



June 18, 2025

ms consultants, inc.
333 East Federal Street
Youngstown, Ohio 44503

Attention: Mr. Brian Hughes, P.E.

Reference: **Geotechnical Desktop Study**
TP 26 NE Ohio Site 12 – SUM-77 Vacant Rest Area (PID 122880)
Summit County, Ohio
S&ME Project No. 24170232

Mr. Hughes:

In accordance with our revised proposal dated March 25, 2025, and the executed agreement between ms consultants, inc. (ms) and S&ME, Inc. (S&ME) dated May 5, 2025, S&ME is pleased to submit this report summarizing our geotechnical desktop study of the proposed truck parking facility to be constructed in the currently unused Rest Area along IR 77 in Summit County, Ohio. S&ME previously submitted a copy of the geotechnical portion of the ODOT Project Initiation Package (PIP) for this site on June 6, 2025. This information is also included at the end of Appendix C in this report.

Project Information

Based on information provided by ms and ODOT, S&ME understands that ODOT is proposing to construct multiple truck parking areas across the state of Ohio to meet the parking needs. Each site will be designed to facilitate the largest quantity of truck parking spots while addressing impacts to environmentally sensitive areas, geometric alignments and the cost of construction. This site is part of the TP 26 NE Ohio grouping of six (6) general locations and includes ten (10) total parking areas.

Site 12 consists of one proposed parking area in the currently vacant rest area for the northbound travel direction of Interstate 77 near Uniontown, Ohio, and between the Wise Road and Graybill Road overpass structures.

Site 2 – General Geology

Various publicly available resources were reviewed to obtain general geologic information for these proposed parking areas. These resources, and a summary of the information obtained, are presented in Table 1. Supporting figures are provided as Plates 1 through 11 in Appendix A.



Table 1: Summary of Geologic Information

Topic	Resource(s)	Summary of Findings
Surface Topography	Ground Surface Topography Mapping (Summit County GIS & Google Earth)	The ground surface elevation (El.) at Site 12 ranges between approximate El. 1150 and El. 1160.
Soil Overburden	Physiographic Regions of Ohio Map (ODNR) Drift Thickness Mapping (ODNR) Quaternary Geology Mapping (ODNR) Surficial Geology Mapping (ODNR) Groundwater Pollution Potential Mapping (ODNR) Groundwater Resource Potential Mapping (ODNR) Water Well Logs (ODNR) Soil Web Survey (NRCS)	<p>Site 12 is within the Glaciated Allegheny Plateau section of Ohio which is located within the Akron-Canton Interlobate Plateau Physiographic Region. Overburden soil is composed of sandy Wisconsinan-age and older glacial drift. Kames, eskers and peat kettles are common within this physiographic region. The soil overburden at this site is anticipated to range from approximately 10 to 20 feet deep.</p> <p>Water well logs indicate the glacial deposits are anticipated to consist of predominantly granular soils with discontinuous layers of clay.</p>
Bedrock	Physiographic Regions of Ohio Map (ODNR) Bedrock Topography Mapping (ODNR) Water Well Logs (ODNR)	Shale, siltstone, and sandstone bedrock, along with conglomerate and coal of the Allegheny and Pottsville Groups Undivided is anticipated at Site 12. Bedrock topography mapping indicates the uppermost bedrock at this site is near El. 1140.



Topic	Resource(s)	Summary of Findings
Groundwater	Groundwater Resource Potential Mapping (ODNR) Groundwater Vulnerability Mapping (ODNR) Water Well Logs (ODNR)	<p>The primary groundwater aquifer is anticipated to be within the Pennsylvanian-age interbedded sedimentary (shale, sandstone, siltstone) bedrock, developing yields from 10 to 25 gallons per minute (gpm). A secondary aquifer appears to be present within lower Pennsylvanian-age coarse grained sandstone or conglomerate bedrock, with yields from 25 to 50 gpm.</p> <p>Groundwater vulnerability mapping* indicates that groundwater at the parking area may be encountered approximately 15 to 30 feet below the existing ground surface, with a groundwater vulnerability index of 99.</p> <p>Water well logs indicate that nearly all permanent production water wells for households near Site 12 are extended into bedrock. Test pumping rates for household wells in the area ranged from 20 to 50 gpm.</p>
Geohazards	Karst Interactive Map Viewer (ODNR) GeoFacts 8: Landslides in Ohio (ODNR) Mines of Ohio Online Mapping Tool (ODNR)	<p>No known karst features are in the general vicinity of Site 12.</p> <p>Site 12 is not in an area of the state subject to severe slope failure.</p> <p>Borings and plan information were located from a 2003 mine subsidence project performed along this portion of IR 77. No mine voids were encountered during this 2003 exploration program; however, mine voids were encountered slightly south of Site 12.</p>

*Groundwater vulnerability mapping is an assessment of an area's vulnerability to groundwater contamination based on its hydrogeologic, topographic and soil media characteristics. The scoring ranges from 1 (least vulnerable) to 250 (most vulnerable), with some areas within Ohio not receiving a rating.

Historic Boring Information

S&ME searched the online ODOT Transportation Information Mapping System (TIMS) for historic soil boring information in the project vicinity. Within TIMS, multiple previous geotechnical explorations were identified, including 2006 soil plan and profile sheets presenting subgrade borings performed within the limits of Site 12 on the NB side of IR 77.

The 1960 SUM-8-1.89 project included borings along the centerline of the current IR 77 along with three lines of three borings spanning the width of the IR 77 corridor. The first line of borings was near the south end of the entrance ramp to the NB parking area, the next line of borings was near the south end of the parking area and the last line was near the north end of the parking area in an area identified as a "poorly drained area". The borings encountered interbedded layers of sand/gravel (A-1-a, A-1-b, A-2-4, A-3a, A-4b) and cohesive soils (A-4a, A-6b). Occasional samples were noted to have elevated water contents and two borings were noted to have traces of organic in samples near the then existing ground surface.



An embankment foundation investigation (STA/SUM-8-(14.00)(0.00)) was performed in 1962 and included eight (8) borings located in the vicinity of the Site 12 parking area. Five (5) of the borings encountered layers of organic clay or peat (described as fine textured peat or sedimentary peat) to depths ranging from 2 to 11 feet. In addition to those five (5) borings, another two (2) borings encountered materials described as “compressible material” but did not obtain any samples for visual identification.

S&ME also located within TIMS the boring logs and plan/profile sheets from a 2003 preliminary mine subsidence investigation performed along the portion of IR 77 west of Site 12. These borings were generally drilled in the outside shoulder pavement of NB IR-77 near areas of poor pavement or potholes to investigate the potential presence of previously mined zones. No sampling was performed in the borings; however, bedrock was encountered in a boring adjacent to the NB off-ramp to Site 12 at El. 1105.8 and in four borings adjacent to the NB on-ramp from El. 1111.5 to El. 1129.5. Coal was encountered in two of the borings on the north end, ranging in thickness from 0.7 to 3.6 feet and between approximate El. 1104 and El. 1110.

Copies of the historic boring information are provided on Plates 1 to 13 of Appendix B.

Site Reconnaissance

S&ME, accompanied by a representative from Stone Environmental, visited Site 12 on May 12, 2025. Select site photos taken by S&ME during the site reconnaissance visit are included as Plates 2 and 3 of Appendix C. The following items were noted during our site visit and also annotated on Figure 1 of Appendix C:

- The existing drainage swale adjacent to the NB outside shoulder of IR 77 was roughly 2 feet deep.
- Existing grass areas are relatively flat.
- An approximate 18-inch diameter circular concrete culvert (without a headwall) was noted on the south end of the Site 12 entrance ramp, slightly north of the “FOOD – EXIT 118” roadway sign.
- Approximately 350 feet north of the 18-inch culvert, the inlet to a double barrel elliptical culvert (approximate dimensions of 3.5 to 4 feet high and 4.5 to 5 feet wide) was noted. This double culvert carries an existing stream beneath IR 77.
- A pile of used drainage pipe was found just inside (east of) the tree line at the eastern end of the Site 12 parking area.
- An approximate 42-inch diameter circular concrete culvert running beneath IR 77 was located north of the parking area and near the beginning of the on-ramp to NB IR 77.
- Areas of possible wetlands were observed adjacent to and within the tree line bordering the east side of the parking area and near the two culverts on the southern portion of the site.

Potential Geotechnical Considerations or Issues

Based on our observations during our site visit, available geologic information, and preliminary layout alternatives being considered by ms, S&ME does not anticipate encountering significant geotechnical issues during the development of the proposed truck parking facility at Site 12 along NB IR 90 in Summit County, Ohio. We do, however, recommend the following geotechnical issues be considered during the design and construction at this site:



- The possible presence of peat or organic clay deposits beneath portions of the parking area or ramp alignments.
- The possible presence of deposits of non-organic soft/loose/weak materials at the subgrade level of proposed ramps and parking areas, especially in areas where standing water was observed/is present, and where pavement was not previously constructed as part of the former rest areas.

Closing

It has been our pleasure to prepare this geotechnical desktop study. Please do not hesitate to contact us with any questions you may have regarding this report.

Sincerely,

S&ME, Inc.

A handwritten signature in blue ink, appearing to read 'B. K. Sears'.

Brian K. Sears, P.E.
Senior Engineer | Project Manager

A handwritten signature in blue ink, appearing to read 'R. S. Weigand'.

Richard S. Weigand, P.E.
Principal Engineer | Senior Reviewer

Submitted: 1 copy via email, Brian Hughes (bhughes@msconsultants.com)
Attachments: Appendix A (11 sheets) – Geologic Information Figures
Appendix B (13 sheets) – Historic Boring Information
Appendix C (5 sheets) – Site Photos and Reconnaissance Notes, Geotechnical PIP



Appendix A

Project No.: 24170232
Project: TP 26 NE Ohio - Site 12 SUM 77 NB
Client: ms consultants, inc.

Prepared By: KAH
Date: 6/18/25



Figure Desc.: Site location and ground surface contour mapping

Figure Credits: Summit County GIS Mapping (Summit County GIS)



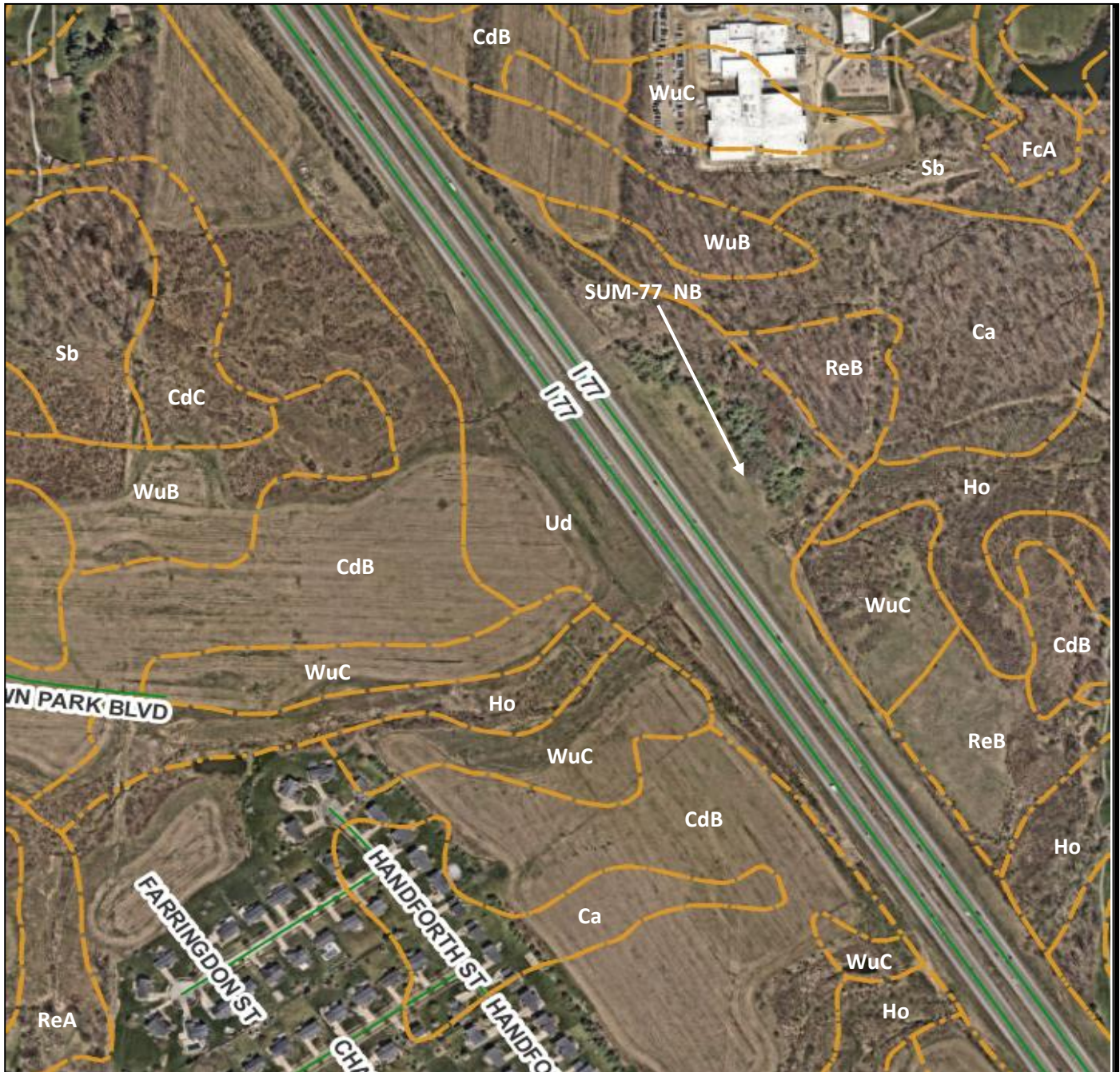
Project No.: 24170232
Project: TP 26 NE Ohio - Site 12 SUM 77 NB
Client: ms consultants, inc.

Prepared By: KAH
Date: 6/18/25



Figure Desc.: Site location and surficial geology mapping

Figure Credits: Surficial Geology (ODNR Interactive Map)



LEGEND

Ud - Udorthents
ReB - Ravenna Silt Loam
Ca - Canadice Silty Clay Loam
WuB - Wooster Silt Loam
WuC - Wooster Silt Loam

LEGEND

CdB, CdC - Canfield Silt Loam
FcA - Fitchfield Silt Loam
Ho - Holly Silt Loam
Sb - Sebring Silt Loam
ReA - Ravenna Silt Loam



Project No.: 24170232
Project: TP 26 NE Ohio - Site 12 SUM 77 NB
Client: ms consultants, inc.

Prepared By: KAH
Date: 6/18/25



Figure Desc.: Site location and quaternary geology mapping

Figure Credits: Quaternary Geology (ODNR online interactive map)



Project No.: 24170232
Project: TP 26 NE Ohio - Site 12 SUM 77 NB
Client: ms consultants, inc.

Prepared By: KAH
Date: 6/18/25



Figure Desc.: Site location and bedrock geology mapping

Figure Credits: Bedrock Geology (ODNR online interactive map)



Project No.: 24170232
Project: TP 26 NE Ohio - Site 12 SUM 77 NB
Client: ms consultants, inc.

Prepared By: KAH
Date: 6/18/25



Figure Desc.: Site locations and top of bedrock contour mapping

Figure Credits: Google Earth, ODNR



Project No.: 24170232
Project: TP 26 NE Ohio - Site 12 SUM 77 NB
Client: ms consultants, inc.


Prepared By: KAH
Date: 6/18/25



Figure Desc.: Site location and water well mapping

Figure Credits: Water Well Map (ODNR interactive map)



 Well log included in Appendix



WATER WELL LOG & DRILLING REPORT

Ohio Department of Natural Resources
Division of Geological Survey
Phone: 614-265-6740

Well Log Number: 977395

Original Owner & Location

Original Owner Name: 21ST HOMES

County: SUMMIT

Address: 2042 GRAY HILL

City: GREEN

Location Number:

Latitude: 40.95295

Township: GREEN

State: OH

Location Map Year:

Longitude: -81.45707

Section Number:

Zip Code: 44232

Location Area:

Construction Details

Borehole Diameter 1: 5 in.

Casing Diameter 1: 5 in.

Casing Height Above Ground: 2 ft.

Date of Completion: 07/07/2005

Drilling Company Name: STREETSBORO SALES &
SERVICE

Borehole Depth 1: 75 ft.

Casing Length 1: 69 ft.

Aquifer Type:

Total Depth: 75

Depth to Bedrock: 39 ft.

Casing Thickness 1: 0.188 in.

Well Use: DOMESTIC

Well Test Details

Static Water Level: 24 ft.

Drawdown: 2 ft.

Test Rate: 30 gpm

Test Duration: 0 hrs.

Associated Documents:

Comments

Drilling Log

Formations:

GRAVEL & CLAY

SAND & GRAVEL

SHALE

SHALE

From:

0

20

39

67

To:

20

39

67

75



WATER WELL LOG & DRILLING REPORT

Ohio Department of Natural Resources
Division of Geological Survey
Phone: 614-265-6740

Well Log Number: 399961

Original Owner & Location

Original Owner Name: *GREENWOOD SCHOOL*

County: *SUMMIT*

Address: *2250 GRAYBILL RD*

City:

Location Number: *313*

Latitude: *40.954356*

Township: *GREEN*

State: *OH*

Location Map Year: *1974*

Longitude: *-81.449481*

Section Number:

Zip Code:

Location Area:

Construction Details

Borehole Diameter 1: *in.*

Casing Diameter 1: *7 in.*

Casing Height Above Ground: *ft.*

Date of Completion: *07/14/1971*

Drilling Company Name: *FRANTZ DAWSON
DRILLING CO*

Borehole Depth 1: *314 ft.*

Casing Length 1: *170 ft.*

Aquifer Type: *SANDSTONE*

Total Depth: *314*

Depth to Bedrock: *ft.*

Casing Thickness 1: *in.*

Well Use: *PUBLIC/SEMI-PUB*

Well Test Details

Static Water Level: *85 ft.*

Drawdown: *32 ft.*

Test Rate: *50 gpm*

Test Duration: *3 hrs.*

Associated Documents:

Comments

Drilling Log

Formations:	From:	To:
EXISTING WELL	92	170
SILTSTONE	170	190
SANDSTONE	190	260
SHALE	260	262
SANDSTONE	262	314
WATER AT	0	195
WATER AT	0	270
WATER AT	0	314



WATER WELL LOG & DRILLING REPORT

Ohio Department of Natural Resources
Division of Geological Survey
Phone: 614-265-6740

Well Log Number: 735671

Original Owner & Location

Original Owner Name: JOHN RAINIER

County: SUMMIT

Township: GREEN

Section Number:

Address: 4350 MAYFAIR RD

City:

State: OH

Zip Code:

Location Number:

Location Map Year:

Location Area:

Latitude: 40.95056

Longitude: -81.44173

Construction Details

Borehole Diameter 1: in.

Borehole Depth 1: 115 ft.

Depth to Bedrock: 85 ft.

Casing Diameter 1: 7 in.

Casing Length 1: 98 ft.

Casing Thickness 1: in.

Casing Height Above Ground: ft.

Aquifer Type: SHALE

Well Use:

Date of Completion: 11/15/1991

Total Depth: 115

Drilling Company Name: KELLER WELL DRILLING

Well Test Details

Static Water Level: 30 ft.

Test Rate: 40 gpm

Drawdown: ft.

Test Duration: 6 hrs.

Associated Documents:

Comments

Drilling Log

Formations:	From:	To:
SAND & CLAY	0	30
SAND & GRAVEL	30	85
SANDSTONE	85	112
SHALE	112	115
WATER AT	0	112



WATER WELL LOG & DRILLING REPORT

Ohio Department of Natural Resources
Division of Geological Survey
Phone: 614-265-6740

Well Log Number: 927755

Original Owner & Location

Original Owner Name: *EFFICIENT*

County: *SUMMIT*

Address: *2385 WISE RD*

City: *GREEN*

Location Number:

Latitude: *40.94412*

Township: *GREEN*

State: *OH*

Location Map Year:

Longitude: *-81.44447*

Section Number:

Zip Code: *44685*

Location Area:

Construction Details

Borehole Diameter 1: *5 in.*

Casing Diameter 1: *5 in.*

Casing Height Above Ground: *1 ft.*

Date of Completion: *04/04/2002*

Drilling Company Name: *FREED WATER WELL
DRILLING*

Borehole Depth 1: *97 ft.*

Casing Length 1: *55 ft.*

Aquifer Type: *SHALE*

Total Depth: *97*

Depth to Bedrock: *18 ft.*

Casing Thickness 1: *0.237 in.*

Well Use: *DOMESTIC*

Well Test Details

Static Water Level: *25 ft.*

Drawdown: *48 ft.*

Test Rate: *20 gpm*

Test Duration: *1 hrs.*

Associated Documents:

Comments

Drilling Log

Formations:

GRAVEL & CLAY

CLAY & SHALE

COALMINE

SHALE

SHALE

SHALE

WATER AT

From:

0

18

28

31

83

94

97

68

To:

18

28

31

83

94

97

70



WATER WELL LOG & DRILLING REPORT

Ohio Department of Natural Resources
Division of Geological Survey
Phone: 614-265-6740

Well Log Number: 535403

Original Owner & Location

Original Owner Name: STEFOHADIC

County: SUMMIT

Address: 2160 WISE RD

Township: GREEN

Section Number:

City:

State: OH

Zip Code:

Location Number:

Location Map Year:

Location Area:

Latitude: 40.94406

Longitude: -81.45209

Construction Details

Borehole Diameter 1: in.

Borehole Depth 1: 61 ft.

Depth to Bedrock: 44 ft.

Casing Diameter 1: 5 in.

Casing Length 1: 58 ft.

Casing Thickness 1: in.

Casing Height Above Ground: ft.

Aquifer Type: GRAVEL & CLAY

Well Use:

Date of Completion: 01/29/1979

Total Depth: 61

Drilling Company Name: HENSEL DRILLING

Well Test Details

Static Water Level: 7 ft.

Test Rate: 40 gpm

Drawdown: 0 ft.

Test Duration: 1 hrs.

Associated Documents:

Comments

Drilling Log

Formations:	From:	To:
SAND & GRAVEL	0	8
GRAVEL & CLAY	8	37
CLAY	37	44
COAL	44	51
CLAY	51	58
GRAVEL & CLAY	58	61
WATER AT	0	58

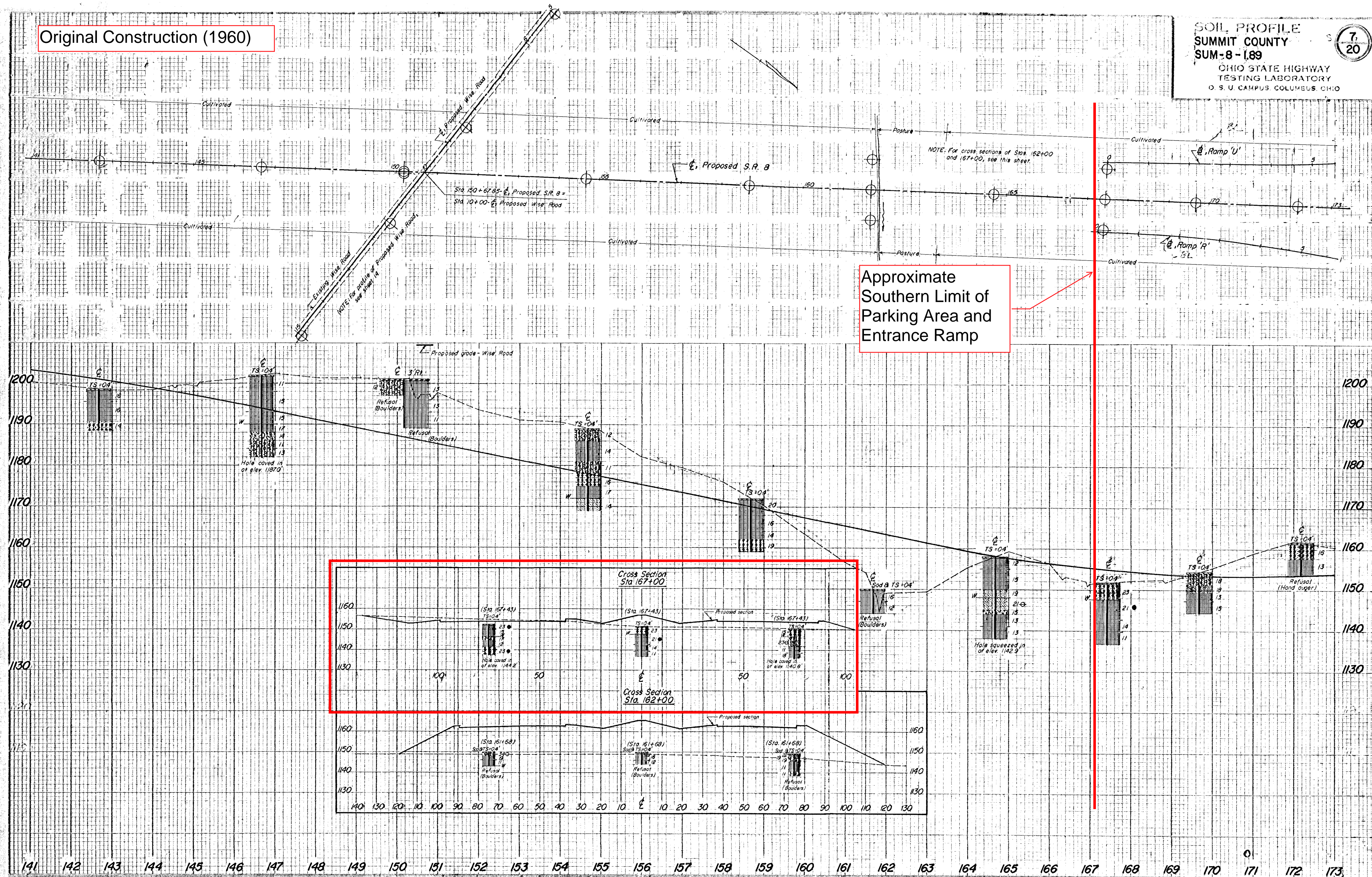


Appendix B

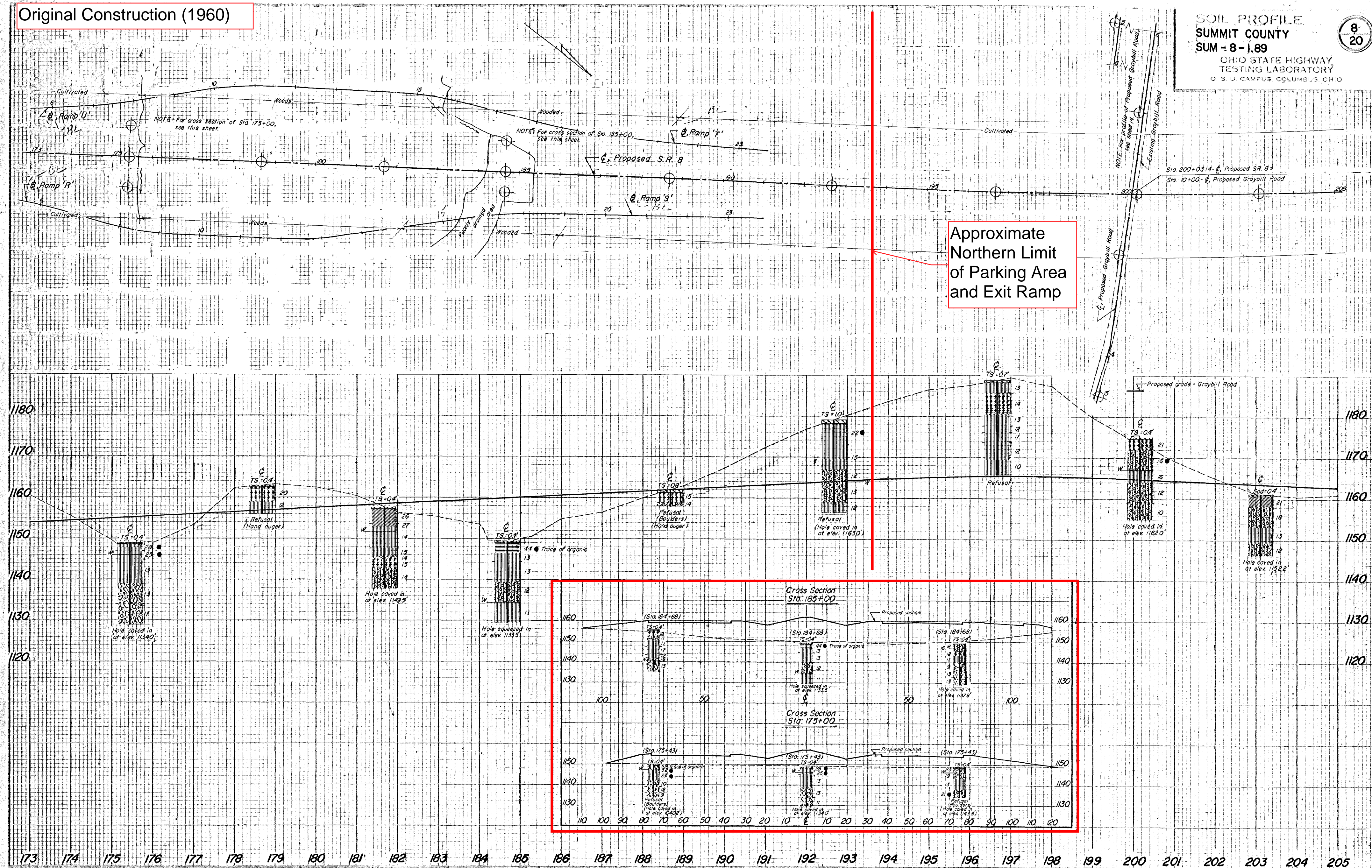
Original Construction (1960)

SOIL PROFILE
SUMMIT COUNTY
SUM-8-189
OHIO STATE HIGHWAY
TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

7
20



Approximate
Northern Limit
of Parking Area
and Exit Ramp



Embankment Foundation Investigation (1962)

State of Ohio
Department of Highways
Testing Laboratory

LOG OF BORING

Date Completed 4-26-62

Sampler Type Peck Sampler ☒ Y

Water Elev. Immediate 1052.8

After _____ Hours _____

Project Identification: STARK-SUMMIT

STA-SUM-8-(14.80)(0.00)

EMBANKMENT FOUNDATION

INVESTIGATION

Boring No. _____ Station & Offset 176+50, 180+21

Surface Elev. 1056.8

Elev.	Depth	Description	Field No.	Lab Nos So.	Physical Characteristics								SHTL Class.
					% Agt	% C.S.	% F.S.	% Silt	% Clay	LL	PI	W.C.	
1056.8	0	No Sample (Compressible Material)											
	2												
	4												
1050.8	6	Refusal											
	8												
	10												
	12												
	14												
	16												
	18												
	20												
	22												
	24												
	26												
	28												
	30												
	32												
	34												
	36												

The following eight (8) boring logs were performed for an embankment exploration to the right of the centerline are believed to be located at the approximate stationing of Site 12. However, the ground surface elevations shown on these logs do not correspond with current topographic mapping.

Particle Size: Agt = >200mm, Coarse Sand = 2.00 - 0.42mm, Fine Sand = 0.42 - 0.075mm, Silt = 0.075 - 0.005mm, Clay = <0.005mm

Embankment Foundation Investigation (1962)

State of Ohio
Department of Highways
Testing Laboratory

LOG OF BORING

Date Completed 4-26-62

Sampler Type Williams Auger

Water Elev. Immediate _____
After _____ Hours _____

Project Identification: STARK-SUMMIT

STA-SUM-3-(14.00)(0.00)

EMBANKMENT FOUNDATION

INVESTIGATION

Boring No. _____ Station & Offset 177+00, 133' Rt.

Surface Elev. 1060.4

Elev.	Depth	Description	Field No	Lab Nos So.	Physical Characteristics								SHTL Class
					% Ag	% C.S	% F.S	% Silt	% Clay	LL	PI	W.C	
1060.4	0	Topsoil											
1059.4	2	Gravel with Brown Sand and Silt	59C	59036	0	3	9	61	27	48	14	50	A-7-5
1057.4	4		60C	59037	45	15	10	22	8	NP	NP	16	A-2-4
	6	Gravel	61C	59038	64	19	9	-	8	NP	NP	14	A-1-a
1052.4	8												
1049.4	10	Gravel	62C	59039	58	22	11	-	9	NP	NP	14	A-1-a
	12	Refusal											
	14	Boulders											
	16												
	18	*Brown Clay, Trace of Roots and Organic											
	20												
	22												
	24												
	26												
	28												
	30												
	32												
	34												
	36												

Gravel: Agg. = > 200mm; Coarse Sand = 200 - 0.42mm; Fine Sand = 0.42 - 0.075mm; Silt = 0.075 - 0.005mm; Clay = < 0.005mm

Embankment Foundation Investigation (1962)

State of Ohio
Department of Highways
Testing Laboratory

LOG OF BORING

Date Completed 4-26-62 Sampler Type Peat Sampler Water Elev. Immediate 1052.2
After Hours

Project Identification: STARKE-SUMMIT

STA-20M-2-(15.00)(0.00)

Boring No. Station & Offset 172+00, 160' R.L.

Surface Elev. 1052.2

EMBANKMENT FOUNDATION

INVESTIGATION

Elev	Depth	Description	INVESTIGATION										SHTL Class	
			Field No	Lab Nos	% Agg	% CS	% FS	% G	% Clay	LL	PI	WC		
1057.2	0													
	2	Gray Silty Sedimentary Peat	8	58923	V	I	S	U	A	L		200		
1052.2	4													
	6													
	8	Gray Sedimentary Peat	9	58924	V	T	S	U	A	L		69		
1046.2	10													
	12													
1041.2	14	Gray Sandy Clayey Silt, Trace of Stone Fragments	10	58925	V	I	S	U	A	L		27		
	16	Refusal												
	18													
	20													
	22													
	24													
	26													
	28													
	30													
	32													
	34													
	36													

Particle Sizes: Agr: > 200mm Coarse Sands: 2.00-2.40

Particle Sizes Agg. = > 200mm, Coarse Sand = 2.00 - 0.42mm, Fine Sand = 0.42 - 0.074mm, Silt = 0.074 - 0.005mm, Clay = < 0.005mm

Embankment Foundation Investigation (1962)

State of Ohio
Department of Highways
Testing Laboratory

LOG OF BORING

Date Completed 7/26/62 Sampler Type Peat Sampler Water Elev. Immediate 1055.2
After _____ Hours _____

Project Identification: STARK-SUMMIT
STA-SUM-8-(14.00)(0.00)
EMBANKMENT FOUNDATION
INVESTIGATION

Boring No. _____ Station & Offset 177+50, 180 Rt. Surface Elev. 1057.2

Elev.	Depth	Description	Field No	Lab Nos So	Physical Characteristics								SHTL Class
					% Agt	% C S	% F S	% Silt	% Clay	LL	PI	WC	
1057.2	0	No Sample (Compressible Material)											
	2												
	4												
1051.2	6	Refusal											
	8												
	10												
	12												
	14												
	16												
	18												
	20												
	22												
	24												
	26												
	28												
	30												
	32												
	34												
	36												

Particle Size: Agt. = > 200mm, Coarse Sand = 2.00 - 0.42mm, Fine Sand = 0.42 - 0.075mm, Silt = 0.075 - 0.005mm, Clay = < 0.005mm



LOG OF BORING

Date Completed 4-26-62 Sampler Type Peat Sampler Water Elev. Immediate 1056.9 Project Identification STARK-SUMMIT
 After Hours STA-SUM-8-(15.00)(0.00)
 Boring No. Station & Offset 178+00, 180' E. Surface Elev. 1057.9 EMBANKMENT FOUNDATION
INVESTIGATION

Elev	Depth	Description	Field No	Lab Nos So	Physical Characteristics								SHTL Class
					% Agg	% C/S	% F/S	% Silt	% Clay	LL	PI	WC	
1057.9	0												
	2	Brown Fine Textured Peat	2	58920	V	I	S	U	A	L		154	
1057.9	4												
	6	Refusal											
	8												
	10												
	12												
	14												
	16												
	18												
	20												
	22												
	24												
	26												
	28												
	30												
	32												
	34												
	36												

Particle Sizes: Agg. = > 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay = < 0.005mm

LOG OF BORING

Date Completed 4/26/62Sampler Type Pne. SamplerWater Elev. Immediate 1055.5After HoursProject Identification: STARK-SUBMITSTA-SUM-8-(14.00)(0.00)EMBANKMENT FOUNDATION INVESTIGATIONBoring No. 1779500 - 200' R/LSurface Elev. 1048.5

Elev.	Depth	Description	Field No.	Lab. No.	Physical Characteristics								SHTL Class.
					% Ag	% C.S.	% F.S.	% Silt	% Clay	LL	PI	W.C.	
1058.5	0												
1056.9	2	Gray Organic Clayey Silty	4S	58919	VV	I	S	U	A	I		64	
1053.5	4	Gray Silty Sedimentary Post	5S	58920	V	I	S	U	A	I		67	
1051.5	6	Gray Sedimentary Post	6S	58921	V	I	S	U	A	I		62	
	8	Refusal											
	10												
	12												
	14												
	16												
	18												
	20												
	22												
	24												
	26												
	28												
	30												
	32												
	34												

Particle Size: 2.00-0.075mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.075mm, Silt = 0.075-0.006mm, Clay = <0.006mm



LOG OF BORING

Date Completed 4-26-62 Sampler Type Peat Sampler Water Elev. Immediate 1052.5
After Hours

Project Identification: STARK-SUMMITSTA-SUM-8-(14.00)(0.00)EMBANKMENT FOUNDATIONINVESTIGATIONBoring No. Station & Offset 179+00, 180+Rt.Surface Elev. 1058.5

Elev.	Depth	Description	Field No.	Lab Nos.	Physical Characteristics								SHTL Class
					% Agg.	% C.S.	% F.S.	% Silt	% Clay	LL	PI	W.C.	
1058.5	0	Brown: Fine Textured Peat	15	58916	V	I	S	U	A	L		139	
1056.5	2		20	58917	V	I	S	U	A	L		38	
1055.5	4	Gray Clayey Silt, Slightly Organic											
	6	Gray Sandy Silt, Slightly Organic	3	58918	V	I	S	U	A	L		24	
1051.5	8	Refusal											
	10												
	12												
	14												
	16												
	18												
	20												
	22												
	24												
	26												
	28												
	30												
	32												
	34												
	36												

Particle Sizes: Agg. = > 200mm, Coarse Sand = 2.00 - 0.42mm, Fine Sand = 0.42 - 0.074mm, Silt = 0.074 - 0.005mm, Clay = < 0.005mm

Embankment Foundation Investigation (1962)

State of Ohio
Department of Highways
Testing Laboratory

LOG OF BORING

Date Completed 9/26/62 Sampler Type Williams Auger Water Elev. Immediate
After _____ Hours _____

Project Identification: STARK-SUMMIT

STA-SUM-8-(14.00)(0.00)

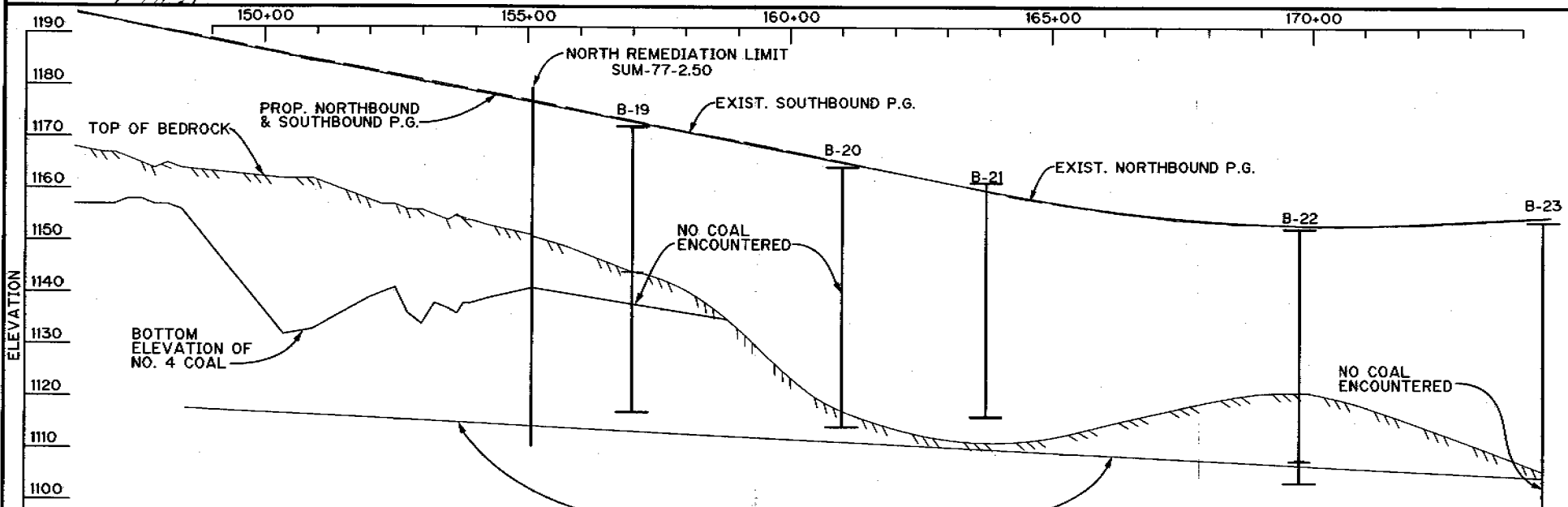
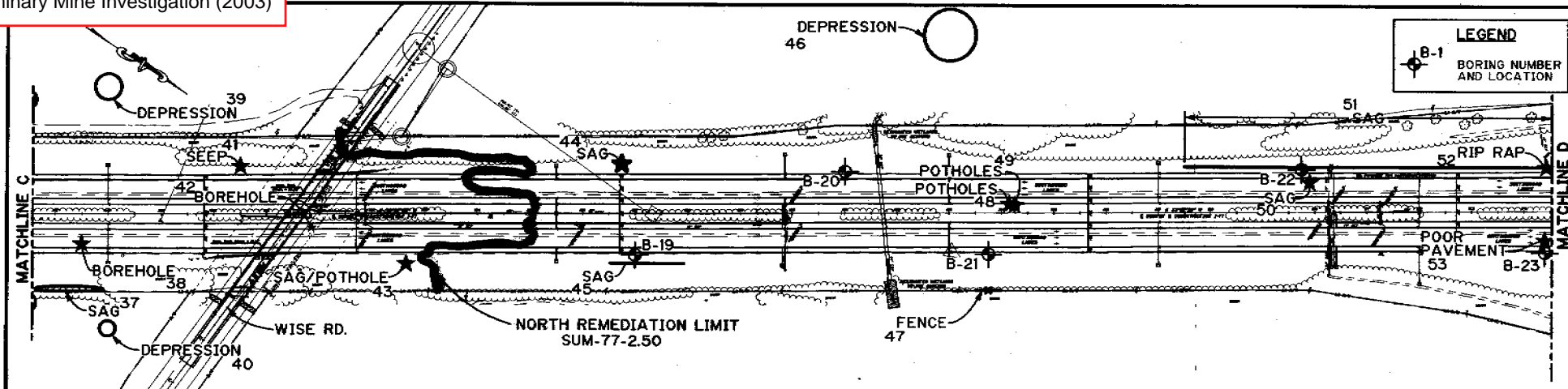
EMBANKMENT FOUNDATION

INVESTIGATION

Boring No. _____ Station & Offset 179+58.130' Rt. Surface Elev. 1061.3

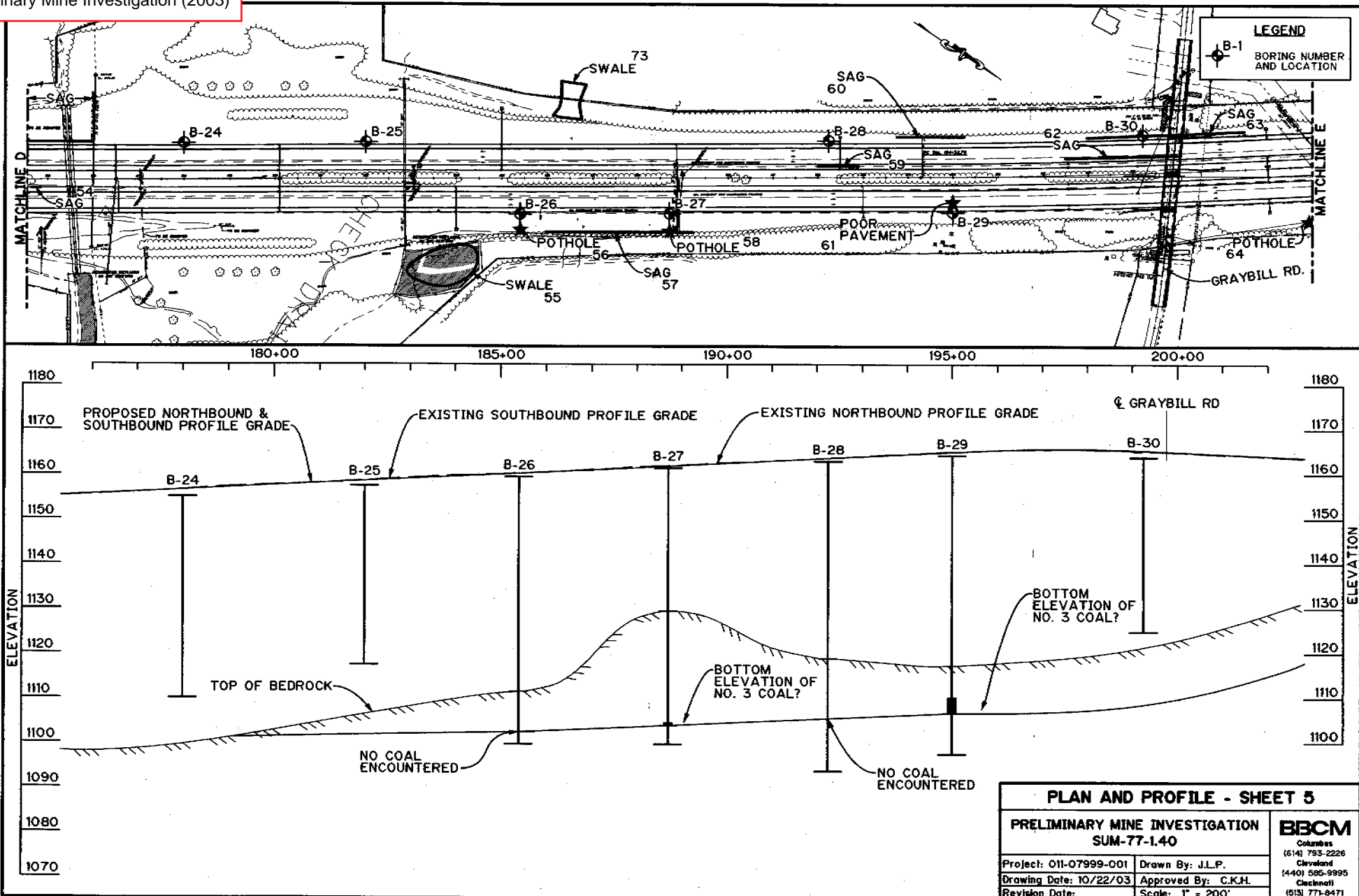
Elev.	Depth	Description	Field No.	Lab Nos So.	Physical Characteristics								SHTL Class
					% Ag.	% C.S.	% FS	% Sil.	% Clay	LL	PI	W.C.	
1057.4	0	Topsoil											
1059.8	2	Brown Clay	56C	59031	0	5	19	46	30	42	19	34	A-7-6
	4	Gray and Black Organic Silt and Clay	55C	59032	0	3	10	54	33	37	13	25	A-6-6
1055.3	6												
	8	Gray and Black Organic Clay	56C	59033	0	1	4	69	26	41	16	33	A-7-6
1051.3	10												
	12	Gray Silt, Slightly Organic	57C	59034	0	1	4	68	27	NP	NP	29	A-4B
1046.8	14												
	16												
	18	Gravel	58C	59035	62	15	9	-1+		NP	NP	10	A-1-4
1041.3	20												
	22	Refusal - 1 Boulder											
	24												
	26												
	28												
	30												
	32												
	34												

Gravel - > 200mm, Coarse Sand - 200 - 0.42mm, Fine Sand - 0.42 - 0.075mm, Silt - 0.075 - 0.005mm, Clay - < 0.005mm



PLAN AND PROFILE - SHEET 4			
PRELIMINARY MINE INVESTIGATION SUM-77-1.40		BBCM Columbus (614) 793-2226 Cleveland (440) 585-9995 Cincinnati (513) 771-8471	
Project: 011-07999-001	Drawn By: J.L.P.		
Drawing Date: 10/22/03	Approved By: C.K.H.		
Revision Date:	Scale: 1" = 200'		

BEC&M DRAWING FILE: ...\\011-07999-001-BASE.dgn PLATE 6



BCC&M DRAWING FILE: ...\\01-07999-001-BASE.dgn PLATE 7

PLAN AND PROFILE - SHEET 5			
PRELIMINARY MINE INVESTIGATION SUM-77-1.40			
Project: 011-07999-001		Drawn By: J.L.P.	
Drawing Date: 10/22/03		Approved By: C.K.H.	
Revision Date:		Scale: 1" = 200'	
		BBCM Columbus (614) 793-2226 Cleveland (440) 595-9995 Cincinnati (513) 771-6471	

Preliminary Mine Investigation (2003)

Summary of Borings

Boring Number	Location Station Offset		Surface Elev.	Top of rock Depth Elev.		Bottom of Boring Depth Elev.		Coal Encountered						Coal Seam
								Depth		Thickness	Elev.			
								Top	Base		Top	Base		
B-1	074+00	78L	1178.7	46.3	1132.4	65.8	1112.9	62.2	63.8	1.6	1116.5	1114.9	No.3	
B-2	078+00	25L	1186.5	58.5	1128.0	71.9	1114.6	67.7	69.4	1.7	1118.8	1117.1	No.3	
B-3	082+85	10L	1195.7	56.7	1139.0	76.6	1119.1	68.6	69.9	1.3	1127.1	1125.8	No.3	
B-4	086+00	CL	1200.6	59.9	1140.7	79.0	1121.6	73.0	74.1	1.1	1127.6	1126.5	No.3	
B-5	090+00	CL	1200.5	62.0	1138.5	80.0	1120.5	74.8	74.9	0.1	1125.7	1125.6	No.3	
B-6	094+00	78L	1204.0	47.0	1157.0	54.0	1150.0	48.3	48.0	0.5	1155.7	1155.2	Local	
B-7	098+00	80R	1206.0	32.8	1173.2	61.8	1144.2	60.6	61.8	1.2	1145.4	1144.2	No.3	
B-8	101+20	80R	1207.0	29.0	1178.0	34.7	1172.3	29.0	31.7	2.7	1178.0	1175.3	No.4	
B-9	105+95	80R	1208.0	28.5	1179.5	41.7	1166.3	32.2	36.5	4.3	1175.8	1171.5	No.4	
B-10	110+00	80L	1206.5	48.9	1157.6	71.9	1134.6	63.0	63.8	0.8	1143.5	1142.7	No.3	
B-11	114+50	80L	1204.5	48.0	1156.5	71.9	1132.6	63.1	64.1	1.0	1141.4	1140.4	No.3	
B-12	118+25	100L	1202.5	46.5	1156.0	74.7	1127.8	70.2	70.9	0.7	1132.3	1131.6	No.3	
B-13	122+60	105R	1203.5	44.4	1159.1	71.0	1132.5	62.5	66.3	3.8	1141.0	1137.2	No.3	
B-14	127+60	78R	1205.3	32.3	1173.0	46.7	1158.6	41.2	42.2	1.0	1164.1	1163.1	No.4	
B-15	128+70	115R	1203.4	34.5	1168.9	49.1	1154.3	37.7	47.0	9.3	1165.7	1156.4	No.4	
B-16	128+85	95L	1204.0	28.0	1176.0	38.6	1165.4	28.0	34.1	6.1	1176.0	1169.9	No.4	
B-17	130+50	120L	1204.0	28.0	1176.0	34.2	1169.8	28.0	33.7	5.7	1176.0	1170.3	No.4	
B-18	132+50	115L	1205.0	32.5	1172.5	46.9	1158.1	37.5	44.7	7.2	1167.5	1160.3	No.4	
B-19	157+00	80R	1172.1	28.0	1144.1	55.0	1117.1	not enc	not enc	n/a	n/a	n/a	None	
B-20	161+00	80L	1164.3	47.0	1117.3	50.0	1114.3	not enc	not enc	n/a	n/a	n/a	None	
B-21	163+75	80R	1161.3	not enc	<1111	45.0	1116.3	not enc	not enc	n/a	n/a	n/a	None	
B-22	169+75	82L	1152.5	31.5	1121.0	48.9	1103.6	44.4	44.7	0.3	1108.1	1107.8	No.3	
B-23	174+40	80R	1153.8	48.0	1105.8	55.0	1098.8	not enc	not enc	n/a	n/a	n/a	None	
B-24	178+00	82L	1155.0	not enc	<1111	45.0	1110.0	not enc	not enc	n/a	n/a	n/a	None	
B-25	182+00	82L	1157.4	not enc	<1118	40.0	1117.4	not enc	not enc	n/a	n/a	n/a	None	
B-26	185+40	80R	1159.5	48.0	1111.5	59.8	1099.7	not enc	not enc	n/a	n/a	n/a	None	
B-27	188+70	80R	1161.5	32.0	1129.5	61.8	1099.7	56.9	57.6	0.7	1104.6	1103.9	No.3	
B-28	192+25	82L	1163.0	44.1	1118.9	69.3	1093.7	not enc	not enc	n/a	n/a	n/a	None	
B-29	195+00	80R	1164.3	47.0	1117.3	66.8	1097.5	54.0	57.6	3.6	1110.3	1106.7	No.3	
B-30	199+25	85L	1163.9	not enc	<1124	39.0	1124.9	not enc	not enc	n/a	n/a	n/a	None	
B-31	206+25	80L	1161.1	18.5	1142.6	36.3	1124.8	33.0	33.1	0.1	1128.1	1128.0	No.3	
B-32	210+50	85L	1158.0	not enc	<1123	35.0	1123.0	not enc	not enc	n/a	n/a	n/a	None	
B-33	213+60	80R	1159.0	36.0	1123.0	55.0	1104.0	not enc	not enc	n/a	n/a	n/a	None	



Appendix C

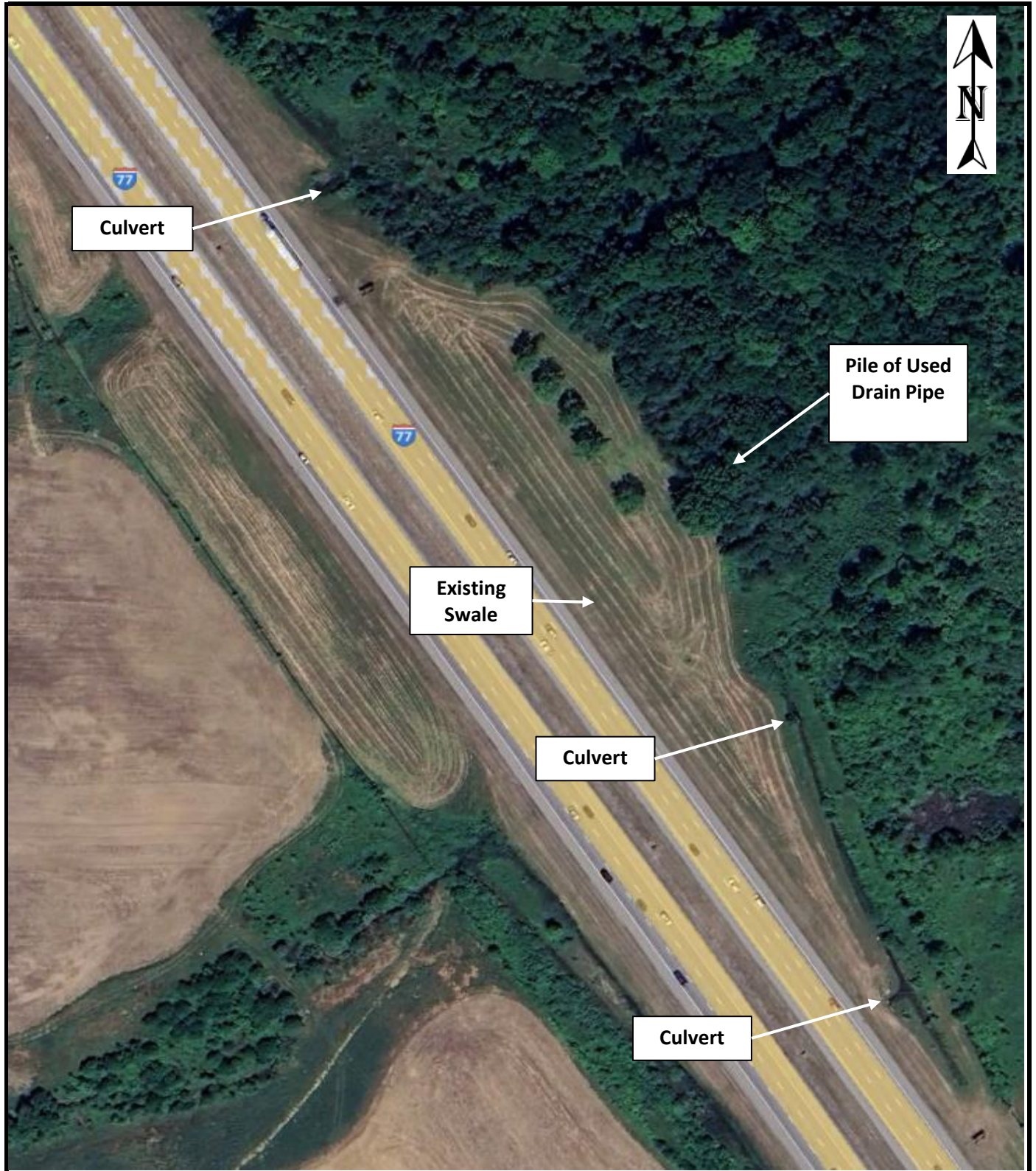
Project No.: 24170232
Project: TP 26 NE Ohio - Site 12 SUM-77
Client: ms consultants, inc.

Prepared By: BKS
Date: 6/18/25



Figure Desc.: Site Aerial with Reconnaissance Notes

Figure Credits: Google Earth



Desktop Study Report
TP 26 NE Ohio – Site 12 SUM-77 Vacant Rest Area (PID 122880)

Summit County, Ohio
 S&ME Project No. 24170232



		Date: 5/12/2025
		Photographer: BKS
1	Location / Orientation	Near South End, Looking North
	Remarks	Roadside ditch, culvert outlet (center of photo), possible wetland areas

		Date: 5/12/2025
		Photographer: BKS
2	Location / Orientation	Near South End, Looking West
	Remarks	Double barrel elliptical culvert

3			Date: 5/12/2025
			Photographer: BKS
	Location / Orientation	Near Southeast Corner, Looking North	
	Remarks	Main parking area, eastern tree line	

4			Date: 5/12/2025
			Photographer: BKS
	Location / Orientation	Near North End of Parking Area, Looking North	
	Remarks	Culvert under IR 77, exit ramp	

Project Initiation Package

Instructions

- The Project Initiation Package is intended to focus on critical issues that can be identified with existing information from secondary sources and/or identified during a site visit.
- Each specialty area of the Project Initiation Package should be completed by individuals who possess sufficient experience to enable them to correctly identify and evaluate issues arising from the field review.
- In the Location/Comments field provide information concerning potential impacts that is brief but gives enough detail to allow an understanding of the issue(s).
- The scope of services document should account for any issues identified in the Project Initiation Package that have the potential to affect scope, schedule, and budget.
- In some instances, resources/subject areas that may need to be consulted for the secondary source review are identified on this form.

Project Initiation Package Deliverables

Provide an expanded Study Area Map identifying project design, utility, right of way and environmental constraints identified through the Project Initiation Package. Tables, USGS and/or aerial mapping, photographs keyed to available project mapping, the plan to inform and involve the public, and other support material should also be submitted with the Project Initiation Package to illustrate specific problem areas.

General

Date(s) of field review:	5-12-25
---------------------------------	---------

Project Name (County, Route, Section):	SUM-IR 77 NB Vacant Rest Area	PID:	122880
Date Project Initiation Package Completed:	6/6/2025	Prepared By:	Brian Sears (S&ME) Kevin Harper (S&ME)
City, Township or Village Name(s):		ODOT Project Manager:	

Project Description: Construction of a truck parking facility on IR 77 in Summit County (Site 12).

Project Limits/Study Area/General Location: Existing vacant rest area.

Project Initiation Package

GEOTECHNICAL ISSUES: <i>Brian Sears (S&ME)</i>	
<i>Based on the information compiled during this study indicate whether or not the following geotechnical issues are present or should be further considered during project development. Provide additional comments as needed. Refer to Section 302.2 of the ODOT Specifications for Geotechnical Explorations for literature search resources.</i>	
Design Issues	Location/Comments
Is there evidence of soil drainage problems (e.g., wet or pumping subgrade, standing water, the presence of seeps, wetlands, swamps, bogs)?	Localized areas of standing water, primarily within existing ditches.
Will construction be impacted based on the groundwater table?	Not anticipated.
Is there evidence of any embankment or foundation problems (e.g., differential settlement, sag, foundation failures, slope failures, scours, evidence of channel migrations)?	No.
Is there evidence of any slope instability (soil or rock)?	No.
Is there evidence of unsuitable materials (e.g., presence of debris or man-made fills or waste pits containing these materials, indications from old soil borings)?	Yes. A few small areas of existing pavement within the existing ramp areas.
Is there evidence of rock strata (e.g., presence of exposed bedrock, rock on the old borings)?	No, however ODNR bedrock mapping indicates rock may be present within 10 to 50 feet of the ground surface.
Is there evidence of active, reclaimed or abandoned surface mines? Evidence of quarries?	No.
Is there information pertaining to the existence of underground mines?	No.
Is there Acid Mine Drainage present within the study area?	No.
Are there any other geotechnical issues? <i>Specify.</i>	No.