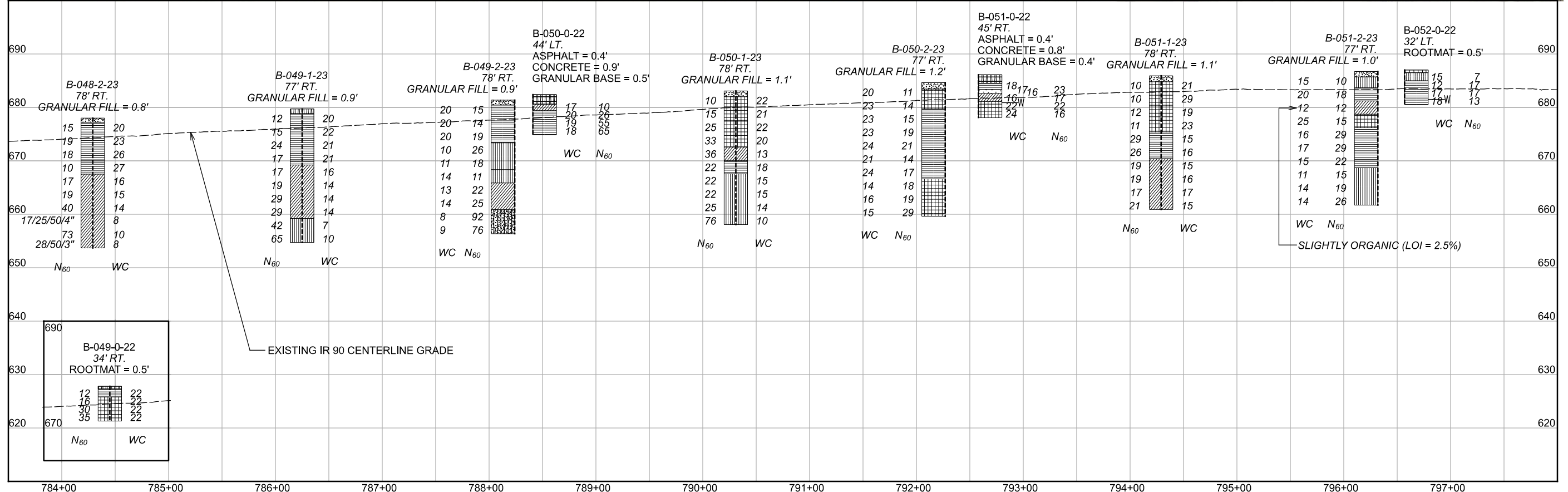


GEOTECHNICAL PROFILE - ROADWAY
 LOR-90-10.76
 STA. 769+00 TO STA. 783+50

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-18-23	
PROJECT ID	
107714	
SUBSET	TOTAL
25	99
SHEET	TOTAL
X	X

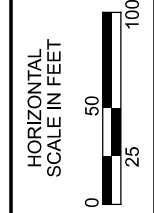
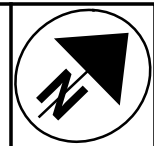
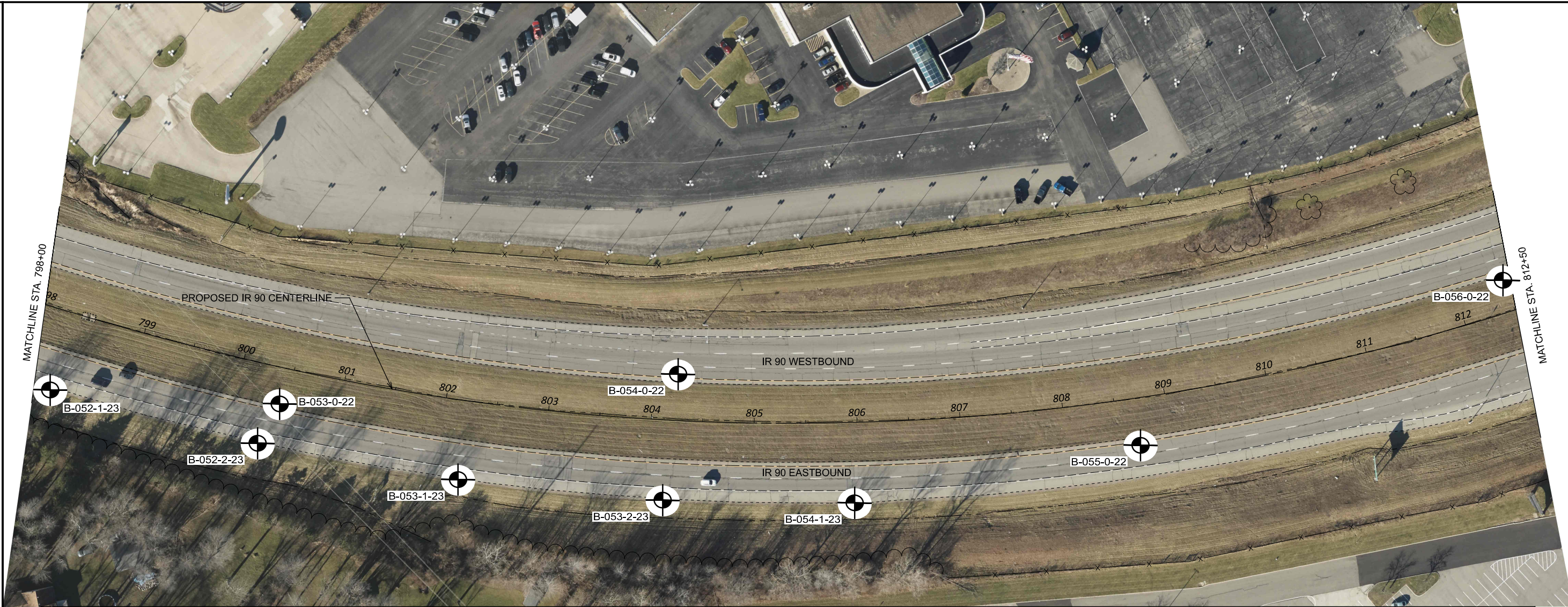
MATCHLINE STA. 783+50

MATCHLINE STA. 798+00

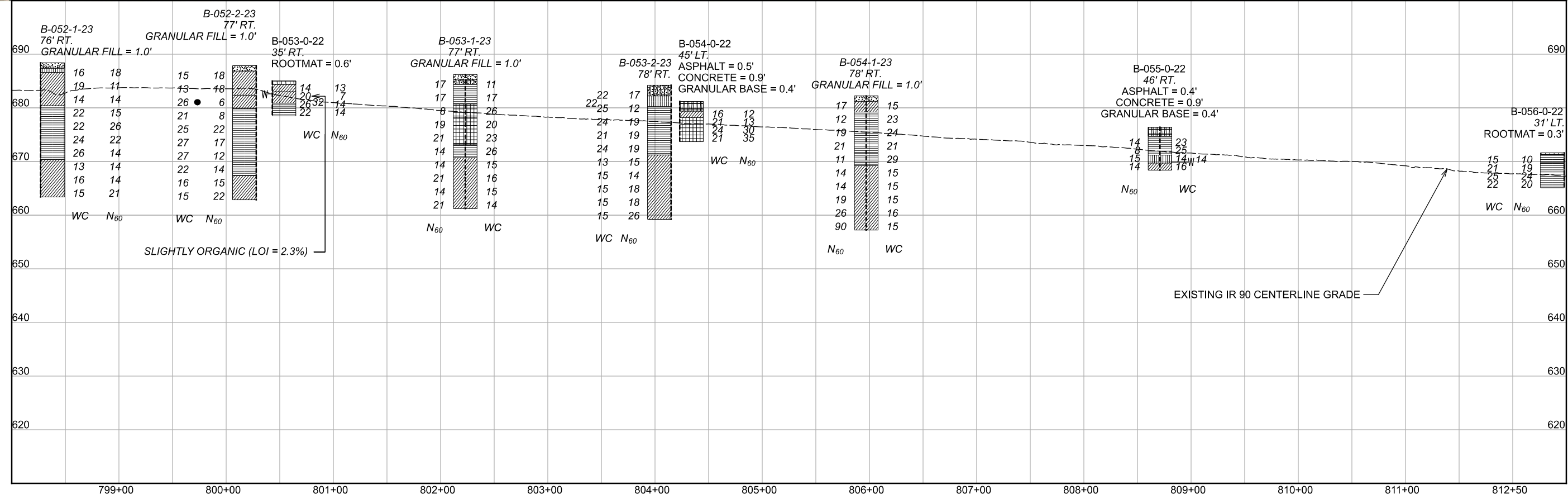


GEOTECHNICAL PROFILE - ROADWAY
 LOR-90-10.76
 STA. 783+50 TO STA. 798+00

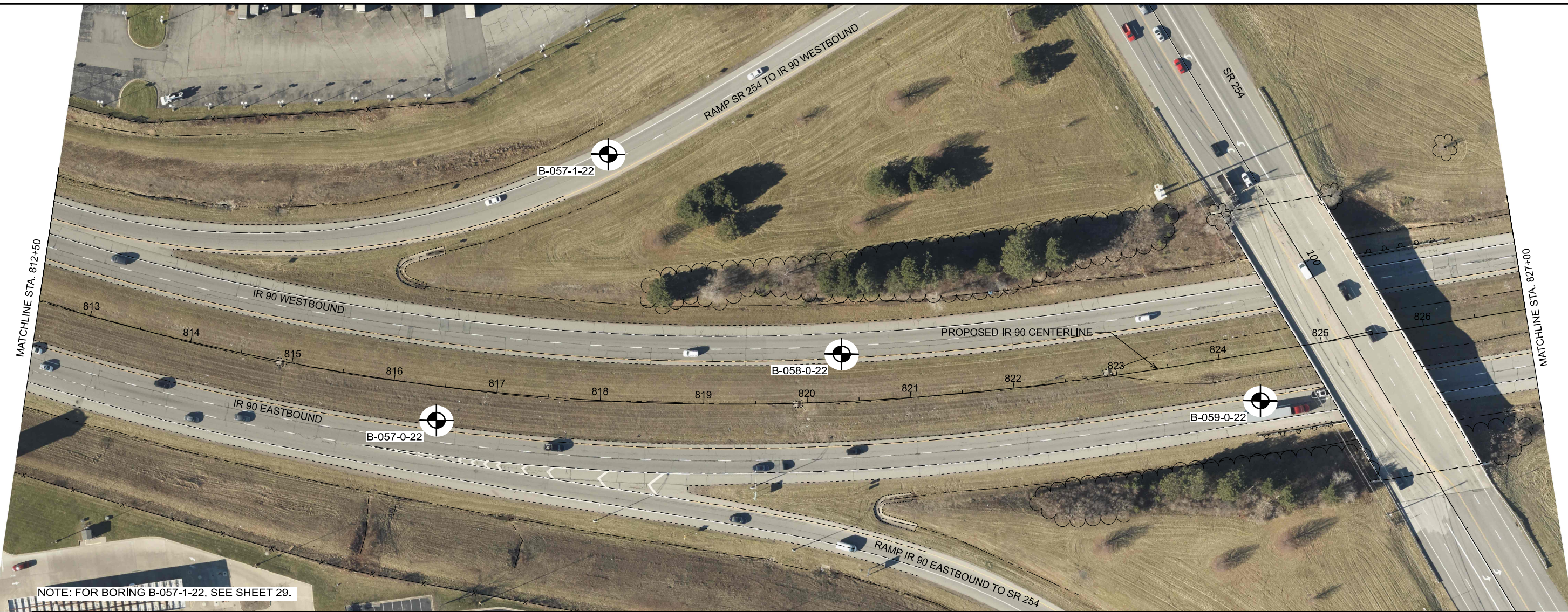
DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-19-23	
PROJECT ID	
107714	
SUBSET	TOTAL
26	99
SHEET	TOTAL
X	X



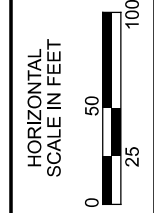
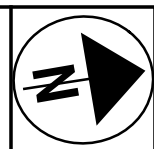
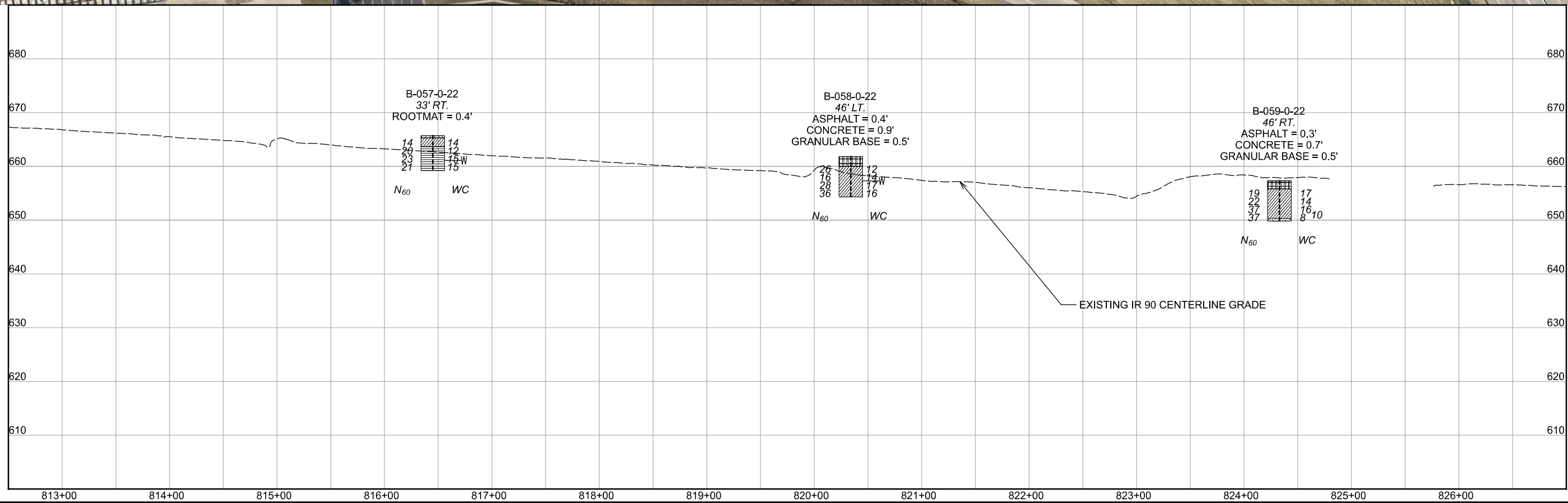
GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 798+00 TO STA. 812+50



DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-19-23	
PROJECT ID	
107714	
SUBSET	TOTAL
27	99
SHEET	TOTAL
X	X

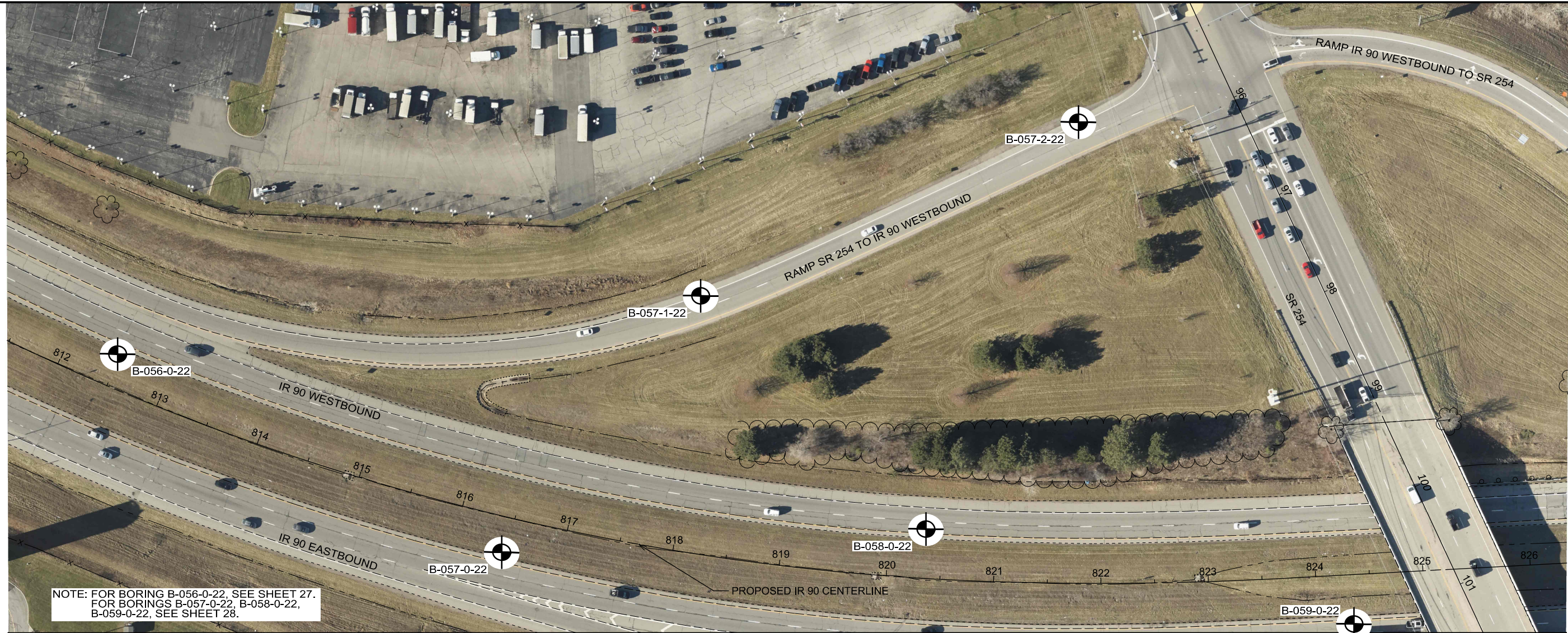


NOTE: FOR BORING B-057-1-22, SEE SHEET 29.

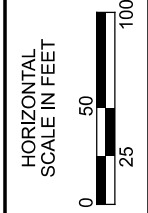
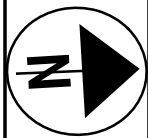
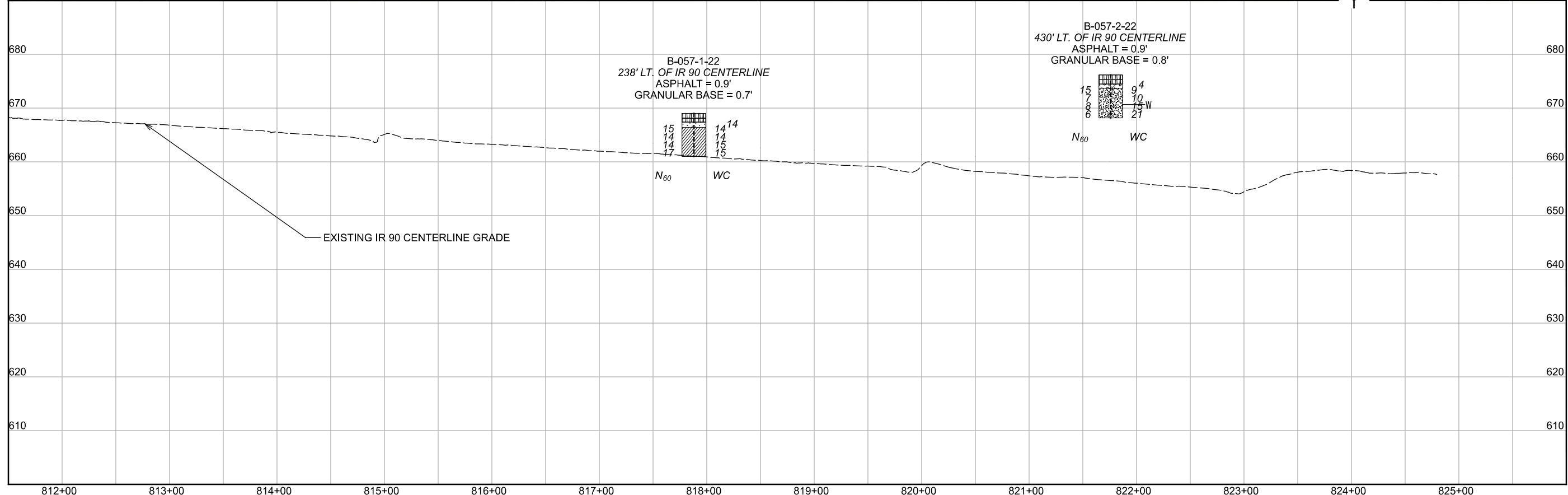


GEOTECHNICAL PROFILE - ROADWAY
 LOR-90-10.76
 STA. 812+50 TO STA. 827+00

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-19-23	
PROJECT ID	
107714	
SUBSET	TOTAL
28	99
SHEET	TOTAL
X	X

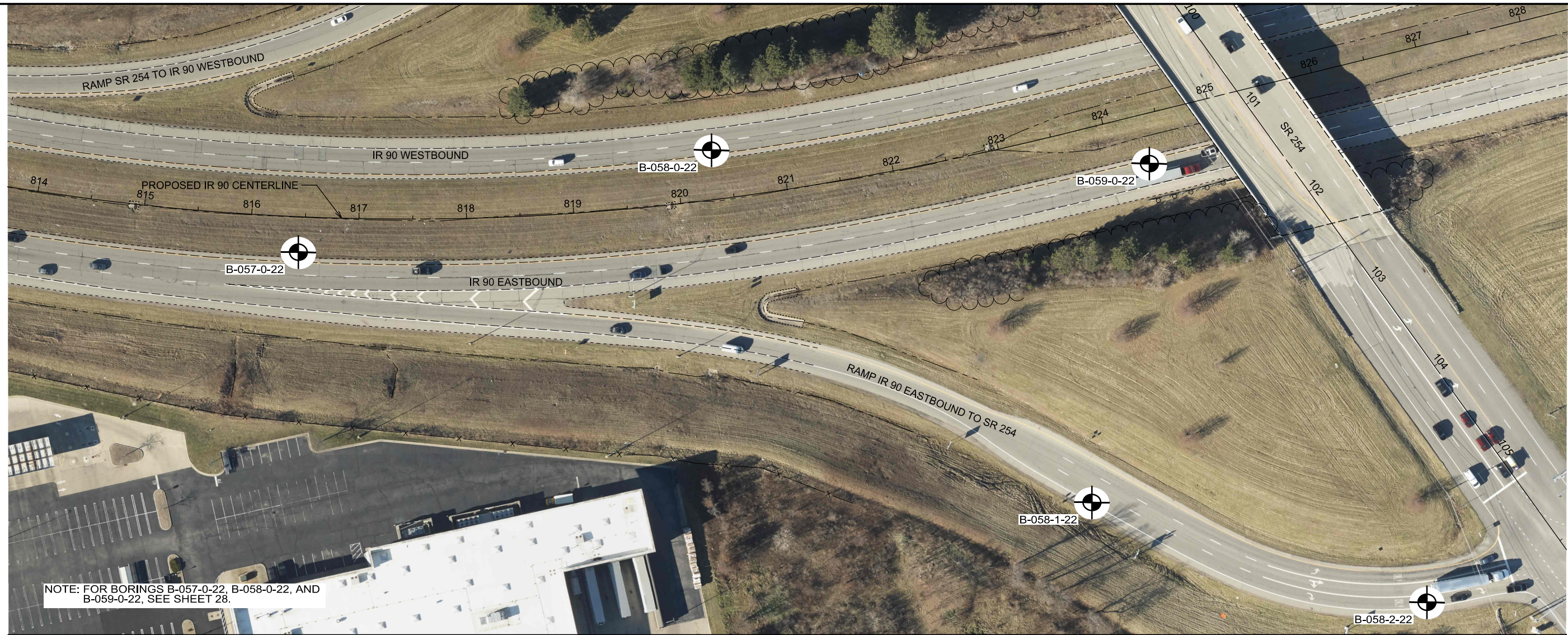


NOTE: FOR BORING B-056-0-22, SEE SHEET 27.
 FOR BORINGS B-057-0-22, B-058-0-22,
 B-059-0-22, SEE SHEET 28.

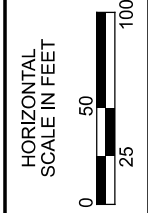
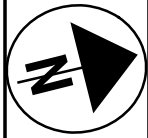
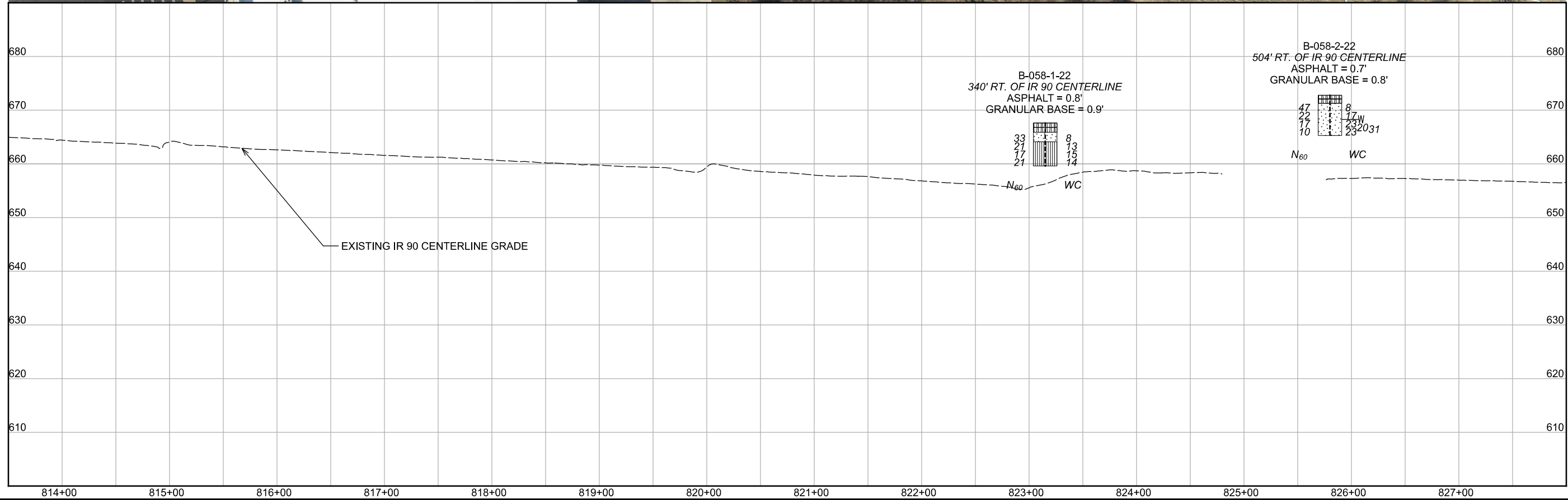


GEOTECHNICAL PROFILE - ROADWAY
 LOR-90-10.76
 RAMP SR 254 TO IR 90 WESTBOUND

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-19-23	
PROJECT ID	
107714	
SUBSET	TOTAL
29	99
SHEET	TOTAL
X	X



NOTE: FOR BORINGS B-057-0-22, B-058-0-22, AND B-059-0-22, SEE SHEET 28.

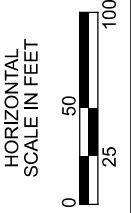
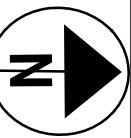
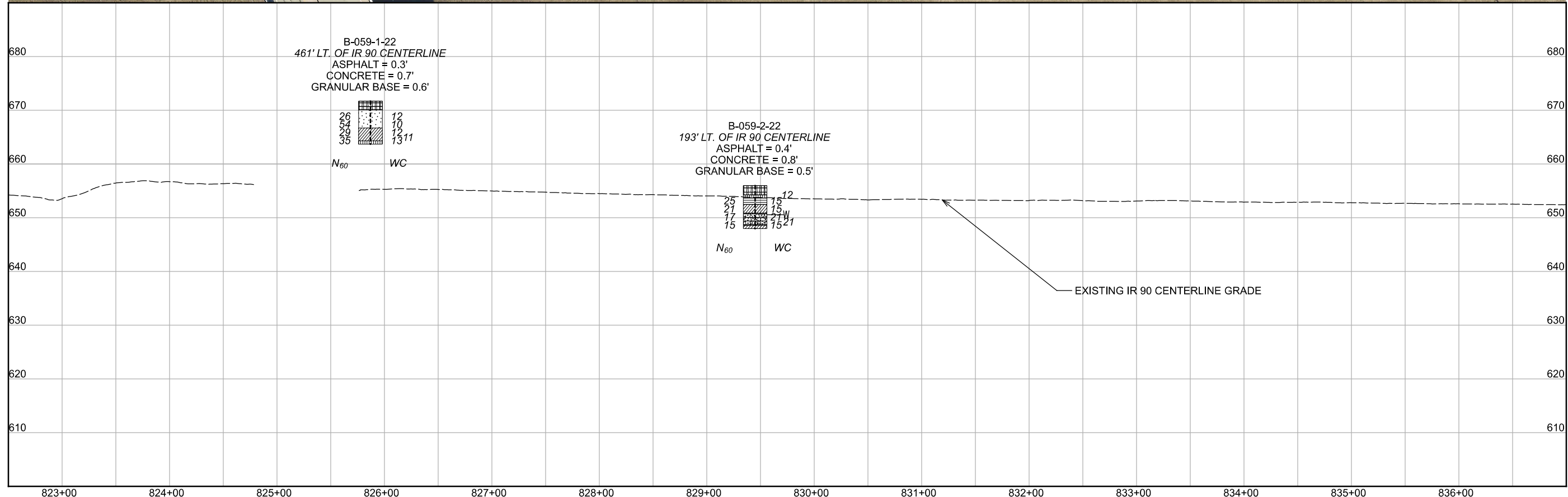
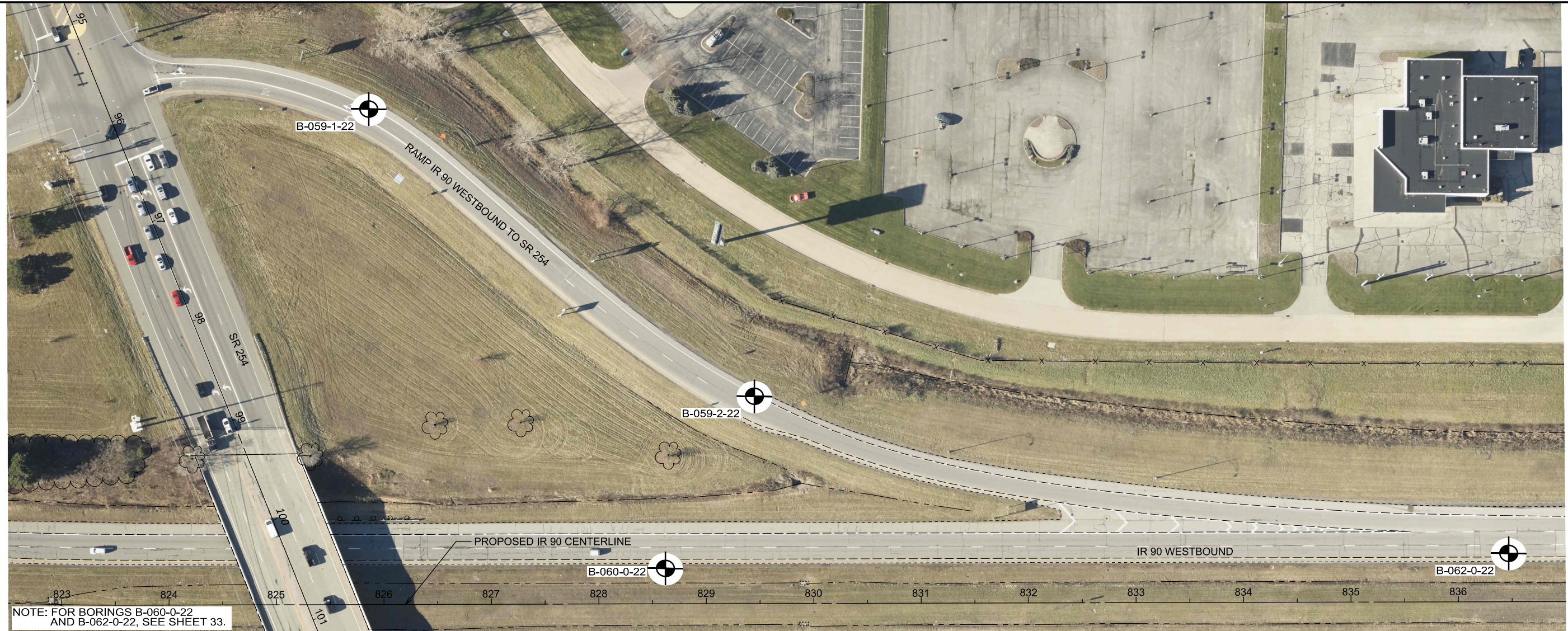


GEOTECHNICAL PROFILE - ROADWAY
 LOR-90-10.76
 RAMP IR 90 EASTBOUND TO SR 254

DESIGN AGENCY

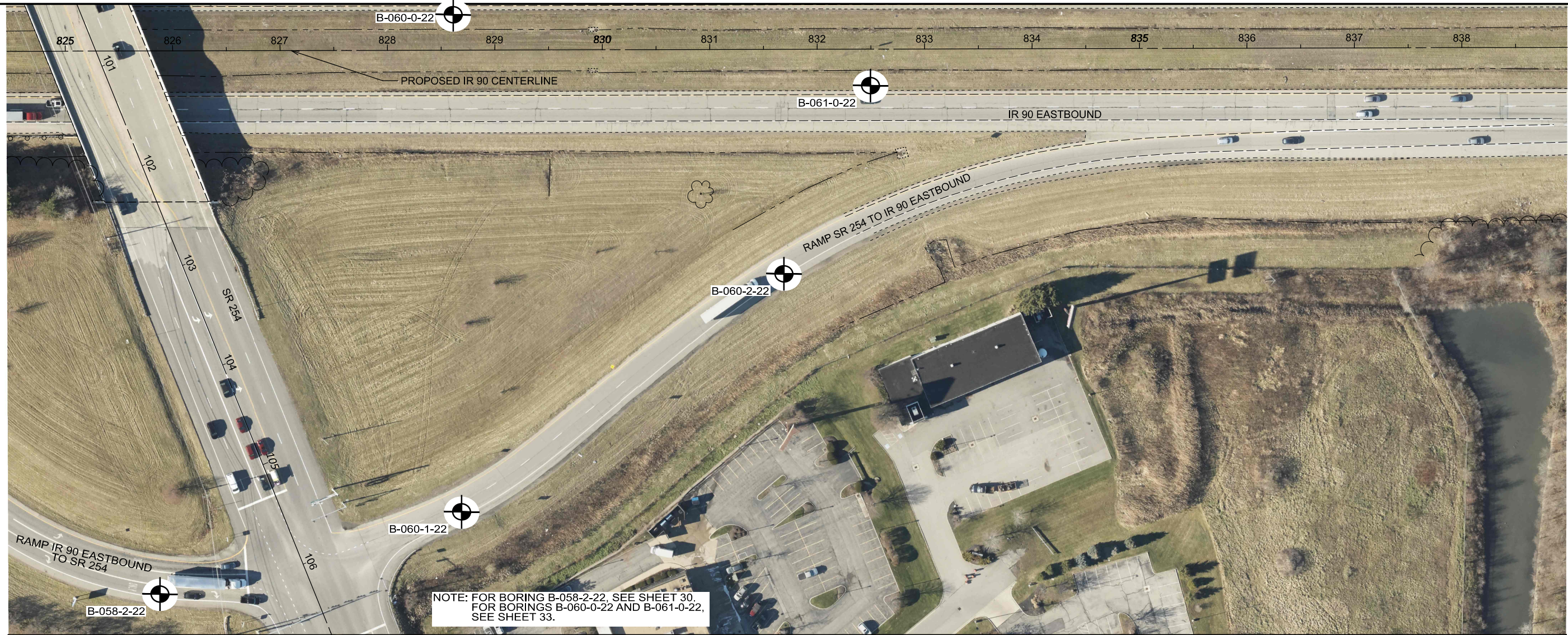
 DESIGNER
 KAH
 REVIEWER
 BKS 11-19-23
 PROJECT ID
 107714

SUBSET	TOTAL
30	99
SHEET	TOTAL
X	X

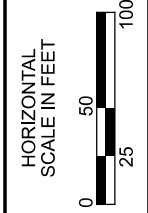
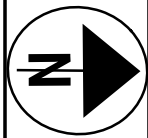
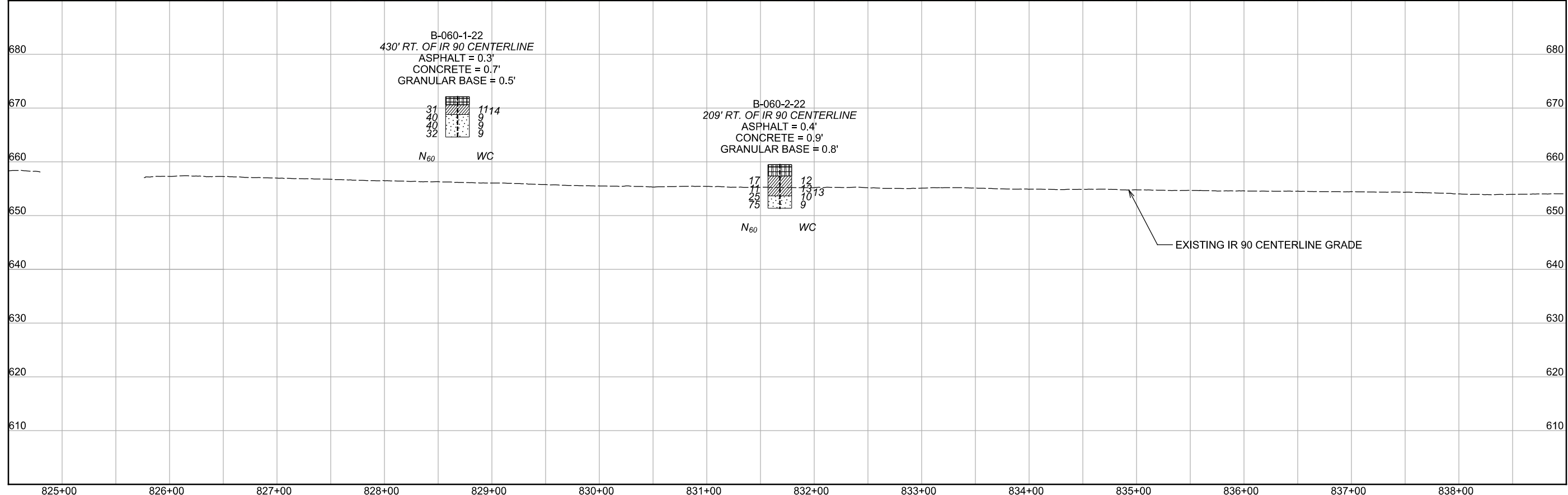


GEOTECHNICAL PROFILE - ROADWAY
 LOR-90-10.76
 RAMP IR 90 WESTBOUND TO SR 254

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-19-23	
PROJECT ID	
107714	
SUBSET	TOTAL
31	99
SHEET	TOTAL
X	X



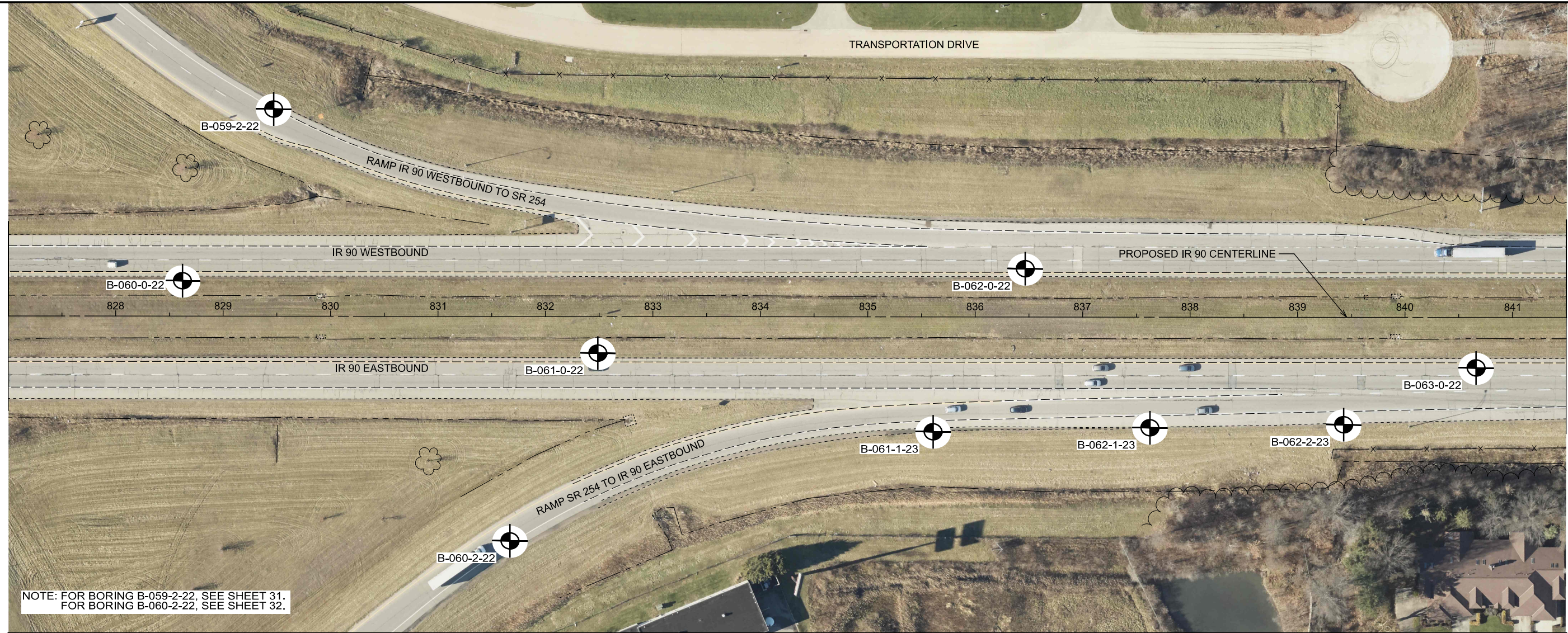
NOTE: FOR BORING B-058-2-22, SEE SHEET 30.
 FOR BORINGS B-060-0-22 AND B-061-0-22,
 SEE SHEET 33.



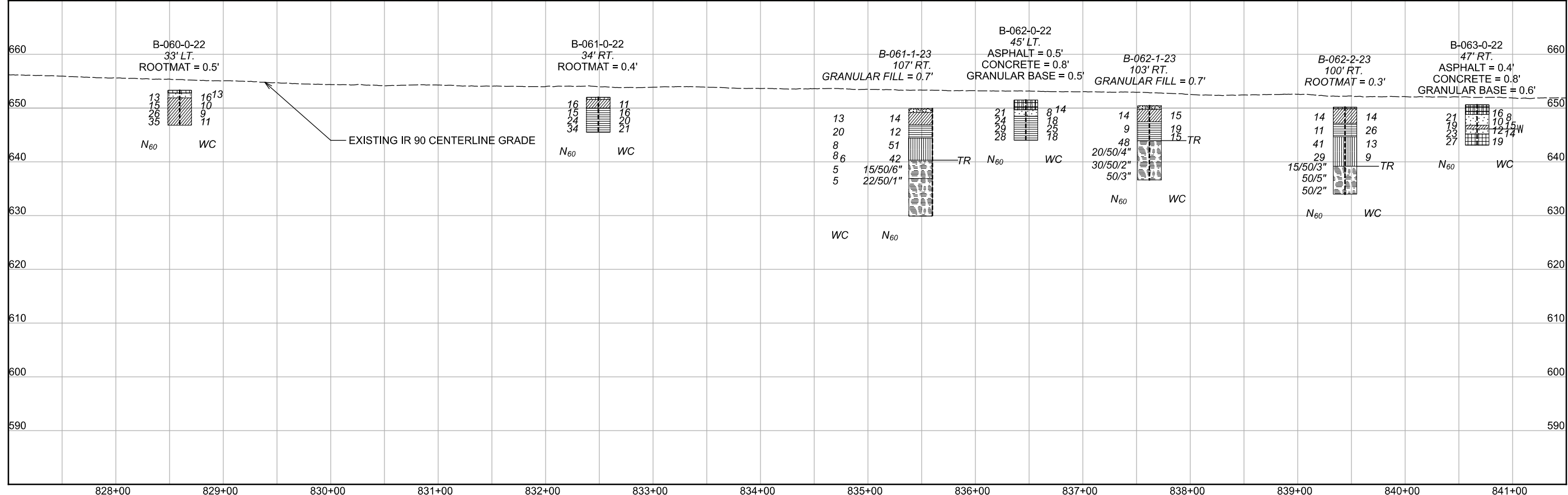
GEOTECHNICAL PROFILE - ROADWAY
 LOR-90-10.76
 RAMP SR 254 TO IR 90 EASTBOUND

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-19-23	
PROJECT ID	
107714	
SUBSET	TOTAL
32	99
SHEET	TOTAL
X	X

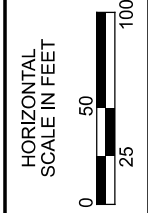
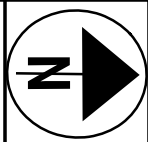
MATCHLINE STA. 827+00



NOTE: FOR BORING B-059-2-22, SEE SHEET 31.
FOR BORING B-060-2-22, SEE SHEET 32.



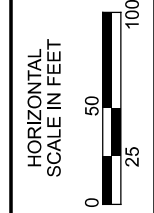
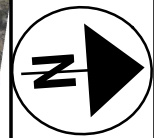
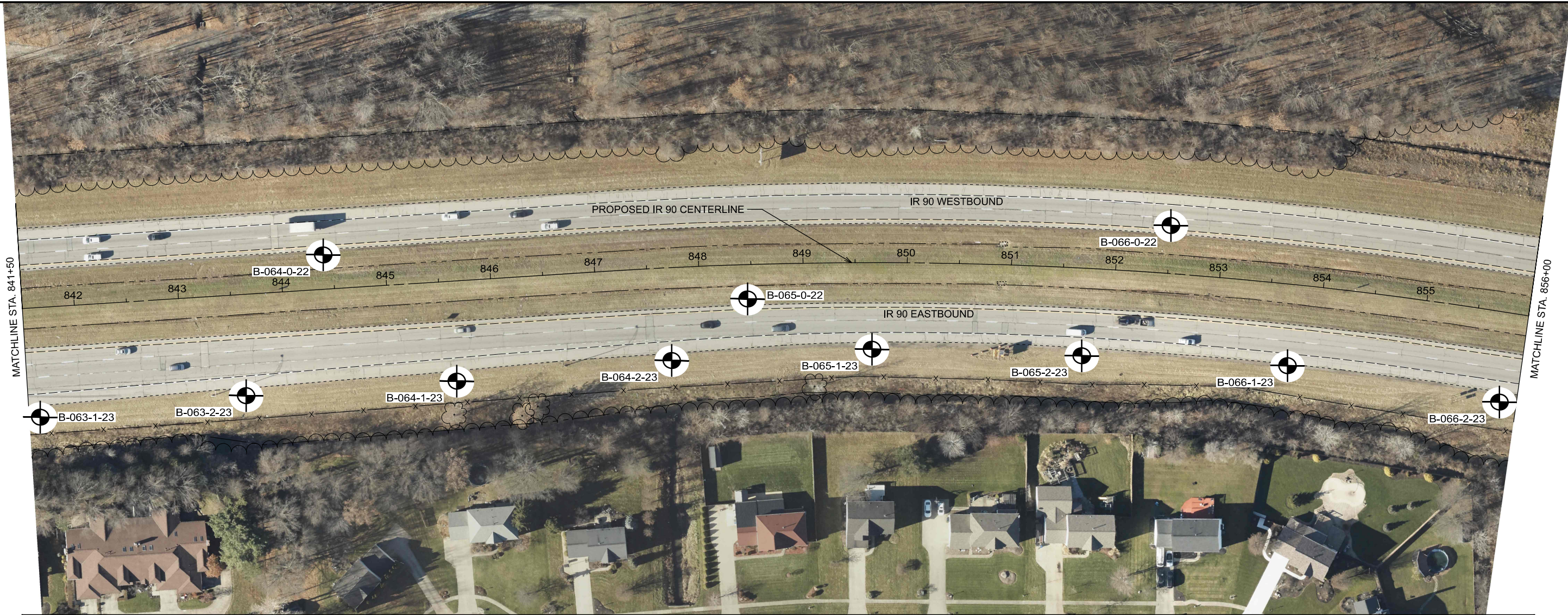
MATCHLINE STA. 841+50



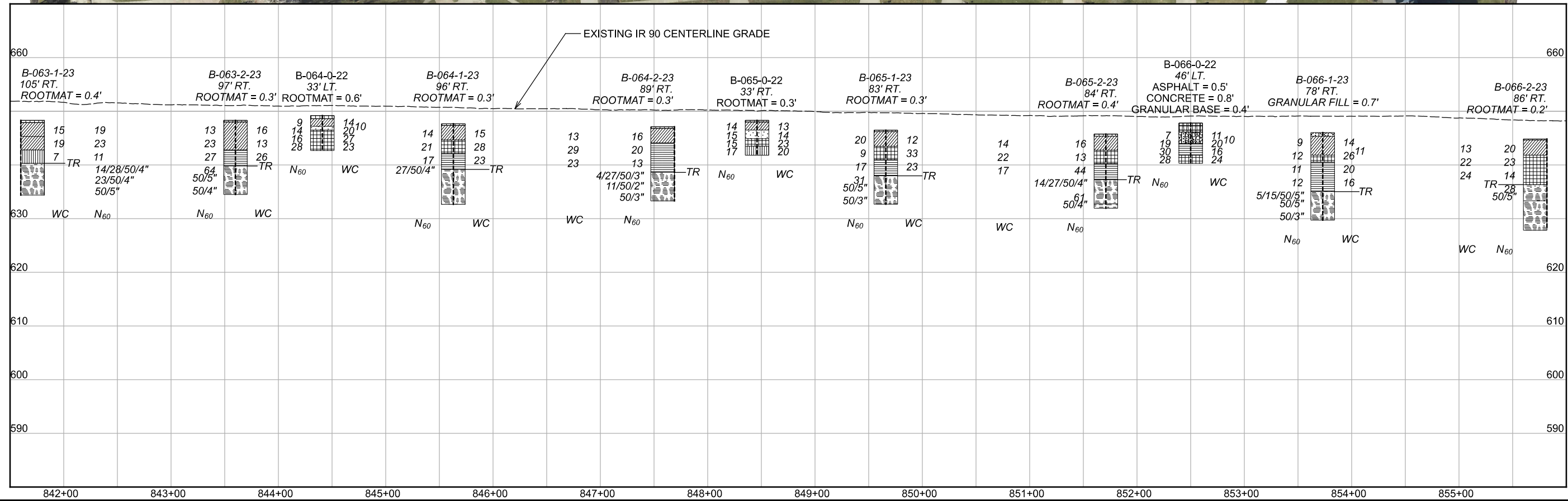
GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 827+00 TO STA. 841+50

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 11-19-23
 PROJECT ID
 107714
 SUBSET TOTAL
 33 99
 SHEET TOTAL
 X X



GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 841+50 TO STA. 856+00



DESIGN AGENCY

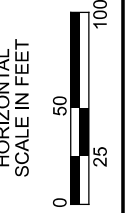
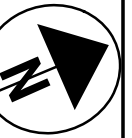
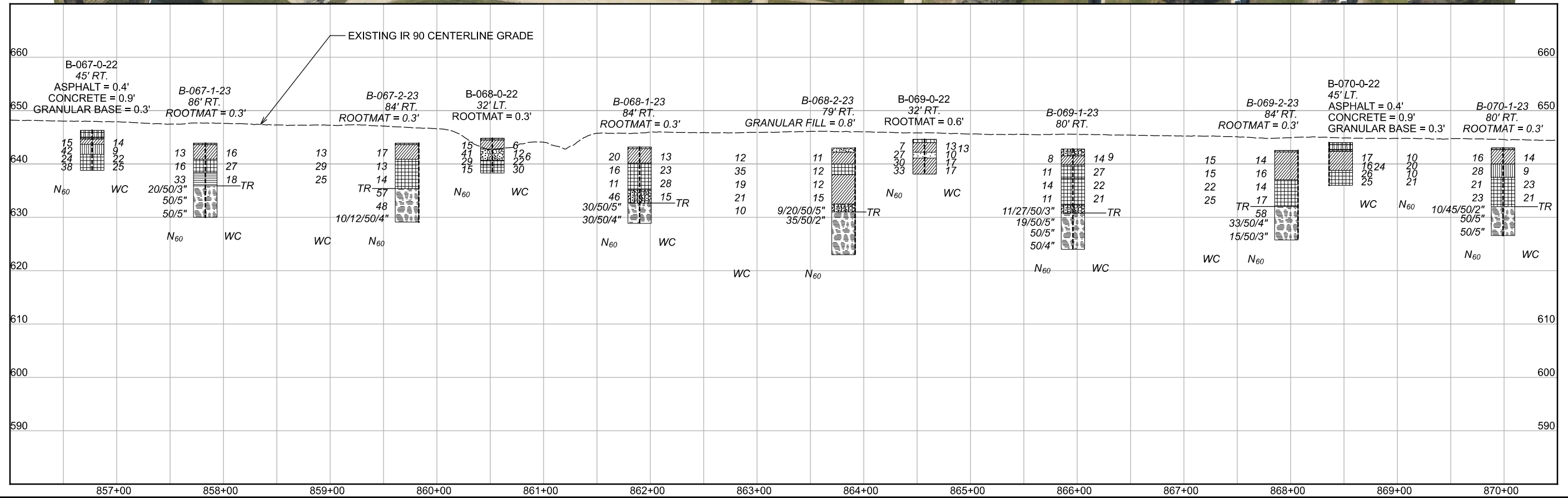
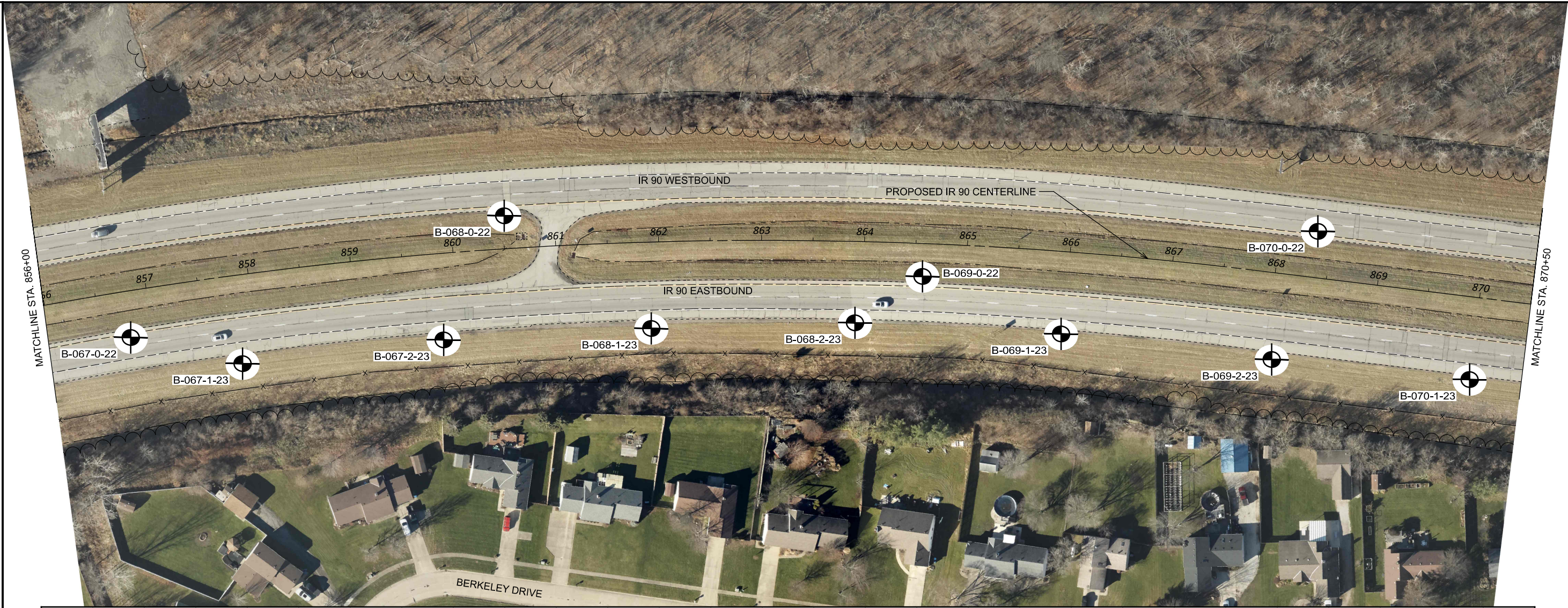
DESIGNER
KAH

REVIEWER
BKS 11-20-23

PROJECT ID
107714

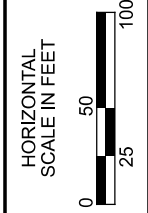
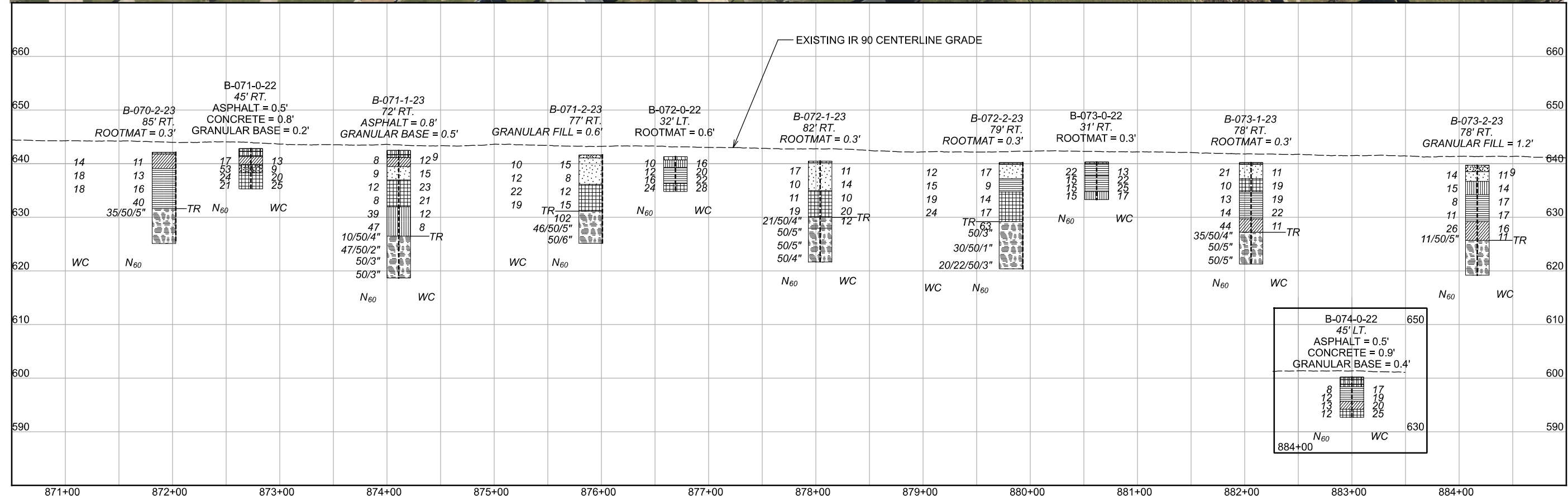
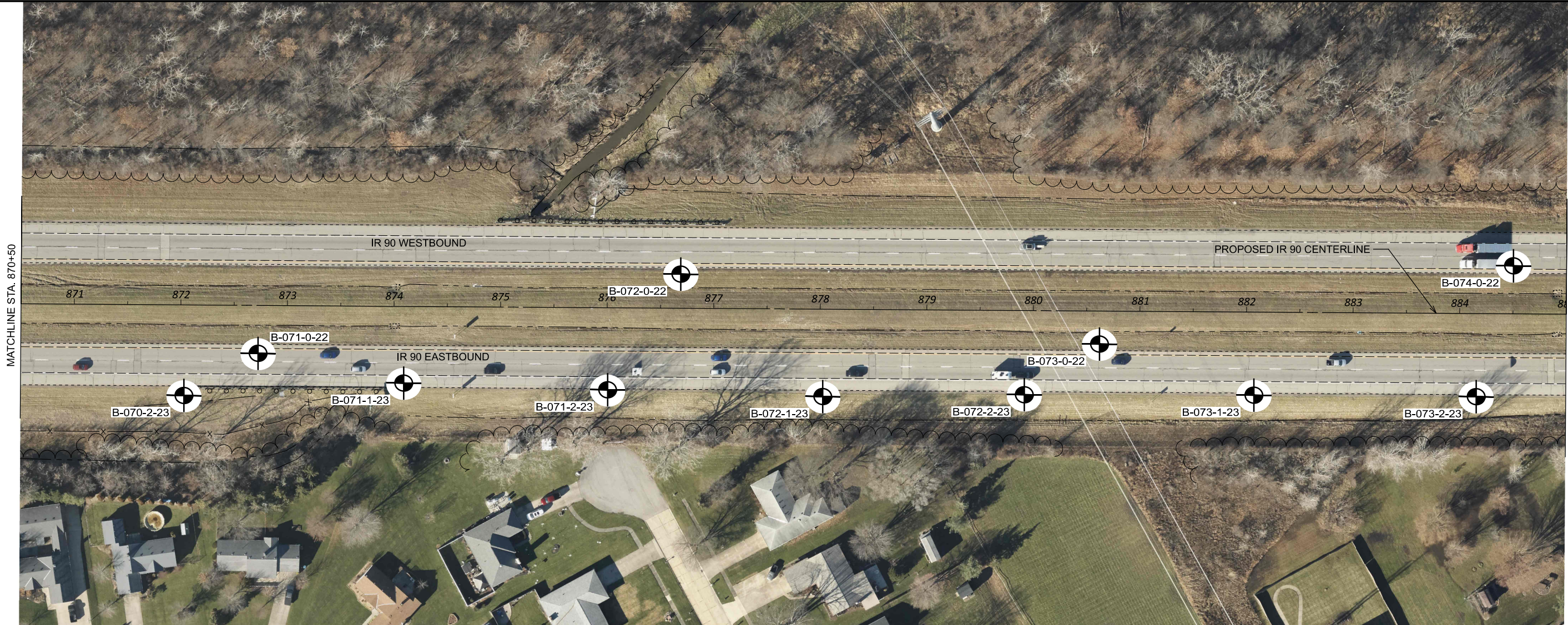
SUBSET	TOTAL
34	99

SHEET	TOTAL
X	X



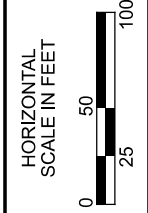
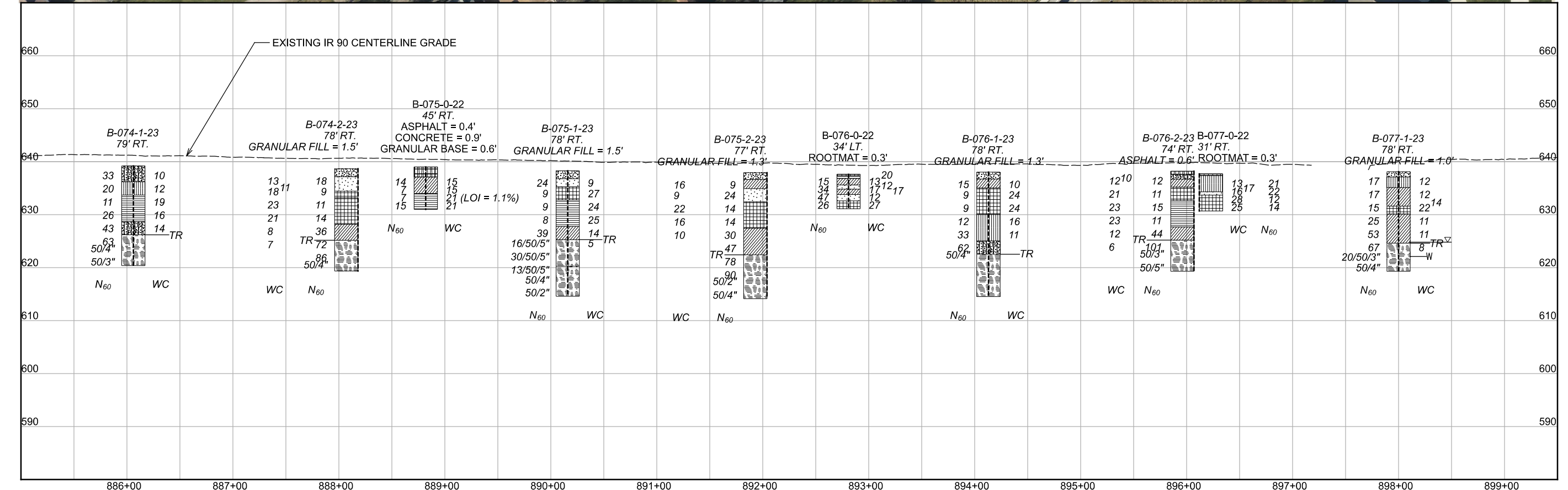
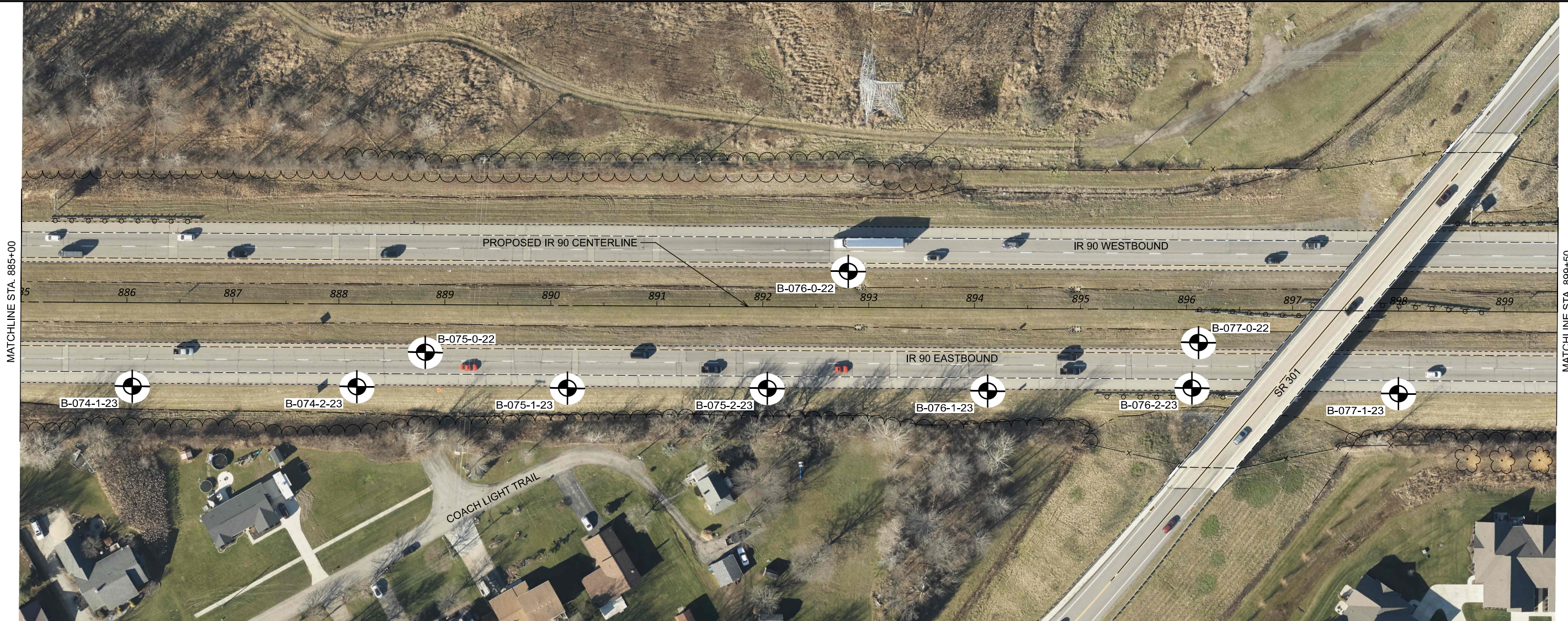
GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 856+00 TO STA. 870+50

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-20-23	
PROJECT ID	
107714	
SUBSET	TOTAL
35	99
SHEET	TOTAL
X	X



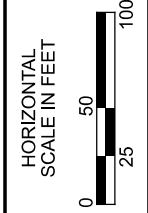
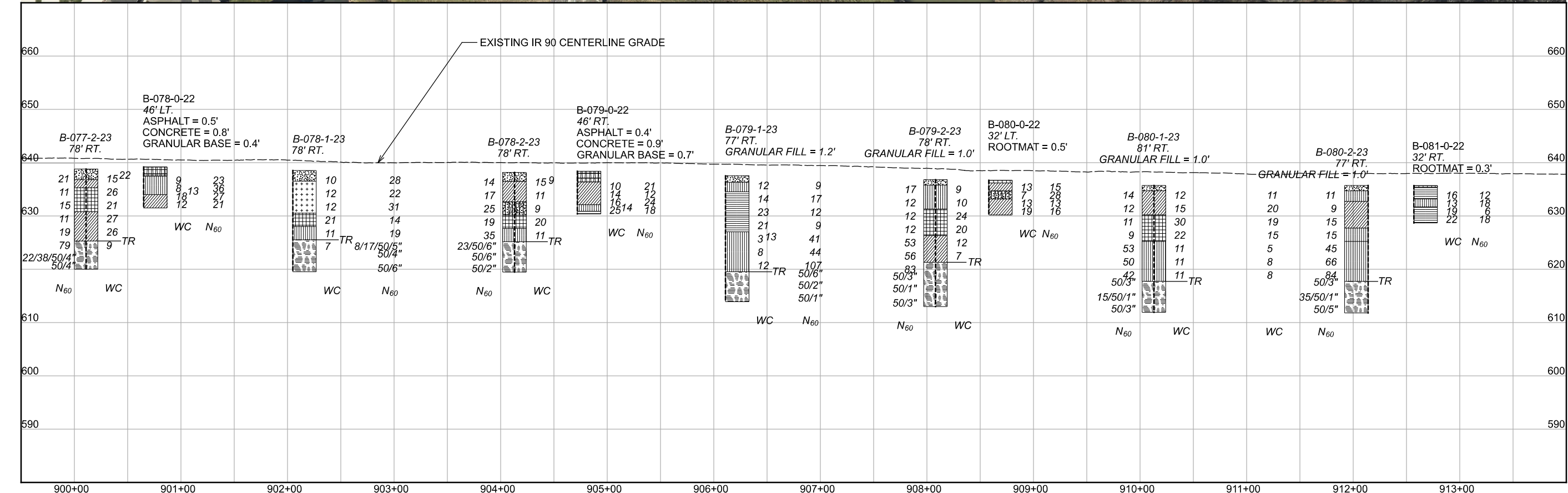
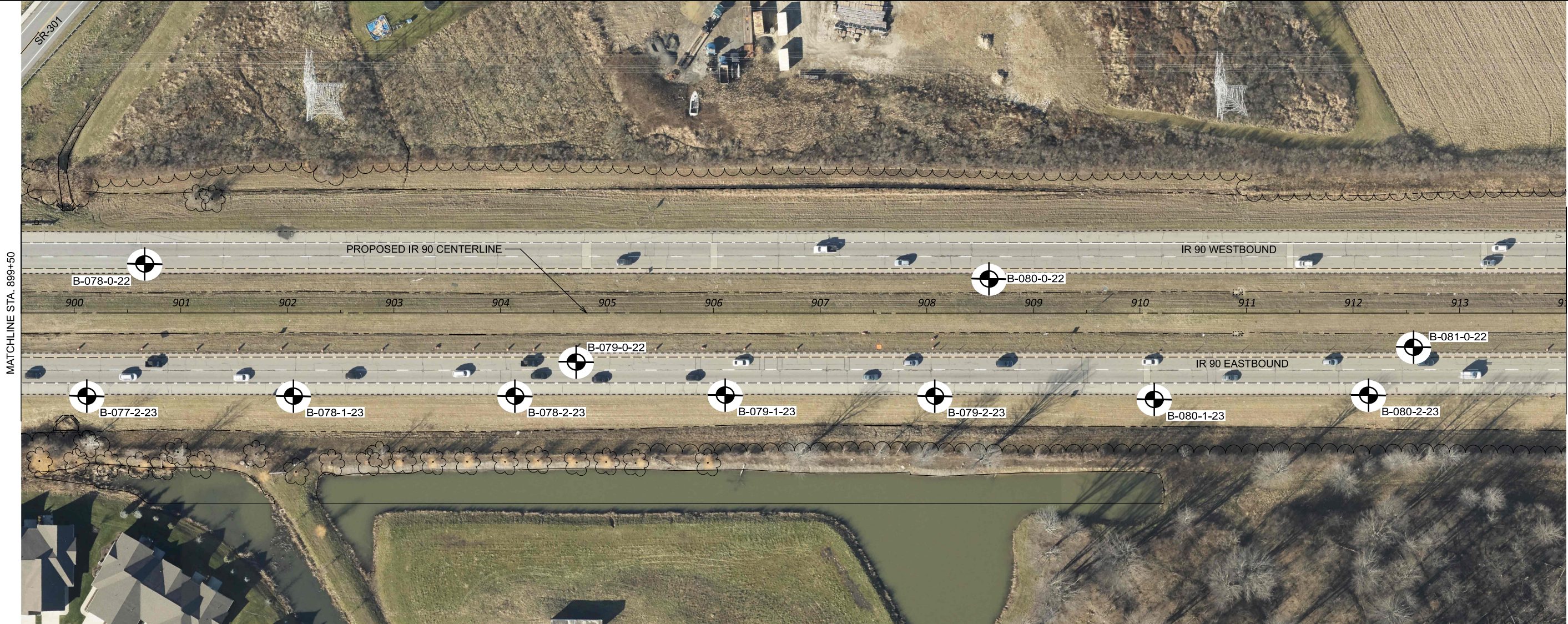
GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 870+50 TO STA. 885+00

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-20-23	
PROJECT ID	
107714	
SUBSET	TOTAL
36	99
SHEET	TOTAL
X	X



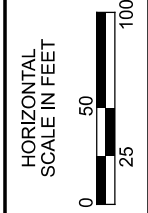
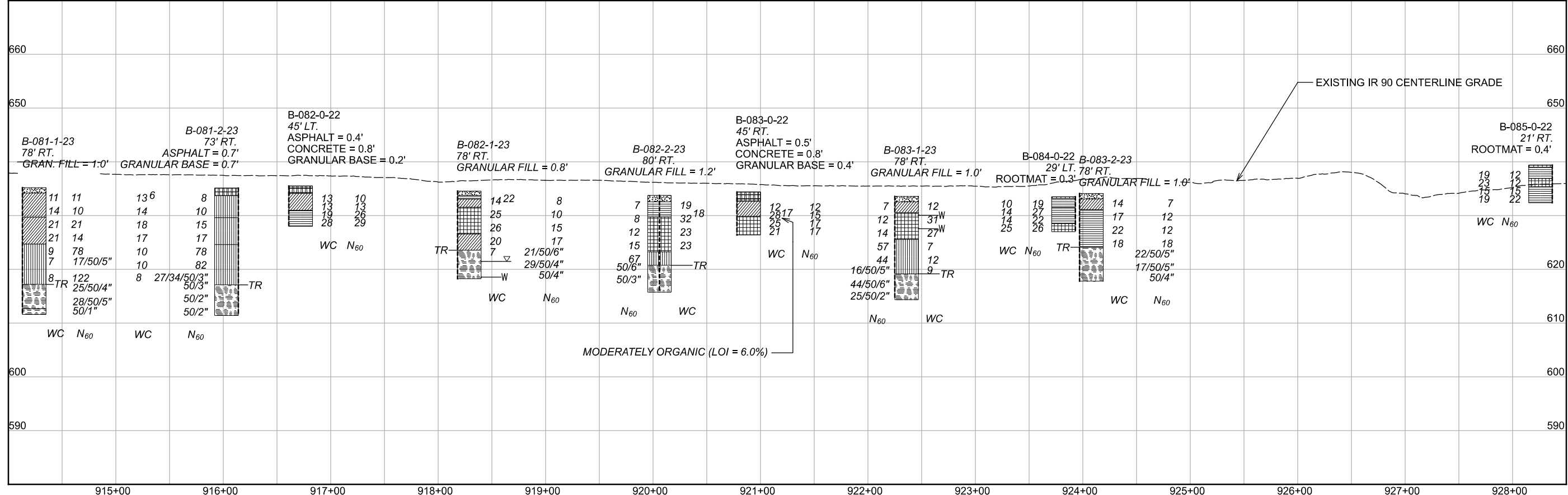
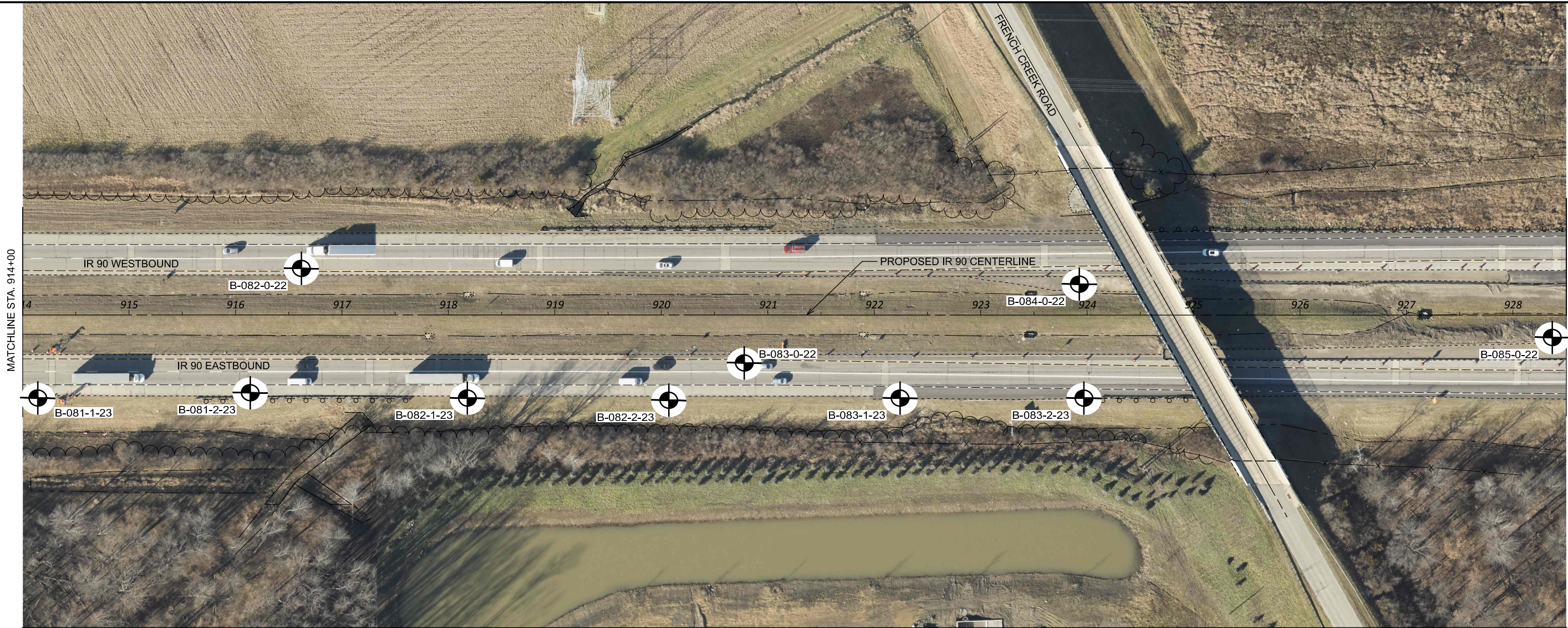
GEOTECHNICAL PROFILE - ROADWAY
 LOR-90-10.76
 STA. 885+00 TO STA. 899+50

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-20-23	
PROJECT ID	
107714	
SUBSET	TOTAL
37	99
SHEET	TOTAL
X	X



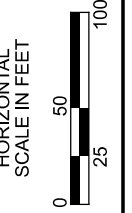
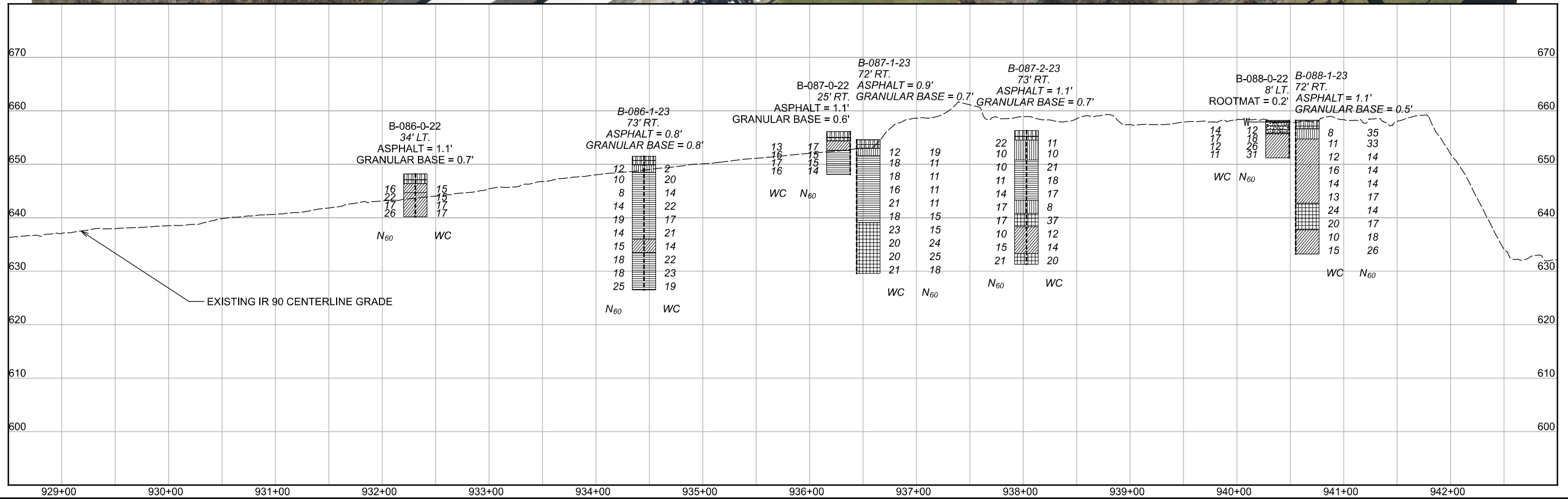
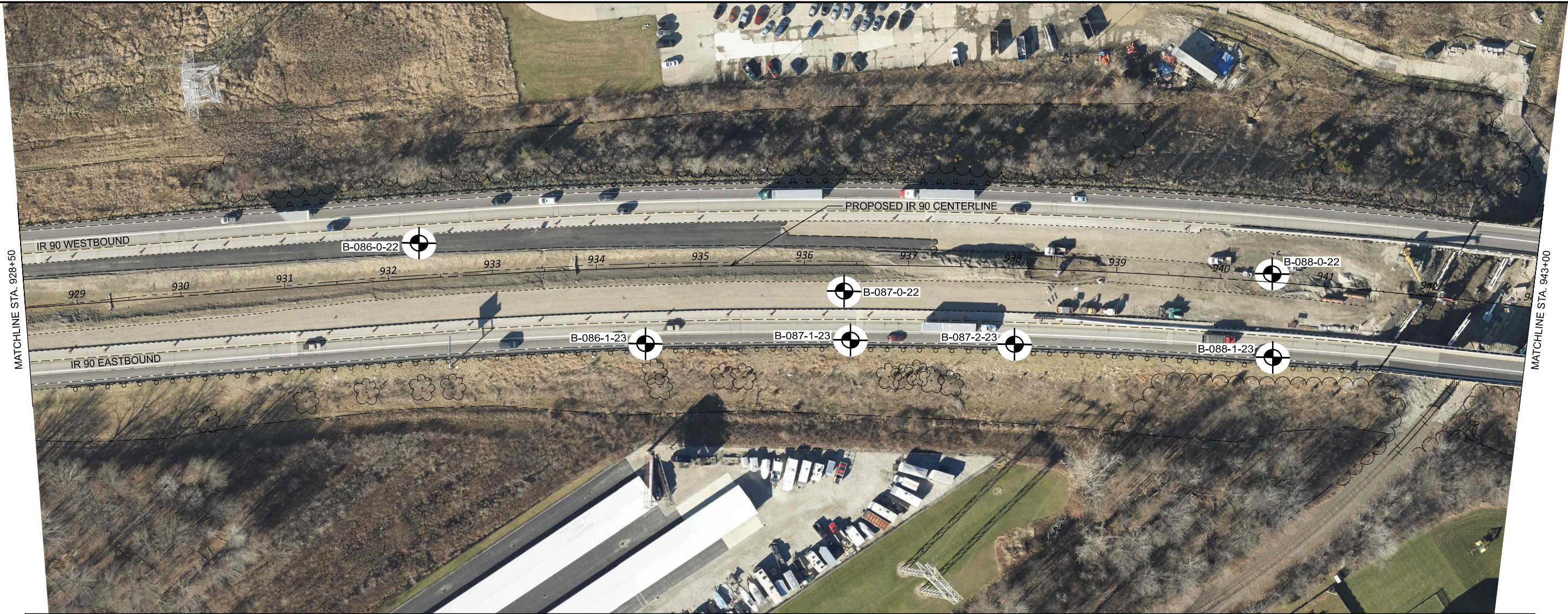
GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 899+50 TO STA. 914+00

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-20-23	
PROJECT ID	
107714	
SUBSET	TOTAL
38	99
SHEET	TOTAL
X	X



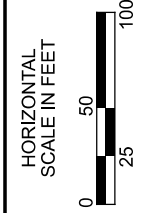
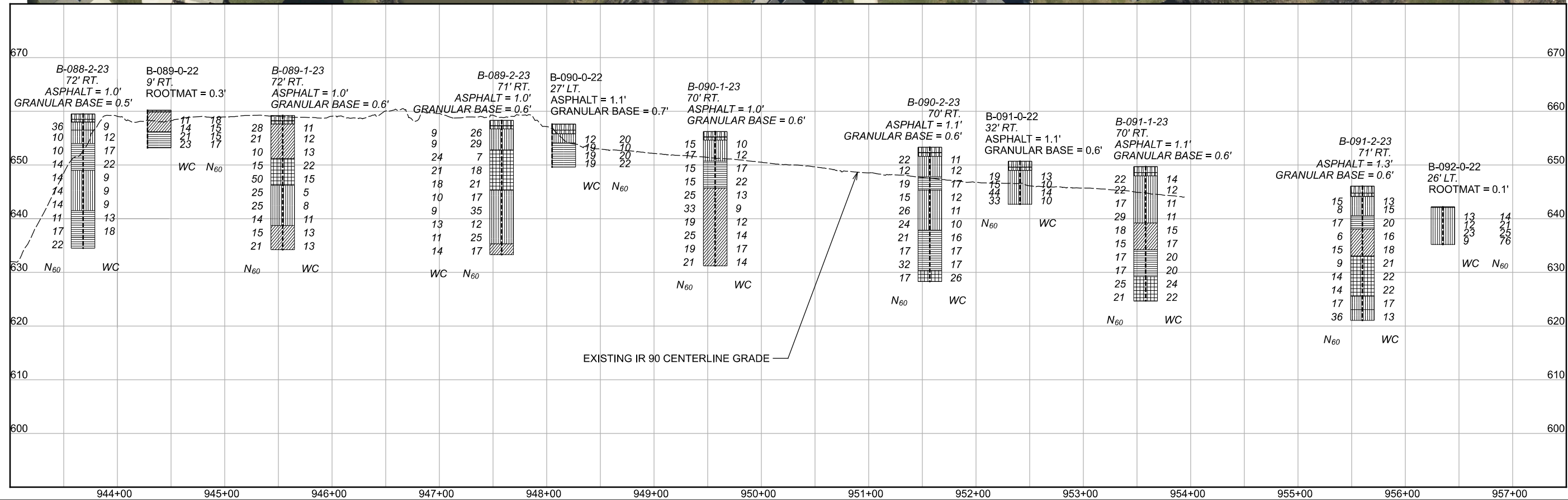
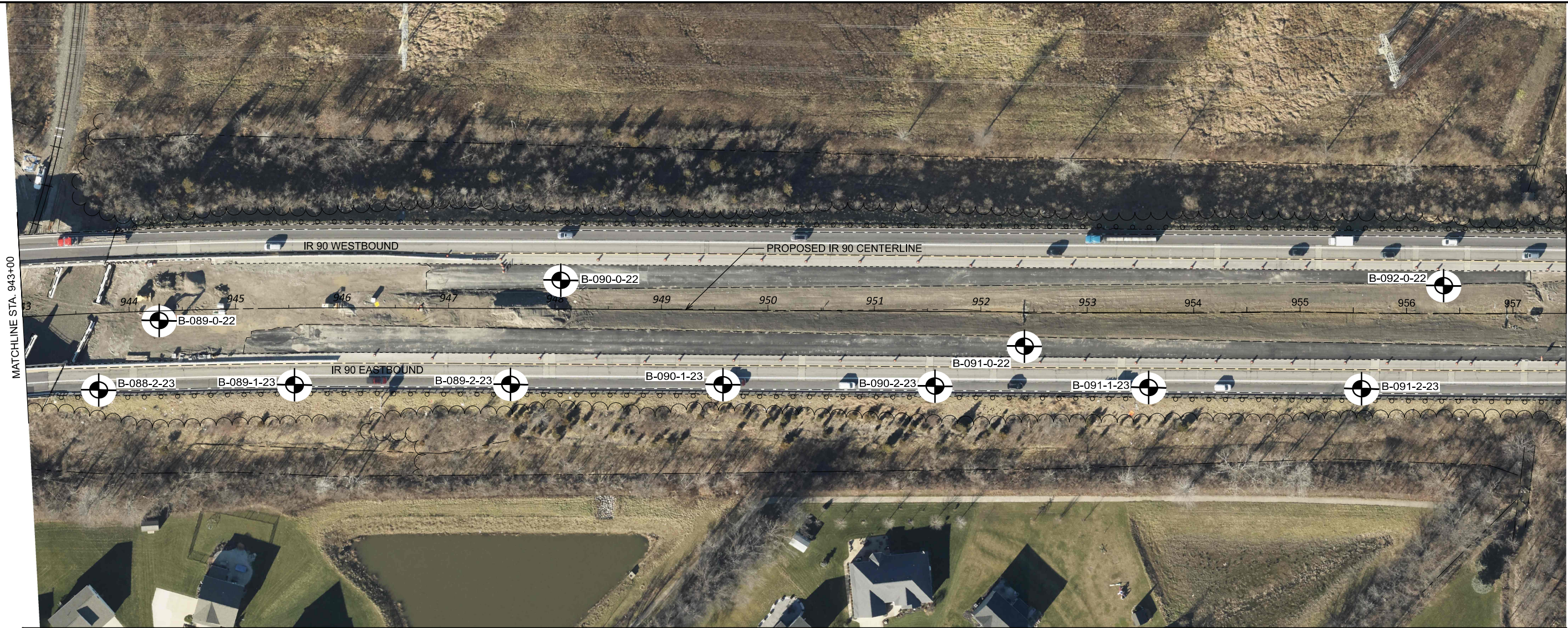
GEOTECHNICAL PROFILE - ROADWAY
 LOR-90-10.76
 STA. 914+00 TO STA. 928+50

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-20-23	
PROJECT ID	
107714	
SUBSET	TOTAL
39	99
SHEET	TOTAL
X	X



GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 928+50 TO STA. 943+00

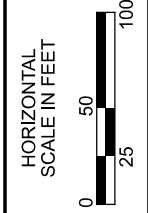
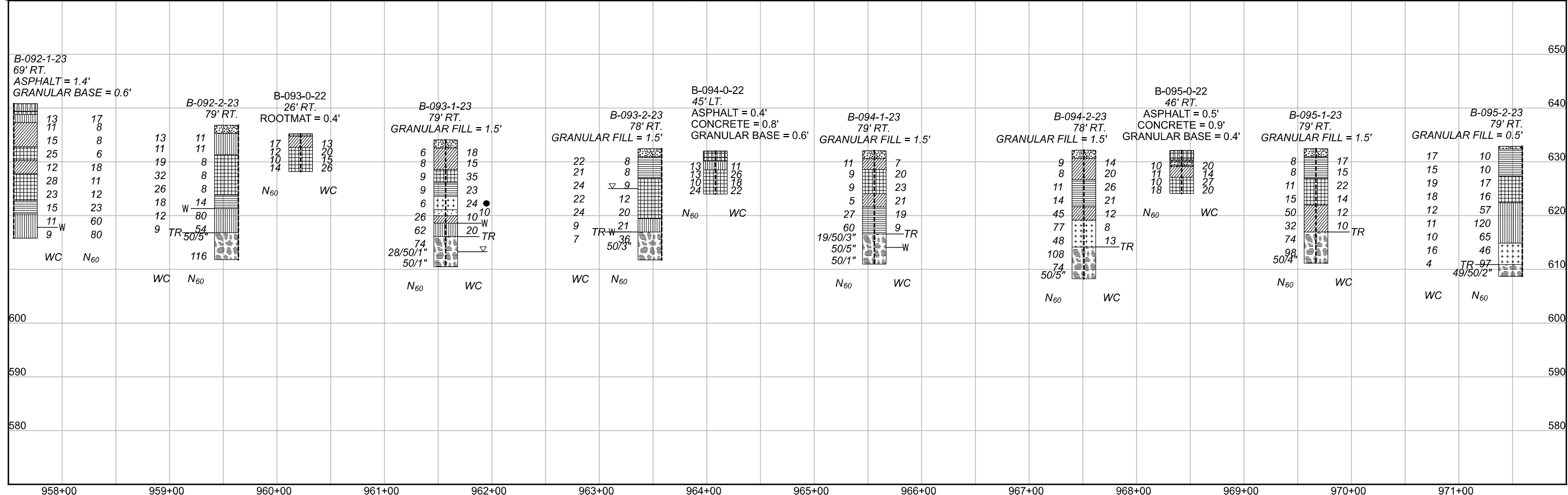
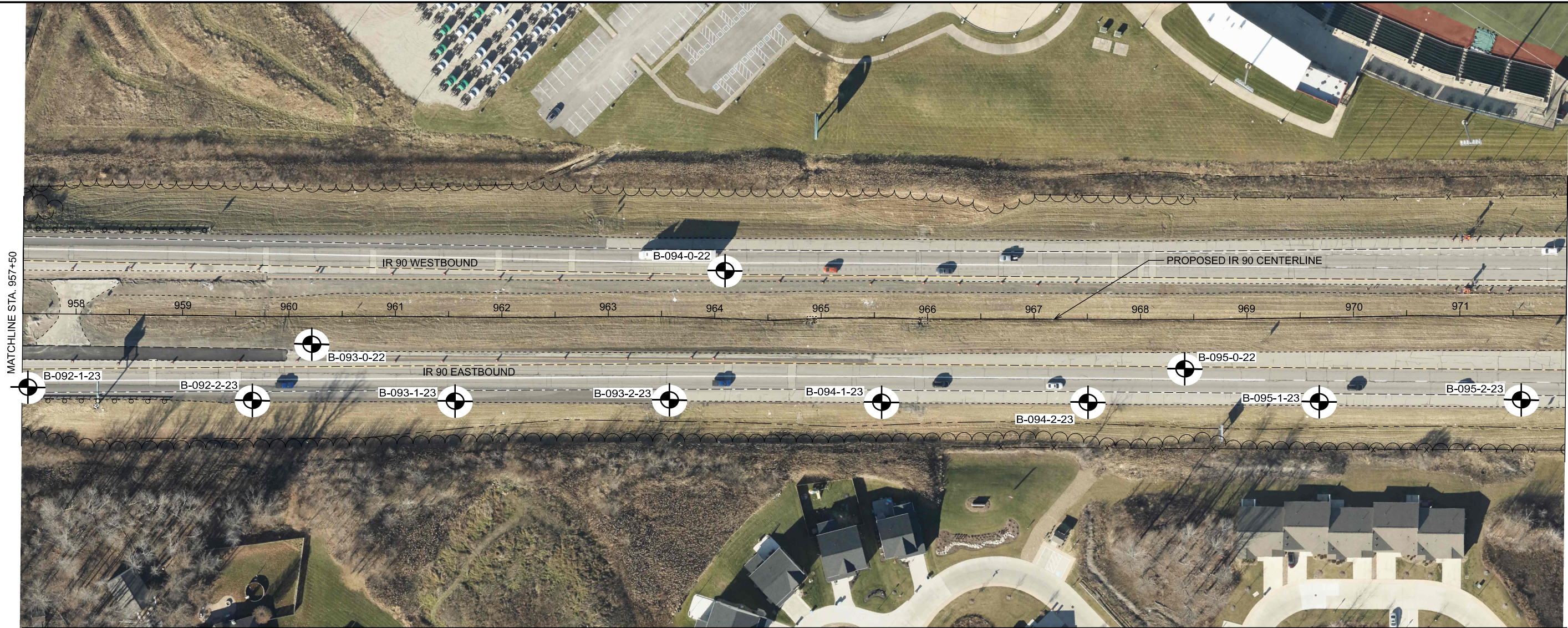
DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-20-23	
PROJECT ID	
107714	
SUBSET	TOTAL
40	99
SHEET	TOTAL
X	X



MATCHLINE STA. 957+50

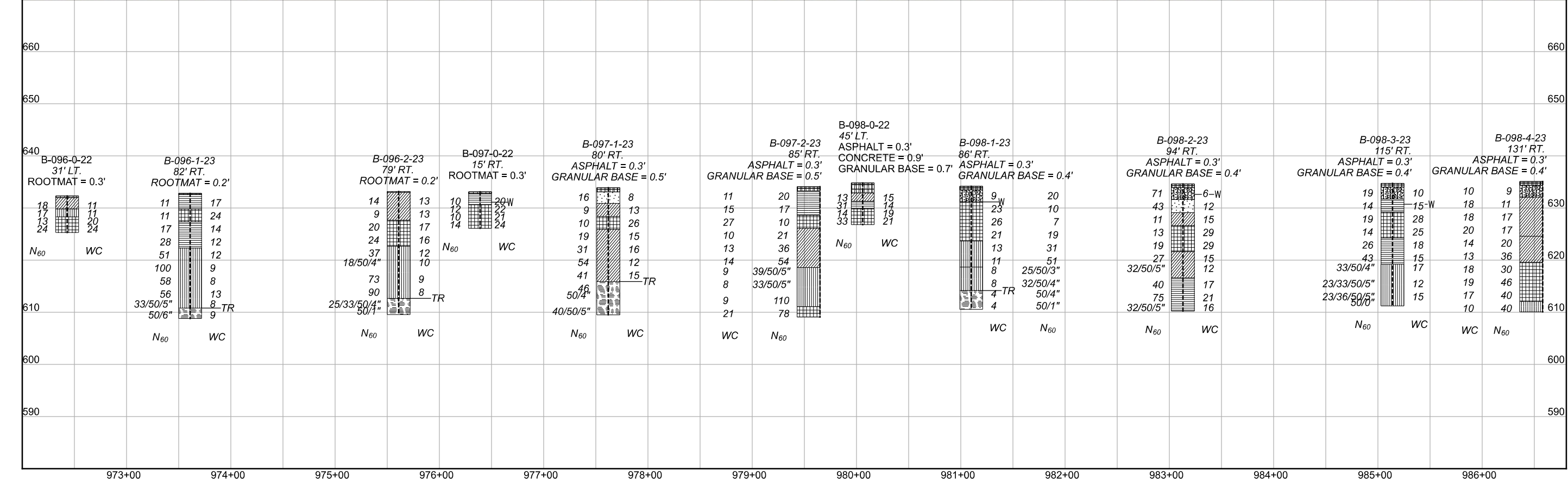
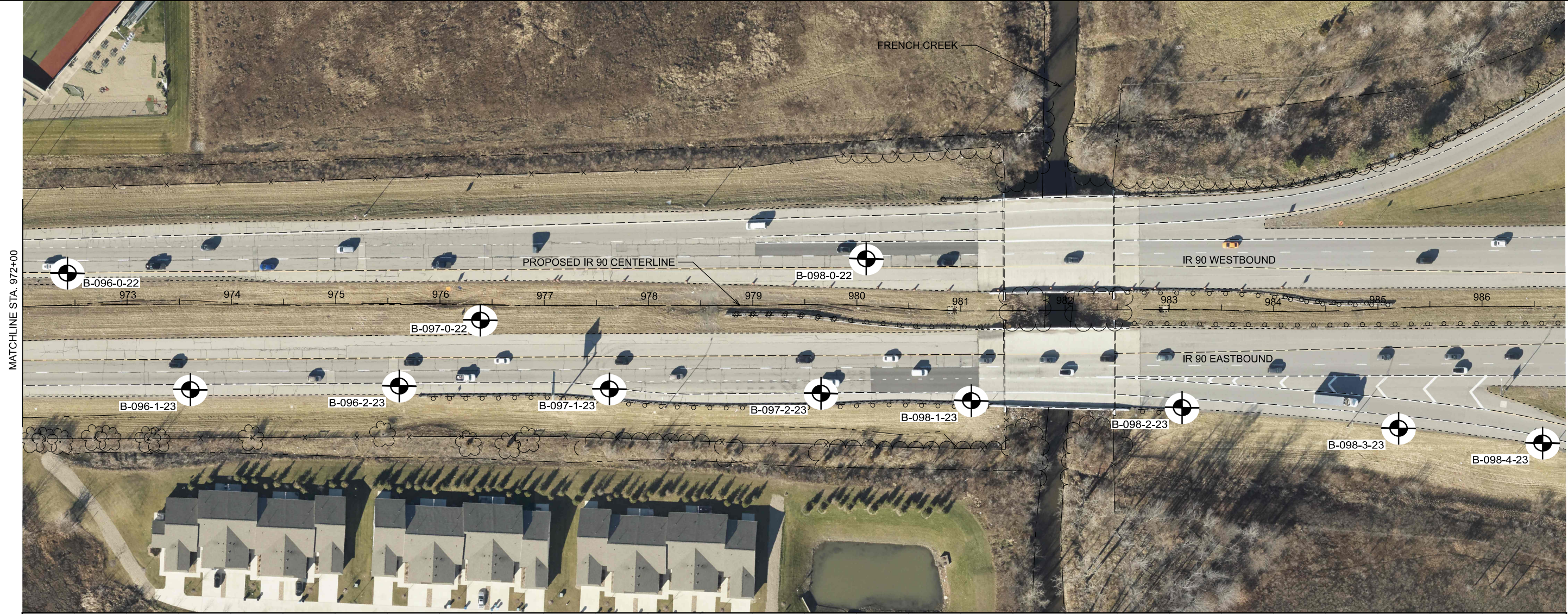
GEOTECHNICAL PROFILE - ROADWAY
LOR-90-10.76
STA. 943+00 TO STA. 957+50

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-20-23	
PROJECT ID	
107714	
SUBSET	TOTAL
41	99
SHEET	TOTAL
X	X



GEOTECHNICAL PROFILE - ROADWAY
 LOR-90-10.76
 STA. 957+50 TO STA. 972+00

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-20-23	
PROJECT ID	
107714	
SUBSET	TOTAL
42	99
SHEET	TOTAL
X	X



HORIZONTAL SCALE IN FEET
0 25 50 100

GEOTECHNICAL PROFILE - ROADWAY
 LOR-90-10.76
 STA. 972+00 TO STA. 986+50

DESIGN AGENCY

DESIGNER
 KAH

REVIEWER
 BKS 11-20-23

PROJECT ID
 107714

SUBSET	TOTAL
43	99

SHEET	TOTAL
X	X



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS	DRILLING FIRM / OPERATOR: OTB / C. SVITAK	DRILL RIG: OTB MOBILE B-57	STATION / OFFSET: 580+64.81' RT	EXPLORATION ID
TYPE: NOISE WALL	SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI	HAMMER: CME AUTOMATIC	ALIGNMENT: IR 90 CENTERLINE	B-002-1-23
PID: 107714 BR ID: WALL A	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 12/22/22	ELEVATION: 747.8 (MSL) EOB: 18.7 ft.	PAGE
START: 5/15/23 END: 5/15/23	SAMPLING METHOD: SPT	ENERGY RATIO (%): 90*	COORD: 41.397532 N, 82.157971 W	1 OF 1
MATERIAL DESCRIPTION AND NOTES				
ROOTMAT - 4 INCHES	ELEV. 747.8	SPT/ RQD	GRADATION (%)	ATTERBERG
FILL: Very-stiff gray and brown SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.	747.5	4 4	CS FS SI CL LL PL PI WC	PL PI WC
FILL: Medium-dense gray GRAVEL WITH SAND AND SILT, trace clay, many sandstone fragments, dry to damp.	744.3	4 4	GR	GR
FILL: Stiff to very-stiff gray mottled with brown SILT AND CLAY, little fine to coarse sand, trace fine gravel, damp.	742.3	4 4	GR CS FS SI CL LL PL PI WC	GR CS FS SI CL LL PL PI WC
Dense brown SILT, some fine sand, little clay, dry to damp.	739.3	8 14	GR CS FS SI CL LL PL PI WC	GR CS FS SI CL LL PL PI WC
SHALE, light-brown, severely to highly weathered, very weak.	736.8	18 50	GR CS FS SI CL LL PL PI WC	GR CS FS SI CL LL PL PI WC
SHALE, gray, highly becoming moderately weathered, weak to slightly strong.	734.8	60-3"	GR CS FS SI CL LL PL PI WC	GR CS FS SI CL LL PL PI WC
	729.1	60-2"	GR CS FS SI CL LL PL PI WC	GR CS FS SI CL LL PL PI WC

NOTES:
 - Seepage encountered at 6.0'.
 - After removal of augers, boring caved at 14.8' and was dry.

PLATE 2

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS	DRILLING FIRM / OPERATOR: OTB / C. SVITAK	DRILL RIG: OTB MOBILE B-57	STATION / OFFSET: 582+61.78' RT	EXPLORATION ID
TYPE: NOISE WALL	SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI	HAMMER: CME AUTOMATIC	ALIGNMENT: IR 90 CENTERLINE	B-002-2-23
PID: 107714 BR ID: WALL A	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 12/22/22	ELEVATION: 747.9 (MSL) EOB: 21.3 ft.	PAGE
START: 5/15/23 END: 5/15/23	SAMPLING METHOD: SPT	ENERGY RATIO (%): 90*	COORD: 41.398006 N, 82.157672 W	1 OF 1
MATERIAL DESCRIPTION AND NOTES				
FILL: Loose brown and gray GRAVEL WITH SAND, trace to little silt, dry.	ELEV. 747.9	SPT/ RQD	GRADATION (%)	ATTERBERG
FILL: Very-stiff to hard dark-brown becoming grayish-brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.	747.4	4 4	GR CS FS SI CL LL PL PI WC	PL PI WC
POSSIBLE FILL: Dense gray SANDY SILT, little fine to coarse gravel (shale fragments), trace clay, few cobbles, dry.	744.9	4 4	GR	GR
Stiff to very-stiff gray mottled with brown SILTY CLAY, little fine to coarse sand, trace fine to coarse gravel, few shale and sandstone fragments, becoming reddish-brown with depth, moist.	741.9	4 14	GR CS FS SI CL LL PL PI WC	GR CS FS SI CL LL PL PI WC
Medium-dense brownish-gray SANDY SILT, little fine to coarse gravel, trace clay, damp.	734.9	5 7	GR CS FS SI CL LL PL PI WC	GR CS FS SI CL LL PL PI WC
SHALE, gray, severely to highly weathered, very weak to weak.	732.4	2 4	GR CS FS SI CL LL PL PI WC	GR CS FS SI CL LL PL PI WC

NOTES:
 - Encountered water at 18.5'.
 - Water at 15.1' inside HSA at completion.

PLATE 3

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY	
DESIGNER	KAH
REVIEWER	BKS 9-5-23
PROJECT ID	107714
SUBSET	TOTAL
44	99
SHEET	TOTAL
X	X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOGS B-002-1-23 & B-002-2-23

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL A
 START: 5/15/23 END: 5/15/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB MOBILE B-57
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 90*

STATION / OFFSET: 584+69.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 747.4 (MSL) EOB: 25.0 ft.
 COORD: 41.398485 N, 82.157302 W

EXPLORATION ID: B-003-1-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)						WC	ODOT CLASS (G)	BACK FILL	
							GR	CS	FS	SI	CL	LL				PL
FILL: Loose to medium-dense brown and gray GRAVEL WITH SAND, SILT AND CLAY, damp. POSSIBLE FILL: Medium-dense becoming dense grayish-brown and gray SANDY SILT, little to some fine to coarse gravel, trace to little clay, damp.	747.4	1	6	4	67	SS-1A	-	-	-	-	-	-	-	15	A-2-6 (V)	
	746.1	2	4	4	67	SS-1B	-	-	-	-	-	-	-	12	A-4a (V)	
	741.9	3														
	741.9	4														
	741.9	5														
	739.4	6	2	2	6	56	SS-3	1.0-2.0	3	19	36	41	39	16	23	A-6b (13)
	739.4	7	2	2	6	56	SS-3	1.0-2.0	3	19	36	41	39	16	23	A-6b (13)
	739.4	8	4	4	14	89	SS-4	4.5+	-	-	-	-	-	-	15	A-6a (V)
	739.4	9	4	4	14	89	SS-4	4.5+	-	-	-	-	-	-	15	A-6a (V)
	739.4	10	5													
Hard reddish-brown SILT AND CLAY, little to some fine to coarse sand, partly similar to completely degraded shale, few iron oxide stains, damp.	734.4	11	6	16	62	SS-5	4.5+	-	-	-	-	-	-	10	A-6a (V)	
	734.4	12	25													
	734.4	13	8	16	56	100	SS-6	-	-	-	-	-	-	-	Rock (V)	
	734.4	14	21													
	734.4	15	8	16	56	100	SS-6	-	-	-	-	-	-	-	Rock (V)	
	734.4	16	8	13	47	100	SS-7	-	-	-	-	-	-	-	Rock (V)	
	734.4	17	18													
	734.4	18	8	13	47	100	SS-7	-	-	-	-	-	-	-	Rock (V)	
	734.4	19	12	8	38	100	SS-8	-	-	-	-	-	-	-	Rock (V)	
	734.4	20	12	8	38	100	SS-8	-	-	-	-	-	-	-	Rock (V)	
SHALE, brown, severely weathered, very weak, partly similar to hard soil.	722.4	21	10	20	60	100	SS-9	-	-	-	-	-	-	-	Rock (V)	
	722.4	22	20	20	60	100	SS-9	-	-	-	-	-	-	-	Rock (V)	
	722.4	23	11	18	59	100	SS-10	-	-	-	-	-	-	-	Rock (V)	
	722.4	24	21													
	722.4	25	11	18	59	100	SS-10	-	-	-	-	-	-	-	Rock (V)	
	722.4	26	21													
	722.4	27	11	18	59	100	SS-10	-	-	-	-	-	-	-	Rock (V)	
	722.4	28	21													
	722.4	29	11	18	59	100	SS-10	-	-	-	-	-	-	-	Rock (V)	
	722.4	30	21													

NOTES:
 - No seepage noted.

PLATE 4

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL A
 START: 5/15/23 END: 5/15/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB MOBILE B-57
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 90*

STATION / OFFSET: 586+73.79' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 746.6 (MSL) EOB: 25.0 ft.
 COORD: 41.398934 N, 82.156890 W

EXPLORATION ID: B-004-1-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)						WC	ODOT CLASS (G)	BACK FILL	
							GR	CS	FS	SI	CL	LL				PL
ROOTMAT mixed with SANDY SILT, slightly organic.	746.6	1	2	4	12	100	SS-1A	-	-	-	-	-	-	-	13	Visual (V)
	744.9	2	4	4	100	4.5+	SS-1B	-	-	-	-	-	-	-	12	A-6a (V)
	744.9	3														
	744.9	4	8	18	36	67	4.5+	SS-2	-	-	-	-	-	-	9	A-6a (V)
	744.9	5	6													
	741.1	6	2	2	8	67	1.0-2.0	SS-3	3	11	40	43	19	25	23	A-7-6 (15)
	741.1	7	3													
	741.1	8	1	2	8	78	SS-4	-	-	-	-	-	-	-	18	A-4a (V)
	741.1	9	3													
	741.1	10	4	10	35	100	2.0-2.5	SS-5	-	-	-	-	-	-	11	A-4a (V)
SHALE, brown, severely weathered, very weak, partly similar to hard soil.	729.1	11	8	3	9	56	1.0-1.5	SS-6	23	12	35	17	25	15	10	A-4a (3)
	729.1	12	3													
	729.1	13	10	13	33	100	SS-7	-	-	-	-	-	-	-	14	A-4a (V)
	729.1	14	8	29	100	SS-8	-	-	-	-	-	-	-	-	11	Rock (V)
	729.1	15	9	11	38	100	SS-9	-	-	-	-	-	-	-	8	Rock (V)
	729.1	16	11	14												
	729.1	17	10	13	33	100	SS-7	-	-	-	-	-	-	-	14	A-4a (V)
	729.1	18	4	8	29	100	SS-8	-	-	-	-	-	-	-	11	Rock (V)
	729.1	19	11	11	38	100	SS-9	-	-	-	-	-	-	-	8	Rock (V)
	729.1	20	10	18	62	100	SS-10	-	-	-	-	-	-	-	7	Rock (V)

NOTES:
 - No seepage noted.

PLATE 5

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 9-5-23
 PROJECT ID
 107714
 SUBSET TOTAL
 45 99
 SHEET TOTAL
 X X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOGS B-003-1-23 & B-004-1-23



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL A
 START: 5/16/23 END: 5/16/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB MOBILE B-57
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 90*

STATION / OFFSET: 588+77.79' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 746.2 (MSL) EOB: 24.2 ft.
 COORD: 41.399362 N, 82.156443 W

EXPLORATION ID: B-004-2-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES

DEPTHS	ELEV.	SPT/ RQD	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG	WC	BACK FILL
					GR	CS	FS	SI			
1	746.2	2	67	3.0	-	-	-	-	-	-	17 Visual (V)
2	744.8	3	8	3.5	-	-	-	-	-	-	16 A-6b (V)
3	743.2	2	67	3.0	-	-	-	-	-	-	16 A-6b (V)
4	740.7	2	67	2.0	4	6	15	43	32	37	18 31 A-6b (11)
5	738.2	1	11	3.5	-	-	-	-	-	-	23 A-7-6 (V)
6	735.7	3	21	4.5+	-	-	-	-	-	-	14 A-6a (V)
7	730.7	5	42	-	-	-	-	-	-	-	9 A-4a (V)
8	730.7	14	100	-	-	-	-	-	-	-	9 A-4a (V)
9	730.7	14	100	-	-	-	-	-	-	-	9 A-4a (V)
10	730.7	14	100	-	-	-	-	-	-	-	9 A-4a (V)
11	730.7	14	100	-	-	-	-	-	-	-	9 A-4a (V)
12	730.7	14	100	-	-	-	-	-	-	-	9 A-4a (V)
13	730.7	14	100	-	-	-	-	-	-	-	9 A-4a (V)
14	730.7	14	100	-	-	-	-	-	-	-	9 A-4a (V)
15	730.7	14	100	-	-	-	-	-	-	-	9 A-4a (V)
16	730.7	14	100	-	-	-	-	-	-	-	9 A-4a (V)
17	730.7	14	100	-	-	-	-	-	-	-	9 A-4a (V)
18	730.7	14	100	-	-	-	-	-	-	-	9 A-4a (V)
19	730.7	14	100	-	-	-	-	-	-	-	9 A-4a (V)
20	730.7	14	100	-	-	-	-	-	-	-	9 A-4a (V)
21	730.7	14	100	-	-	-	-	-	-	-	9 A-4a (V)
22	730.7	14	100	-	-	-	-	-	-	-	9 A-4a (V)
23	730.7	14	100	-	-	-	-	-	-	-	9 A-4a (V)
24	730.7	14	100	-	-	-	-	-	-	-	9 A-4a (V)
TR	725.7	21	100	4.5+	-	-	-	-	-	-	6 Rock (V)
EOB	722.0	22	100	-	-	-	-	-	-	-	6 Rock (V)

NOTES:
 - No seepage noted.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL A
 START: 5/16/23 END: 5/16/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB MOBILE B-57
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 90*

STATION / OFFSET: 590+92.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 746.0 (MSL) EOB: 19.0 ft.
 COORD: 41.399785 N, 82.155931 W

EXPLORATION ID: B-005-1-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES

DEPTHS	ELEV.	SPT/ RQD	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG	WC	BACK FILL
					GR	CS	FS	SI			
1	746.0	3	67	3.0	-	-	-	-	-	-	15 A-2-4 (0)
2	745.3	10	30	3.5	45	13	14	21	7	29	19 10 15 A-2-4 (0)
3	743.0	2	78	2.5	-	-	-	-	-	-	23 A-7-6 (V)
4	740.5	2	8	2.5	-	-	-	-	-	-	23 A-7-6 (V)
5	738.0	3	14	4.0	-	-	-	-	-	-	15 A-6b (11)
6	738.0	3	56	2.0	2	1	6	57	34	34	17 15 A-6b (11)
7	738.0	3	56	4.0	-	-	-	-	-	-	9 A-4b (V)
8	738.0	3	56	4.0	-	-	-	-	-	-	9 A-4b (V)
9	738.0	19	100	-	-	-	-	-	-	-	9 A-4b (V)
10	738.0	24	100	-	-	-	-	-	-	-	9 A-4b (V)
11	738.0	50	100	-	-	-	-	-	-	-	9 A-4b (V)
12	738.0	50	100	-	-	-	-	-	-	-	9 A-4b (V)
13	738.0	50	100	-	-	-	-	-	-	-	9 A-4b (V)
14	738.0	50	100	-	-	-	-	-	-	-	9 A-4b (V)
15	738.0	50	100	-	-	-	-	-	-	-	9 A-4b (V)
16	738.0	50	100	-	-	-	-	-	-	-	9 A-4b (V)
17	738.0	50	100	-	-	-	-	-	-	-	9 A-4b (V)
18	738.0	50	100	-	-	-	-	-	-	-	9 A-4b (V)
19	738.0	50	100	-	-	-	-	-	-	-	9 A-4b (V)
EOB	727.0	50	100	-	-	-	-	-	-	-	9 A-4b (V)

NOTES:
 - Encountered water at 16.0'.
 - Water measured at 13.0' inside HSA at completion.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY: K&A
 DESIGNER: KAH
 REVIEWER: BKS 9-5-23
 PROJECT ID: 107714
 SUBSET: 46 TOTAL: 99
 SHEET: X TOTAL: X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOGS B-004-2-23 & B-005-1-23

LOR-90-10.76

MODEL: Sheet PAPER: 17x11 (in.) DATE: 9/6/2023 TIME: 9:53:25 AM USER: kharper
 \\EgnyteDrive\Columbus\1170\Projects\2021\217525A_ODOT D3_LOR-90-10.76 Noise Walls_Sheffield OH\GEO\CAD\107714\400-Engineering\Geotechnical\Sheets\107714_YL004 - B-005-2 and B-006-1.dgn

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL A
 START: 5/16/23 END: 5/16/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB MOBILE B-57
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 90*

STATION / OFFSET: 592+98.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 745.2 (MSL) EOB: 25.0 ft.
 COORD: 41.400161 N, 82.155397 W

EXPLORATION ID: B-005-2-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES

ROOTMAT - 9 INCHES
 FILL: Stiff to very-stiff gray SILTY CLAY, little fine to coarse sand, trace to little fine to coarse gravel, few roots, slightly organic, few medium-stiff zones, damp to moist.

Medium-dense brown SILT, little clay, trace fine to coarse sand, moist.

Hard brown becoming gray SANDY SILT, little to some clay, trace to little fine to coarse gravel, few cobbles, damp.

SHALE, reddish-brown and gray, severely weathered, very weak, few zones similar to hard soil.

ELEV.	DEPTHS	SPT/ RQD	REC (%)	N ₆₀	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G)	BACK FILL
745.2	1	3	39	9	2.0-3.5	-	-	-	-	-	-	-	-	14	A-6b (V)	>>>
744.5	2	3	39	9	2.0-3.5	-	-	-	-	-	-	-	-	14	A-6b (V)	>>>
	3															>>>
	4	2	67	8	0.5-1.5	-	-	-	-	-	-	-	-	22	A-6b (V)	>>>
739.7	5	2	67	8	0.5-1.5	-	-	-	-	-	-	-	-	22	A-6b (V)	>>>
	6	2	89	12	-	-	-	-	-	-	-	-	-	21	A-4b (V)	>>>
	7	4	89	12	-	-	-	-	-	-	-	-	-	21	A-4b (V)	>>>
	8	4	89	12	-	-	-	-	-	-	-	-	-	21	A-4b (V)	>>>
	9	2	100	15	-	0	0	5	81	14	NP	NP	NP	21	A-4b (8)	>>>
	10	4	100	15	-	-	-	-	-	-	-	-	-	21	A-4b (8)	>>>
734.7	11	4	100	38	4.5+	-	-	-	-	-	-	-	-	14	A-4a (V)	>>>
	12	9	100	38	4.5+	-	-	-	-	-	-	-	-	14	A-4a (V)	>>>
	13	16	89	42	4.5+	-	-	-	-	-	-	-	-	11	A-4a (V)	>>>
	14	13	89	42	4.5+	-	-	-	-	-	-	-	-	11	A-4a (V)	>>>
	15	15	89	42	4.5+	-	-	-	-	-	-	-	-	11	A-4a (V)	>>>
	16	14	100	57	4.5+	-	-	-	-	-	-	-	-	10	A-4a (7)	>>>
	17	16	100	57	4.5+	-	-	-	-	-	-	-	-	10	A-4a (7)	>>>
	18	22	100	57	4.5+	-	-	-	-	-	-	-	-	10	A-4a (7)	>>>
	19	16	100	57	4.5+	-	-	-	-	-	-	-	-	10	A-4a (7)	>>>
725.7	20	26	100	50-4"	4.5+	-	-	-	-	-	-	-	-	8	A-4a (V)	>>>
	21	8	67	39	-	-	-	-	-	-	-	-	-	8	Rock (V)	>>>
	22	14	67	39	-	-	-	-	-	-	-	-	-	8	Rock (V)	>>>
	23	12	67	39	-	-	-	-	-	-	-	-	-	8	Rock (V)	>>>
	24	7	100	48	-	-	-	-	-	-	-	-	-	-	Rock (V)	>>>
720.2	25	16	100	48	-	-	-	-	-	-	-	-	-	-	Rock (V)	>>>

NOTES:
 - No seepage noted.

PLATE 8

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL A
 START: 5/16/23 END: 5/16/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB MOBILE B-57
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 90*

STATION / OFFSET: 595+00.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 744.7 (MSL) EOB: 10.5 ft.
 COORD: 41.400501 N, 82.154842 W

EXPLORATION ID: B-006-1-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES

ROOTMAT - 8 INCHES
 FILL: Very-stiff gray and brown SILTY CLAY, some fine to coarse sand, trace fine gravel, damp.

SANDSTONE, reddish-brown and gray, severely weathered, very weak, few completely degraded zones similar to fine to coarse sand.

ELEV.	DEPTHS	SPT/ RQD	REC (%)	N ₆₀	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G)	BACK FILL
744.7	1	3	67	11	2.0-3.0	-	-	-	-	-	-	-	-	15	A-6b (9)	>>>
744.0	2	3	67	11	2.0-3.0	-	-	-	-	-	-	-	-	15	A-6b (9)	>>>
	3	4	67	11	2.0-3.0	-	-	-	-	-	-	-	-	15	A-6b (9)	>>>
741.7	4	8	67	80	-	-	-	-	-	-	-	-	-	14	Rock (V)	>>>
	5	37	67	80	-	-	-	-	-	-	-	-	-	14	Rock (V)	>>>
	6	50-5"	40	-	-	-	-	-	-	-	-	-	-	-	Rock (V)	>>>
	7															>>>
	8															>>>
736.2	9	50	100	48	-	-	-	-	-	-	-	-	-	-	Rock (V)	>>>
734.2	10															>>>

NOTES:
 - Encountered water at 8.5'.
 - Encountered auger refusal at 10.5'.
 - Water measured at 5.5' in HSA at completion.

PLATE 9

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 9-5-23	
PROJECT ID	
107714	
SUBSET	TOTAL
47	99
SHEET	
X	X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOGS B-005-2-23 & B-006-1-23

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: OTB / C. SVITAK		DRILL RIG: OTB MOBILE B-57		STATION / OFFSET: 597+08.78' RT		EXPLORATION ID			
TYPE: NOISE WALL		SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI		IHAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-006-2-23			
PID: 107714 BR ID: WALL A		DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 12/22/22		ELEVATION: 744.0 (MSL) EOB: 13.7 ft.		PAGE			
START: 5/16/23 END: 5/16/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 90*		COORD: 41.400821 N, 82.154238 W		1 OF 1			
MATERIAL DESCRIPTION AND NOTES											
ROOTMAT - 9 INCHES		ELEV. 744.0		SPT/ RQD		GRADATION (%)		ATTERBERG		BACK FILL	
FILL: Stiff to very-stiff gray and brown SILTY CLAY, some fine to coarse sand, trace fine gravel, few medium-stiff zones, damp.		743.3		1						Rock (V)	
				2							
				3							
				4		1		27		18	
		738.5		5							
Dense to very-dense gray SANDY SILT, some fine to coarse gravel (sandstone fragments), trace clay, dry to damp.				6							
				7		3		29		8	
				8							
SANDSTONE, gray, severely weathered, very weak to weak.		735.5		9							
				10							
				11							
		733.0		12							
				13							
		730.3		13							
				E.O.B.							

NOTES:
 - Encountered seepage at 11'.

PLATE 10

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: OTB / C. SVITAK		DRILL RIG: OTB MOBILE B-57		STATION / OFFSET: 699+34.645' LT		EXPLORATION ID			
TYPE: NOISE WALL		SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI		IHAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-032-1-23			
PID: 107714 BR ID: WALL D		DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 12/22/22		ELEVATION: 692.8 (MSL) EOB: 25.0 ft.		PAGE			
START: 6/20/23 END: 6/20/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 90*		COORD: 41.406460 N, 82.116367 W		1 OF 1			
MATERIAL DESCRIPTION AND NOTES											
CONCRETE - 10 INCHES		ELEV. 692.8		SPT/ RQD		GRADATION (%)		ATTERBERG		BACK FILL	
FILL: Loose gray GRAVEL WITH SAND, trace silt, trace clay, damp.		692.0		1						Rock (V)	
FILL: Very-stiff to hard gray, brown and reddish-brown SILTY CLAY, little to some fine to coarse sand, trace to little fine gravel, slightly organic, damp.		690.8		2							
				3							
				4							
				5							
		687.3		6		0		1		22	
POSSIBLE FILL: Very-stiff brown mottled with gray CLAY, "and" silt, trace fine to coarse sand, damp to moist.				7							
				8							
Hard brown mottled with gray SILTY CLAY, little fine to coarse sand, trace fine gravel, damp to moist.		684.8		9							
				10							
				11							
				12							
				13							
		679.8		14							
Very-stiff to hard gray SANDY SILT, some to "and" clay, trace fine to coarse gravel, few seams of fine to coarse sand, becoming reddish-brown at 23.8 feet, damp.				15							
				16							
				17		6		12		17	
				18							
				19							
				20							
				21							
				22							
				23							
				24							
		667.8		25							
				E.O.B.							

NOTES:
 - Encountered seepage at 21.0'.

PLATE 2

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 9-5-23	
PROJECT ID	
107714	
SUBSET	TOTAL
48	99
SHEET	TOTAL
X	X

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS DRILLING FIRM / OPERATOR: OTB / C. SVITAK DRILL RIG: OTB MOBILE B-57 EXPLORATION ID
TYPE: NOISE WALL SAMPLING FIRM / LOGGERS&ME / N. SOKOLOVSKY I-HAMMER: CME AUTOMATIC IR 90 CENTERLINE B-032-2-23
PID: 107714 BR ID: WALL D DRILLING METHOD: 3.25" HSA SPT DEPTHS 1-25 ELEV. 696.7
START: 6/20/23 END: 6/20/23 SAMPLING METHOD: SPT 3.25" HSA

MATERIAL DESCRIPTION AND NOTES	ELEV.	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)						ATTERBERG	ODOT CLASS (G)	BACK FILL		
						GR	CS	FS	SI	CL	LL				PL	PI
CONCRETE - 9 INCHES	695.9	6	7	78	4.5+											
GRANULAR BASE - 9 INCHES	695.2	5	6	67	2.0-3.0	8	16	27	41	37	20	21	A-6b (V)			
FILL: Very-stiff to hard gray and dark gray SILTY CLAY, some fine to coarse sand, trace fine to coarse gravel, slight solvent odor, damp.	686.2	3	4	89	4.0-4.5+							19	A-6b (V)			
	686.2	1	5	14	100							18	A-6b (V)			
	686.2	2	2	8	56	1.5-2.0	0	1	2	42	55	41	28	13	26	A-7-6 (9)
	686.2	2	5	15	94	2.0-3.5									20	A-7-6 (V)
	686.2	3	5	17	100	4.5+									16	A-6a (V)
	686.2	3	8	24	100	4.5+									16	A-6a (V)
	686.2	5	9	29	100	4.5+									15	A-6a (V)
	686.2	6	10	35	100	4.5+									15	A-6a (V)
	686.2	6	10	35	100	4.5+									15	A-6a (V)
	686.2	6	10	35	100	4.5+									15	A-6a (V)

NOTES
- No seepage noted.

PLATE 3

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS DRILLING FIRM / OPERATOR: OTB / C. SVITAK DRILL RIG: OTB MOBILE B-57 EXPLORATION ID
TYPE: NOISE WALL SAMPLING FIRM / LOGGERS&ME / N. SOKOLOVSKY I-HAMMER: CME AUTOMATIC IR 90 CENTERLINE B-032-3-23
PID: 107714 BR ID: WALL D DRILLING METHOD: 3.25" HSA SPT DEPTHS 1-25 ELEV. 697.3
START: 6/20/23 END: 6/20/23 SAMPLING METHOD: SPT 3.25" HSA

MATERIAL DESCRIPTION AND NOTES	ELEV.	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)						ATTERBERG	ODOT CLASS (G)	BACK FILL		
						GR	CS	FS	SI	CL	LL				PL	PI
CONCRETE - 9-1/4 INCHES	696.5	2	21	100												
FILL: Very-dense gray GRAVEL WITH SAND, trace silt, trace clay, damp.	694.6	2	4	61	2.0-3.0	15	11	21	25	28	35	17	18	A-1-b (V)		
FILL: Very-stiff gray, dark gray, reddish-brown and brown SILTY CLAY, some fine to coarse sand, trace to little fine to coarse gravel, few wood and brick fragments, slight asphalt odor in SS-3, damp.	691.3	1	3	12	100											
	691.3	5	7	38	72									17	A-6b (V)	
	691.3	1	3	12	100									14	A-6b (V)	
	691.3	2	2	9	78	2.0-3.0	0	0	1	36	63	44	21	23	25	A-7-6 (14)
	691.3	3	7	26	100	4.5+									20	A-7-6 (V)
	691.3	3	5	18	83	4.5+									25	A-7-6 (V)
	691.3	2	5	20	100	4.5+									20	A-7-6 (V)
	691.3	4	6	21	100	4.5+									17	A-6b (V)
	691.3	3	7	27	100	4.5+									17	A-6b (V)
	691.3	3	7	27	100	4.5+									17	A-6b (V)

NOTE
- Encountered seepage at 6.0'.
- Encountered water at 13.0'.
- After removing augers, borehole caved at 5.9' and was dry.

PLATE 4

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY
KAH

DESIGNER
KAH

REVIEWER
BKS 9-5-23

PROJECT ID
107714

SUBSET TOTAL
49 99

SHEET TOTAL
X X



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: S&ME / T. FROST	DRILL RIG: S&ME ATV D50 (R80)	STATION / OFFSET: 704+14, 338' LT		EXPLORATION ID												
TYPE: NOISE WALL		SAMPLING FIRM / LOGGER: S&ME / T. FROST	HAMMER: CME AUTOMATIC	ALIGNMENT: IR 90 CENTERLINE		B-032-4-23												
PID: 107714 BR ID: WALL D		DRILLING METHOD: 2.25" HSA	CALIBRATION DATE: 6/6/22	ELEVATION: 697.9 (MSL) EOB: 25.0 ft.		PAGE												
START: 6/20/23 END: 6/20/23		SAMPLING METHOD: SPT	ENERGY RATIO (%): 85.4	COORD: 41.405724 N, 82.114532 W		1 OF 1												
MATERIAL DESCRIPTION AND NOTES		ELEV.	SPT / RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (Gi)	BACK FILL	
ROOTMAT - 2 INCHES		697.9																
FILL: Very-stiff brown and gray SILT AND CLAY, little to some fine to coarse sand, trace fine to coarse gravel, few brick and wood fragments, damp.		697.7		3	23	100	3.5-4.0	-	-	-	-	-	-	-	-	-	13	A-6a (V)
FILL: Dense to very-dense gray and dark gray GRAVEL WITH SAND (shale fragments), trace silt, trace clay, few cobbles (shale fragments), dry to damp.		694.9		13	31	100	SS-1	-	-	-	-	-	-	-	-	-	7	A-1-b (V)
PROBABLE FILL: Very-stiff gray and brown SILT AND CLAY, some fine to coarse sand, little to some fine to coarse gravel, damp.		690.4		5	11	100	SS-2	-	-	-	-	-	-	-	-	-	-	-
Very-stiff to hard brown mottled with gray SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.		688.9		6	50-5"	100	SS-3	-	-	-	-	-	-	-	-	-	8	A-1-b (V)
Very-stiff brown SILT AND CLAY, little to some fine to coarse sand, trace fine to coarse gravel, few cobbles, damp.		687.4		4	8	100	SS-4	3.0-3.5	-	-	-	-	-	-	-	-	15	A-6a (V)
		677.4		4	5	100	SS-5	2.5-3.0	1	2	9	33	55	38	19	23	A-6b (12)	
				4	8	100	SS-6	3.0-4.5	-	-	-	-	-	-	-	-	22	A-6b (V)
				5	11	89	SS-7	4.0-4.5	-	-	-	-	-	-	-	-	21	A-6b (V)
				5	8	100	SS-8	2.5-3.0	-	-	-	-	-	-	-	-	27	A-6b (V)
		677.4		4	5	100	SS-9	2.5-3.0	7	7	12	33	41	28	15	18	A-6a (9)	
				7	8	89	SS-10	2.0-2.5	-	-	-	-	-	-	-	-	15	A-6a (V)
		672.9		7	8	89	SS-10	2.0-2.5	-	-	-	-	-	-	-	-	15	A-6a (V)
NOTES																		
- Encountered water at 9.0'.																		
- Water measured at 9.0' inside HSA at completion.																		
NOTES: SEE ABOVE.																		
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE																		

PLATE 5



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: S&ME / T. FROST	DRILL RIG: S&ME ATV D50 (R80)	STATION / OFFSET: 705+72, 209' LT		EXPLORATION ID												
TYPE: NOISE WALL		SAMPLING FIRM / LOGGER: S&ME / T. FROST	HAMMER: CME AUTOMATIC	ALIGNMENT: IR 90 CENTERLINE		B-032-5-23												
PID: 107714 BR ID: WALL D		DRILLING METHOD: 2.25" HSA	CALIBRATION DATE: 6/6/22	ELEVATION: 699.4 (MSL) EOB: 25.0 ft.		PAGE												
START: 6/20/23 END: 6/20/23		SAMPLING METHOD: SPT	ENERGY RATIO (%): 85.4	COORD: 41.405406 N, 82.113921 W		1 OF 1												
MATERIAL DESCRIPTION AND NOTES		ELEV.	SPT / RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (Gi)	BACK FILL	
ROOTMAT - 2 INCHES		699.4																
FILL: Hard brown and gray SILT AND CLAY, little to some fine to coarse sand, trace to little fine to coarse gravel, few brick fragments, damp.		699.2		3	28	100	SS-1	4.5+	-	-	-	-	-	-	-	-	13	A-6a (V)
FILL: Very-stiff (est.) gray SILT AND CLAY, some fine to coarse gravel (shale fragments), some fine to coarse sand, dry.		696.4		5	50	100	SS-2	-	35	15	8	30	12	27	16	11	7	A-6a (2)
FILL: Very-stiff gray SILT AND CLAY, little to some fine to coarse sand, trace fine to coarse gravel, few shale fragments, damp.		693.9		3	3	89	SS-3	3.5-4.0	-	-	-	-	-	-	-	-	13	A-6a (V)
FILL: Very-stiff to hard (est.) gray SILT AND CLAY, some fine to coarse gravel, some fine to coarse sand, few cobbles and shale fragments, dry.		691.4		50-5"	100	SS-4	-	-	23	15	9	30	23	30	16	14	7	A-6a (5)
Very-stiff gray SILTY CLAY, little to some fine to coarse sand, trace fine gravel (shale fragments), damp.		689.4		3	3	11	SS-5	2.5-3.0	-	-	-	-	-	-	-	-	18	A-6b (V)
Stiff to very-stiff brown mottled with gray SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.		683.9		4	6	21	SS-6	3.5-4.0	-	-	-	-	-	-	-	-	18	A-6b (V)
Stiff to very-stiff gray SILT AND CLAY, little fine to coarse sand, trace fine gravel, damp.		676.4		3	5	16	SS-7	2.5-3.0	-	-	-	-	-	-	-	-	22	A-6b (V)
		674.4		3	3	13	SS-8	1.5-2.0	6	7	6	29	52	38	18	20	27	A-6b (12)
				3	5	17	SS-9	2.0-2.5	-	-	-	-	-	-	-	-	20	A-6b (V)
		674.4		3	5	30	SS-10	1.5-2.5	-	-	-	-	-	-	-	-	16	A-6a (V)
NOTES																		
- Encountered water at 10.0'.																		
- Water measured at 10.0' inside HSA at completion.																		
NOTES: SEE ABOVE.																		
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE																		

PLATE 6

DESIGN AGENCY

DESIGNER
KAH

REVIEWER
BKS 9-5-23

PROJECT ID
107714

SUBSET TOTAL
50 99

SHEET TOTAL
X X

GEOTECHNICAL PROFILE - ROADWAY
BORING LOGS B-032-4-23 & B-032-5-23

LOR-90-10.76

MODEL: Sheet PAPER: 17X11 (in.) DATE: 9/6/2023 TIME: 10:34:15 AM USER: kharper
 \\EgnytaDrive\Ops\Columbus-1170\Projects\2021\217525A_ODOT D3_LOR-90-10.76 Noise Walls_Sherfield_OHI\GEO\CAD\107714_400-Engineering\Geotechnical\Sheets\107714_YL009 - B-032-6 and B-047-1.dgn

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS			DRILLING FIRM / OPERATOR: OTB / C. SVITAK			DRILL RIG: OTB MOBILE B-57			STATION / OFFSET: 707+57, 132' LT				EXPLORATION ID
TYPE: NOISE WALL			SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI			HAMMER: CME AUTOMATIC			ALIGNMENT: IR 90 CENTERLINE				B-032-6-23
PID: 107714 BR ID: WALL D			DRILLING METHOD: 3.25" HSA			CALIBRATION DATE: 12/22/22			ELEVATION: 700.2 (MSL) EOB: 25.0 ft.				PAGE
START: 6/20/23 END: 6/20/23			SAMPLING METHOD: SPT			ENERGY RATIO (%): 90*			COORD: 41.405234 N, 82.113229 W				1 OF 1
MATERIAL DESCRIPTION AND NOTES													BACK FILL
ASPHALT - 11 INCHES													
GRANULAR BASE - 4 INCHES													
FILL: Very-stiff to hard reddish-brown and gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, few brick and shale fragments, damp.													
FILL: Loose to medium-dense brown and gray GRAVEL WITH SAND, SILT AND CLAY, many shale fragments, damp.													
PROBABLE FILL: Stiff to very-stiff gray SILTY CLAY, little to some fine to coarse gravel, trace to little fine to coarse sand, few shale fragments, damp.													
Stiff to very-stiff grayish-brown SILTY CLAY, little fine to coarse sand, trace fine to coarse gravel, damp.													
Hard brown mottled with gray SILTY CLAY, little fine to coarse sand, trace fine to coarse gravel, damp.													

NOTES
 - No seepage noted.

PLATE 7

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH, SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS			DRILLING FIRM / OPERATOR: OTB / C. SVITAK			DRILL RIG: OTB SIMCO 2800			STATION / OFFSET: 780+36, 81' RT				EXPLORATION ID
TYPE: NOISE WALL			SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI			HAMMER: CME AUTOMATIC			ALIGNMENT: IR 90 CENTERLINE				B-047-1-23
PID: 107714 BR ID: WALL E			DRILLING METHOD: 2.25" HSA			CALIBRATION DATE: 12/22/22			ELEVATION: 674.7 (MSL) EOB: 23.8 ft.				PAGE
START: 5/17/23 END: 5/17/23			SAMPLING METHOD: SPT			ENERGY RATIO (%): 83.2			COORD: 41.415676 N, 82.092958 W				1 OF 1
MATERIAL DESCRIPTION AND NOTES													BACK FILL
ROOTMAT MIXED WITH GRANULAR FILL - 16 INCHES													
Very-stiff to hard brown mottled with gray SILT AND CLAY, little to some fine to coarse sand, trace to little fine to coarse gravel, damp.													
Hard grayish-brown becoming gray SANDY SILT, some clay, trace fine to coarse gravel (shale fragments), damp.													
SHALE, gray, severely weathered, very-weak to weak, partly similar to hard soil.													

NOTES
 - No seepage noted.

PLATE 2

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY:

DESIGNER: KAH

REVIEWER: BKS 9-5-23

PROJECT ID: 107714

SHEET SUBSET: 51 / 99

SHEET TOTAL: X / X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOGS B-032-6-23 & B-047-1-23



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL E
 START: 5/17/23 END: 5/17/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOVSKY
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB SIMCO 2800
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 83.2

STATION / OFFSET: 782+25.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 676.0 (MSL) EOB: 23.8 ft.
 COORD: 41.415927 N, 82.092355 W

DEPTH (ft)	SPT / RQD	REC (%)	N ₆₀	SPT SAMPLE ID	HP (tsf)	GRADATION (%)						WC	BACK FILL	
						GR	CS	FS	SI	CL	LL			PL
1	2	4	15	SS-1	4.5+									
2	4	7	15	SS-1	4.5+									
3	5	7	17	SS-2	4.5+	0	1	35	64	40	18	22	21	A-6b (13)
4	3	5	15	SS-3A	2.0								16	A-6b (V)
5	5	6	15	SS-3B	2.5									A-6a (V)
6	3	5	17	SS-4	2.0	6	8	12	32	42	29	15	14	A-6a (9)
7	5	7	17	SS-4	2.5									
8	6	8	26	SS-5	4.5+								14	A-6a (V)
9	8	11	31	SS-6	4.5+									
10	9	13	44	SS-7	4.5+									
11	14	18	44	SS-7	4.5+									
12	14	18	44	SS-7	4.5+									
13	14	18	44	SS-7	4.5+									
14	6	9	31	SS-8	4.5+								14	A-6a (V)
15	9	13	44	SS-8	4.5+									
16	7	14	44	SS-8	4.5+									
17	14	18	44	SS-8	4.5+									
18	14	18	44	SS-8	4.5+									
19	28	50-3"	-	SS-8	4.5+	6	8	12	41	33	26	14	12	A-6a (9)
20	28	50-3"	-	SS-8	4.5+									
21	23	50	-	SS-9A										A-6a (V)
22	50		-	SS-9B										Rock (V)
23	50-3"		-	SS-10										Rock (V)

NOTES:
 - No seepage noted.

PLATE 3

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL E
 START: 5/17/23 END: 5/17/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOVSKY
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB SIMCO 2800
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 83.2

STATION / OFFSET: 784+29.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 678.0 (MSL) EOB: 24.3 ft.
 COORD: 41.416189 N, 82.091698 W

DEPTH (ft)	SPT / RQD	REC (%)	N ₆₀	SPT SAMPLE ID	HP (tsf)	GRADATION (%)						WC	BACK FILL	
						GR	CS	FS	SI	CL	LL			PL
1	2	4	15	SS-1	4.0									
2	4	7	15	SS-1	4.5									
3	4	7	15	SS-1	4.5									
4	6	8	19	SS-2	4.5+									
5	4	6	19	SS-2	4.5+									
6	3	5	18	SS-3	4.5+									
7	5	8	18	SS-3	4.5+									
8	2	2	10	SS-4	1.5									
9	2	5	10	SS-4	2.0									
10	3	5	17	SS-5	1.5									
11	5	7	17	SS-5	2.0									
12	3	6	19	SS-6	3.0									
13	6	8	19	SS-6	3.5									
14	11	17	40	SS-7	4.5+									
15	12	17	40	SS-7	4.5+									
16	17	25	-	SS-8	4.5+									
17	25	50-4"	-	SS-8	4.5+									
18	14	25	73	SS-9	4.5+									
19	25	28	73	SS-9	4.5+	9	7	8	37	39	27	14	13	A-6a (9)
20	28	50-3"	-	SS-10	4.5+									
21	28	50-3"	-	SS-10	4.5+									
22	28	50-3"	-	SS-10	4.5+									
23	28	50-3"	-	SS-10	4.5+									
24	28	50-3"	-	SS-10	4.5+									

NOTES:
 - Encountered split-spoon refusal on possible shale at 24.3'.
 - No seepage noted.

PLATE 4

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 9-5-23
 PROJECT ID
 107714
 SUBSET TOTAL
 52 99
 SHEET TOTAL
 X X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOGS B-048-1-23 & B-048-2-23

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL E
 START: 5/17/23 END: 5/17/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB SIMCO 2800
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 83.2

STATION / OFFSET: 786+25.77' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 679.9 (MSL) EOB: 25.0 ft.
 COORD: 41.416445 N, 82.091070 W

EXPLORATION ID: B-049-1-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES

DEPTHS	ELEV.	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG			WC	ODOT CLASS (G)	BACK FILL	
						GR	CS	FS	SI	CL	LL	PL				PI
1	679.9	3	12	50	SS-1	4.5+	-	-	-	-	-	-	-	-	-	A-6b (V)
2	679.0	3	6													
3		3	6													
4		3	5	78	SS-2	4.5+	0	1	42	57	37	19	18	22		A-6b (11)
5		5	6													
6		3	7	24	SS-3	4.5+	-	-	-	-	-	-	-	21		A-6b (V)
7		7	10													
8		3	5	17	SS-4	2.5-4.5	-	-	-	-	-	-	-	21		A-6b (V)
9	669.4	5	7													
10		3	5	17	SS-5	2.0-3.5	-	-	-	-	-	-	-	16		A-6a (V)
11		3	5	17	SS-5	2.0-3.5	-	-	-	-	-	-	-	16		A-6a (V)
12		4	6	19	SS-6	3.0-3.5	7	10	35	41	29	15	14	14		A-6a (10)
13		4	6	8												
14		6	9	29	SS-7	4.5+	-	-	-	-	-	-	-	14		A-6a (V)
15		9	12													
16		5	8	29	SS-8	4.5+	-	-	-	-	-	-	-	14		A-6a (V)
17		8	13	42	SS-9	4.5+	-	-	-	-	-	-	-	7		A-4a (V)
18		13	17													
19		13	21	65	SS-10	4.5+	-	-	-	-	-	-	-	10		A-4a (V)
20	659.4	21	26													
21																
22																
23																
24																
25	654.9															

NOTES:
 - No seepage noted.

PLATE 5

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL E
 START: 5/17/23 END: 5/17/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB SIMCO 2800
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 83.2

STATION / OFFSET: 788+24.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 681.7 (MSL) EOB: 25.0 ft.
 COORD: 41.416700 N, 82.090430 W

EXPLORATION ID: B-049-2-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES

DEPTHS	ELEV.	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG			WC	ODOT CLASS (G)	BACK FILL	
						GR	CS	FS	SI	CL	LL	PL				PI
1	681.7	2	3	15	SS-1	4.5+	-	-	-	-	-	-	-	-	-	A-6b (V)
2	680.8	3	8													
3		4	6													
4		3	4	14	SS-2	4.5+	-	-	-	-	-	-	-	20		A-6b (V)
5		3	6	19	SS-3	4.5+	-	-	-	-	-	-	-	20		A-6b (V)
6		3	6	8												
7		4	7	26	SS-4	4.5+	-	-	-	-	-	-	-	10		A-4a (V)
8	673.7	7	12													
9		3	5	18	SS-5	2.5-3.5	4	8	18	45	25	21	13	8		A-4a (7)
10		2	3	11	SS-6	2.0-3.0	-	-	-	-	-	-	-	14		A-4a (V)
11	668.7	4	5													
12		4	6	22	SS-7	4.5+	-	-	-	-	-	-	-	13		A-6a (V)
13		5	8													
14	666.2	8	10													
15		5	8	25	SS-8	4.5+	-	-	-	-	-	-	-	14		A-6a (V)
16		8	10													
17		13	32	92	SS-9	-	26	25	16	23	10	20	13	7		A-2-4 (0)
18		16	25	76	SS-10	-	-	-	-	-	-	-	-	9		A-2-4 (V)
19																
20	661.2															
21																
22																
23																
24																
25	656.7															

NOTES:
 - No seepage noted.

PLATE 6

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY:

DESIGNER: KAH

REVIEWER: BKS 11-21-23

PROJECT ID: 107714

SUBSET: 53 TOTAL: 99

SHEET: X TOTAL: X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOGS B-049-1-23 & B-049-2-23

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL E
 START: 5/18/23 END: 5/18/23
 DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOVSKY
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB SIMCO 2800
 I-HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 83.2

STATION / OFFSET: 790+31.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 683.6 (MSL) EOB: 25.0 ft.
 COORD: 41.416968 N, 82.089763 W

EXPLORATION ID: B-050-1-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)							WC	BACK FILL
							GR	CS	FS	SI	CL	LL	PL		
GRANULAR SHOULDER FILL - 13 INCHES	683.6	1	3	10	56	3.0-3.5	-	-	-	-	-	-	-	22	A-7-6 (V)
POSSIBLE FILL: Very-stiff to hard dark-gray and gray mottled with brown CLAY, some silt, trace fine to coarse sand, trace fine gravel, damp.	682.5	2	5												
		3													
		4													
		5													
	678.1	6													
Hard gray mottled with brown CLAY, some silt, trace to little fine to coarse sand, trace fine gravel, damp.		7													
		8													
		9													
		10													
	673.1	11													
Hard gray SILT AND CLAY, some fine to coarse sand, trace fine to coarse gravel, damp.		12													
		13													
	670.6	14													
Hard gray SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.		15													
	668.1	16													
Very-stiff to hard gray mottled with brown SANDY SILT, "and" clay, trace fine to coarse gravel, few shale fragments in SS-10.		17													
		18													
		19													
		20													
		21													
		22													
		23													
		24													
	658.6	25													

NOTES:
 - No seepage noted.

PLATE 7

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL E
 START: 5/18/23 END: 5/18/23
 DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOVSKY
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB SIMCO 2800
 I-HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 83.2

STATION / OFFSET: 792+27.77' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 685.3 (MSL) EOB: 25.0 ft.
 COORD: 41.417223 N, 82.089136 W

EXPLORATION ID: B-050-2-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)							WC	BACK FILL
							GR	CS	FS	SI	CL	LL	PL		
GRANULAR SHOULDER FILL - 14 INCHES	685.3	1	3	11	67	1.5-3.0	-	-	-	-	-	-	-	20	A-7-6 (V)
FILL: Stiff to very-stiff dark-gray CLAY, some to "and" silt, some fine to coarse sand, trace fine gravel, damp.	684.1	2	5												
		3													
		4													
		5													
	680.3	6													
Very-stiff brown mottled with gray SILTY CLAY, trace fine to coarse sand, trace fine gravel, damp to moist.		7													
		8													
		9													
		10													
		11													
		12													
		13													
		14													
		15													
		16													
		17													
	667.3	18													
Very-stiff gray mottled with brown CLAY, some to "and" silt, little fine to coarse sand, trace fine gravel, damp.		19													
		20													
		21													
		22													
		23													
		24													
	660.3	25													

NOTES:
 - No seepage noted.

PLATE 8

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 9-5-23
 PROJECT ID
 107714
 SUBSET TOTAL
 54 99
 SHEET TOTAL
 X X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOGS B-050-1-23 & B-050-2-23



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
TYPE: NOISE WALL
PID: 107714 BR ID: WALL E
START: 5/18/23 END: 5/18/23
DRILLING FIRM / OPERATOR: OTB / C. SVITAK
SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
DRILLING METHOD: 2.25" HSA
SAMPLING METHOD: SPT
DRILL RIG: OTB SIMCO 2800
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 12/22/22
ENERGY RATIO (%): 83.2
STATION / OFFSET: 794+29.78' RT
ALIGNMENT: IR 90 CENTERLINE
ELEVATION: 686.7 (MSL) EOB: 25.0 ft.
COORD: 41.417484 N, 82.088484 W

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				WC	BACK FILL				
							GR	CS	FS	SI						
GRANULAR SHOULDER FILL - 13 INCHES	686.7	1	4	10	50	2.0-3.0	-	-	-	-	21	A-7-6 (V)				
FILL: Very-stiff dark-gray, brown and gray CLAY, some silt, little to some fine to coarse sand, trace fine gravel, damp to moist.	685.6	2	5													
		3														
		4	2	10	67	2.5-3.5	-	-	-	-	29	A-7-6 (V)				
		5														
Very-stiff to hard gray mottled with brown CLAY, some to "and" silt, little fine to coarse sand, trace fine gravel, damp.	681.2	6	2	12	67	2.5-4.0	0	4	10	33	53	41	20	21	19	A-7-6 (13)
		7	4	5												
		8														
		9	2	11	67	4.0-4.5	-	-	-	-	-	23	A-7-6 (V)			
		10	3	5												
Very-stiff to hard brown mottled with gray SILTY CLAY, trace to little fine to coarse sand, trace fine gravel, damp.	676.2	11														
		12	5	29	100	4.5+	-	-	-	-	-	15	A-6b (V)			
		13	12													
		14	8	26	100	3.0-3.5	-	-	-	-	-	16	A-6b (V)			
		15	11													
		16	4	19	78	1.5-2.0	-	-	-	-	-	15	A-6a (V)			
Stiff to very-stiff gray SILT AND CLAY, little to some fine to coarse sand, trace fine to coarse gravel, few shale fragments below 20', becoming hard below 23', damp.	671.2	17	6	8												
		18														
		19	3	19	67	2.5-3.0	-	-	-	-	-	16	A-6a (V)			
		20	6	8												
		21														
		22	3	17	67	1.0-1.5	5	8	12	33	42	28	16	12	17	A-6a (9)
		23	5	7												
		24	5	6	21	100	4.0-4.5	-	-	-	-	-	15	A-6a (V)		
		25	6	9												

NOTES:
- No seepage noted.

PLATE 9

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
TYPE: NOISE WALL
PID: 107714 BR ID: WALL E
START: 5/18/23 END: 5/18/23
DRILLING FIRM / OPERATOR: OTB / C. SVITAK
SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
DRILLING METHOD: 2.25" HSA
SAMPLING METHOD: SPT
DRILL RIG: OTB SIMCO 2800
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 12/22/22
ENERGY RATIO (%): 83.2
STATION / OFFSET: 796+32.77' RT
ALIGNMENT: IR 90 CENTERLINE
ELEVATION: 687.6 (MSL) EOB: 25.0 ft.
COORD: 41.417748 N, 82.087833 W

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				WC	BACK FILL				
							GR	CS	FS	SI						
GRANULAR SHOULDER FILL - 12 INCHES	687.6	1	3	10	50	3.5-4.5	-	-	-	-	15	A-4a (V)				
FILL: Loose gray and brown SANDY SILT, some clay, trace fine to coarse gravel, damp.	686.6	2	4													
		3														
FILL: Hard gray SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.	684.6	4	3	18	50	4.5+	-	-	-	-	20	A-6b (V)				
		5	8													
PROBABLE FILL: Stiff to very-stiff gray mottled with brown SILT AND CLAY, little fine to coarse sand, slightly organic, damp.	682.1	6	2	12	67	1.5-2.5	0	5	12	36	47	28	17	11	12	A-6a (8)
FILL: Loss on Ignition (LOI) Test on SS-3 = 2.5%. Hard gray mottled with brown CLAY, some to "and" silt, trace to little fine to coarse sand, trace fine gravel, damp.	679.6	7	3	6												
		8														
		9	3	15	67	4.5+	-	-	-	-	-	25	A-7-6 (V)			
		10	4	7												
Very-stiff to hard gray mottled with brown SILTY CLAY, little fine to coarse sand, trace fine gravel, few silt seams, damp.	677.1	11	6	29	100	4.5+	-	-	-	-	-	16	A-6b (V)			
		12	9	12												
		13	5	29	89	4.5+	-	-	-	-	-	17	A-6b (V)			
		14	9	12												
		15	5	22	100	3.0-3.5	-	-	-	-	-	15	A-6b (V)			
		16	8	8												
		17	5	15	100	2.0-2.5	6	9	19	37	29	21	13	8	11	A-4a (6)
Very-stiff to hard gray SANDY SILT, some fine to coarse sand, trace fine to coarse gravel, few shale fragments below 23', damp.	669.6	18	3	5	100	2.5										
		19	6	15	100	3.5-4.5	-	-	-	-	-	-	14	A-4a (V)		
		20	4	8												
		21														
		22	6	19	78	3.5-4.5	-	-	-	-	-	-	14	A-4a (V)		
		23														
		24	5	26	67	4.5+	-	-	-	-	-	-	14	A-4a (V)		
		25	9	10												

NOTES:
- No seepage noted.

PLATE 10

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
KAH
 REVIEWER
BKS 9-5-23
 PROJECT ID
107714
 SUBSET TOTAL
55 99
 SHEET TOTAL
X X

GEOTECHNICAL PROFILE - ROADWAY
BORING LOGS B-051-1-23 & B-051-2-23



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: OTB / C. SVITAK		DRILL RIG: OTB SIMCO 2800		STATION / OFFSET: 798+27.76' RT		EXPLORATION ID			
TYPE: NOISE WALL		SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI		IHAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-052-1-23			
PID: 107714 BR ID: WALL E		DRILLING METHOD: 2.25" HSA		CALIBRATION DATE: 12/22/22		ELEVATION: 688.4 (MSL) EOB: 25.0 ft.		PAGE			
START: 5/18/23 END: 5/18/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 83.2		COORD: 41.418009 N, 82.087204 W		1 OF 1			
MATERIAL DESCRIPTION AND NOTES		ELEV.		SPT/ RQD		GRADATION (%)		ATTERBERG		BACK FILL	
GRANULAR SHOULDER FILL - 12 INCHES		688.4		7 9 4							
FILL: Medium-dense gray SANDY SILT, some clay, trace fine to coarse gravel, damp to moist. POSSIBLE FILL: Very-stiff gray mottled with brown SILT AND CLAY, "and" fine to coarse sand, trace fine to coarse gravel, few shale fragments, damp.		687.4		2 4 4		4 13 35 25 23 30 16 14				16 A-4a (V)	
		686.6		2 4 4		2 0- 2.5		-		19 A-6a (4)	
Very-stiff to hard brown SILTY CLAY, trace fine to coarse sand, trace fine gravel, damp to moist.		680.4		2 4 6		3 0- 3.5		-		14 A-6a (V)	
				3 5 6		4 5+		-		22 A-6b (V)	
Stiff becoming very-stiff to hard gray mottled with brown SILT AND CLAY, little fine to coarse sand, trace fine gravel, damp.		670.4		4 8 11		2 0- 2.5		0 1 38 61 37 20 17		26 A-6b (11)	
				2 4 6		1 0- 1.5		-		13 A-6a (V)	
				2 4 6		2 0- 3.5		-		16 A-6a (V)	
				4 6 9		4 0- 4.5		-		15 A-6a (V)	

NOTES:
- No seepage noted.

PLATE 11

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: OTB / C. SVITAK		DRILL RIG: OTB SIMCO 2800		STATION / OFFSET: 800+28.77' RT		EXPLORATION ID			
TYPE: NOISE WALL		SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI		IHAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-052-2-23			
PID: 107714 BR ID: WALL E		DRILLING METHOD: 2.25" HSA		CALIBRATION DATE: 12/22/22		ELEVATION: 687.8 (MSL) EOB: 25.0 ft.		PAGE			
START: 5/22/23 END: 5/22/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 83.2		COORD: 41.418304 N, 82.086560 W		1 OF 1			
MATERIAL DESCRIPTION AND NOTES		ELEV.		SPT/ RQD		GRADATION (%)		ATTERBERG		BACK FILL	
GRANULAR SHOULDER FILL - 12 INCHES		687.8		3 8 5							
FILL: Very-stiff to hard dark-brown SILT AND CLAY, some fine to coarse sand, trace to little fine to coarse gravel, damp.		686.8		2 6 7		3 0- 4.5+		-		15 A-6a (V)	
		682.3		2 2 2		0 5- 0.75		3 6 36 30 25 28 16 12		26 A-6a (5)	
Stiff to very-stiff brown mottled with gray SILTY CLAY, trace fine to coarse sand, damp to moist.		679.8		2 2 4		1 5- 2.5		0 1 3 51 45 36 18 18		21 A-6b (11)	
				3 6 10		2 0- 4.0		-		25 A-6b (V)	
				4 5 7		3 0- 4.0		-		27 A-6b (V)	
				3 4 5		2 5- 3.0		-		27 A-6b (V)	
Stiff to very-stiff gray mottled with brown SILT AND CLAY, little fine to coarse sand, trace fine gravel, damp.		667.3		3 4 6		1 5- 2.0		0 1 2 29 68 38 19 19		22 A-6b (12)	
				3 5 6		1 0- 1.5		-		16 A-6a (V)	
				4 7 9		2 5- 3.5		-		15 A-6a (V)	

NOTES:
- No seepage noted.

PLATE 12

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 11-21-23	
PROJECT ID	
107714	
SUBSET	TOTAL
56	99
SHEET	TOTAL
X	X

GEOTECHNICAL PROFILE - ROADWAY
BORING LOGS B-052-1-23 & B-052-2-23



S&ME JOB: 217525A

GP1

PROJECT: LOR-90-10.76 NOISE WALLS TYPE: NOISE WALL PID: 107714 BR ID: WALL E START: 5/22/23 END: 5/22/23	DRILLING FIRM / OPERATOR: OTB / C. SVITAK SAMPLING FIRM / LOGGERS&ME / N. SOKOLOVSKY DRILLING METHOD: 2.25" HSA SAMPLING METHOD: SPT	DRILL RIG: OTB SIMCO 2800 HAMMER: CME AUTOMATIC CALIBRATION DATE: 12/22/22 ENERGY RATIO (%): 83.2	STATION / OFFSET: 802+23.77' RT ALIGNMENT: IR 90 CENTERLINE ELEVATION: 686.0 (MSL) EOB: 25.0 ft. COORD: 41.418631 N, 82.085968 W							EXPLORATION ID B-053-1-23							
			GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G)					
MATERIAL DESCRIPTION AND NOTES			SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G)	BACK FILL
GRANULAR SHOULDER FILL - 12 INCHES			1														
FILL: Medium-dense gray, brown and dark-gray GRAVEL WITH SAND AND SILT, trace clay, damp.			2	8	17	50									11		A-2-4 (V)
FILL: Hard dark-gray and dark-brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.			3														
POSSIBLE FILL: Stiff gray and brown CLAY, some silt, trace fine to coarse sand, slightly organic, moist.			4	5	17	67									17		A-6b (V)
Very-stiff to hard brown mottled with gray CLAY, some silt, trace to little fine to coarse sand, trace fine gravel, damp.			5														
Stiff to very-stiff gray mottled with brown SILTY CLAY, trace fine sand, moist.			6	2	8	50	1.0-2.0	0	1	9	31	59	46	19	26		A-7-6 (16)
Stiff to very-stiff gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, few hard zones, damp.			7														
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			8	2	6	78	3.0-4.5+								20		A-7-6 (V)
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			9														
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			10	3	6	21	3.5-4.5+								23		A-7-6 (V)
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			11														
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			12	3	4	14	1.5-3.0	0	1	30	69	37	19	18	26		A-6b (11)
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			13														
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			14	3	4	14	1.5-3.5								15		A-6a (V)
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			15														
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			16	4	6	21	2.0-3.5								16		A-6a (V)
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			17														
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			18	3	4	14	1.5-3.5								15		A-6a (V)
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			19														
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			20	4	6	21	2.0-3.5								16		A-6a (V)
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			21														
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			22	3	4	14	1.5-3.0								15		A-6a (V)
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			23														
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			24	5	6	21	2.0-4.5								14		A-6a (V)
Stiff to very-stiff gray SANDY SILT, little fine gravel, moist.			25														
NOTES: SEE ABOVE. ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE																	

GP2

PLATE 13



S&ME JOB: 217525A

GP1

PROJECT: LOR-90-10.76 NOISE WALLS TYPE: NOISE WALL PID: 107714 BR ID: WALL E START: 5/22/23 END: 5/22/23	DRILLING FIRM / OPERATOR: OTB / C. SVITAK SAMPLING FIRM / LOGGERS&ME / N. SOKOLOVSKY DRILLING METHOD: 2.25" HSA SAMPLING METHOD: SPT	DRILL RIG: OTB SIMCO 2800 HAMMER: CME AUTOMATIC CALIBRATION DATE: 12/22/22 ENERGY RATIO (%): 83.2	STATION / OFFSET: 804+15.78' RT ALIGNMENT: IR 90 CENTERLINE ELEVATION: 683.8 (MSL) EOB: 25.0 ft. COORD: 41.418986 N, 82.085421 W							EXPLORATION ID B-053-2-23							
			GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G)					
MATERIAL DESCRIPTION AND NOTES			SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G)	BACK FILL
FILL: Medium-dense gray and brown GRAVEL WITH SAND AND SILT, trace clay, moist.			1														
FILL: Medium-dense brown SANDY SILT, little fine gravel, little clay, damp.			2	8	17	67									22		A-2-4 (V)
Very-stiff to hard brown mottled with gray SILTY CLAY, trace fine to coarse sand, trace fine gravel, damp.			3														
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			4	3	12	67	3.0-3.5								22		A-4a (V)
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			5												25		A-6b (V)
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			6	3	6	19	4.5+								24		A-6b (V)
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			7														
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			8	3	6	19	4.5+								21		A-6b (V)
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			9														
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			10	5	7	19	2.0-4.0	0	1	26	73	40	22	18	24		A-6b (11)
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			11														
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			12	3	5	15	3.0-3.5								13		A-6a (V)
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			13														
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			14	3	4	14	3.0-4.5								15		A-6a (V)
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			15														
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			16	4	5	18	2.0-3.0	5	9	11	32	43	28	15	15		A-6a (9)
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			17														
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			18	4	5	18	3.0-3.5								15		A-6a (V)
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			19														
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			20	5	6	26	4.5+								15		A-6a (V)
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			21														
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			22	9	10	100	4.5+								15		A-6a (V)
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			23														
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			24	5	6	26	4.5+								15		A-6a (V)
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.			25														
NOTES: SEE ABOVE. ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE																	

GP2

PLATE 14

DESIGN AGENCY	
DESIGNER	KAH
REVIEWER	BKS
PROJECT ID	107714
SUBSET	TOTAL
57	99
SHEET	TOTAL
X	X

GEOTECHNICAL PROFILE - ROADWAY
BORING LOGS B-053-1-23 & B-053-2-23

S&ME JOB: 217525A



PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL E
 START: 5/22/23 END: 5/22/23
 DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT
 DRILL RIG: OTB SIMCO 2800
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 83.2
 STATION / OFFSET: 805+97.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 681.6 (MSL) EOB: 25.0 ft.
 COORD: 41.419355 N, 82.084943 W
 EXPLORATION ID: B-054-1-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	SPT / RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)						ATTERBERG			ODOT CLASS (G)	BACK FILL		
						GR	FS	SI	CL	LL	PL	PI	WC					
GRANULAR SHOULDER FILL - 12 INCHES	681.6	3	7	17	100	SS-1	3.0-4.5+	-	-	-	-	-	-	-	-	-	-	-
	680.6	5	5															
	678.6	3	4	12	67	SS-2	3.5-4.5+	-	-	-	-	-	-	-	-	-	-	-
		4	5															
		6	3	5	19	100	SS-3	4.5+	-	-	-	-	-	-	-	-	-	-
		7	9															
		8																
		9	4	6	21	83	SS-4	4.5+	-	-	-	-	-	-	-	-	-	-
		10	9															
		671.1	2	3	11	100	SS-5	1.0-1.5	0	1	35	63	35	18	17	29	A-6b (11)	
Stiff gray SILTY CLAY, trace fine to coarse sand, moist.	668.6	3	4	14	100	SS-6	3.0-3.5	-	-	-	-	-	-	-	-	-	-	-
Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, becoming partly similar to severely weathered, very-weak shale at 23.5', damp.		15	6															
		16	3	4	14	100	SS-7	2.5-3.0	5	9	11	29	46	28	17	15	A-6a (8)	
		17	6															
		18																
		19	3	5	19	100	SS-8	3.5-4.5+	-	-	-	-	-	-	-	-	-	-
		20	9															
		21	5	9	26	100	SS-9	4.5+	-	-	-	-	-	-	-	-	-	-
		22	10															
		23																
		656.6	20	28	90	56	SS-10	4.5+	-	-	-	-	-	-	-	-	-	-
		37																

NOTES:
 - No seepage noted.

PLATE 15

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 9-5-23
 PROJECT ID
 107714
 SUBSET TOTAL
 58 99
 SHEET TOTAL
 X X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOG B-054-1-23



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: OTB / C. SVITAK		DRILL RIG: OTB MOBILE B-57		STATION / OFFSET: 835+60, 107' RT		EXPLORATION ID									
TYPE: NOISE WALL		SAMPLING FIRM / LOGGERS: S&ME / N. SOKOLOWSKI		HAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-061-1-23									
PID: 107714 BR ID: WALL F		DRILLING METHOD: 3.25" HSA / NQ		CALIBRATION DATE: 12/22/22		ELEVATION: 649.9 (MSL) EOB: 20.0 ft.		PAGE									
START: 6/19/23 END: 6/19/23		SAMPLING METHOD: SPT / NQ		ENERGY RATIO (%): 90*		COORD: 41.427229 N, 82.082639 W		1 OF 1									
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT / RQD	REC SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
GRANULAR SHOULDER FILL - 8 INCHES		649.9	1	2													
POSSIBLE FILL: Very-stiff gray, dark-gray and brown SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, few shale fragments, damp.		649.2	2	4	11	3.5	-	-	-	-	-	-	-	-	13	A-6a (V)	
Very-stiff to hard gray mottled with brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.		646.9	3	4													
Dense to very-dense gray and dark-gray SANDY SILT, some fine to coarse gravel (highly weathered shale fragments), little clay, dry to damp.		644.4	4	4													
SHALE, gray, severely weathered, very-weak, highly fractured.		640.3	5	4	12	78	-	-	-	-	-	-	-	-	20	A-6b (V)	
SHALE, gray and dark-gray, highly weathered to moderately weathered, weak to slightly strong, laminated bedding, fissile, partly blocky structure.		636.9	6	8	15	78	-	-	-	-	-	-	-	-	8	A-4a (2)	
- From 18.9' - 19.3': Unconfined Compressive Strength Test = 1,371 psi.			7	15	19												
			8	9	42	100	-	-	-	-	-	-	-	-	8	A-4a (V)	
			9	9	19										6	Rock (V)	
			10	15	50										5	Rock (V)	
			11	22	90-1"										5	Rock (V)	
			12	33													
			13														
			14														
			15														
			16														
			17														
			18														
			19														
			20														
			EOB														

NOTES:
 - No seepage noted.
 - Encountered auger refusal at 15.0'.



LOR-90-10.76 Noise Walls
 Lorain County, Ohio
 S&ME Project No. 217525A

Boring B-061-1-23



- From 18.9' - 19.3': Unconfined Compressive Strength Test = 1,371 psi.
- Unconfined Compressive Strength Test attempted from 18.4' - 18.8', but sample delaminated during test preparation.

* Width of core box = 2ft.

Core Run #:	Depth	Recovery	RQD
NQ-7	15.0' - 20.0'	60/60	20/60
		100%	33%
LOR-90-10.75 Widening and Noise Walls, Lorain Co., Ohio		PID 107714	

DESIGN AGENCY	
DESIGNER	KAH
REVIEWER	BKS
PROJECT ID	107714
SUBSET	TOTAL
59	99
SHEET	TOTAL
X	X

LOR-90-10.76

MODEL: Sheet PAPER: 17X11 (in.) DATE: 9/6/2023 TIME: 11:37:32 AM USER: m Harper
 \\Egnyte\drive\Columbus-1170\Projects\2021\217525A_ODOT D3_LOR-90-10.76 Noise Walls_Sheffield_OH\GEO\CAD\107714\400-Engineering\Geotechnical\Sheets\107714_YL017 - B-062-1 and B-062-2.dgn



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: OTB / C. SVITAK		DRILL RIG: OTB MOBILE B-57		STATION / OFFSET: 837+62, 103' RT		EXPLORATION ID			
TYPE: NOISE WALL		SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI		IHAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-062-1-23			
PID: 107714 BR ID: WALL F		DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 12/22/22		ELEVATION: 650.5 (MSL) EOB: 13.8 ft.		PAGE			
START: 6/19/23 END: 6/19/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 90*		COORD: 41.427784 N, 82.082659 W		1 OF 1			
MATERIAL DESCRIPTION AND NOTES		ELEV.		SPT/ RQD		GRADATION (%)		ATTERBERG		BACK FILL	
		650.5									
		649.8		1							
GRANULAR SHOULDER FILL - 9 INCHES				2							
POSSIBLE FILL: Very-stiff gray and brown SILT AND CLAY, some fine to coarse sand, trace fine to coarse gravel, damp.				4							
		647.5		5							
Very-stiff to hard brown mottled with gray SILTY CLAY, little fine to coarse sand, trace fine gravel, few iron oxide stains below 5 feet, partly similar to severely weathered shale below 5.5', damp.				2		3		17		19	
				4		41		38		17	
		644.0		6							
SHALE, brownish-gray, severely to highly weathered, very-weak to weak.				12							
				20							
				50.4"							
				30							
				50.2"							
		636.7		50.3"							
				EOB							

NOTES:
- No seepage noted.

PLATE 3

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: OTB / C. SVITAK		DRILL RIG: OTB MOBILE B-57		STATION / OFFSET: 839+44, 100' RT		EXPLORATION ID			
TYPE: NOISE WALL		SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI		IHAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-062-2-23			
PID: 107714 BR ID: WALL F		DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 12/22/22		ELEVATION: 650.2 (MSL) EOB: 16.2 ft.		PAGE			
START: 6/19/23 END: 6/19/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 90*		COORD: 41.428283 N, 82.082677 W		1 OF 1			
MATERIAL DESCRIPTION AND NOTES		ELEV.		SPT/ RQD		GRADATION (%)		ATTERBERG		BACK FILL	
		650.2									
		649.9		2							
ROOTMAT - 4 INCHES				3							
POSSIBLE FILL: Very-stiff to hard gray and brown SILT AND CLAY, little to some fine to coarse sand, trace to little fine to coarse gravel, damp.				6							
		647.2		4							
Very-stiff to hard gray mottled with brown SILTY CLAY, some fine to coarse sand, trace fine gravel, damp.				2		3		23		26	
				4		35		38		18	
		644.7		3							
Medium-dense to dense gray and dark-gray SANDY SILT, little to some fine to coarse gravel (severely weathered shale fragments), trace to little clay, damp.				11							
				16							
				6							
				9							
				29							
				100							
		639.2		15							
SHALE, dark-gray and gray, severely to highly weathered, very-weak to weak.				50.3"							
				50.5"							
				EOB							
		634.0		60.2"							
				EOB							

NOTES:
- No seepage noted.

PLATE 4

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 9-5-23	
PROJECT ID	
107714	
SUBSET	TOTAL
60	99
SHEET	TOTAL
X	X

**GEOTECHNICAL PROFILE - ROADWAY
BORING LOGS B-062-1-23 & B-062-2-23**



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: S&ME / T. FROST		DRILL RIG: S&ME ATV D50 (R80)		STATION / OFFSET: 841+60, 105' RT		EXPLORATION ID										
TYPE: NOISE WALL		SAMPLING FIRM / LOGGER: S&ME / T. FROST		HAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-063-1-23										
PID: 107714 BR ID: WALL F		DRILLING METHOD: 2.25" HSA		CALIBRATION DATE: 6/6/22		ELEVATION: 648.3 (MSL) EOB: 13.9 ft.		PAGE										
START: 6/19/23 END: 6/19/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 85.4		COORD: 41.428875 N, 82.082664 W		1 OF 1										
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
ROOTMAT - 5 INCHES		648.3	1	2	19	89	4.5											
FILL: Hard brown and gray SILT AND CLAY, little to some fine to coarse sand, trace fine to coarse gravel, few plastic fragments, damp.		647.9	2	5	8											15	A-6a (V)	
Stiff gray mottled with brown SILT AND CLAY, "and" fine to coarse sand, trace fine gravel, slightly organic, damp.		645.3	3	4														
Very-stiff gray and brown SANDY SILT, some clay, trace fine gravel, dry to damp.		642.8	4	8	23	100	1.5-2.0	2	8	30	24	36	31	16	15	19	A-6a (7)	
SHALE, dark-gray to gray, highly weathered, very-weak to weak.		640.3	5	3	4	11	3.5-4.0									7	A-4a (V)	
			6	4														
			7	14														
			8	28														
			9	50														
			10															
			11															
			12															
			13															
		634.4	EOB	50		100												Rock (V)

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: S&ME / T. FROST		DRILL RIG: S&ME ATV D50 (R80)		STATION / OFFSET: 843+60, 97' RT		EXPLORATION ID										
TYPE: NOISE WALL		SAMPLING FIRM / LOGGER: S&ME / T. FROST		HAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-063-2-23										
PID: 107714 BR ID: WALL F		DRILLING METHOD: 2.25" HSA		CALIBRATION DATE: 6/6/22		ELEVATION: 648.3 (MSL) EOB: 13.8 ft.		PAGE										
START: 6/19/23 END: 6/19/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 85.4		COORD: 41.429425 N, 82.082697 W		1 OF 1										
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
ROOTMAT - 3 INCHES		648.3	1	3	13	94	4.5+											
POSSIBLE FILL: Hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.		648.0	2	4														
Very-stiff gray SILTY CLAY, trace to little fine to coarse sand, trace fine gravel, few roots, few shale fragments, damp to moist.		642.8	3	7	23	100	4.5											
SHALE, dark-gray becoming gray, severely to highly weathered, very-weak to weak.		639.8	4	8	27	100	2.5-3.5											
			5	11														
			6	22														
			7	23														
			8	50														
			9															
			10															
			11															
			12															
			13															
		634.5	EOB	50		100												Rock (V)

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 6/19/23 END: 6/19/23

DRILLING FIRM / OPERATOR: S&ME / T. FROST
 SAMPLING FIRM / LOGGER: S&ME / T. FROST
 DRILLING METHOD: 3.25" HSA / NQ
 SAMPLING METHOD: SPT / NQ

DRILL RIG: S&ME ATV D50 (R80)
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 6/6/22
 ENERGY RATIO (%): 85.4

STATION / OFFSET: 845+63, 96' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 647.6 (MSL) EOB: 15.0 ft.
 COORD: 41.429980 N, 82.082710 W

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT / RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)				WC	BACK FILL
								GR	FS	SI	PI		
ROOTMAT - 4 INCHES FILL: Hard gray and brown SILT AND CLAY, little fine to coarse sand, trace fine to coarse gravel, few straw and brick fragments, damp.	647.6	1	3	5	14	94	SS-1	4.5+	-	-	-	15	A-6a (V)
	647.3	2	5	5									
	644.6	3	4	7	21	100	SS-2	4.5	-	-	-	28	A-7-6 (V)
Hard gray and dark-gray CLAY, some to "and" silt, trace to little fine to coarse sand, trace fine gravel, damp.	642.1	4	3	5	17	100	SS-3	3.0-4.0	-	-	-	23	A-6b (V)
		5	5	7									
Very-stiff brown mottled with gray SILTY CLAY, trace to little fine to coarse sand, trace fine to coarse gravel, damp.	639.1	6	27	50.4"	-	100	SS-4	-	-	-	-	-	Rock (V)
		7	0										CORE
SHALE, dark-gray and gray, highly becoming moderately to slightly weathered, very-weak becoming slightly to moderately strong, laminated bedding, fissile, fractured to highly fractured.	632.6	8	0										CORE
		9	0										CORE

NOTES:
 - No seepage noted.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



LOR-90-10.76 Noise Walls
 Lorain County, Ohio
 S&ME Project No. 217525A

Boring B-064-1-23



* Width of core box = 2ft.

Core Run #:	Depth	Recovery	RQD
NQ-5	10.0' - 12.0'	24/24	100%
NQ-6	12.0' - 15.0'	36/36	100%

LOR-90-10.75 Widening and Noise Walls, Lorain Co., Ohio
 PID 107714



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: S&ME / T. FROST		DRILL RIG: S&ME ATV D50 (R80)		STATION / OFFSET: 847+69, 89' RT		EXPLORATION ID	
TYPE: NOISE WALL		SAMPLING FIRM / LOGGER: S&ME / T. FROST		HAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-064-2-23	
PID: 107714 BR ID: WALL F		DRILLING METHOD: 2.25" HSA		CALIBRATION DATE: 6/6/22		ELEVATION: 647.0 (MSL) EOB: 13.8 ft.		PAGE	
START: 6/19/23 END: 6/19/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 85.4		COORD: 41.430542 N, 82.082740 W		1 OF 1	
MATERIAL DESCRIPTION AND NOTES									
ROOTMAT - 4 INCHES		ELEV. 647.0		SPT/ RQD		GR		ODOT CLASS (GI)	
POSSIBLE FILL: Hard brown and gray SILT AND CLAY, little to some fine to coarse sand, trace fine to coarse gravel, damp.		646.7		1					
Very-stiff brown mottled with gray SILTY CLAY, trace to little fine to coarse sand, trace fine gravel, damp.		644.0		2					
				3					
				4					
				5					
				6					
				7					
				8					
SHALE, dark-gray becoming gray, severely to highly weathered, very-weak to weak.		638.5		9					
				10					
				11					
				12					
				13					
		633.2		EOB					

NOTES:
 - No seepage noted.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: S&ME / T. FROST		DRILL RIG: S&ME ATV D50 (R80)		STATION / OFFSET: 849+66, 83' RT		EXPLORATION ID	
TYPE: NOISE WALL		SAMPLING FIRM / LOGGER: S&ME / T. FROST		HAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-065-1-23	
PID: 107714 BR ID: WALL F		DRILLING METHOD: 2.25" HSA		CALIBRATION DATE: 6/6/22		ELEVATION: 646.3 (MSL) EOB: 13.8 ft.		PAGE	
START: 6/19/23 END: 6/19/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 85.4		COORD: 41.431073 N, 82.082739 W		1 OF 1	
MATERIAL DESCRIPTION AND NOTES									
ROOTMAT - 3 INCHES		ELEV. 646.3		SPT/ RQD		GR		ODOT CLASS (GI)	
POSSIBLE FILL: Hard brown and gray SILT AND CLAY, little fine to coarse sand, trace fine to coarse gravel, few iron oxide stains, slightly organic, damp.		646.0		1					
Very-stiff dark-brown and dark-gray CLAY, some silt, trace fine to coarse sand, damp.		643.3		2					
				3					
				4					
				5					
				6					
				7					
				8					
Very-stiff to hard gray and dark-gray SILTY CLAY, trace to little fine to coarse sand, trace fine gravel, damp.		640.8		9					
				10					
				11					
				12					
				13					
		637.8		EOB					
SHALE, dark-gray becoming gray, severely to highly weathered, very-weak to weak, few iron oxide stains.		632.5		EOB					

NOTES:
 - No seepage noted.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS DRILLING FIRM / OPERATOR: S&ME / T. FROST STATION / OFFSET: 851+71.84' RT EXPLORATION ID
 TYPE: NOISE WALL SAMPLING FIRM / LOGGER: S&ME / T. FROST ALIGNMENT: IR 90 CENTERLINE B-065-2-23
 PID: 107714 BR ID: WALL F DRILLING METHOD: 2.25" HSA DEPTHS SPT 645.5 645.1
 START: 6/19/23 END: 6/19/23 SAMPLING METHOD: SPT 642.5 640.0 637.0 632.5 631.7

MATERIAL DESCRIPTION AND NOTES

ROOTMAT - 5 INCHES
 FILL: Hard gray and brown **SILT AND CLAY**, little to some fine to coarse sand, trace to little fine to coarse gravel, damp.
 Hard brown mottled with gray and dark-gray **CLAY**, some to "and" silt, trace fine to coarse sand, damp.
 Very-stiff to hard gray mottled with dark-gray **SILTY CLAY**, little fine to coarse sand, damp.
SHALE, dark-gray, severely weathered, very-weak, partly similar to hard soil.
SHALE, gray, highly weathered, weak.

NOTES:
 - No seepage noted.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS DRILLING FIRM / OPERATOR: OTB / C. SVITAK STATION / OFFSET: 853+73.78' RT EXPLORATION ID
 TYPE: NOISE WALL SAMPLING FIRM / LOGGERS&ME / N. SOKOLOVSKY ALIGNMENT: IR 90 CENTERLINE B-066-1-23
 PID: 107714 BR ID: WALL F DRILLING METHOD: 3.25" HSA DEPTHS SPT 645.8 645.1
 START: 6/19/23 END: 6/19/23 SAMPLING METHOD: SPT 641.6 640.3 634.8 629.5

MATERIAL DESCRIPTION AND NOTES

GRANULAR SHOULDER FILL - 9 INCHES
 POSSIBLE FILL: Hard gray and brown **SILT AND CLAY**, little fine to coarse sand, trace fine to coarse gravel, few iron oxide stains, damp.
 Very-stiff gray mottled with dark-gray **CLAY**, some to "and" silt, trace fine to coarse sand, damp.
 Very-stiff to hard gray mottled with brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp.
SHALE, gray, severely to highly weathered, very-weak to weak, partly similar to hard soil.

NOTES:
 - No seepage noted.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: S&ME / T. FROST		DRILL RIG: S&ME ATV D50 (R80)		STATION / OFFSET: 855+82, 86' RT		EXPLORATION ID										
TYPE: NOISE WALL		SAMPLING FIRM / LOGGER: S&ME / T. FROST		HAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-066-2-23										
PID: 107714 BR ID: WALL F		DRILLING METHOD: 3.25" HSA / NQ		CALIBRATION DATE: 6/6/22		ELEVATION: 644.5 (MSL) EOB: 17.0 ft.		PAGE										
START: 6/20/23 END: 6/20/23		SAMPLING METHOD: SPT / NQ		ENERGY RATIO (%): 85.4		COORD: 41.432708 N, 82.082434 W		1 OF 1										
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT / RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	GRADATION (%)				ATTERBERG	WC	ODOT CLASS (GI)	BACK FILL		
ROOTMAT - 2 INCHES		644.5	1	3	5	89	4.5+	-	CS	FS	SI	CL	LL	PL	PI	13	A-6a (V)	
POSSIBLE FILL: Hard brown and gray SILT AND CLAY, little fine to coarse sand, trace fine to coarse gravel, few iron oxide stains, damp.		644.3	2	5	9													
Very-stiff to hard gray mottled with dark-gray CLAY, some to "and" silt, trace fine to coarse sand, damp.		641.5	3	3	6	100	3.5-4.5	0	1	6	40	53	49	21	28	22	A-7-6 (17)	
			4	6	10													
			5	3	4	100	4.0-4.5	-								24	A-7-6 (V)	
			6	4	6													
			7	8	8	100												
		636.0	8	8	12													
SHALE, dark-gray, severely weathered, very-weak becoming weak, partly similar to hard soil.			9	8	28	100												Rock (V)
			10	12														
		633.0	11	50-5"		100												Rock (V)
			12															
			13															
			14															
			15															
			16															
		627.5	17															CORE
			EOB															

NOTES:
 - No seepage noted.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



LOR-90-10.76 Noise Walls
 Lorain County, Ohio
 S&ME Project No. 217525A

Boring B-066-2-23

* Width of core box = 2ft.

Core Run #:	Depth	Recovery	RQD
NQ-6	12.0' - 17.0'	60/60	0/60
		100%	0%

LOR-90-10.75 Widening and Noise Walls, Lorain Co., Ohio

PID 107714



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS DRILLING FIRM / OPERATOR: S&ME / T. FROST EXPLORATION ID
TYPE: NOISE WALL SAMPLING FIRM / LOGGER: S&ME / T. FROST HAMMER: CME AUTOMATIC B-067-1-23
PID: 107714 BR ID: WALL F WALL F DRILLING METHOD: 2.25" HSA 2.25" HSA CALIBRATION DATE: 6/6/22 ELEVATION: 643.9 (MSL) EOB: 13.9 ft. PAGE
START: 6/21/23 END: 6/21/23 SPT SAMPLING METHOD: 630.0 EOB 630.0 ENERGY RATIO (%): 85.4 COORD: 41.433233 N, 82.082265 W 1 OF 1

DEPTH	SPT	ELEV.	MATERIAL DESCRIPTION AND NOTES	SPT / RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG				WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
1	8	643.9	ROOTMAT - 3 INCHES	8	13	33	2.5-	0	1	33	66	60	24	36	16	A-6a (V)		
2	5	643.6	FILL: Very-stiff dark-gray SILT AND CLAY, little fine to coarse sand, trace fine gravel, damp.	5	4	33	3.0	0	1	33	66	60	24	36	16	A-6a (V)		
3	3	640.9	Very-stiff brown mottled with gray CLAY, some to "and" silt, trace fine sand, damp to moist.	3	16	100	2.5- 2.7	0	0	1	33	66	60	24	27	A-7-6 (20)		
4	3	638.4	Very-stiff gray mottled with reddish-brown SILTY CLAY, little fine to coarse sand, little fine to coarse gravel (shale fragments), partly similar to very-weak shale, damp.	3	8	100	3.2- 3.2	0	0	1	33	66	60	24	18	A-6b (V)		
5	3	635.9	SHALE, dark-gray, severely to highly weathered, very-weak becoming weak.	3	15	100	3.2- 3.2	0	0	1	33	66	60	24	18	A-6b (V)		
6	20	630.0		20	50-3"	100	-	0	0	1	33	66	60	24	18	Rock (V)		
7	10	630.0		10	50-5"	100	-	0	0	1	33	66	60	24	18	Rock (V)		
8	12	630.0		12	50-5"	100	-	0	0	1	33	66	60	24	18	Rock (V)		
9	13	630.0		13	50-5"	100	-	0	0	1	33	66	60	24	18	Rock (V)		
10	10	630.0		10	50-5"	100	-	0	0	1	33	66	60	24	18	Rock (V)		
11	10	630.0		10	50-5"	100	-	0	0	1	33	66	60	24	18	Rock (V)		
12	10	630.0		10	50-5"	100	-	0	0	1	33	66	60	24	18	Rock (V)		
13	10	630.0		10	50-5"	100	-	0	0	1	33	66	60	24	18	Rock (V)		
14	10	630.0		10	50-5"	100	-	0	0	1	33	66	60	24	18	Rock (V)		
15	10	630.0		10	50-5"	100	-	0	0	1	33	66	60	24	18	Rock (V)		

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS DRILLING FIRM / OPERATOR: S&ME / T. FROST EXPLORATION ID
TYPE: NOISE WALL SAMPLING FIRM / LOGGER: S&ME / T. FROST HAMMER: CME AUTOMATIC B-067-2-23
PID: 107714 BR ID: WALL F WALL F DRILLING METHOD: 2.25" HSA 2.25" HSA CALIBRATION DATE: 6/6/22 ELEVATION: 643.9 (MSL) EOB: 14.8 ft. PAGE
START: 6/21/23 END: 6/21/23 SPT SAMPLING METHOD: 629.1 EOB 629.1 ENERGY RATIO (%): 85.4 COORD: 41.433748 N, 82.082067 W 1 OF 1

DEPTH	SPT	ELEV.	MATERIAL DESCRIPTION AND NOTES	SPT / RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG				WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
1	3	643.9	ROOTMAT - 3 INCHES	3	17	100	4.5+	0	0	29	71	55	25	30	13	A-6a (V)		
2	5	643.6	POSSIBLE FILL: Hard brown and dark-gray SILT AND CLAY, little fine to coarse sand, trace to little fine to coarse gravel, damp.	5	7	100	4.5+	0	0	29	71	55	25	30	13	A-6a (V)		
3	3	640.9	Very-stiff brown mottled with gray and dark-gray CLAY, some to "and" silt, trace fine sand, damp to moist.	3	13	89	3.0- 3.2	0	0	29	71	55	25	30	29	A-7-6 (V)		
4	4	635.4	SHALE, dark-gray, severely weathered to completely degraded, very-weak, partly similar to hard soil.	4	5	100	3.0- 3.2	0	0	29	71	55	25	30	25	A-7-6 (19)		
5	2	630.0		2	14	100	2.7- 3.0	0	0	29	71	55	25	30	25	A-7-6 (19)		
6	4	630.0		4	6	100	2.7- 3.0	0	0	29	71	55	25	30	25	A-7-6 (19)		
7	15	630.0		15	20	100	-	0	0	29	71	55	25	30	25	A-7-6 (19)		
8	20	629.1		20	20	100	-	0	0	29	71	55	25	30	25	A-7-6 (19)		
9	5	629.1		5	14	100	-	0	0	29	71	55	25	30	25	A-7-6 (19)		
10	14	629.1		14	20	100	-	0	0	29	71	55	25	30	25	A-7-6 (19)		
11	10	629.1		10	12	100	-	0	0	29	71	55	25	30	25	A-7-6 (19)		
12	10	629.1		10	12	100	-	0	0	29	71	55	25	30	25	A-7-6 (19)		
13	10	629.1		10	12	100	-	0	0	29	71	55	25	30	25	A-7-6 (19)		
14	10	629.1		10	12	100	-	0	0	29	71	55	25	30	25	A-7-6 (19)		
15	10	629.1		10	12	100	-	0	0	29	71	55	25	30	25	A-7-6 (19)		

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
KAH
 REVIEWER
BKS 9-5-23
 PROJECT ID
107714
 SUBSET TOTAL
66 99
 SHEET TOTAL
X X

GEOTECHNICAL PROFILE - ROADWAY
BORING LOGS B-067-1-23 & B-067-2-23



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 6/21/23 END: 6/21/23

DRILLING FIRM / OPERATOR: S&ME / T. FROST
 SAMPLING FIRM / LOGGER: S&ME / T. FROST
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: S&ME ATV D50 (R80)
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 6/6/22
 ENERGY RATIO (%): 85.4

STATION / OFFSET: 861+90, 84' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 643.1 (MSL) EOB: 14.3 ft.
 COORD: 41.434271 N, 82.081820 W

EXPLORATION ID: B-068-1-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES

DEPTH (ft)	SPT / RQD	REC (%)	N ₆₀	HP (tsf)	GRADATION (%)					ATTERBERG			ODOT CLASS (GI)	BACK FILL	
					GR	CS	FS	SI	CL	LL	PL	PI			WC
1	5	100	20	4.0-4.5+	-	-	-	-	-	-	-	-	-	-	Rock (V)
2	6	100	20	4.0-4.5+	-	-	-	-	-	-	-	-	-	-	Rock (V)
3	8	100	20	4.0-4.5+	-	-	-	-	-	-	-	-	-	-	Rock (V)
4	5	100	16	2.5-2.7	-	-	-	-	-	-	-	-	-	-	Rock (V)
5	6	100	16	2.5-2.7	-	-	-	-	-	-	-	-	-	-	Rock (V)
6	3	100	11	2.5-2.8	0	0	1	27	72	65	27	38	28	23	A-7-6 (V)
7	3	100	11	2.5-2.8	0	0	1	27	72	65	27	38	28	23	A-7-6 (V)
8	5	100	11	2.5-2.8	0	0	1	27	72	65	27	38	28	23	A-7-6 (V)
9	6	100	46	100	SS-4	-	-	-	-	-	-	-	-	-	A-2-4 (V)
10	20	100	46	100	SS-4	-	-	-	-	-	-	-	-	-	A-2-4 (V)
11	30	100	50-5"	100	SS-5	-	-	-	-	-	-	-	-	-	Rock (V)
12	50-5"	100	50-5"	100	SS-5	-	-	-	-	-	-	-	-	-	Rock (V)
13	30	100	50-5"	100	SS-5	-	-	-	-	-	-	-	-	-	Rock (V)
14	30-4"	100	50-4"	100	SS-6	-	-	-	-	-	-	-	-	-	Rock (V)
EOB	30-4"	100	50-4"	100	SS-6	-	-	-	-	-	-	-	-	-	Rock (V)

NOTES:
 - No seepage noted.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 9-5-23
 PROJECT ID
 107714
 SUBSET TOTAL
 67 99
 SHEET TOTAL
 X X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOG B-068-1-23

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: OTB / C. SVITAK		DRILL RIG: OTB MOBILE B-57		STATION / OFFSET: 863+92, 79' RT		EXPLORATION ID									
TYPE: NOISE WALL		SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI		HAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-068-2-23									
PID: 107714 BR ID: WALL F		DRILLING METHOD: 3.25" HSA / NQ		CALIBRATION DATE: 12/22/22		ELEVATION: 642.9 (MSL) EOB: 20.0 ft.		PAGE									
START: 6/21/23 END: 6/21/23		SAMPLING METHOD: SPT / NQ		ENERGY RATIO (%): 90*		COORD: 41.434779 N, 82.081559 W		1 OF 1									
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT / RQD	REC SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
GRANULAR SHOULDER FILL - 10 INCHES		642.9	1	2													
FILL: Hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine to coarse gravel (shale fragments), slightly organic, damp.		642.1	2	3	11	78											A-6a (V)
POSSIBLE FILL: Very-stiff dark-gray CLAY, some to "and" silt, trace fine to coarse sand, moderately organic, moist.		639.9	3	4													
Very-stiff brown mottled with gray SILT AND CLAY, little fine to coarse sand, trace fine to coarse gravel, few iron oxide stains, damp.		637.9	4	2	12	44											A-7-6 (V)
			5	3													
			6	4	12	100											A-6a (V)
			7	4													
			8														
			9	3	15	100											
			10	7													
Dense brownish-gray GRAVEL WITH SAND AND SILT, little clay, few shale fragments, dry to damp.		632.4	11														
			12	9	20												
			13	50-5"													A-2-4 (V)
SHALE, gray, severely becoming highly to moderately weathered, very-weak to weak, laminated, friable, fissile, fractured to highly fractured.		630.9	14	35													
			15	50-2"													Rock (V)
			16														
			17														
			18	7													
			19														
			20														
		622.9	EOB														

NOTES:
 - No seepage noted.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



LOR-90-10.76 Noise Walls
 Lorain County, Ohio
 S&ME Project No. 217525A

Boring B-068-2-23



- Section of core from 19.66' - 20.0' preserved for Unconfined Compressive Strength Test; however, sample delaminated during test

* Width of core box = 2ft.

Core Run #:	Depth	Recovery	RQD
NQ-7	15.0' - 20.0'	60/60	4/60
		100%	7%
LOR-90-10.75 Widening and Noise Walls, Lorain Co., Ohio		PID 107714	

DESIGN AGENCY	
KAH	
DESIGNER	REVIEWER
BKS	9-5-23
PROJECT ID	
107714	
SUBSET	TOTAL
68	99
SHEET	TOTAL
X	X

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
TYPE: NOISE WALL
PID: 107714 BR ID: WALL F
START: 6/21/23 END: 6/21/23
DRILLING FIRM / OPERATOR: OTB / C. SVITAK
SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT
DRILL RIG: OTB MOBILE B-57
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 12/22/22
ENERGY RATIO (%): 90*

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG				WC	ODOT CLASS (G)	BACK FILL
							GR	CS	FS	SI	CL	LL	PL	PI			
FILL: Loose dark-gray GRAVEL WITH SAND AND SILT, little clay, few asphalt fragments, strong hydrocarbon odor, damp. FILL: Very-stiff gray SILT AND CLAY, little fine to coarse sand, trace fine to coarse gravel (shale fragments), damp. POSSIBLE FILL: Very-stiff to hard dark-gray CLAY, some to "and" silt, trace fine to coarse sand, moderately organic, damp to moist.	642.7	1	7	8	61	SS-1A	2.5*	-	-	-	-	-	-	-	9	A-2-4 (V)	
	641.4	2	2	3	61	SS-1B	3.5*	-	-	-	-	-	-	-	14	A-6a (V)	
	639.7	3	3	3	11	67	SS-2	3.0-4.5*	-	-	-	-	-	-	27	A-7-6 (V)	
	637.2	4	3	4	14	100	SS-3	3.0-4.5*	1	2	5	44	48	25	19	22	A-7-6 (12)
	632.2	5	2	4	5	100	SS-4	3.5-4.5*	-	-	-	-	-	-	-	21	A-7-6 (V)
Very-dense dark-gray GRAVEL WITH SAND AND SILT, little clay, many shale fragments, dry. SHALE, gray, severely to highly weathered, very-weak to weak.	630.7	6	11	27	-	100	SS-5	-	-	-	-	-	-	-	-	-	A-2-4 (V)
	623.9	7	19	50.5"	100	SS-6	-	-	-	-	-	-	-	-	-	-	Rock (V)
		8	50.5"	-	100	SS-7	-	-	-	-	-	-	-	-	-	-	Rock (V)
		9	50.4"	-	100	SS-8	-	-	-	-	-	-	-	-	-	-	Rock (V)
		10	50.3"	-	100	SS-8	-	-	-	-	-	-	-	-	-	-	Rock (V)
		11															
		12															
		13															
		14															
		15															
		16															
		17															
		18															
		TR															
		EOB															

NOTES:
- No seepage noted.

PLATE 17

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
TYPE: NOISE WALL
PID: 107714 BR ID: WALL F
START: 6/21/23 END: 6/21/23
DRILLING FIRM / OPERATOR: S&ME / T. FROST
SAMPLING FIRM / LOGGER: S&ME / T. FROST
DRILLING METHOD: 2.25" HSA
SAMPLING METHOD: SPT
DRILL RIG: S&ME ATV D50 (R80)
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 6/6/22
ENERGY RATIO (%): 85.4

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG				WC	ODOT CLASS (G)	BACK FILL
							GR	CS	FS	SI	CL	LL	PL	PI			
ROOTMAT - 3 INCHES POSSIBLE FILL: Very-stiff to hard brown mottled with gray and dark-gray SILT AND CLAY, little to some fine to coarse sand, trace to little fine to coarse gravel, damp. Very-stiff brown mottled with gray CLAY, "and" silt, trace fine to coarse sand, trace fine sand, damp to moist.	642.4	1	3	5	100	SS-1	4.0-4.5*	-	-	-	-	-	-	-	15	A-6a (V)	
	642.1	2	5	5	100	SS-1	4.0-4.5*	-	-	-	-	-	-	-	15	A-6a (V)	
	636.9	3	3	4	16	89	SS-2	3.0-3.3	-	-	-	-	-	-	22	A-7-6 (V)	
	631.9	4	4	5	14	100	SS-3	3.2-3.5	-	-	-	-	-	-	25	A-7-6 (14)	
	625.6	5	10	20	58	100	SS-5	-	-	-	-	-	-	-	-	-	Rock (V)
SHALE, dark-gray, severely to highly weathered, very-weak to weak, partly similar to hard soil.		6	33	50.4"	100	SS-6	-	-	-	-	-	-	-	-	-	-	Rock (V)
		7	15	50.3"	100	SS-7	-	-	-	-	-	-	-	-	-	-	Rock (V)
		8															
		9															
		10															
		11															
		12															
		13															
		14															
		15															
		16															
		TR															
		EOB															

NOTES:
- No seepage noted.

PLATE 18

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 9-5-23
 PROJECT ID
 107714
 SUBSET TOTAL
 69 99
 SHEET TOTAL
 X X

GEOTECHNICAL PROFILE - ROADWAY
BORING LOGS B-069-1-23 & B-069-2-23



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 6/21/23 END: 6/21/23

DRILLING FIRM / OPERATOR: S&ME / T. FROST
 SAMPLING FIRM / LOGGER: S&ME / T. FROST
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: S&ME ATV D50 (R80)
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 6/6/22
 ENERGY RATIO (%): 85.4

STATION / OFFSET: 869+99, 80' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 642.9 (MSL) EOB: 16.4 ft.
 COORD: 41.436228 N, 82.080531 W

EXPLORATION ID: B-070-1-23
 PAGE: 1 OF 1

DEPTH (ft)	SPT / RQD	REC (%)	N ₆₀	HP (tsf)	GRADATION (%)							WC	ODOT CLASS (GI)	BACK FILL	
					GR	FS	SI	CL	LL	PL	PI				
1	5	100	16	4.0-4.5+											
2	5	100	16	4.0-4.5+											
3	3	100	28	3.2-3.3											
4	5	100	28	3.2-3.3											
5	15	100	28	3.2-3.3											
6	4	94	21	3.7-3.8											
7	6	94	21	3.7-3.8											
8	4	100	23	3.5-3.8											
9	8	100	23	3.5-3.8											
10	10	100	23	3.5-3.8											
11	45	100	-	-											
12	50-2'	100	-	-											
13	50-5'	100	-	-											
14	50-5'	100	-	-											
15	50-5'	100	-	-											
16	50-5'	100	-	-											

NOTES:
 - No seepage noted.

PLATE 19

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 9-5-23
 PROJECT ID
 107714
 SUBSET TOTAL
 70 99
 SHEET TOTAL
 X X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOG B-070-1-23



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: S&ME / T. FROST		DRILL RIG: S&ME ATV D50 (R80)		STATION / OFFSET: 872+03, 85' RT		EXPLORATION ID											
TYPE: NOISE WALL		SAMPLING FIRM / LOGGER: S&ME / T. FROST		HAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-070-2-23											
PID: 107714 BR ID: WALL F		DRILLING METHOD: 3.25" HSA / NQ		CALIBRATION DATE: 6/6/22		ELEVATION: 642.1 (MSL) EOB: 17.0 ft.		PAGE											
START: 6/21/23 END: 6/21/23		SAMPLING METHOD: SPT / NQ		ENERGY RATIO (%): 85.4		COORD: 41.436706 N, 82.080145 W		1 OF 1											
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT / RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL	
ROOTMAT - 3 INCHES		642.1	1	3	4	11	4.0-4.5												
POSSIBLE FILL: Hard brown and dark-brown SILT AND CLAY, little to some fine to coarse sand, trace to little fine to coarse gravel, damp.		641.8	2	4	4	100	SS-1												
		639.1	3																
Very-stiff becoming hard brown mottled with gray SILTY CLAY, little fine to coarse sand, trace fine gravel, becoming similar to very-weak shale at 8.5', damp.			4	8	6	13	2.2-2.5												
			5																
			6	3	4	16	4.0-4.5												
			7	4	7	100	SS-3												
			8																
			9	6	10	40	SS-4												
			10																
SHALE, gray and dark-gray, highly weathered, weak to slightly strong, laminated bedding, slightly calcareous, fissile, fractured to highly fractured, few vertical fractures, slightly blocky structure.		631.6	11	35	50-5"	100	SS-5												Rock (V)
			12																
			13																
			14																
			15																
			16																
			17																
		625.1	EOB																

NOTES:
 - No seepage noted.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



LOR-90-10.76 Noise Walls
 Lorain County, Ohio
 S&ME Project No. 217525A

Boring B-070-2-23

* Width of core box = 2ft.

Core Run #:	Depth	Recovery	RQD
NQ-6	12.0' - 17.0'	60/60	0/60
		100%	0%

LOR-90-10.75 Widening and Noise Walls, Lorain Co., Ohio

PID 107714

LOR-90-10.76

MODEL: Sheet PAPER: 17x11 (in.) DATE: 9/6/2023 TIME: 3:31:47 PM USER: kharper
\\EgnyteDrive\Ops\Columbus-1170\Projects\2021\1217525A_ODOT D3_LOR-90-10.76 Noise Walls_Sheffield OH\GEO\CAD\107714\400-Engineering\Geotechnical\Sheets\107714_YL029 - B-071-1 & B-071-2.dgn

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS DRILLING FIRM / OPERATOR: OTB / C. SVITAK DRILL RIG: OTB MOBILE B-57 EXPLORATION ID
TYPE: NOISE WALL SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI I-HAMMER: CME AUTOMATIC IR 90 CENTERLINE B-071-1-23
PID: 107714 BR ID: WALL F WALL F 3.25" HSA 3.25" HSA CALIBRATION DATE: 12/22/22 ELEVATION: 642.5 (MSL) EOB: 23.8 ft. PAGE
START: 6/21/23 END: 6/21/23 SAMPLING METHOD: SPT ENERGY RATIO (%): 90* COORD: 41.437221 N, 82.079811 W 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG			ODOT CLASS (G)	BACK FILL
							GR	CS	FS	SI	CL	LL	PL		
ASPHALT - 9-1/2 INCHES	642.5	1	5												
GRANULAR BASE - 5-1/2 INCHES	641.7	2	2	8	56	4.5*								9	A-1-B (V)
FILL: Hard gray mottled with brown SILT AND CLAY, some fine to coarse sand, trace fine gravel, damp.	641.2	3	3											12	A-6a (V)
FILL: Loose gray COARSE AND FINE SAND, little silt, trace clay, trace fine gravel, moist to wet.	639.5	4	1	9	39		1	37	41	17	4	NP	NP	15	A-3a (0)
	637.0	5	2												
Stiff to very-stiff brown mottled with gray CLAY, "and" silt, little fine to coarse sand, damp.	632.0	6	2	3	78	2.5-3.5	0	2	13	43	42	49	22	23	A-7-6 (17)
		7	3												
		8	2												
		9	2	8	78	1.5-3.0								21	A-7-6 (V)
		10	3												
Hard brown and gray SANDY SILT, little clay, little fine gravel, few shale fragments, damp.		11	4	39	100	4.5*								12	A-4a (V)
		12	10												
		13	16												
		14	9	47	100	4.5*								8	A-4a (V)
		15	16												
		16	10												
SHALE, gray, highly weathered, weak.	626.5	17	50.4"		70										Rock (V)
		18													
		19	47		75										Rock (V)
		20	50.2"												
		21													
		22	60.3"		100										Rock (V)
		23													
	618.7	24	60.3"		100										Rock (V)

NOTES:
- No seepage noted.

PLATE 21

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS DRILLING FIRM / OPERATOR: OTB / C. SVITAK DRILL RIG: OTB MOBILE B-57 EXPLORATION ID
TYPE: NOISE WALL SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI I-HAMMER: CME AUTOMATIC IR 90 CENTERLINE B-071-2-23
PID: 107714 BR ID: WALL F WALL F 3.25" HSA 3.25" HSA CALIBRATION DATE: 12/22/22 ELEVATION: 641.6 (MSL) EOB: 16.5 ft. PAGE
START: 6/21/23 END: 6/21/23 SAMPLING METHOD: SPT ENERGY RATIO (%): 90* COORD: 41.437666 N, 82.079449 W 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG			ODOT CLASS (G)	BACK FILL
							GR	CS	FS	SI	CL	LL	PL		
GRANULAR SHOULDER FILL - 7 INCHES	641.6	1	5												
FILL: Loose to medium-dense brown and gray COARSE AND FINE SAND, little fine gravel, little silt, trace clay, damp.	641.0	2	5	15	67									10	A-3a (V)
		3	5												
		4	2	8	100		17	23	38	16	6	NP	NP	12	A-3a (0)
		5	3												
Very-stiff to hard gray mottled with brown CLAY, "and" silt, little fine to coarse sand, trace fine gravel, damp.	636.1	6	2	12	61	2.5-3.0								22	A-7-6 (V)
		7	3												
		8	5												
		9	2	15	39	4.5*								19	A-7-6 (V)
	631.1	10	4												
SHALE, gray, highly to severely weathered, very-weak to weak.		11	9	102	100										Rock (V)
		12	32												
		13	36												
		14	46		100										Rock (V)
		15	50.5"												
	625.1	16	50		100										Rock (V)

NOTES:
- No seepage noted.

PLATE 22

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 9-5-23
 PROJECT ID
 107714
 SUBSET TOTAL
 72 99
 SHEET TOTAL
 X X

GEOTECHNICAL PROFILE - ROADWAY
BORING LOGS B-071-1-23 & B-070-2-23

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 6/22/23 END: 6/22/23
 DRILLING FIRM / OPERATOR: S&ME / T. FROST
 SAMPLING FIRM / LOGGER: S&ME / T. FROST
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: S&ME ATV D50 (R80)
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 6/6/22
 ENERGY RATIO (%): 85.4
 STATION / OFFSET: 878+04, 82' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 640.3 (MSL) EOB: 18.8 ft.
 COORD: 41.438143 N, 82.079066 W

MATERIAL DESCRIPTION AND NOTES	ELEV.	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)							WC	ODOT CLASS (G)	BACK FILL			
						GR	CS	FS	SI	CL	LL	PL				PI		
ROOTMAT - 3 INCHES FILL: Loose to medium-dense brown COARSE AND FINE SAND, little silt, little clay, trace fine gravel, damp to moist. Very-stiff to hard brown mottled with gray CLAY, "and" silt, trace fine to coarse sand, trace fine gravel, damp. SHALE, dark-gray, severely weathered, very-weak, similar to hard soil. SHALE, gray, highly to severely weathered, weak.	640.3	3	17	100														
	634.8	3	10	100														
	629.8	3	11	100	3.5													
	627.8	4	19	100	4.0, 4.5													
	621.5	21	-	100														
		50-4"																
		50-5"																
		50-5"																
		50-4"																
		50-4"																

NOTES:
 - No seepage noted.

PLATE 23

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 6/22/23 END: 6/22/23
 DRILLING FIRM / OPERATOR: S&ME / T. FROST
 SAMPLING FIRM / LOGGER: S&ME / T. FROST
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: S&ME ATV D50 (R80)
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 6/6/22
 ENERGY RATIO (%): 85.4
 STATION / OFFSET: 879+93, 79' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 640.0 (MSL) EOB: 19.8 ft.
 COORD: 41.438598 N, 82.078732 W

MATERIAL DESCRIPTION AND NOTES	ELEV.	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)							WC	ODOT CLASS (G)	BACK FILL		
						GR	CS	FS	SI	CL	LL	PL				PI	
ROOTMAT - 3 INCHES FILL: Medium-dense reddish-gray COARSE AND FINE SAND, little silt, little clay, trace to little fine gravel, damp. Hard gray SILTY CLAY, some fine to coarse sand, trace fine gravel, damp. Very-stiff brown mottled with gray CLAY, some silt, trace fine to coarse sand, damp. SHALE, gray, highly to severely weathered, very-weak to weak, partly similar to hard soil above 13'.	640.0	3	17	100													
	639.7	5	9	100													
	637.0	2	14	89	3.7, 4.0												
	634.5	2	17	100	3.0, 3.2												
	629.0	13	63	89													
		17	27														
		50-3"			100												
		50-1"			100												
		50-1"			100												
		20	22														
		50-3"			100												

NOTES:
 - No seepage noted.

PLATE 24

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 9-5-23	
PROJECT ID	107714
SUBSET	TOTAL
73	99
SHEET	TOTAL
X	X

GEOTECHNICAL PROFILE - ROADWAY
BORING LOGS B-072-1-23 & B-072-2-23



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 6/22/23 END: 6/22/23

DRILLING FIRM / OPERATOR: S&ME / T. FROST
 SAMPLING FIRM / LOGGER: S&ME / T. FROST
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: S&ME ATV D50 (R80)
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 6/6/22
 ENERGY RATIO (%): 85.4

STATION / OFFSET: 882+06.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 640.0 (MSL) EOB: 18.9 ft.
 COORD: 41.439105 N, 82.078351 W

EXPLORATION ID: B-073-1-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT / RQD	REC (%)	N ₆₀	HP (tsf)	GRADATION (%)							WC	ODOT CLASS (GI)	BACK FILL
							GR	CS	FS	SI	CL	LL	PL			
ROOTMAT - 4 INCHES FILL: Medium-dense dark-brown COARSE AND FINE SAND, little fine to coarse gravel, trace silt, trace clay, damp.	640.0	1	13													
	639.7	2	8	100	21											
	637.0	3	7													
POSSIBLE FILL: Hard gray CLAY, "and" silt, trace to little fine to coarse sand, trace fine gravel, damp.	634.5	4	3		10	4.0-4.5+										
		5	4		3											
Very-stiff brown mottled with gray SILTY CLAY, trace fine to coarse sand, damp.	629.5	6	3		13	3.5										
		7	4		5											
Hard dark-gray SILT AND CLAY, some fine to coarse sand, trace fine to coarse gravel, partly similar to very-weak shale, damp.	627.0	9	3		14	3.2-3.5										
		10	7		7											
SHALE, dark-gray, severely to highly weathered, very-weak to weak.	621.1	11	5		44	4.5										
		12	16		16											
	621.1	13	35													
		14	50.4"													
	621.1	15														
		16	50.5"													
	621.1	17														
		18	50.5"													

NOTES:
 - No seepage noted.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 9-5-23
 PROJECT ID
 107714
 SUBSET TOTAL
 74 99
 SHEET TOTAL
 X X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOG B-073-1-23

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: OTB / C. SVITAK		DRILL RIG: OTB MOBILE B-57		STATION / OFFSET: 884+17.78' RT		EXPLORATION ID									
TYPE: NOISE WALL		SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI		HAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-073-2-23									
PID: 107714 BR ID: WALL F		DRILLING METHOD: 3.25" HSA / NQ		CALIBRATION DATE: 12/22/22		ELEVATION: 639.7 (MSL) EOB: 20.5 ft.		PAGE									
START: 6/22/23 END: 6/22/23		SAMPLING METHOD: SPT / NQ		ENERGY RATIO (%): 90*		COORD: 41.439609 N, 82.077970 W		1 OF 1									
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	REC SAMPLE ID (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
GRANULAR SHOULDER FILL - 14 INCHES		639.7	1	6	SS-1A	1.5	-	-	-	-	-	-	-	-	-	9	A-1-b (V)
FILL: Medium-dense brown and gray COARSE AND FINE SAND, trace to little fine to coarse gravel, little silt, trace clay, few asphalt fragments, damp.		638.5	2	4	SS-1B	2.0	-	-	-	-	-	-	-	-	-	11	A-3a (V)
POSSIBLE FILL: Stiff gray SANDY SILT, little fine to coarse gravel, damp.		636.7	3	5													
Very-stiff to hard gray mottled with brown SILTY CLAY, trace to little fine to coarse sand, trace fine gravel, few iron oxide stains, damp.		634.2	4	2	SS-2	2.5	11	19	28	27	15	23	16	7	14	A-4a (1)	
			5	3													
			6	2	SS-3	4.0	-	-	-	-	-	-	-	-	-	17	A-6b (V)
			7	2													
			8	3													
			9	2	SS-4	3.0	-	-	-	-	-	-	-	-	-	17	A-6b (V)
		629.2	10	4													
Very-stiff to hard gray and gray/ish-brown SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, similar to very-weak shale, damp to dry.			11	7	SS-5	2.5	-	-	-	-	-	-	-	-	-	16	A-6a (V)
			12	10													
			13														
			14	11	SS-6A	4.5+	-	-	-	-	-	-	-	-	-	11	A-6a (V)
SHALE, dark-gray, highly to severely weathered, very-weak to slightly strong, laminated, friable, highly to moderately fractured.		625.7	15	50-5"	SS-6B	-	-	-	-	-	-	-	-	-	-	-	Rock (V)
			16														
			17														
			18	23	NQ-7	-											CORE
			19														
			20														
		619.2	EOB														

NOTES:
 - No seepage noted.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



LOR-90-10.76 Noise Walls
 Lorain County, Ohio
 S&ME Project No. 217525A

Boring B-073-2-23



- Unconfined Compressive Strength Test attempted from 18.2' - 18.6', but sample delaminated during test preparation.

* Width of core box = 2ft.

Core Run #:	Depth	Recovery	RQD
NQ-7	15.5 - 20.5'	56/60 93%	14/60 24%
LOR-90-10.75 Widening and Noise Walls, Lorain Co., Ohio		PID 107714	

DESIGN AGENCY	
DESIGNER	KAH
REVIEWER	BKS 9-5-23
PROJECT ID	107714
SUBSET	TOTAL
75	99
SHEET	TOTAL
X	X

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 6/22/23 END: 6/22/23

DRILLING FIRM / OPERATOR: S&ME / T. FROST
 SAMPLING FIRM / LOGGER: S&ME / T. FROST
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: S&ME ATV D50 (R80)
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 6/6/22
 ENERGY RATIO (%): 85.4

STATION / OFFSET: 886+06.79' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 639.2 (MSL) EOB: 18.8 ft.
 COORD: 41.4440059 N, 82.077625 W

EXPLORATION ID: B-074-1-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				WC	BACK FILL									
							GR	CS	FS	SI											
FILL: Dense brown and gray GRAVEL WITH SAND AND SILT, trace clay, damp.	639.2	1	15	33	100	SS-1	-	-	-	-	10	A-2-4 (V)									
	636.2	2	8																		
		3																			
		4	5	7	20	100	SS-2	1.5-2.0	11	17	36	16	20	22	14	8	12	A-4a (0)			
		5																			
		6	3	3	11	100	SS-3	3.7-4.0	-	-	-	-	-	-	-	-	-	-	19	A-6b (V)	
		7	5																		
		8																			
		9	5	9	26	100	SS-4	4.0-4.5+	-	-	-	-	-	-	-	-	-	-	16	A-6b (V)	
		10																			
Dense dark-gray GRAVEL WITH SAND AND SILT, trace to little clay, many shale fragments, damp.	628.7	11	7	15	43	89	SS-5	-	-	-	-	-	-	-	-	-	-	14	A-2-4 (V)		
		12	15																		
		13																			
		14	20	22	63	100	SS-6	-	-	-	-	-	-	-	-	-	-	-	-	Rock (V)	
		15	22																		
		16	50.4"																		Rock (V)
		17																			
		18	50.3"																		

NOTES:
 - No seepage noted.

PLATE 27

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 6/27/23 END: 6/27/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGER: S&ME / P. LEITER
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB MOBILE B-57
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 90*

STATION / OFFSET: 888+18.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 638.6 (MSL) EOB: 19.3 ft.
 COORD: 41.4440564 N, 82.077244 W

EXPLORATION ID: B-074-2-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				WC	BACK FILL								
							GR	CS	FS	SI										
GRANULAR SHOULDER FILL - 18 INCHES	638.6	1	2	18	67	SS-1	-	-	-	-	13	A-3a (V)								
	637.1	2	5	7																
		3																		
		4	4	9	78	SS-2A	-	-	-	-	-	-	11	A-3a (V)						
		5	4	2																
		6	2	3	11	94	SS-3	2.0-2.5	3	4	8	49	36	44	25	19	23	A-7-6 (12)		
		7																		
		8	1	3	14	100	SS-4	3.5-4.5	-	-	-	-	-	-	-	-	-	21	A-7-6 (V)	
		9																		
		10																		
Hard gray SILT AND CLAY, "and" fine to coarse sand, some fine to coarse gravel, partly similar to very-weak shale, damp.	628.1	11	5	36	89	SS-5	4.5+	21	23	13	35	8	33	20	13	8	A-6a (2)			
		12	13																	
		13																		
		14	6	14	72	94	SS-6	-	-	-	-	-	-	-	-	-	-	7	Rock (V)	
		15	34																	
		16	19	32	86	94	SS-7	-	-	-	-	-	-	-	-	-	-	-	Rock (V)	
		17	25																	
		18	50.4"																	

NOTES:
 - No seepage noted.
 - Encountered auger refusal at 19.3'.

PLATE 28

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY:

DESIGNER: KAH

REVIEWER: BKS 9-5-23

PROJECT ID: 107714

SUBSET: 76 TOTAL: 99

SHEET: X TOTAL: X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOGS B-074-1-23 & B-074-2-23

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 6/22/23 END: 6/22/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGER: SAME / P. LEITER
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB MOBILE B-57
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 90*

STATION / OFFSET: 890+16.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 638.2 (MSL) EOB: 23.7 ft.
 COORD: 41.441034 N, 82.076885 W

EXPLORATION ID: B-075-1-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				WC	BACK FILL						
							GR	CS	FS	SI								
GRANULAR SHOULDER FILL - 18 INCHES	638.2	1																
FILL: Medium-dense brown COARSE AND FINE SAND, little to some silt, trace fine clay, trace fine gravel, damp. POSSIBLE FILL: Very-stiff dark-gray and gray CLAY, "and" silt, trace fine to coarse sand, trace fine gravel, damp.	636.7	2	4	24	56	SS-1					9	A-3a (V)						
	635.2	3	10															
	632.7	4	7	3	9	78	SS-2				27	A-7-6 (V)						
Stiff to very-stiff brown mottled with gray SILTY CLAY, trace fine to coarse sand, trace fine gravel, damp to moist.		5																
Hard brown and dark-brown SILT AND CLAY, little fine to coarse sand, trace fine gravel, similar to very-weak shale, damp.	627.7	6	2	3	9	78	SS-3				24	A-6b (V)						
	625.2	7	3	3														
SHALE, gray and dark-gray, severely to highly weathered, very-weak, partly similar to hard soil.	620.2	8																
		9	1	2	8	78	SS-4	1.0	2.6	1	2	7	55	35	40	19	21	25
SHALE, brown and dark-brown, severely becoming highly weathered, very-weak to weak, partly similar to hard soil above 20'.		10	6	10	39	100	SS-5	4.5+				14	A-6a (V)					
		11	16															
SHALE, gray and dark-gray, severely to highly weathered, very-weak, partly similar to hard soil.	625.2	12																
		13																
SHALE, gray and dark-gray, severely to highly weathered, very-weak, partly similar to hard soil.	620.2	14	16	50-5"	100	SS-6					5	Rock (V)						
		15																
SHALE, gray and dark-gray, severely to highly weathered, very-weak, partly similar to hard soil.	620.2	16	30	50-5"	100	SS-7						Rock (V)						
		17																
SHALE, brown and dark-brown, severely becoming highly weathered, very-weak to weak, partly similar to hard soil above 20'.		18																
		19	13	50-5"	100	SS-8						Rock (V)						
SHALE, brown and dark-brown, severely becoming highly weathered, very-weak to weak, partly similar to hard soil above 20'.		20																
		21	50-4"	100	SS-9							Rock (V)						
SHALE, brown and dark-brown, severely becoming highly weathered, very-weak to weak, partly similar to hard soil above 20'.		22																
		23	60-2"	100	SS-10							Rock (V)						

NOTES:
 - No seepage noted.

PLATE 29

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 6/22/23 END: 6/22/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGER: SAME / N. SOKOLOVSH
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB MOBILE B-57
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 90*

STATION / OFFSET: 892+04.77' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 637.8 (MSL) EOB: 23.8 ft.
 COORD: 41.441486 N, 82.076546 W

EXPLORATION ID: B-075-2-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				WC	BACK FILL						
							GR	CS	FS	SI								
GRANULAR SHOULDER FILL - 16 INCHES	637.8	1																
FILL: Very-stiff to hard brown SILT AND CLAY, little fine to coarse sand, trace fine to coarse gravel, damp. FILL: Medium-dense gray COARSE AND FINE SAND, some fine to coarse gravel (asphalt fragments), trace clay, slight hydrocarbon odor, damp. Very-stiff brown mottled with gray CLAY, "and" silt, little fine to coarse sand, trace fine gravel, damp.	636.5	2	5	3	9	44	SS-1	3.5	4.5+			16	A-6a (V)					
	634.8	3	3															
	632.3	4	5	10	24	78	SS-2					9	A-3a (V)					
Hard gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, partly similar to very-weak shale, damp.	627.3	5																
		6	2	4	14	72	SS-3	3.0	3.5	2	4	9	45	40	50	25	25	22
SHALE, gray, severely becoming highly weathered, very-weak to weak.	622.3	7																
		8	2	3	14	61	SS-4	2.0	3.0				16	A-7-6 (V)				
SHALE, gray, severely becoming highly weathered, very-weak to weak.		9																
		10																
SHALE, gray, severely becoming highly weathered, very-weak to weak.		11																
		12	3	8	30	100	SS-5	4.5+				10	A-6a (V)					
SHALE, gray, severely becoming highly weathered, very-weak to weak.		13																
		14	8	16	47	100	SS-6	4.5+					A-6a (V)					
SHALE, gray, severely becoming highly weathered, very-weak to weak.		15																
		16	11	20	78	100	SS-7						Rock (V)					
SHALE, gray, severely becoming highly weathered, very-weak to weak.		17																
		18																
SHALE, gray, severely becoming highly weathered, very-weak to weak.		19	15	20	90	100	SS-8						Rock (V)					
		20																
SHALE, gray, severely becoming highly weathered, very-weak to weak.		21	60-2"	100	SS-9								Rock (V)					
		22																
SHALE, gray, severely becoming highly weathered, very-weak to weak.		23	50-4"	100	SS-10								Rock (V)					

NOTES:
 - No seepage noted.

PLATE 30

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 9-5-23
 PROJECT ID
 107714
 SUBSET TOTAL
 77 99
 SHEET TOTAL
 X X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOGS B-075-1-23 & B-075-2-23



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: OTB / C. SVITAK		DRILL RIG: OTB MOBILE B-57		STATION / OFFSET: 894+13.78' RT		EXPLORATION ID								
TYPE: NOISE WALL		SAMPLING FIRM / LOGGERS: S&ME / N. SOKOLOWSKI		HAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-076-1-23								
PID: 107714 BR ID: WALL F		DRILLING METHOD: 3.25" HSA / NQ		CALIBRATION DATE: 12/22/22		ELEVATION: 637.9 (MSL) EOB: 23.5 ft.		PAGE								
START: 6/22/23 END: 6/22/23		SAMPLING METHOD: SPT / NQ		ENERGY RATIO (%): 90*		COORD: 41.441982 N, 82.076166 W		1 OF 1								
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	REC SAMPLE ID	HP (tsf)	GR	GRADATION (%)			ATTERBERG	WC	ODOT CLASS (GI)	BACK FILL		
GRANULAR SHOULDER FILL - 16 INCHES		637.9	1					GR	CS	FS	SI	CL	LL	PL		
POSSIBLE FILL: Stiff to very-stiff brown SILT AND CLAY, some fine to coarse sand, trace to little fine to coarse gravel, damp.		636.6	2	5	SS-1	1.5-4.0	-	-	-	-	-	-	-	-	10	A-6a (V)
Very-stiff gray mottled with brown and dark-gray CLAY, "and" silt, little fine to coarse sand, trace fine gravel, damp.		634.9	3													
			4	2	SS-2	2.0-2.5	-	-	-	-	-	-	-	-	24	A-7-6 (V)
			5	4												
Very-stiff to hard brownish-gray SANDY SILT, some clay, trace to little fine to coarse gravel (shale fragments), damp.		629.9	6	2	SS-3	2.0-4.0	1	6	13	45	35	44	21	23	24	A-7-6 (14)
			7	4												
			8	4												
			9	4	SS-4	2.0-3.0	-	-	-	-	-	-	-	-	16	A-4a (V)
			10	4												
			11	6												
			12	11	SS-5	4.5+	-	-	-	-	-	-	-	-	11	A-4a (V)
			13	11												
Very-dense gray GRAVEL WITH SAND AND SILT (shale fragments), trace clay, dry to damp.		624.9	14	18	SS-6	-	-	-	-	-	-	-	-	-	-	A-2-4 (V)
			15	23												
SHALE gray, severely becoming moderately weathered, weak becoming slightly to moderately strong, laminated, slightly calcareous, fissile, few very thin seams of limestone.		622.4	16	50-4"	SS-7	-	-	-	-	-	-	-	-	-	-	Rock (V)
			17													
			18													
			19													
			20													
			21	70	NQ-8	-										CORE
			22													
			23													
		614.4	EOB													

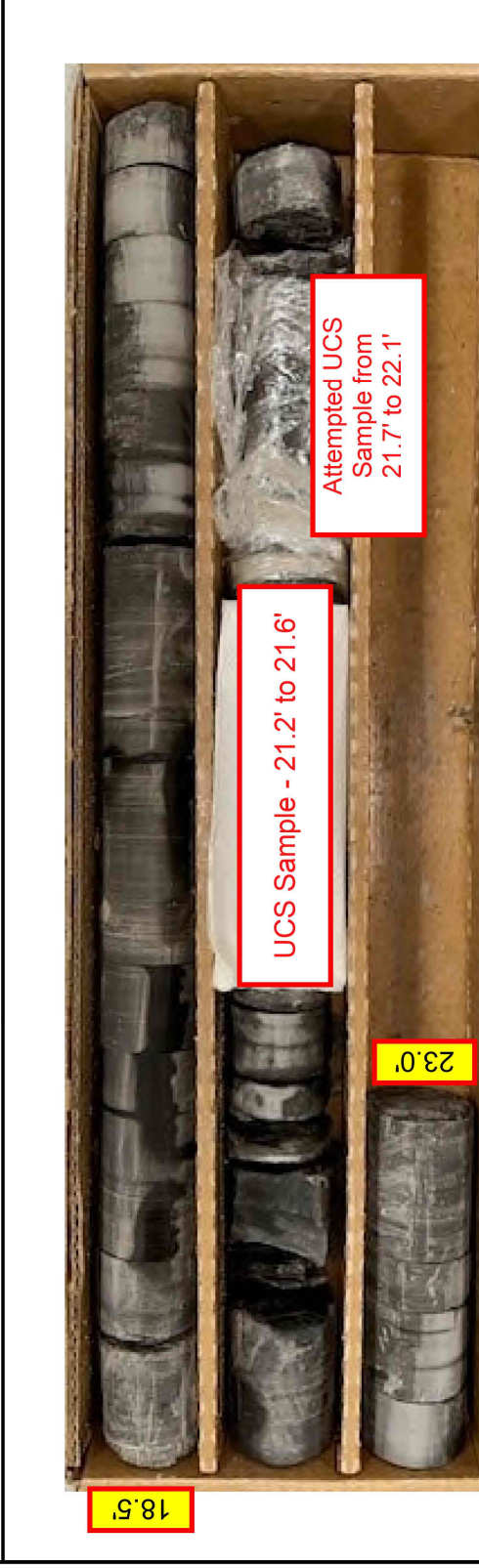
NOTED:
 - No seepage noted.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



LOR-90-10.76 Noise Walls
 Lorain County, Ohio
 S&ME Project No. 217525A

Boring B-076-1-23



- From 21.2' - 21.6': Unconfined Compressive Strength Test = 6,789 psi.
- Unconfined Compressive Strength Test attempted from 21.7' - 22.1', but sample delaminated during test preparation.

* Width of core box = 2ft.

Core Run #:	Depth	Recovery	RQD
NQ-8	18.5' - 23.5'	54/60%	42/60
LOR-90-10.75 Widening and Noise Walls, Lorain Co., Ohio		PID 107714	

DESIGN AGENCY	
KAH	
REVIEWER	BKS 9-5-23
PROJECT ID	107714
SUBSET	TOTAL
78	99
SHEET	TOTAL
X	X

LOR-90-10.76

MODEL: Sheet PAPER/DATE: 17x11 (in.) DATE: 9/6/2023 TIME: 10:24:21 AM USER: kharper
 \\EgnyteDrive\Columbus\1170\Projects\2021\1217525A_ODOT D3_LOR-90-10.76 Noise Walls_Sheriff\GeoCAD\107714\400-Engineering\Geotechnical\Sheets\107714_YL035 - B-076-2 and B-077-1.dgn

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS DRILLING FIRM / OPERATOR: OTB / C. SVITAK DRILL RIG: OTB SIMCO 2800 EXPLORATION ID
 TYPE: NOISE WALL SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI I/HAMMER: CME AUTOMATIC B-076-2-23
 PID: 107714 BR ID: WALL F DRILLING METHOD: 2.25" HSA CALIBRATION DATE: 12/22/22
 START: 5/23/23 END: 5/23/23 SAMPLING METHOD: SPT ENERGY RATIO (%): 83.2 EOB: 18.9 ft. PAGE
 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)			ATTERBERG			WC	ODOT CLASS (G)	BACK FILL	
							GR	CS	FS	CL	LL	PL				PI
ASPHALT - 7 1/2 INCHES	638.2	1	8	12	SS-1A	1.5-	-	-	-	-	-	-	10	A-2.4 (V)		
FILL: Medium-dense dark-gray GRAVEL WITH SAND AND SILT, trace to little clay, damp.	637.6	2	3	6	SS-1B	2.0	-	-	-	-	-	-	12	A-6a (V)		
FILL: Stiff dark-gray SILT AND CLAY, little fine to coarse sand, trace fine to coarse gravel, damp.	636.7	3														
POSSIBLE FILL: Medium-stiff to stiff gray and dark-gray CLAY, "and" silt, trace to little fine to coarse sand, damp.	635.2	4	5	11	SS-2	0.5- 2.0	0	2	8	38	52	26	21	A-7-6 (16)		
Stiff to very-stiff gray mottled with brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp to moist.	632.7	5														
		6	3	4	15	100	SS-3	2.5- 3.5	-	-	-	-	-	23	A-6b (V)	
		7														
		8														
		9	2	3	11	67	SS-4	1.5- 3.0	4	6	11	39	40	39	20	A-6b (12)
		10														
		11														
		12	8	12	44	100	SS-5	4.5+	-	-	-	-	-	12	A-6a (V)	
		13														
		14	40	38	101	100	SS-6	-	-	-	-	-	-	6	Rock (V)	
		15														
		16	60-3"		100	SS-7	-	-	-	-	-	-	-	-	Rock (V)	
		17														
		18	50-5"		100	SS-8	-	-	-	-	-	-	-	-	Rock (V)	

NOTES:
 - No seepage noted.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS DRILLING FIRM / OPERATOR: OTB / C. SVITAK DRILL RIG: OTB SIMCO 2800 EXPLORATION ID
 TYPE: NOISE WALL SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI I/HAMMER: CME AUTOMATIC B-077-1-23
 PID: 107714 BR ID: WALL F DRILLING METHOD: 2.25" HSA CALIBRATION DATE: 12/22/22
 START: 5/23/23 END: 5/23/23 SAMPLING METHOD: SPT ENERGY RATIO (%): 83.2 EOB: 18.8 ft. PAGE
 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)			ATTERBERG			WC	ODOT CLASS (G)	BACK FILL		
							GR	CS	FS	CL	LL	PL				PI	
GRANULAR SHOULDER FILL - 12 INCHES	638.0	1	4	5	17	83	SS-1	-	-	-	-	-	-	12	A-4a (V)		
FILL: Medium-dense brown SANDY SILT, little to some clay, trace fine gravel, damp.	637.0	2															
	635.0	3															
Hard becoming stiff gray SILT AND CLAY, some fine to coarse sand, trace fine gravel, damp.		4	4	5	17	67	SS-2	4.5+	6	12	16	30	36	27	15	12	A-6a (7)
		5															
		6	3	4	15	100	SS-3A	1.0- 2.0	-	-	-	-	-	14	A-6a (V)		
		7					SS-3B	4.5+	-	-	-	-	-	22	A-7-6 (V)		
		8															
Hard gray CLAY, "and" silt, little fine to coarse sand, trace fine gravel, damp.		9	10	9	25	17	SS-4	4.5+	-	-	-	-	-	11	A-6a (V)		
		10															
		11															
		12	8	16	53	100	SS-5	4.5+	-	-	-	-	-	11	A-6a (V)		
		13															
		14	11	22	67	556	SS-6	-	-	-	-	-	-	8	Rock (V)		
		15															
		16	20			100	SS-7	-	-	-	-	-	-	-	Rock (V)		
		17	50-3"														
		18	50-4"		100	SS-8	-	-	-	-	-	-	-	-	Rock (V)		

NOTES:
 - Seepage observed at 16.0'.
 - Water measured at 13.3' inside HSA before removing augers.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS	9-5-23
PROJECT ID	
107714	
SUBSET	TOTAL
79	99
SHEET	
X	X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOGS B-076-2-23 & B-077-1-23



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: OTB / C. SVITAK		DRILL RIG: OTB SIMCO 2800		STATION / OFFSET: 900+11.78' RT		EXPLORATION ID									
TYPE: NOISE WALL		SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI		IHAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-077-2-23									
PID: 107714 BR ID: WALL F		DRILLING METHOD: 2.25" HSA		CALIBRATION DATE: 12/22/22		ELEVATION: 638.8 (MSL) EOB: 18.8 ft.		PAGE									
START: 5/23/23 END: 5/23/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 83.2		COORD: 41.443407 N, 82.075082 W		1 OF 1									
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G)	BACK FILL
FILL: Medium-dense brown GRAVEL WITH SAND, little silt, trace clay, moist.		638.8	1	8													
FILL: Medium-stiff brown SILT AND CLAY, some fine to coarse sand, trace fine gravel, damp to moist.		636.8	2	12	100										22	A-1-b (V)	
Stiff to very-stiff gray CLAY, "and" silt, little fine to coarse sand, trace fine gravel, damp to moist.		635.3	3	3		0.5-1.0									15	A-6a (V)	
Very-stiff gray SILT AND CLAY, "and" fine to coarse sand, little fine gravel, few shale fragments, moist.		630.8	4	4	67	1.5-2.5	1	3	13	39	44	45	23	22	26	A-7-6 (14)	
SHALE, gray, severely becoming highly weathered, very-weak to weak.		625.3	5	3	67	2.5-4.0									21	A-7-6 (V)	
			6	5													
			7	6													
			8	2	67	2.0-3.0									27	A-6a (V)	
			9	3													
			10	5													
			11	2	100	2.0-3.0	15	13	36	15	21	31	19	12	26	A-6a (1)	
			12	4													
			13	10													
			14	8	100												
			15	19	79										9	Rock (V)	
			16	38													
			17	50-4"	100												
			18	50-4"	100												
		620.0	18	50-4"	100												Rock (V)

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: OTB / C. SVITAK		DRILL RIG: OTB SIMCO 2800		STATION / OFFSET: 902+05.78' RT		EXPLORATION ID									
TYPE: NOISE WALL		SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI		IHAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-078-1-23									
PID: 107714 BR ID: WALL F		DRILLING METHOD: 2.25" HSA		CALIBRATION DATE: 12/22/22		ELEVATION: 638.5 (MSL) EOB: 19.0 ft.		PAGE									
START: 5/23/23 END: 5/23/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 83.2		COORD: 41.443369 N, 82.074731 W		1 OF 1									
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G)	BACK FILL
FILL: Medium-dense brown GRAVEL WITH SAND, little silt, trace clay, damp.		638.5	1	8													
Hard gray SILT, some fine to coarse sand, little clay, trace fine gravel, damp.		636.5	2	17	67										10	A-1-b (V)	
Very-stiff to hard gray mottled with brown CLAY, "and" silt, little fine to coarse sand, trace fine gravel, damp to moist.		630.5	3	4		4.5+											
Very-stiff gray SANDY SILT, some fine gravel, little clay, few shale fragments, damp.		628.0	4	8	67	4.5+									12	A-4b (V)	
SHALE, gray, highly to severely weathered, very-weak to weak.		625.5	5	6													
			6	9	100	4.5+	4	12	11	57	16	23	15	8	12	A-4b (8)	
			7	13													
			8	3	67	3.5-4.5									21	A-7-6 (V)	
			9	4													
			10	6													
			11	4	100	2.0-2.5	21	20	19	29	11	22	17	5	11	A-4a (1)	
			12	5													
			13	9													
			14	17	82										7	Rock (V)	
			15	50-4"													
			16	50-4"	100												
			17														
			18														
		619.5	18	50	100												Rock (V)

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 9-5-23	
PROJECT ID	107714
SUBSET	TOTAL
80	99
SHEET	TOTAL
X	X



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 5/23/23 END: 5/23/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB SIMCO 2800
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 83.2

STATION / OFFSET: 904+13.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 638.1 (MSL) EOB: 18.7 ft.
 COORD: 41.444364 N, 82.074355 W

EXPLORATION ID: B-078-2-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)							WC	ODOT CLASS (G)	BACK FILL	
							GR	CS	FS	SI	CL	LL	PL				PI
FILL: Medium-dense brown GRAVEL WITH SAND, little silt, trace clay, damp.	638.1	1	22	6	14	83	SS-1A	-	-	-	-	-	-	-	-	9	A-1-b (V)
FILL: Very-stiff to hard gray SILT AND CLAY, little fine to coarse sand, trace fine gravel, damp.	636.4	2	4	4	17	67	SS-2	4.5+	-	-	-	-	-	-	-	11	A-6a (V)
PROBABLE FILL: Medium-dense gray GRAVEL WITH SAND AND SILT, little clay, damp.	632.6	3	7	11	25	100	SS-3	-	6	20	41	18	15	20	13	7	A-2-4 (O)
Hard gray mottled with brown CLAY, "and" silt, little fine to coarse sand, trace fine gravel, damp.	630.1	4	3	6	19	67	SS-4	4.0	4.5	-	-	-	-	-	-	-	Rock (V)
Hard gray mottled with brown SANDY SILT, little to some clay, trace to little fine gravel, few shale fragments, damp.	627.6	6	10	35	100	SS-5	4.5	-	-	-	-	-	-	-	-	11	A-4a (V)
SHALE, gray, highly to severely weathered, very-weak to weak.	625.1	13	23	50	-	100	SS-6	-	-	-	-	-	-	-	-	-	Rock (V)
SHALE, gray, highly to severely weathered, very-weak to weak.	619.4	16	50	-	100	SS-7	-	-	-	-	-	-	-	-	-	-	Rock (V)
SHALE, gray, highly to severely weathered, very-weak to weak.	619.4	18	60.2	-	100	SS-8	-	-	-	-	-	-	-	-	-	-	Rock (V)

NOTES:
 - No seepage noted.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 5/24/23 END: 5/24/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB MOBILE B-57
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 90*

STATION / OFFSET: 906+11.77' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 637.4 (MSL) EOB: 23.6 ft.
 COORD: 41.444835 N, 82.074000 W

EXPLORATION ID: B-079-1-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)							WC	ODOT CLASS (G)	BACK FILL		
							GR	CS	FS	SI	CL	LL	PL				PI	
GRANULAR SHOULDER FILL - 14 INCHES	637.4	1	4	3	9	67	SS-1	0.5	-	-	-	-	-	-	-	12	A-4a (V)	
																		2
FILL: Medium-stiff gray SANDY SILT, some fine gravel, little clay, few shale fragments, damp to moist.	636.4	2	2	6	17	67	SS-2	4.5+	-	-	-	-	-	-	-	14	A-6b (V)	
																		3
Stiff to hard gray mottled with brown SILTY CLAY, little fine to coarse sand, damp to moist.	634.4	3	4	3	12	50	SS-3	2.0	4.0	-	-	-	-	-	-	23	A-6b (V)	
																		4
Very-stiff to hard gray SANDY SILT, little clay, trace fine gravel, partly similar to very-weak and severely weathered shale (SS-5B), dry to damp.	626.9	6	2	3	9	100	SS-4	1.5	3.0	23	3	10	32	35	18	17	21	A-6b (9)
SHALE, gray, highly to severely weathered, very-weak to weak.	619.4	11	3	7	41	100	SS-5A	3.0	4.5+	-	-	-	-	-	-	13	A-4a (V)	
																		12
SHALE, gray, highly to severely weathered, very-weak to weak.	619.4	13	5	7	44	100	SS-6	4.0	-	2	23	15	49	11	24	17	8	A-4a (6)
SHALE, gray, highly to severely weathered, very-weak to weak.	613.8	16	13	21	107	100	SS-7	3.0	4.5	-	-	-	-	-	-	12	A-4a (V)	
																		17
SHALE, gray, highly to severely weathered, very-weak to weak.	613.8	18	50	-	100	SS-8	-	-	-	-	-	-	-	-	-	-	Rock (V)	
																		19
SHALE, gray, highly to severely weathered, very-weak to weak.	613.8	21	60.2	-	100	SS-9	-	-	-	-	-	-	-	-	-	-	Rock (V)	
																		21
SHALE, gray, highly to severely weathered, very-weak to weak.	613.8	23	60.1	-	100	SS-10	-	-	-	-	-	-	-	-	-	-	Rock (V)	
																		23

NOTES:
 - No seepage noted.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY: KAH

DESIGNER: KAH

REVIEWER: BKS 9-5-23

PROJECT ID: 107714

SUBSET: 81 TOTAL: 99

SHEET: X TOTAL: X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOGS B-078-2-23 & B-079-1-23

S&ME JOB: 217525A

PROJECT: LOR-90-10-76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 5/24/23 END: 6/27/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB MOBILE B-57
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 90*

STATION / OFFSET: 908+08.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 636.6 (MSL) EOB: 23.8 ft.
 COORD: 41.4445304 N, 82.073639 W

EXPLORATION ID: B-079-2-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES

DEPTHS	ELEV.	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)						WC	ODOT CLASS (G)	BACK FILL		
						GR	CS	FS	SI	CL	LL				PL	PI
1	636.6	3	17	78	4.5+											
2	635.6	5	6													
3																
4		2	4	78	4.5+											
5		4														
6	631.1	2	3	100	3.0-3.5											
7		3	5													
8																
9		2	3	100	1.5-2.5											
10	626.1	3	5													
11																
12		7	15	83	4.5+											
13		20														
14		17	56	100	4.5+											
15	621.1	20														
16		15	83	100												
17		25	30													
18		60-3"		100												
19																
20																
21		60-1"		100												
22																
23	612.8	60-3"		100												

NOTES:
 - No seepage noted.
 - Encountered auger refusal at 20' in the original boring on 5/24/23 drilled using the OTB Mobile B-57 rig. Using the S&ME D50 rig, the borehole was extended to obtain SS-9 and SS-10 on 6/27/23.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10-76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 5/24/23 END: 7/13/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB MOBILE B-57
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 90*

STATION / OFFSET: 910+13.81' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 635.4 (MSL) EOB: 23.8 ft.
 COORD: 41.4445788 N, 82.073258 W

EXPLORATION ID: B-080-1-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES

DEPTHS	ELEV.	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)						WC	ODOT CLASS (G)	BACK FILL		
						GR	CS	FS	SI	CL	LL				PL	PI
1	635.4	3	14	67	4.5+											
2	634.4	4	5													
3																
4		2	5	100	4.5+											
5		3														
6	629.9	1	2	11	2.5-3.5											
7		2	5													
8																
9		2	3	9	2.5-3.5											
10																
11	624.9	11	15	100												
12		20														
13																
14		11	14	50												
15		19														
16		11	13	42	100											
17		15														
18	617.4	60-3"		100												
19																
20																
21		50-1"		29												
22																
23	611.6	60-3"		67												

NOTES:
 - No seepage noted.
 - Encountered auger refusal at 20' in the original boring on 5/24/23 drilled using the OTB Mobile B-57 rig. Using the S&ME D50 rig, the borehole was extended to obtain SS-9 and SS-10 on 7/13/23.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 9-5-23
 PROJECT ID
 107714
 SUBSET TOTAL
 82 99
 SHEET TOTAL
 X X

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 5/24/23 END: 7/13/23
 DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOVSKY
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT
 DRILL RIG: OTB MOBILE B-57
 I/HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 90+
 STATION / OFFSET: 912+14.77' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 635.5 (MSL) EOB: 23.9 ft.
 COORD: 41.446272 N, 82.072906 W

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)							WC	BACK FILL
							GR	CS	FS	SI	CL	LL	PL		
GRANULAR SHOULDER FILL - 12 INCHES	635.5	1	2	11	67	4.5+									
FILL: Hard brown SANDY SILT, little to some clay, trace fine gravel, damp.	634.5	2	3	4											11
	632.5	3													
Hard gray and brown SILT AND CLAY, some fine to coarse sand, trace fine gravel, moist.		4	2	9	67	4.5+	9	13	42	32	28	16	12	20	A-6a (9)
		5													
	627.5	6	2	5	100	4.5+									A-6a (V)
		7	5												
Very-stiff to hard brown SANDY SILT, some fine to coarse gravel, trace clay, damp.		8	8	5	22	4.5+	22	19	40	10	24	17	7	15	A-4a (3)
	625.0	9	5												
		10													
Hard brown and gray SANDY SILT, some fine to coarse gravel, trace clay, partly similar to severely weathered shale, dry.		11	8	13	45	4.5+									A-4a (V)
		12	17												
		13													
		14	9	19	66	4.5+									A-4a (V)
		15	25												
		16	14	22	84	4.5+									A-4a (V)
		17	34												
SHALE, gray, highly to severely weathered, weak.	617.5	18	60-3"		100										Rock (V)
		19													
		20													
		21	35		14										Rock (V)
		22	50-1"												
		23													
	611.6	23	50-5"		80										Rock (V)

NOTES:
 - No seepage noted.
 - Groundwater measured at 14.1' inside HSA before removing augers in original boring on 5/24/23.
 - Encountered auger refusal at 20' in the original boring on 5/24/23 drilled using the OTB Mobile B-57 rig. Using the S&ME D50 rig, the borehole was extended to obtain SS-9 and SS-10 on 7/13/23.

PLATE 40

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 5/25/23 END: 5/25/23
 DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOVSKY
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT
 DRILL RIG: OTB SIMCO 2800
 I/HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 83.2
 STATION / OFFSET: 914+13.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 635.2 (MSL) EOB: 23.6 ft.
 COORD: 41.446744 N, 82.072543 W

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)							WC	BACK FILL
							GR	CS	FS	SI	CL	LL	PL		
GRANULAR SHOULDER FILL - 12 INCHES	635.2	1	2	4	11	67	5	8	28	25	34	29	18	11	
FILL: Very-stiff to hard brown and gray SILT AND CLAY, "and" fine to coarse sand, trace fine gravel, damp.	634.2	2	4	4											A-6a (6)
		3													
		4	3	10	67	4.5+									A-6a (V)
	629.7	5													
Very-stiff to hard gray mottled with brown SILT AND CLAY, little fine to coarse sand, trace to little fine to coarse gravel, damp to moist.		6	3	6	21	3.0-4.5+									A-6a (V)
		7	9												
		8													
		9	2	4	14	50	13	5	9	50	23	30	19	21	A-6a (8)
	624.7	10	6												
		11													
Hard gray SANDY SILT, little clay, little fine gravel, many shale fragments, partly similar to severely weathered shale, dry to damp.		12	11	26	78	4.5+									A-4a (V)
		13	30												
		14	17	50-5"		82									A-4a (V)
		15													
		16	28	38	122	4.5+									A-4a (V)
		17	50												
SHALE, gray, severely weathered, very-weak, few zones of silty clay.	617.2	18	25	50-4"											Rock (V)
		19													
		20													
		21	28	50-5"		100									Rock (V)
	612.7	22													
		23													
	611.6	23	60-1"		100										Rock (V)

NOTES:
 - No seepage noted.

PLATE 41

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 9-5-23
 PROJECT ID
 107714
 SUBSET TOTAL
 83 99
 SHEET TOTAL
 X X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOGS B-080-2-23 & B-081-1-23

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 5/25/23 END: 7/13/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB SIMCO 2800
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 83.2

STATION / OFFSET: 916+14.73' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 635.1 (MSL) EOB: 23.7 ft.
 COORD: 41.447231 N, 82.072197 W

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG				ODOT CLASS (G)	BACK FILL		
							GR	CS	FS	SI	CL	LL	PL	PI			WC	
ASPHALT - 8 INCHES GRANULAR BASE - 9 INCHES POSSIBLE FILL: Very-stiff to hard brown and gray SANDY SILT, some clay, trace fine gravel, damp.	635.1	1	7	8	78	SS-1A	-	-	-	-	-	-	-	-	6	A-1-b (V)		
	634.4	2	2	4	78	SS-1B	2.0-4.5+	-	-	-	-	-	-	-	13	A-4a (V)		
	633.7	3	3	3	50	SS-2	2.0-3.0	7	12	40	32	29	19	10	14	A-4a (7)		
	629.6	4	3	4	15	SS-3	-	-	-	-	-	-	-	-	18	A-4a (V)		
	624.6	5	3	4	17	SS-4	-	12	12	16	44	16	24	22	2	17	A-4a (5)	
Medium-dense gray and brown SANDY SILT, little clay, little fine gravel, damp to moist.	617.1	6	3	5	83	SS-3	-	-	-	-	-	-	-	-	-	-	-	
		7	5	6	83	SS-3	-	-	-	-	-	-	-	-	-	-	-	
		8	5	6	83	SS-3	-	-	-	-	-	-	-	-	-	-	-	-
		9	4	8	67	SS-4	-	12	12	16	44	16	24	22	2	17	A-4a (5)	
		10	4	8	67	SS-4	-	12	12	16	44	16	24	22	2	17	A-4a (5)	
		11	4	8	67	SS-4	-	12	12	16	44	16	24	22	2	17	A-4a (5)	
		12	13	26	78	100	SS-5	4.5+	-	-	-	-	-	-	-	10	A-4a (V)	
		13	30	30	78	100	SS-5	4.5+	-	-	-	-	-	-	-	10	A-4a (V)	
		14	21	28	82	100	SS-6	4.5+	-	-	-	-	-	-	-	10	A-4a (V)	
		15	31	31	82	100	SS-6	4.5+	-	-	-	-	-	-	-	10	A-4a (V)	
SHALE, gray, highly weathered, weak.	611.4	16	27	34	100	SS-7	4.5+	-	-	-	-	-	-	-	8	A-4a (V)		
		17	50-3'	50-3'	100	SS-7	4.5+	-	-	-	-	-	-	-	8	A-4a (V)		
		18	TR	TR	100	SS-8	-	-	-	-	-	-	-	-	-	-	Rock (V)	
		19	60-3'	60-3'	100	SS-8	-	-	-	-	-	-	-	-	-	-	Rock (V)	
SHALE, gray, highly weathered, weak.	611.4	20	60-2'	60-2'	50	SS-9	-	-	-	-	-	-	-	-	-	Rock (V)		
		21	60-2'	60-2'	50	SS-9	-	-	-	-	-	-	-	-	-	Rock (V)		
		22	60-2'	60-2'	50	SS-9	-	-	-	-	-	-	-	-	-	Rock (V)		
		23	60-2'	60-2'	50	SS-10	-	-	-	-	-	-	-	-	-	-	Rock (V)	

NOTES:
 - No seepage noted.
 - Encountered auger refusal at 19.8' in the original boring on 5/25/23 drilled using the OTB SIMCO 2800 rig. Using the S&ME D50 rig, the borehole was extended to obtain SS-9 and SS-10 on 7/13/23.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 5/25/23 END: 5/25/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

STATION / OFFSET: 918+18.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 634.5 (MSL) EOB: 16.3 ft.
 COORD: 41.447709 N, 82.071810 W

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG				ODOT CLASS (G)	BACK FILL	
							GR	CS	FS	SI	CL	LL	PL	PI			WC
GRANULAR SHOULDER FILL - 9 INCHES FILL: Very-stiff brown SILTY CLAY, some fine to coarse sand, trace fine gravel, slightly organic, moist. Very-stiff gray mottled with brown SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp. Very-stiff to hard dark gray and gray mottled with brown CLAY, "and" silt, trace fine to coarse sand, damp to moist.	634.5	1	2	8	67	SS-1A	3.0-4.0/3.5	-	-	-	-	-	-	-	22	A-6b (V)	
	633.7	2	3	3	67	SS-1B	3.0-3.5	-	-	-	-	-	-	-	14	A-6a (V)	
	633.0	3	3	3	67	SS-1B	3.0-3.5	-	-	-	-	-	-	-	14	A-6a (V)	
	631.5	4	2	10	100	SS-2	3.5-4.5	0	2	8	45	54	29	25	25	A-7-6 (17)	
	626.5	5	2	5	78	SS-3	4.5+	-	-	-	-	-	-	-	26	A-7-6 (V)	
Hard gray SILT AND CLAY, trace fine to coarse sand, trace fine gravel, damp to moist.	623.5	6	3	5	78	SS-3	4.5+	-	-	-	-	-	-	-	26	A-7-6 (V)	
		7	5	6	78	SS-3	4.5+	-	-	-	-	-	-	-	26	A-7-6 (V)	
		8	5	6	78	SS-3	4.5+	-	-	-	-	-	-	-	26	A-7-6 (V)	
		9	2	4	83	SS-4	4.5+	6	5	5	51	33	31	20	11	20	A-6a (8)
SHALE, gray, severely becoming highly weathered, very-weak to weak.	618.2	10	21	50	100	SS-5	-	-	-	-	-	-	-	-	7	Rock (V)	
		11	TR	TR	100	SS-5	-	-	-	-	-	-	-	-	-	7	Rock (V)
		12	621.4	621.4	100	SS-5	-	-	-	-	-	-	-	-	-	-	Rock (V)
		13	50-4"	50-4"	100	SS-6	-	-	-	-	-	-	-	-	-	-	Rock (V)
SHALE, gray, severely becoming highly weathered, very-weak to weak.	618.2	14	29	50-4"	100	SS-6	-	-	-	-	-	-	-	-	-	Rock (V)	
		15	50-4"	50-4"	100	SS-6	-	-	-	-	-	-	-	-	-	-	Rock (V)
		16	60-4"	60-4"	100	SS-7	-	-	-	-	-	-	-	-	-	-	Rock (V)

NOTES:
 - Water noted at 16.0' during drilling.
 - Water measured at 13.1' inside HSA at completion.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 9-5-23
 PROJECT ID
 107714
 SUBSET TOTAL
 84 99
 SHEET TOTAL
 X X

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 5/25/23 END: 5/25/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB SIMCO 2800
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 83.2

STATION / OFFSET: 920+06, 80' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 633.6 (MSL) EOB: 18.0 ft.
 COORD: 41.448155 N, 82.071464 W

EXPLORATION ID: B-082-2-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT / RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)			ATTERBERG			ODOT CLASS (GI)	BACK FILL
							GR	CS	FS	CL	LL	PL		
GRANULAR SHOULDER FILL - 14 INCHES	633.6	1	4	7	50	2.0-4.0	-	-	-	-	-	-	-	
FILL: Very-stiff brown SILTY CLAY, little to some fine to coarse sand, trace fine gravel, damp to moist.	632.4	2	3	2										A-6b (V)
Stiff to hard gray and dark-gray CLAY, "and" silt, trace fine to coarse sand, damp to moist.	629.6	3	2	8	67	3.0-4.0 / 1.5-2.5	-	-	-	-	-	-	-	A-6b (V)
Hard gray SANDY SILT, little clay, little fine gravel, many shale fragments, partly similar to severely weathered shale, dry.	623.1	4	2	4										A-7-6 (V)
SHALE, gray, highly weathered, weak.	620.6	5	2	4	12	2.5-3.5	0	2	6	39	53	48	20	23
		6	4	5										
		7	2	4	15	83	1.5-4.5	0	1	43	56	46	20	26
		8	4	7										
		9	2	20	67	100	4.5+	-	-	-	-	-	-	A-4a (V)
		10	28											
		11	50		100									Rock (V)
		12	60-3"		100									Rock (V)
		13												
		14												
		15												
		16												
		17												
		18												

NOTES:
 - No seepage noted.
 - Encountered auger refusal at 18.0'.

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 6/12/23 END: 6/12/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB SIMCO 2800
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 83.2

STATION / OFFSET: 922+25, 78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 633.4 (MSL) EOB: 19.2 ft.
 COORD: 41.448679 N, 82.071075 W

EXPLORATION ID: B-083-1-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT / RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)			ATTERBERG			ODOT CLASS (GI)	BACK FILL
							GR	CS	FS	CL	LL	PL		
GRANULAR SHOULDER FILL - 12 INCHES	633.4	1	5	7	61	2.0-2.5	-	-	-	-	-	-	-	
FILL: Very-stiff grayish-brown SILT AND CLAY, some fine to coarse sand, trace fine gravel, damp.	632.4	2	3	2										A-6a (V)
Medium-stiff to very-stiff dark-brown and gray CLAY, "and" silt, trace fine to coarse sand, trace fine gravel, slightly organic, damp to moist.	630.4	3	4	4	61	1.0-3.0	-	-	-	-	-	-	-	A-7-6 (V)
Hard brown and gray SANDY SILT, little to some clay, trace to little fine to coarse gravel, many shale fragments, becoming partly similar to very-weak shale below 13', damp.	625.4	4	4	5										
		5	4	5										
		6	4	5	28	0.5-1.5	2	3	6	40	49	46	21	25
		7	5											
		8	11	16	57	67	4.5+	-	-	-	-	-	-	A-4a (V)
		9	25											
		10	44		100	4.5+	-	-	-	-	-	-	-	A-4a (V)
		11	17	11	44									
		12	21											
		13												
		14	16	50-5"	91	4.5+	-	-	-	-	-	-	-	A-4a (V)
		15												
SHALE, brown, highly to severely weathered, very-weak to weak.	619.0	16	44		75		-	-	-	-	-	-	-	Rock (V)
		17	50											
		18												
		19	25	50-2"	100		-	-	-	-	-	-	-	Rock (V)

NOTES:
 - Seepage noted at 3.5'
 - Groundwater observed at 6.0' during drilling.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 9-5-23	
PROJECT ID	107714
SUBSET	TOTAL
85	99
SHEET	TOTAL
X	X

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL F
 START: 6/12/23 END: 6/12/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB SIMCO 2800
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 83.2

STATION / OFFSET: 923+97.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 634.0 (MSL) EOB: 16.3 ft.
 COORD: 41.449088 N, 82.070761 W

EXPLORATION ID: B-083-2-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	SPT / RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG			ODOT CLASS (G)	BACK FILL
						GR	CS	FS	SI	CL	LL	PL		
GRANULAR SHOULDER FILL - 12 INCHES	634.0	3	7	33	2.0-3.0	-	-	-	-	-	-	-	-	14 A-6a (V)
FILL: Very-stiff brown SILT AND CLAY, little fine to coarse sand, trace fine to coarse gravel, damp.	633.0	3	12	78	2.5-4.5+	2	10	41	40	40	20	20	17	A-6b (12)
Very-stiff to hard brownish-gray SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.	631.0	3	12	67	1.0-2.0	-	-	-	-	-	-	-	22	A-6b (V)
- From 6.0' to 7.5', stiff and moist.		4	18	100	2.0-3.0	-	-	-	-	-	-	-	18	A-6b (V)
SHALE brown and gray, highly to severely weathered, very-weak to weak.	624.0	22	50-5"	100	-	-	-	-	-	-	-	-	-	Rock (V)
	617.7	17	50-5"	100	-	-	-	-	-	-	-	-	-	Rock (V)
		50-4"		100										Rock (V)

NOTES:
 - No seepage noted.

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL G
 START: 6/12/23 END: 6/12/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB SIMCO 2800
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 83.2

STATION / OFFSET: 934+45.73' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 651.5 (MSL) EOB: 25.0 ft.
 COORD: 41.451576 N, 82.068867 W

EXPLORATION ID: B-086-1-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	SPT / RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG			ODOT CLASS (G)	BACK FILL
						GR	CS	FS	SI	CL	LL	PL		
ASPHALT - 10 INCHES	651.5	4	4	67	-	-	-	-	-	-	-	-	-	
GRANULAR BASE - 9 INCHES	649.9	4	5	67	-	-	-	-	-	-	-	-	-	2 A-4a (V)
FILL: Medium-dense brown SANDY SILT, little clay, trace fine gravel, dry.	648.5	3	10	67	2.0-4.0	7	6	10	34	43	17	20	20	A-6b (12)
FILL: Very-stiff to hard gray and brown SILTY CLAY, little fine to coarse sand, trace fine gravel, moist.		2	8	44	2.0-2.5	-	-	-	-	-	-	-	14	A-6b (V)
		3	14	56	3.0-3.5	-	-	-	-	-	-	-	22	A-6b (V)
		4	19	67	4.5+	-	-	-	-	-	-	-	17	A-6b (V)
	636.0	3	14	50	2.0-3.5	-	-	-	-	-	-	-	21	A-6b (V)
FILL: Very-stiff gray and brown SILT AND CLAY, little fine to coarse sand, trace fine gravel, damp.	633.5	3	15	67	3.0-4.0	5	6	11	39	39	16	14	14	A-6a (10)
FILL: Very-stiff gray and brown SILTY CLAY, little fine to coarse sand, little fine gravel, damp to moist.		4	18	67	2.0-3.5	-	-	-	-	-	-	-	22	A-6b (V)
		3	18	100	2.0-3.5	-	-	-	-	-	-	-	23	A-6b (V)
	626.5	6	25	78	2.0-2.5	13	7	13	32	35	38	19	19	A-6b (10)

NOTES:
 - No seepage noted.

DESIGN AGENCY:

DESIGNER: KAH

REVIEWER: BKS 9-5-23

PROJECT ID: 107714

SUBSET: 86 TOTAL: 99

SHEET: X TOTAL: X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOGS B-083-2-23 & B-086-1-23

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
TYPE: NOISE WALL
PID: 107714 BR ID: WALL G
START: 6/12/23 END: 6/12/23
DRILLING FIRM / OPERATOR: OTB / C. SVITAK
SAMPLING FIRM / LOGGERS&ME / N. SOKOLOVSKY
DRILLING METHOD: 2.25" HSA
SAMPLING METHOD: SPT
DRILL RIG: OTB SIMCO 2800
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 12/22/22
ENERGY RATIO (%): 83.2
STATION / OFFSET: 936+44.72' RT
ALIGNMENT: IR 90 CENTERLINE
ELEVATION: 654.9 (MSL) EOB: 25.0 ft.
COORD: 41.452028 N, 82.068475 W

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP ID (tsf)	GRADATION (%)				ATTERBERG			ODOT CLASS (G)	BACK FILL	
							GR	CS	FS	SI	CL	LL	PL			PI
ASPHALT - 11 INCHES GRANULAR BASE - 8 INCHES FILL: Hard gray SANDY SILT, little fine gravel, little clay, damp. FILL: Very-stiff gray and brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp to moist. - @ 13.5', few stiff zones	654.9	1														
	654.0	2	4	7	19	67	SS-1	4.5+							12	A-4a (V)
	653.3	3	3	3	11	56	SS-2	2.5-3.5							18	A-6b (V)
	651.9	4	3	3	11	56	SS-3	2.0-3.0							18	A-6b (12)
		5	2	3	11	56	SS-3	2.0-3.0							16	A-6b (V)
		6	2	3	11	56	SS-3	2.0-3.0							16	A-6b (V)
		7	3	4	11	67	SS-4	2.0-4.0							21	A-6b (V)
		8	2	4	11	67	SS-4	2.0-4.0							18	A-6b (V)
		9	3	3	11	56	SS-5	3.0-3.5							21	A-6b (V)
		10	2	4	15	78	SS-6	1.0-3.0							18	A-6b (V)
		11	3	3	11	56	SS-5	3.0-3.5							21	A-6b (V)
		12	2	4	15	67	SS-7	2.0-4.0							23	A-7-6 (16)
		13	3	4	15	67	SS-7	2.0-4.0							20	A-7-6 (V)
		14	5	9	24	56	SS-8	4.0-4.5+							20	A-7-6 (V)
		15	3	7	25	100	SS-9	4.5+							20	A-7-6 (V)
	16	3	5	18	67	SS-10	3.0-3.8							21	A-7-6 (V)	
	629.9	24	3	5	18	67	SS-10	3.0-3.8						21	A-7-6 (V)	
		25	8													

NOTES:
- No seepage noted.

PLATE 3

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
TYPE: NOISE WALL
PID: 107714 BR ID: WALL G
START: 6/12/23 END: 6/12/23
DRILLING FIRM / OPERATOR: OTB / C. SVITAK
SAMPLING FIRM / LOGGERS&ME / N. SOKOLOVSKY
DRILLING METHOD: 2.25" HSA
SAMPLING METHOD: SPT
DRILL RIG: OTB SIMCO 2800
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 12/22/22
ENERGY RATIO (%): 83.2
STATION / OFFSET: 938+03.73' RT
ALIGNMENT: IR 90 CENTERLINE
ELEVATION: 656.8 (MSL) EOB: 25.0 ft.
COORD: 41.452380 N, 82.068143 W

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP ID (tsf)	GRADATION (%)				ATTERBERG			ODOT CLASS (G)	BACK FILL	
							GR	CS	FS	SI	CL	LL	PL			PI
ASPHALT - 13 INCHES GRANULAR BASE - 8-1/2 INCHES FILL: Hard gray SANDY SILT, some fine gravel, little clay, few shale fragments, damp. FILL: Very-stiff to hard gray and gray mottled with brown SILTY CLAY, little fine to coarse sand, trace fine gravel, few shale fragments, damp to moist. FILL: Hard gray SANDY SILT, little fine gravel, little clay, few brick fragments, damp. FILL: Hard gray and black CLAY, some to "and" silt, little fine to coarse sand, trace fine gravel, slightly organic, moist. FILL: Very-stiff to hard gray SILT AND CLAY, some fine to coarse sand, trace fine gravel, few brick fragments, damp. FILL: Hard gray CLAY, "and" silt, little fine to coarse sand, trace fine gravel, damp.	656.8	1														
	655.7	2	3	7	22	100	SS-1A	4.5+								A-1-B (V)
	655.0	3	7	9	100	SS-1B	4.5+								11	A-4a (V)
		4	6	4	10	56	SS-2	4.5+							10	A-4a (2)
		5	2	2	10	61	SS-3	2.0-4.5+							21	A-6b (V)
		6	2	2	10	61	SS-3	2.0-4.5+							18	A-6b (V)
		7	2	4	11	67	SS-4	3.0-3.5							17	A-6b (V)
		8	3	4	14	44	SS-5	2.0-2.5							8	A-4a (V)
		9	5	6	17	61	SS-6	4.5+							37	A-7-6 (V)
		10	5	5	17	100	SS-7	4.5+							12	A-6a (8)
		11	4	3	10	78	SS-8	4.5+							14	A-6a (V)
		12	3	4	15	44	SS-9	3.0-3.5							20	A-7-6 (V)
		13	3	7	21	78	SS-10	4.5+								
		643.8	24	3	7	21	78	SS-10	4.5+						20	A-7-6 (V)
		641.3	25	8												

NOTES:
- No seepage noted.

PLATE 4

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS	DRILLING FIRM / OPERATOR: OTB / C. SVITAK	DRILL RIG: OTB SIMCO 2800	STATION / OFFSET: 940+55.72' RT	EXPLORATION ID									
TYPE: NOISE WALL	SAMPLING FIRM / LOGGERS&ME / N. SOKOLOVSKY	HAMMER: CME AUTOMATIC	ALIGNMENT: IR 90 CENTERLINE	B-088-1-23									
PID: 107714 BR ID: WALL G	DRILLING METHOD: 2.25" HSA	CALIBRATION DATE: 12/22/22	ELEVATION: 658.9 (MSL) EOB: 25.0 ft.	PAGE									
START: 6/13/23 END: 6/13/23	SAMPLING METHOD: SPT	ENERGY RATIO (%): 83.2	COORD: 41.452925 N, 82.067596 W	1 OF 1									
MATERIAL DESCRIPTION AND NOTES													
ASPHALT - 13 INCHES													
GRANULAR BASE - 6 INCHES													
FILL: Dense brown and gray SANDY SILT, little fine gravel, trace to little clay, few shale fragments, damp.													
FILL: Very-stiff to hard grayish-brown SILT AND CLAY, some fine to coarse sand, trace fine gravel, few shale fragments, damp.													
- @ 8.5', few stiff zones													
FILL: Very-stiff to hard gray mottled with brown CLAY, "and" silt, little fine to coarse sand, trace fine gravel, damp to moist.													
FILL: Very-stiff to hard gray SILT AND CLAY, some fine to coarse sand, trace fine gravel, damp.													
ELEV. 658.9	DEPTHS 1	SPT/ RQD	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G)	BACK FILL
657.8	2	4											
657.3	3	13											
655.4	4	7											
	5	17											
	6	4											
	7	5											
	8	5											
	9	3											
	10	5											
	11												
	12	3											
	13	5											
	14	14											
	15	7											
643.4	16	3											
	17	3											
	18	7											
	19	3											
	20	6											
	21												
638.4	22	5											
	23	8											
	24	11											
633.9	25	8											

NOTES:
- No seepage noted.

PLATE 5

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS	DRILLING FIRM / OPERATOR: OTB / C. SVITAK	DRILL RIG: OTB SIMCO 2800	STATION / OFFSET: 943+68.72' RT	EXPLORATION ID									
TYPE: NOISE WALL	SAMPLING FIRM / LOGGERS&ME / N. SOKOLOVSKY	HAMMER: CME AUTOMATIC	ALIGNMENT: IR 90 CENTERLINE	B-088-2-23									
PID: 107714 BR ID: WALL G	DRILLING METHOD: 2.25" HSA	CALIBRATION DATE: 12/22/22	ELEVATION: 659.5 (MSL) EOB: 25.0 ft.	PAGE									
START: 6/13/23 END: 6/13/23	SAMPLING METHOD: SPT	ENERGY RATIO (%): 83.2	COORD: 41.453575 N, 82.066871 W	1 OF 1									
MATERIAL DESCRIPTION AND NOTES													
ASPHALT - 12 INCHES													
GRANULAR BASE - 6 INCHES													
FILL: Hard gray SANDY SILT, little clay, little fine gravel, damp.													
FILL: Stiff gray SANDY SILT, little clay, little fine gravel, damp.													
FILL: Very-stiff gray mottled with brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp to moist.													
FILL: Hard gray SANDY SILT, some fine gravel, little clay, many shale fragments, damp.													
FILL: Stiff to very-stiff gray mottled with brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.													
FILL: Hard gray SILTY CLAY, "and" fine to coarse gravel (shale fragments), little fine to coarse sand, damp.													
ELEV. 659.5	DEPTHS 1	SPT/ RQD	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G)	BACK FILL
658.5	2	6											
658.0	3	12											
656.5	4	14											
	5	4											
	6	3											
	7	4											
	8												
	9	2											
	10	4											
649.0	11	3											
	12	4											
	13												
	14	3											
	15	4											
	16	3											
	17	4											
	18	6											
641.5	19	4											
	20	4											
	21	5											
	22	7											
636.5	23												
	24	18											
634.5	25	9											

NOTES:
- No seepage noted.

PLATE 6

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
TYPE: NOISE WALL
PID: 107714 BR ID: WALL G
START: 6/14/23 END: 6/14/23
DRILLING FIRM / OPERATOR: OTB / C. SVITAK
SAMPLING FIRM / LOGGERS&ME / N. SOKOLOVSH
DRILLING METHOD: 2.25" HSA
SAMPLING METHOD: SPT
DRILL RIG: OTB SIMCO 2800
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 12/22/22
ENERGY RATIO (%): 83.2
STATION / OFFSET: 945+54.72' RT
ALIGNMENT: IR 90 CENTERLINE
ELEVATION: 659.2 (MSL) EOB: 25.0 ft.
COORD: 41.453946 N, 82.066419 W
EXPLORATION ID: B-089-1-23
PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP ID (tsf)	GRADATION (%)							WC	BACK FILL	
							GR	CS	FS	SI	CL	LL	PL			PI
ASPHALT - 12 INCHES GRANULAR BASE - 7 INCHES FILL: Very-stiff to hard gray SILT AND CLAY, little to some fine to coarse sand, trace to little fine gravel, few shale fragments, damp.	659.2	1														
	658.2	2	4	28	61	4.5+										
	657.6	3	11													
	651.2	4	4	5	21	67	3.5-4.5+									
		5	10													
		6	3	4	10	17	SS-3									
		7														
		8														
	646.2	9	2	5	15	72	2.0-3.0	4	3	8	28	57	45	18	27	22
		10														
		11	7	25	50	100	4.5+									
		12	11													
		13	8	10	25	17	SS-6	4.5+								
638.7	14	6	9	25	100	4.5+										
	15															
	16	6	9	25	100	4.5+										
	17															
	18															
	19	5	4	14	100	4.5+	29	11	10	29	21	23	15	8	11	
	20															
634.2	21	5	6	15	100	3.5-4.5+										
	22															
	23	3	7	21	78	3.5-4.5+										
		24														
		25														

NOTES:
- No seepage noted.

PLATE 7

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
TYPE: NOISE WALL
PID: 107714 BR ID: WALL G
START: 6/14/23 END: 6/14/23
DRILLING FIRM / OPERATOR: OTB / C. SVITAK
SAMPLING FIRM / LOGGERS&ME / N. SOKOLOVSH
DRILLING METHOD: 2.25" HSA
SAMPLING METHOD: SPT
DRILL RIG: OTB SIMCO 2800
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 12/22/22
ENERGY RATIO (%): 83.2
STATION / OFFSET: 947+58.71' RT
ALIGNMENT: IR 90 CENTERLINE
ELEVATION: 658.2 (MSL) EOB: 25.0 ft.
COORD: 41.454346 N, 82.065906 W
EXPLORATION ID: B-089-2-23
PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP ID (tsf)	GRADATION (%)							WC	BACK FILL	
							GR	CS	FS	SI	CL	LL	PL			PI
ASPHALT - 12 INCHES GRANULAR BASE - 7 INCHES FILL: Hard gray SANDY SILT, little fine gravel, little clay, few shale fragments, damp.	658.2	1														
	657.2	2	5	11	26	100	4.5+									
	656.6	3	8													
	652.7	4	7	11	29	100	4.5+									
		5	10													
		6	2	2	7	67	1.0-1.5	2	3	10	31	54	44	19	25	24
		7														
		8	2	6	18	72	2.0-3.0									
	645.2	9	6	7												
		10														
		11	3	6	21	100	4.0-4.5+									
		12	6	9												
		13	3	5	17	100	4.5+									
635.2	14	3	5	17	100	4.5+										
	15	7														
	16	22	13	35	100	4.5+	19	12	11	35	23	24	15	9	9	
	17	12														
	18															
	19	4	5	12	100	4.5+										
	20															
633.2	21	5	8	25	67	4.5+										
	22	10														
	23	4	6	17	100	4.0-4.5+										
		24														
		25														

NOTES:
- No seepage noted.

PLATE 8

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS	9-5-23
PROJECT ID	
107714	
SUBSET	TOTAL
89	99
SHEET	
X	X

GEOTECHNICAL PROFILE - ROADWAY
BORING LOGS B-089-1-23 & B-089-2-23



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: OTB / C. SVITAK		DRILL RIG: OTB SIMCO 2800		STATION / OFFSET: 949+57.70' RT		EXPLORATION ID			
TYPE: NOISE WALL		SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI		IHAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-090-1-23			
PID: 107714 BR ID: WALL G		DRILLING METHOD: 2.25" HSA		CALIBRATION DATE: 12/22/22		ELEVATION: 655.9 (MSL) EOB: 25.0 ft.		PAGE			
START: 6/14/23 END: 6/14/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 83.2		COORD: 41.454738 N, 82.065400 W		1 OF 1			
MATERIAL DESCRIPTION AND NOTES		ELEV.		REC SAMPLE ID		GRADATION (%)		ATTERBERG		BACK FILL	
		655.9		N ₆₀ (%)		GR CS FS SI CL LL PL WC		LL PL PI		ODOT CLASS (G)	
ASPHALT - 12 INCHES		654.9		8 5 6							
GRANULAR BASE - 7 INCHES		654.3		3 7 5							
FILL: Very-stiff gray SANDY SILT, little fine gravel, little clay, many shale fragments, damp.				3 7 5						10 A-4a (V)	
FILL: Hard brown mottled with gray SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.		650.4		2 4 7							
FILL: Very-stiff to hard gray and grayish-brown SILT AND CLAY, little to some fine to coarse sand, trace to little fine gravel, few shale fragments, damp to moist.		645.4		6 9 9		14 10 8 27 41 32 18 14		14 13		A-6a (8)	
				6 11 13						9 A-6a (V)	
				6 7 7						12 A-6a (V)	
				9 11 7						14 A-6a (V)	
				4 6 8						17 A-6a (V)	
				3 6 9		9 12 32 38 32 18 14		14 14		A-6a (9)	

NOTES:
- No seepage noted.

PLATE 9

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: OTB / C. SVITAK		DRILL RIG: OTB SIMCO 2800		STATION / OFFSET: 951+57.70' RT		EXPLORATION ID			
TYPE: NOISE WALL		SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI		IHAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-090-2-23			
PID: 107714 BR ID: WALL G		DRILLING METHOD: 2.25" HSA		CALIBRATION DATE: 12/22/22		ELEVATION: 652.7 (MSL) EOB: 25.0 ft.		PAGE			
START: 6/14/23 END: 6/14/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 83.2		COORD: 41.455128 N, 82.064887 W		1 OF 1			
MATERIAL DESCRIPTION AND NOTES		ELEV.		REC SAMPLE ID		GRADATION (%)		ATTERBERG		BACK FILL	
		652.7		N ₆₀ (%)		GR CS FS SI CL LL PL WC		LL PL PI		ODOT CLASS (G)	
ASPHALT - 13 INCHES		651.6		8 9 7							
GRANULAR BASE - 7 INCHES		651.0		3 6 3							
FILL: Hard gray SANDY SILT, some clay, trace fine to coarse gravel, few shale fragments, damp.				3 6 3						A-1-B (V)	
FILL: Very-stiff gray mottled with brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.		647.2		4 6 8		9 10 13 35 33 25 16 9		9 12		A-4a (V)	
FILL: Hard brown mottled with gray SANDY SILT, some clay, little fine to coarse gravel, few shale and brick fragments, damp.		644.7		4 5 6						17 A-6b (V)	
FILL: Hard grayish-brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.		637.2		6 6 13						12 A-4a (V)	
FILL: Hard grayish-brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.				6 9 8		11 15 37 26 22 15 7		7 10		A-4a (6)	
FILL: Hard grayish-brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.				3 6 9						16 A-6b (V)	
FILL: Hard grayish-brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.				4 5 7						17 A-6b (V)	
FILL: Hard grayish-brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.				4 9 14						17 A-6b (V)	
FILL: Very-stiff gray CLAY, "and" silt, little fine to coarse sand, trace fine gravel, moist.		629.7		3 4 8						26 A-7-6 (V)	
FILL: Very-stiff gray CLAY, "and" silt, little fine to coarse sand, trace fine gravel, moist.		627.7		3 4 8						26 A-7-6 (V)	

NOTES:
- No seepage noted.

PLATE 10

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 11-21-23
 PROJECT ID
 107714
 SUBSET TOTAL
 90 99
 SHEET TOTAL
 X X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOGS B-090-1-23 & B-090-2-23

LOR-90-10.76

MODEL: Sheet PAPER: 17x11 (in.) DATE: 9/6/2023 TIME: 2:55:40 PM USER: kharper
\\EgnyteDrive\Ops\Columbus-1170\Projects\2021\1217525A_ODOT D3_LOR-90-10.76 Noise Walls_Sheriff\GEO\CAD\107714\400-Engineering\Geotechnical\Sheets\107714_YL047 - B-091-1 and B-091-2.dgn



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
TYPE: NOISE WALL
PID: 107714 BR ID: WALL G
START: 6/14/23 END: 6/14/23
DRILLING FIRM / OPERATOR: OTB / C. SVITAK
SAMPLING FIRM / LOGGERS&ME / N. SOKOLOWSKI
DRILLING METHOD: 2.25" HSA
SAMPLING METHOD: SPT
DRILL RIG: OTB SIMCO 2800
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 12/22/22
ENERGY RATIO (%): 83.2
STATION / OFFSET: 953+58, 70' RT
ALIGNMENT: IR 90 CENTERLINE
ELEVATION: 648.7 (MSL) EOB: 25.0 ft.
COORD: 41.455923 N, 82.064375 W

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)					WC	BACK FILL				
							GR	CS	FS	SI	CL			LL	PL	PI	
ASPHALT - 13 INCHES	648.7	1															
GRANULAR BASE - 7 INCHES	647.6	2															
FILL: Hard grayish-brown SANDY SILT, some clay, trace to little fine to coarse gravel, few shale fragments, damp.	647.0	3	5	22	67	SS-1A							A-1-b (V)				
		4	5	22	100	SS-2							A-4a (V)				
		5	4	17	100	SS-3							A-4a (V)				
		6	10	29	100	SS-4							A-4a (V)				
		7	4	18	78	SS-5	3.0-3.5	6	8	12	36	28	15	13	15	A-6a (9)	
		8	3	4	15	72	SS-6	3.0-4.0							17	A-6a (V)	
		9	5	4	17	83	SS-7	3.0-3.5								20	A-6b (V)
		10	2	5	17	67	SS-8	1.5-3.0	3	6	11	34	46	37	20	20	A-6b (12)
		11	5	7	25	67	SS-9	4.0-4.5								24	A-7-6 (V)
		12	6	6	21	67	SS-10	3.0-3.5								22	A-7-6 (V)

NOTES:
- No seepage noted.

PLATE 11

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
TYPE: NOISE WALL
PID: 107714 BR ID: WALL G
START: 6/27/23 END: 6/27/23
DRILLING FIRM / OPERATOR: OTB / C. SVITAK
SAMPLING FIRM / LOGGER: S&ME / P. LEITER
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT
DRILL RIG: OTB MOBILE B-57
HAMMER: CME AUTOMATIC
CALIBRATION DATE: 12/22/22
ENERGY RATIO (%): 90*
STATION / OFFSET: 955+60, 71' RT
ALIGNMENT: IR 90 CENTERLINE
ELEVATION: 644.7 (MSL) EOB: 25.0 ft.
COORD: 41.455918 N, 82.063857 W

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)					WC	BACK FILL					
							GR	CS	FS	SI	CL			LL	PL	PI		
ASPHALT - 15 INCHES	644.7	1																
GRANULAR BASE - 8 INCHES	643.4	2																
FILL: Hard dark-gray mottled with brown SANDY SILT, some clay, trace to little fine gravel, few shale fragments, damp.	642.8	3	4	15	67	SS-1	4.5							A-4a (V)				
		4	2	8	72	SS-2	4.0-4.5							A-4a (V)				
		5	3	17	89	SS-3	3.5-4.0							A-6b (V)				
		6	2	6	78	SS-4	2.0-2.5	7	8	12	45	28	32	19	13	16	A-6a (9)	
		7	2	4	15	100	SS-5	3.5-4.5								18	A-6a (V)	
		8	2	9	67	SS-6	2.0-3.5									21	A-7-6 (V)	
		9	3	4	14	100	SS-7	1.5-3.5	1	3	9	38	49	46	20	22	A-7-6 (16)	
		10	2	4	14	83	SS-8	3.5-4.5								22	A-7-6 (V)	
		11	3	4	17	100	SS-9	2.5-4.5	6	13	14	47	20	30	20	10	17	A-4a (6)
		12	8	12	36	94	SS-10	3.5-4.5								13	A-4a (V)	

NOTES:
- No seepage noted.

PLATE 12

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
KAH
 REVIEWER
BKS 9-5-23
 PROJECT ID
107714
 SUBSET TOTAL
91 99
 SHEET TOTAL
X X

GEOTECHNICAL PROFILE - ROADWAY
BORING LOGS B-091-1-23 & B-091-2-23

LOR-90-10.76

MODEL: Sheet PAPER: 17x11 (in.) DATE: 9/6/2023 TIME: 2:57:38 PM USER: kharper
\\EgnyteDrive\Ops\Columbus-1170\Projects\2021\217525A_ODOT D3_LOR-90-10.76 Noise Walls_Sheriff\Geotechnical\Sheets\107714_YL049 - B-092-1 and B-092-2.dgn

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS	DRILLING FIRM / OPERATOR: OTB / C. SVITAK	DRILL RIG: OTB MOBILE B-57	STATION / OFFSET: 957+55, 69' RT	EXPLORATION ID											
TYPE: NOISE WALL	SAMPLING FIRM / LOGGER: SAME / P. LEITER	HAMMER: CME AUTOMATIC	ALIGNMENT: IR 90 CENTERLINE	B-092-1-23											
PID: 107714 BR ID: WALL G	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 12/22/22	ELEVATION: 640.8 (MSL) EOB: 25.0 ft.	PAGE											
START: 6/27/23 END: 6/27/23	SAMPLING METHOD: SPT	ENERGY RATIO (%): 90*	COORD: 41.456303 N, 82.063362 W	1 OF 1											
MATERIAL DESCRIPTION AND NOTES		SPT/ RQD	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
ASPHALT - 17 INCHES															
GRANULAR BASE - 7 INCHES															
FILL: Hard dark-brown SANDY SILT, little clay, trace fine gravel, damp.		6	78	4.5	-	-	-	-	-	-	-	-	13	A-4a (V)	
FILL: Very-stiff to hard gray mottled with brown SILT AND CLAY, some fine to coarse sand, trace fine gravel, few shale fragments, few medium-stiff to stiff zones, damp.		5	72	2.5-4.5	-	-	-	-	-	-	-	-	11	A-6a (V)	
FILL: Stiff brown and gray CLAY, "and" silt, trace to little fine to coarse sand, trace fine gravel, damp.		2	72	0.5-4.5	7	10	13	12	58	29	15	14	15	A-6a (9)	
FILL: Very-stiff to hard brown SILT AND CLAY, little fine to coarse sand, trace fine gravel, damp.		1	6	1.0-1.5	-	-	-	-	-	-	-	-	25	A-7-6 (V)	
Very-stiff gray and dark-gray CLAY, "and" silt, trace to little fine to coarse sand, damp to moist.		2	18	3.5-4.5	-	-	-	-	-	-	-	-	12	A-6a (V)	
Hard gray mottled with brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.		1	11	2.0-2.5	0	2	8	37	53	51	21	30	28	A-7-6 (18)	
Very-stiff to hard dark-gray SANDY SILT, some clay, little fine gravel, few shale fragments, partly similar to severely weathered, very-weak shale, damp.		2	12	2.5-4.0	-	-	-	-	-	-	-	-	23	A-7-6 (V)	
		2	23	4.0-4.5	-	-	-	-	-	-	-	-	15	A-6b (V)	
		12	60	2.5-3.0	-	-	-	-	-	-	-	-	11	A-4a (V)	
		10	80	4.0-4.5	-	-	-	-	-	-	-	-	9	A-4a (V)	

NOTES:
- Seepage noted at 23.0'.

PLATE 13

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS	DRILLING FIRM / OPERATOR: OTB / C. SVITAK	DRILL RIG: OTB MOBILE B-57	STATION / OFFSET: 959+64, 79' RT	EXPLORATION ID											
TYPE: NOISE WALL	SAMPLING FIRM / LOGGER: SAME / P. LEITER	HAMMER: CME AUTOMATIC	ALIGNMENT: IR 90 CENTERLINE	B-092-2-23											
PID: 107714 BR ID: WALL G	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 12/22/22	ELEVATION: 636.4 (MSL) EOB: 25.0 ft.	PAGE											
START: 6/27/23 END: 6/27/23	SAMPLING METHOD: SPT	ENERGY RATIO (%): 90*	COORD: 41.456693 N, 82.062804 W	1 OF 1											
MATERIAL DESCRIPTION AND NOTES		SPT/ RQD	REC SAMPLE (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
GRANULAR SHOULDER FILL - 18 INCHES															
FILL: Very-stiff to hard dark-brown and gray SANDY SILT, some clay, little fine gravel, damp.		4	83	3.5-4.5	-	-	-	-	-	-	-	-	13	A-4a (V)	
Stiff to hard brown and gray CLAY, "and" silt, little fine to coarse sand, slightly organic, damp to moist.		2	11	2.0-4.5	-	-	-	-	-	-	-	-	11	A-4a (V)	
Hard gray and brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.		1	67	1.0-3.5	0	2	10	36	52	56	23	33	32	A-7-6 (19)	
Hard gray and brown SANDY SILT, some fine to coarse gravel, little clay, few shale fragments, partly similar to severely weathered, very-weak shale, damp.		2	8	4.0-4.5	-	-	-	-	-	-	-	-	19	A-7-6 (V)	
		2	8	2.0-2.5	-	-	-	-	-	-	-	-	26	A-7-6 (V)	
		2	14	4.5	-	-	-	-	-	-	-	-	18	A-6b (V)	
SHALE, gray, severely to highly weathered, very-weak to weak.		7	100	4.5	-	-	-	-	-	-	-	-	12	A-4a (V)	
		11	54	4.0-4.5	25	14	22	14	28	19	9	9	9	A-4a (0)	
		50-5'	-	-	-	-	-	-	-	-	-	-	-	Rock (V)	
		25	116	-	-	-	-	-	-	-	-	-	-	Rock (V)	

NOTES:
- Seepage noted at 15.5'.

PLATE 14

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY		
DESIGNER	KAH	
REVIEWER	BKS 9-5-23	
PROJECT ID	107714	
SUBSET	TOTAL	
92	99	
SHEET	TOTAL	
X	X	

GEOTECHNICAL PROFILE - ROADWAY
BORING LOGS B-092-1-23 & B-092-2-23

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL G
 START: 6/28/23 END: 6/28/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGER: SAME / P. LEITER
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB MOBILE B-57
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 90*

STATION / OFFSET: 961+57.79' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 633.4 (MSL) EOB: 23.6 ft.
 COORD: 41.457071 N, 82.062310 W

EXPLORATION ID: B-093-1-23
 PAGE: 1 OF 1

DEPTH (ft)	MATERIAL DESCRIPTION AND NOTES	ELEV.	SPT / RQD	N ₆₀	REC SAMPLE (%)	HP ID	GRADATION (%)							WC	BACK FILL
							GR	CS	FS	SI	CL	LL	PL		
1	GRANULAR SHOULDER FILL - 18 INCHES	633.4													
2	FILL: Very-stiff to hard brown and dark-brown SILT AND CLAY, little fine to coarse sand, trace fine gravel, damp.	631.9	3	6	56	SS-1	3.5-4.5							18	A-6a (V)
3			1												
4			2	8	89	SS-2	2.0-3.0							15	A-6a (V)
5		627.9	3												
6	FILL: Stiff dark-brown and brown CLAY, "and" silt, little fine to coarse sand, trace fine gravel, slightly organic, moist.		1	3	83	SS-3	1.5-2.0							35	A-7-6 (V)
7			3												
8	FILL: Very-stiff brown and gray SILTY CLAY, little fine to coarse sand, trace fine gravel, moist.	625.4	2	3	100	SS-4	2.0-3.0							23	A-6b (V)
9			3												
10		622.9	3												
11	Stiff to very-stiff brown and gray SILT, little clay, little fine to coarse sand, trace fine gravel, moist.		1	2	78	SS-5	1.0-2.5							24	A-4b (8)
12			2												
13		620.4	5	8	26	SS-6A								10	A-3a (V)
14	Medium-dense brown COARSE AND FINE SAND, little silt, trace to little clay, trace fine gravel, damp to moist.	619.3	8	9	83	SS-6B	4.5							10	A-6a (V)
15	Hard brownish-gray SILT AND CLAY, little fine to coarse sand, trace fine gravel, damp.		9												
16	Very-dense gray SANDY SILT, little fine gravel, trace clay, moist.	617.9	11	12	89	SS-7								20	A-4a (2)
17			23	18											
18	SHALE, dark-gray, highly to severely weathered, very-weak to weak, partly similar to hard soil above 20'.	615.4	8	19	74	SS-8									Rock (V)
19			30												
20			28		100	SS-9									Rock (V)
21			50-1'												
22															
23		609.8	80-1'												
EOB															

NOTES:
 - Seepage noted at 15.5'.
 - Groundwater measured at 20.8' inside HSA after completion.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL G
 START: 6/28/23 END: 6/28/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGER: SAME / P. LEITER
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB MOBILE B-57
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 90*

STATION / OFFSET: 963+58.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 631.6 (MSL) EOB: 20.7 ft.
 COORD: 41.457467 N, 82.061799 W

EXPLORATION ID: B-093-2-23
 PAGE: 1 OF 1

DEPTH (ft)	MATERIAL DESCRIPTION AND NOTES	ELEV.	SPT / RQD	N ₆₀	REC SAMPLE (%)	HP ID	GRADATION (%)							WC	BACK FILL
							GR	CS	FS	SI	CL	LL	PL		
1	GRANULAR SHOULDER FILL - 18 INCHES	631.6													
2	FILL: Very-stiff to hard dark-brown and gray SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.	630.1	3	8	78	SS-1	2.5-4.5							22	A-6b (V)
3			2												
4			3	8	67	SS-2	2.5-4.5							21	A-6b (V)
5		626.1	3												
6	Very-stiff to hard brown and gray CLAY, "and" silt, little fine to coarse sand, trace fine gravel, few stiff zones, damp.		2	9	67	SS-3	1.0-3.0							24	A-7-6 (19)
7			4												
8			2	4	67	SS-4	3.0-4.0							22	A-7-6 (V)
9			4												
10		618.6	3	20	89	SS-5	4.5							24	A-7-6 (V)
11	Hard gray SANDY SILT, little clay, little fine gravel, damp.		5												
12			8												
13		616.1	4	6	94	SS-6	4.5							9	A-4a (4)
14			6	21	100	SS-7								7	Rock (V)
15	SHALE, dark-gray, highly to severely weathered, very-weak to weak.		9	36	67	SS-8									Rock (V)
16			10												
17			14												
18			50-3"		67	SS-8									Rock (V)
19															
20		610.9													
EOB															

NOTES:
 - Seepage noted at 15.5'.
 - Encountered auger refusal at 20.7'.
 - After HSA removed, borehole caved at 12.1' and water was measured at 7.4'.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 9-5-23
 PROJECT ID
 107714
 SUBSET TOTAL
 93 99
 SHEET TOTAL
 X X

S&ME JOB: 217525A

PROJECT: LOR-90-10-76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL G
 START: 6/28/23 END: 6/28/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGER: S&ME / P. LEITER
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB MOBILE B-57
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 90*

STATION / OFFSET: 965+56.79' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 631.2 (MSL) EOB: 21.1 ft.
 COORD: 41.457854 N, 82.061291 W

EXPLORATION ID: B-094-1-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)								WC	ODOT CLASS (G)	BACK FILL		
							GR	CS	FS	SI	CL	LL	PL	PI					
GRANULAR SHOULDER FILL - 18 INCHES	631.2	1																	
PROBABLE FILL: Hard dark-gray SILT AND CLAY, little fine to coarse sand, trace fine gravel, damp.	629.7	2	5	11	89	4.5	-	-	-	-	-	-	-	-	-	7	A-6a (V)		
		3	2																
		4	3	9	72	2.5-4.5											20	A-7-6 (V)	
		5																	
		6	3	9	89	2.0-3.0												23	A-7-6 (13)
Stiff brown and gray SILT AND CLAY, some fine to coarse sand, trace fine gravel, damp to moist.	620.7	7	2	5	72	1.0-1.5	3	6	15	49	27	30	17	13	21		A-6a (9)		
		8																	
		9	4	6	27	89	3.5-4.0											19	A-6b (V)
		10																	
		11																	
Very-stiff to hard gray and dark-gray SILTY CLAY, little fine to coarse sand, trace fine gravel, few shale fragments, dry to damp.	615.7	12	8	16	60	2.5-4.5											9	A-6b (V)	
		13																	
		14	19	50-3"			100											Rock (V)	
		15																	
		16																	
SHALE, dark gray, highly to severely weathered, weak.	610.1	17	19	50-5"		100											Rock (V)		
		18																	
		19																	
		20																	
		21																	

NOTES:
 - Seepage noted at 18.0'.

S&ME JOB: 217525A

PROJECT: LOR-90-10-76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL G
 START: 6/28/23 END: 6/28/23

DRILLING FIRM / OPERATOR: OTB / C. SVITAK
 SAMPLING FIRM / LOGGER: S&ME / P. LEITER
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: OTB MOBILE B-57
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/22/22
 ENERGY RATIO (%): 90*

STATION / OFFSET: 967+51.78' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 631.3 (MSL) EOB: 23.9 ft.
 COORD: 41.458237 N, 82.060795 W

EXPLORATION ID: B-094-2-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)								WC	ODOT CLASS (G)	BACK FILL		
							GR	CS	FS	SI	CL	LL	PL	PI					
GRANULAR SHOULDER FILL - 18 INCHES	631.3	1																	
FILL: Stiff to very-stiff brownish-gray SILT AND CLAY, little fine to coarse sand, trace fine gravel, damp.	629.8	2	3	9	72	1.5-4.0										14	A-6a (V)		
		3																	
		4	2	8	78	2.0-3.5												20	A-6a (10)
		5																	
		6	2	3	11	78	2.5-4.0											26	A-6b (V)
Stiff to very-stiff brown and gray SILTY CLAY, little fine to coarse sand, trace fine gravel, damp to moist.	620.8	7	1	3	14	1.5-3.0											21	A-6b (V)	
		8																	
		9	7	13	45	100	4.5											12	A-6a (V)
		10																	
		11																	
Hard brown and gray SILT AND CLAY, little to some fine to coarse sand, trace fine gravel, damp.	618.3	12	9	25	77	2.0-2.5											8	A-4b (V)	
		13																	
		14	9	14	48	100	1.5-2.0												
		15																	
		16																	
SHALE, dark-gray, highly to severely weathered, very-weak to weak, partly similar to hard soil above 23'.	607.4	17	24	32	108												Rock (V)		
		18																	
		19																	
		20																	
		21																	

NOTES:
 - No seepage noted.

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 9-5-23
 PROJECT ID
 107714
 SUBSET TOTAL
 94 99
 SHEET TOTAL
 X X



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
TYPE: NOISE WALL
PID: 107714 BR ID: WALL G
START: 6/28/23 END: 6/28/23
DRILLING FIRM / OPERATOR: OTB / C. SVITAK
SAMPLING FIRM / LOGGER: S&ME / P. LEITER
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: SPT

MATERIAL DESCRIPTION AND NOTES

GRANULAR SHOULDER FILL - 18 INCHES
FILL: Stiff to very-stiff brown and gray SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.

Very-stiff to hard gray and brown CLAY, "and" silt, little fine to coarse sand, trace fine gravel, damp.

Hard gray and brown SILT AND CLAY, little fine to coarse sand, trace fine gravel, damp.

SHALE, dark-gray, highly to severely weathered, very-weak to weak.

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
TYPE: NOISE WALL
PID: 107714 BR ID: WALL G
START: 7/11/23 END: 7/11/23
DRILLING FIRM / OPERATOR: S&ME / T. FROST
SAMPLING FIRM / LOGGER: S&ME / T. FROST
DRILLING METHOD: 2.25" HSA
SAMPLING METHOD: SPT

MATERIAL DESCRIPTION AND NOTES

GRANULAR SHOULDER FILL - 6 INCHES
FILL: Very-stiff dark gray SILTY CLAY, little fine to coarse sand, trace fine gravel, few wood fragments, iron oxide staining, damp.

Very-stiff gray and brown CLAY, "and" silt, little fine to coarse sand, trace fine gravel, damp.

Hard dark gray SANDY SILT, little clay, trace to little fine gravel, damp.

Dense to very-dense dark-gray SILT, little clay, trace fine to coarse sand, trace fine to coarse gravel, few shale fragments, damp.

SHALE, dark-gray, highly to severely weathered, weak.

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	GRADATION (%)				ATTERBERG	WC	BACK FILL
					CS	FS	SI	CL			
1											
2	3	8	78								
3	2										
4	1	8	89								
5	2										
6	2	3	11	61							
7	3	4									
8											
9	2	4	15	100							
10	6										
11											
12	6	13	50	89							
13	20										
14	7	11	32	100							
15	10										
16	25										
17	23										
18	26										
19	13	26	98	100							
20	39										
21	50.4										

SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	GRADATION (%)				ATTERBERG	WC	BACK FILL
					CS	FS	SI	CL			
1											
2	3	8	78								
3	2										
4	1	8	89								
5	2										
6	2	3	11	61							
7	3	4									
8											
9	2	4	15	100							
10	6										
11											
12	6	13	50	89							
13	20										
14	7	11	32	100							
15	10										
16	25										
17	23										
18	26										
19	13	26	98	100							
20	39										
21	50.4										

SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	GRADATION (%)				ATTERBERG	WC	BACK FILL
					CS	FS	SI	CL			
1											
2	3	4	10	100							
3											
4	3	4	10	100							
5											
6	3	4	10	100							
7	3	4	10	100							
8											
9	3	4	16	100							
10	7										
11	9	18	57	100							
12	22										
13											
14	18	40	120	100							
15	44										
16	17	23	65	100							
17	23										
18											
19	8	12	46	100							
20	20										
21	10	18	97	100							
22	50										
23											
24	49	50.2									

SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	GRADATION (%)				ATTERBERG	WC	BACK FILL
					CS	FS	SI	CL			
1											
2	3	4	10	100							
3											
4	3	4	10	100							
5											
6	3	4	10	100							
7	3	4	10	100							
8											
9	3	4	16	100							
10	7										
11	9	18	57	100							
12	22										
13											
14	18	40	120	100							
15	44										
16	17	23	65	100							
17	23										
18											
19	8	12	46	100							
20	20										
21	10	18	97	100							
22	50										
23											
24	49	50.2									

DESIGN AGENCY

 DESIGNER
KAH
 REVIEWER
BKS 9-5-23
 PROJECT ID
107714
 SUBSET TOTAL
95 99
 SHEET TOTAL
X X

GEOTECHNICAL PROFILE - ROADWAY
BORING LOGS B-095-1-23 & B-095-2-23

MODEL: Sheet PAPER SIZE: 17x11 (in.) DATE: 9/6/2023 TIME: 7:07:58 PM USER: kharper
 \\EgnyteDrive\Columbus\1170\Projects\2021\1217525A_ODOT D3_LOR-90-10-76 Noise Walls_Sheriff\OH\GEO\CAD\107714\400-Engineering\Geotechnical\Sheets\107714_YL052 - B-096-1 and B-096-2.dgn

S&ME JOB: 217525A



PROJECT: LOR-90-10-76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL G
 START: 7/5/23 END: 7/5/23

DRILLING FIRM / OPERATOR: S&ME / T. FROST
 SAMPLING FIRM / LOGGER: S&ME / T. FROST
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: S&ME ATV D50 (R80)
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 6/6/22
 ENERGY RATIO (%): 85.4

STATION / OFFSET: 973+61.82' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 632.8 (MSL) EOB: 24.0 ft.
 COORD: 41.459427 N, 82.059228 W

EXPLORATION ID: B-096-1-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				WC	BACK FILL				
							GR	CS	FS	SI						
ROOTMAT - 2 INCHES	632.8	1														
FILL: Very-stiff gray and dark-gray SILTY CLAY, little fine to coarse sand, trace fine gravel, slightly organic, damp.	632.6	2	4	11	89	2.5-3.0						17 A-6b (V)				
FILL: Very-stiff dark-gray CLAY, some to "and" silt, little fine to coarse sand, trace fine gravel, slight hydrocarbon odor, damp.	629.8	3														
Very-stiff hard gray and brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.	627.3	4	3	11	100	3.5-4.0						24 A-7-6 (V)				
		5	4													
		6	3	17	100	3.0-3.5	9	5	9	35	42	38	20	18	14	A-6b (11)
		7	5													
		8														
		9	5	10	28	89	4.5+									12 A-6b (V)
		10	10													
	622.3	11														
		12	4	14	51	89	4.5+									12 A-4a (V)
		13	22													
		14	19	30	100	100	4.5+									9 A-4a (V)
		15	40													
		16	14	19	58	100	4.5+									8 A-4a (V)
		17	22													
		18														
		19	12	15	56	100	4.5+									13 A-4a (V)
		20	24													
		21	33	50.5"		100	4.5+	23	22	15	32	8	23	16	7	8 A-4a (1)
SHALE, dark-gray, severely weathered, very-weak.	610.8	TR														
		23														
	608.8	EOB	50		100	SS-10										9 Rock (V)

NOTES:
 - No seepage noted.

PLATE 21

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A



PROJECT: LOR-90-10-76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL G
 START: 7/5/23 END: 7/5/23

DRILLING FIRM / OPERATOR: S&ME / T. FROST
 SAMPLING FIRM / LOGGER: S&ME / T. FROST
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: S&ME ATV D50 (R80)
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 6/6/22
 ENERGY RATIO (%): 85.4

STATION / OFFSET: 975+61.79' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 633.2 (MSL) EOB: 23.6 ft.
 COORD: 41.459822 N, 82.058725 W

EXPLORATION ID: B-096-2-23
 PAGE: 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				WC	BACK FILL				
							GR	CS	FS	SI						
ROOTMAT - 2 INCHES	633.2	1														
FILL: Stiff to very-stiff gray and brown SILT AND CLAY, little fine to coarse sand, trace fine gravel, slightly organic, few brick fragments, damp.	633.0	2	4	14	100	1.5						13 A-6a (V)				
		3	5													
		4	3	9	100	3.0-3.5						13 A-6a (V)				
	627.7	5														
		6	3	20	100	3.0-4.0	6	5	9	38	42	43	22	21	17	A-7-6 (13)
		7	9													
		8														
		9	5	7	24	89	3.5-4.0									16 A-7-6 (V)
		10	10													
	622.7	11														
		12	2	12	37	89	4.5+									12 A-4a (V)
		13	14													
		14	18	50.4"		100	4.5+	8	14	14	45	19	28	18	10	10 A-4a (6)
		15														
		16	18	21	73	100	4.5+									9 A-4a (V)
		17	30													
		18														
		19	17	23	90	89	4.5+									8 A-4a (V)
	612.7	TR														
SHALE, dark-gray, highly to severely weathered, very-weak to weak.		21	25	33		100										Rock (V)
		22	50.4"													
	609.6	EOB	80.1"		100	SS-10										Rock (V)

NOTES:
 - No seepage noted.

PLATE 22

NOTES: SEE ABOVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY:

DESIGNER: KAHA

REVIEWER: BKS 9-5-23

PROJECT ID: 107714

SUBSET	TOTAL
96	99
SHEET	TOTAL
X	X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOGS B-096-1-23 & B-096-2-23



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: S&ME / T. FROST		DRILL RIG: S&ME ATV D50 (R80)		STATION / OFFSET: 977+62, 80' RT		EXPLORATION ID					
TYPE: NOISE WALL		SAMPLING FIRM / LOGGER: S&ME / T. FROST		HAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-097-1-23					
PID: 107714 BR ID: WALL G		DRILLING METHOD: 2.25" HSA		CALIBRATION DATE: 6/6/22		ELEVATION: 634.0 (MSL) EOB: 24.4 ft.		PAGE					
START: 7/6/23 END: 7/6/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 85.4		COORD: 41.460216 N, 82.056209 W		1 OF 1					
MATERIAL DESCRIPTION AND NOTES		ELEV.		REC SAMPLE (%)		GRADATION (%)		ATTERBERG		BACK FILL			
		DEPTH		ID		GR		LL		ODOT CLASS (G)			
		SPT		SS		CS		PL		WC			
ASPHALT - 4 INCHES		634.0	1										
GRANULAR BASE - 6 INCHES		633.7	2										
FILL: Medium-dense dark gray COARSE AND FINE SAND, little fine gravel, trace to little clay, few brick fragments, slight hydrocarbon odor, damp.		633.2	3	89	SS-1						8 A-3a (V)		
FILL: Very-stiff dark-gray and brown SILT AND CLAY, some fine to coarse sand, little fine gravel, few shale fragments, damp.		631.0	4	89	SS-2	17	16	17	34	16	13	13 A-6a (4)	
Very-stiff gray CLAY, "and" silt, little fine to coarse sand, trace fine gravel, moist.		628.5	5										
Very-stiff to hard gray and brown SILT AND CLAY, some fine to coarse sand, trace fine to coarse gravel, damp.		626.0	6	100	SS-3								
			7	100	SS-3								
			8										
			9	19	SS-4							15 A-6a (V)	
			10	7									
			11										
			12	31	SS-5	8	8	15	38	31	35	20	16 A-6a (9)
			13	13									
			14	54	SS-6								12 A-6a (V)
			15	25									
			16	41	SS-7								15 A-6a (V)
			17	16									
		616.0	18										
SHALE, dark-gray, highly to severely weathered, very-weak to weak, similar to hard soil above 20'.			19	46	SS-8								Rock (V)
			20	16									
			21										
			22										
			23										
			24										
		609.6	24										Rock (V)
			25										

NOTES:
- No seepage noted.

PLATE 23

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: S&ME / T. FROST		DRILL RIG: S&ME ATV D50 (R80)		STATION / OFFSET: 979+65, 85' RT		EXPLORATION ID				
TYPE: NOISE WALL		SAMPLING FIRM / LOGGER: S&ME / T. FROST		HAMMER: CME AUTOMATIC		ALIGNMENT: IR 90 CENTERLINE		B-097-2-23				
PID: 107714 BR ID: WALL G		DRILLING METHOD: 2.25" HSA		CALIBRATION DATE: 6/6/22		ELEVATION: 634.2 (MSL) EOB: 25.0 ft.		PAGE				
START: 7/6/23 END: 7/6/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 85.4		COORD: 41.460603 N, 82.057677 W		1 OF 1				
MATERIAL DESCRIPTION AND NOTES		ELEV.		REC SAMPLE (%)		GRADATION (%)		ATTERBERG		BACK FILL		
		DEPTH		ID		GR		LL		ODOT CLASS (G)		
		SPT		SS		CS		PL		WC		
ASPHALT - 4 INCHES		634.2	1									
GRANULAR BASE - 6 INCHES		633.9	2									
FILL: Very-stiff dark-gray and brown SILTY CLAY, little fine to coarse sand, trace to little fine gravel, few asphalt fragments, damp.		633.4	3	89	SS-1						11 A-6b (V)	
FILL: Very-stiff dark-gray and brown CLAY, "and" silt, little fine to coarse sand, trace fine gravel, few wood fragments, damp.		628.7	4	17	SS-2						15 A-6b (V)	
Very-stiff to hard brown SILT AND CLAY, little fine to coarse sand, trace fine gravel, damp.		626.2	5									
			6	10	SS-3	1	2	9	44	44	22	27 A-7-6 (14)
			7	4								
			8									
			9	21	SS-4							10 A-6a (V)
			10	8								
			11									
			12	36	SS-5							13 A-6a (V)
			13	15								
			14	54	SS-6							14 A-6a (V)
			15	20								
		618.7	16									
Very-dense dark-gray SANDY SILT, little clay, trace fine gravel, few shale fragments, partly similar to severely weathered, very-weak shale, dry to damp.			17									
			18									
			19									
			20									
			21									
			22	110	SS-9							9 A-4a (V)
			23	41								
		611.2	24									
Hard dark-gray CLAY, some silt, trace fine sand, damp.			25									
		609.2	25									

NOTES:
- No seepage noted.

PLATE 24

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 9-5-23	
PROJECT ID	107714
SUBSET	TOTAL
97	99
SHEET	TOTAL
X	X

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL G
 START: 7/6/23 END: 7/6/23

DRILLING FIRM / OPERATOR: S&ME / T. FROST
 SAMPLING FIRM / LOGGER: S&ME / T. FROST
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: S&ME ATV D50 (R80)
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 6/6/22
 ENERGY RATIO (%): 85.4

STATION / OFFSET: 981+10, 86' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 634.3 (MSL) EOB: 23.6 ft.
 COORD: 41.460885 N, 82.057306 W

EXPLORATION ID: B-098-1-23
 PAGE: 1 OF 1

DEPTH (ft)	SPT / RQD	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG				WC	ODOT CLASS (G)	
				GR	CS	FS	SI	CL	LL	PL	PI			
1	8	20	89											
2	6													
3	3	10	100	2.5-3.5										A-2-4 (V)
4														
5														
6	2	7	100	2.25	3	9	45	40	43	25	18			A-7-6 (12)
7	2	3												
8														
9	3	5	19	100	3.0-3.5									A-7-6 (V)
10	8													
11														
12	5	7	31	100	4.5+									A-4a (V)
13	15													
14	14	18	51	100	4.5+	5	9	13	48	25	19	8		A-4a (8)
15	18													
16	25													
17	50-3"													A-4a (2)
18														
19	32													A-4a (V)
20	50-4"													
21	50-4"													Rock (X)
22														
23	60-1"													Rock (X)

NOTES:
 - Seepage noted at 3.0'.

PLATE 25

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS
 TYPE: NOISE WALL
 PID: 107714 BR ID: WALL G
 START: 7/6/23 END: 7/6/23

DRILLING FIRM / OPERATOR: S&ME / T. FROST
 SAMPLING FIRM / LOGGER: S&ME / T. FROST
 DRILLING METHOD: 2.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: S&ME ATV D50 (R80)
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 6/6/22
 ENERGY RATIO (%): 85.4

STATION / OFFSET: 983+13, 94' RT
 ALIGNMENT: IR 90 CENTERLINE
 ELEVATION: 634.8 (MSL) EOB: 24.4 ft.
 COORD: 41.461267 N, 82.056767 W

EXPLORATION ID: B-098-2-23
 PAGE: 1 OF 1

DEPTH (ft)	SPT / RQD	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG				WC	ODOT CLASS (G)	
				GR	CS	FS	SI	CL	LL	PL	PI			
1	18	71	100											
2	25													A-2-4 (V)
3	25													
4	18	43	100											A-3a (V)
5	26	4												
6	3	4	11	100	2.0-3.0									A-6a (V)
7	4													
8														
9	3	4	13	100	3.0-3.5	1	2	11	46	40	47	21	29	A-7-6 (14)
10	5													
11	3	6	19	100	3.0									A-7-6 (V)
12	7													
13														
14	7	9	27	89	3.5-4.0									A-6a (V)
15	10													
16	32													
17	50-5"													A-6a (V)
18														
19	11	40	89	89	4.0-4.5+	2	4	4	36	54	38	15	23	A-6b (13)
20	15													
21	16	21	75	89	4.0-4.5									A-6b (V)
22	32													
23														
24	32													A-6b (V)

NOTES:
 - Seepage noted at 2.0'.

PLATE 26

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS 9-5-23	
PROJECT ID	107714
SUBSET	TOTAL
98	99
SHEET	TOTAL
X	X

GEOTECHNICAL PROFILE - ROADWAY
BORING LOGS B-098-1-23 & B-098-2-23



S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: S&ME / T. FROST		STATION / OFFSET: 985+14, 115' RT		EXPLORATION ID			
TYPE: NOISE WALL		SAMPLING FIRM / LOGGER: S&ME / T. FROST		ALIGNMENT: IR 90 CENTERLINE		B-098-3-23			
PID: 107714 BR ID: WALL G		DRILLING METHOD: 2.25" HSA		ELEVATION: 634.9 (MSL) EOB: 23.5 ft.		PAGE			
START: 7/11/23 END: 7/11/23		SAMPLING METHOD: SPT		COORD: 41.461621 N, 82.056196 W		1 OF 1			
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	REC SAMPLE (%)	HP (tsf)	GRADATION (%)	ATTERBERG	BACK FILL
				N ₆₀		ID	GR CS FS SI CL LL PL	WC	ODOT CLASS (GI)
ASPHALT - 4 INCHES		634.9	1						
GRANULAR BASE - 4 INCHES		634.6	2						
FILL: Medium-dense dark-gray GRAVEL WITH SAND AND SILT, little clay, few asphalt fragments, damp.		634.2	3						
Very-stiff dark-brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.		631.9	4	3	89	2.5-3.5			15 A-6b (V)
Very-stiff grayish-brown CLAY, "and" silt, little fine to coarse sand, trace fine gravel, damp.		629.4	5	4	89	2.0-3.5			28 A-7-6 (V)
Very-stiff grayish-brown SILTY CLAY, little fine to coarse sand, trace fine gravel, damp.		624.4	6	4	89	2.0-3.0			25 A-7-6 (13)
Hard gray mottled with dark-gray SANDY SILT, some clay, little fine gravel, few shale fragments, partly similar to severely weathered, very-weak shale, damp.		619.4	7	3	100	3.5			18 A-6b (V)
			8	7	11				
			9	4	14				
			10	4	14				
			11	4	14				
			12	4	19				
			13	4	19				
			14	5	43				
			15	18	100				
			16	33	100				
			17	50.4"	100	4.5+			17 A-4a (V)
			18						
			19	23	100	4.5+			12 A-4a (V)
			20	33	100	4.5+			
			21						
			22	36	100	4.5+			15 A-4a (6)
			23	50.5"	100	4.5+			
			24						
			25	80.0"	0				
			EOB						

NOTES:
- Groundwater noted at 4.0'.

PLATE 27

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME JOB: 217525A

PROJECT: LOR-90-10.76 NOISE WALLS		DRILLING FIRM / OPERATOR: S&ME / T. FROST		STATION / OFFSET: 986+58, 131' RT		EXPLORATION ID			
TYPE: NOISE WALL		SAMPLING FIRM / LOGGER: S&ME / T. FROST		ALIGNMENT: IR 90 CENTERLINE		B-098-4-23			
PID: 107714 BR ID: WALL G		DRILLING METHOD: 2.25" HSA		ELEVATION: 635.3 (MSL) EOB: 25.0 ft.		PAGE			
START: 7/11/23 END: 7/11/23		SAMPLING METHOD: SPT		COORD: 41.461874 N, 82.055788 W		1 OF 1			
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	REC SAMPLE (%)	HP (tsf)	GRADATION (%)	ATTERBERG	BACK FILL
				N ₆₀		ID	GR CS FS SI CL LL PL	WC	ODOT CLASS (GI)
ASPHALT - 4 INCHES		635.3	1						
GRANULAR BASE - 4 INCHES		635.0	2						
FILL: Loose dark-gray GRAVEL WITH SAND AND SILT, little clay, damp.		634.6	3	8	89	SS-1			10 A-2-4 (V)
Very-stiff gray mottled brown SILT AND CLAY, little fine to coarse sand, trace fine gravel, moist.		632.3	4	4	100	2.0-2.5			18 A-6a (V)
Hard gray and dark-gray SILT AND CLAY, little fine to coarse sand, trace fine gravel, damp.		624.8	5	4	100	3.0-3.5			
			6	3	17				
			7	5	17				
			8	7	100				
			9	4	11				
			10	6	17				
			11	6	20				
			12	8	100	4.5+			14 A-6a (V)
			13						
			14	5	36				
			15	10	100	4.5+			13 A-6a (V)
			16	15	100	4.5+			
			17	6	30				
			18	12	100	4.5+			18 A-7-6 (13)
			19	9	46				
			20	18	100	4.5+			19 A-7-6 (V)
			21	14	40				
			22	14	40				
			23	14	100	4.5+			17 A-7-6 (V)
			24	18	40				
			25	10	100	4.5+			10 A-4a (V)
			EOB						

NOTES:
- No seepage noted.

PLATE 28

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY

 DESIGNER
 KAH
 REVIEWER
 BKS 9-5-23
 PROJECT ID
 107714
 SUBSET TOTAL
 99 99
 SHEET TOTAL
 X X

GEOTECHNICAL PROFILE - ROADWAY
 BORING LOGS B-098-3-23 & B-098-4-23