

PROJECT DESCRIPTION

THE EXISTING 5-FOOT BY 3.5-FOOT BOX CULVERT (CFN 1847716) LOCATED APPROXIMATELY 1,400 FEET EAST OF IR 77 WHICH CARRIES AN UNNAMED TRIBUTARY OF FURNACE RUN BENEATH SR 303 WILL BE REPLACED WITH AN 84-INCH DIAMETER CULVERT. THE REPLACEMENT CULVERT IS PROPOSED TO BE INSTALLED AT APPROXIMATELY THE SAME LOCATION AS THE EXISTING CULVERT.

HISTORIC RECORDS

S&ME SEARCHED THE ONLINE ODOT TRANSPORTATION INFORMATION MAPPING SYSTEM (TIMS) RECORDS FOR HISTORIC BORING INFORMATION FOR THE EXISTING SITE; HOWEVER, NO AVAILABLE HISTORIC BORING RECORDS WERE LOCATED FOR THIS SITE.

GEOLOGY

THE PROJECT SITE IS LOCATED WITHIN A PREVIOUSLY GLACIATED PORTION OF THE STATE IN THE KILLBUCK-GLACIATED PITTSBURGH PLATEAU PHYSIOGRAPHIC REGION, WHICH IS DESCRIBED AS RIDGES AND FLAT UPLANDS, COVERED WITH THIN DRIFT AND DISSECTED BY STEEP VALLEYS. THE SOILS ARE CHARACTERIZED BY THIN TO THICK WISCONSINAN-AGE CLAY TO LOAM TILL OVER MISSISSIPPIAN- AND PENNSYLVANIAN-AGE SHALES, SANDSTONES, CONGLOMERATES, AND COALS.

THE "OHIO KARST AREAS" MAP PUBLISHED BY ODNR SHOWS THAT THE PROJECT SITE LIES IN AN AREA NOT KNOWN TO CONTAIN KARST FEATURES. THE "ABANDONED UNDERGROUND MINE MAPS" PUBLISHED BY ODNR SHOWS THAT MAPPED MINES ARE NOT LOCATED IN THE IMMEDIATE PROJECT VICINITY. A REVIEW OF ODNR'S "LANDSLIDES IN OHIO" SHOWS THE SITE IS LOCATED WITHIN AN AREA MODERATELY SUSCEPTIBLE TO LANDSLIDE INCIDENCE.

RECONNAISSANCE

ON APRIL 4, 2025, S&ME VISITED THE SITE TO OBSERVE THE EXISTING CONDITIONS, PHOTOGRAPH THE SITE, AND VERIFY THAT THE PROPOSED BORING LOCATION WAS ACCESSIBLE TO A DRILL RIG AND CREW AND TO MARK THE PLANNED BORING LOCATION, AND TO CHECK FOR UNDERGROUND UTILITIES IN THE IMMEDIATE VICINITY.

THE PAVEMENT OF SR 303 APPEARS TO BE IN GOOD CONDITION WITH ONLY MINOR CRACKING. A PORTION OF THE ROAD IMMEDIATELY ABOVE THE EXISTING CULVERT APPEARS TO HAVE BEEN RECENTLY PATCHED WITH CONCRETE OR A LOW STRENGTH CONCRETE (I.E., FLOWABLE FILL). OUTSIDE OF THE ROADWAY, THE SURROUNDING AREA IS HEAVILY WOODED WITH OCCASIONAL RESIDENTIAL AND COMMERCIAL PROPERTIES. OVERHEAD UTILITIES (ELECTRIC AND FIBER OPTIC/CABLE) WERE PRESENT ON THE NORTH SIDE OF THE ROAD.

SUBSURFACE EXPLORATION

ON APRIL 18, 2025, ONE (1) SOIL BORING WAS PERFORMED AT THIS SITE FOR THIS GEOTECHNICAL EXPLORATION. THE BORING LOCATION WAS STAKED ON SITE REFERENCING NEARBY SITE STRUCTURES AND AERIAL PHOTOGRAPHY. THE SOIL BORING WAS EXTENDED TO A DEPTH OF 40 FEET BELOW THE EXISTING GROUND SURFACE.

THE BORING WAS PERFORMED USING MOBILE B-57 ATV DRILL RIG UTILIZING 3/4-INCH HOLLOW STEM AUGERS. SOIL SAMPLES WERE OBTAINED USING A SPLIT-BARREL SAMPLER DRIVEN BY AN AUTOMATIC HAMMER SYSTEM IN GENERAL ACCORDANCE WITH AASHTO T206. SPLIT-BARREL SAMPLES WERE EXAMINED IMMEDIATELY AFTER RECOVERY AND REPRESENTATIVE PORTIONS OF EACH SAMPLE WERE PLACED IN AIR-TIGHT CONTAINERS AND RETAINED FOR SUBSEQUENT LABORATORY TESTING.

EXPLORATION FINDINGS

THE BORING WAS DRILLED THROUGH THE ROADWAY AND ENCOUNTERED 16 INCHES OF ASPHALT OVER 8 INCHES OF GRANULAR BASE.

BENEATH THE GRANULAR BASE, FILL OR POSSIBLE FILL WAS ENCOUNTERED TO A DEPTH OF 13.0 FEET AND CONSISTED OF VERY STIFF SANDY SILT (A-4a) UNDERLAIN BY MEDIUM DENSE COARSE AND FINE SAND (A-3a). BELOW THE FILL, THE BORING ENCOUNTERED 1 TO 2.5-FOOT THICK LAYERS OF MEDIUM DENSE GRAVEL (A-1-a), STIFF SANDY SILT (A-4a) AND MEDIUM DENSE GRAVEL WITH SAND (A-1-b). BELOW THESE SOILS, HARD SANDY SILT (A-4a) WAS ENCOUNTERED TO THE TERMINATION DEPTH OF THE BORING.

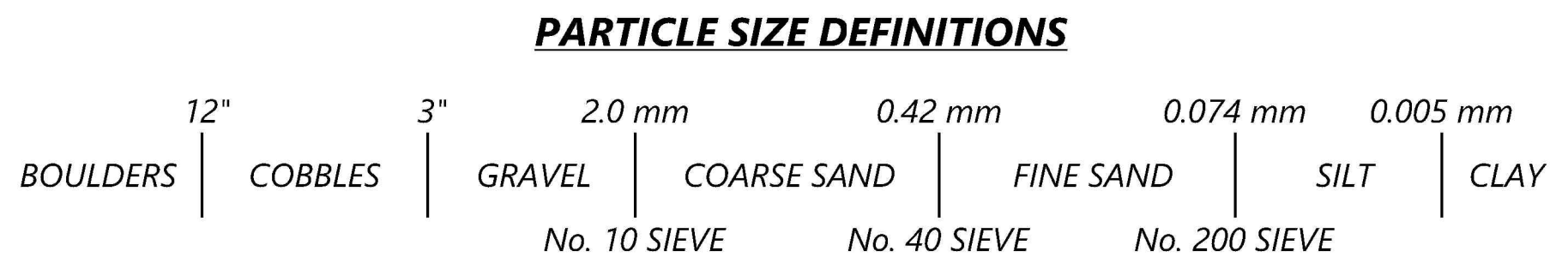
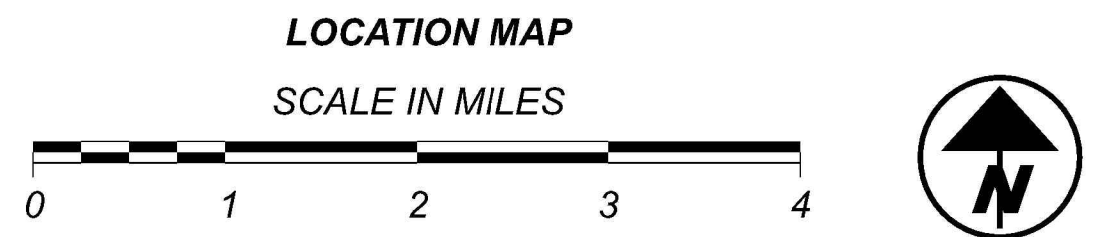
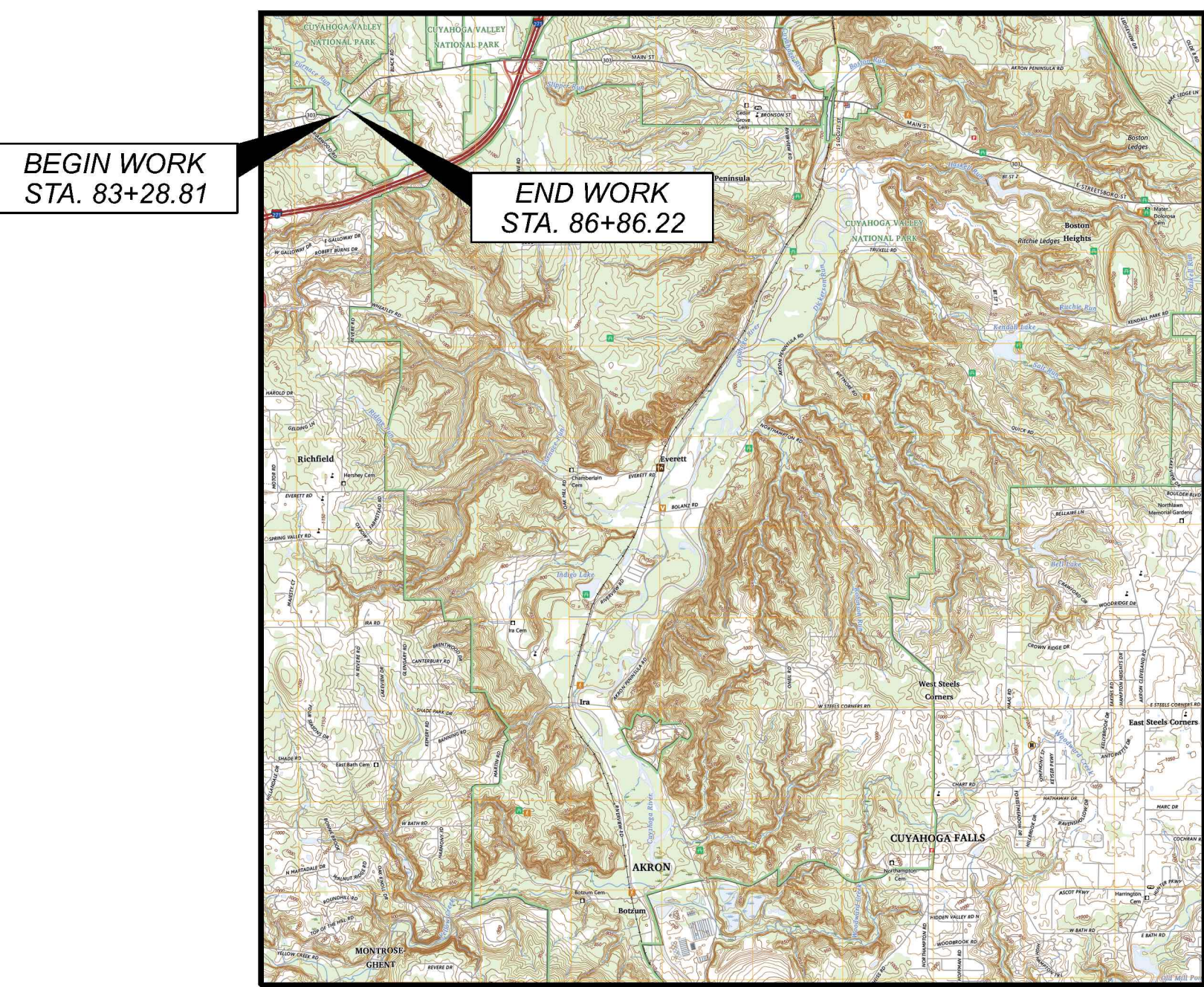
SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JANUARY 2025.

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.

LEGEND		ODOT CLASS	CLASSIFIED MECH./VISUAL	
DESCRIPTION				
	GRAVEL	A-1-a	1	--
	GRAVEL WITH SAND	A-1-b	1	--
	COARSE AND FINE SAND	A-3a	--	1
	SANDY SILT	A-4a	3	12
		TOTAL	5	13
	PAVEMENT OR BASE = 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.			
W	INDICATES FREE WATER ELEVATION.			
	INDICATES A NON-PLASTIC MATERIAL WITH A MOISTURE CONTENT GREATER THAN 25 % OR GREATER THAN 19 % WITH A WET APPEARANCE.			
SS	INDICATES A SPLIT SPOON SAMPLE.			
NP	INDICATES A NON-PLASTIC SAMPLE.			



INDEX OF SHEETS				
LOCATION FROM STA.	TO STA.	PLAN	PROFILE	CROSS SECTION
SR 303				
83+28.81	86+86.22	2	2	--
BORING LOG, SHEET 3				

RECON. -	S&ME 4/4/25
DRILLING -	S&ME/OTB 4/18/25
DRAWN -	KAH 6/10/25 - 6/13/25, 6/19/25
REVIEWED -	BKS 6/19/25

DESIGN AGENCY	
DESIGNER	KAH
REVIEWER	BKS
PROJECT ID	112177
SUBSET	TOTAL
1	3
SHEET	TOTAL
P. 57	59

SUM-303-3.216 CULVERT REPLACEMENT

MODEL: Sheet PAPER: I:\Projects\2023\2310065F_0001 D4_SUM-303-3.216 Culvert_Richfield_OH\GEO\CAD\12177\400-Engineering\Geotechnical\Sheets\12177_YP001 - Plan and Profile (20-scale).dgn
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 USER: kharper

BEGIN WORK
STA. 83+28.81

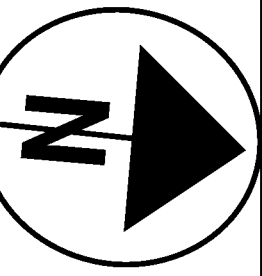
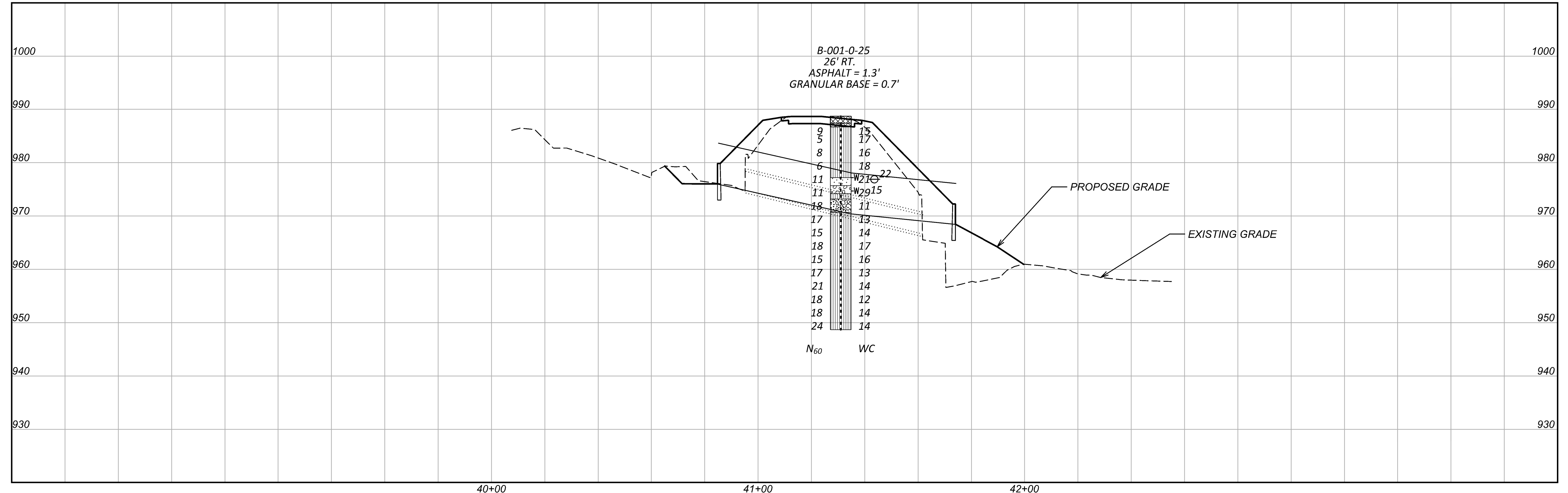
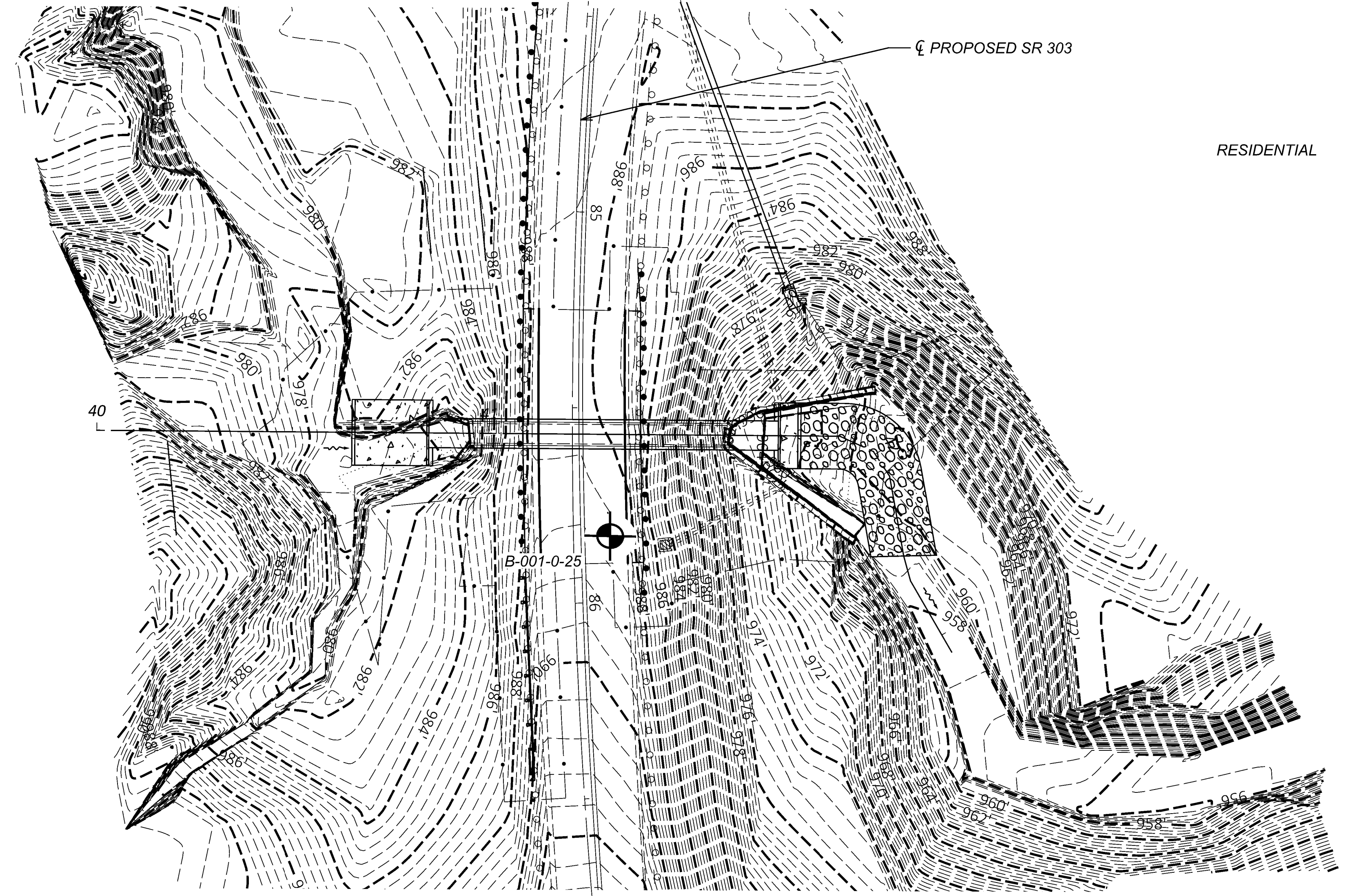
WOODED

WOODED

RESIDENTIAL

WOODED

END WORK
STA. 86+86.22



**GEOTECHNICAL PROFILE - CULVERT
CULVERT NO. 1847716 OVER FURNACE RUN**

DESIGN AGENCY



DESIGNER

KAH

REVIEWER

BKS

PROJECT ID

112177

SUBSET TOTAL

2 3

SHEET TOTAL

P.58 59

SUM-303-3.216 CULVERT REPLACEMENT

MODEL: Sheet PAPER/SIZE: 17x11 (in.) DATE: 12/24/2025 TIME: 12:31:30 PM USER: kharper
 T:\Columbus-11700\Projects\2023\170065F_ODOT D4_SUM-303-3.216 Culvert_Richfield OH\GEO\CAD\112177400-Engineering\Geotechnical\Sheets\112177_YL001 (11x17 log).dgn



PROJECT: SUM-303-3.216		DRILLING FIRM / OPERATOR: OTB / D. HEPNER		STATION / OFFSET: 85+83.9' LT		EXPLORATION ID	
TYPE: CULVERT REPLACEMENT		SAMPLING FIRM / LOGGER: S&ME / K. HARPER		ALIGNMENT: SR 303 CL		B-001-0-25	
PID: 112177 BR ID: 1847716		DRILLING METHOD: 3-1/4" HSA		ELEVATION: 988.7 (MSL) EOB: 40.0 ft.		PAGE	
START: 4/18/25 END: 4/18/25		SAMPLING METHOD: SPT		COORD: 41.239287 N, 81.623522 W		1 OF 1	
MATERIAL DESCRIPTION AND NOTES		ELEV.		GRADATION (%)		BACK FILL	
ASPHALT - 16 INCHES		988.7					
GRANULAR BASE - 8 INCHES		987.4					
FILL: Very stiff brown SANDY SILT, some clay, trace fine gravel, damp.		986.7					
POSSIBLE FILL: Medium dense brown COARSE AND FINE SAND, little to some silt, trace fine gravel, trace clay, decayed plant matter, and wood fragments from 11.5' to 11.7', wet.		977.2					
Medium dense brown GRAVEL, some fine to coarse sand, trace silt, trace clay, wet.		975.7					
Stiff gray SANDY SILT, some to "and" clay, trace fine gravel, wet.		974.2					
Medium dense gray GRAVEL WITH SAND, little silt, trace clay, wet.		973.2					
Hard gray SANDY SILT, some clay, little fine to coarse gravel, damp.		970.7					
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NOTES:
 - Seepage encountered during drilling at 11.5'.
 - Water encountered during drilling at 14.0'.
 - Borehole caved at a depth of 25' after augers were removed, and water was measured at 12.0'.

NOTES: SEE ABOVE
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH, PLASTIC HOLE PLUG DEVICE, SOIL CUTTINGS MIXED WITH BENTONITE

DESIGN AGENCY	
DESIGNER	
KAH	
REVIEWER	
BKS	
PROJECT ID	
112177	
SUBSET	TOTAL
3	3
SHEET	
P. 59	
TOTAL	
59	

GEOTECHNICAL PROFILE - CULVERT CULVERT NO. 1847716 OVER FURNACE RUN BORING LOG B-001-0-25

S&ME ODOT MYLAR (11x17) - SGE 01/2019 - OH DOT GDT - 6/12/25 19:10 - R:\SERVICE LINES\CS-2557\COLUMBUS\GINT\M\PROJECTS\123170065F_SUM-303.GPJ